

CAP Strategic Plan

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Type of modification

Amendment

General information on the request for amendment

The main purpose of this amendment is to simplify the content of the NSP and to harmonise the provisions of the NSP with the national legal basis.

- Deleting the crop codes from the description of interventions makes changes to the NSP unnecessary for changes at crop code level.
- It was necessary to correct calculation methods (intervention 550) and definitions ((549) in order to establish consistency between NSP and national legal basis.
- Many unit amounts have been adjusted, especially maximum unit amounts to facilitate future performance reviews.
- Several result indicators have been adapted to react to new situations and changes accordingly

An amendment to intervention 530 concerns a recalculation of the proposed allowances in order to ensure fair treatment of farmers.

The proposed changes have no direct influence on current and future achievements. The overall objectives of the NSP are not compromised.

In fact, these are useful adjustments following experiences with the implementation of the NSP.

Type of amendment

☐ Revision of planned outputs or setting/revision of reduction coefficients referred to in Articles 11(1) and (5) of Regulation (EU) 2021/2115

☐ Changes related to conditionality referred to in Articles 12 and 13 of Regulation (EU) 2021/2115

☐ Transfer related to degressivity and capping referred to Article 17(5) of Regulation (EU) 2021/2115

☐ Changes of interventions in certain sectors referred to in Article 42 of Regulation (EU) 2021/2115

☐ Allocation of an amount to be contributed to InvestEU referred to in Article 81 of Regulation (EU) 2021/2115

☐ Changes following a review of decisions to use allocations for direct payments for interventions in certain sectors, referred to in Article 88(7) of Regulation (EU) 2021/2115

☐ Transfers of allocations from EAFRD to direct payments, referred to in Article 103 of Regulation (EU) 2021/2115

☒ Changes to elements related to types of intervention for direct payments laid down in Title III, Chapter II of Regulation (EU) 2021/2115

☐ Addition of missing elements in an approved CAP Strategic Plan referred to in Article 118(5) of Regulation (EU) 2021/2115

☒ Changes to interventions for rural development laid down in Title III, Chapter IV of Regulation (EU) 2021/2115 other than those referred to in Article 119(9) of that Regulation

☐ Changes to interventions for rural development laid down in Title III, Chapter IV of Regulation (EU) 2021/2115 referred to in Article 119(9) of that Regulation

☐ Changes due to review of CAP Strategic Plans referred to in Article 120 of Regulation (EU) 2021/2115

☐ Further cases referred to in Article 4(1) of Regulation (EU) 2023/370 (one or more options are possible)

☐ Changes due to emergency measures necessary to address natural disasters, catastrophic events or adverse climatic events formally recognized as such by the competent national public authority, or modifications due to a significant and sudden change in the socioeconomic conditions of the Member State

☐ Changes necessary following changes to Union legislation, other than those referred to in Article 120 of Regulation (EU) 2021/2115 or changes necessary following decisions of the Courts of the European Union

☐ Changes following exceptional measures adopted pursuant to Articles 219, 220 or 221 of Regulation (EU) No 1308/2013

- ☐ Changes necessary due to introduction of financial instruments referred to in Article 58 of Regulation (EU) 2021/1060 or their modifications
- ☐ Changes due to an automatic decommitment for the CAP Strategic Plans referred to Article 34 of Regulation (EU) 2021/2116
- ☐ Changes pertaining to interventions under Title III, Chapter IV of Regulation (EU) 2021/2115 referred to in Article 119(9) of that Regulation
- ☒ Amendment covering other elements of CAP Strategic Plans than those laid down in points above

Detailed information on the specific elements of each modification

503 – coupled aid for legumes

Reasons that justify the change

Crop codes are often changed from one crop year to another. In order to avoid multiple changes to the NSP, the list of eligible crop codes will be deleted from the NSP.

The amendment applies from 1/1/2026

Expected effects of the change

Administrative simplification

The impact of the change on targets and indicators

Not applicable

The impact of the change on the financing plan

Not applicable

506 – coupled aid for fruit and vegetable crops

Reasons that justify the change

Crop codes are often changed from one crop year to another. In order to avoid multiple changes to the NSP, the list of eligible crop codes will be deleted from Title 5 of the intervention.

The amendment applies from 1/1/2026

Expected effects of the change

Simplification

The impact of the change on targets and indicators

Not applicable

The impact of the change on the financing plan

Without Subject

515 – aid for the setting up of catch crops and undersowing on arable land

Reasons that justify the change

The purpose of the amendment is to harmonise the rules between conditionality and interventions. It will adjust the deadline for maintaining minimum coverage during winter and the date foreseen for this purpose at GAEC 6 level. That date was adjusted when the NSP was last amended and the managing authority had failed to adapt intervention 515 at the same time.

To minimise negative effects on the soil structure, it is advisable to provide for tillage on frozen soils in winter. However, with climate change, soils frozen after 1 February are becoming rare. Thus, the Luxembourg authorities propose limiting the ban on ploughing between 15 October and 1 January, in order to create less destructive ploughing opportunities, especially for heavy soils, which account for around two thirds of Gutland (southern part of Luxembourg).

The amendment applies from 1/1/2026
<i>Expected effects of the change</i>
Harmonisation of provisions and simplification of rules for farmers.
<i>The impact of the change on targets and indicators</i>
Not applicable
<i>The impact of the change on the financing plan</i>
Not applicable

517 – aid for the installation of refuge areas on hay meadows

Reasons that justify the change

Crop codes are often changed from one crop year to another. In order to avoid multiple changes to the NSP, the list of eligible crop codes will be deleted from Title 5 of the intervention.
The amendment applies from 1/1/2026
<i>Expected effects of the change</i>
Simplification
<i>The impact of the change on targets and indicators</i>
Unobjected
<i>The impact of the change on the financing plan</i>
Not applicable

519 – aid for the use of synthetic pheromones in arboriculture

Reasons that justify the change

Crop codes are often changed from one crop year to another. In order to avoid multiple changes to the NSP, the list of eligible crop codes will be deleted from Title 5 of the intervention.
The amendment applies from 1/1/2026
<i>Expected effects of the change</i>
Simplification
<i>The impact of the change on targets and indicators</i>
Not applicable
<i>The impact of the change on the financing plan</i>
Not applicable

530 – payment under the Water Framework Directive

Reasons that justify the change

After a recalculation of the economic justification, it was found that the compensation provided for in the various protection areas could be adapted because of changes in the costs of mineral smoking and yield losses, in particular the market prices of primary agricultural products.
The compensation has been adjusted as follows:
(1) in close and remote protection areas, aid shall be increased from EUR 120/ha to EUR 140/ha and crop year for arable land with the exception of temporary grassland.
(2) In close and remote protection areas, aid shall be increased from EUR 80/ha to EUR 90/ha and crop year for permanent and temporary grassland.

(3) In close protection areas with high vulnerability and close protection areas with very high vulnerability, support is increased from EUR 275/ha to EUR 340/ha and crop year for arable land and permanent grassland.

Titles 7, 12 and 13 of the description of the intervention have been adapted accordingly.

Expected effects of the change

Adapting compensation to new economic situations

The impact of the change on targets and indicators

No effect

The impact of the change on the financing plan

The increase in allowances will result in an increase in the budget to be foreseen. The necessary additional budget will be ensured by additional national funding at the appropriate time and in line with the total expenditure to be foreseen at Pillar 2 level. Additional national funding will be provided at the right time.

549 – support for reduced tillage

Reasons that justify the change

A recent amendment to the Grand-Ducal Regulation of 21 November 2024 establishing aid schemes for environmental, climate and other management commitments introduces a reformulation of the direct seeding techniques eligible for this intervention. In order to harmonise the texts, rewording at NSP level is also recommended to avoid any ambiguity.

The NSP text at the level of Title 5 of Measure 549:

Sowing crops without tillage according to the principle of direct sowing without tillage, sowing of crops in a reduced tillage mulch or according to the method of sowing. The crop is sown by direct sowing, by seeding in a mulch of dead plants, by seeding in a mulch without a strip-tool strip.

is replaced by the following:

The crops are sown directly, sown in a mulch of dead plants and sown in a mulch without prior ploughing. The measure shall apply for sowing of all arable crops including temporary grassland.

Due to a programming error for the old contracts carried over to the new period 2023-2027, it was estimated to be too low. Indeed, all the compensations (options) of the old measure “Prevention of Nitrates Erosion and Lessage (M10.1.19)” were not considered in the determination of the UM under the NSP for the old contracts. In order to correct this error, the unit amount UA2 will be adjusted to EUR 130/ha. Its maximum amount will be set at EUR 150/ha.

Expected effects of the change

Clarification and alignment of national legislation with the NSP.

The impact of the change on targets and indicators

Not applicable

The impact of the change on the financing plan

Not applicable

550 – aid to reduce the cattle burden

Reasons that justify the change

Crop codes are often changed from one crop year to another. In order to avoid multiple changes to the NSP, the list of eligible crop codes will be deleted from Title 5 of the intervention.

The monitoring system for this intervention has been programmed on a monitoring per forage area as no monitoring per LU is foreseen for the related indicator.

However, in Title 12 of the intervention, the calculation of the unit amount was determined on the basis of

the UAA. This error is addressed by this amendment. The UAA is replaced by the forage area (SF) which is much more relevant, as livestock feed is based on the forage area and not on the UAA.

This adjustment also entails a recalculation of the unit amount, which will be replaced in Title 12 of the intervention form as follows: The average payment per ha is thus $7110/54,92 = \text{EUR } 129,49/\text{ha}$.

This leads to the fixing of a new average unit amount of EUR 130/ha SF, and a corresponding maximum of EUR 150/ha SF. The estimated production areas are also to be corrected according to the ratio between SF and UAA ($54.92 \text{ ha on average} / (76.77 \text{ ha UAA on average}) = 0,715$).

Expected effects of the change

Not applicable, as only different presentation without substantive change.

The impact of the change on targets and indicators

The areas to be considered under indicator R14 are now reduced as we move from the UAA to a forage area.

The impact of the change on the financing plan

Not applicable, the premium per LU does not change

Adjustment of maximum unit amounts (max UM) of certain measures

Reasons that justify the change

When designing the NSP, max UMs were not fixed or they were set at the same level as the planned UMs or the intended room for manoeuvre was too limited. This has led to unnecessary justifications in the Annual Performance Report.

This concerns the following measures: 501, 502, 503, 505, 506, 512, 513, 515, 518, 530, 540, 542, 543, 544, 546, 549, 551, 570, 711

The amendment shall apply from 1/1/2026 as regards EAGF aid.

Expected effects of the change

The adjustments will contribute to administrative simplification.

The impact of the change on targets and indicators

Not applicable

The impact of the change on the financing plan

Not applicable

Description on the penalty system for conditionality

Reasons that justify the change

The Managing Authority decided to adapt the penalty system in order to further respect the proportionality between non-compliance and the scale of the sanction. Additional categories have been introduced in Title 7.4.2.1 of the NSP.

Nombre de points	Catégorie	Réduction appliquée	1 ^{ère} répétition	2 ^e répétition	Plus de 2 répétitions
$0 \leq P < 10$	négligeable	0%	0%	0%	0%
$10 \leq P < 30$	légère	1%	5%	20%	100%
$30 \leq P < 50$	moyenne	3%	10%	20%	100%
$50 \leq P < 100$	grave	5%	10%	20%	100%
$P \geq 100$	très grave	10%	20%	20%	100%

Expected effects of the change

Appropriate proportionality between non-compliance and penalty

The impact of the change on targets and indicators

Not applicable
<i>The impact of the change on the financing plan</i>
Not applicable

Plan – indicators R36 and R37

Reasons that justify the change

A misinterpretation of the starting value of the cumulative indicator led to an underestimation of CIS-YF beneficiaries.

It is necessary to revise the targets, taking as a new baseline for the financial year 2024 the value of 147 beneficiaries (instead of 44 beneficiaries).

Subsequently, the target estimates that 22 young people would move to a farm every year.

The amendment shall apply from the day after the date of notification to Luxembourg of the Commission Implementing Decision approving the amendment.

Expected effects of the change

Correction of target estimates

The impact of the change on targets and indicators

Correction of target estimates

The impact of the change on the financing plan

No effect

Target plan – indicators R9, R16 and R26

Reasons that justify the change

In the first amendment of the NSP, measures 711 and 714 were amended and in particular the level of the investment eligibility threshold from EUR 200k to EUR 300k. The budgets reserved for these measures were adjusted at the time as well as the estimates of annual outputs. However, the managing authority failed to harmonise the annual and overall targets in the target plan (section 2.3.1.).

In addition, the Authority notes that it had misinterpreted the data to be provided for indicators that focus on enterprises and not the number of projects carried out which was the basis for understanding during programming. It is therefore perfectly possible for a farm to be able to carry out several projects during the programming period.

La présente correction est donc prévue afin d'adapter les indicateurs R9, R16 et R26 pour qu'ils soient cohérents avec le budget alloué aux interventions 712 & 714 et leurs réalisations prévues tout en tenant compte que plusieurs projets peuvent être financés sur la même exploitation pendant la période.

The amendment applies from 16.10.2025

Expected effects of the change

Improve coherence of budget outputs and result indicators

The impact of the change on targets and indicators

Modification of result indicators under subject

The impact of the change on the financing plan

None

Premium for the establishment of sustainable and environmentally-friendly agriculture – Agriculture

Reasons that justify the change

2.02.540UA03 corresponds to an average UM which brings together the old contracts for the period 2014-2022. This single unit amount includes all possible scenarios, which may lead to deviations from the estimates due to the diversity of area types and farm specificities. The current UM is too low and will be increased.

Expected effects of the change

Improved consistency between former contracts carried over and financed under the NSP

The impact of the change on targets and indicators

Not applicable

The impact of the change on the financing plan

Not applicable

Consultation of the monitoring committee (Article 124(4)(d) of Regulation (EU) 2021/2115)

Date

19 Jun 2025

Opinion of the monitoring committee

The Committee shall give a favourable opinion on the amendments presented.

1 Strategic Statement

Strategic positioning

Luxembourg's National Strategic Plan (NSP) “ **Ensuring sustainable development in the agricultural sector**” aims to implement the objectives of the Common Agricultural Policy (CAP) while taking into account the targets of the European Farm to Fork strategy.

The first priority of the NSP is to ensure a fair level of income for agricultural producers and to strengthen the competitiveness of agricultural and agri-food enterprises. To close the growing income gap between the agricultural sector and other sectors of the national economy. The NSP provides **direct support** to farmers to ensure income and strengthen the resilience and competitiveness of the whole sector while ensuring sustainable development. In addition, this plan provides for a fairer distribution of basic income support with a view to strengthening **family-type small and medium-sized farms** and by remunerating services provided for the protection of the environment, climate and natural resources.

The beef and **veal** sector, which is weakened by the lowest incomes in the agricultural sector but plays an important role in the sustainable use of permanent pasture, will be specifically supported by coupled support for suckler cows.

Diversification of agricultural production will be targeted by the introduction of coupled aid for **fruit and vegetables** in order to ensure the production of this sector with a view to further development.

Investments related to this production benefit from an additional aid rate of 20 percentage points.

Payments for areas with natural and specific constraints shall be maintained in order to ensure competitive production also in less-favoured areas.

Another priority of the NSP is to ensure generational renewal in agricultural enterprises. Particular emphasis will be put **on supporting young farmers** to ensure farm recovery and generational renewal. In addition, a specific measure will be foreseen to make access to public finance easier for new entrants and to encourage the creation of new businesses. The European support targets for young farmers, targeting 2 % of direct aid, will be exceeded by the planned initiatives. The start-up support for young people will be reinforced and the complementary income support for young farmers will be maintained.

The third key strategic priority of the NSP is to make the agricultural sector more sustainable. To this end, it presents numerous interventions for the **protection of the environment, the climate and biodiversity**. The ambition is reinforced and the share of the second pillar budget dedicated to measures addressing the specific environmental, climate and biodiversity objectives is increased from 62 to 73 %. This is complemented by the resources provided for under the first pillar eco-schemes.

All aid, including basic income support, is conditional on compliance with **good agricultural and environmental conditions which have been strengthened** from a number of points of view and on compliance with various national and European legal standards applicable to agriculture (enhanced cross-compliance).

From the start of the programming period, at least 25 % of the Pillar I budget will be earmarked for financing the **new green schemes**. Funding will be directed towards creating structural elements to strengthen habitats and biodiversity, protecting water and reducing applications of plant protection products, thereby also contributing to the implementation of the National Action Plan for the Reduction of Plant Protection Products and the National Plan on Pollinators.

The national target of 20 % of UAA grown in organic farming in 2025 guides this programme. The support scheme largely reinforced since 2020 for the conversion and maintenance of organic farming is maintained in this plan and contributes to the implementation of the PAN-Bio National Action **Plan**.

A strong message is being sent to dairy farmers and cattle farmers in order to encourage them **to limit and reduce cattle numbers** and thus their greenhouse gas emissions. Public support for investments is now limited to projects not exceeding the production capacity equivalent to 5 work units (AWU) by speculation. Livestock buildings must incorporate techniques for reducing ammonia emissions and become more efficient in terms of energy and water use. Their design must also enable manure to be recovered by biogas stations.

All farms supported by investment aid must comply with the standards in force in order to ensure organic production. They thus provide improved conditions for **animal welfare**. Aid for the grazing of cattle

makes it possible to steer beef production more towards more animal-friendly conditions.

The NSP, with its various interventions, makes a significant contribution to the implementation of the National Energy and Climate Plan (NECP) and **the NEC Directive with a view to achieving the agricultural sector's targets** for reducing greenhouse gas emissions (-30 % in 2030) and ammonia (-22 % in 2030).

Particular emphasis shall be placed on maintaining permanent and temporary grassland with the aim of developing **carbon sequestration** by the agricultural sector and contributing to water protection.

A broad and diverse catalogue of agri-environmental measures is foreseen to contribute to the objectives of the National Nature Conservation Plan, the Water Management Plan and the Natura 2000 Management Plans. In addition, specific interventions are foreseen for water protection, targeting in particular the 14 000 ha of agricultural area (11 % of the UAA) in water protection zones.

The European LEADER initiative remains an integral part of the NSP, which sets the framework for this important tool for local development in rural areas. It provides for the implementation of projects of a local or even regional nature and cooperation projects, while promoting an innovative spirit and a participatory approach. Integrated, multi-sectoral and sustainable local development strategies are based on local potential and needs. They are developed by LEADER local action groups bringing together public and private partners.

Les moyens financiers européens étant insuffisants pour couvrir tous les besoins identifiés et les objectifs fixés, tout un programme de régime d'aide d'état doit accompagner le présent PSN afin d'adresser les sujets suivants :

- La protection de la biodiversité
- Une gestion durable des forêts
- L'adaptation au changement climatique
- La gestion des risques au niveau de la production agricole
- La transformation et la commercialisation dans le secteur agro-alimentaire
- Développement des zones rurales et des villages
- Le transfert de connaissance : Recherche, conseil agricole et formation continue.

A noter que le transfert de connaissance est un moyen essentiel pour accompagner la mise en œuvre du présent programme et pour assurer le respect des objectifs européens et nationaux.]

2 Assessments of needs and intervention strategy, including target plan and context indicators

2.1 Assessments of needs and intervention strategy

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan	SO1	SO2	SO3	SO4	SO5	SO6	SO7	SO8	SO9	XCO
B.2.7.	Ensuring the competitiveness of the agricultural sector	P1	Yes		X								
B1.1	Ensuring a viable, fair and just basic income for farmers	P1	Yes	X									
B1.2	Promoting the transition to more sustainable production models	P1	Yes	X									
B1.3	Maintaining a diverse fabric of family-type farms	P2	Yes	X									
B1.4	Directing and diversifying national production towards national needs	P2	Partially	X									
B1.5	Strengthening the resilience of the agricultural sector to climate change and other risks	P2	No	X									
B1.6	Strengthening the AKIS system and digitalisation in agriculture	P1	No	X									
B2.1	Strengthen the market orientation of agricultural, wine and market gardening production.	P2	Partially		X								
B2.2	Increase labour productivity to compensate for high labour costs	P1	Yes		X								
B2.3	Develop different marketing models, in particular by aiming at non-price competitiveness	P1	Partially		X								
B2.4	Promoting diversification of agricultural production	P2	Partially		X								
B2.5	Managing investments taking into account environmental and animal welfare issues	P1	Yes		X								
B2.6	Foster the dynamics of new entrants.	P2	Yes		X								
B3.1	Increase the visibility of farmers and enhance the positive image of agriculture.	P1	Yes			X							
B3.2	Improve the farmers' position in the value chain	P1	Yes			X							
B3.3	Increasing the value added of farms in the agri-food chain	P2	Yes			X							
B3.4	Developing new value chains	P2	Partially			X							
B3.5	Collective approaches and coordination between production and marketing	P2	No			X							
B4.1	Participation in renewable energy production, including biogas	P2	No				X						
B4.2	Reducing GHG emissions	P1	Yes				X						
B4.3	Promoting water resource efficiency	P1	Yes				X						

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan	SO1	SO2	SO3	SO4	SO5	SO6	SO7	SO8	SO9	XCO
B4.4	Promoting carbon sequestration in soils	P2	Yes				X						
B4.5	Ensuring resilience to climate change	P2	Partially				X						
B4.6	Improving feed autonomy	P3	Partially				X						
B5.1	Ensuring the protection of groundwater and surface water (Water Framework Directive)	P1	Yes					X					
B5.2	Reducing ammonia emissions from the agricultural sector	P1	Yes					X					
B5.3	Reduce the use of plant protection products and limit the risks and negative effects associated with	P2	Yes					X					
B5.4	Ensuring soil fertility and combating soil degradation	P2	Yes					X					
B5.5	Building a holistic approach to the AKIS system taking into account the specific needs of OS5	P1	No					X					
B6.1	Developing environmentally-friendly and climate-friendly farming practices	P1	Yes						X				
B6.2	Maintaining and enhancing landscape diversity	P1	Yes						X				
B6.3	Protect and promote local endangered breeds.	P3	No						X				
B6.4	Limiting intensification and promoting extensification, especially in sensitive areas	P1	Yes						X				
B6.5	Maintaining agricultural activities in less productive and marginal sites	P2	Partially						X				
B6.6	Improve the system for monitoring, evaluation and control of biodiversity-related interventions	P3	Partially						X				
B6.7	Harmonise existing initiatives to protect biodiversity	P2	Partially						X				
B7.1	Maintaining farms with sizes that allow recovery by the next generation	P1	Partially							X			
B7.2	Maintain a system of support and advice for young people to take back	P2	Partially							X			
B7.3	Encourage non-family or atypical take-overs and the entry of new producers	P2	Partially							X			
B7.4	Create a general framework encouraging the setting up of young farmers	P1	Partially							X			
B7.5	Maintain and improve support and advice to the JAs in connection with the installation	P1	Yes							X			
B8.1	Social inclusion and intergenerational relations	P1	Yes								X		

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan	SO1	SO2	SO3	SO4	SO5	SO6	SO7	SO8	SO9	XCO
B8.2	Housing and land management/valorisation	P2	Yes								X		
B8.3	Employment and business development other than agriculture	P2	Yes								X		
B8.4	Sustainable Mobility.	P3	Yes								X		
B8.5	Services to the population	P1	Yes								X		
B8.6	Development of tourism, culture and recreation	P2	Yes								X		
B8.7	Protection and management of natural resources	P3	No								X		
B8.8	Strengthening the governance of rural areas	P1	Yes								X		
B9.1	Increase the share of production covered by quality schemes	P2	No									X	
B9.2	Strengthen coordination and synergies between labels and improve traceability systems	P2	No									X	
B9.3	Reducing the use of antibiotics and plant protection products in agriculture	P2	Partially									X	
B9.4	Reduce losses and waste along the food chain, including from farms	P2	No									X	
B9.5	Raising the standard of taking into account animal welfare on farms	P2	Yes									X	
B9.6	Improving communication and information to the public on production methods and food	P3	No									X	
BCC.1	Creation of a competence hub	P1	No										X
BCC.2	Adapting training and farm advice	P1	No										X
BCC.3	Strengthening the AKIS system and digitalisation in agriculture	P1	No										X
BCC.4	Develop AKIS and participation in EIP-AGRI	P3	No										X
BCC.5	Developing smart and precision agriculture	P2	No										X
BCC.6	Provide adequate tools to implement political priorities	P2	No										X

B.2.7. - Ensuring the competitiveness of the agricultural sector

Some production sectors, in particular beef and veal, are under increased market pressure. Targeted measures are needed to increase the competitiveness of these sectors

B1.1 - Ensuring a viable, fair and just basic income for farmers

The aim of this need is to ensure a fair income that takes into account related (environmental) services and average income in Luxembourg and thus aims to close the income gap with other sectors. It is also a matter of fairly remunerating the provision of environmental services. The need also aims at a certain balance within the agricultural sector, taking into account risk factors and intensification in terms of capital and labour.

B1.2 - Promoting the transition to more sustainable production models

Sustainable production taking into account environmental, social and economic aspects is the basis for the way forward across the NSP. In particular, natural resources need to be preserved to ensure a fair income for farmers and recovery by future generations. However, eco-responsible production is not always competitive on a globalised market, and support especially for the beef and veal sector geared towards sustainable production is needed. Balanced support must therefore be offered, which is linked to commitments while at the same time providing the guidelines and methods to be followed to ensure sustainability.

B1.3 - Maintaining a diverse fabric of family-type farms

Family-type farms of moderate size and accessible capital seem to be the most promising production model for recovery by subsequent generations. The link with the region leads to better identification with this region and its production and development potential. More personalised family production units also contribute to the positive image of agriculture in the farm environment and to social cohesion.

B1.4 - Directing and diversifying national production towards national needs

Some agricultural production guidelines are self-sufficient and deserve further development (e.g. market gardening). Niche productions are emerging that respond to the diverse eating habits of a multinational population with significant purchasing power and sensitive to the development of a circular economy. These factors therefore deserve the attention of policy and producers in view of the growing demand for regional and organic products. Thus, new income opportunities can be created by supporting diversification, processing and on-farm marketing. However, export markets should not be neglected as regional markets are still limited compared to world markets and access to gastronomy is difficult.

B1.5 - Strengthening the resilience of the agricultural sector to climate change and other risks

Agricultural production is exposed to numerous risks linked to climatic hazards (frost, hail, drought, flooding, disease, etc.) which may lead to crop loss and, in the absence of adequate insurance, to income losses. Strengthening the resilience of the sector goes hand in hand with taking these risks into account through insurance offers in order to cover damage and guarantee income.

B1.6 - Strengthening the AKIS system and digitalisation in agriculture

The need for knowledge transfer is addressed at several levels under different objectives. In-depth basic training, efficient farm advice and innovative research present major assets for the development of resilient and sustainable agriculture that faces multiple challenges that are very complex to manage. Farms must be supported to access and integrate digitalisation into their production in order to increase productivity.

B2.1 - Strengthen the market orientation of agricultural, wine and market gardening production.

Production in the agricultural sector must meet demand on a variety of fronts: target potential exports that defeat international competition, offer high quality local products and take into account ecological aspects, animal welfare and product traceability. Observation and monitoring of the different markets makes it possible to steer and diversify production, reduce the risks associated with production and improve the resilience of the sector. Further development (quality and quantity) of the fruit and vegetable sector is targeted, as well as support from the beef sector, which currently generates low prices on the market. Organic farming needs to be further developed at market and production level: the demand for organic products is present, however, national production does not cover the full range of needs. Producers show some hesitation in switching to organic farming, distortions in the state aid scheme are considered to be one of the causes of this hesitation.

B2.2 - Increase labour productivity to compensate for high labour costs

The cost of factors of production (labour and agricultural land) is high in Luxembourg, while competitiveness is measured on an overall scale. In order to compensate for production costs, labour efficiency and productivity need to be further developed.

B2.3 - Develop different marketing models, in particular by aiming at non-price competitiveness

The channels for marketing to export are well established. The aim is to further develop local trade within the region and on-farm sales to meet the needs of consumers, especially those with high purchasing power.

New niches can be created with the development of digitalisation and alternative ways of selling products. In order to tackle the challenges faced by producers (direct sales, marketing, cooperation, solidarity, urban farming), adequate framework is needed to support farmers in this process.

B2.4 - Promoting diversification of agricultural production

Luxembourg's agriculture is mainly based on milk and beef production. These sectors are regularly subject to market fluctuations. The self-sufficiency rate of other products such as fruit and vegetables, poultry and eggs is marginal and requires further development. Although urban farming can meet certain needs, all diversification guidelines need to be facilitated so as not to limit the choices and opportunities that arise.

B2.5 - Managing investments taking into account environmental and animal welfare issues

Livestock production must be able to evolve in an environment of multiple challenges: the protection of the climate, air, soil, the environment, biodiversity and respect for animal welfare. This is compounded by significant international competition and high consumer expectations. Production methods must be able to respond to these challenges and be in line with the stated objectives. Infrastructure, in particular stables, must comply with the required production standards and be equipped with the necessary technology to ensure agricultural production that respects the environment and animal welfare.

B2.6 - Foster the dynamics of new entrants.

The structure of businesses and the age of farm managers are not favourable to ensuring that a sufficient number of family-type farms are taken over. It will be difficult in the future to continue farming and maintain the current agricultural land. Well-trained young farmers and new entrants bring new ideas and dynamism to develop new markets. They must be accompanied by the takeover of farms and be encouraged in their entrepreneurial spirit to carry out their projects and thus bring about diversification or even a reorientation of the agricultural sector.

B3.1 - Increase the visibility of farmers and enhance the positive image of agriculture.

This need includes the following elements:

- Aiming at enhancing a larger share of production on the local and border market and increasing added value
- To increase the visibility of the farmer in the processing and marketing stages, in addition to his position as a producer.
- Preserving and enhancing the positive image of Luxembourg agriculture
- Develop quality and certification systems.

Luxembourg has a very international population. Consumer habits and demands are varied, which is reflected in a very varied offer in supermarkets with food products from all over the world. In order to compete with international supply, Luxembourg's agriculture uses quality products from sustainable agriculture produced locally under conditions that guarantee animal welfare and are based on social guarantees. These values form the basis of promotion and communication campaigns in order to increase the visibility of the products among the international population of Luxembourg and neighbouring regions.

B3.2 - Improve the farmers' position in the value chain

The farmer finds himself at the beginning of the production chain and is subject to pressure from distributors in relation to the prices of his products. This situation is further aggravated when farmers are not grouped into producer organisations with sufficient power to negotiate prices. Where production risks are very high, they must be borne by producers while they are rarely honoured. For example, there is a clear need for producers to organise themselves into inter-branch organisations with the aim of becoming an "important" partner, including in terms of decisions, in the value chain and at the marketing level.

B3.3 - Increasing the value added of farms in the agri-food chain

A proportion of the value of the product is represented by its degree of processing. It is therefore important to increase the added value for primary producers in the agri-food chain and to involve them in this added value, created preferably at national level. If value added is generated directly on the farm, this has a direct effect on farm income. However, such an approach requires additional skills and resources. Training, farm advice and the networking of primary producers are factors in addressing this need.

B3.4 - Developing new value chains

The emergence, development and structuring of new value chains, such as short supply chains, niche markets and direct farm sales, should be encouraged with a view to diversifying farmers and better directing production towards markets and demand. There are many opportunities (regional products, proximity to producers, sustainable production with due regard for the environment, etc.) which must be exploited. In this context, branding, regional tourism and improving the value of production on the local and regional market help to preserve and enhance the positive image of Luxembourg's agriculture and are integrated into communication and marketing strategies.

B3.5 - Collective approaches and coordination between production and marketing

The aim is to promote collective approaches between farmers and better coordination between production and marketing sectors. A matchmaking exercise is good to support in order to achieve concrete results.

B4.1 - Participation in renewable energy production, including biogas

The use of manure to produce biogas makes it possible to participate actively in the development of energy policy at national level.

Renewable energy production as a new orientation of the agricultural sector enhances the sector's resilience, diversification of production and improved income. It also contributes to improving the brand image of agriculture and, as an actor, farmers can intervene at decision-making level in the implementation of renewable energy policy. Biogas production, combined with modern land application techniques, also helps to improve air quality and GHG emissions. The use of manure avoids the excessive spread of energy crops with a negative impact on environmental objectives.

B4.2 - Reducing GHG emissions

Agriculture has concrete GHG reduction targets under the NECP programme. However, the achievement of these targets is not guaranteed ex officio and significant efforts are needed by the agricultural sector. This includes the general reduction in the intensification and use of inputs, including nitrogen inputs and surpluses generated at the level of the agricultural system and GHG producers. In addition, there is a need to control methane emissions from ruminants and livestock manure. Without the help of multiple interventions without adequate support and compensation, efforts are bound to fail.

B4.3 - Promoting water resource efficiency

Agriculture is one of the major consumers of water. However, resources are limited and efficient techniques are needed to reduce water consumption, especially in the context of climate change with increasingly limited water availability.

At the same time, access to water for specific crops must be guaranteed, especially if the cultivation of fruit and vegetables requiring irrigation systems develops further.

B4.4 - Promoting carbon sequestration in soils

Luxembourg can offer a significant part of permanent grassland, but also suffers from significant emissions from cattle herds. However, agriculture can favour cropping systems that contribute to carbon sequestration in soil or plants. It can thus play an important role as a carbon sink and at the same time offer solutions for climate change adaptation by promoting permanent and temporary grassland.

B4.5 - Ensuring resilience to climate change

Agricultural production is exposed to many risks, often linked to climatic hazards (frost, hail, drought, flooding, disease, etc.), which can lead to crop losses and thus loss of income in the absence of adequate insurance. Risk management measures are needed to strengthen the resilience of the sector and thus contribute to an adequate income level. Thus, crop systems and production methods that are more adapted to climate change (e.g. better adapted rotations, more resistant crops, new varieties, low water consumption crops, energy efficiency of farms) are needed.

B4.6 - Improving feed autonomy

By promoting fodder production, especially through temporary grassland, agriculture can act as a carbon sink while reducing imports of concentrated crop-based food with GHG emissions on other continents.

B5.1 - Ensuring the protection of groundwater and surface water (Water Framework Directive)

The needs relating to the protection of groundwater and surface areas in compliance with the Water Framework Directive include:

- Improving the ecological function of surface water bodies (in consultation with the Ministry of the Environment)
- Reducing the supply of nutrients and plant protection products to water from diffuse and point sources of contamination of agricultural origin
- Reduce the leaching of nitrates of agricultural origin in water bodies affected by nitrate degradation of water quality.

Consider the impact of climate change on the dynamics of nitrates in the soil.

Water protection is one of the key priorities of the NSP. This need concerns both surface and groundwater. There is a growing number of water protection areas and appropriate tools to be offered to farmers. The need for drinking water is increasing with demographic and economic development and all water resources are indispensable. It is important to improve the ecological functions of water bodies, to reduce the supply of nutrients and plant protection products to water and in particular to have a clear framework to reduce nitrate leaching in water bodies in the face of compliance with the objectives of the Water Directive.

B5.2 - Reducing ammonia emissions from the agricultural sector

The NEC Directive requires a reduction of ammonia emissions in Luxembourg by -22 % in 2030 with agriculture being the main source of ammonia emissions with almost 95 % of NH₃ emissions. Most ammonia emissions are attributable to cattle via manure. It is at this level that actions are to be planned, be it in the stables or during manure management. This need is also linked to the development of renewable energy and in particular biogas, which also contributes to a reduction in ammonia emissions.

B5.3 - Reduce the use of plant protection products and limit the risks and negative effects associated with

Many drinking water sources in Luxembourg contain PPP residues and contribute to the loss of biodiversity, apart from the risk to human health. The national action plan for the reduction of plant protection products (PPPs) aims at limiting the risks and negative effects associated with the use of PPPs. A reduction in the use of PPPs by 50 % and 30 % of the most harmful PPPs (big movers) until 2030 is targeted in order to have a positive impact on the protection of water and biodiversity.

B5.4 - Ensuring soil fertility and combating soil degradation

Soil fertility is linked to several factors, including organic matter, which also acts as an excellent carbon sink. Soil rich in organic matter is also more resistant to erosion and enjoys significant biological activity. Analyses have shown that in some areas of Luxembourg the soil MO shows a downward trend, which is also the case for phosphorus, one of the key elements for plant growth.

This will require attention to maintaining and improving the level of organic carbon in soils and improving the management of phosphorus available in soils, especially for mown permanent grassland.

Erosion, especially water erosion, is a factor that manifests itself in places and requires targeted interventions. However, this challenge can be mastered by appropriate cultivation techniques and a reduction in traditional ploughing.

B5.5 - Building a holistic approach to the AKIS system taking into account the specific needs of OS5

Holistic approach at farm management level to support the implementation of the objectives (see the organic sector approach). Knowledge transfer and farm advice are essential tools to meet the many needs that arise at the level of multiple specific objectives and in particular at the level of Specific Objectives 4, 5 and 6. It therefore plays a key role in several objectives. However, this system requires better coordination and new skills at certain levels and therefore needs to be improved and adapted to the growing new challenges in agriculture.

B6.1 - Developing environmentally-friendly and climate-friendly farming practices

Environmental degradation occurs at several levels (water, soil, air, biodiversity and climate) and adequate responses must be found to ensure and develop sustainable agriculture (including viticulture and horticulture). Farming practices must therefore be adapted in order to protect the environment at all levels in order to stop its weakening and avoid harmful consequences for society.

B6.2 - Maintaining and enhancing landscape diversity

According to the results of studies and research, a large number of structural elements in the landscape are beneficial for the mesh size of biotopes and the creation of ecological corridors that are important for the conservation of ecosystems and species. These elements thus contribute to the conservation of biodiversity and can also play a beneficial role for the farmer by hosting natural pests, providing shading for livestock and creating structures protecting against erosion.

B6.3 - Protect and promote local endangered breeds.

Various breeders have focused on rearing old local breeds of domestic animals which no longer meet the current performance criteria and are thus threatened with extinction. Support from these breeders for their conservation efforts will thus ensure a certain genetic diversity by ensuring the maintenance of these local breeds.

B6.4 - Limiting intensification and promoting extensification, especially in sensitive areas

In order to meet the various environmental and climate objectives, including those of the Green Deal, it is essential to reduce the intensification of agriculture. Extensive agricultural practices contribute to the maintenance and development of biodiversity and habitats, reduce the nuisance caused by intensive farming and help maintain soil fertility.

B6.5 - Maintaining agricultural activities in less productive and marginal sites

Less fertile production sites are sometimes abandoned for agricultural production due to lack of profitability and risk being transformed into scrubbers. However, these less productive and marginal sites are often biotopes that can only survive with extensive exploitation. In order to maintain and safeguard these biotopes, financial support for the use of extensive production methods adapted to the sites concerned is useful.

B6.6 - Improve the system for monitoring, evaluation and control of biodiversity-related interventions

In addition to the monitoring, devaluation and control systems imposed in connection with the implementation of the CAP, complementary measures will be initiated to improve understanding of the impact of agricultural practices on biodiversity. Collaborations in calls for projects, bringing together a critical mass of national and international experts in this field, will be funded through national means through EIP projects, respectively collaborative research projects with the National Research Fund. Cooperation with the RCC will be targeted, in particular in the context of the Green Deal indicators.

B6.7 - Harmonise existing initiatives to protect biodiversity

More specific measures to protect biodiversity are added to the NSP support schemes supporting agri-environmental measures at national level. As some of these measures overlap in part, it is appropriate to harmonise and possibly simplify the various extensification programmes and to aim for the proposed measures and interventions to be more complementary.

B7.1 - Maintaining farms with sizes that allow recovery by the next generation

The age structure of current farm managers risks that there will no longer be enough family-type farms to cultivate agricultural land. The number of farms is steadily declining and more gainful occupations and less hard work are threatening the recovery by the future generation. In order to ensure the survival of a sufficient number of family farms and to allow farms to be taken over by the future generation, farm expansions and excessive investment should be discouraged. The takeover of an agricultural holding requires considerable investment given the high capital of these enterprises.

B7.2 - Maintain a system of support and advice for young people to take back

This need is linked to B7.1. The resumption of operations often requires a reorientation of operations and the implementation of a personal project. Especially as a young farmer, it is important to be guided by the necessary skills in order to carry out his project while taking into account the economic and ecological constraints that may pass through the planned trajectory. Adequate incentives in terms of support and farm advice help to make the risks associated with recovery more acceptable.

B7.3 - Encourage non-family or atypical take-overs and the entry of new producers

Traditional family transmission from one generation of farmers to another is no longer sufficient to ensure generational renewal and the increase in the number of Ja. is compounded by the fact that agriculture needs to refocus regularly in order to adapt to a changing environment. Consumer eating habits, societal demands and agricultural policy orientations are changing. New entrants, less frozen in tradition, are generally more open to embark on new guidelines and projects and to provide dynamism to reorient the agricultural sector. These projects require incentives in the same way as a takeover that takes place in a family context with the necessary adjustments to take account of the different conditions attached to the creation of a whole new business.

B7.4 - Create a general framework encouraging the setting up of young farmers

In addition to encouraging the takeover of farms, the main focus of this need is on working conditions in agriculture, the integration of the farmer into the economy and society, and appreciation of the efforts to be made to practise the profession. As a self-employed person and as a business leader, work is demanding and the constraints linked to the objectives of the different policies are cumbersome to manage. Competent and effective management can be a valuable help in maintaining sustainable income prospects and an acceptable workload in order to improve the attractiveness of the profession.

B7.5 - Maintain and improve support and advice to the JAs in connection with the installation

The setting up of young farmers is linked to the implementation of a business development plan. Given the potential and many constraints associated with carrying out this project, flexible and competent guidance is needed in terms of training and farm advice. In order to ensure an adequate transfer of knowledge, an integrated farm advisory organisation thus enables the JA to develop the necessary economic, technical and environmental skills. The provision of advice and training must take account of the new challenges linked to the development of organic farming, market gardening and alternative production.

B8.1 - Social inclusion and intergenerational relations

Given the strong demographic growth and the wide diversity of the rural population, it is necessary to promote the integration of newcomers, the promotion of the multiculturalism and multilingualism of Luxembourg's rural society by developing solidarity and social and intergenerational relations, citizen involvement and user-friendliness and intergenerational relations. In addition, it is important to promote participation in local life, a sense of belonging to a rural community and voluntary engagement, as well as recreation of places of social friendliness in rural areas. This need will be addressed as part of the MAVDR Village National Development Measure "Consolidation and Development of Social Life in Rural Areas".

B8.2 - Housing and land management/valorisation

The aim is to meet the needs of the rural population in terms of housing (social mix and functions) and to manage/enhance land and built heritage by preventing/regulating conflicts of use (urban pressure, agriculture, forestry, environmental protection, tourism) (subject to growth). In addition, cultural and intangible heritage should be preserved and enhanced. This need will be addressed in the context of the national Village Development Measures of the MAVDR "New forms of rural housing" and "Conservation and enhancement of the cultural and natural heritage of villages".

B8.3 - Employment and business development other than agriculture

The aim is to enhance the potential for skilled rural jobs and to increase the supply of decentralised jobs, thus supporting employment and the development of non-agricultural businesses in rural areas. In addition, digitalisation in rural areas should be encouraged, traditional trades and training for traditional trades (crafts) should be encouraged, and skilled labour in these trades should be increased. This need will be addressed in the framework of the MAVDR Village National Development Measure "Diversification of economic activities in rural areas".

B8.4 - Sustainable Mobility.

The aim is to meet the needs of the rural population by organising sustainable mobility in rural areas by strengthening the provision of high-quality, diversified, flexible and multimodal intra-network collective transport. This need will be addressed as part of the MAVDR Village National Development Measure "Basic Services for the Local Population".

B8.5 - Services to the population

The aim is to meet the needs of the rural population in terms of services (education, healthcare, administrative services, digital inclusion, security, shops, culture, education, training, etc.). This need will be addressed as part of the MAVDR Village National Development Measure "Basic Services for the Local Population".

B8.6 - Development of tourism, culture and recreation

The aim is to encourage the development of rural and leisure tourism and to stimulate the development of creative and innovative cultural services and services. This need will be addressed in the framework of the National Villagers Development Measure of the MAVDR "Recreational, cultural and tourism activities in rural areas".

B8.7 - Protection and management of natural resources

Natural resources (biodiversity, water, landscapes, forests, etc.), renewable energy production and climate change need to be protected and managed. This need will not be addressed under Objective 8, but will be addressed in the context of specific objectives 4, 5 and 6 of the NSP and in the context of national programmes under the authority of other ministries, such as the Nature Pact, the Climate Pact and the Natura 2000 Steering Committees. For example, forestry measures will only be implemented by the Ministry of Environment, Climate and Sustainable Development.

B8.8 - Strengthening the governance of rural areas

Existing bottom-up local development practices and experienced actors active in rural areas should be promoted and synergies between actors involved in rural development should be further promoted and inter-municipal, cross-border and transnational collaborations should be strengthened. This need will be addressed by setting up LEADER local action groups with a LEADER regional office equipped with qualified staff to ensure the animation and governance of rural areas.

B9.1 - Increase the share of production covered by quality schemes

The development of quality schemes can be a driver for the development of agriculture and rural areas. Rural processors can generate added value as well as marketing opportunities. The attractiveness of a region can be increased for tourism thanks to the popularity of specific regional products. Moreover, the overall brand image of agriculture can benefit from it. The prerequisite, however, is that products must be of a quality that meets the requirements of more selective consumers.

This is intended to meet consumer demand by increasing the share of production covered by quality schemes (going beyond mandatory requirements and standards, including organic farming).

B9.2 - Strengthen coordination and synergies between labels and improve traceability systems

The proliferation of labels can be counterproductive if visibility, understanding and quality are no longer guaranteed. Marketing and processing will also become more effective if coordination of the quality system is ensured. Traceability and controls enhance trust in the system and are guarantors for its success.

B9.3 - Reducing the use of antibiotics and plant protection products in agriculture

The National Action Plan foresees a reduction in the use of PPPs by 50 % until 2030 and by 30 % of the most harmful PPPs. These objectives relate to the need to ensure the protection of water and biodiversity and to limit risks to human health. The objective of the National Antibiotic Plan 2018-2022 is to reduce the emergence, development and transmission of resistance to antibiotics. This need is directly linked to the objectives of the Green Pact and adequate implementing measures must therefore be provided for.

B9.4 - Reduce losses and waste along the food chain, including from farms

Considerable amounts of food are recycled on the fields and never enter the marketing channels, often due to aesthetic considerations (standards not respected). Food losses continue in processing chains, restaurants or domestic kitchens. As a result, energy and nutrients are lost, weigh on balance sheets and represent economic losses. Hence the need to reduce these valuable losses.

B9.5 - Raising the standard of taking into account animal welfare on farms

Animal welfare is a major concern for society and conventional standards seem to be no longer sufficient to meet expectations. Respect for animal welfare has an impact on animal health and ultimately on productivity and thus competitiveness. The brand image of agriculture is strongly influenced by the consideration of this aspect.

B9.6 - Improving communication and information to the public on production methods and food

The aim is to present current production methods, farmers' concerns and recent developments in practice in the light of the multiple objectives to be considered in agriculture policies. This will require improving public communication and awareness of animal welfare and of healthy and balanced diets as well as preparations and methods of conservation.

BCC.1 - Creation of a competence hub

Creation of a knowledge hub, located at the interface between agriculture, the environment and research, which will act as an intermediary between researchers, farm advisors and farmers and contribute to improving the quality and effectiveness of advice. The aim is to improve mutual exchange and the quality and efficiency of advice in order to further refine sustainable production methods and to pursue modernisation and innovation in the agricultural sector.

BCC.2 - Adapting training and farm advice

On the basis of an evaluation of the farm advisory system, the aim is to develop a coherent and coordinated approach to farm training and advice and to promote an up-to-date knowledge transfer adapted to the needs of the farmer. This includes taking into account environmental, climate (especially adaptation to climate change), social and economic concerns to ensure the sustainable development of the agri-food sector. New developments and trends linked, for example, to the circular economy, specialised or non-standard training and advice (organic farming, market gardening, alternative production, etc.) and animal welfare aspects (food, sustainability, animal care, etc.) must be seen in this context.

BCC.3 - Strengthening the AKIS system and digitalisation in agriculture

The aim is to strengthen the system of knowledge transfer between farmers, researchers and farm advice, focusing on the benefits and opportunities that advanced digitalisation can bring to the agricultural sector, particularly as regards the efficient management of natural resources and the competitiveness of farms. The provision of advice and training should be adapted accordingly.

BCC.4 - Develop AKIS and participation in EIP-AGRI

The aim is to develop AKIS and targeted participation in EIP-AGRI, while improving cooperation and knowledge exchange between farmers, international networking, scientific monitoring and monitoring. Bottom-up participation of farmers will be encouraged as well as a more systematic approximation of the national AKIS system to the European EIP-AGRI network. Participation in PIE projects is financed through national means.

BCC.5 - Developing smart and precision agriculture

The aim is to develop skills among farmers and also with the Ministry on the potential use of new tools and technologies to develop new markets and ensure the transfer of knowledge to farming practice.

BCC.6 - Provide adequate tools to implement political priorities

The aim is to provide the necessary resources for the coordination and implementation, in terms of financial and personal resources, of the political priorities linked to the implementation of the NSP, including the objectives of the Green Deal.

Need assessment to specific geographical areas, such as the outermost regions, mountainous and island areas.

None.

Methodology and criteria used for prioritisation

Needs are ranked according to their priority through 5 criteria:

Need

- is linked to a government action plan/strategy/programme
- promotes the competitiveness of the agricultural sector
- improves the overall state of the environment/climate
- improves a serious situation
- requires rapid action

Each criterion is assigned either the value '0' or '1' if the need answers the question referred in the affirmative or in the negative. Each need is therefore qualified by a score ranging from 0 to 5.

The priority levels of the needs are determined as follows:

- 4-5: priority 1 (P1)
- 2-3: priority 2 (P2)
- 0-1: priority 3 (P3)

The criteria were selected on the basis of the following justifications:

Need linked to a national action plan or strategy and/or government programme: This criterion is crucial for the government's commitments to society, in particular as regards climate and the environment. Moreover, action programmes and strategies are often part of a European framework and thus also meet European objectives.

Need to foster the competitiveness of the agricultural sector: while the first and third criteria cover environmental objectives, the competitiveness of the agricultural sector – another essential element of the CAP – also needs to be considered for prioritising needs. Environmental and animal welfare interests can only be safeguarded by a competitive sector capable of generating viable incomes.

Need to improve the overall state of the environment/climate: This criterion is linked to criterion 1 with a stronger focus on the “general state” of the environment with natural resources such as water, air and soil, as well as climate or biodiversity.

Need that improves a serious situation: This criterion refers to the seriousness of a certain condition which needs to be rectified. It is directly linked to the criterion “**Rapid Action Needed**”. An adverse situation may be without consequence or, on the contrary, require a rapid response to avoid adverse consequences at different levels. Together, these two criteria accentuate the choice made by the first three criteria and make it possible to determine more clearly the priorities identified.

For the prioritisation of needs, a methodology appropriate to Objective 8 has been chosen. The three prioritisation criteria are as follows: direct contribution to Objective 8, rapid action needed and specific need for rural areas.

Interpretation of the results obtained:

priority 1 = 3 criteria fulfilled

priority 2 = 2 criteria fulfilled

priority 3 = 1 criterion fulfilled

Justification for the decision to not address the identified needs in the CAP Strategic Plan or address them partially

Some needs are not addressed directly in the NSP or only partially addressed because national actions are planned to address them directly.

2.1.SO1 Support viable farm income and resilience of the agricultural sector across the Union in order to enhance long-term food security and agricultural diversity as well as to ensure the economic sustainability of agricultural production in the Union

2.1.SO1.1 Summary of the SWOT Analysis

2.1.SO1.1.1 Strengths

1. Agricultural system based on milk production adapted to soil and climatic conditions and well managed thanks to a long tradition.
2. Well-developed and^{high} aid (Pillar 1 and Pillar 2) constituting a significant part of income, allowing farmers to stabilise part of their income in the face of contingencies and market fluctuations.
3. Dynamic operations, based on modern infrastructure and equipment and a generally sound financial situation (high own capital, low indebtedness).

2.1.SO1.1.2 Weaknesses

1. Aid scheme which is inadequate at certain levels, e.g. farmers on a secondary basis (occupancy < 50 %) in the first pillar and large farms (minimum economic size to be respected) to the detriment of new entrants to the sector. Expensive tokens for young people.
 2. Insufficient remuneration for environmental services, as well as for conversion to organic farming.
 3. General fixed costs (depreciation, labour, land) due to significant investments.
 4. Restricted regional market and export orientation of production (mainly milk and beef), little added value on the farm, making farms vulnerable to price fluctuations.
- Unsustainable income in beef production (low turnover and high costs generate very low profit).

2.1.SO1.1.3 Opportunities

1. Favourable economic environment for producers: growing population with high purchasing power, affinity for national and regional products, possibility of trade with the Greater Region. (description see Objective 3).
2. New opportunities arising from the development of consumer behaviour, the development of the bioeconomy and the circular economy, farm valorisation opportunities, diversification of production and organic farming.
3. Climate Change: the new conditions allow for the possibility of cultivating new varieties and/or varieties.
4. Interest of new entrants in taking over or creating exploitation (new forms of cooperation, e.g. SoLaWi).
5. Insurance can help stabilise farmers' income in the event of disasters.

2.1.SO1.1.4 Threats

1. Access to difficult land: high land prices, loss of land as a result of economic development and urban sprawl and ecological compensation system, absence of agricultural areas defined under sectoral plans (sectoral plan: primary State tool to define land use).
2. Climate change (periods of drought and more frequent devastating climatic hazards) is generating increasing income insecurity for farmers. (see PO 4).
3. Labour shortages and high wages, especially in relation to neighbouring regions, in a sector increasingly dependent on skilled and unskilled external labour.
4. Environmental constraints generating additional costs.
5. Sectors with fluctuating and low prices in the face of high production costs (pigmeat, beef and veal, poultry).

2.1.SOI.1.5 Other comments

Agricultural areas

Agriculture in Luxembourg presents the prevailing land use and is subject to important developments. In 2018, agricultural and forestry areas accounted for 85.1 % of the total area in the Grand Duchy of Luxembourg, with areas devoted to agriculture occupying 49.6 % of the territory. The utilised agricultural area (UAA) farmed in 2019 was 131.592 ha, of which 231 ha (0.18 %) is devoted to fruit and vegetable production (Source: area declaration), including 8.577 ha outside the territory of Luxembourg. Between 2010 and 2017, agricultural and forestry soils decreased by a total of 1.552 ha, with a loss of around 3,7 medium-sized farms per year during this period. The number of farms in Luxembourg decreased by more than half in 30 years. Luxembourg's agriculture is undergoing a restructuring process with a strong focus on milk and beef production. The average size of farms is constantly increasing to a level of 70 ha of utilised agricultural area in 2019 and thus becomes one of the largest in the EU-27. Luxembourg is one of the Member States with the largest livestock per holding. This is mainly due to the soil and climatic conditions particularly suited to milk and beef production. However, Luxembourg's livestock load (1,33 LU/ha) should be compared to similar farming systems, such as Ireland (1,27 LU/ha) or Belgium (2,79 LU/ha). The Netherlands is even more intensive with (3,8 LU/ha) (reference year 2016) (Source: Eurostat: livestock density index).

With 7 % of the total UAA located outside the territory of the Grand Duchy of Luxembourg, it should be noted that the data recorded by EUROSTAT on the total UAA (inside and outside the country) do not coincide with the figures used for NSP interventions for which the area eligible for payments is exclusively within the country.

Table: Evolution of the UAA

UAA (ha)	2016	2017	2018	2019	2020
UAA (total)	130 651	131 163	131 559	131 592	132 136
of which within the country (ha)	123 430	123 499	123 503	122 843	122 994
of which outside the country (ha)	7 221	7 664	8 056	8 749	9 142
of which within the country (%)	94 %	94 %	94 %	93 %	93 %
of which outside the country (%)	6 %	6 %	6 %	7 %	7 %

Sources: SER 2021

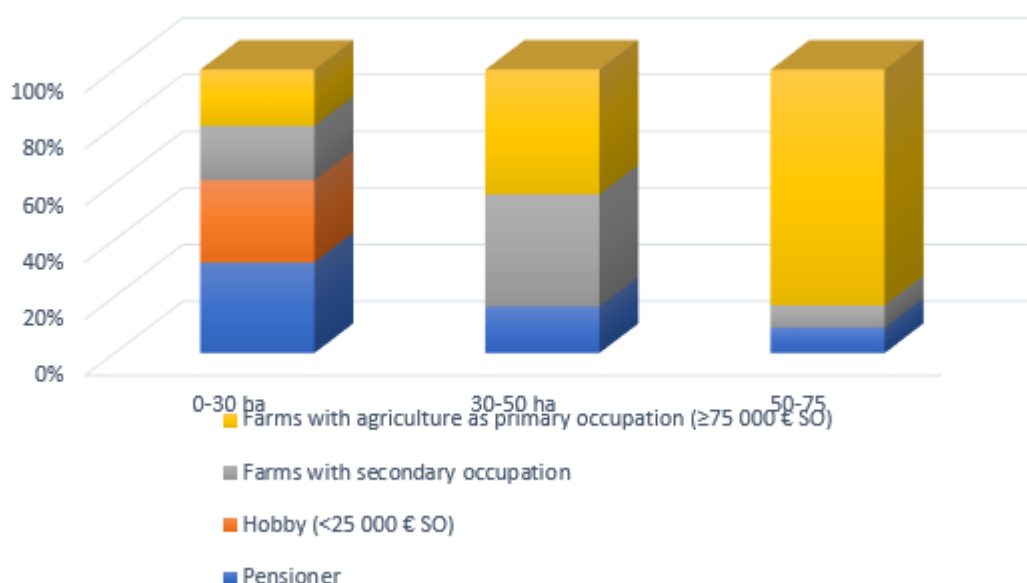
Farm structure

Of the 1.746 farmers who received basic payments in 2019 only 1.098 are occupied at 100 %. 506 farmers are registered with an agricultural occupation of less than 50 %. Around 60 % of farms with less than 50 ha are run by part-time managers with a different occupation outside agriculture. Of the farms below 30 ha, more than half are run by pensioners or people who manage the farm as leisure. Their main income is not linked to agricultural activity. Only a minority of these farms work primarily and are mainly winegrowers or producers of fruit and vegetables or other off-land production where the need for land is less intensive.

It is not Luxembourg's willingness to support the income of agricultural producers on a secondary basis at the same level as that of primary farms. Orientation of income support towards farms generating secondary income is therefore not a priority for Luxembourg. Income support is directed to primary farms.

Standard production is thus a better criterion for directing aid than the area linked to the holding.

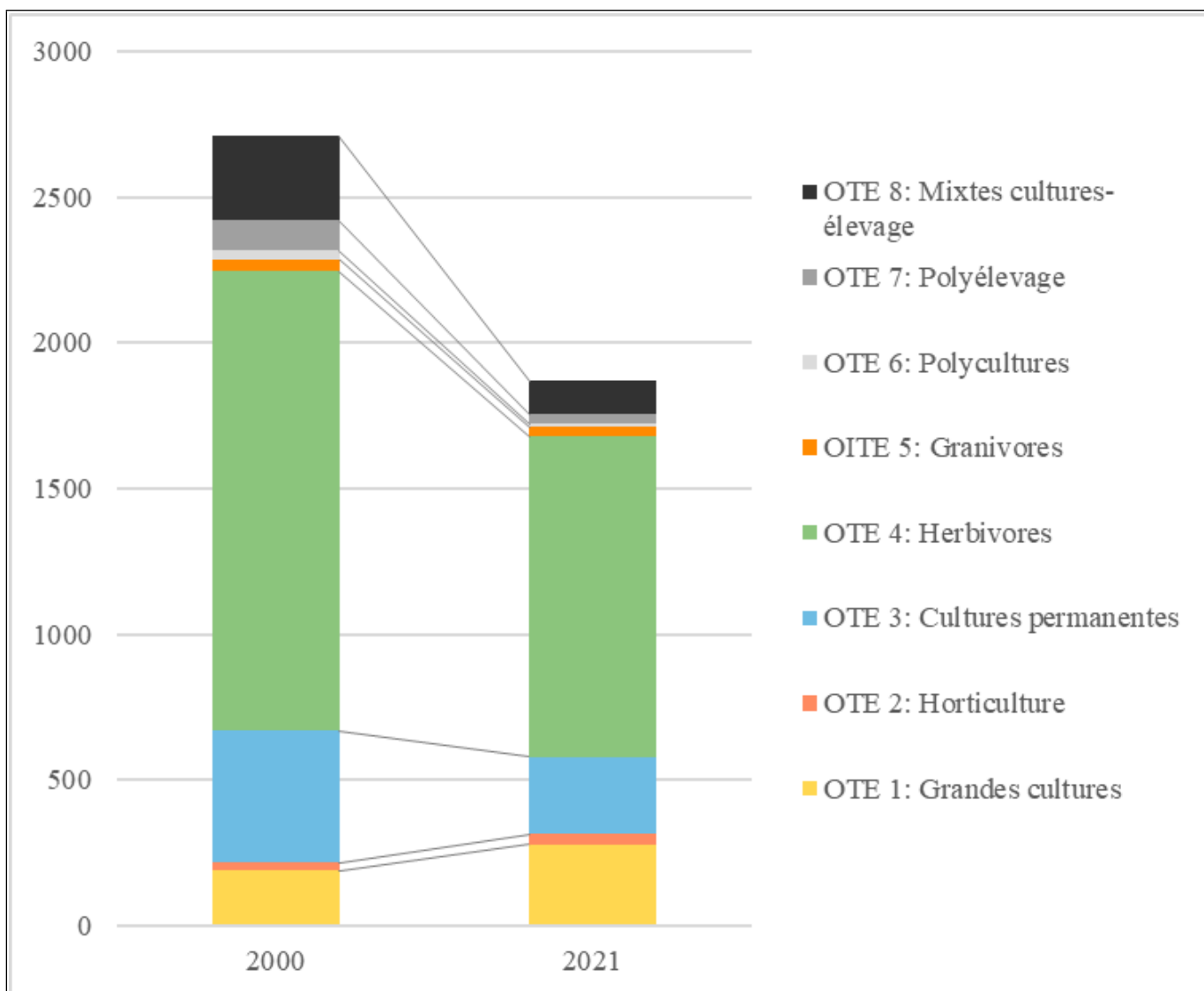
Diagram: Structure of holdings with different degrees of professional occupation in 2019



Sources: MAVDR, 2020

The number of farms in Luxembourg is steadily decreasing. Between 2000 and 2021, their number decreased by around 30 %, from 2.700 holdings to 1.870 holdings. It should be stressed that this development is typical in agricultural sectors in industrialised countries and is accompanied by a relative increase in the average area farmed by each holding. This structural change is accompanied by a change in the proportion of farm typologies, known as the OTE typology. Between 2000 and 2021, the share of OTE 2 Horticulture, OTE 4 Herbivores, OTE 5: Granivores and OTE 6 polycultures remain relatively stable with only slight fluctuations. The share of farms in OTE 3 Permanent crops, OTE 7 mixed livestock and OTE 8 Mixtes culture-livestock farming has fallen; the share of OTE 1 Great Crops has increased sharply, demonstrating continued specialisation in this agricultural specialisation. Most farms are specialised in milk and beef production.

Diagram: Changes in the number of holdings by type since 2000



Sources: MAVDR, 2022

From 2014 to 2021, there has been a more nuanced development. The number of farms in OTE 2 and 5 is slightly increasing, with a sharp increase in the number of holdings in OTE 1. For these OTE, the number of farms is proportionally correlated with the evolution of the UAA. Only in OTE 6 (polycropping), it can be seen that the UAA has increased more than the number of farms, which is indicated by an increase in the average utilised area.

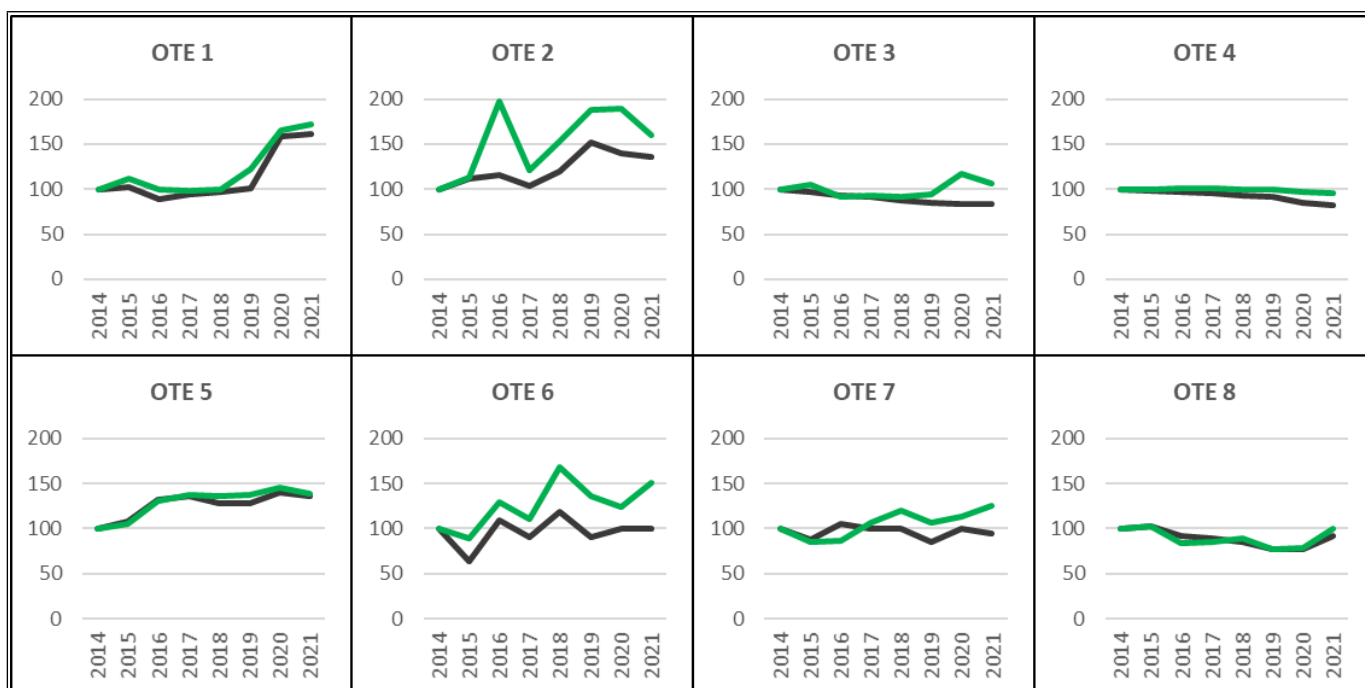
Table: Change in the number of holdings by type

		2014	2015	2016	2017	2018	2019	2020	2021
OTE 1: Specialist arable crops	Expl	173	178	154	162	168	175	275	280
	UAA	6.726	7.552	6.660	6.619	6.709	8.263	11.116	11.589
OTE 2: Specialise d horticultur al holdings	Expl	25	28	29	26	30	38	35	34
	UAA	117	132	230	142	178	220	220	186

OTE 3: Holdings specialisin g in permanent crops	Expl	318	310	294	293	280	272	266	266
	UAA	1.533	1.611	1.407	1.418	1.412	1.452	1.786	1.624
OTE 4: Specialist herbivoro us farms	Expl	1.332	1.315	1.293	1.274	1.244	1.220	1.130	1.098
	UAA	108.119	107.516	108.866	108.865	108.248	108.304	105.159	103.196
OTE 5: Specialise d landless livestock productio n (granivore s)	Expl	25	27	33	34	32	32	35	34
	UAA	1.928	2.034	2.532	2.651	2.622	2.639	2.789	2.671
OTE 6: Mixed crops	Expl	11	7	12	10	13	10	11	11
	UAA	454	406	585	501	766	615	562	687
OTE 7: Mixed livestock farms	Expl	34	30	36	34	34	29	34	32
	UAA	2.485	2.123	2.164	2.660	2.971	2.635	2.801	3.128
OTE 8: Mixed crops – livestock	Expl	124	127	114	110	105	96	95	114
	UAA	9.716	10.010	8.207	8.306	8.653	7.463	7.693	9.731

Sources: MAVDR, 2022, FSS multiannual result 1985-2021.

Diagram: Changes in the number of holdings by type



In green, the relative evolution of the UAA in dark grey, the relative evolution of the number of farms.
Sources: MAVDR, 2022, FSS multiannual result 1985-2021.

Geographical distribution of holdings

It should be noted that the territory of Luxembourg is characterised by a great diversity of soil and topography, despite its small size. This diversity has led to a historical territorial divergence in terms of quantity and quality of agricultural use of the territory, which remains visible today. Generally, there are more farms in the north of the country than in the south. The urban nodes are located in the south of the country, which is why the utilised agricultural area is limited in that territory. However, there are significant areas of agricultural production between urban areas.

In almost all municipalities in the country, there are a large number of farms with an OTE 4 orientation, followed by OTE 1 orientation farms. These OTE dominate the other OTE in the north and west of the country. At the level of permanent crops (OTE 3), the majority of farms established in the south of the country (fruit trees) and above all along Moselle (vineyards) can be observed. It should be noted that the horticultural sector is considerably underdeveloped (OTE 2), with very few farms with this specialisation in the territory.

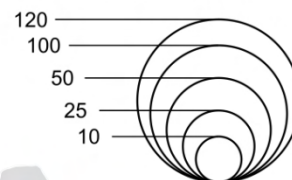


Nombre d'exploitations par OTE par commune au Grand Duché de Luxembourg, 2021

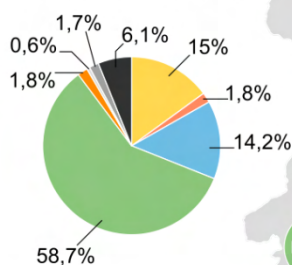
Part des exploitations par typologie (OTE)

- OTE 1: Grandes cultures
- OTE 2: Horticulture
- OTE 3: Cultures permanentes
- OTE 4: Herbivores
- OTE 5: Granivores
- OTE 6: Polycultures
- OTE 7: Polyélevage
- OTE 8: Mixtes cultures-élevage

Nombre d'exploitations par commune



Typologie de toutes les exploitations par OTE



Source : Ministère de l'Agriculture, de Viticulture et du Développement rural, 2022 et Luxembourg Open Data Portal, 2022.

Cyclical changes in **agricultural markets have a strong impact on farm income**, which may differ significantly from one year to the next. Changes in productivity, in particular linked to investment and depreciation costs, also have an important influence on income. Other important factors are health crises and climatic hazards that can severely hamper harvests and thus revenues. Even greater fluctuations are avoided due to the combined effect of an active policy of public support and a steady increase in the economic size of farms.

Luxembourg's agricultural sector, which has a significant focus on milk production, has prepared ahead of the abolition of milk quotas. Many farms have anticipated the liberalisation of milk production and have invested in efficient infrastructure. This led to an increase in production, which was initially able to cushion the fall in the price of milk in the 2016s and 2017s.

Table: Trends in labour productivity and farm income (all farms)

		2012	2013	2014	2015	2016	2017	2018	2019	2020
Average UAA	ha	84,5	83	83,2	83,6	87,2	86,3	88,4	89,6	91,4
Livestock	LSU	109	108	111	112	120	116	119	119	119,3
Family labour	UTA	1,5	1,4	1,4	1,4	1,5	1,5	1,6	1,4	1,5
UAA/AWU	ha	56,3	59,3	59,4	59,7	58,1	57,5	55,3	64	60,9
Livestock/AWU	LSU	72,7	77,1	79,3	80,0	80,0	77,7	74,4	85	79,5
Operating profit	EUR 1.000	43,4	45,6	50,8	45,4	36,6	60,3	62,4	60,2	68,9
Operating result/AWU	EUR 1.000	28,9	32,6	36,3	32,4	24,4	40,2	39,0	43,0	45,9

Sources: MAVDR activity report 2020 and 2021, on the basis of holdings included in the FADN

UAA: utilised agricultural area

AWU: annual Work Unit

On the other hand, there has been a steady increase in depreciation costs in recent years: + 23 % between 2017 and 2010, and the steady increase. This increase is therefore the result of a wave of major investments with which farms intended to prepare for the post-quota period.

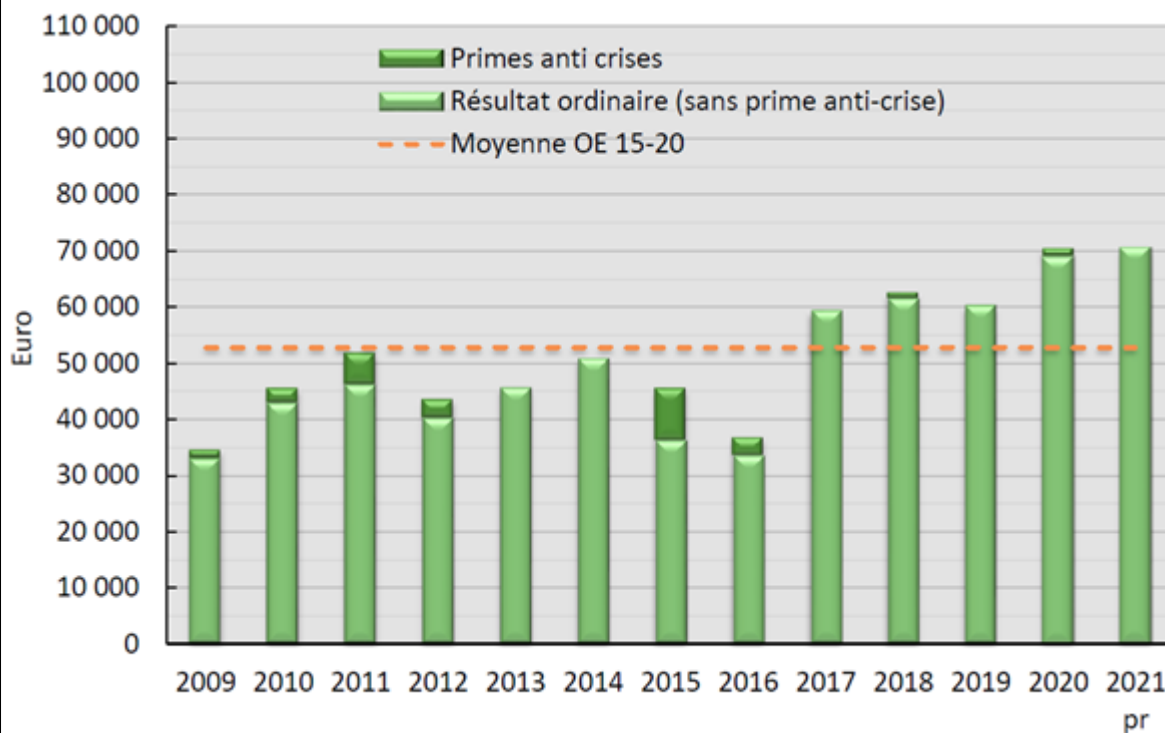
The level of public aid has also increased in these years, due in particular to changes in payments under rural development policy and exceptional aid to producers (drought in 2011 and 2015, crisis in the dairy and pig markets in 2015 and 2018). Public support has reached a level in recent years that is generally higher than the operating result.

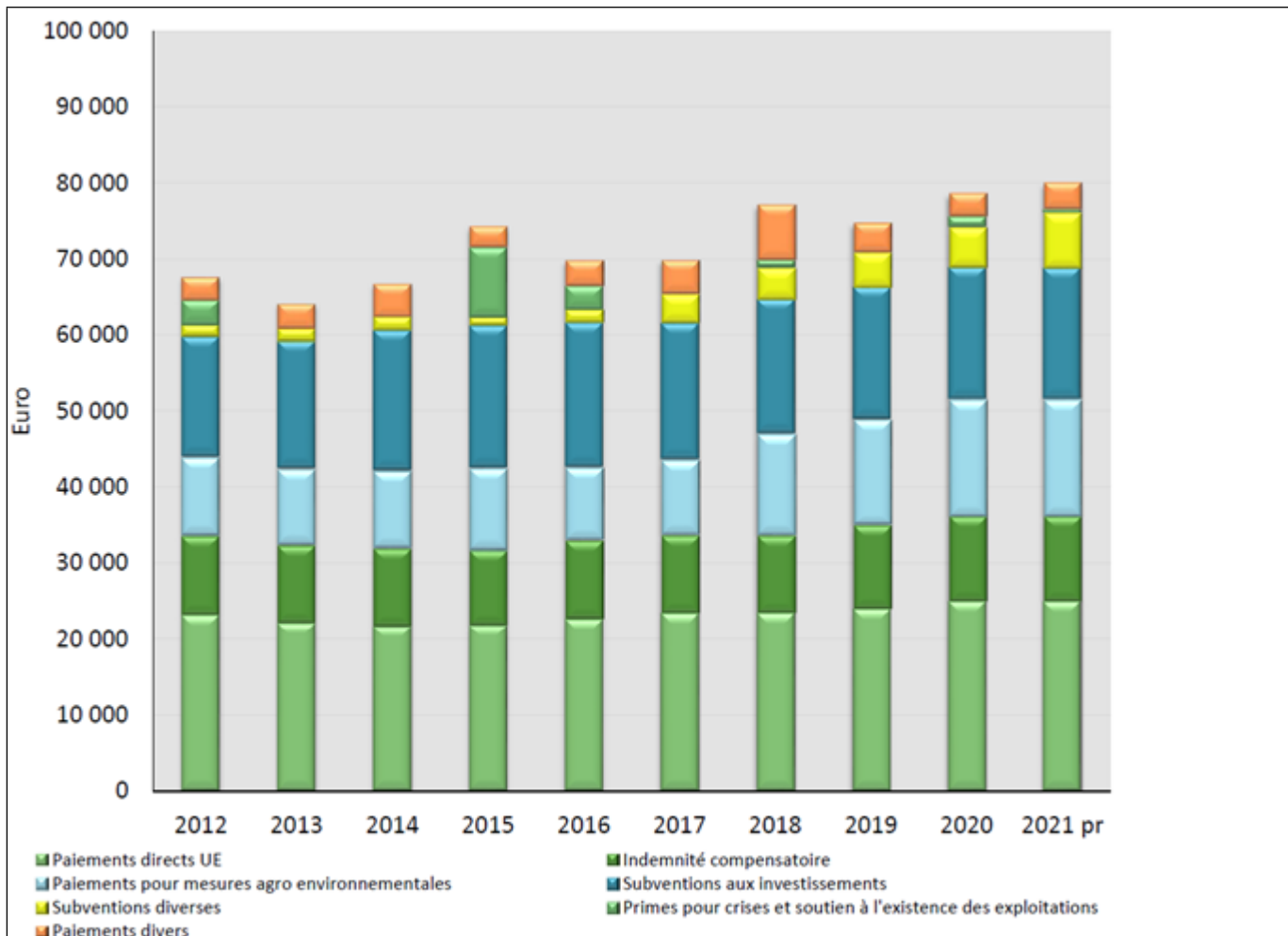
Table: Developments in the main technical and economic indicators

Indicateurs économiques	Unité	2013	2014	2015	2016	2017	2018	2019	2020
SAU (toutes les exploitations)	Ha	83,9	83,2	83,6	87,2	86,8	88,4	89,6	91,4
Cheptel	UNB	107,6	111,3	112,1	119,5	117,2	119,3	119,0	119,3
Chiffre d'affaires	1,000 €	216,6	231,5	194,4	203,3	259,4	264,9	270,3	298,2
Amortissements	1,000 €	-58,6	-62,0	-60,3	-64,0	-64,4	-63,5	-66,3	-70,5
Aides à l'investissement	1,000 €	16,7	18,4	18,7	19,0	17,9	17,7	17,4	17,4
Aides publiques totales	1,000 €	64,1	66,7	74,3	69,8	69,8	77,1	74,7	78,6
Résultat d'exploitation (=bénéfice - résultat neutre)	1,000 €	45,6	50,8	45,4	36,7	59,3	62,4	60,2	68,9
Aides totales / chiffre d'affair	%	30,0	29,0	38,0	34,0	26,6	29,1	27,6	26,3
Aides totales / résultat d'exploitation	%	140,6	131,3	163,7	190,1	117,7	123,6	124,1	114,1

Sources: MAVDR activity report 2020 and 2021, on the basis of holdings included in the FADN

Tables: Changes in the ordinary result, profit and anti-crisis premiums



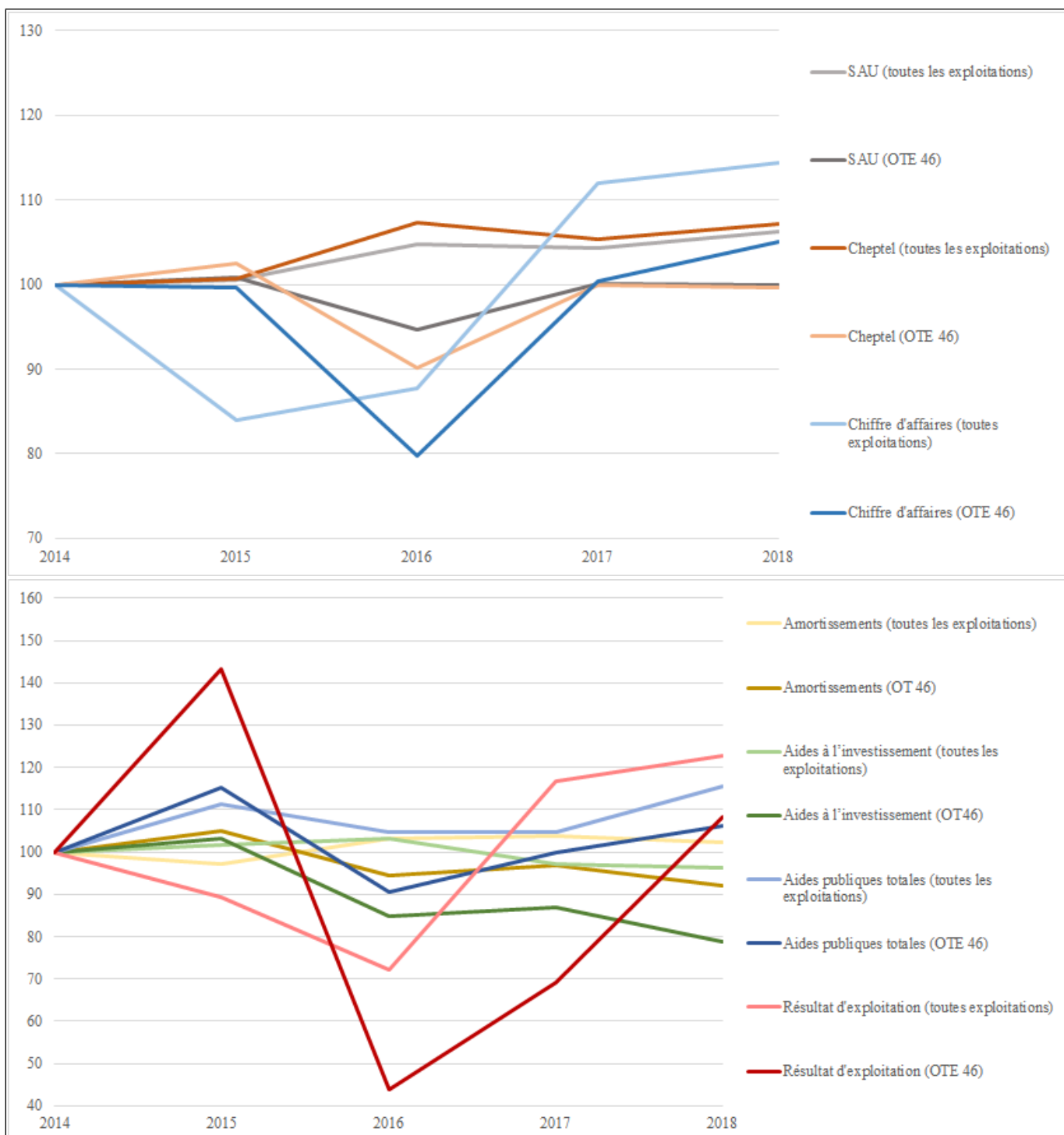


Sources: MAVDR activity report 2021, on the basis of holdings included in the FADN

Apart from the general trends in agricultural income, it is important to analyse the income of the various directions of agricultural production. In 2017, the output of agricultural holdings was on the rise, across all orientations. This increase in farm income continues in 2018 and 2019, except for pig holdings. Overall, the operating result was at a high level in 2019, given the favourable conditions for producer prices. However, this analysis remains to be qualified for the beef and veal sector. Indeed, the farm result achieved by suckler cattle farms in recent years is particularly low compared to other sectors of agricultural production. The beef and veal sector must have a price level that is too low compared to the operational and structural costs it has to bear.

This situation deteriorated further as a result of the COVID-19 crisis, where prices for beef and, above all, pigmeat are falling.

Table: Changes in the economic indicators of agricultural enterprises and the situation of beef and veal producers in relation to all agricultural holdings



Sources: SER, RICA

20 % of agricultural holdings are classified under the technical-economic orientation of specialised beef producers (OTE 46). However, they generate only 10 % of Luxembourg's total standard product.

Development of operating results

The operating result of old cattle holdings (OTE 46) is much lower than the farm result of Luxembourg farms on average. A very low turnover (EUR 17.600 in 2019 compared to the overall average of agricultural holdings, which in 2019 amounted to EUR 60.200), combined with structural problems (costly infrastructure, high operational expenditure, etc.) means that the operating result of OTE 46 farms earn barely 30 % of the average farm result of Luxembourg's farms.

Compared to this low turnover and compared to other sectors, costs are quite high: expenditure on materials and consumables, farm leases, depreciation and other operational expenditure.

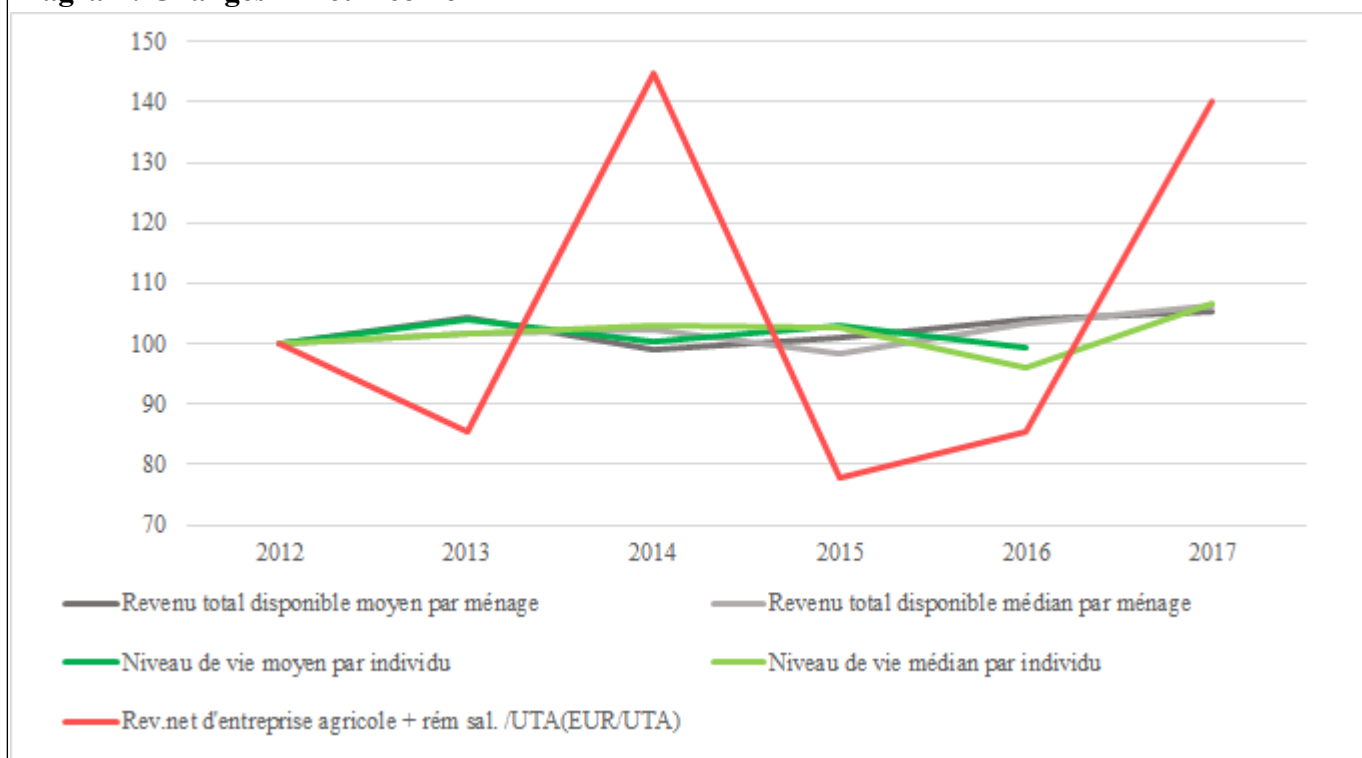
Beef prices have been fairly stable in recent years. However, the yield of virgin production is much lower than that of other agricultural products, in particular milk production.

Beef and veal production is very extensive in the Grand Duchy of Luxembourg. The cost of land as a factor of production therefore plays a considerable role.

When comparing agricultural income with reference income, disposable income per household or per individual, the blatant inequalities to which the agricultural sector is subject. The official statistical institute (STATEC) determined on 1 January²⁰¹⁸ that a couple with two children would need EUR 4.079 per month to live decently, that is to say, to meet their basic needs and participate actively in society. A couple without children would need EUR 2.707. These thresholds can be considered as the minimum income (or absolute at-risk-of-poverty threshold) to lead a decent life in Luxembourg.

Unfortunately, it should be noted that two average incomes per AWU from the agricultural sector barely meet the minimum threshold for a couple, and are far from reaching the threshold for a couple with two children. It should be noted that farm incomes are subject to large fluctuations. Although the measured income per household and per individual is relatively stable between 95 and 106 percentage points from 2014 onwards, the net agricultural entrepreneurial income and compensation of employees in the agricultural sector are constantly changing.

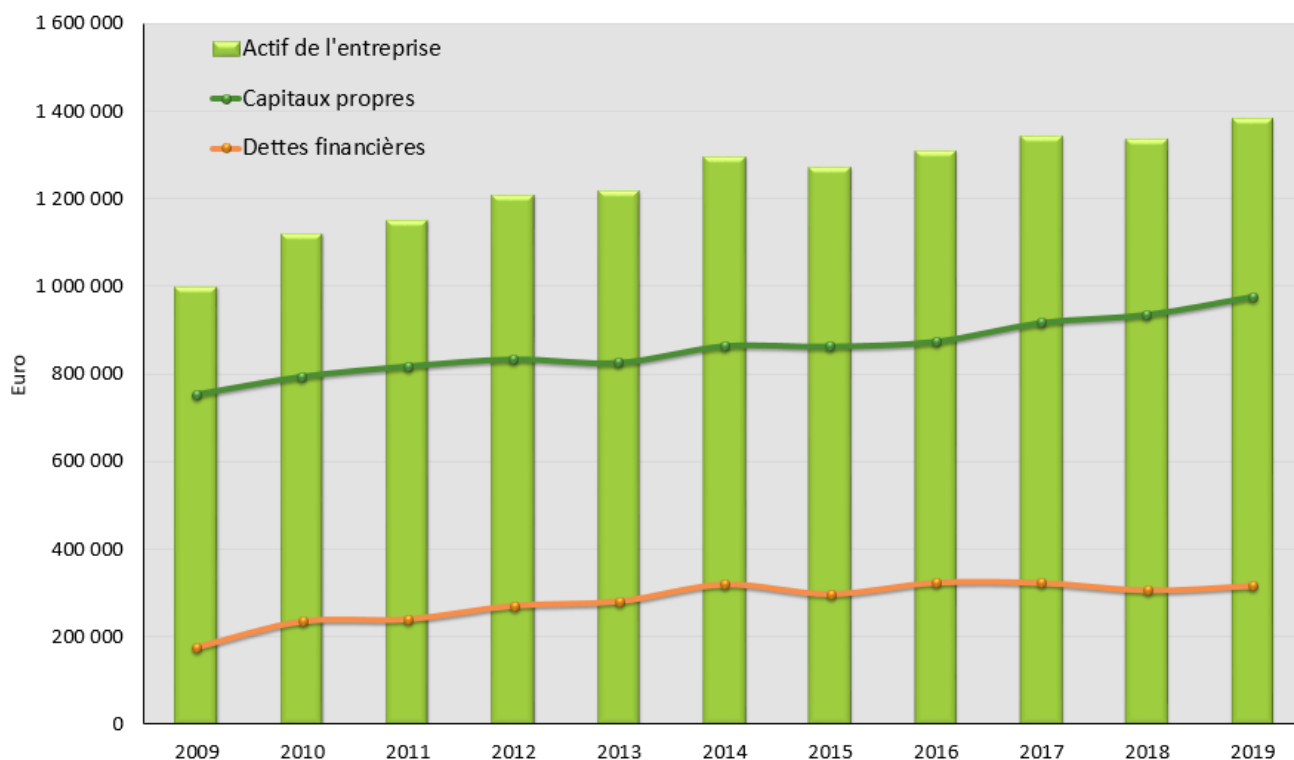
Diagram: Changes in net income



Sources: STATEC, SER – CEA

However, the financial situation of agricultural holdings is relatively sound. On average, only a quarter of the enterprise's assets consist of financial liabilities.

Diagram: Changes in the assets of agricultural enterprises



In euros	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Assets of the enterprise	1.120.630	1.151.163	1.210.897	1.219.226	1.297.966	1.274.677	1.311.464	1.344.494	1.337.234	1.385.892
Own equity	793.177	816.808	832.753	824.959	862.985	861.937	873.342	916.447	934.889	976.008
Financial debts	235.473	240.532	271.486	281.520	320.084	298.275	324.167	323.725	306.641	316.608

Sources: SER, 2020

Agricultural income is subject to varying degrees of fluctuations in market prices. The last dairy crisis is still being remembered, as well as current prices for pigmeat and to a lesser extent for beef have lost many producers. Climatic hazards such as drought, storms, hail and floods have increased in recent years. These conditions require risk management appropriate to the agricultural sector. Such measures have been deployed by the government in the last programming period.

Organic farming can also be an alternative to stabilising income. A recent RES study^[1] has shown that the income of organic farmers can be higher than the income of conventional farmers under certain conditions. During the years of the dairy crisis (2015/2016), organic farmers had a higher standard income than conventional farmers. The difference in income is mainly due to lower fixed costs for organic farmers and also depends on market prices. This situation therefore remains variable.

The study also highlights large fluctuations in income within different groups, income outcomes are highly dependent on farmers' management skills and capacities. This statement is valid for organic and conventional farms. It is confirmed annually by data analyses from the FADN accounting network. It can be concluded that farmers' skills have an impact on farm incomes and that the development of these skills contributes to income improvement. Importing skills through an advisory network is also an opportunity (AKIS).

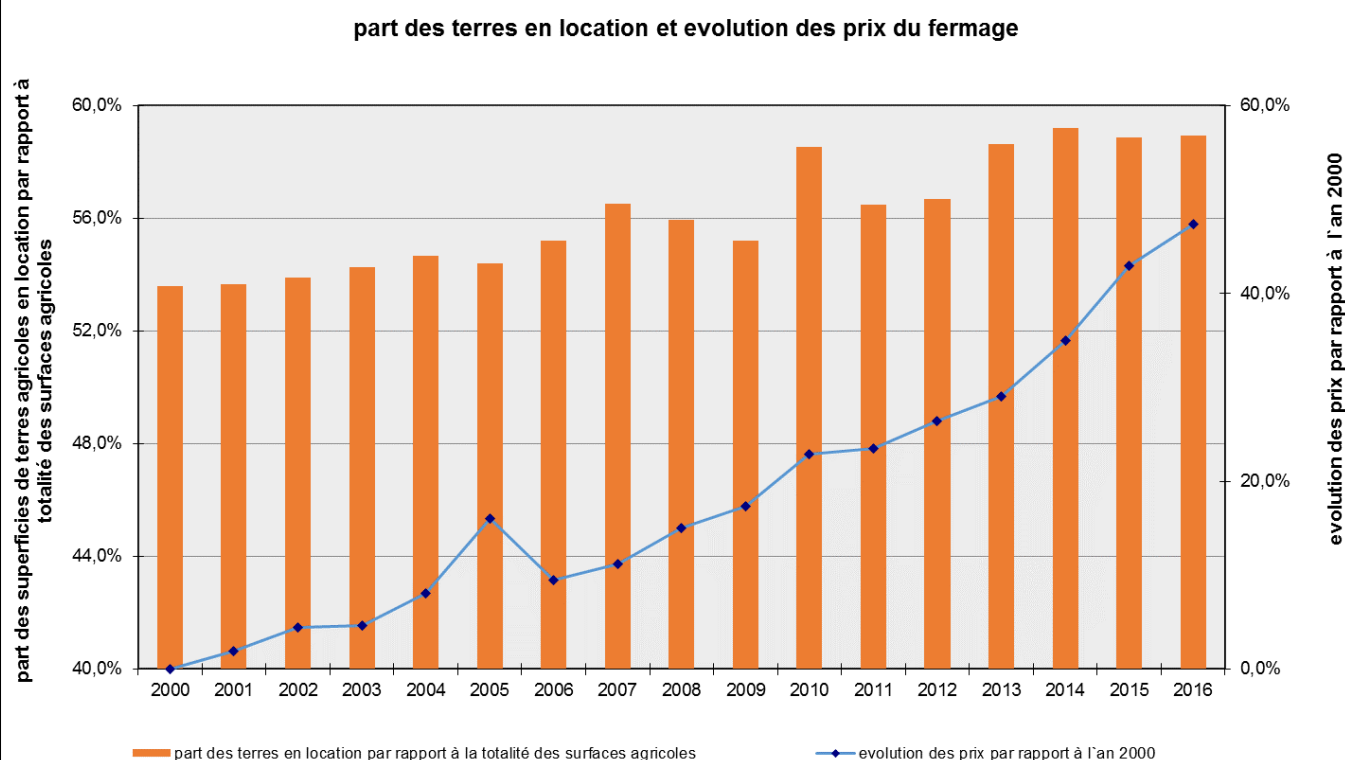
Insurance against certain risks

In 2018, some 1.000 agricultural holdings within the meaning of the Agrarian Law concluded an insurance contract against certain agricultural risks for a total insured value of approximately 116 million. COUNCIL These are mainly insurance contracts for the protection of vines against late frost and hail (covering around 75 % of the area), multi-risk contracts for arable crops, contracts against drought of permanent grassland and grassland areas. Around 5 % of farms concluded yield loss contracts at the level of animal diseases. For fruit and vegetable trees, insurers have concluded yield loss contracts with around 20 farms. Overall, the State covers 65 % of the insurance premiums. The rate is the same for all loss-making contracts and subscription is strongly encouraged by the Ministry. State expenditure amounted to around 2.6 million. EUR 1 000 000 for the 2018 marketing year.

Prices of agricultural land

Agricultural landprices have experienced a particular boom in recent years. There are many causes: the development of structures towards highly soil-related agriculture, particularly in milk production, the implementation of ecological compensatory measures on agricultural land, but above all accelerated urbanisation, which has created, for the purchase of arable land, often unbalanced competition between active farmers and landowners and even players speculating on the land market. This pressure is less pronounced in winegrowing, where there is an increased availability of vineyard land due to a lack of farm takeovers.

Figure: Changes in rented land prices and share of rented agricultural land over total agricultural land



Sources: SER, 2017

Urbanisation in Luxembourg is mainly due to the favourable economic situation driven by a tertiary sector and in particular by the booming financial sector. The high wage levels in this sector obviously attract the labour force to this sector and not just the national workforce. Luxembourg identified more than 200.000 cross-border workers in 2020 or 32 % of the national population (626.000) (source: STATEC). More than 12.000 jobs are created per year. The result is a shortage for the primary and secondary sectors.

On the other hand, the purchasing power of the population as well as that of frontier workers has been fairly eliminated, which would give priority to the disposal of products that are qualitatively high and at

high prices. In practice, however, this is not always confirmed.

Support schemes for active farmers

During the period 2014-2022, the direct payment schemes implemented in the Grand Duchy of Luxembourg and 100 % charged to the Community budget (EAGF) are as follows:

- basic payment: the basic payment scheme operates with payment entitlements to be claimed by the holder from areas eligible for the basic payment. The value of entitlements is partly based on historical values and thus differs between farms.
- payment for agricultural practices beneficial for the climate and the environment (“Greening”): a producer who is entitled to the basic payment must respect on all his eligible areas the following agricultural practices beneficial for the climate and the environment:
 1. Crop diversification;
 2. maintenance of existing permanent grassland, and
 3. have ecological focus area on the agricultural area (EFA).

It is therefore currently clearly a compulsory aid scheme, which cannot be avoided by a beneficiary of the basic payment, except in the following cases of exemption:

- the payment for young farmers;
- coupled support for the cultivation of legumes.

Direct payments are also subject to the principles of cross-compliance. These are regulatory requirements for:

- environment, climate change and good agricultural condition of land;
- public health, animal and plant health;
- animal welfare.

Entitlements

The basic payment entitlements currently held were calculated on the basis of a premium situation from 2000 to 2002 (for some producers, 1997 to 1999). This reference will therefore be some 20 years old when the reform is being implemented. This long period of time no longer justifies a differentiation in the value of rights, as for many holdings the operative event for this value variety is no longer given.

The rule of renewal of unused rights to the national reserve increases the pressure on the land market, as the loss of the rights concerned is definitive. In order to reach BISS again for newly acquired areas, farmers must again obtain, for consideration, new entitlements instead of those they have lost as a result of the renewal (at least that they are eligible for an allocation from the national reserve). This disadvantage particularly affects young farmers who are rather in favour of abolition.

Unlike per hectare aid, a BISS for payment entitlements involves the following operations:

- I. Management and control of requests for transfers of rights
- II. Management and control of requests for allocation from the reserve
- III. Control of the use of entitlements and renewals to the national reserve
- IV. Exchange of letter of procedure

The abolition of rights could therefore be an important step towards simplifying the implementation of the BISS. As part of the preparation of the 2023-2027 NSP, Luxembourg opts for a gradual convergence of payment entitlements towards a unit value in the years 2023 to 2027, with the abolition of payment entitlements in 2027 and their replacement by a uniform per hectare support.

The expected impact is presented in the following tables:

Transfers of funds between holdings

		Distribution des valeurs des droits au paiement par taille de l'exploitation																								
		Taille de l'exploitation en ha																								
		0 - 3 ha	3 - 5 ha	5 - 10 ha	10 - 20 ha	20 - 30 ha	30 - 40 ha	40 - 50 ha	50 - 60 ha	60 - 70 ha	70 - 80 ha	80 - 90 ha	90 - 100 ha	100 - 110 ha	110 - 120 ha	120 - 130 ha	130 - 140 ha	140 - 150 ha	150 - 160 ha	160 - 170 ha	170 - 180 ha	180 - 190 ha	190 - 200 ha	200 - 250 ha	> 250 ha	Total
Valeurs des droits au paiement en €/ha	109,48 - 110 €/ ha	8	10	31	23	11	4	5			1		1													94
	110 - 120 €/ ha	3	4	5	10	8	2	4	1		3	2														42
	120 - 130 €/ ha	1	2	3	4	4	3	4	2	4	1	2		1												31
	130 - 140 €/ ha	4	1	7	8	4	9	4	4	3	4		3	1	3	2	2	2	1							62
	140 - 150 €/ ha	2	2	7	5	14	9	8	11	6	5	5	8	6	2	2	2	2	3			1	1	1	1	103
	150 - 160 €/ ha	4	7	2	9	18	11	13	12	13	11	16	7	4	11	5	4	4	2	1	1	2		2	2	161
	160 - 170 €/ ha	4	3	8	9	8	10	18	11	10	14	7	5	16	10	11	6	3	4	3	1	1	3	6	2	173
	170 - 182,49 €/ ha	9	3	3	7	8	15	14	19	13	11	19	9	12	11	12	5	6	5		4	4		9	5	203
	182,49 - 190 €/ ha	9	10	10	14	12	4	7	6	17	11	20	18	17	13	3	10	6	5	6		1	3	12	5	219
	190 - 200 €/ ha	3	3	3	5	6	3	9	6	11	17	11	10	6	11	7	4	3	5	2	2	4	1	6	6	144
	200 - 210 €/ ha	1	1	1	3	2	5	6	4	7	6	18	5	6	7	3	5	3	4	1	1	1	1	1	2	94
	210 - 220 €/ ha	2		4	4	6	5	4	2	6	5	1	5	1	5	2		1	1	3		1	1	3	2	64
	220 - 230 €/ ha	4	2	4	6	2	4	1	4	1	1	6	4	2	1	1	1	1	1	1			1		1	49
	230 - 240 €/ ha	1	2	3	2	1	1	5	4	2	4	1	4	2	2	1	1			2	1	1		1		41
	240 - 250 €/ ha	2		2	1	3		2	4			2	1	3	2		1	2		1	1			1	1	29
	250 - 260 €/ ha	2	1		5	2	2		2		3	5	3	2	1	1		1		1				1		32
	260 - 270 €/ ha	3	2	7	3	1		2				1	2			1		1		1						24
	270 - 280 €/ ha	5	4	5	8			1	1			1														25
	280 - 290 €/ ha	4	4	6	4			1		1	1			1			1									23
	290 - 300 €/ ha	14	8	10	3	1			1	2			1	1	1									1		43
	300 - 310 €/ ha	3		1	1	1					1	1				1										9
	310 - 320 €/ ha										1															1
	320 - 330 €/ ha	2	1	1									1													5
	330 - 340 €/ ha	1		1			1				1															4
	340 - 350 €/ ha	2		1		1																				4
	350 - 360 €/ ha	2	1			1																				4
	360 - 370 €/ ha				2																					2
	370 - 380 €/ ha			3						1																4
	380 - 390 €/ ha																									0
	390 - 400 €/ ha		1		2																					3
	> 400 €/ha	4	2	4	2		3	1	1																	17
Total		99	74	132	140	114	91	109	95	96	102	118	86	82	80	52	42	34	32	20	13	16	11	43	28	1709

Toutes exploitations confondues: Nombre d'exploitations par classe de valeur moyenne des droits au paiement de base détenus					
Valeur moyenne nationale 2019: 182,49 €/ha					
Valeur moyenne des droits détenus par exploitation	Retraités (Tous SO confondus)	Exploitations de loisirs (<25 000 € SO)	Exploitations à titre accessoire (25 000 € ≤ SO < 75 000 €)	Exploitations à titre principal (≥75 000 € SO)	Total
109,48 €/ ha	18	48	14	14	94
109,48 - 120 €/ ha	15	10	8	9	42
120 - 130 €/ ha	10	2	8	11	31
130 - 140 €/ ha	17	6	12	27	62
140 - 150 €/ ha	24	5	19	55	103
150 - 160 €/ ha	26	8	20	107	161
160 - 170 €/ ha	19	14	26	114	173
170 - 182,49 €/ ha	24	11	17	151	203
182,49 - 190 €/ ha	19	20	21	159	219
190 - 200 €/ ha	7	5	10	122	144
200 - 210 €/ ha	9	2	7	76	94
210 - 220 €/ ha	7	5	6	46	64
220 - 230 €/ ha	9	2	5	33	49
230 - 240 €/ ha	4	0	1	36	41
240 - 250 €/ ha	2	2	4	21	29
250 - 260 €/ ha	2	2	4	24	32
260 - 270 €/ ha	11	1	1	11	24
270 - 280 €/ ha	1	5	4	15	25
280 - 290 €/ ha	5	0	5	13	23
290 - 300 €/ ha	6	7	12	18	43
300 - 310 €/ ha	1	2	0	6	9
310 - 320 €/ ha	0	0	0	1	1
320 - 330 €/ ha	1	2	0	2	5
330 - 340 €/ ha	1	0	0	3	4
340 - 350 €/ ha	3	0	0	1	4
350 - 360 €/ ha	2	0	2	0	4
360 - 370 €/ ha	1	0	0	1	2
370 - 380 €/ ha	0	1	1	2	4
380 - 390 €/ ha	0	0	0	0	0
390 - 400 €/ ha	0	1	0	2	3
> 400 €/ha	5	1	0	11	17
Total	249	162	207	1091	1709

Given the current variability of payment entitlements, the introduction of the BISS in the form of a per hectare premium has a significant redistributive impact between farms. If the average value of payment entitlements is EUR 182,5/ha, there will be a redistribution of values in favour of small businesses, often run by secondary farmers, and pensioners, to the detriment of large companies. 840 farmers have higher-than-average payment entitlements which will be used to increase the values of payment entitlements of 869 holdings holding entitlements below average. It should be noted that holdings hold payment entitlements of different values and that transfers are not necessarily unidirectional from large holdings to small farms.

In order to mitigate this redistributive impact and allow farms to adapt to the new situation, convergence should be spread over the five years from 2023 to 2027.

However, it should be noted that not only convergence in the context of the basic payment has the effect of redistribution of aid, but also the personal choices of farmers in the context of ecological schemes which replace the Greening, which is a flat-rate aid of EUR 82/ha.

Transfers of funds between holdings in the same sector

This variability between farms can also be seen within the different production sectors. The following tables show this variability for the dairy and beef production sectors (farms with more than 10 suckler cows): The vast majority of holdings are the main holdings. 301 dairy farmers have higher-than-average payment entitlements which will be used to increase the value of payment entitlements for 224 holdings below the average. At the level of beef producers, the situation is similar: 162 holdings hold tokens worth more than EUR 182,5 that serve to increase the value of tokens on 197 holdings that have below average tokens.

Producteurs de lait :					
Nombre d'exploitations par classe de valeur moyenne des droits au paiement de base détenus					
Valeur moyenne nationale 2019: 182,49 €/ha					
Valeur moyenne des droits détenus par exploitation	Retraités (Tous SO confondus)	Exploitations de loisirs (<25 000 € SO)	Exploitations à titre accessoire (25 000 € ≤ SO < 75 000 €)	Exploitations à titre principal (≥ 75 000 € SO)	Total
0 - 110 €/ ha	0	0	1	0	1
110 - 120 €/ ha	0	0	0	0	0
120 - 130 €/ ha	0	0	0	0	0
130 - 140 €/ ha	0	0	1	5	6
140 - 150 €/ ha	1	0	0	33	34
150 - 160 €/ ha	4	0	0	51	55
160 - 170 €/ ha	1	0	2	46	49
170 - 182,49 €/ ha	2	0	1	76	79
182,49 - 190 €/ ha	2	0	0	90	92
190 - 200 €/ ha	0	0	3	64	67
200 - 210 €/ ha	4	0	1	46	51
210 - 220 €/ ha	1	0	1	22	24
220 - 230 €/ ha	0	0	1	16	17
230 - 240 €/ ha	0	0	0	17	17
240 - 250 €/ ha	0	0	1	14	15
250 - 260 €/ ha	0	0	0	9	9
260 - 270 €/ ha	0	0	0	1	1
270 - 280 €/ ha	0	0	0	0	0
280 - 290 €/ ha	0	0	0	4	4
290 - 300 €/ ha	0	0	0	2	2
300 - 310 €/ ha	0	0	0	2	2
310 - 320 €/ ha	0	0	0	0	0
320 - 330 €/ ha	0	0	0	0	0
330 - 340 €/ ha	0	0	0	0	0
340 - 350 €/ ha	0	0	0	0	0
350 - 360 €/ ha	0	0	0	0	0
360 - 370 €/ ha	0	0	0	0	0
370 - 380 €/ ha	0	0	0	0	0
380 - 390 €/ ha	0	0	0	0	0
390 - 400 €/ ha	0	0	0	0	0
> 400 €/ha	0	1	0	1	2
Total	15	1	12	499	527

Producteurs de viande bovine (≥ 10 vaches allaitantes) : Nombre d'exploitations par classe de valeur moyenne des droits au paiement de base détenus					
Valeur moyenne nationale 2019: 182,49 €/ha					
Valeur moyenne des droits détenus par exploitation	Retraités (Tous SO confondus)	Exploitations de loisirs (<25 000 € SO)	Exploitations à titre accessoire (25 000 € ≤ SO < 75 000 €)	Exploitations à titre principal (≥ 75 000 € SO)	Total
0 - 110 €/ ha	2	1	8	3	14
110 - 120 €/ ha	2	0	3	2	7
120 - 130 €/ ha	2	0	3	6	11
130 - 140 €/ ha	2	0	2	12	16
140 - 150 €/ ha	2	0	6	13	21
150 - 160 €/ ha	1	0	6	29	36
160 - 170 €/ ha	4	0	12	27	43
170 - 182,49 €/ ha	8	0	7	34	49
182,49 - 190 €/ ha	6	1	6	27	40
190 - 200 €/ ha	1	1	2	26	30
200 - 210 €/ ha	2	0	3	23	28
210 - 220 €/ ha	3	0	1	13	17
220 - 230 €/ ha	0	0	2	8	10
230 - 240 €/ ha	1	0	0	8	9
240 - 250 €/ ha	0	0	0	5	5
250 - 260 €/ ha	0	0	0	5	5
260 - 270 €/ ha	2	0	0	3	5
270 - 280 €/ ha	0	0	0	0	0
280 - 290 €/ ha	0	0	0	1	1
290 - 300 €/ ha	0	0	0	3	3
300 - 310 €/ ha	0	0	0	1	1
310 - 320 €/ ha	0	0	0	1	1
320 - 330 €/ ha	0	0	0	1	1
330 - 340 €/ ha	0	0	0	1	1
340 - 350 €/ ha	0	0	0	0	0
350 - 360 €/ ha	0	0	1	0	1
360 - 370 €/ ha	0	0	0	0	0
370 - 380 €/ ha	0	0	0	1	1
380 - 390 €/ ha	0	0	0	0	0
390 - 400 €/ ha	0	0	0	0	0
> 400 €/ha	0	0	0	3	3
Total	38	3	62	256	359

The redistribution of aid within the same sector makes aid fairer and fairer by means of a flat-rate aid per hectare which is no longer dependent on historical management decisions in the years 2000 to 2002 or even earlier in cases of force majeure.

However, this redistribution of aid may also weaken certain holdings depending on the losses to be incurred, in particular the main holdings. In order to mitigate this weakening and to allow these farms to adapt, internal convergence is spread over five years.

The introduction of coupled support for suckler cows also helps to compensate for the negative effects of internal convergence.

As far as dairy farmers are concerned, the market situation and the current income make it possible to better cope with the new situation.

Transfers of funds between sectors

The losers of convergence are dairy farmers, suckler cow farmers and winegrowers.

As far as dairy farmers are concerned, the market situation and the current income make it possible to better cope with the new situation. This has already been said above.

For suckler cow farmers in addition to coupled support for suckler cows, the ecological system for maintaining a low livestock load also helps to ensure the viability of more extensive farms.

Viticulteurs :					
Nombre d'exploitations par classe de valeur moyenne des droits au paiement de base détenus					
Valeur moyenne nationale 2019: 182,49 €/ha					
Valeur moyenne des droits détenus par exploitation	Retraités (Tous SO confondus)	Exploitations de loisirs (<25 000 € SO)	Exploitations à titre accessoire (25 000 € ≤ SO < 75 000 €)	Exploitations à titre principal (≥ 75 000 € SO)	Total
0 - 110 €/ ha	0	0	0	0	0
110 - 120 €/ ha	0	0	1	0	1
120 - 130 €/ ha	0	0	0	0	0
130 - 140 €/ ha	0	1	0	0	1
140 - 150 €/ ha	0	0	1	0	1
150 - 160 €/ ha	1	1	0	0	2
160 - 170 €/ ha	0	1	0	1	2
170 - 182,49 €/ ha	1	2	1	0	4
182,49 - 190 €/ ha	0	2	2	2	6
190 - 200 €/ ha	0	2	1	1	4
200 - 210 €/ ha	0	0	0	1	1
210 - 220 €/ ha	0	1	1	3	5
220 - 230 €/ ha	0	1	0	5	6
230 - 240 €/ ha	0	0	1	7	8
240 - 250 €/ ha	0	1	0	1	2
250 - 260 €/ ha	0	1	2	5	8
260 - 270 €/ ha	3	0	1	6	10
270 - 280 €/ ha	0	4	3	13	20
280 - 290 €/ ha	4	0	5	8	17
290 - 300 €/ ha	6	7	12	11	36
300 - 310 €/ ha	0	2	0	2	4
310 - 320 €/ ha	0	0	0	0	0
320 - 330 €/ ha	1	1	0	1	3
330 - 340 €/ ha	1	0	0	1	2
340 - 350 €/ ha	2	0	0	1	3
350 - 360 €/ ha	2	0	1	0	3
360 - 370 €/ ha	1	0	0	1	2
370 - 380 €/ ha	0	0	0	1	1
380 - 390 €/ ha	0	0	0	0	0
390 - 400 €/ ha	0	0	0	2	2
> 400 €/ha	3	0	0	5	8
Total	25	27	32	78	162

Following the decoupling of aid for concentrated must in 2008, the payment entitlements of winegrowing holdings are on average higher than those of the farmer. Given the low share of the basic payment in their income, wine growers can cope with the new situation. In addition, the losses incurred can be compensated by participating in the ecological scheme 'Synthetic pheromones – Viticulturators'.

Remittances to holdings below average

Toutes exploitations confondues: Valeur totale des droits au paiement de base (€) par taille d'exploitation 2019						
Taille des exploitations	Retraités (Tous SO confondus)	Exploitations de loisirs (<25 000 € SO)	Exploitations à titre accessoire (25 000 € ≤ SO < 75 000 €)	Exploitations à titre principal (≥ 75 000 € SO)	Total	%
0 - 3 ha	15 029,58	16 906,74	5 645,96	2 688,85	40 271,13	0,18%
3 - 5 ha	19 927,75	14 441,55	21 018,55	8 626,00	64 013,85	0,28%
5 - 10 ha	45 574,81	52 773,11	18 104,66	75 345,36	191 797,94	0,85%
10 - 20 ha	107 029,41	65 676,31	35 228,38	142 104,26	350 038,36	1,56%
20 - 30 ha	160 689,51	42 754,94	204 514,28	72 992,29	480 951,02	2,14%
30 - 40 ha	90 658,82	0,00	250 571,62	219 724,13	560 954,57	2,49%
40 - 50 ha	119 975,48	0,00	263 170,86	490 917,64	874 063,98	3,88%
50 - 60 ha	112 718,16	0,00	134 303,79	746 122,64	993 144,59	4,41%
60 - 70 ha	87 703,63	0,00	38 159,14	1 009 236,02	1 135 098,79	5,04%
70 - 80 ha	51 079,51	0,00	34 106,01	1 368 909,87	1 454 095,39	6,46%
80 - 90 ha	83 439,47	0,00	0,00	1 801 624,20	1 885 063,67	8,38%
90 - 100 ha	61 388,85	0,00	0,00	1 487 811,41	1 549 200,26	6,88%
100 - 110 ha	36 923,61	0,00	0,00	1 596 092,34	1 633 015,95	7,26%
110 - 120 ha	25 539,48	0,00	0,00	1 677 699,49	1 703 238,97	7,57%
120 - 130 ha	16 002,25	0,00	0,00	1 166 831,86	1 182 834,11	5,26%
130 - 140 ha	0,00	0,00	0,00	1 026 636,67	1 026 636,67	4,56%
140 - 150 ha	0,00	0,00	0,00	898 155,32	898 155,32	3,99%
150 - 160 ha	0,00	0,00	0,00	911 168,69	911 168,69	4,05%
160 - 170 ha	0,00	0,00	0,00	647 559,00	647 559,00	2,88%
170 - 180 ha	43 478,29	0,00	0,00	415 979,85	459 458,14	2,04%
180 - 190 ha	0,00	0,00	0,00	546 244,78	546 244,78	2,43%
190 - 200 ha	0,00	0,00	0,00	393 977,90	393 977,90	1,75%
200 - 250 ha	0,00	0,00	0,00	1 731 439,52	1 731 439,52	7,69%
> 250 ha	0,00	0,00	0,00	1 791 921,22	1 791 921,22	7,96%
Total	1 077 158,61	192 552,65	1 004 823,25	20 229 809,31	22 504 343,82	100,00%
%	4,79%	0,95%	4,47%	89,89%	100,00%	

Currently, direct payments are targeted at medium-sized farms, known as 'family' holdings. These farms account for 91.68 % of direct payments compared to an EU average of 72.10 %. Large farms above 250 ha only account for 7.88 % of direct payments, compared to an EU average of 22.10 %.

It should be noted that only 7.5 % of small farms (less than 5 ha) are primary farms.

Toutes exploitations confondues: SAU totale exploitée au Luxembourg par taille d'exploitation 2019						
Taille des exploitations	Retraités (Tous SO confondus)	Exploitations de loisirs (<25 000 € SO)	Exploitations à titre accessoire (25 000 € ≤ SO < 75 000 €)	Exploitations à titre principal (≥75 000 € SO)	Total	%
0 - 3 ha	48	49	24	8	130	0,11%
3 - 5 ha	100	83	73	39	295	0,24%
5 - 10 ha	245	348	85	277	955	0,79%
10 - 20 ha	646	461	255	568	1 931	1,60%
20 - 30 ha	958	250	1 231	427	2 867	2,38%
30 - 40 ha	580	0	1 485	1 096	3 161	2,62%
40 - 50 ha	702	0	1 599	2 609	4 910	4,07%
50 - 60 ha	610	0	752	3 917	5 280	4,38%
60 - 70 ha	526	0	256	5 465	6 247	5,18%
70 - 80 ha	288	0	230	7 105	7 624	6,32%
80 - 90 ha	507	0	0	9 520	10 027	8,31%
90 - 100 ha	286	0	0	7 901	8 187	6,79%
100 - 110 ha	210	0	0	8 357	8 567	7,10%
110 - 120 ha	115	0	0	9 060	9 175	7,61%
120 - 130 ha	123	0	0	6 358	6 481	5,37%
130 - 140 ha	0	0	0	5 628	5 628	4,67%
140 - 150 ha	0	0	0	4 924	4 924	4,08%
150 - 160 ha	0	0	0	4 960	4 960	4,11%
160 - 170 ha	0	0	0	3 318	3 318	2,75%
170 - 180 ha	172	0	0	2 097	2 269	1,88%
180 - 190 ha	0	0	0	2 941	2 941	2,44%
190 - 200 ha	0	0	0	2 137	2 137	1,77%
200 - 250 ha	0	0	0	9 328	9 328	7,73%
> 250 ha	0	0	0	9 272	9 272	7,69%
Total	6 119	1 192	5 990	107 314	120 615	100,00%

The utilised agricultural area farmed by farms up to 30 ha of UAA represents only 6.178 ha in total, i.e. 5.12 %. Of this area, only 1.319 ha are farmed by main farms, i.e. 21 %.

	0 - 3 ha	3 - 5 ha	5 - 10 ha	10 - 20 ha	20 - 30 ha	30 - 40 ha	40 - 50 ha	50 - 60 ha	60 - 70 ha	70 - 80 ha	80 - 90 ha	90 - 100 ha	100 - 110 ha	110 - 120 ha	120 - 130 ha	130 - 140 ha	140 - 150 ha	150 - 160 ha	160 - 170 ha	170 - 180 ha	180 - 190 ha	190 - 200 ha	200 - 250 ha	> 250 ha	Total
DPB inférieures à la moyenne (ha)	51	131	482	1 057	1 864	2 181	3 152	3 351	3 185	3 753	4 349	3 124	4 153	4 234	3 991	2 551	2 455	2 325	658	1 043	1 474	782	3 906	3 438	57 692
DPB inférieures à la moyenne (%)	39%	45%	50%	55%	65%	69%	64%	63%	51%	49%	43%	38%	48%	46%	62%	45%	50%	47%	20%	46%	50%	37%	42%	37%	48%
DPB supérieures à la moyenne (ha)	79	164	473	874	1 003	980	1 758	1 929	3 061	3 870	5 679	5 063	4 414	4 941	2 490	3 077	2 470	2 635	2 660	1 226	1 468	1 355	5 422	5 834	62 924
DPB supérieures à la moyenne (%)	61%	55%	50%	45%	35%	31%	36%	37%	49%	51%	57%	62%	52%	54%	38%	55%	50%	53%	80%	54%	50%	63%	58%	63%	52%
Total (ha)	130	295	955	1 931	2 867	3 161	4 910	5 280	6 247	7 624	10 027	8 187	8 567	9 175	6 481	5 628	4 924	4 960	3 318	2 269	2 941	2 137	9 328	9 272	120 615

A greater share of internal convergence will benefit farms with a size between 20 and 60 ha and extensive farms between 120 and 130 ha. A larger share of large farms above 190 ha will see their basic payment decreased.

It should be noted that winegrowing holdings account for a large proportion of small farms (between 0 and 3 ha) and have higher than average payment entitlements following the decoupling of the envelope for 'concentrated must' wine aid in 2008. Their basic payment will also decrease.

However, overall, the situation is relatively balanced: 869 farms have lower than average payment entitlements and farm 57.692 ha compared to 840 farms with higher than average value of payment entitlements and 62.924 ha.

Areas with natural and specific constraints

After a process of determining areas with natural constraints on the basis of scientific methods, 83 of Luxembourg's 102 municipalities are identified as areas facing significant natural constraints,

representing a useful agricultural area of 106.862 ha.

The criteria chosen for the Grand Duchy of Luxembourg for the delimitation of areas with natural constraints are as follows:

- Limited soil drainage
- Unfavourable texture and pierrosity
- Shallow rooting depth
- Steep slope.

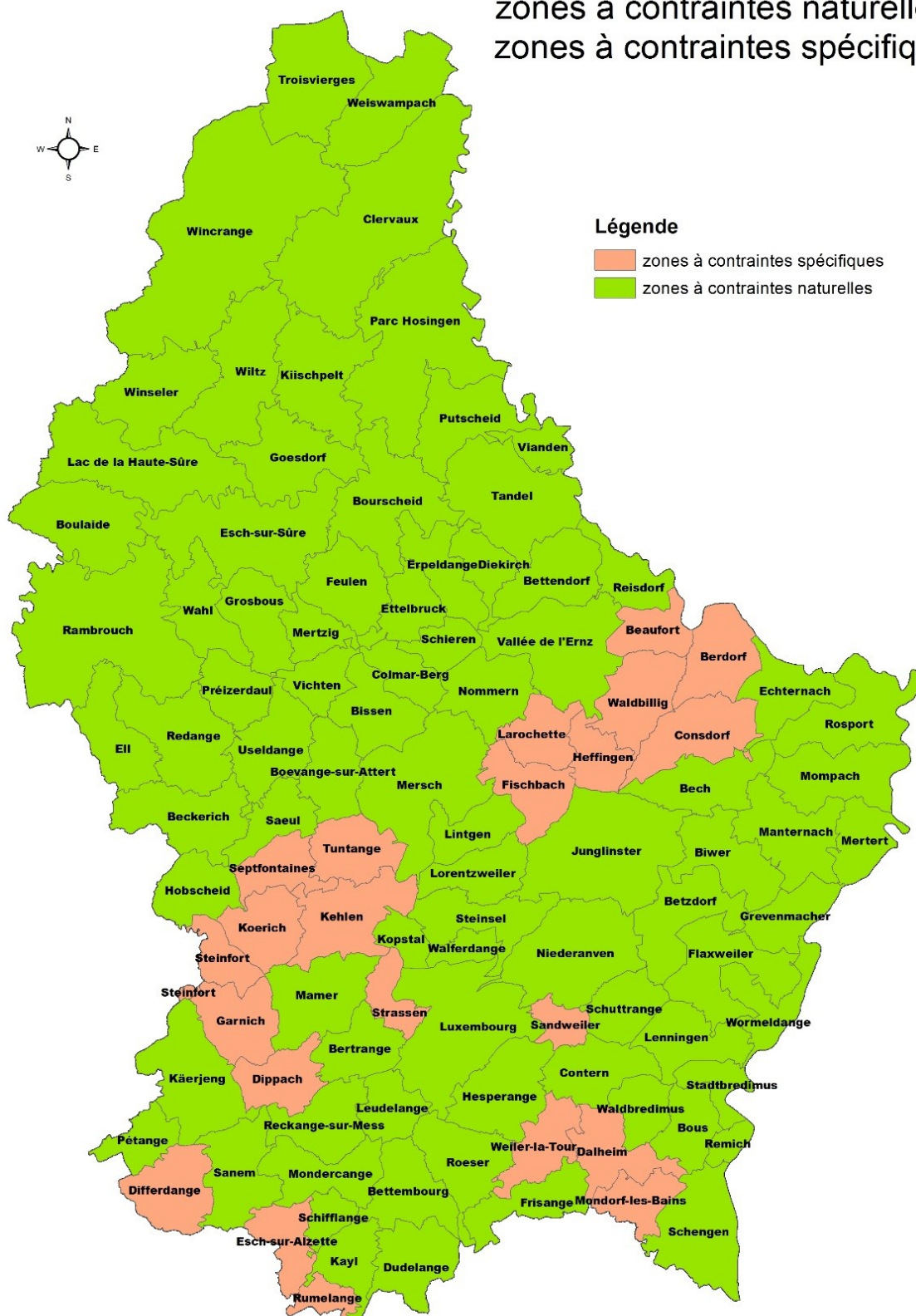
Areas without natural constraints have been identified as areas with specific constraints.

The national authorities have proposed multi-level criteria for the determination of specific areas. On the one hand, the municipalities must belong to an area identified as requiring the maintenance of an agricultural activity in order to ensure the preservation of the landscape (areas of the sectoral landscape plan). On the other hand, objective criteria are defined in order to highlight the specific constraints, including abandonment of agricultural activity which may lead to inappropriate management of agricultural land.

Taking into account the proposed method of analysis, all municipalities not classified as areas with natural constraints may be included in areas with specific constraints. These municipalities thus cover an agricultural area of 17.632 ha, or 6.8 % of Luxembourg's total area.



Délimitation zones à contraintes naturelles - zones à contraintes spécifiques



[1] Biolandbau in Luxembourg, Entwicklung Struktur und Wirtschaftlichkeit, SER, 2019

[1] operating profit = operating profit – neutral result. The operating profit or adjusted profit therefore

does not cover extraordinary income and expenses and income and expenses outside the accounting period (capital gains on sales of real estate assets, VAT on investments, etc.).

2.1.SO1.2 Identification of needs

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan
B1.1	Ensuring a viable, fair and just basic income for farmers	P1	Yes
B1.2	Promoting the transition to more sustainable production models	P1	Yes
B1.3	Maintaining a diverse fabric of family-type farms	P2	Yes
B1.4	Directing and diversifying national production towards national needs	P2	Partially
B1.5	Strengthening the resilience of the agricultural sector to climate change and other risks	P2	No
B1.6	Strengthening the AKIS system and digitalisation in agriculture	P1	No

Other comments related to needs assessment.

No further comments

2.1.SO1.4 Intervention logic

Form of Intervention	Type of Intervention	Intervention Code (MS) - Name	Common Output Indicator
DPdecoupled	BISS(21) - Basic income support for sustainability	1.01.501 - Basic income support for sustainability	O.4. Number of hectares benefitting from for basic income support
DPdecoupled	CRISS(29) - Complementary redistributive income support for sustainability	1.01.504 - Complementary redistributive income support for sustainability	O.7. Number of hectares benefitting from complementary redistributive income support
RD	ANC(71) - Natural or other area-specific constraints	2.01.532 - Payments to areas facing natural or specific constraints	O.12. Number of hectares benefitting from support for areas facing natural or specific constraints, including a breakdown per type of areas
RD	ASD(72) - Area-specific disadvantages resulting from certain mandatory requirements	2.01.530 - PAYMENTS UNDER THE WATER FRAMEWORK DIRECTIVE	O.13. Number of hectares benefitting from support under Natura 2000 or Directive 2000/60/EC

Overview

The Basic Income Payment (BISS) is a key intervention for farmers' income support. This intervention is addressed to any active farmer without distinction as to status (secondary farmer, principal farmer, retired farmer).

This scheme will be subject to adjustment in the new programming period in order to gradually move towards a flat-rate payment per ha.

The BISS essentially responds to the need to “ensure a viable, equitable and fair basic income for farmers”. It constitutes the major part of farmers' income. A guaranteed minimum income also contributes to the resilience of the holding and thus responds to the need ‘Enhancing the resilience of the agricultural sector to climate change and other risks’. In view of the payments per hectare which are independent of

the orientation and size of the holdings and the orientation of the BISS towards a flat-rate payment, the measure also meets the need to ‘maintain a diverse fabric of family-type farms’.

The basic income payment constitutes for a majority of holdings the farm income of the holding. It is therefore essential to ensure the sustainability and resilience of the agricultural sector.

The BISS shall **be accompanied by payments** to areas facing natural or specific constraints. This intervention was confirmed by an analysis in 2018 and makes it possible to compensate for low yields on less fertile land or with other specific constraints.

Payments to areas facing natural or specific constraints contribute directly to the income of farms. They therefore have the following needs:

- Strengthen the resilience of the agricultural sector to climate change and other risks.
- Ensuring a viable, equitable and fair basic income for farmers
- Maintain a diverse fabric of family-type farms

Member States are required to introduce **redistributive payments** of 10 % of the first pillar budget. The aid shall aim at a more balanced distribution of aid to medium-sized family farms. To this end, aid shall be granted at rates varying according to the following eligible area ranges: EUR 30/ha for the first 30 ha of the holding and EUR 70/ha for the slopes of 30 and 70 ha of the holding. Areas of more than 70 ha shall not be eligible for aid. Given that the average number of agricultural holdings is 70 ha (according to STATEC references), the aid thus envisages promoting the income of traditional small and medium-sized family farms and meets the need to ‘maintain a diverse fabric of family-type farms’.

The **risk management** measure, financed by national means, provides support for crop loss insurance due to climatic hazards or natural disasters. It is thus another pillar to strengthen the resilience of farms, independently of the other interventions already described.

It should be noted that organic farming also plays a role in the resilience of farmers’ incomes. Under certain conditions, organic farmers have higher ordinary incomes per unit of work than conventional farmers. Fixed costs for organic farmers and market prices are the most important criteria in these considerations. The contribution of AB to agricultural diversification is also significant. Luxembourg has set ambitious targets (20 % in 2025) at this level, endowed with the necessary national budgets.

The need to “direct and diversify national production towards national needs (P2)” will be mainly addressed by state aid.

It should be noted that POs 1,2 and 3 are closely linked and that the interventions linked to Objectives 2 and 3 also contribute to PO 1.

2.1.SO1.5 Where relevant, a justification for the use of InvestEU, including the amount and its expected contribution to the Specific Objective/Cross-Cutting Objective

none.

2.1.SO1.8 Selection of the result indicator(s)

Selection of the result indicator(s) for this specific objective

Result indicators [recommended Result indicators for this specific objective are fully displayed in bold]	Target value
R.4 - Linking income support to standards and good practices Share of utilised agricultural	98.60 %

area (UAA) covered by income support and subject to conditionality	
R.6^{PR} - Redistribution to smaller farms Percentage of additional direct payments per hectare for eligible farms below average farm size (compared to average)	101.48 %
R.7^{PR} - Enhancing support for farms in areas with specific needs Percentage of additional support per hectare in areas with higher needs (compared to average)	99.26 %

Justification of the targets and related milestones

As regards the targets and milestones, reference is made to the ‘other comments’ section of the SWOT section and to the detailed description of the interventions falling within that specific objective.

2.1.SO1.9 Justification of the financial allocation

Income support is essential for Luxembourg’s agriculture. Farm income is below Luxembourg’s average income and even below the poverty threshold in some constellations. However, the situation varies from one orientation to another, the targeting of aid and therefore necessary.

The allocations are more than justified in view of the fact that public financial support constitutes on average the entire income and must also allow for partial coverage of production costs.

The bulk of the financial envelope is thus earmarked for direct payments (61.5 %). 11 % of the EAGF budget is channelled towards coupled support, 2 % is made available for specific support for young farmers and 25 % is reserved for eco-schemes.

2.1.SO2 Enhance market orientation and increase farm competitiveness, both in the short and long term, including greater focus on research, technology and digitalisation

2.1.SO2.1 Summary of the SWOT Analysis

2.1.SO2.1.1 Strengths

Markets

1. The dairy and wine-growing sectors are well organised in terms of grouping supply (and cooperatives).
2. Modern structures, high degree of mechanisation in specialised agricultural enterprises.
3. Relatively easy access to capital for farms and generally sound cost management.
4. Ambitious public support for the production and processing sector.
5. Entrepreneurial spirit on farms, which allows flexible and responsive production.
6. Short agri-food chain within the country.
7. Winegrowing: high quality of the wines, climate change in favour of quality, good structuring of the holding. Good level of training and expertise.

Innovation, digitalisation, knowledge

8. Level of support favourable to innovation and research (see transversal SO).
9. Good transfer of knowledge from research to advisory services and agricultural practice (AKIS) (see transversal OS).
10. Rapid and easy development of digitalisation at farm level (cf. transversal AOS).
11. 4G coverage and broadband network (see transversal OS).
12. High proportion of well-trained young farmers with higher education in agronomy abroad (see PO 7).

2.1.SO2.1.2 Weaknesses

Market

1. Production is not sufficiently market-oriented: the limited domestic market, focused on quality products, is insufficiently addressed. Production does not react quickly enough to changes in consumer behaviour. The organic market is underdeveloped compared to the outlook (20 % organic in 2025 vs. 4.4 % in 2018 and 5 % in 2021).
2. Organic and regional market: saturation of the market for commodities (e.g. milk) while other more diversified/processed products (e.g. cheese) are missing in the supply; lack of organisation of markets involving overproduction.
3. Low production margins in the face of export-oriented production, which makes European and global markets highly dependent. Processing companies oriented towards the supply of low-priced commodities.

Competitiveness

4. Highly specialised farms and therefore vulnerable to market fluctuations.
5. High fixed production costs, long term high depreciation hampering farmers' flexibility.

Digitalisation

6. Data management and provision: insufficient data, difficult to access or transparent, little exchange.
7. Unconsolidated digitalisation strategy.

2.1.SO2.1.3 Opportunities

Market/Competitiveness

1. New political aspirations: protein autonomy, marketing strategy for agriculture.
2. High purchasing power of the consumer in the Grand Duchy.
3. Changing consumer behaviour and expectations stimulates diversification of production (poultry, regional and seasonal products, organic, etc.), production systems (SoLaWi/AMAP) and marketing

methods (direct, regional).

4. High dynamics of new entrants (Quereinsteiger) and in the market gardening or fruit-growing sectors.

Digitalisation

5. Availability of high financial means for research.

6. Digitalisation and digital infrastructure are developing policy priorities that offer new forms of business management.

7. Innovation brings new technical innovations to agricultural practices: drones, robots.

2.1.SO2.1.4 Threats

Market/Competitiveness

1. Lack of qualified staff on farms and, if available, at very high costs. Farm development can be limited by labour shortages and associated costs.

2. Divergent policy objectives difficult to reconcile and implement: the CO₂ and NH₃ emission ceilings will have a considerable impact on the bovine sector.

3. Increasing regulatory constraints on construction in green areas, health status and traceability.

4. External influence of neighbouring markets on prices of agricultural products.

5. Increasing influence of the media on consumer behaviour.

6. Capitalisation of land will have an impact on farming models, family farming is likely to disappear and marketing is therefore attractive.

Digitalisation

7. Lack of workforce for the maintenance of new technologies, evolution of software, database.

8. Security and data ownership insecurity.

9. Strong reliance on digitalisation services from abroad.

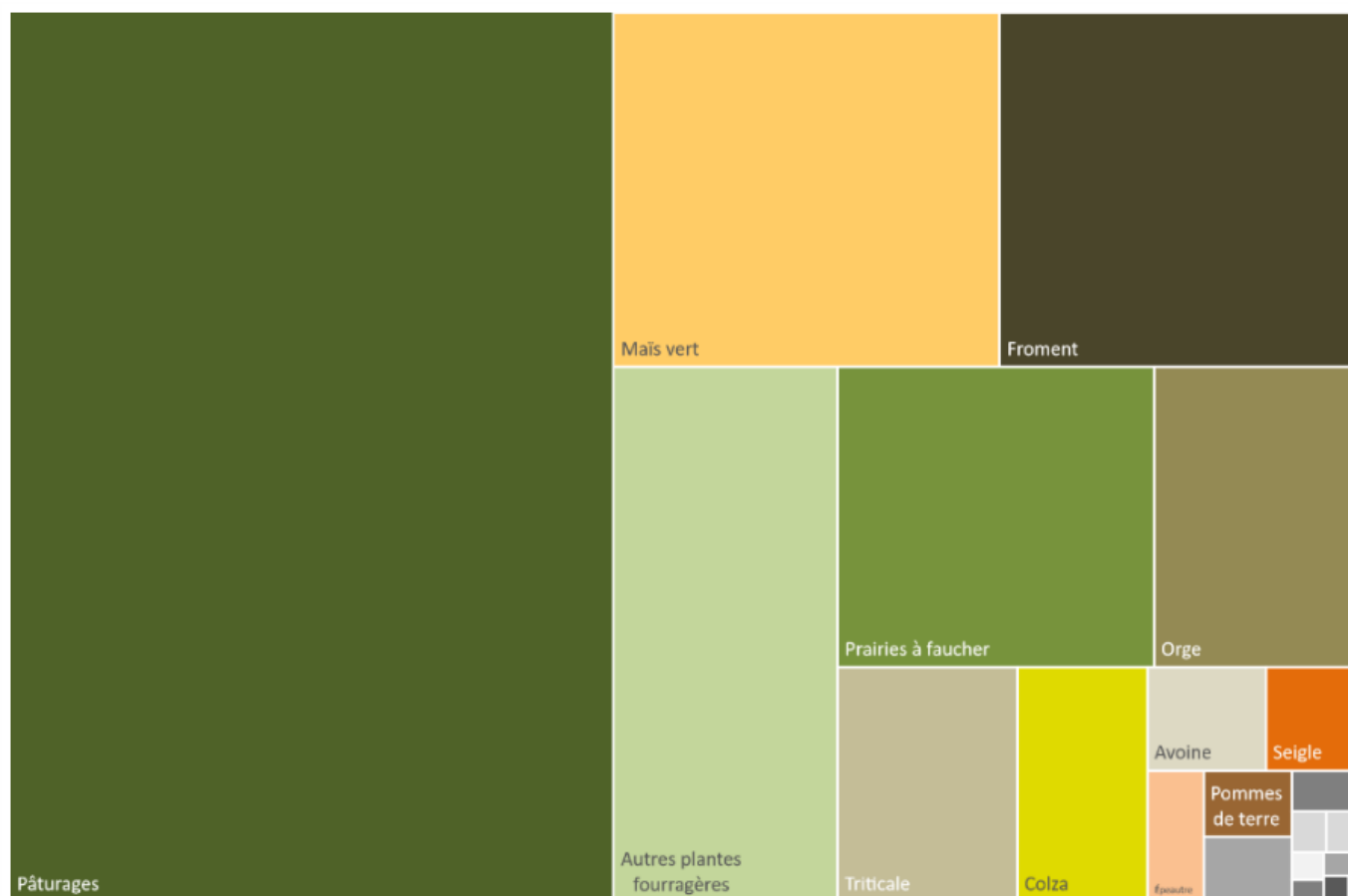
2.1.SO2.1.5 Other comments

Share of agriculture in the economy

The importance of agriculture in the Luxembourgish economy has gradually diminished over the years. In 2019, the gross value added of the agricultural sector was 117.4 million. EUR 000 000, which represents a slight decrease compared to 2017 and 2018. Its share of the total gross value added of the Luxembourg economy was less than 0.2 % in 2019, lower than in the EU-27 (1.8 %) and in neighbouring countries. It has steadily decreased over the decades from 0.7 % in 2000 to 0.3 % in 2010.

More than half of the UAA is occupied by grassland and pasture (52 %), other forage crops (maize, temporary grassland, LIsère, ryegrass, clover) occupy around 23 % of the UAA. Thus, more than three quarters of the UAA is intended for livestock feed.

Typical area – illustration of the distribution of areas dedicated to their main uses



Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

It should be noted that the distribution of types of farming and the size of areas used for agricultural purposes in Luxembourg are not uniform throughout Luxembourg. Historically and comparable to other European countries, urban municipalities are characterised by very low rates of agricultural land. The municipalities in the north of the country (Oesling region) also show low rates of agricultural land, although they are rural typology. This observation has its origins in the topography of the land in the north, which is characterised by small plateaux between deep valleys. The valleys are dominated by sloping forests and the forestry sector takes the place of agriculture as the dominant land use. The municipalities where most of the land is used by agriculture are located around Luxembourg City. The soils are dominated in the south of the country by limestone rocks or rocks with a high limestone content under difficult conditions for plant cultivation. In the regions south of Oesling, the pastoral economy is therefore predominant in most municipalities. Only in a few municipalities the share of cropland exceeds that of pasture. Specialised crops, such as orchards and vines, are located in the centre and in the east of the country. The eastern part of the country along Moselle is well known for the production of quality wines. In some municipalities, winegrowing takes precedence over traditional agriculture and forestry in terms of area use. The orchards and fields of fruit trees are mostly located in areas that have managed to conserve their agricultural heritage in the Mullerthal and Moselle regions in the east and north-east of the country. Nevertheless, the fruit sector is largely under-represented in the country. These areas are located in certain isolated municipalities on the alluvial plains.

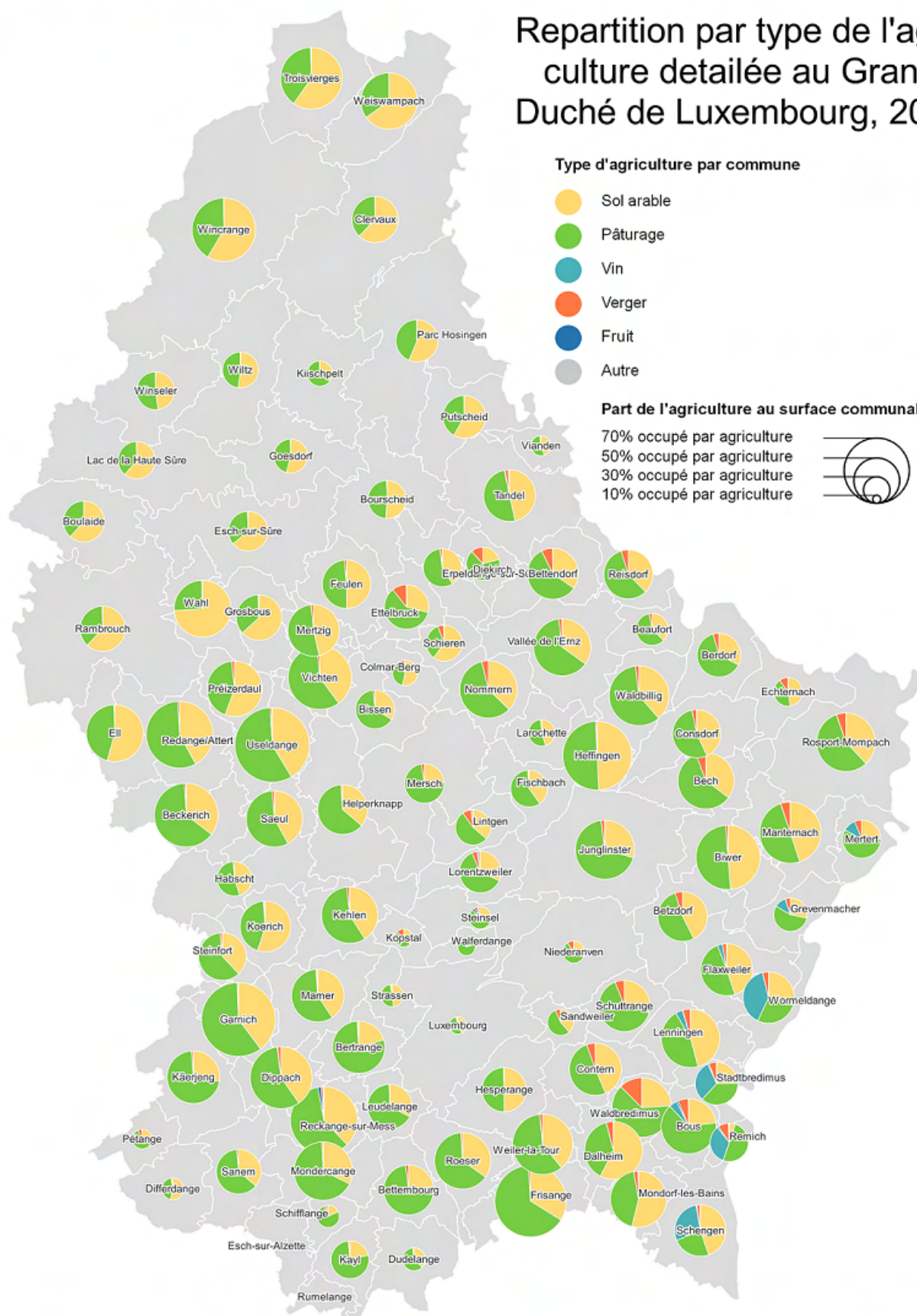


Type d'agriculture par commune



Part de l'agriculture au surface communale

70% occupé par agriculture
50% occupé par agriculture
30% occupé par agriculture
10% occupé par agriculture



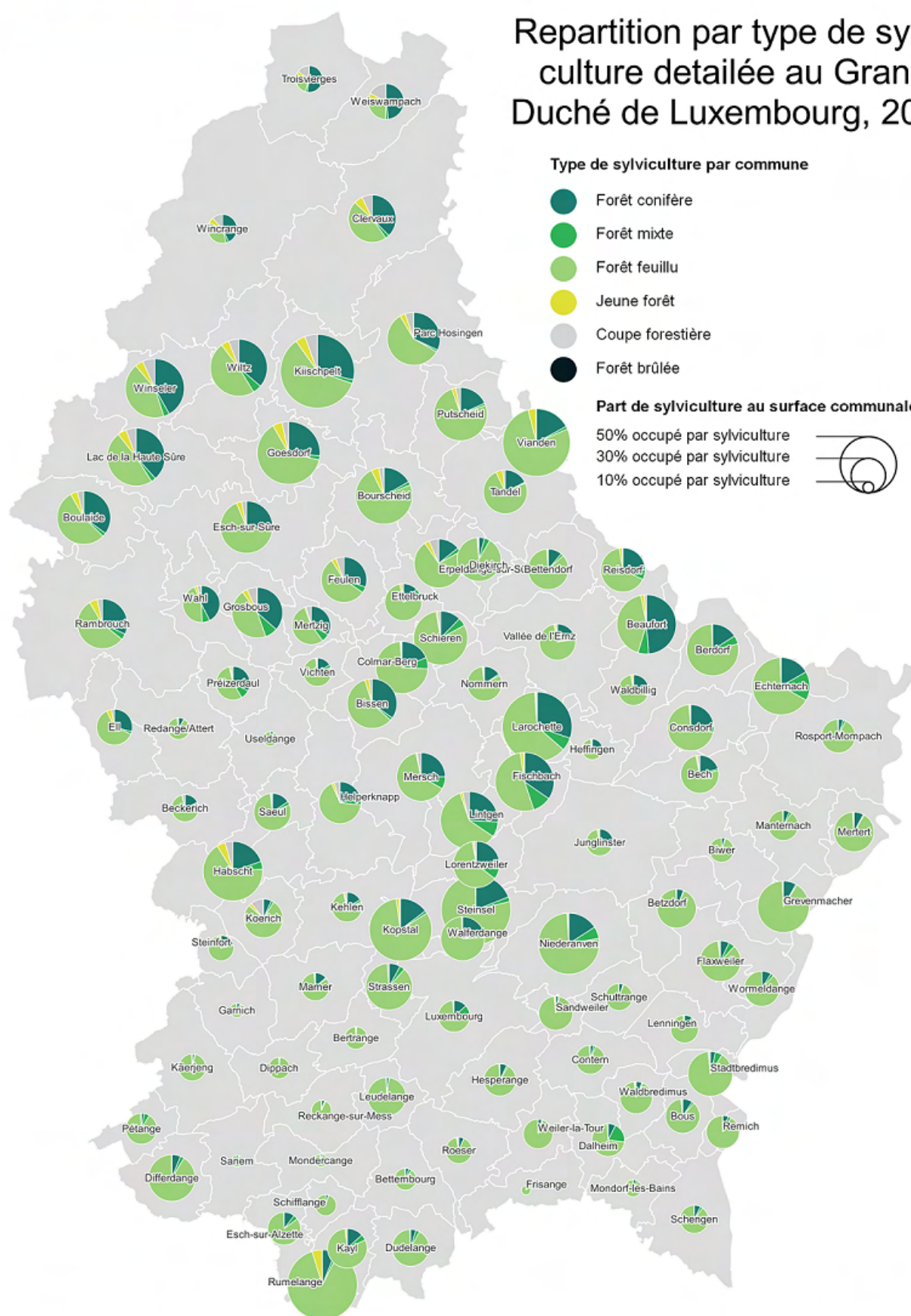
Source : 2022, Ministère de l'Agriculture, de Viticulture et du Développement rural sur les informations de LIS-L Land Cover 2018, Luxembourg Open Data Portal

It should be noted that areas that could not be made cultivable were used for forestry. Municipalities with

low rates of agricultural land show a high rate of forestry and vice versa. The dominant type of forest in Luxembourg is leafy forest with large shares of coniferous forests in the north of the country.



Repartition par type de sylvi- culture détaillée au Grand Duché de Luxembourg, 2018



Source : 2022, Ministère de l'Agriculture, de Viticulture et du Développement rural sur les informations de LIS-L Land Cover 2018, Luxembourg Open Data Portal

Illustration of the distribution of animals according to their LU



Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

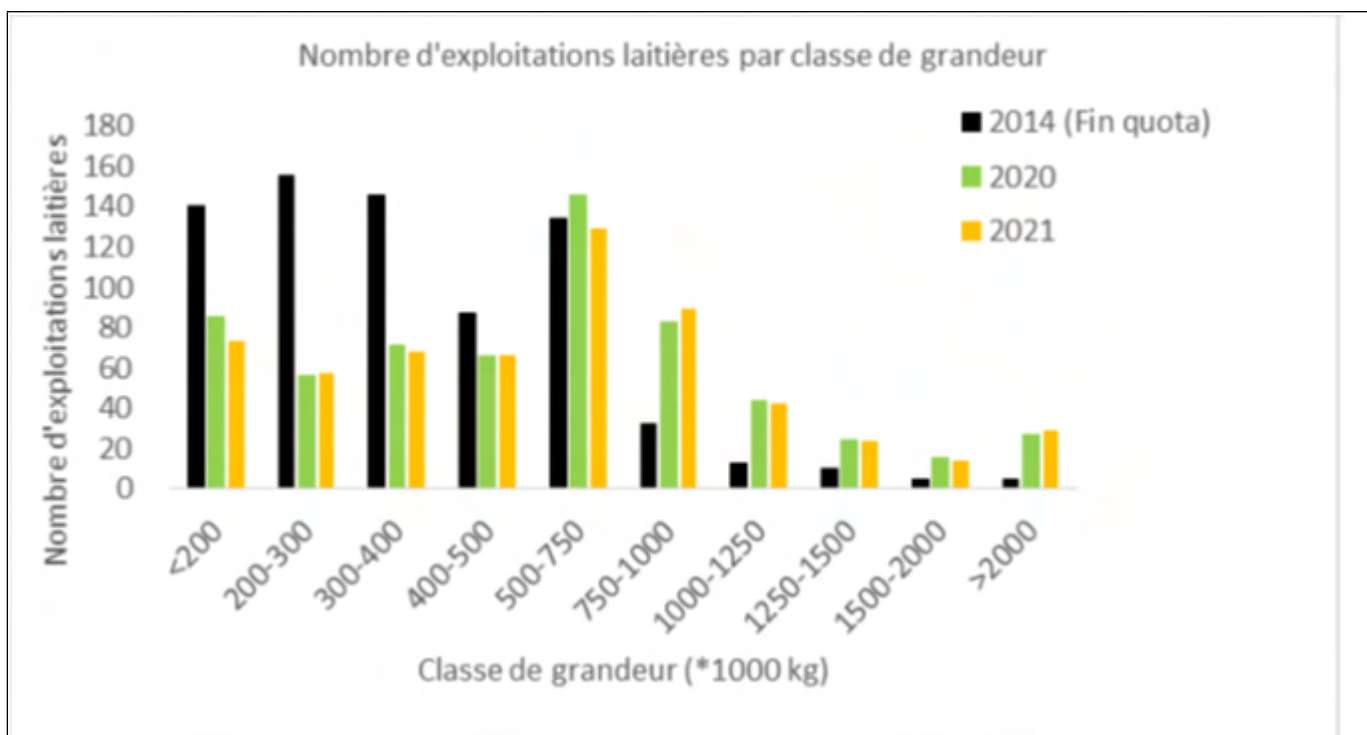
Specialisation of Luxembourg's agriculture

Given the soil and climate conditions, Luxembourg's agriculture focuses mainly on milk and beef production. In 2019, the livestock sector (milk, cattle and forage plants) represented not less than 76.3 % of the agricultural production value in Luxembourg. This focus of Luxembourg's agriculture is confirmed by the high degree of specialisation of agricultural holdings in livestock farming and dairy farming in particular. In terms of number of farms and standard production, dairy farms dominate, accounting for 39 % of the country's agricultural population and 47 % of national standard production in 2018 (FADN source). Farms specialising in cattle rearing and fattening (18 %) rank second, followed by vineyards (16 %) and sheep, goats and other grazing livestock (12 %).

The rate of self-supply of beef is 114.8 %, that of pigmeat is 66.6 % and that of poultrymeat is only 29.4 % in 2017.

The abolition of milk quotas in March 2015 triggered a rapid development of the dairy sector. The number of dairy farms decreased from 727 in 2014 to 617 in 2020 (-15.13 %). The remaining farms show a clear trend of increasing their dairy herd. In 2020, 54.94 % of dairy farms produce at least 500.000 kg of milk, an increase of 28 percentage points compared to 2014, with 27.37 % of dairy farms producing at least 500.000 kg of milk. This is an indicator for a strong specialisation of dairy producers (Source: SER).

Figure: Number of dairy farms by size class for the years 2014 (end of quota), 2019 and 2020



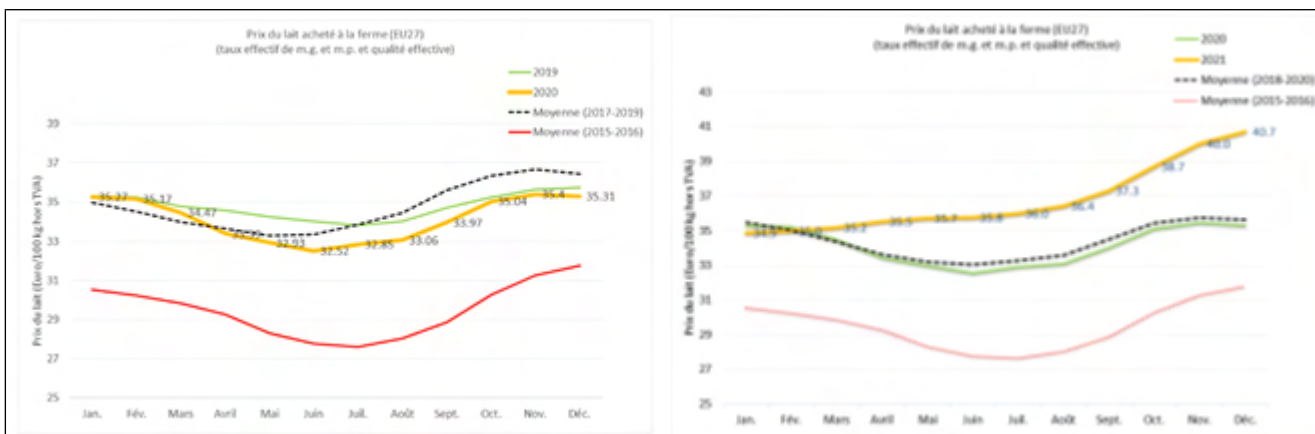
Sources: Activity report 2021 MAVDR

Developments in the dairy sector

Over the same period, the number of dairy cows increased by 18.05 %, while the number of cattle decreased by 3.73 %. Moreover, the average milk yield per dairy cow increased over the same period from 6.863 kg to 8.202 kg. These two factors combined led to an increase in national cow milk production of + 41.09 % for the period 2014-2020, resulting in a production volume of 447.304 tonnes of cow's milk in 2020. The quantity of milk delivered directly to dairies, 435.038 tonnes of milk, of which 5.486 tonnes of organic milk, represents more than 97 % of total milk production. The increase in milk deliveries to dairies was + 42.38 % in 2020 compared to 2014. In 2020, 202 out of 617 dairy farms delivered their milk directly to dairies in neighbouring countries. Part of the milk collected by dairies located in Luxembourg is exported as unprocessed milk. In 2020, more than half of the national production of cow's milk was exported as on-farm milk and/or unprocessed milk. The organic milk sector faces similar problems to the conventional dairy sector (strong competition from cheaper foreign organic products) or even administrative obstacles in neighbouring countries (closure of the French market to foreign organic milk). Arla has applied since 2017 for Luxembourgish producers affiliated to a GMO-free animal feed conversion, and Hochwald has been pursuing a similar programme from 2020, both of which are dairies in neighbouring countries. In the milk sector, mention should be made of the Fair Mëllech initiative, which brings together dairy farmers to ensure a fair income. Of 617 dairy farms in 2020, 17 (2.76 %) are organic dairy farms and 1 (0.16 %) are converting conventional production into organic production. The average production of cow's milk per organic dairy holding in 2020 was 304.760 kg, the national average per dairy holding was 705.086 kg (Source: SER, MAVDR Activity Report 2020).

After the difficult 2015s and 2016s, the situation of European dairy producers improved significantly from 2017 onwards. Although in 2020 the average price was lower than in 2019, 2020 was a relatively good year for dairy farmers. The quantity of milk produced increased slightly by 1.7 % compared to 2019.

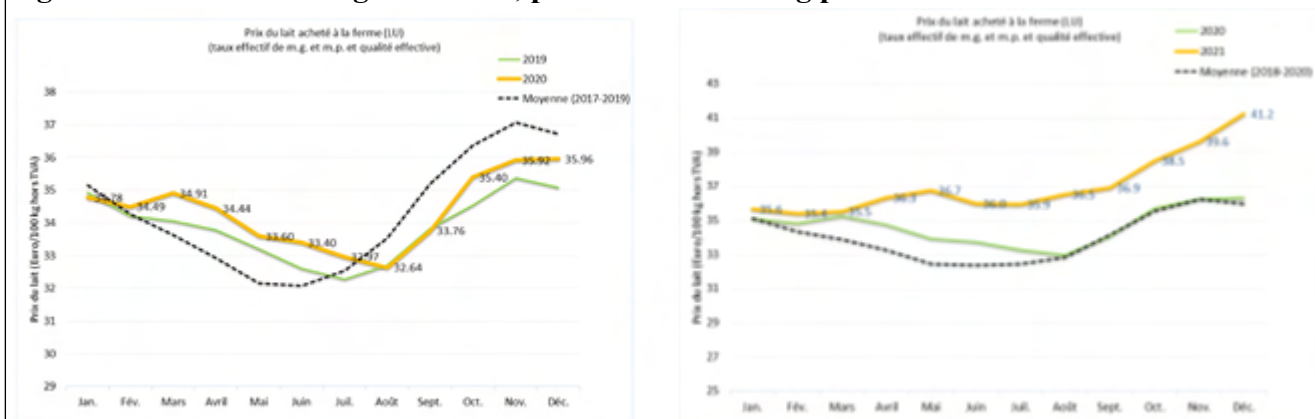
Figure: Farm price of milk paid to European producers (EU27)



Sources: SER, MAVDR Activity Report 2020 and 2021

The graph below shows the evolution of the average price of milk paid to milk producers in Luxembourg at the actual fat and protein content for the years 2019 and 2020 and an average over the years 2017 to 2019. In 2021, the price of milk bought on the farm showed a considerable increase of around 15 % at the end of the year, compared with the previous year.

Figure: Price of milk bought on farm, paid to Luxembourg producers



Sources: SER, MAVDR Activity Report 2020 and 2021

In Luxembourg, the average price paid to producers in 2020 is EUR 34,30, EUR/100 kg (excluding VAT), which represents an increase of 1.39 % compared to the average price in 2019. Following this increase in the price paid and the 6.27 % increase in deliveries of milk to a purchaser in 2020 (see graph below), the value of milk production increased by 7.75 % compared to 2019 as shown in Table 21 of Chapter XIV on agricultural statistics. In 2021, the price increased again to EUR 36,96, EUR/100 kg (excluding VAT), which is a positive development, again showing an increase of 7.75 %.

In the medium term, agricultural income or earnings per AWU (self-employed annual work unit) fluctuates strongly as a result of developments in agricultural markets and food crises in recent years. Even greater fluctuations are avoided due to the combined effect of an active policy of public support and a steady increase in the economic size of farms, as well as increased labour productivity.

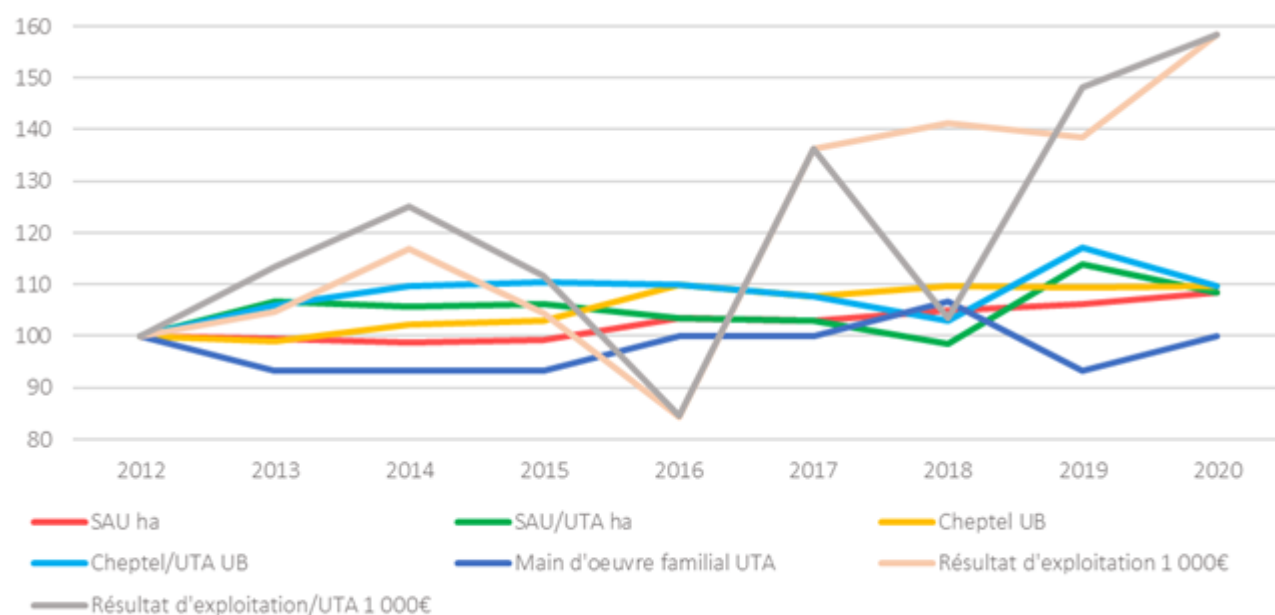
Changes in farm incomes

In 2017, the output of agricultural holdings increased for all the guidelines. This increase in farm income continued in 2018, except for pig holdings where the result decreased by two thirds compared to the previous year. In 2019, the result remained more or less stable compared to 2018, with a further significant increase in the pig sector. The forecasts for 2020 show a fairly stable situation within the various sectors. Nevertheless, the pig sector is again experiencing a very significant drop in the result, as a result of the combined effects of the COVID-19 pandemic and African swine fever, which have severely

disturbed the pigmeat market from the second half of 2020 onwards.

Table: Trends in labour productivity and farm income

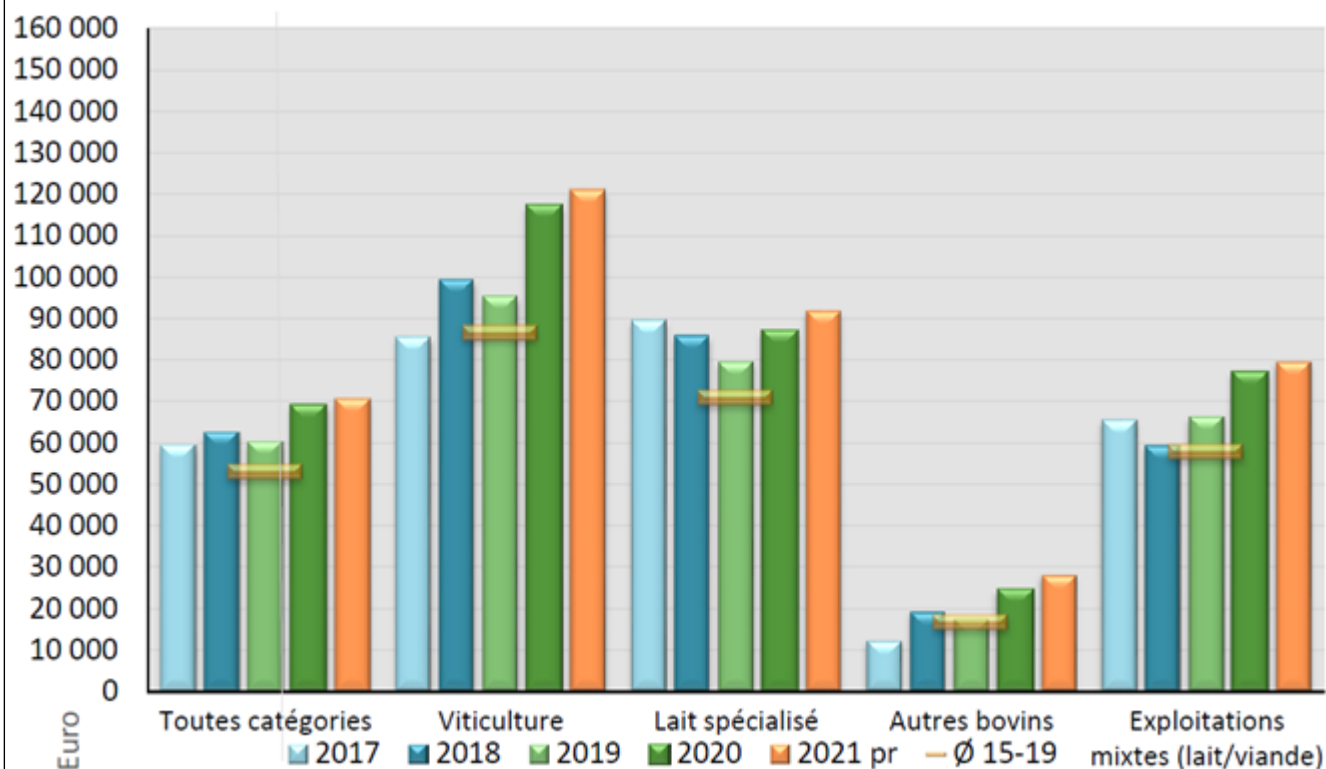
		2012	2013	2014	2015	2016	2017	2018	2019	2020
SAU	ha	84.3	83.9	83.2	83.6	87.2	86.8	88.4	89.6	91.4
Cheptel	UB	108.8	107.6	111.3	112.1	119.5	117.2	119.3	119.0	119.3
Main d'oeuvre familial	UTA	1.5	1.4	1.4	1.4	1.5	1.5	1.6	1.4	1.5
SAU/UTA	ha	56.2	59.9	59.4	59.7	58.1	57.9	55.3	64.0	60.9
Cheptel/UTA	UB	72.5	76.9	79.5	80.1	79.7	78.1	74.6	85.0	79.5
Résultat d'exploitation	1 000€	43.5	45.6	50.8	45.4	36.7	59.3	61.4	60.2	68.9
Résultat d'exploitation/UTA	1 000€	29.0	32.9	36.3	32.4	24.5	39.5	30.0	43.0	45.9



Sources: MAVDR Activity Report 2020

However, there is a great disparity in farm results between different agricultural products. The operating results per AWU vary widely. The beef and veal sector thus accounts for only a quarter of that of the dairy sector. Winegrowers have the highest income. The farm results of pig producers fluctuate the most (figure fluctuating between EUR 40.000 and EUR 138.000/AWU between 2016 and 2017, figures not presented). The graph below shows the evolution of the farm result per AWU according to the agricultural production guidelines (in EUR).

Diagram: Changes in operating results by AWU, 2017-2021



Sources: MAVDR Activity Report 2021

Other sectors, in particular the beef and veal sector and the pig sector, which are heavily subject to price quotations on the European and world markets, are also aimed at setting up systems for the payment of fair prices to producers.

The establishment of a broiler production chain in Luxembourg is only at an early stage. However, the recent grouping of several chicken breeders in mobile houses has nevertheless enabled the supply of broilers to a supermarket chain. Other projects target the construction of fixed buildings with a size of approximately 6.000-8.000 places.

In the pig sector, a new labelling initiative is being organised to market meat from pigs born and reared in Luxembourg. Fattening pigs born outside Luxembourg are marketed under 'QS' certification.

In Luxembourg, the majority of meat production is valued using a quality system (labels). In addition to conventional labels and products bearing the EU organic label, several national organic labels have been created. In general, a certain trend towards the introduction of brands specific to commercial distributors, resulting in an increased fragmentation of the labelling landscape, is unfortunately being put at the expense of consolidation and greater visibility vis-à-vis the consumer.

Generally speaking, while some labels are established essentially in the form of labels guaranteeing, at first sight, a Luxembourgish origin of the products, other labels are aimed at certifying the sustainability of production systems or introducing traceability, safety or food quality criteria that go beyond the basic rules and standards in the field. However, the differentiation of labels from standard production remains very variable. For the future, it is hoped that national labels will not be able to keep their reputation on the Luxembourg market and position themselves in the face of competitive products from abroad, if they fail to establish distinctive elements. Voluntary steps to anchor more animal welfare or sustainability criteria in product specifications, going beyond standard standards in the matter, are being developed. The government has put in place a formal procedure for the approval of labels, which goes hand in hand with the establishment of a financial support system to support producer groups in their quality processes.

Limitations on the development of milk and meat production

Nevertheless, it should be stressed that there are major constraints on increasing labour productivity. As described above, the labour force in Luxembourg is one of the most expensive in Europe (Source: Eurostat, 2022, Labour costs). This also applies to the labour force in the country's agricultural sector, which makes an important contribution to product prices. One way of compensating for these high costs would appear to be intensification of agricultural production, towards automation of production and intensification of cultivation. However, it should be noted that there are restrictive environmental standards that apply to farmers, such as fertilisation for reasons of groundwater protection or crop rotation which will be mandatory for certain crops. Therefore, the abstraction of water for agricultural use is subject to strict constraints, and permissions may be granted only after a long authorisation period in certain cases. The environmental restrictions are elaborated in detail in Chapter 3 below. It should be noted that the expansion of the useful floor area does not present a method to compensate for labour costs due to land pressure in Luxembourg. The socio-economic development of the country creates increased pressure on the land. Since natural areas and forests are highly protected, urban development takes place mostly on agricultural land. This implies a sharp increase in purchase and lease prices for agricultural land. Since 2003 until 2017, purchase prices for agricultural land have more than doubled (2003: EUR 15.000/ha, 2017: EUR 35,000/ha). In addition, it should be noted that an increase in livestock load leads to an increase in pollutants emitted by the agricultural sector. In this context, it should be noted that increasing incomes in the agricultural sector through intensification or expansion does not present an option for the environmental objectives pursued (Source: MAVDR, 2020, Analysis of the situation in the agricultural sector).

Marshed and fruit-growing

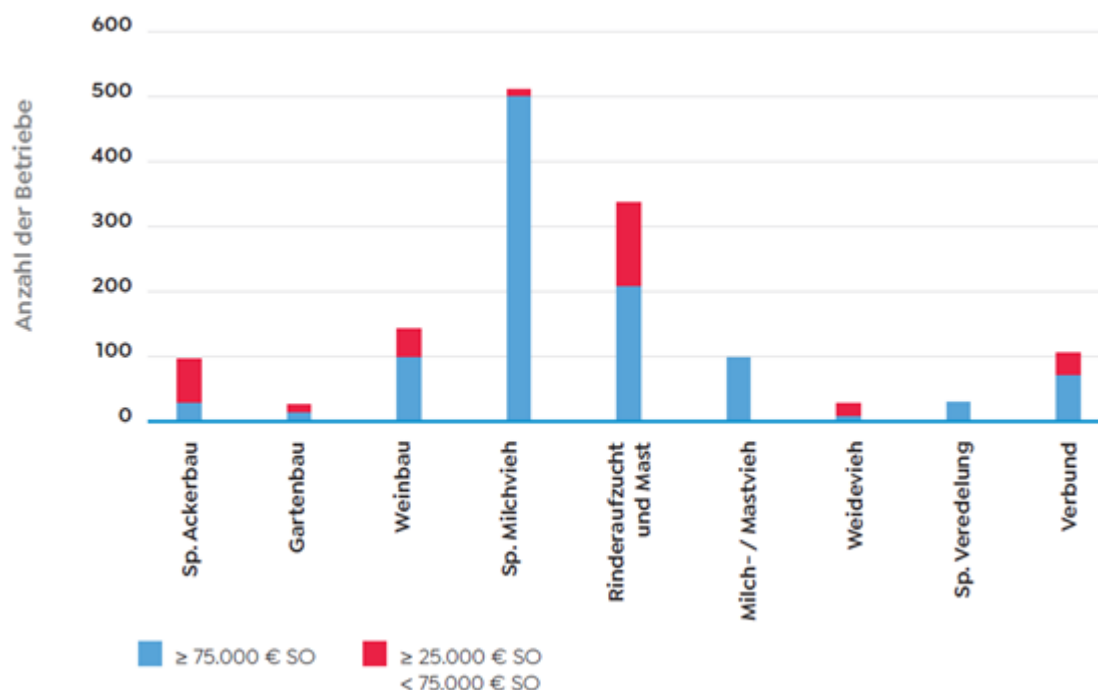
In 2018, there were 1.898 agricultural holdings in Luxembourg, of which 94 (5 %) were involved in fruit and vegetable production (Source: area declaration).

Of these 94 holdings, 17 (18 %) are classified as 'OTE' for specialised horticultural holdings. Of the 17 specialised horticultural holdings, 5 (29 %) are ancillary holdings.

131.604 hectares of utilised agricultural area in 2 018.231 ha (0.18 %) are used for fruit and vegetable production (Source: area declaration).

Although the number of areas used for growing fruit and vegetables is increasing, the rate of self-supply in Luxembourg remains very low. From 2010 to 2018, the volume produced in vegetables varies between 1.000 and 1.900 tonnes per year, and that of fruit between 1.250 and 3.000. There are several reasons for the under-development of the fruit and leguminous sector in Luxembourg, in particular the climatic and soil conditions unsuited to fruit and vegetable production, the strong competition with neighbouring markets in the Greater Region and the lack of experience in the sector. Irrigation is required to ensure stable fruit and vegetable harvests. With access to water for highly regulated agricultural use in Luxembourg, few farmers set up or continue farming activities in this sector. To this end, the market has a small number of producers and wholesalers interested in marketing Luxembourg products. Nevertheless, the interest of consumers in Luxembourgish products is increasing, in this context, reference should be made to the multiple initiatives of some operators to sell their products on the farm or in shops/shops specialising in local products.

Distribution of holdings by orientation



Sources: MAVDR, 2022, Landwirtschaft in Luxemburg – Betriebsergebnisse 2020/21.

With around 1 % of farms engaged in fruit-growing and less than 4 % in market gardening, the number of producers and the volume of production remains limited. It should be noted that the competitiveness of these farms is affected by the Greater Region's fruit and vegetable market, supplying Luxembourg with products from neighbouring countries with lower production costs. Domestic producers are in a competitive position with foreign producers. The products are easily interchangeable and must be unique in order to differentiate themselves from imported products. It should be noted that the labour force is much more expensive in Luxembourg. This differentiation can hardly be achieved by price, as production costs in Luxembourg are generally higher than in other countries with similar production. It should be pointed out that the lower yields of farms engaged in fruit and vegetable cultivation and the reduced number of such types of production have led to insufficient development of advisory services. With a view to the predominance of specialist advice on milk and meat production, advisory services relating to fruit and vegetable production are underdeveloped, which has a major brake on the growth of fruit and vegetable production.

Production intended primarily for domestic consumption is disposed of either by direct sale to the final consumer or through a wholesale distributor.

There are currently 4 distributors who have engaged and there is a strong link between these distributors and their respective producers. In general, distributors require their suppliers to produce exclusively for them.

Although the levels of self-sufficiency of 1.5 % in fruit and 4.6 % in potato free vegetables (average 2014-16) remain very low, some production lines are becoming saturation in the existing marketing networks. One example is salad production, where, due to seasonality and dependence on the weather conditions of production, the market is no longer able to absorb the quantities available at certain times of the season.

However, it should be noted that the legislative framework for irrigation of specialised and permanent crops such as orchards or vegetable production areas is not suited to the immediate growth of the sector. The 67 hectares of areas declared in 2019 for the production of vegetables and strawberries in the open air are irrigated regularly in order to ensure a satisfactory harvest. Owing to the variability of the climate in Luxembourg from one year to the next, an irrigation system is essential in order to avoid risks associated

with temporary dress, risking harvests or permanent crops. It is estimated that 50 % of the permanent crops of low-stem fruit trees are equipped with irrigation systems in Luxembourg, using either spring water or storage system (Source: MAVDR, 2020, Analysis of the situation in the agricultural sector). When setting up a new farm in the fruit and vegetable sector, difficult and lengthy procedures are required to allow the abstraction of groundwater or surface water. In addition, significant restrictions apply to the use of water for commercial purposes.

The main factors having a direct impact on production costs are: Labour costs, where the minimum social wage must be respected, as well as farm lease costs, input costs such as the price of water or the price of machinery and fertilisers. An approach to compensate for high labour costs is to increase the productivity of the agricultural sector. Increased productivity leads to lower production costs, which will allow farms to increase their added value captured in order to mobilise additional financial resources for labour costs. Differentiation must then be based on the regional, or even local, origin of the product, seasonality and freshness.

At this stage, given the limited number of producers and the volume of production, the market can still remunerate local production at high prices. However, producers who have embarked on market gardening and fruit-growing have a small niche size.

The wine sector

The wine sector is currently facing an alarming competitive situation. Studies confirm that Luxembourgish winegrowers cannot produce low-end wines profitably and in the long term because the selling prices of these wines are unable to cover production costs. As the current results of winegrowing holdings vary widely, consideration of economic data is important for the positioning of wines on the market.

Reparcelling, and above all the restructuring and conversion of vineyards, enables wine-growers to adapt to the difficult conditions on the wine market. Thus, improved working conditions are combined with a shift of grape varieties towards consumer demand, adaptation to climate change by varieties resistant to certain diseases or pests and less susceptible to water stress.

Farms have increased the degree of mechanisation to cover peaks of activity formerly covered by casual workers.

The exploitation of vineyards on steep slopes and terraces that cannot be mechanised is not always profitable. However, these parcels are important elements of the winegrowing landscape and cultural heritage with a very high qualitative potential. In order to improve the mechanisation of sloping vines, more and more holdings have to provide specially designed equipment for this type of vineyard.

The profitability and sound economic management of winegrowing enterprises require full control of all the technical and economic data on the part of the vineyards. Competitiveness is more than ever a parameter to be integrated into this management. The financial situation of winegrowing enterprises will depend mainly on the sector's ability to market products of higher quality at reasonable prices.

Summary of key figures

Luxembourg's agriculture is therefore poorly diversified and produces mainly low-value and export-oriented commodities.

Under the previous rural development programme, 16 % of EU support for rural development was dedicated to restructuring and **modernisation**. Approximately 60 major construction projects (> EUR 150.000) were authorised annually for an investment value of 134.4 m. COUNCIL A total of 250 investment projects of EUR 150.000 billion were supported by the 2014-2020 RDP, including 18 projects

related to processing and marketing infrastructure.

At the same time, a state aid scheme for investments of less than EUR 150.000 to grant support to more than 1.160 investment projects and almost 800 purchases of agricultural machinery totalling more than EUR 26 million. COUNCIL

The efforts to modernise the 1.098 main holdings (and 648 ancillary holdings, census 2019) which benefited from the basic payments are therefore substantial. Assuming that the vast majority of major plant projects are undertaken by main operators, around 1/4 of the farms undertake significant upgrades on their operations for a period of 6 years.

It should also be noted that in the period 2014-2020 almost 100 new young farmers' installations were to be reported. Moreover, there is a growing, albeit modest, interest among entrants who were not previously linked to the agricultural sector. These new entrants are also interested in more alternative production methods, such as solidarity-based farming and fruit and vegetable production. Unfortunately, public support is not yet adapted to this new situation.

Organic production

Organic farming is developing, growing moderately, in order to meet national demand for organic products.

The Organic Farming Action Plan, drawn up in 2020, targets organic farming on 20 % of UAA in 2025. The plan is characterised by its holistic approach encompassing the whole food chain. The value of organic products in the organic processing chain is essential in order to ensure the creation of added value for producers. Although the range of local organic products seems to be quite diverse, the products are not available in the desired quantities. Organic products are marketed under various labels, sometimes initiated directly by marketing chains. This trend contributes to the splitting of labelling.

In 2018, Luxembourg ranked^{20th} in the EU with 4 % of UAA under organic production. As at¹ January 2021, organic areas totalled 6.324 ha (5.18 % of the UAA), of which twelve agricultural holdings (457 ha) started conversion to organic farming in 2020. The 157 farms represent almost the entire range of the agricultural sectors, namely meat and cereals (91 holdings), fruit (11 gt), vegetables (16 et), viticulture (17 t) and beekeeping (22 t).

Trends in organic production

Despite the growing demand for organic products, organic farming is growing only moderately in Luxembourg. The high production costs in Luxembourg make it difficult to sell on the market at a price acceptable to producers when faced with imported products. In addition, the development of supermarket brands, as well as the growing sale of organic products by discounting markets at low prices, make Luxembourg's products hard to live. As a result, organic production is struggling to meet demand for increasingly important organic products, currently filled by imports. For example, since 2011, the share of household food expenditure on organic products has stagnated between 10 and 14 % (Source: STATEC: Households allocate 12 % of their food expenditure to organic products (Regard, No 12, August 2020).

The most promising outlets are currently the beef and pigmeat and poultry meat and eggs sectors. Following the Bio 2025 national action plan, a significant increase in demand for organic products in Luxembourg is developing as a result of the reorientation of the specifications to be followed by mass catering operators. Recent successes have thus been identified for the collective catering of a secondary school, a structure for the elderly and a detention centre, with the aim of reaching 50 % of products from local production, including 2/5 organic farming and 3/5 conventional farming. Another secondary school and a childcare facility have gone a step further by linking a 75 % share of organic products in their canteens respectively to a teaching project around local and regional products.

The Government's efforts to increase the supply of Luxembourg's catering services is an important hope for the agricultural sector in general and organic in particular. In order to help the organic sector, for which the obligation to comply with marketing standards makes production difficult, the premiums available for organic farms have been increased by 2 million. EUR 2 020 million in 4,36. EUR 2 021 million in 11,4. EUR 2025 with the Ministry of Agriculture, which is also responsible for the costs of official certification.

2.1.SO2.2 Identification of needs

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan
B.2.7.	Ensuring the competitiveness of the agricultural sector	P1	Yes
B2.1	Strengthen the market orientation of agricultural, wine and market gardening production.	P2	Partially
B2.2	Increase labour productivity to compensate for high labour costs	P1	Yes
B2.3	Develop different marketing models, in particular by aiming at non-price competitiveness	P1	Partially
B2.4	Promoting diversification of agricultural production	P2	Partially
B2.5	Managing investments taking into account environmental and animal welfare issues	P1	Yes
B2.6	Foster the dynamics of new entrants.	P2	Yes

Other comments related to needs assessment.

No further comments

2.1.SO2.4 Intervention logic

Form of Intervention	Type of Intervention	Intervention Code (MS) - Name	Common Output Indicator
DPcoupled	CIS(32) - Coupled income support	1.03.503 - Coupled aid for legumes	O.10. Number of hectares benefitting from coupled income support
DPcoupled	CIS(32) - Coupled income support	1.03.505 - Coupled aid for suckler cows	O.11. Number of heads benefitting from coupled income support
DPcoupled	CIS(32) - Coupled income support	1.03.506 - Coupled aid for market gardening and fruit crops	O.10. Number of hectares benefitting from coupled income support
Sectoral - Apiculture products	ADVIBEEES(55(1)(a)) - advisory services, technical assistance, training, information and exchange of best practices, including through networking, for beekeepers and beekeepers' organisations	1.09.582 - Transfer of knowledge	O.37. Number of actions or units for beekeeping preservation or improvement
Sectoral - Apiculture products	ACTLAB(55(1)(c)) - actions to support laboratories for the analysis of apiculture products, bee losses or productivity drops, and substances potentially toxic to bees	1.09.581 - Supports analyses of the quality of beekeeping products	O.37. Number of actions or units for beekeeping preservation or improvement
Sectoral - Apiculture products	PRESBEEHIVES(55(1)(d)) - actions to preserve or increase the existing number of beehives in the Union, including bee breeding	1.09.580 - Programmes for genetic improvement of bees	O.37. Number of actions or units for beekeeping preservation or improvement

RD	INVEST(73-74) - Investments, including investments in irrigation	2.04.712 - Aid for agricultural investments	O.20. Number of supported on-farm productive investment operations or units
RD	INVEST(73-74) - Investments, including investments in irrigation	2.04.714 - Aid for environmental investments	O.20. Number of supported on-farm productive investment operations or units

Overview

Aid for investments in agricultural holdings is intended to support the **modernisation** of agriculture and to ensure the competitiveness of family farms. The intervention shall support, in a targeted manner, efficient and economically viable, efficient and compatible investments in terms of climate and environmental protection, energy saving and ensuring animal welfare and relieving the operator's work with the aim of increasing productivity. Support for agricultural investments is also aimed at introducing new guidelines on digitalisation and other technical innovations into production systems that can create benefits at the level of production and enhance competitiveness. Initial on-farm transformation projects will also be eligible. The investments are not aimed at a specific production sector, but are intended to be open to all agriculture, also in order to promote agricultural diversification. However, investment aid will be capped from the point of view of the eligible amount and the economic size of the project in order to reduce the impact on greenhouse gas emissions and pollution of water resources. On the other hand, the intervention provides for a more specific focus on animal welfare and environmental and climate-related targets in order to remain consistent with objectives (d), (e) and (f).

The investment aid measure included in this NSP is limited to investments with a value of at least EUR 200,000. Investment projects below this amount shall be supported by national aid measures, including a specific measure for movable investments. These measures are comparable in terms of eligibility conditions in terms of the value of the projects concerned.

These measures are a direct response to the following needs:

- Strengthen the market orientation of agricultural and wine production, both in the milk and meat sector and in fruit and vegetable production
- Increase labour productivity to compensate for high labour costs
- Develop different marketing models
- Promote diversification of agricultural production
- Managing investments taking into account environmental and animal welfare issues

The limitation of investment aid is a strong signal to dairy farmers and cattle farmers in order to encourage them **to limit and reduce cattle population** and thus their greenhouse gas emissions while allowing a sufficient economic size (AWU 5) to ensure a viable revenue for family businesses.

All new stables built and supported by investment aid must comply with the standards in force in order to ensure organic production and thus provide improved conditions for animal welfare. This strategy also makes it possible to build farms which can at any time facilitate conversion to organic farming.

At national level, support for investment in agricultural holdings will be accompanied by start-up aid for the development of micro-enterprises, with a greater focus on the development of start-ups aimed at developing products that meet new market needs, whether in food or in the bioeconomy. This measure thus aims to support small businesses in the start-up phase and can contribute to the diversification of production and the development of a new marketing model. In terms of needs, this measure directly addresses the need to support new entrants and promotes diversification of production.

New initiatives such as solidarity-based farming or urban farming require specific frameworks to counter

the risks often associated with these measures. The development of new products as part of the bioeconomy is also part of this approach. Start-up aid for the development of micro-enterprises is the initial support for these innovative projects. Having exceeded a certain scale, companies will have to call on other support measures.

With a view to promoting the diversification of Luxembourg's agriculture, while expecting a reasonable number of projects submitted, this approach is aimed at all production sectors without excluding any specific production.

The combination of support for investment in agricultural holdings and for processing/marketing in the agri-food chain, taking into account the needs of the market, should foster competitiveness, the creation of added value and the modernisation of enterprises. Promoting innovation accompanies interventions to ensure that best available techniques are used in production and processing processes. It also makes it possible to respond directly to the need to diversify agricultural production and to the development of marketing.

A holistic farm council geared towards competitive production in accordance with sustainability criteria accompanies development at farm level in particular.

The authorities have provided for specific investment support at national level for irrigation projects. It should also be noted that investment aid has been put in place at national level for processing and marketing projects aimed specifically at the processing and marketing industries.

Micro-measures, also financed by national means, support small-scale agricultural infrastructure projects (dry walls, water pipe, drinking water, water crossing). At the level of the wine sector, a national measure is aimed at converting vineyards towards more noble varieties in order to steer production towards more competitive quality wine on the market. However, this conversion should also take into account the new environmental objectives and thus the environmental commitments of the intervention.

Coupled support for suckler cows is more specific and focuses on the resilience of beef farms. Their income is significantly lower than the average for farms because of a relatively low meat price in a context of difficult production which is often more extensive and linked to the relatively high rented soil. However, this production is pre-earmarked for the soil and climate situation in Luxembourg. Special support is therefore needed for this group of holdings, especially as the gradual abolition of payment entitlements is foreseen for the period 2023-2027. This new approach will result in proportionally higher losses for beef farmers. Coupled aid for suckler cows will thus be able to offset the loss of income of beef producers.

The support for suckler cows meets the needs to “ensure the competitiveness of the agricultural sector” and “increase labour productivity to compensate for high labour costs”. The selling price of beef does not allow for profitable production. The VA-cut aid thus makes it possible to maintain production adapted to the soil and climate situation in Luxembourg. It should be noted that the orientation towards suckler cows is more linked to the soil and is also characterised by extensive aspects claimed by consumers. It also responds to the need to foster the transition to more sustainable production models (P1).

Coupled support for suckler cow will be linked to commitments that limit the impact on water and climate. Beneficiaries are eligible if they have a livestock load of less than 1,8 LU/ha. This intervention therefore also shows links to objectives (e) and (f) of Article 6 of the NSP Regulation.

Coupled aid for fruit and vegetable production is being introduced to support this sector, which is highly dependent on the costs of the high labour force in Luxembourg. This aid should thus improve the competitiveness of the sector and stimulate their development with a view to increasing the domestic supply of these products with a large deficit in Luxembourg. The aid therefore addresses the needs for

diversification and support for the competitiveness of the sector.

2.1.SO2.5 Where relevant, a justification for the use of InvestEU, including the amount and its expected contribution to the Specific Objective/Cross-Cutting Objective

none.

2.1.SO2.8 Selection of the result indicator(s)

Selection of the result indicator(s) for this specific objective

Result indicators [recommended Result indicators for this specific objective are fully displayed in bold]	Target value
R.8 - Targeting farms in specific sectors Share of farms benefitting from coupled income support for improving competitiveness, sustainability or quality	44.71 %
R.9^{CU PR} - Farm modernisation Share of farmers receiving investment support to restructure and modernise, including to improve resource efficiency	8.51 %

Justification of the targets and related milestones

As regards the targets and milestones, reference is made to the 'other comments' section of the SWOT section and to the detailed description of the interventions falling within that specific objective.

2.1.SO2.9 Justification of the financial allocation

Ensuring the competitiveness of the agricultural sector is essential. Public support for agricultural investment is essential in order to develop productivity in an environment characterised by distortions in the factors of production and, above all, to compensate for the additional costs for environmental and climate protection and for the development of animal welfare. This is all the more important where such costs are not or only partially taken into account in the farm-gate selling prices. This is all the more important if one realises that the farmer must operate in an international context where production-related standards are not necessarily fair.

EAGF and EAFRD budgets are committed to this objective in order to introduce a greater diversity of interventions to respond to the different needs identified at different levels. Coupled aid, financed under the first pillar, is therefore needed to support the income of certain producers, while the modernisation needs of farms to ensure competitiveness and productivity are linked to interventions financed by the EAFRD (2nd pillar).

The investment budget remains relatively small compared to the challenges at stake. However, it is complemented by a national budget to finance investment projects of less than EUR 200,000 and to support agricultural machinery.

2.1.SO3 Improve the farmer' position in the value chain

2.1.SO3.1 Summary of the SWOT Analysis

2.1.SO3.1.1 Strengths

1. Winegrowing and dairy production, mainly organised as a cooperative. High proportion of farmers being members of professional organisations.
2. Winegrowing: implementation of strategic marketing development.
3. Processing sector with an efficient and modern production tool, but varies according to economic actors (e.g. fruit growers, marshing).
4. Well advanced initiative to restructure the beef/pigmeat sector.
5. Small size of the agri-food sector (SME) units allowing for a high degree of flexibility to meet local and local market expectations.
6. Positive image of the farmer (many family-type farms).
7. Border cooperatives in certain sectors (e.g. “eist Uebst a Geméis”).
8. Entrepreneurial spirit developed in the agricultural sector.
9. Efforts to facilitate the valorisation of low-level labels.

2.1.SO3.1.2 Weaknesses

1. Deficit in terms of communication and marketing strategy at national and regional level (e.g. lack of synergy and coordination between labels).
2. Although integrated into the chain, farmers act mainly as producers and do not actively participate in the value chain and decision-making. Strong position of processors and traders who can impose their model and prices.
3. Professional/cooperative organisations have poorly reactive and flexible structures to meet market demands.
4. The market gardening sector is insufficiently structured to maximise their assets.
5. Insufficient economies of scale, small processing firms facing high production costs and uncompetitive foreign markets.
6. Agricultural processing sector in Luxembourg focusing on a limited number of products: recovery of milk, meat, wine and cereals. Exceeding the self-sufficiency rate for certain products (e.g. milk) while for others there is a deficit (fruit and vegetables).
7. Limited number of actors in processing, marketing and distribution (oligopoly).
8. Lack of value creation in a large number of agricultural products, with limited processing steps. Business risk prevents companies from entering new value chains.
9. Share of the profit margin for the farmer is too low while he has to bear the highest share of the risk.

2.1.SO3.1.3 Opportunities

1. The growth in demand for organic products and regional production offers opportunities to enhance short supply chains.
2. New niches related to changing consumer behaviour and demand.
3. Good brand image of national and/or regional products attracting consumer confidence.
4. The dynamics of regional tourism combined with the recreational and landscape aspects of agriculture offer opportunities for ecotourism, oeno-tourism and on-farm accommodation.
5. High purchasing power of consumers in Luxembourg.
6. Proximity between producer and consumer.
7. Economic area beyond borders and within the reach of agri-food businesses (SaarLorLux, Wieland Region, etc.).
8. Taking into account agro-ecological aspects by the consumer is an asset for the promotion of cattle

farming.

2.1.SO3.1.4 Threats

1. Competition from products outside the internal market in all sectors (milk, meat, organic products, wine, etc.) due to the heterogeneity of the population in Luxembourg and lower production prices abroad.
2. Reduced consumption of Luxembourgish wines combined with a difficult export situation.
3. Increasing foreign population rate and lack of connection to regional products.
4. Restricted regional market (food nationalism, Greater Region difficult to access, limits on economies of scale).
5. Extensive market liberalisation due to international agreements: CETA, MERCOSUR.
6. Processing companies that are too small to be competitive at European level.

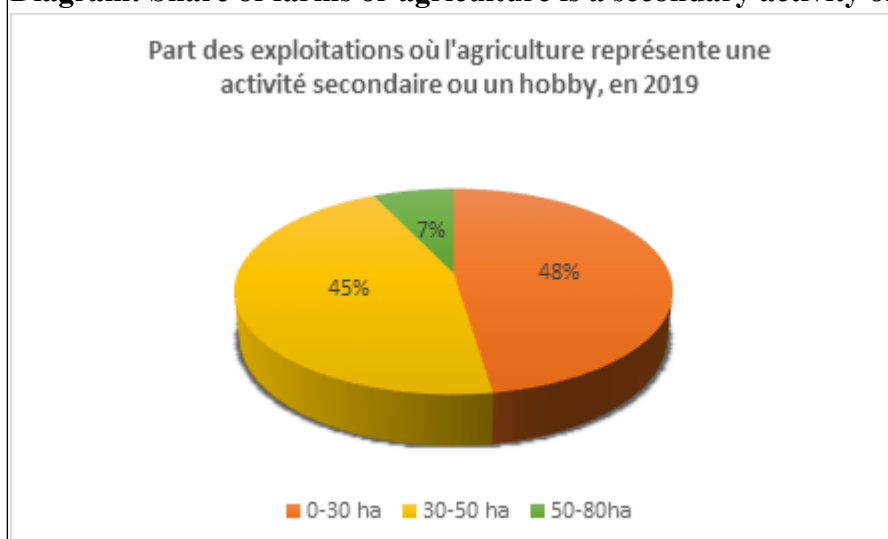
2.1.SO3.1.5 Other comments

Agricultural labour force

In 2019, the agricultural labour force in AWU (with no daily labour force) was 3.026. After a slight decrease since 2016, the number has increased again since 2019 and reached the 3 350 active population in 2021. Almost half of the agricultural holdings between 0 and 50 ha are farms where agriculture represents either a leisure activity (EUR 25.000 SO) or a part-time activity (EUR 25.000-75.000 SO) and for which it is assumed that the main income is generated outside the agricultural activity or in addition to the agricultural sector.

Most of these farms, with the exception of wine producers, are active in arable crop production and/or more extensive grassland farming with a lower income than more intensive full-time farmers.

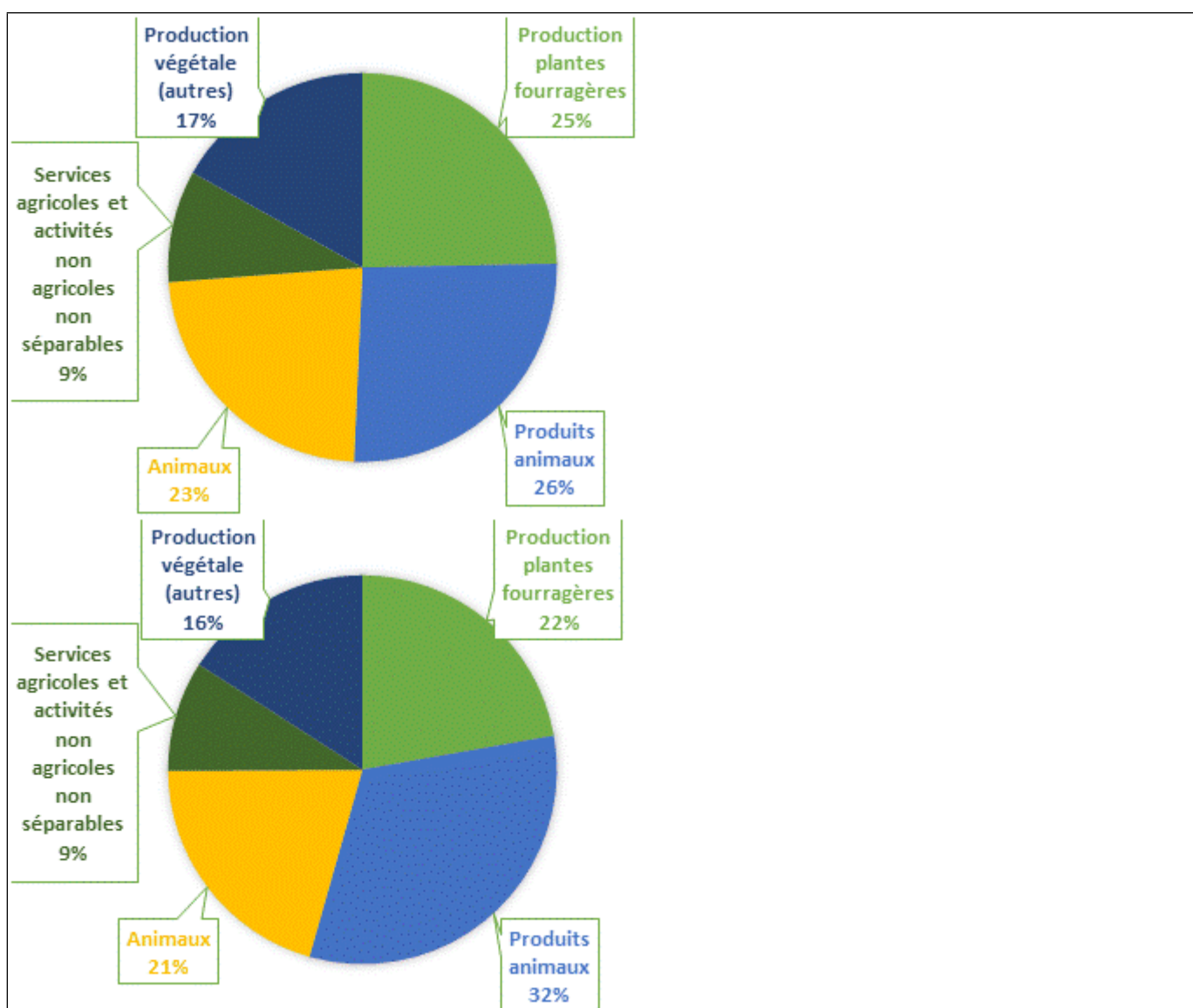
Diagram: Share of farms or agriculture is a secondary activity or a hobby, 2019



Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

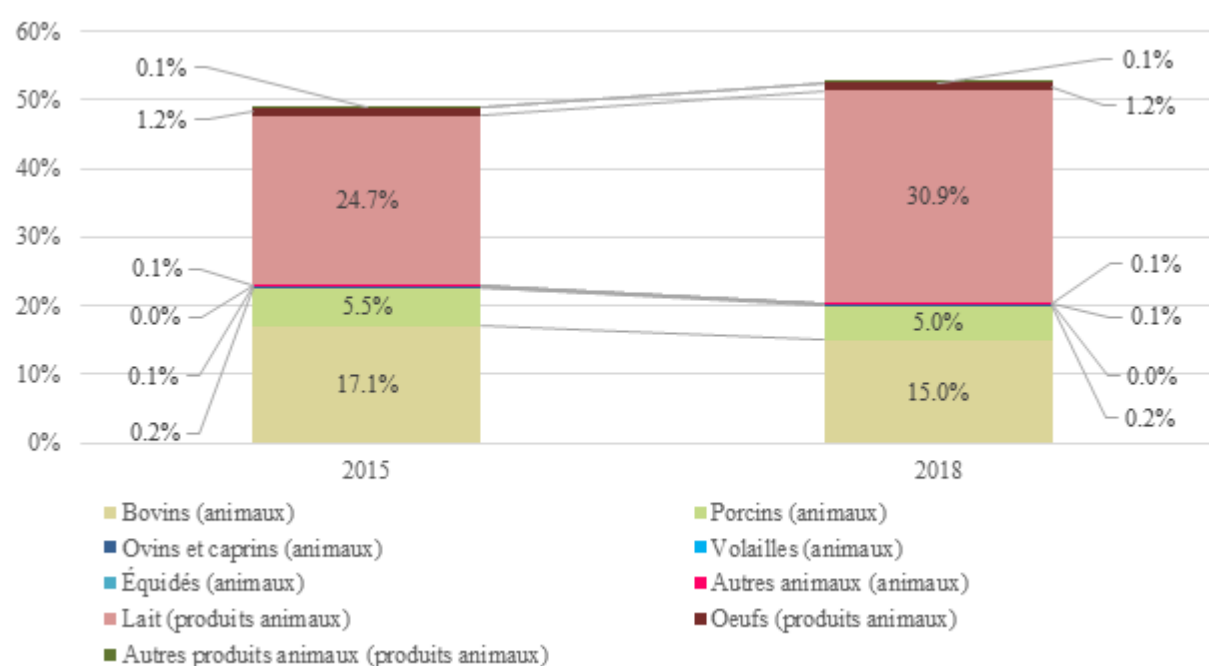
Livestock production combined with fodder production accounts for 74.9 % of the total value of agricultural production at the basic price generated by Luxembourg's agriculture.

Diagram: Share of livestock production in the value of agricultural production 2015 and 2018



Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

Diagram: Share of livestock production in the value of agricultural production, 2015-2018

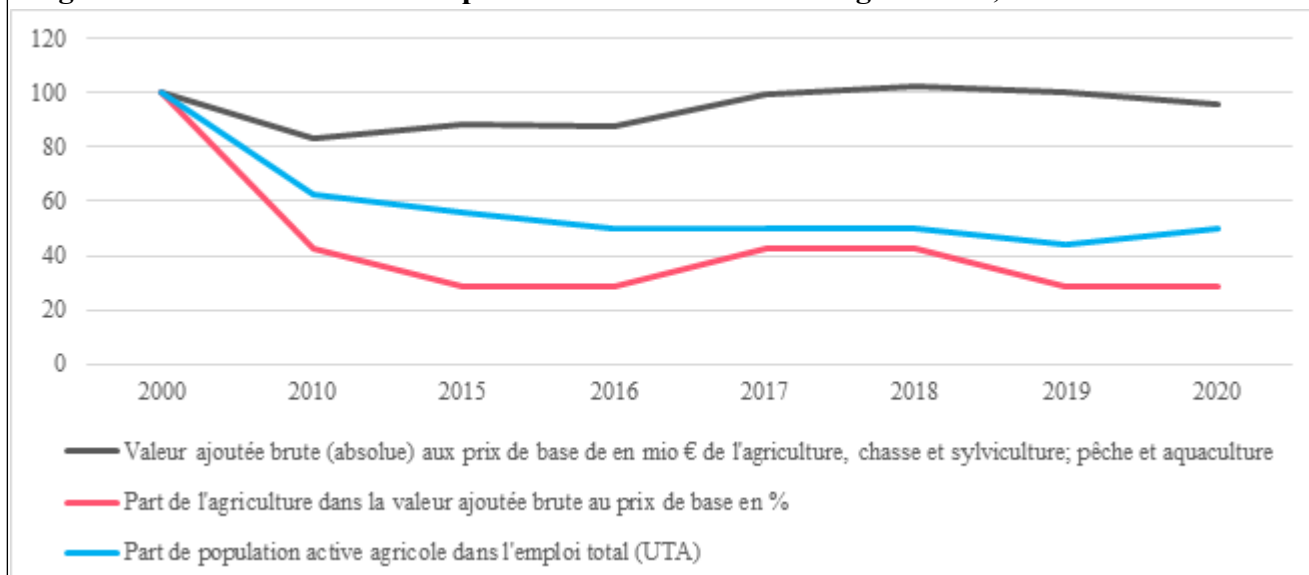


Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

Share of agriculture in the economy

The share of agriculture in the Luxembourg economy continues to be very low, with a value of less than 0.2 % in 2019 and 2020, compared to 0.6 % in 2000. However, by involving the food industry, the place of the agri-food sector is becoming more important (+ 0.8 %). In addition, the relative share of exports is also much higher. Food and live animals as such account for 7.1 % of Luxembourg's exports. By adding beverages and tobacco, this represents 8.8 % of the total volume of exports.

Diagram: Evolution of economic performance indicators for agriculture, 2000-2020

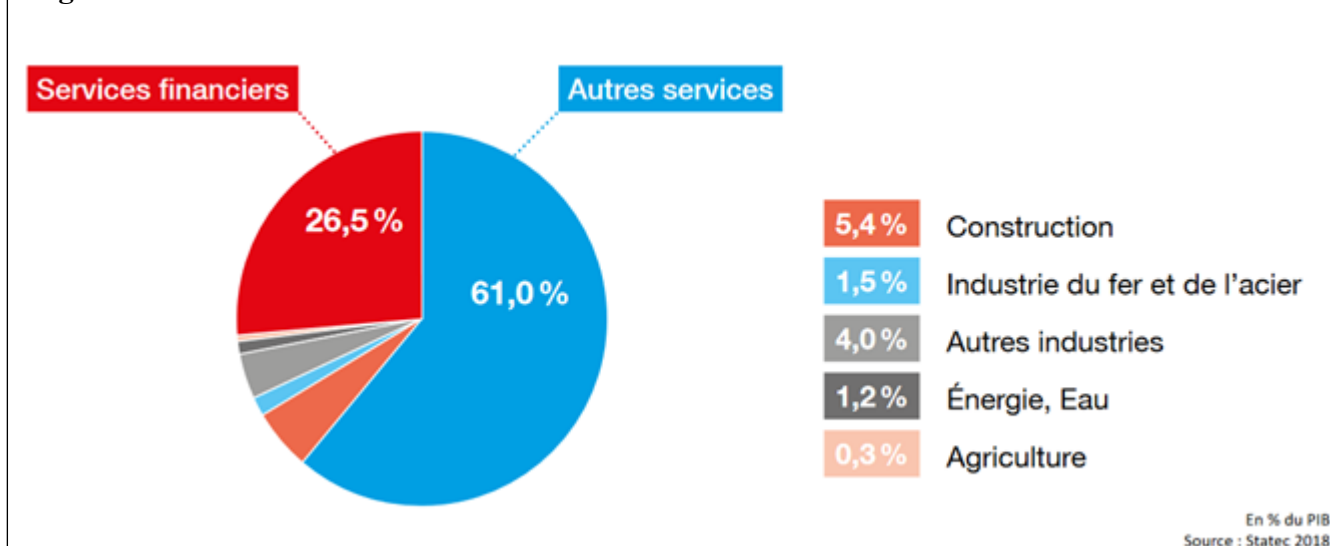


Sources: MAVDR Activity Report 2021

The share of Luxembourg farmers' value added in the agri-food chain decreased to 8.6 % in 2017, representing the lowest share of value added perceived by primary producers in the EU-27. Food and beverage distribution services are the lion's share (Source: Directorate-General for Agriculture and Rural Development, based on Eurostat data).

It should be noted that, despite the declining share of agriculture, the absolute value added is relatively stable. With the significant evolution of other economic sectors in Luxembourg (in particular services), the share of agriculture is declining even if absolute performance is stable.

Diagram: Share of different economic sectors of GDP created in 2018

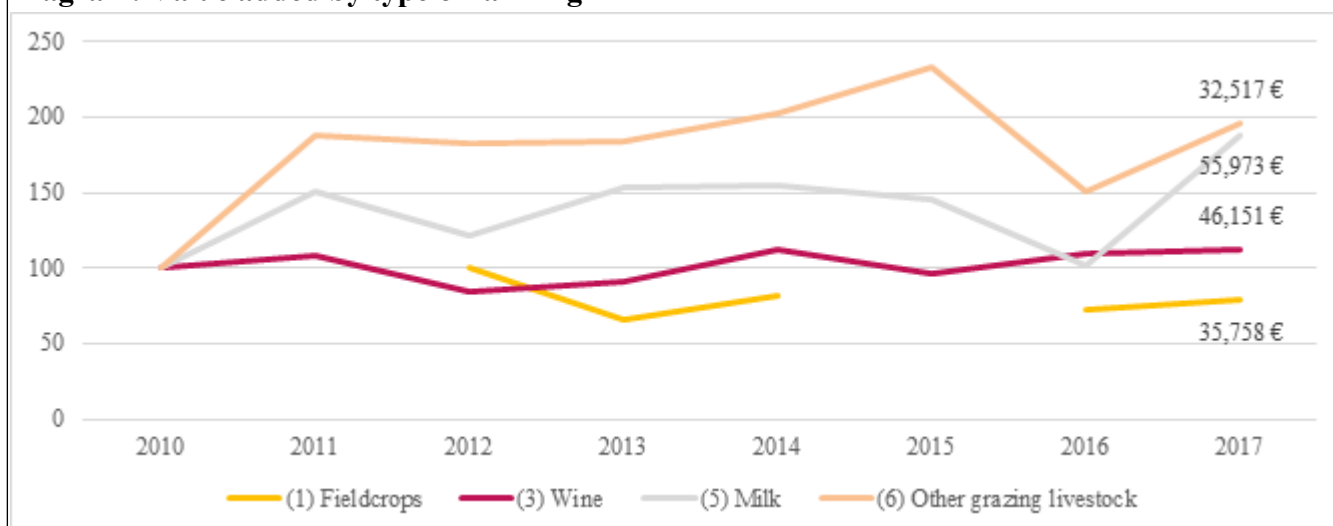


Sources: STATEC, 2019, Economy of Luxembourg

Value added by OTE

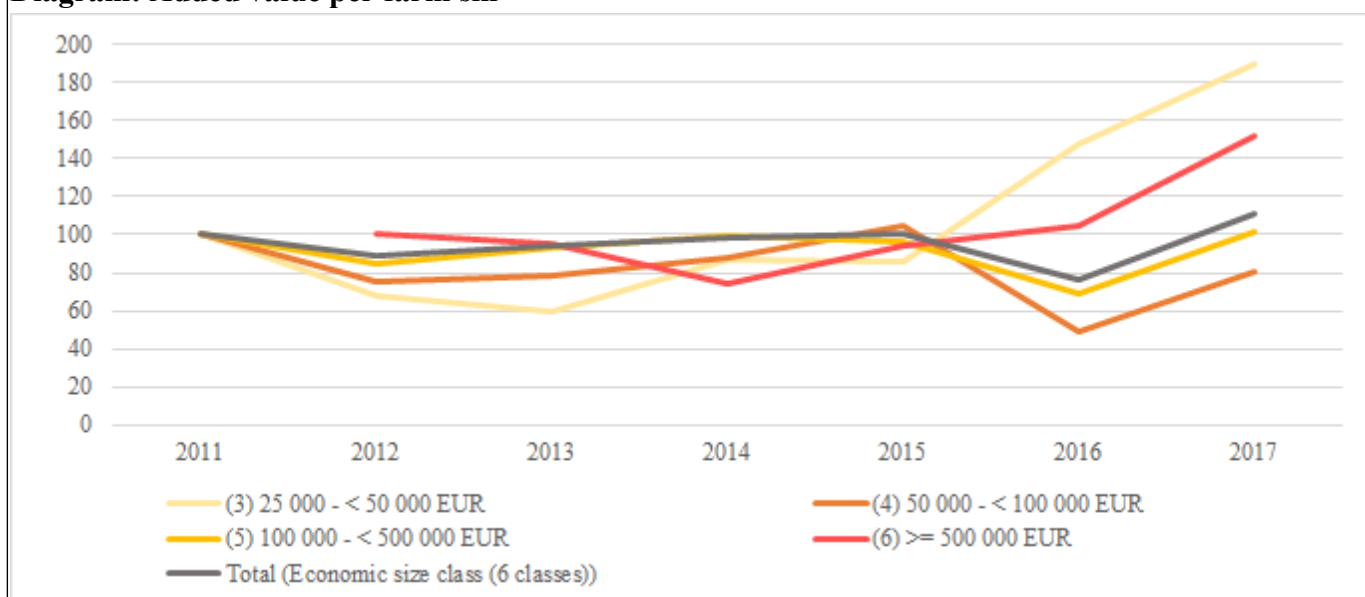
The added value produced on farms varies greatly depending on the OTE guidelines and the size of the holdings. There is a clear picture of the economies of scale on large farms. VA/AWU is the highest in milk production followed by wine production. Beef production shows the lowest ALS/AWU, still behind arable crop production. These findings explain the expansion of agricultural holdings and their orientation towards milk production.

Diagram: Value added by type of farming



Produced by EUFADN database 23/01/20 09.37.20, evolution of (1) Fieldcrops as of 2012.

Diagram: Added value per farm sill



Produced by EUFADN database 23/01/20 09.37.20

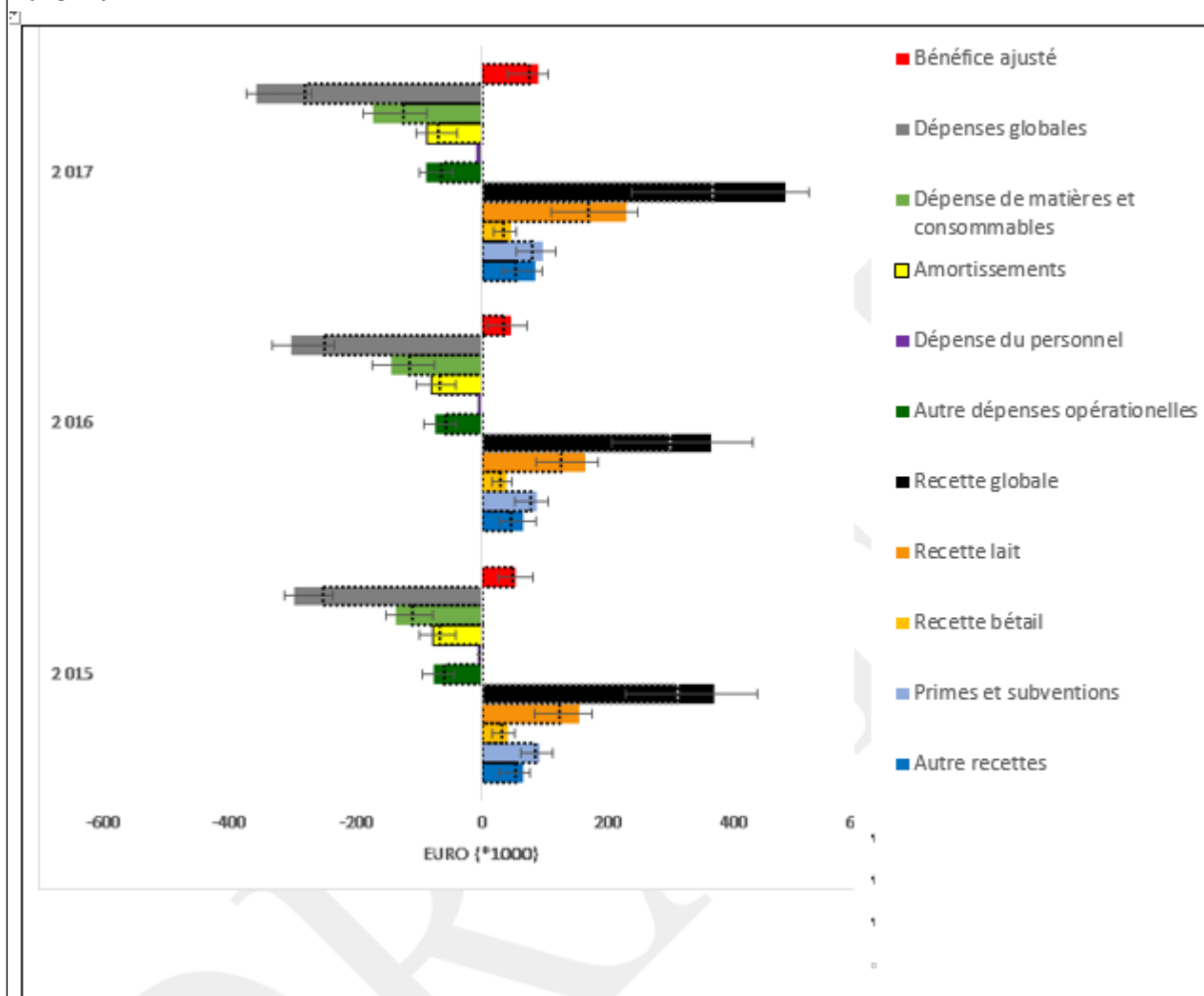
In 2016, more than a quarter of Luxembourg's agricultural holdings were specialised in milk production (OTE 45). With the milk price pick-up in 2017, the adjusted profit of most agricultural holdings improved compared to previous years. The median adjusted profit was EUR 75.282 in 2017, an increase of more than 200 % compared to 2016 (EUR 35.124) and more than 150 % compared to 2015 (EUR 48.095).

Producer prices and consumer prices

For many years, there has been a faster rise in prices for consumers compared to producer prices. The

current level of agricultural producer prices in terms of inputs is 29.6 % higher than in 2005. However, prices paid to producers increased by only 16.7 % compared to level 2005.

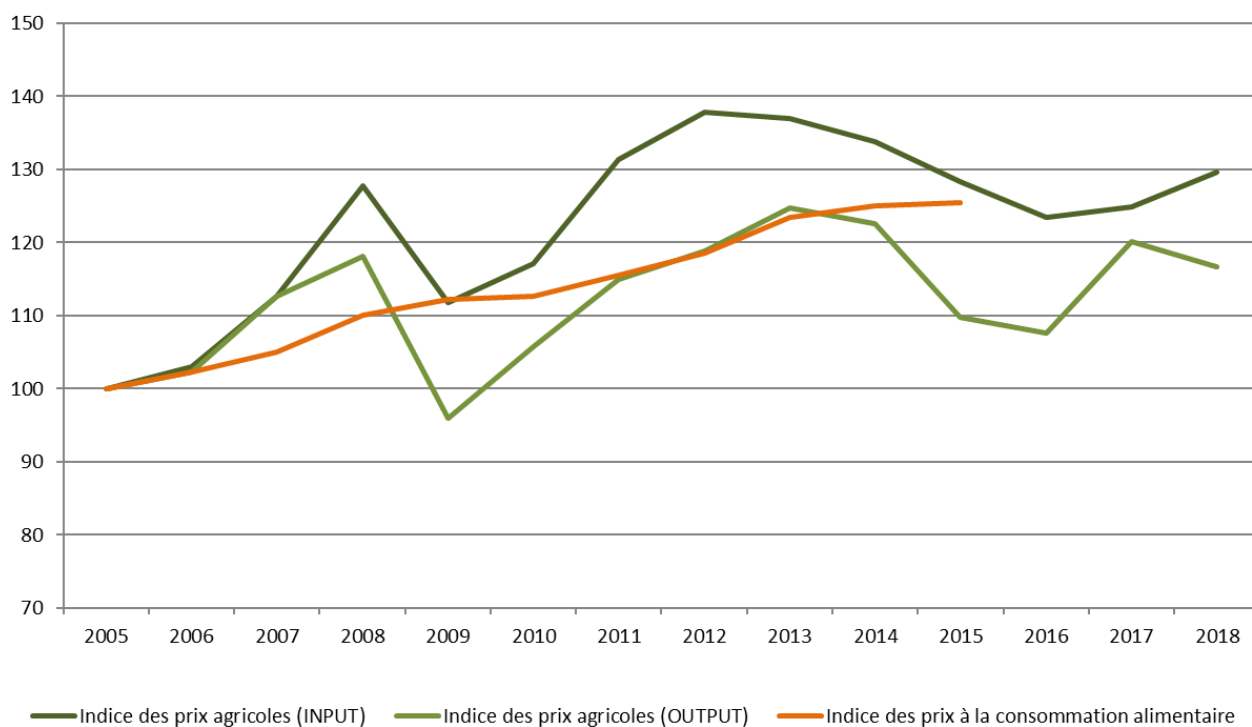
Adjusted profit, receipts and expenditure of holdings specialising in milk production for the years 2015-2017



Note: The weighted average is indicated by a coloured rectangle; the median (= 50th percentile separates the 50 % of the data) is indicated by a dotted line; the interquartile interval (25^e – 75th percentile) is indicated by a line with two bars.

Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

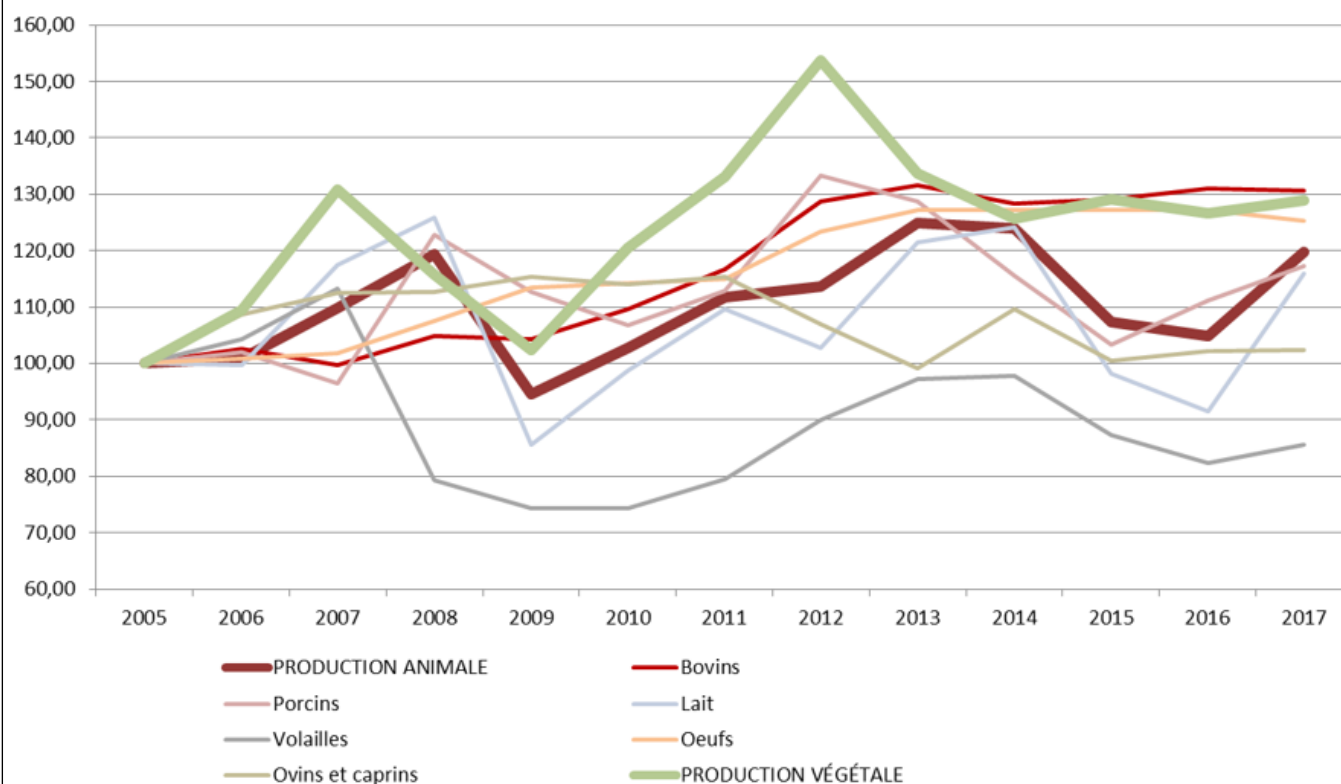
Agricultural price index and consumer price index (2005-2017) (2005 = 100)



Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

The following graph shows the annual development of producer prices for the main categories.

Annual change in producer prices (index 100 = 2005)



Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

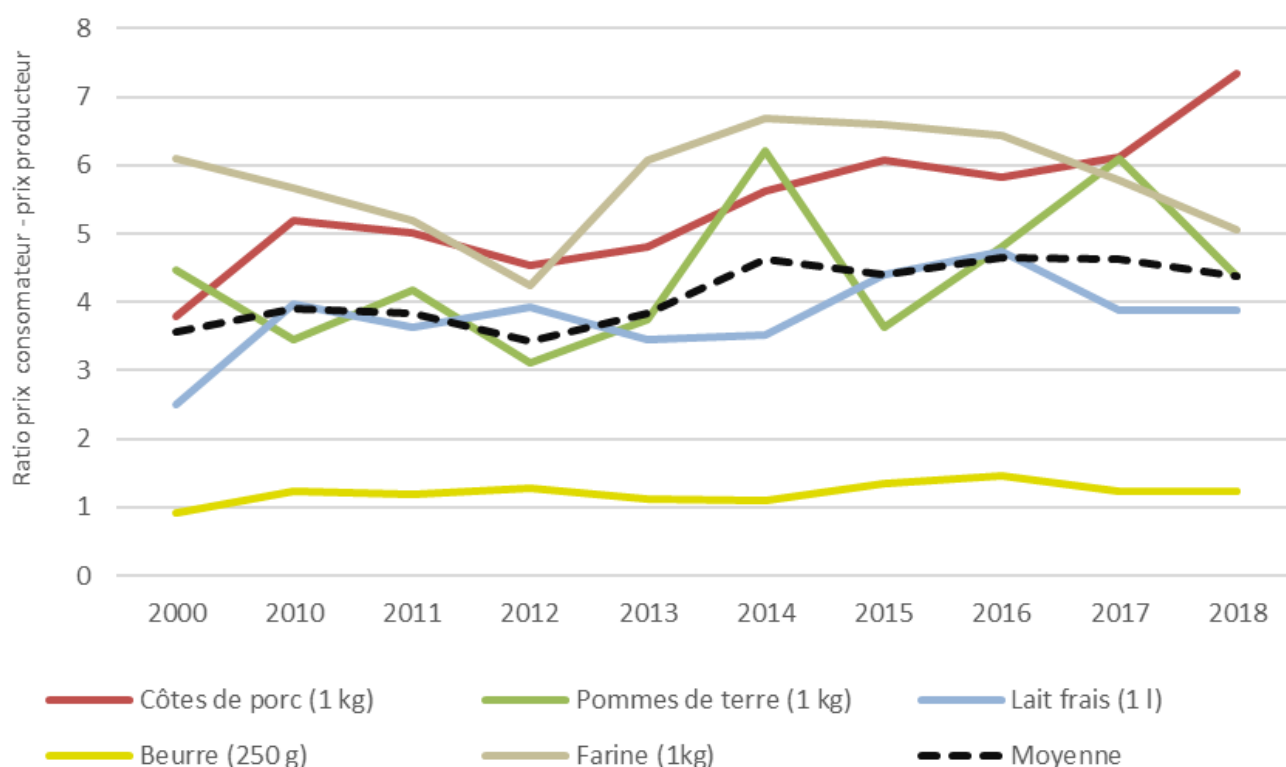
Agricultural production costs have increased dramatically due to higher input costs, putting farmers in a

often difficult financial situation. The large price differences between prices paid by consumers and producer prices are certainly a phenomenon that goes hand in hand with a relatively higher degree of food processing. However, the costs of processing, distributing and selling the products do not explain the whole difference observed. The summary of Luxembourg statistics does not make it possible to decipher this share and to assess the real costs of production in the sector downstream of primary production. This difficulty is also due to the fragmentation of the food sector and the fact that the supply chain involves many intermediate actors and is therefore quite complex. The Luxembourg market is therefore part of the international context and, given the pressure exerted by foreign products introduced at uncompetitive prices, the Luxembourg market is not able to sufficiently cushion the relatively higher production costs of indigenous production. In addition, some players use their purchasing power to force farmers to lower their prices. The imbalance in bargaining power between agricultural producers and the rest of the supply chain thus puts significant pressure on producers' margins in the agricultural sector.

However, local initiatives for the marketing of regional products continue to develop. Some have succeeded in joining large retailers (see 'eist Uebst a Geméis' label, with fruit and vegetable producers from Luxembourg and the border region of Germany), while others remain limited in the regions. Direct on-farm sales remain minority and limited to a few products. Although these producers have grouped together mainly to improve visibility, the distribution and marketing of products needs to be better organised. Recently, solidarity-based farming initiatives have emerged and producers initially outside the agricultural sectors have successfully established themselves by starting up local production.

Consumer prices in Luxembourg for certain types of products are 4,4 times higher than those charged on the farm, as illustrated in the graph below. Over time there is a clear upward trend and farmers receive an increasing share of retail food prices. This is all the more true as the products have a high degree of processing.

Price ratio – prices paid by the consumer vs. prices paid to producers



Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

It is essential to strengthen the position of primary producers in the food chain. Price analysis and profitability studies should be more objective and facilitate a balanced dialogue between all partners in the

agri-food chain. The statistics highlight in an objective manner, based on proven facts, the difficulties of several branches of the agricultural sector.

In 2018, the agri-food sector employed 2 % of Luxembourg's working population and had one of the lowest proportions among the EU Member States.

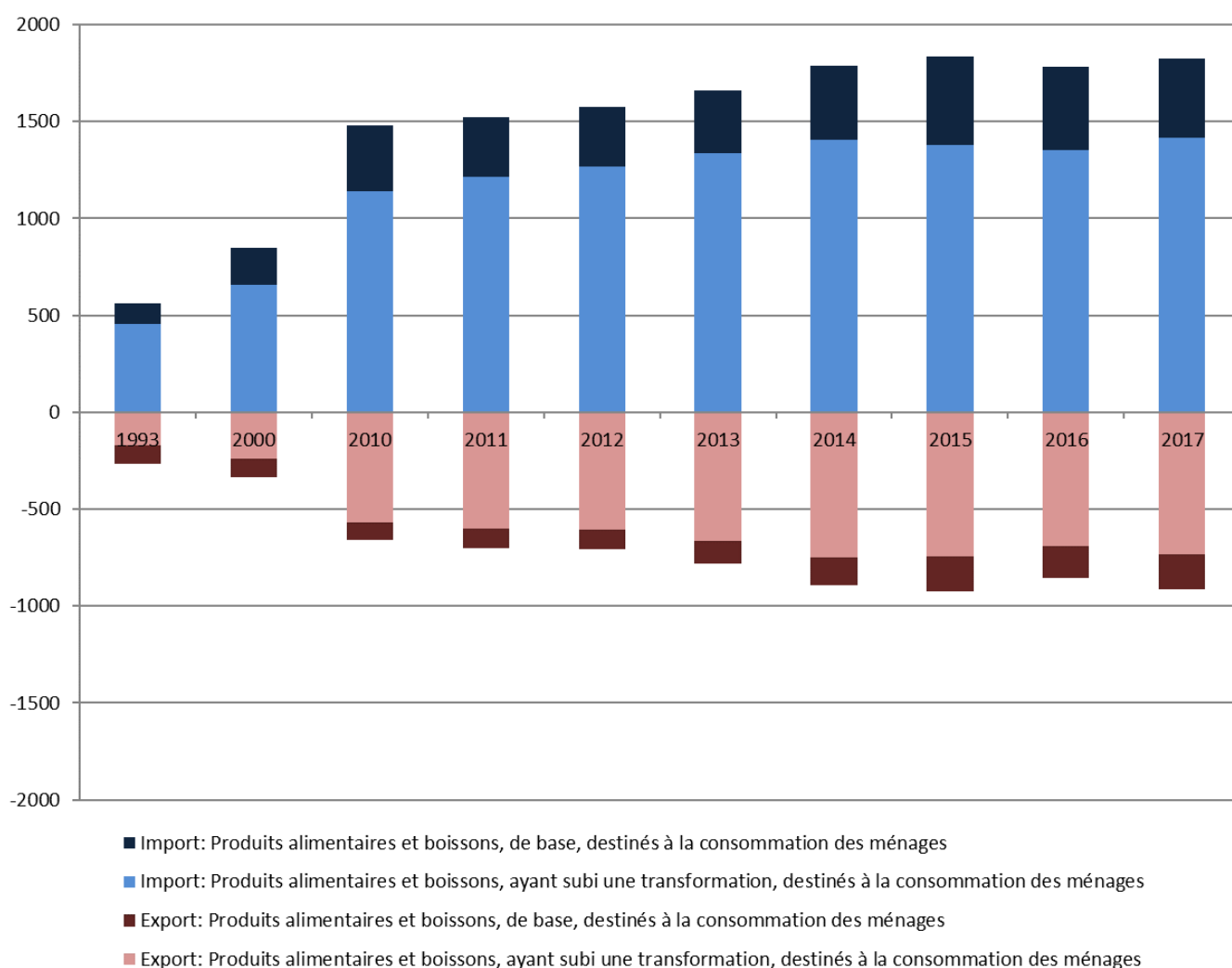
In 2017, 250 enterprises (3.42 % of craftsmen) were active in the field of food, offering paid employment to 6.933 people (8.16 % of craftsmen).

The gross value added at basic prices of the agricultural and food industry sector is 285.8 million. EUR in 2014. This represents an increase of 9.5 % compared to 2010, but this growth is significantly lower than in other industrial sectors (+ 22.3 %). The growth compared to 2000 is + 46.9 % for the agri-food sector compared to more than 109.5 % for the total economy.

Orientation of the agricultural production market

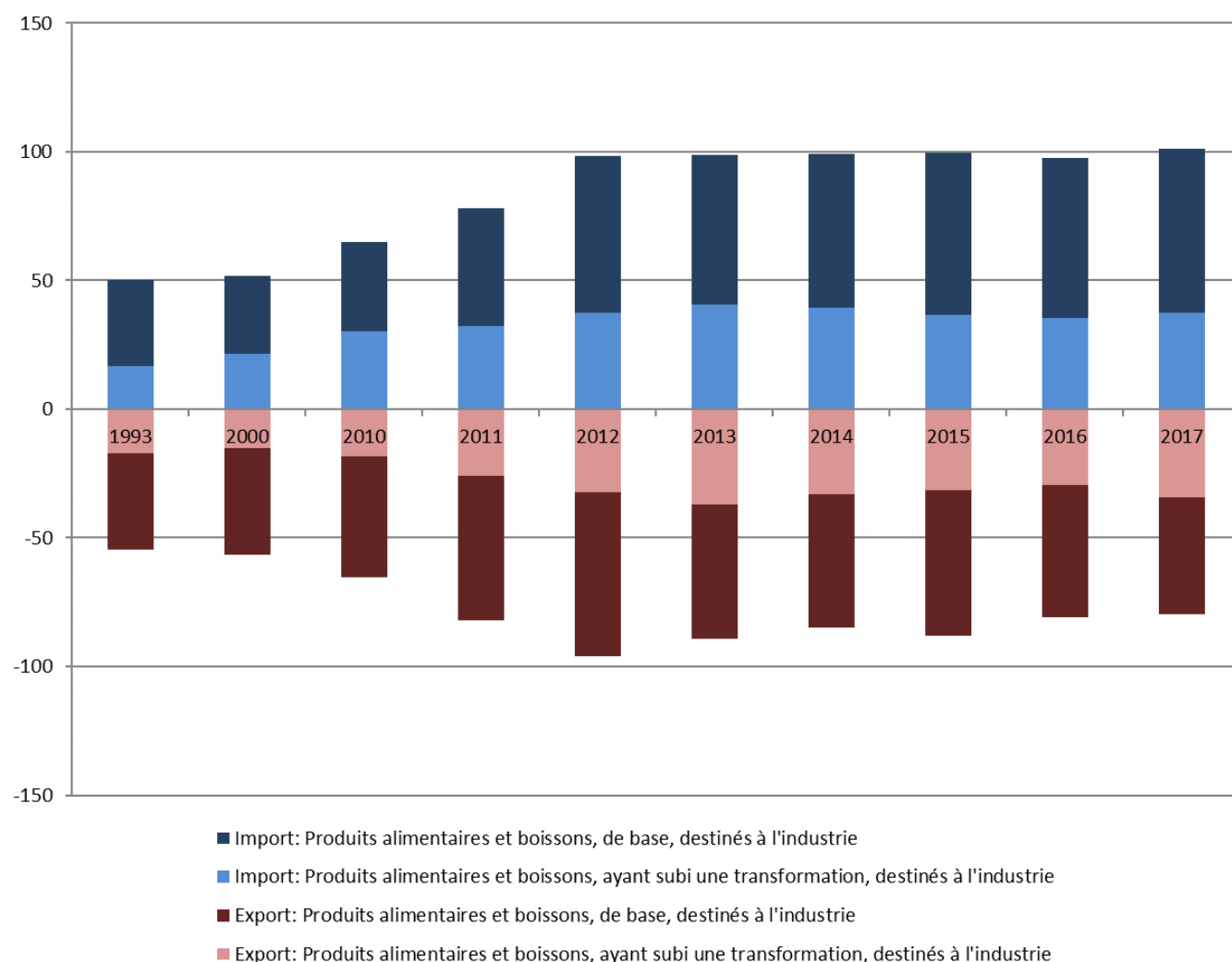
The trade balance, expressed in terms of monetary volume of export goods versus import goods, is negative, both for consumer goods and for intermediate goods, with the agri-food industry and trade focused on imports for more than 20 years. The trade balance is much more negative for food and beverages for household consumption than for intermediate goods for industry.

Trade balance – goods for household consumption (mio. EUR)



Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

Trade balance – intermediate goods for industry (mio. EUR)



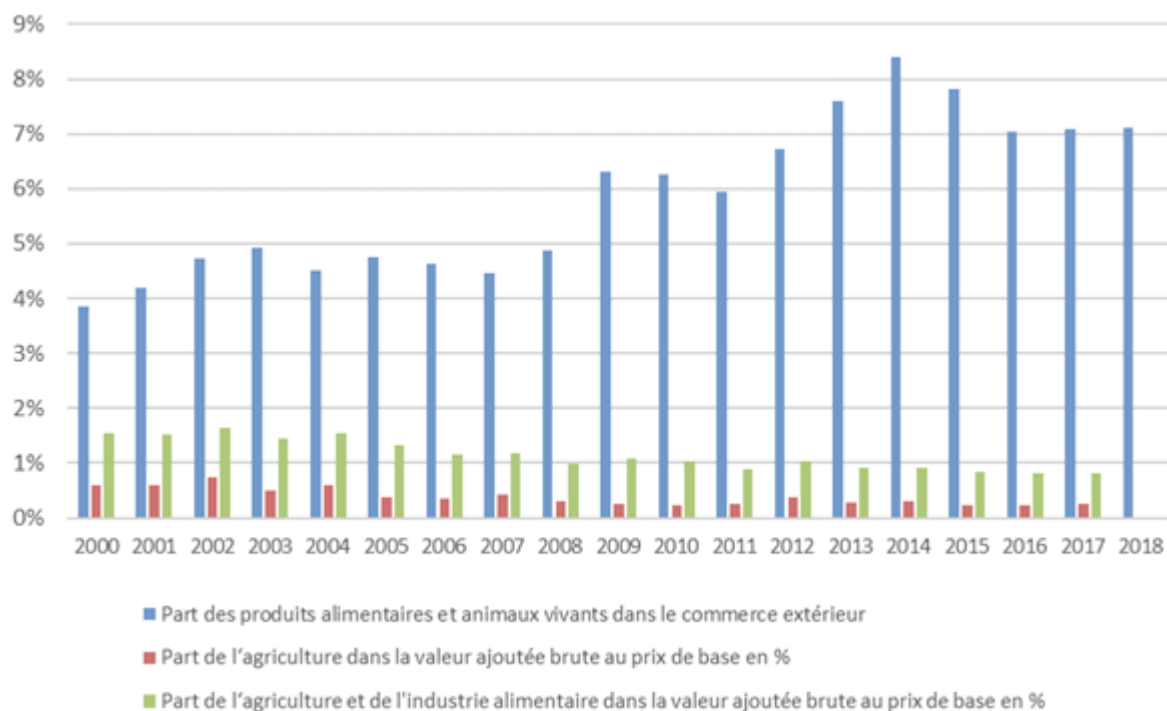
Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

In 2017, Luxembourg exported almost 995.12 million. EUR 1 927.14 m of food and drink products imported. COUNCIL Thus, the trade deficit was estimated at more than 2 017 million in 930. COUNCIL

Investment in the agricultural sector

Investment in Luxembourg's agricultural sector, as measured by gross fixed capital formation, decreased between 2014 and 2017 and amounted to 111 million. EUR in 2018. However, this represents 89.8 % of gross value added, the third highest share in the EU-27, well above the EU-27 average (around 31 %). The investment attitude of Luxembourgish farmers is overall positive compared to that of their European counterparts.

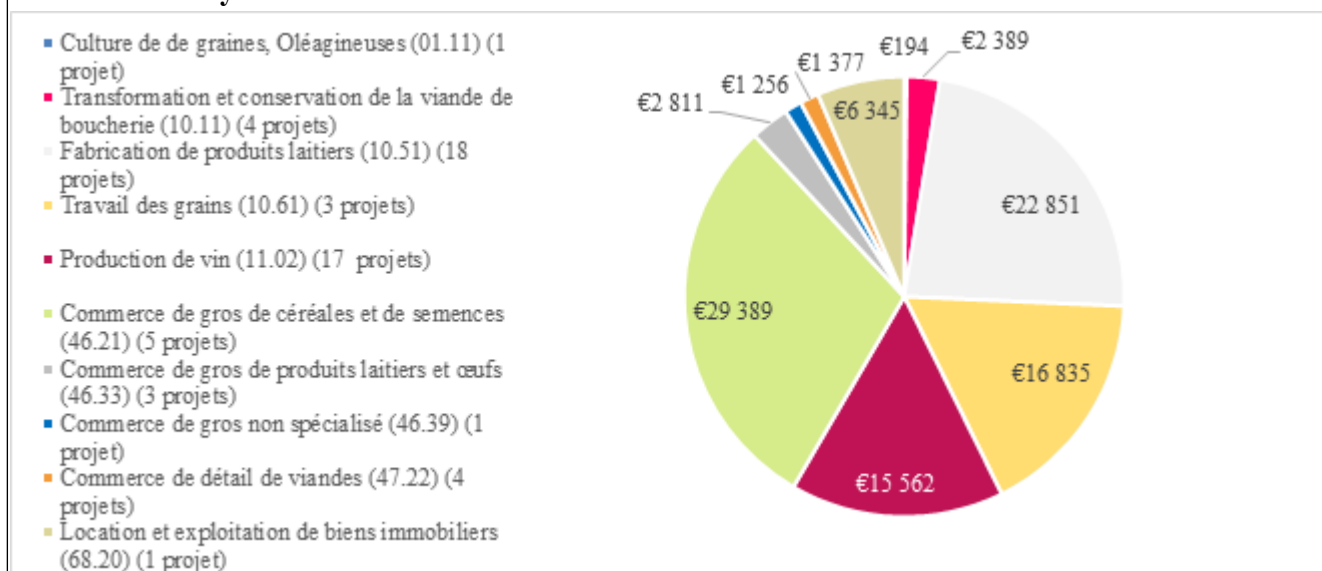
Importance of agriculture in the Luxembourg economy



Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

Under the programming period, a total of 75 projects were supported which aim to process or market Luxembourgish agricultural products. The largest part of eligible investments was disbursed in the wholesale cereals and seeds sector with around EUR 29 million, just before the dairy sector with EUR 22 million. Overall, projects with a volume of EUR 92 million of eligible costs were incurred through financing under the EAGF and the RDP.

Processing & commercialisation: projects 2016-2020 co-financed by EAGF and RDP by NACE sector of activity



Sources: MAVDR, 2022, Eligible investment amounts, data expressed in EUR 1.000

Organisations of producers

Luxembourg is one of the three EU countries that do not have any recognised producer organisations (PO). Luxembourg has no inter-branch organisations (IBOs) either. However, more than 85 % of cow milk deliveries in Luxembourg were managed by a processing cooperative in 2016. The agricultural

cooperative is a fairly well represented form of grouping in Luxembourg for producer associations at the level of multiple production sectors (milk, wine, meat, regional products). However, it is not possible to further detail this information due to a lack of precise information.

2.1.SO3.2 Identification of needs

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan
B3.1	Increase the visibility of farmers and enhance the positive image of agriculture.	P1	Yes
B3.2	Improve the farmers' position in the value chain	P1	Yes
B3.3	Increasing the value added of farms in the agri-food chain	P2	Yes
B3.4	Developing new value chains	P2	Partially
B3.5	Collective approaches and coordination between production and marketing	P2	No

Other comments related to needs assessment.

No further comments

2.1.SO3.4 Intervention logic

Form of Intervention	Type of Intervention	Intervention Code (MS) - Name	Common Output Indicator
RD	INVEST(73-74) - Investments, including investments in irrigation	2.04.712 - Aid for agricultural investments	O.20. Number of supported on-farm productive investment operations or units
RD	INVEST(73-74) - Investments, including investments in irrigation	2.04.714 - Aid for environmental investments	O.20. Number of supported on-farm productive investment operations or units

Overview

The government continues to support the agricultural sector through investment support measures at the level of production, processing and marketing. This intervention provides for support not only for primary production units but also for on-farm processing and marketing units in order to stimulate the production of added value on the farm. The intervention thus fosters relations between farmers and consumers. Investments in buildings and technical installations are eligible. In addition, the new farms eligible for the agricultural investment support scheme must all comply with the standards compatible with organic production in order to prepare the sector more for this production method and incorporate in their design the best available techniques to avoid ammonia emissions.

Investment aid for agricultural holdings is co-financed by the EAFRD for building projects worth more than EUR 200,000. National support provides support for projects below EUR 200,000 as well as support for soft investments. These interventions thus improve the profitability of production and the creation of added value. In the face of a shortage of skilled and expensive labour, modern infrastructure increases efficiency and thus also performance, allowing production at lower production costs (cf. OS 1 and 2).

In order to promote the creation of added value in the food chain, an intervention to support investment in the processing industry is provided for under a State aid scheme. This intervention is limited to the products listed in Annex I to the TFEU and is based on specific commitments by processors to producers which ensure a fair price for farmers while promoting modernisation while respecting the climate and environmental targets.

A second national scheme under the Ministry of the Economy may grant support for the processing of products not covered by Annex I to the TFEU.

Aid for investments in primary production or processing did not provide for the exclusion of specific guidelines and, on the contrary, provides favourable support for diversification in line with market developments and consumer habits and expectations. Flexibility must be ensured in order to be able to respond to different developments.

At the same time, the government intends to improve the position of farmers in the value chain by creating, through national actions, a favourable framework **for grouping** producers and inter-branch organisations. The draft agrarian law under preparation provides for the creation of an aid scheme to facilitate the creation of such groupings. The government intends to strengthen the various production sectors and stimulate the development of new products and distribution channels, bringing producers' interests more in line with consumer expectations while meeting the principles of the circular economy. Quality production and the new products to be developed in order to consolidate or strengthen market shares (PO2) will be supported by marketing systems and marketing initiatives to ultimately help increase farmers' incomes (PO1). It should be noted that LU has had since May 2022 a new law on the approval of a quality or certification system for agricultural products which lays down the minimum requirements for obtaining approval as a quality or certification scheme for agricultural products and the conditions for using an approval logo. Its aim is to provide consumers with greater transparency when purchasing them and to promote quality regional products to consumers and mass catering. Affixing an official logo to show approval by the Luxembourg State on the packaging of labelled products will make it easier for consumers to recognise quality products among the thousands of references available at the places of sale.

In order to obtain approval as a quality scheme for an agricultural product, producer groups must comply with certain criteria laid down for each of the three pillars 'Quality – Saving', 'Regional – Solidarity' and 'Environment – Animal Welfare' in their product specification.

Grouping producers can generate economies of scale and reduce production costs, distribution and marketing efforts. It strengthens the position of producers in the face of the limited number of distributors in Luxembourg, especially as regards supply and price positioning. By combining an investment policy favourable to business consolidation with a favourable framework for good producer organisation, production margins should be more profitable and lead to an improvement in income.

In order to underline the government's willingness to develop the market garden sector, an additional rate of support is foreseen for investments in the primary production of fruit and vegetables. Coupled support for fruit and vegetables should also strengthen the consolidation of these companies on the market under international influence, which is most often more profitable given the costs of land and, above all, cheaper labour across borders.

New initiatives such as solidarity-based farming, based on a strong production-producer relationship, or "urban farming" require specific frameworks to counter the risks often associated with these initiatives. The development of new products as part of the bioeconomy is also part of these approaches. Start-up aid for the development of micro-enterprises (national aid) is an initial support for these innovative projects. Once the company is launched and placed on the market, it may become eligible for other investment aid (see above). With a view to promoting the diversification of Luxembourg's agriculture and also aware of the limited number of projects to be developed, this approach is aimed at all production sectors and does not intend to exclude specific production.

Producers are also advised to target, among other things, **regional markets** which make it possible to sell products in a high-quality way at prices which are of great value to producers and give special interest to sectors with priority values of 'Quality – Saving', 'Regional – Equitable' and 'Environment – Animal Welfare'. It should be noted that organic farming is integrated into this strategy and plays a key role in this process. In this context, the Government is setting up a formal procedure for the approval of labels, which goes hand in hand with the establishment of a financial support system to support producers in their

quality procedures.

2.1.SO3.5 Where relevant, a justification for the use of InvestEU, including the amount and its expected contribution to the Specific Objective/Cross-Cutting Objective

none.

2.1.SO3.8 Selection of the result indicator(s)

Selection of the result indicator(s) for this specific objective

Result indicators [recommended Result indicators for this specific objective are fully displayed in bold]	Target value

Justification of the targets and related milestones

As regards the targets and milestones, reference is made to the 'other comments' section of the SWOT section and to the detailed description of the interventions falling within that specific objective.

2.1.SO3.9 Justification of the financial allocation

Apart from measuring agricultural investment, which can contribute to on-farm processing and marketing initiatives, this objective is mainly implemented through multiple national initiatives. On the one hand, this approach was chosen on a voluntary basis in order to remain more flexible in the organisation at national level. Indeed, the majority of operations will be small in scale and are not compatible with a performance scheme as proposed in the NSP.

On the other hand, intervention to support the processing and marketing industry has a larger budget which is no longer compatible with the budget made available by the EAFRD, taking into account also the other interventions in the NSP.

2.1.SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

2.1.SO4.1 Summary of the SWOT Analysis

2.1.SO4.1.1 Strengths

1. Great potential for the valorisation of organic manure through methanisation in biogas stations.
2. Improved emissions by increasing the efficiency of beef production, in particular through genetic improvement of breeds and food rations impacting nitrogen in manure and methane emissions.
3. High carbon fixation potential in the soil. More than 60 % of the UAA is under grassland. A significant part of the UAA (27 %) is located in protection areas subject to less intense agriculture, using cultivation techniques favourable to soil carbon storage.
4. Climate change can have a beneficial effect for agriculture and winegrowing if rainfall remains favourable.
5. Existence of an alert system and surveillance of diseases and pests in crops. High availability of soil and climate data.

2.1.SO4.1.2 Weaknesses

1. Luxembourg's agriculture is focused on milk production, which has intensified and contributes to GHG production.
2. Insufficient implementation of certain measures and production methods conducive to GHG or ammonia reduction: reduction of inputs, valorisation of organic matter, methanisation, spreading techniques, agri-environmental measures and organic farming.
3. The nutritional balance/ha is still high. Depending on the sources and methods applied, it varies from 100 to 127 kg N/ha), food autarcia and soil carbon sequestration can be further developed.
4. The assessment and effects of climate change are not sufficiently detailed and quantified for the situation in Luxembourg.
5. Often insufficient information for the sector and for advisors on the impact of climate change on the sector.
6. Potential for the development of renewable energy not yet exhausted (methanisation, photovoltaic and wind energy).
7. Management of water supply for agricultural production.

2.1.SO4.1.3 Opportunities

1. The different national plans and the Future CAP offer new scenarios for compensation for environmental services: organic farming, AECM, eco-schemes, cross-compliance and budget guidelines.
2. The measures of the NEC Directive will have a positive effect on ammonia emissions and potentially on GHG emissions.
3. The promotion of biogas and in particular the encouragement of manure and slurry methanisation would have a positive effect on the reduction of GHG from agriculture.
4. Adaptation to climate change involves exploring new cultivation systems that take account of environmental aspects (e.g. permaculture, drought-resistant crops, new vine varieties, adaptation of rotations
5. New growth for manure biomethanisation to reduce methane emissions from agriculture and increase renewable energy production (target 25 % in 2030) while taking into account other sources of organic matter (household waste, offal). Many possible valorisation of biogas: cogeneration, mobility, heating network, self-energy farming.
6. Renewal for PV installations in agricultural buildings and farms producing renewable energy.
7. Develop collaboration at farm level and other partners to better manage interactions beneficial for the

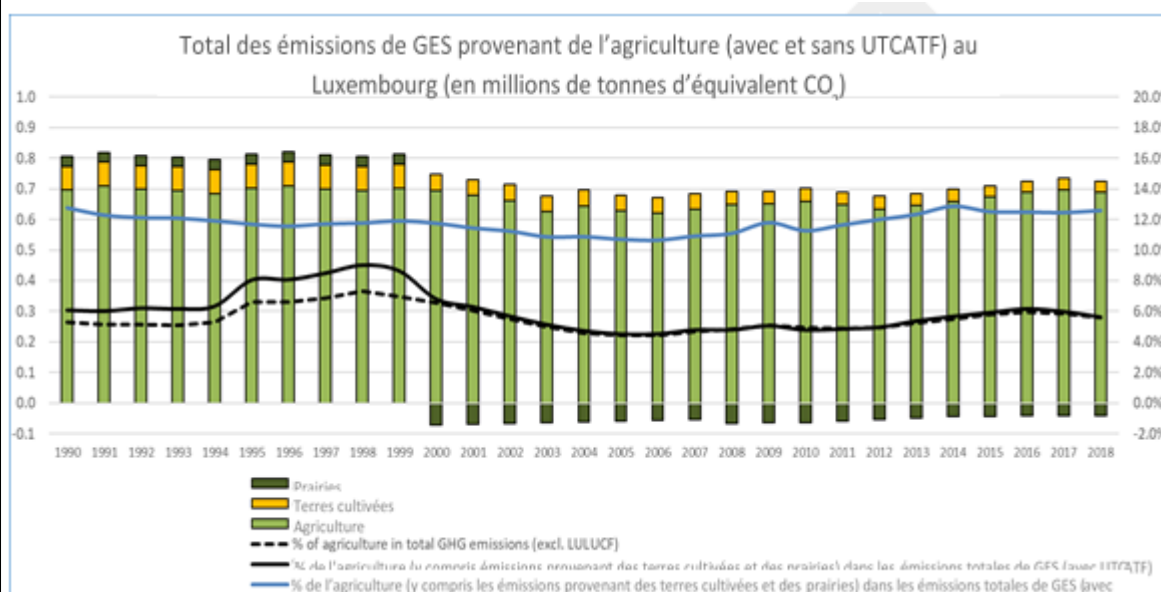
2.1.SO4.1.4 Threats

1. Antagonism between different policy objectives: e.g. Nitrates Directive vs Director NEC vs PNEC with the effects and logical consequences of redirecting agricultural holdings.
2. Possible impacts of climate change and in particular periods of drought on the state of agricultural crops including grassland and pasture, reduced yields and thus farm incomes, may lead to imports of fodder and concentrated feed.
3. Increase in heavy and very intensive precipitation, potentially endangering soil fertility, structure and stability and encouraging erosion and buoyant casting.
4. Increased pressure and/or expansion of new vectors, diseases and pests in animal and plant production.
5. Increased mineralisation with increased temperature and risk of decreasing organic carbon in soils, which could be exacerbated by multiple restrictions at all scales.
6. The development of biogas is expensive and can lead to higher energy costs and compete with basic food production.

2.1.SO4.1.5 Other comments

Impact of the sector on climate change

Agricultural GHG emissions in Luxembourg remained stable (-0.7 %) between 1990 and 2018, while they decreased by 20.6 % over the same period at EU level. Luxembourg has even shown an upward trend in recent years (+ 7 % between 2013 and 2018) due to the development of milk production after the abolition of quotas.



Sources: European Environment Agency. Based on Eurostat data

In 2018, the share of agriculture emissions in total greenhouse gases in Luxembourg was 6,55 % (NIR, 2020, version 27 May 2020).

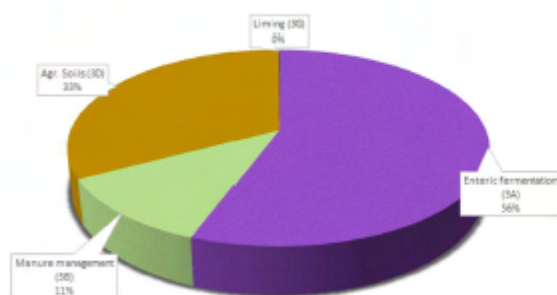
Emissions from the agricultural sector shall include emissions from the following categories:

- methane emissions (CH₄) from enteric fermentation,
- methane emissions (CH₄) from manure management,
- nitrous oxide (N₂O) emissions from manure management,
- nitrous oxide (N₂O) emissions from soil management,
- carbon dioxide (CO₂) emissions from land liming.

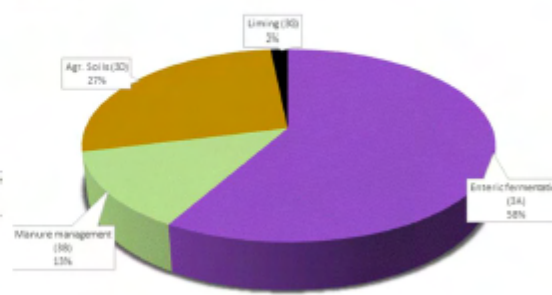
Diagram: Emissions from agriculture (in CO₂equivalent) from 1990 to 2018

Figure 5-5 – Share of categories from Agriculture (CO₂ eq.): 1990 and 2018

1990



2018



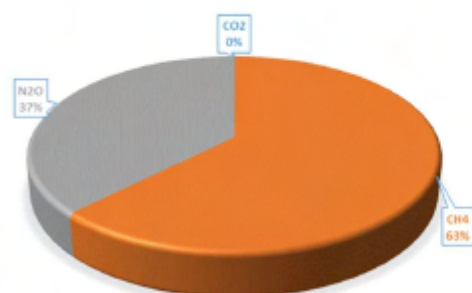
Sources: SER – Agricultural statistics, agricultural markets and external relations (tender 2019), mauve; enteric fermentation, green; manure management, brown; agriculture its soils.

In 2018, about 67 % of emissions from agriculture can be attributed to CH₄ (1990: 61 %), 32 % at_N2O (in 1990: 39 %) and 1 % to CO₂ (1990: 0.3 %).

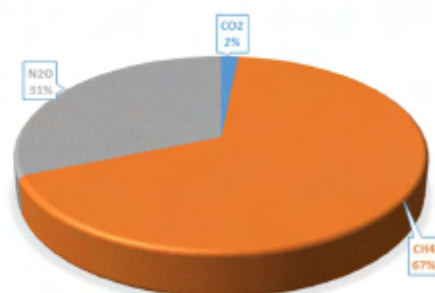
Figure: Share of agricultural gases (CO₂equivalent): 1990-2017

Figure 5-4 – Share of gases from Agriculture (CO₂ eq.): 1990 and 2018

1990



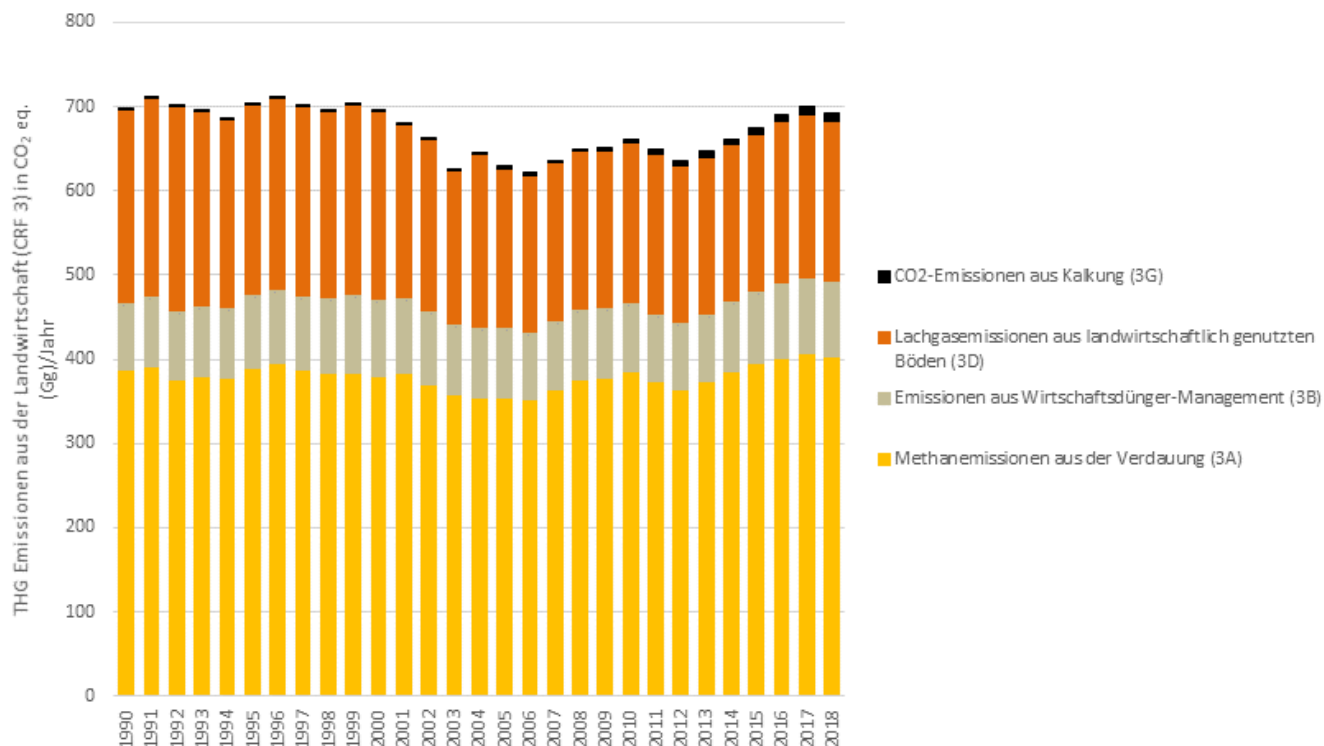
2018



Sources: SER – Agricultural statistics, agricultural markets and external relations (tender 2019)

In 2018, emissions from enteric fermentations accounted for 58 % of total emissions from agriculture (1990: 55 %), followed by agricultural soils (27 % vs 33 % in 1990) and manure management (13 % vs 12 % in 1990).

Figure: Share of agriculture categories (in CO₂equivalent): 1990-2017



Sources: MAVDR, 2019, Treibhausgas-Emissionen in der Landwirtschaft im Jahr 2018.

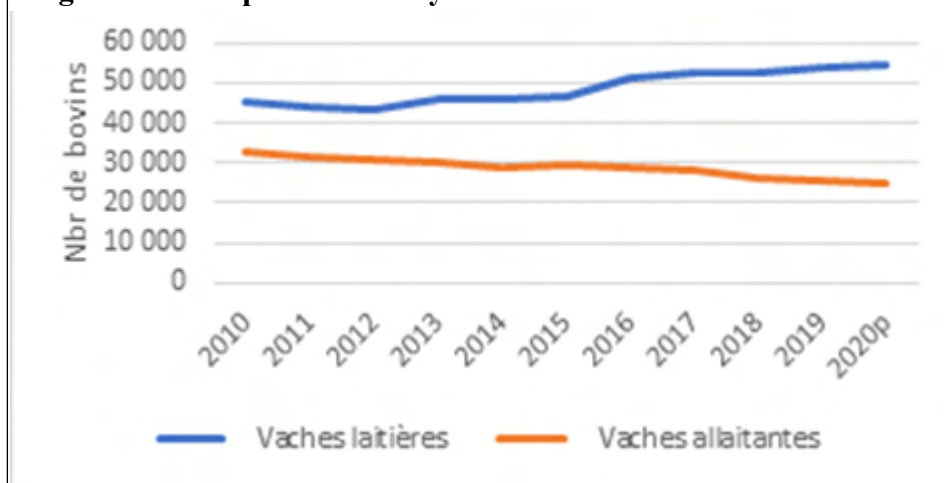
Changes in livestock load

After a period of relative regression, the recent increase in the number of dairy cattle results in total GHG emissions from agriculture reaching the same order of magnitude in 2018 as in 1990 and increasing by 1.1 % since 2016 [Source: SER – Agricultural statistics, agricultural markets and external relations (tender 2019).]

The total herd of cattle cuts 200.000 head (all age and breeds), with a slight decreasing trend.

The number of dairy cows has been growing since the milk quotas were abandoned in 2013 at the expense of suckler cows, the last sector being under economic pressure due to a deterioration in meat sales prices.

Diagram: Development of dairy cows/suckler cows



Sources: MAVDR Activity Report 2020

In view of the increasing number of dairy cows after the end of the milk quotas since 2013, reference should be made to the territorial distribution of animals. The trend is not positive in all communal areas, in some parts of the country the number of dairy cows has fallen significantly or there have been disappeared

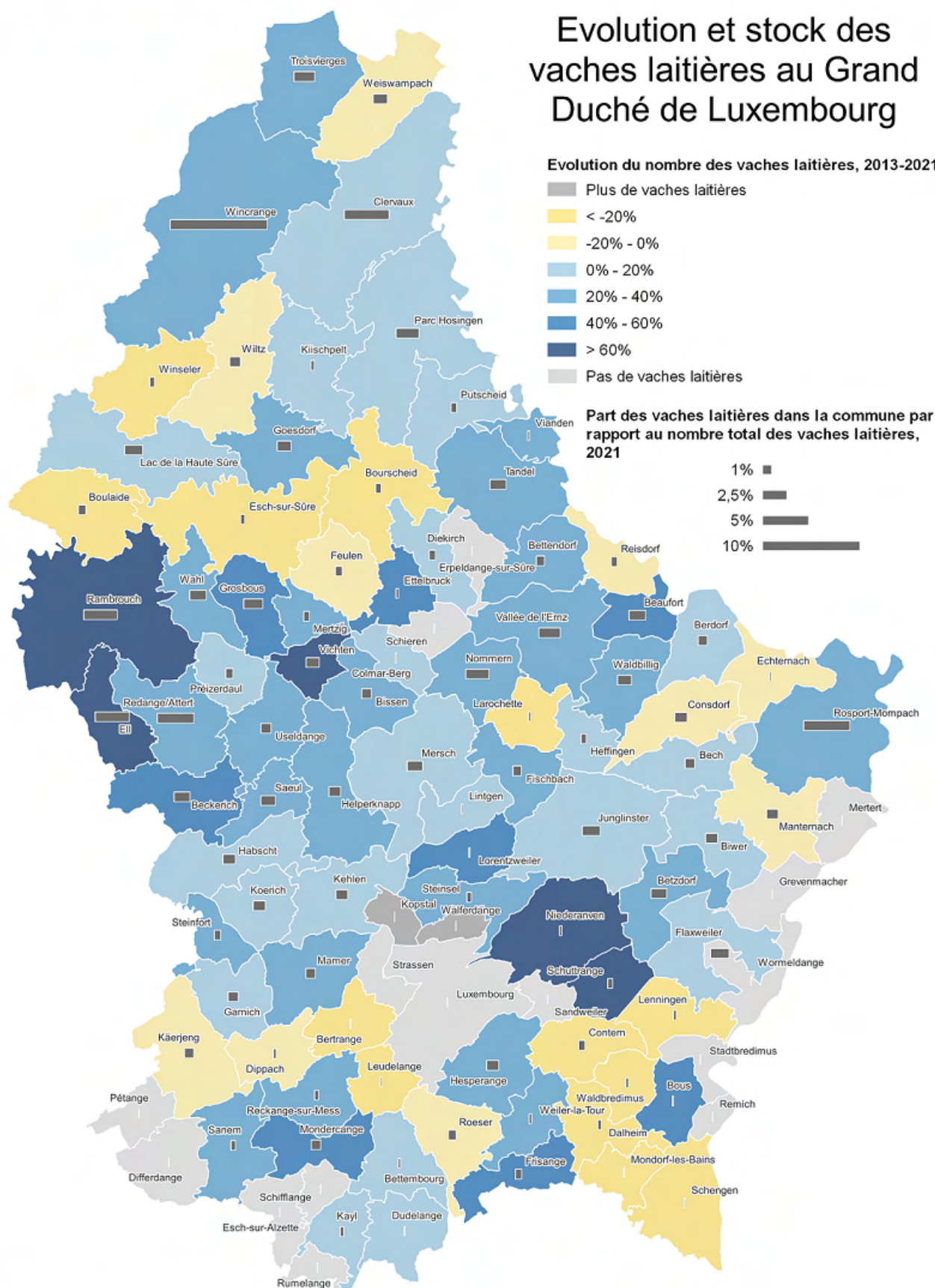
or changed specialisation farms. The first case can be observed in the municipalities around the Lac de la Haute Sûre, with a reduction of more or less 20 % in the number of livestock. The same trend can be seen in several municipalities in peri-urban areas between Luxembourg City and the southern agglomeration and a cluster of municipalities in the south-east of the country. In several isolated municipalities in the Mullerthal region, a similar development may be noted.

This development seems to be correlated with the development of the number of farms. In most cases, municipalities affected by the reduction in dairy cows are also affected by a higher rate of decay of agricultural holdings than the national average (national average -30 % between 2000 and 2021).

However, the number of dairy cows has increased significantly in the rest of the country's municipalities since 2013. 39 municipalities show growth rates above 20 % and in only 23 municipalities there are growth rates between 0 and 20 %. In addition to overall growth, there is a trend of territorial concentration. About one third (32.6 %) of the dairy cow load in Luxembourg is concentrated in only seven municipalities (102 municipalities in total). These municipalities face specific challenges in terms of air and water pollution, the source of which is the intensive dairy economy.



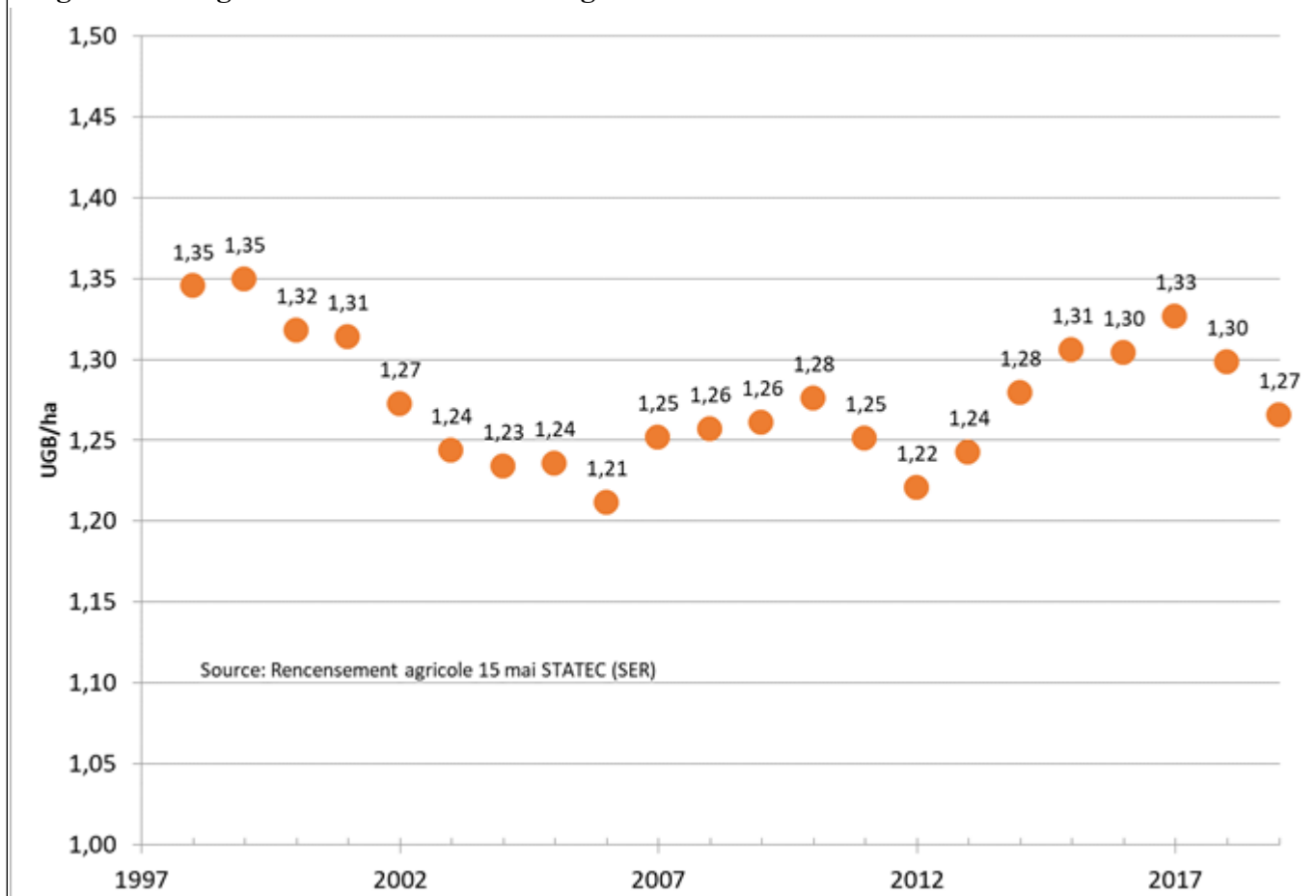
Evolution et stock des vaches laitières au Grand Duché de Luxembourg



Source : Ministère de l'Agriculture, de Viticulture et du Développement rural, 2022 et Luxembourg Open Data Portal 2022.

However, since 2017 the livestock load has been on a downward trend.

Diagram: Changes in LU/ha in Luxembourg



Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

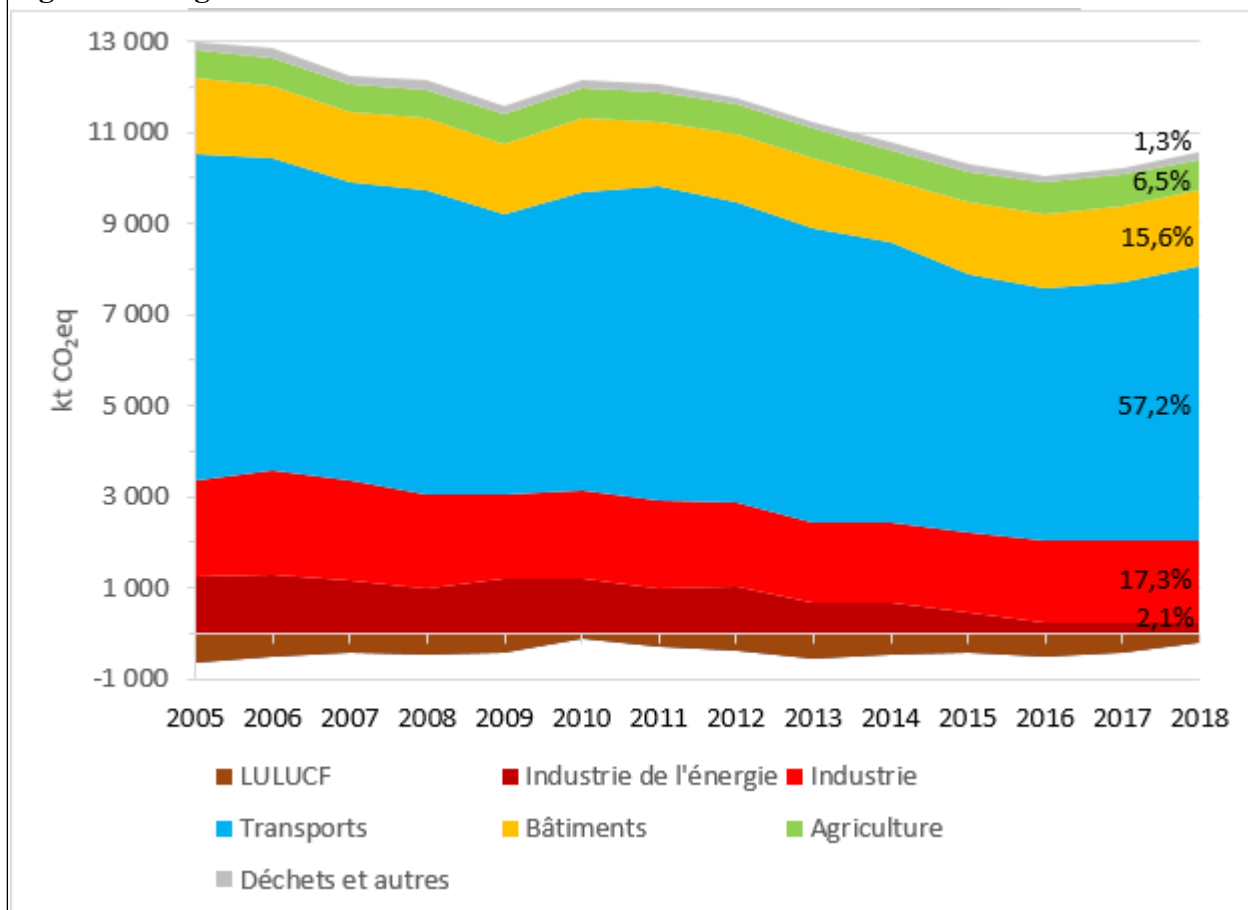
Share of emissions compared to national

Overall, Luxembourg's agricultural sector accounts for only 6.5 % of national greenhouse gas emissions and has so far not been subject to direct constraints related to the reduction of greenhouse gas emissions. As part of the **integrated national energy and climate plan for 2021-2030**, the government has decided that agriculture must contribute to the country's greenhouse gas reductions in order to achieve the objectives of the Paris Agreement. This reduction must take into account the fact that Luxembourg's agriculture is strongly geared towards livestock production and the dependence of any compensation on the reduction of greenhouse gas emissions linked to other economic sectors (reverse effect: a reduction in GHS emissions in other sectors such as transport leads to a relative increase observed in the agricultural sector over the long period).

The **integrated National Energy and Climate Plan (NECP)** for the period 2021-2030 puts a national weight on reducing greenhouse gas emissions (55 %), increasing renewable energy to 25 % of total energy consumption and increasing energy efficiency from 40 % to 44 % by 2030. Emissions reduction targets for the agricultural sector target -5 % in 2025 and -20 % in 2030, compared to the base year 2005.

The Grand-Ducal Regulation of 22 June 2022 determining the annual allocation of greenhouse gas emissions for the period up to 31 December 2030 for the sectors referred to in Article 5 of the amended Climate Law of 15 December 2020 provides for an emission allowance for the agricultural and forestry sector to be reached in 2023, equivalent to 556 thousand tonnes of CO₂ equivalent. This corresponds to a reduction of -27 % compared to 2021.

Figure: Changes in emission sources in total non-ETS



Sources: Ministry of Environment, Climate and Sustainable Development 2019 (submission 2016)

At European level, Luxembourg's share of GHG emissions from the agricultural sector is only 0.2 % in 2018, whereas, contrary to developments at EU level, methane and nitrous oxide emissions over the last three decades have been relatively stable. These emissions, measured per hectare of agricultural land, are more than double the EU average and are therefore mainly due to enteric fermentation of ruminants and manure management (source: Eurostat and CAP context indicator C.45 Gas emissions from agricultural origin).

Carbon sequestration opportunities

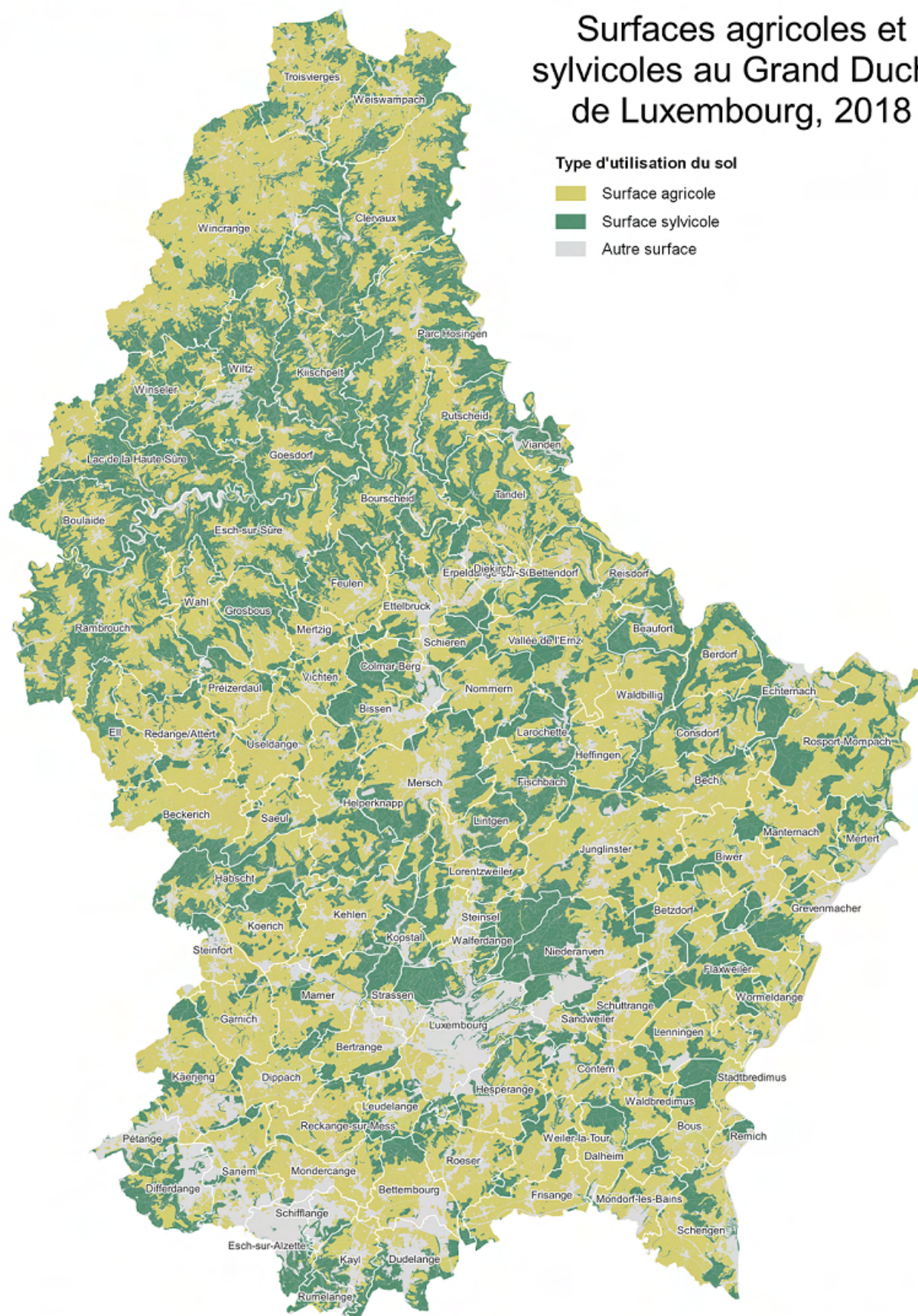
From a carbon sequestration perspective, Luxembourg offers great opportunities. According to land cover, 32.5 % of the country is covered by forest. 52 % of the area is available for agriculture, of which 60 % is occupied by meadows and pastures, with a slight upward trend. There is also an increased use of intermediate crops by farmers. The high share of temporary grassland enhances carbon sequestration in the soil. Forests are the main carbon sink.

Territorial differences can be observed in the distribution of areas. Most agricultural areas are located in the centre and south of the country. With the exception of large wooded areas around and in direct proximity to urban centres, the majority of land is used for agriculture. It should be noted that the north of the country is dominated by forestry areas due to its topography. The division between the two land uses makes it possible to classify the municipalities into two categories, one showing the municipalities or wooded areas dominating and the other with the municipalities or agricultural areas. Only in the north of the country and along the Alzette Valley in the centre and in some municipalities, agriculture takes the lead in terms of land use. In conclusion, land use in agriculture is heavily affected by topographical constraints in Luxembourg.



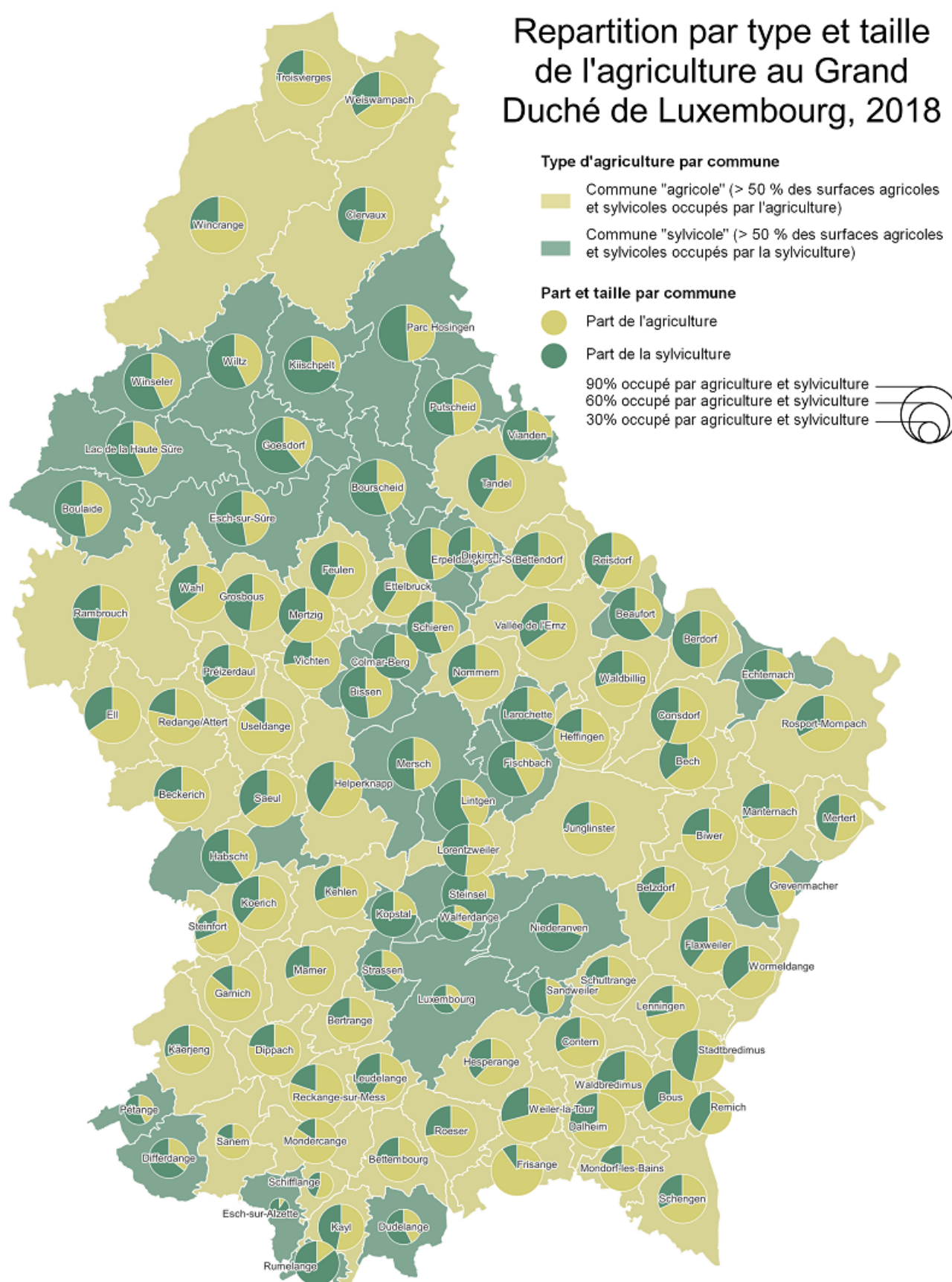
Type d'utilisation du sol

- Surface agricole
 Surface sylvicole
 Autre surface



Source : 2022, Ministère de l'Agriculture, de Viticulture et du Développement rural sur les informations de LIS-L Land Cover 2018, Luxembourg Open Data Portal

Repartition par type et taille de l'agriculture au Grand Duché de Luxembourg, 2018



Source : 2022, Ministère de l'Agriculture, de Viticulture et du Développement rural sur les informations de LIS-L Land Cover 2018, Luxembourg Open Data Portal

The sequestration of carbon in soil is manifested by the organic matter present in the soil and resulting

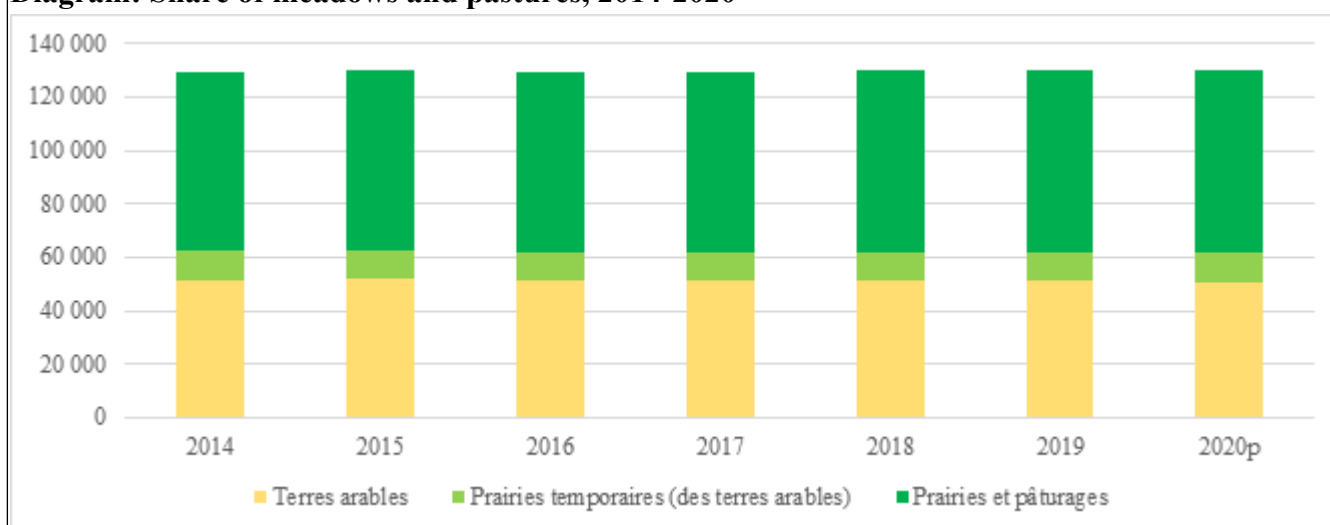
from the decomposition. Soil organic matter levels are largely determined by natural environmental factors but also by agricultural practices.

The average soil organic carbon (SOC) content is estimated nationally at 2.25 % C for arable land and 3.57 % C for permanent grassland. These values are entirely acceptable for the geographical location of Luxembourg.

The “4: 1000” initiative launched by France on 1 December 2015 at COP21 is based on the idea of carbon removal from soils via plants that could thus offset CO₂ emissions. If organic carbon were to increase ‘only’ by 0.4 % (or 4 per 1000) in the first 40 centimetres of soil, this would mean storing 3.4 billion tonnes of carbon each year, almost all of the estimated global emissions of 4.3 billion tonnes per year. Once stored, this carbon will be used to increase agricultural yields and thus food security.

However, agricultural practices are crucial. Each ha of arable land converted to plum contributes significantly to the carbon stock in the soil, but the practice of intermediate crops and, to a lesser extent, the reduced tillage of the soil must also be considered. Rotation and, above all, soil composition also has an influence on soil carbon content as demonstrated by organic farming with a generally higher carbon content in agricultural land. A meta-study showed that soil carbon reserves in organic farming exceed those of conventional farming by an average of 3.5 tonnes per hectare (Enhanced top soil carbon stocks under organic farming, Andreas Gattinger, Adrian Muller, Matthias Haeni, Colin Skinner, Andreas Fliessbach, Nina Buchm and all, Proceedings of the National Academy of Sciences (PNAS, 2012).

Diagram: Share of meadows and pastures, 2014-2020



Sources: SER, FSS 2020, share of Prairies and pastures (perm. &T.) in 2020: 60.3 %

Renewable energy

The integrated National Energy and Climate Plan (NECP) for the period 2021-2030 puts the national weight on increasing renewable energy to 25 % of total energy consumption and increasing energy efficiency by 40 % to 44 % by 2030.

The plan foresees an increase in electricity production from biogas by 66 % between 2020 and 2030. The production of electricity from biomass is expected to increase over the same period by more than 40 %. The production of heat from these renewable resources is expected to increase by around 15 %.

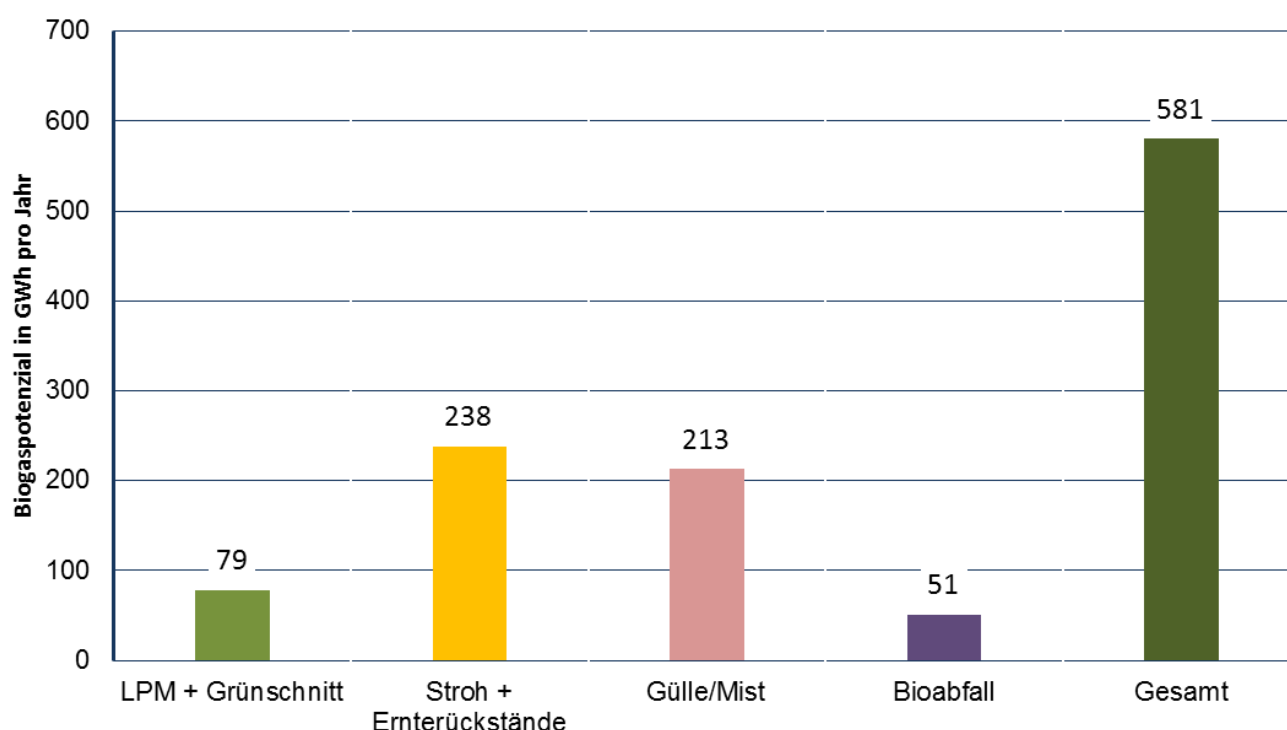
Statistics on biogas production, electricity produced and gas injected into the grid are incomplete.

However, it can be reported that for 2018 more than 30 million m³ biogas was produced in 23 stations. More than 67 GW/h of electricity and more than 90 GW/h of heat were produced from these biogas stations. There are 3 biomethane injection plants with an equivalent of 64 GWh/year of injected methane

(Source Ministry of Energy). The number of biogas stations increased at the beginning of 2000 and stagnated in recent years. Most of the aid has been redirected towards tariffs for the injection of biogas or electricity into the grids. Since then, more emphasis has been placed on photovoltaic electricity, which has grown considerably in recent years in Luxembourg.

For the past few years, the Luxembourg State has been offering subsidies for the installation of certain renewable energy production systems. Private and legal persons and persons governed by public law can take advantage of this financial support, so the support is also addressed to agricultural holdings. Since 2022, the multiple support schemes have been grouped under a new state agency, the “Klimaa-Agentur”. The Agency aims to support projects to reduce energy consumption, promote renewable energy, as well as sustainable housing and mobility and management of natural resources and the implementation of the circular economy. The Agency also offers technical consulting services for customers. The resources for operation and grants shall be financed from the national budgets. The component of increasing the use and production of renewable energy is therefore fully addressed by national instruments (with the exception of the construction of plants and their preparation for hosting renewable energy production systems).

Diagram: Potential for biogas in Luxembourg



Sources: Fire, Umweltbezogene Aspekte eines Ausbaus der Biogaserzeugung und – Nutzung im Kontext der Klima- und Energiepolitik Luxemburgs

However, it should be stressed that the potential of biogas production from livestock manure is important in view of the importance of cattle farming in Luxembourg’s agriculture. Currently, less than 20 % of slurry is biomethanised at national level. Processing manure into digestate can also bring benefits in terms of methane emissions.

In a draft of the **national long-term climate action strategy** (2030-2050), agriculture will also play an important role in energy production, in particular **biogas** and solar energy production. With a view to improving the ecological balance of agriculture (reduction of methane and ammonia emissions, nutrient recycling, etc.), the biomethanisation of livestock manure as well as bio-waste and other residues will be strengthened, while promoting sustainable management of associated material flows. The use of dedicated crops for biogas production will be kept to a minimum. The injection of biomethane will be preferred. In

order to better promote biogas production, framework conditions will be continuously improved.

The share of renewable energy production from forestry (52 % in 2018) is above the EU average (source: CAP context indicator C.43 Production of renewable energy from agriculture and forestry, based on Eurostat data).

It should be stressed that the powers to supervise the production of renewable energy from biogas have been transferred to the Ministry of Energy and the Ministry of the Economy, which manages strategies and programmes. Currently, support measures are foreseen for the financing of biogas installations and for the compensation of the injection of gas and electricity into the national distribution networks. A particularly interesting aspect for agriculture is a top up (Güllebonus) for co-fermentation of manure in biogas stations. It is envisaged to increase with an additional top up the proportion of manure in fermentators up to 90 % and to reduce co-fermentation of energy plants.

The integrated national energy and climate plan (NECP) for the period 2021-2030 proposes an increase in biogas production to 330 GWh/by 2030, maximising the potential of animal manure and bio-waste, and avoiding an increased use of energy crops.

The targets are to use 50 % of the volume currently produced by livestock manure and 75 % of the potential of bio-waste and green waste. The use of energy crops as a complement to increase the productivity of low-methane manure is common practice. However, it is necessary to limit these areas devoted to the production of energy crops to 1.500 ha, corresponding to 1.1 % of the UAA and 2.4 % of the arable land. The aim is to achieve an annual production of 330 GWh with a reduction potential of approximately 160.000 tonnes of eq. CO₂ (Source: Ministry of Energy).

The biogas sector will be subject to a substantive technical-economic analysis to determine its role in achieving the 2030 renewable energy targets, including a reorganisation of subsidies to enhance the non-energy assets of this sector. Biogas from manure should be given priority. A new strategy to support biogas production is under development and will be available in the near future.

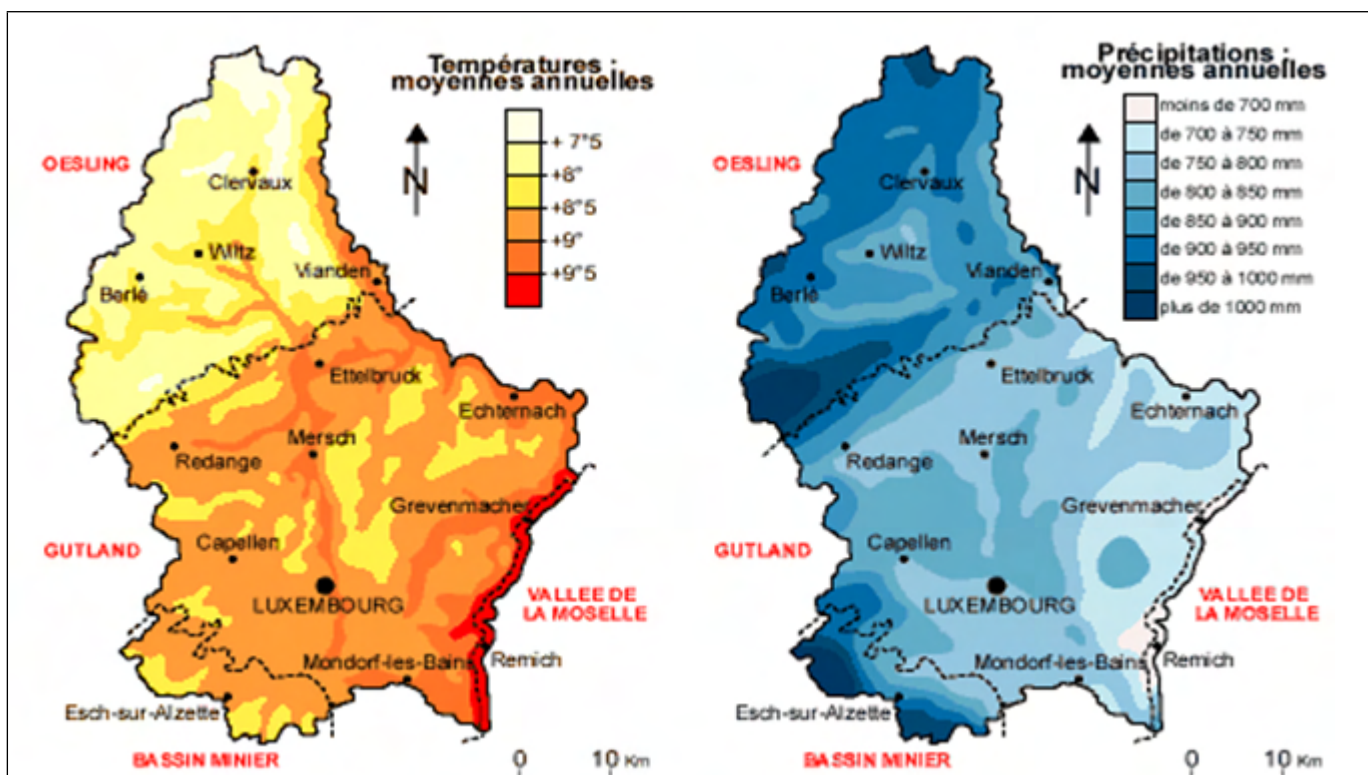
It should be noted that biomethanisation has beneficial effects on ammonia emissions and thus on the quality of the area and on the protection of water. Biomethanisation is a concrete example of the bioeconomy by integrating co-fermentation of organic waste. However, the imported and co-fermented substrate has an influence on total emissions. It is therefore important to control these imports.

The production of photovoltaic energy can also be recommended on farms that lend themselves to it, including large rooftop areas on infrastructure. However, it is not envisaged to support large-scale projects on agricultural land given the limitation of the soil resource in Luxembourg.

Climate adaptation

The “Strategy and Action Plan on Adaptation to the impacts of climate change in Luxembourg 2018-2023” and the “National long-term climate strategy “Towards climate neutrality in 2050” make the following projections for climate change in Luxembourg. Climate projections point to a sharp rise in air temperatures, primarily due to the increase in minimum temperatures during the winter months. On the other hand, a fall in rainfall during the summer months and an increase in winter precipitation can be expected. Linked to higher air temperatures during the winter months, these developments reduce the likelihood of snow falling and at the same time increase the risk of flooding.

Maps: distribution of temperatures and precipitation in Luxembourg

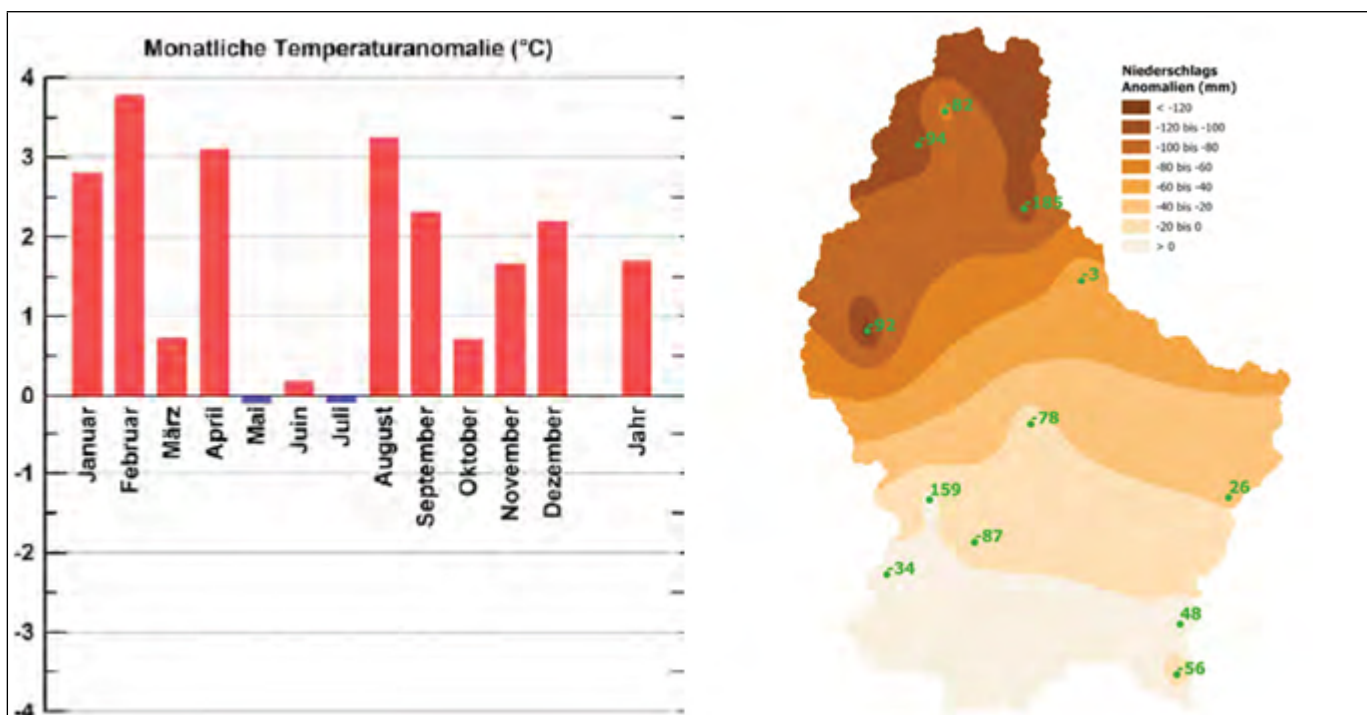


Sources: Ministry of Culture

Despite the small size of the country, the climate in Luxembourg shows great territorial variations. The average annual temperature varies between 7 °C in the north of the country and 10 °C in the Vallée de la Moselle in the east over a distance of only 60 kilometres. The same geographical distribution may be observed for rainfall, which varies between more than 1 000 mm per year in the south and west of the country and less than 700 mm in the east. In view of these major territorial differences, climate change will affect the country's territories differently.

For the country's agricultural sector, this variation, coupled with climate change, plays an important role, threatening established agricultural practices. In 2020, for example, the average temperature was 1,4° Celsius up to 1,7° Celsius higher in relation to the reference period 1981-2020 (Source: MAVDR, 2022, Landwirtschaft in Luxemburg – Betriebsergebnisse 2020/21). The temperature documentation in 2020 at Clemency showed a major anomaly of up to 3.8 °C in February. In contrast to the other months observed, the temperatures for May and July were colder than before. It should be noted, however, that anomalies can also be observed in relation to the distribution and the amount of rainfall in 2020. In most of the country, rainfall was above the values observed in the previous years, with the exception of February, June, October and December. The lack of precipitation leads to lower underground water levels, leading to an increase in water scarcity in summer, which contributes to making access to water even more difficult for agricultural uses.

Temperature anomalies measured in Clemency and precipitation anomalies in 2020 compared to the reference period 1981-2010



Sources: MAVDR, 2022, Landwirtschaft in Luxemburg – Betriebsergebnisse 2020/21

This climate change poses challenges to agriculture in the country. Drought and extreme events contribute to high crop damage and increase the risk of soil erosion. This introduces new constraints, specifically for fodder crops, but also for specialised or permanent crops such as fruit or vegetables due to insecurity of access to irrigation.

The “Strategy and Action Plan for adaptation to the effects of climate change in Luxembourg 2018-2023”, developed in addition, articulates the importance of adapting the agricultural insurance sector in order to mitigate the vulnerability of the agricultural sector to an increase in the variability of extreme weather events associated with climate change. The various agricultural departments of the Ministries of Agriculture, Viticulture and Rural Development and the agricultural sector have positioned themselves well in the face of this development and have developed tools to respond to climate change.

Weather stations closely follow climate change, sentinel services observe the evolution of the main diseases and pests of crops, breeding fields are organised to identify new crop varieties better adapted to the soil and climate situation in Luxembourg. The soil service closely monitors the main characteristics of the soils, including the organic matter content.

If periods of drought will worsen in the future as a result of climate change, it is also necessary to provide for appropriate water management for the various types of production. The efficient use of water should be considered from the start of the project design, especially in terms of the development of market garden and fruit production. At present, these products are clearly loss-making in order to ensure self-sufficiency in Luxembourg and a special framework is planned to develop this type of production.

It should also be noted that water costs are increasing and access to water is becoming increasingly difficult due to environmental and health constraints.

Biodiversity and protection of habitats

Habitat protection is of great importance due to the negative impacts of climate change such as the more frequent occurrence of heatwave periods or the increasing spread of alien species. Wet habitats – such as wet or very humid meadows, transitional peatlands, scrapie bogs or low bogs – which are threatened by rising temperatures and other drivers of global climate change, are particularly affected by it.

Species composition and domination structures in aquatic ecosystems are modified by higher water temperatures along rivers. Species dependent on low temperatures are particularly sensitive. Alongside these impacts, natural events of exceptional magnitude such as floods, storms or forest fires affect the different ecosystems and their services (e.g. slope stabilisation, soil formation, nutrient or water cycles).

In the case of ploughed crops and winegrowing, on the other hand, it can be assumed that the growing period will be extended, accompanied by an increase in harmful organisms. Of regional climate projections also show that the situation will improve with regard to infectious diseases such as wheat rust.

Based on the results of studies on the climate change adaptation strategy, the following climate impacts are considered as priorities:

- increase in extreme weather events/heavy local rainfall;
- outbreaks of invasive harmful organisms;
- increase in indigenous pests;
- extension of the growing season;
- impact on soil fertility, soil structure and stability, soil erosion.

During the planning period until 2030, the strategy recommends the following actions:

- develop monitoring of invasive pests and develop guidelines for their elimination or prevention;
- stepping up research activities to predict extreme weather events and identify their implications for the different areas of agriculture;
- establish pest scenarios as a basis for planning plant and animal protection measures;
- test options to increase crop rotation or variety selection for a longer growing season;
- monitoring and mapping the grazing potential (quality, quantity);
- promote soil protection through agri-environmental measures.

Policy coherence and objectives

The different objectives formulated at the NSP level are not always compatible with each other and it is important to strike a balance between the different targets and objectives and to choose appropriate practices and techniques.

Increasing the competitiveness and income of farmers seems to be inconsistent with environmental objectives for the protection of resources, climate and biodiversity. In order to meet the latest objectives, there is a need to focus more on the extensification of agriculture, while intensification and, above all, efficiency makes it possible to promote farmers' competitiveness and income. In order to counterbalance these antagonisms, it is essential to best compensate for additional costs and income foregone for environmental efforts.

This is again not compatible with the overall policy, which announces ever-increasing ambitions, but at the same time reduces budgetary resources, particularly at European level. A closer analysis of production techniques and farming practices also has conflicting effects. To reduce methane production during digestion by ruminants, it is more advantageous to feed them with energy feed such as maize silage or soya (imported or not) than with grass. However, maize cultivation can create risks to water quality while the grass surfaces are most compatible with the water protection objective.

It is also possible to adapt beef production to the available grass area, to reduce livestock and thus also to reduce greenhouse gas production. However, the economic consequences would be dramatic, in addition to risks for the production of sufficient food for a growing population and urbanisation without yet

considering job losses in primary production and processing.

Abolishing livestock production is also not a strong option to lose soil fertility which is guaranteed by organic manure based manure.

Another example is grazing that is beneficial for animal welfare and to reduce ammonia emissions because the liquid and solid fractions of the excrement are separated and ammonia formation is avoided. However, during grazing, animals are more mobile and consume more energy, which increases GHG production and reduces the efficiency and efficiency of production.

In order to limit ammonia emissions, it is appropriate to cover storage tanks for manure. However, in these tanks, methane production is increasing (GHG). However, this methane can be valorised in biogas stations. However, biogas stations are unprofitable if they digest only manure (economic objective not interesting). In order to increase profitability, it is also possible to digest energy-rich organic matter (maize, offal, fats and gastronomy waste). This increases nitrogen imports into agriculture, while the Nitrate Directive obliges Luxembourg to limit nitrogen doses, including organic nitrogen, with the Green Deal also providing for a reduction in nitrogen balances.

It is therefore important to strike a certain balance between the achievement of the various objectives and to define the targets and policies for nature protection in a coherent and concerted manner with the actors involved and scientists.

2.1.SO4.2 Identification of needs

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan
B4.1	Participation in renewable energy production, including biogas	P2	No
B4.2	Reducing GHG emissions	P1	Yes
B4.3	Promoting water resource efficiency	P1	Yes
B4.4	Promoting carbon sequestration in soils	P2	Yes
B4.5	Ensuring resilience to climate change	P2	Partially
B4.6	Improving feed autonomy	P3	Partially

Other comments related to needs assessment.

No further comments

2.1.SO4.3 Identification of the relevant (elements of) national plans emanating from the legislative instruments referred to in Annex XI of the CAP plan Regulation that have been taken into account in the CAP plans' needs assessment for this specific objective

The following national plans have been taken into account in the analysis of needs under Objective 4

- National renewableenergy action plan (old plan and new project) (Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources)
- Integrated National Energy and ClimatePlan 2021-2030, taking into account:
 - Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and

- amending Regulation (EU) No 525/2013;
- Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 2013/30/EU, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU and 2012/27/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council
- Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC;

2.1.SO4.4 Intervention logic

Form of Intervention	Type of Intervention	Intervention Code (MS) - Name	Common Output Indicator
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.512 - Aid for the installation of non-productive areas	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.513 - Aid for the installation of non-productive strips	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.515 - Aid for setting up catch crops and undersowing on arable land	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPcoupled	CIS(32) - Coupled income support	1.03.503 - Coupled aid for legumes	O.10. Number of hectares benefitting from coupled income support
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.540 - Premium for the establishment of sustainable and environmentally-friendly agriculture — Agriculture	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.542 - Premium for sustainable and environmentally-friendly agriculture — Viticulture	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.543 - Support for the conversion and maintenance of organic farming	O.17. Number of hectares or number of other units benefitting from support for organic farming
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.544 - Support for slurry injection and manure composting	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.546 - Aid to promote the planting of bovine animals to grass	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.549 - Support for reduced tillage	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements

RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.550 - Aid to reduce cattle stocking rates	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.551 - Aid for the conversion of arable land into permanent grassland	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	INVEST(73-74) - Investments, including investments in irrigation	2.04.714 - Aid for environmental investments	O.20. Number of supported on-farm productive investment operations or units

Overview

The identified greenhouse gas (GHG) reduction and carbon sequestration needs are addressed by a multitude of measures:

- Certain GAECs linked to cross-compliance
- Coupled aid for the cultivation of legumes
- The first pillar eco-schemes and in particular:
 - Aid for the establishment of non-productive strips on agricultural land
 - Aid for the setting up of non-productive areas
 - Aid for the installation of catch crops and under-sowing on arable land
- Rural development measures:
 - Aid for investments in agricultural holdings
 - Conversion to and maintenance of organic farming
 - Premium for sustainable and environmentally friendly agriculture
 - Aid to promote the conversion of arable land into permanent grassland
 - Support for reduced tillage
 - Aid to reduce the burden of cattle
- State aid, in particular:
 - Aid for maintaining a herd with low livestock load
 - Support for crop rotation and diversification on arable land
 - Aid to reduce nitrogen fertilisation

The conditionality included in the NWP first includes a series of GHG reduction obligations including carbon sequestration.

- Maintaining a historical rate of permanent grassland at national level: a new reference for the year 2018 has been introduced in order to consolidate the new permanent shells created since 2015. Indeed, the rate of permanent grassland has been increasing in recent years.
- Introduction of a minimum rate of non-productive areas: Luxembourg has chosen to provide for a minimum rate of 4 % of non-productive arable land.
- Protection of wetlands (especially meadows and peatlands).
- Ban on turning permanent grassland into sensitive areas (Natura 2000)
- Crop rotation/Diversification in arable land

Planned interventions focus on GHG reduction and carbon sequestration needs in order to address the challenges posed by climate change. The authorities also consider actions that do not have a direct impact on the nominal targets set, but which have a concrete impact on the reduction of emissions. Thus, a reduction in mineral nitrogen fertilisation has no direct effect on the nominal targets because Luxembourg does not have companies producing mineral fertilisers, which are highly energy-intensive. However, the reduction of mineral nitrogen smoke leads to a reduction in N₂O_{emissions}. The same applies to low-tillage

measures that save fuel while Luxembourg does not have oil refineries.

It should also be noted that carbon sequestration is not linked to the GHG emission reduction targets of the Integrated Energy and Climate Plan, although it has a direct effect on climate change.

The origin of the majority of GHGs from agriculture is to be found in bovine production through enteric methane production. The most important lever is therefore to control livestock. Maintaining a moderate grazing livestock load makes it possible to align beef production systems more closely with environmental objectives and is an important lever for greenhouse gas emissions while contributing to forage autonomy (need B4.6).

Thus, **the aid for the introduction of sustainable and environmentally friendly agriculture (former landscape and landscape maintenance premium)** has been adapted to these prerogatives and the eligibility condition for the maximum livestock load has been reduced from 2 to 1,8 LSU/ha. It should be noted that this intervention covers more than 80 % of the total UAA and the vast majority of agricultural holdings participate. The aid constitutes a significant part of farmers' income as it is linked to the entire area of the holdings contracted out there. The change in the livestock load authorised (1,8 LSU/ha) for participation in this measure means that a significant number of producers, holding a significant proportion of the herd, obviously face the decision to reduce their livestock load or to forego a significant part of their income and to increase their production.

The choice of intensifying production should be well considered economically. Agricultural investment aid will henceforth be limited to a maximum ceiling of 5 annual work units (AWU), determined on the basis of the livestock present on the holding. Any overshooting of livestock production capacity of 5 AWU will no longer be supported by investment aid. Moreover, the current evolution (in 2022) of prices for concentrated feed, and access to difficult land in Luxembourg, combined with a risk of yield loss due to climate change, are not arguments for an intensification of production.

At the same time, the managing authority is proposing support for **the reduction of livestock load**, a new intervention with the objective of nominally reducing the number of cattle present on the farm and thus reducing methane emissions, which have a high greenhouse gas potential. In the light of the current situation of market conditions, the managing authority is of the opinion that the combination of the measure for the reduction of livestock load, the new limit for access to investment aid and the reduction of the eligibility criterion from 2 to 1,8 LSU/ha of aid for the establishment of sustainable and environmentally friendly agriculture would direct the choice of farms towards participation in the aid for the establishment of sustainable and environmentally friendly agriculture and thus towards a reduction of the livestock burden.

In addition, aid for the maintenance of a low livestock load (state aid) may encourage a reduction in the livestock load, or at least the maintenance of the low cattle herd present on the holding and contributes to improving the feed autonomy of the holding. Intervention imposes limitations on grazing livestock per hectare of forage area: it must not exceed 1,4 LSU/ha of forage area or less than 0,5 LSU/ha. Reducing livestock or avoiding an increase in livestock overall contributes to a reduction in greenhouse gas emissions. Maintaining a low livestock load avoids creating additional emissions.

The managing authority also expects considerable efforts to improve forage autonomy. A more grass and forage system of beef production improves the feed autonomy of farms and helps to reduce the distribution of concentrated feed. Grass fodder crops also allow carbon sequestration. Reducing imports of concentrated food generally also leads to GHG reductions by avoiding transport. However, the reduction targets are so important that additional use of natural food additives is recommended. Methane is formed during enteric fermentation by bacteria in the digestive tract and largely eructed by ruminants. Methane formation may be inhibited by certain food additives. However, this method has not yet been put into practice, but experiments are increasing and their use can be foreseen in the short term. Thus,

Luxembourg also advocates reducing the number of bovine animals in order to move closer to the targets set. It should be noted that this strategy also contributes to the protection of waters which are subject to diffuse nitrate pollution from, inter alia, the decomposition of livestock manure used as organic manure.

Support for **the installation of non-productive surfaces and strips** has primarily an effect on biodiversity and water. However, not applying fertilisation to these areas also has an effect on GHG production, in particular nitrous oxide. The vegetation that settles on these areas ultimately allows carbon sequestration.

Organic farming does not use synthetic fertilisers but uses organic fertilisers more. As mineral fertilisers are highly energy-intensive, organic farming, which does not use these fertilisers, has a positive effect on GHG emissions. The use of organic fertilisers increases the creation of organic matter and thus the sequestration of carbon in the soil, which also increases the soil's water retention capacity. This effect also makes crops more resilient to drought and increases soil fertility.

Given their organic content, soils, and in particular those subject to organic farming, are an important carbon sink and contribute to carbon sequestration.

Organic farming also uses long rotations, making the whole system more resilient at different levels (climate change, soil fertility, use of inputs).

Aid to reduce **nitrogen fertilisation** (national aid) **will again** have an effect on the use of fertilisers and thus on GHG emissions. Reducing nitrogen fertilisation also reduces the emissions generated during their manufacture. In addition, the limitation of smoking also reduces the formation of nitrous oxide in the soil and thus directly the formation of GHGs.

Aid for the installation of catch crops and under-sowing on arable land shall contribute to the fixing of the remaining fertilisation. The green cover that protects the soil during the winter is an organic fertiliser stock for the next crop. This must be taken into account when determining fertilisation for the following crop, thus reducing the additional nitrogen inputs again. This again leads to GHG emission reductions and carbon sequestration.

Support for the conversion of arable land into grassland directly promotes carbon sequestration and also feed autonomy.

Aid for crop diversification on arable land (national aid) includes the introduction of legumes in rotation. As legumes are able to fix the nitrogen from the area in the roots, the following crop requires reduced nitrogen smoke, which again contributes to GHG reduction. This support has been adapted to make temporary grassland that play an important role in carbon sequestration and water protection measures eligible as well.

Support **for sustainable and environmentally friendly agriculture** has also been strengthened in the protection of permanent grassland that can no longer be destroyed in Natura 2000 areas. Thus, carbon storage remains guaranteed and biodiversity protected. Ploughing outside these areas is in any case regulated and subject to authorisation.

Luxembourg thus responds to the European Commission's recommendations to base the intervention strategy also on carbon farming sequestration and emission reduction. The reduction efforts are based on both a reduction in livestock and the use of agricultural inputs combined with an improvement in forage autonomy by favouring herb areas.

Direct sowing or reduced tillage has a direct effect on fuel consumption, which is indeed reduced compared to ploughing. A reduction in CO₂ emissions can be reported. In addition, semi-direct or reduced tillage techniques contribute to the improvement of soil manpower at least in the surface layer. The sequestration of CO₂ in the soil is promoted and water retention increased and water evaporation decreases.

Interventions for **agricultural investment aid** take greater account of environmental requirements, in particular ammonia and GHG emissions. The Government's programme states that 'any major agricultural investment project supported by the State will be the subject of an economic, social, ecological and energy analysis'. This includes financial support for investments consistent with climate objectives, including effective water management and animal welfare measures. These objectives are to be considered from the planning of the establishment plans. In this way, the procedures will be adapted to ensure that planning considers the potential for reducing emissions. Appropriate farm advice shall be provided to integrate emission reduction and efficient water management considerations from the beginning of the farm designs. From a certain scale, the new farms will also have to provide for the technical aspects needed to transfer livestock manure to a biogas plant. Increased aid rates are foreseen to further favour certain installations and machinery contributing to the reduction of GHG emissions, such as covering storage tanks external to the farm to avoid evaporation of methane and ammonia.

The need for efficient use of water resources (B4.2) is also addressed by the aid for agricultural investments, which claims that this aspect should be considered as soon as projects are planned.

Since energy is not a product of Annex II to the EU Treaty, the aid for agricultural investment taken over from the NSP cannot provide for support for aid for the construction of biogas plants, with the exception of small-scale projects planned for the production of energy in self-consumption. Support for the construction of **biogas** installations is the responsibility of the Ministry of the Economy and is financed by state aid to support investments in the production of renewable energies, including biogas and photovoltaic installations. Need B4.1 is therefore mainly covered by state aid under the responsibility of the Ministry of the Economy. This support offers economic and ecological opportunities for the agricultural sector in the context of renewable energy production.

In 2020, the Ministry of Spatial Planning and Energy introduced new attractive pricing for **photovoltaic installations** above 30 kW up to a maximum of 200 kW, which is now available to all beneficiaries. This adaptation is for the benefit of farmers and SMEs and is part of the government's objective to further support the development of solar energy in Luxembourg. Aid for this category of photovoltaic installations is now directly available to farmers without having to go through a civil society or cooperative. However, cooperative societies retain a slightly preferential tariff and larger projects will always be tendered. At the NSP level, aid for agricultural investment now introduces an eligibility condition for new plants, which provides for constructions that will technically and statically apply to the installation of photovoltaic painters at a later stage.

The Luxembourg Government encourages biogas production and above all the production based on the fermentation of manure from livestock. The government's objective is to valorise 50 % of the national manure potential (1 million tonnes/a) in biomethanisation by 2030; this rate is currently around 10 %. The Ministry of the Environment has provided favourable tariffs for the injection of biogas and photovoltaic electricity into the national grids. Increased preferential tariffs are thus provided for if biogas is produced on the basis of at least 70 % of livestock manure. This proportion will be increased in the future to 90 %. A new strategy for the development of biogas production is being prepared by the Ministry of the Environment, in collaboration with the Ministry of Agriculture and the Ministry of the Economy.

Here are a few priority axes to achieve the objectives set out in Luxembourg's integrated national energy and climate plan (NECP):

- Solar offensive through:
 - Tenders for large photovoltaic installations;
 - Appropriate aid schemes;
 - Self-consumption and sharing of renewable electricity.
- Expansion of wind energy through the continuous development of wind installations;
- Development and implementation of a solar and thermal cadastre;
- Use of wood in compliance with sustainability criteria and availability in the Greater Region; prioritising the use of discarded wood, following the principle of cascading use, in a circular economy approach;
- In the area of biogas, the focus will be on increasing the use of manure and waste, thereby promoting the beneficial effects of biogas facilities on soil, air and water;
- Targeted expansion in renewable heat: heat pumps will become the standard in new buildings and renovated buildings. Medium deep geothermal will be further explored (especially in the southern part of the country), and district heating networks will be promoted where economic viability is ensured, which are fed either with renewable heat or waste heat;
- In the area of mobility, the promotion of electro-mobility powered by renewable electricity is the most important pillar, alongside the second generation biofuels that will still be needed for some time. Renewable hydrogen will have its role to play, inter alia, in the mobility of heavy goods vehicles.

However, it should not be forgotten that the national potential is limited in terms of the size of Luxembourg's territory. Interconnections with neighbouring countries play a key role as well as cooperation at European level in the production of renewable electricity. Luxembourg also intends to make full use of the European funding mechanism where European countries can work together to develop and jointly finance renewable electricity generation projects, through which the money will be invested in concrete projects that are clearly identifiable to Luxembourg taxpayers.

The **farm council**, financed exclusively by national means, will be redesigned to ensure an objective and transparent advisory system taking into account the new objectives of the CAP. The aim is to introduce a climate check free of charge for each agricultural holding, the purpose of which is to enable farms to improve their climate performance.

The climate change adaptation measures proposed by Luxembourg are multiple but mainly ensured by national measures. However, some of the Strategic Plan's interventions include aspects that contribute to adaptation to climate change. Thus, in terms of ecological regimes, it should be stressed that non-productive strips along rivers help to avoid excessive sunshine of rivers and rivers, which avoids water warming conducive to the biological quality of water. This situation is reinforced if the strips are planted with hedges, shrubs or trees. These structural elements can also serve as shading space for livestock. The planting of these bands is planned to be geared towards the most appropriate objectives, including the important role of these structures in relation to the networking of biotopes. Close cooperation with the Ministry of the Environment and the Water Management Administration should improve the effectiveness of these measures.

At the level of aid for agricultural investments, it is proposed to apply the best available techniques to avoid ammonia evaporations. These techniques include insulation of the roof to avoid excessive heating of the livestock, which is also conducive to animal welfare. Investment support also includes efficient water management. This precaution also responds to the risks associated with global warming. All measures for the extensification of production are ultimately also favourable to the natural management of the availability of water by plants. Reduced tillage, proposed by NSP intervention, also limits water evaporation and supports water cycle management.

Adaptation to climate change also includes preventions to limit erosion. This effect accompanies the heavy rains to which Luxembourg will be exposed in particular in the coming years if we want to believe the announcements made in the reports on climate change. The Strategic Plan therefore proposes several measures to combat erosion: reinforcement of GAEC 5 and 6, maintenance of permanent grassland, installation of intermediate crops, promotion of reduced tillage, conversion of arable land to permanent grassland, installation of anti-erosion strips.

A national measure for the spread of **agroforestry** is under preparation. This measure is expected to have multiple roles in adapting to climate change. In particular, it is expected to have beneficial effects for the shading of rivers and livestock, play the role of screen against wind and water erosion, have beneficial effects on water retention, carbon sequestration and ecological mesh, while ensuring agricultural production.

Carbon storage in biomass is also strongly linked to forest management, which is not covered by this NWP. However, in order to provide a complete picture of carbon storage measures, the following forestry measures should be considered (national measures):

- Premium for the provision of ecosystem services in forests
- Restoration of the forest ecosystem through reforestation;
- Strengthening the forest ecosystem through natural regeneration;
- Preservation of the forest ecosystem through protection against game, including devices to monitor pressure from large game;
- Strengthening the forest ecosystem by caring for young stands;
- Strengthening the forest ecosystem through the first selective lighting;
- Preservation of the forest ecosystem through stripping with the aid of the horse;
- Preservation of the forest ecosystem by unpacking by means of telepherage;
- Restoration of the forest ecosystem through the first afforestation of agricultural land;
- Ecosystem services (direct sequestration by stopping the holding).

At the level of the national support scheme for biodiversity conservation, other more marginal measures will also have to have an effect on carbon storage in biomass:

- Restoration of a high-stem orchard
- Installation of dead hedges
- Planting hedges and tree rows.

Risk management measures are planned at national level to compensate for damage caused by climatic events assimilated to natural disasters and rehabilitating production potential damaged by natural disasters.

Winegrowing prepares for climate change by supporting at national level the conversion of vineyards with varieties adapted to climate change, varieties more resistant to water stress, certain pests or diseases.

The Luxembourg authorities have **planned a series of national** frameworks for adaptation to climate change:

- Conduct test fields to identify from among crops useful for agriculture and human consumption, as well as from among fodder crops, types that are better suited to future conditions. Provide for tests with alien species and check the fodder skills of new alternative fodder
- Establishment of emergency action plans for priority quarantine pests; To monitor and detect at an early stage new 'exotic' diseases (e.g. bluetongue, Lumpy skin disease and African swine fever); develop control and eradication strategies
- Adopt climate-resilient farming and animal production methods: construction of stables

(ventilation of the stables, nozzle system, regulation of ambient temperature, humidity of air and harmful gases, animal welfare equipment); Livestock farming (surveillance of animal health and welfare, early warning system); Genetic selection programmes and farm advice (animal health and welfare, resistance to heat stress, etc.

- Participate in international research initiatives focusing on invasive pests and diseases
- Stepping up research activities in relation to extreme weather events and identifying implications for different agricultural sectors
- Monitoring of harmful organisms for plants and plant products, as well as for animals and animal products

The Besoin B4.5. Ensuring resilience to climate change is therefore mainly covered by national aid, although a contribution of ecological schemes takes place.

The interventions may be combined within the limits set out in the compatibility plan set out in the Annex.

2.1.SO4.5 Where relevant, a justification for the use of InvestEU, including the amount and its expected contribution to the Specific Objective/Cross-Cutting Objective

Not applicable

2.1.SO4.7 Are you planning CAP contribution towards the LIFE programme (only for SO4, SO5, SO6)

: No

2.1.SO4.8 Selection of the result indicator(s)

Selection of the result indicator(s) for this specific objective

Result indicators [recommended Result indicators for this specific objective are fully displayed in bold]	Target value
R.14^{PR} - Carbon storage in soils and biomass Share of utilised agricultural area (UAA) under supported commitments to reduce emissions or to maintain or enhance carbon storage (including permanent grassland, permanent crops with permanent green cover, agricultural land in wetland and peatland)	91.99 %
R.16^{CU} - Investments related to climate Share of farms benefitting from CAP investment support contributing to climate change mitigation and adaptation, and to the production of renewable energy or biomaterials	5.85 %

Justification of the targets and related milestones

As regards the targets and milestones, reference is made to the 'other comments' section of the SWOT section and to the detailed description of the interventions falling within that specific objective.

2.1.SO4.9 Justification of the financial allocation

The financial allocations shall come from both the EAGF and the EAFRD in order to combine as much as possible the financial means and the effects to be foreseen in order to meet the objectives of reducing greenhouse gas emissions and climate adaptation. At the same time, national resources are provided to complement interventions co-funded by European funds with the aim of having complementary and multiple effects in order to achieve the objectives set.

The provision of funds is also the result of a process of concertation between actors and is the result of a political agreement.

Regular monitoring of implementation and impacts is foreseen in order to be able to respond to the evolution of the emissions trajectory and to adapt interventions and means.

2.1.SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

2.1.SO5.1 Summary of the SWOT Analysis

2.1.SO5.1.1 Strengths

1. Luxembourg's agriculture is mainly directed towards fodder production, linked to milk production. More than 50 % of the UAA is farmed on grassland and grazing with water protection benefits. Measures necessary to protect the grassland areas are in place.
2. A wide range of agri-environmental measures, geared towards the protection of water and soil, are already proposed and implemented: organic farming, reduction of plant protection products, anti-erosion practices and reduction of inputs.
3. Marketing and marketing measures are intended to promote these environmentally friendly practices.
4. Mentoring farmers through a system of advisory services aimed at raising farmers' awareness, spreading environmentally friendly practices and monitoring the impact of these measures.
5. There is an effort to improve continuing training and basic training.
6. Demonstration of the development of awareness for environmental protection in society and at the level of political actors.

2.1.SO5.1.2 Weaknesses

1. The presence of diffuse water pollution as well as point pollution by some PPPs, 10 % of abstraction sources are no longer usable.
2. High nitrogen balance surplus and decrease of available phosphorus in grassland soils.
3. Presence of local erosion points, particularly in arable areas and sloping vineyards.
4. Low participation of farmers in some AECM measures supporting water and soil protection.
5. Agricultural council is inadequate or inadequate in some respects.
6. Information and knowledge gaps in the sector from a natural process perspective at water and soil level.
7. Insufficient monitoring and evaluation of some underdeveloped protection measures, digitalisation and digitalisation.
8. Lack of coherence at the level of AECMs, complexity of natural processes allowing adequate supervision, existence of uncoordinated and conflicting policies. Lack of holistic approach
9. High production costs and moderate efficiency of the sector ensuring environmentally friendly production alongside viable income.
10. Lack of cooperation within the sector.

2.1.SO5.1.3 Opportunities

1. Multiple water protection zones with regulatory restrictions in terms of agricultural land management have been created.
2. Modern techniques for spraying and spreading fertilisers (precision farming) will improve the determination of plant protection products and fertilisers and thus limit the impact of diffuse pollution on water bodies.
3. Increasing the share of temporary meadows for fodder is in favour of storing CO₂ in soil (C org) and protecting water (erosion, nitrates). Better use of green fodder contributes to the self-feeding of cattle
4. Climate change offers opportunities for new, soil-friendly and more water-friendly crops (e.g. soya, mixed combined crops).
5. The Water Protection Law allows the creation of agricultural cooperation in water protection zones, grouping together agricultural holdings, with the objective of promoting agricultural land management compatible with water protection.
6. Awareness of precise monitoring is growing both from a general and specific point of view at farm

level.

7. The development of digitalisation will offer many opportunities for environmental protection (e.g. public portal (www.geoportail.lu) identifies protection areas and water quality).
8. Development of financing measures for innovation projects and knowledge transfer aimed at improving more environmentally friendly agricultural practices.
9. Comply with environmental services. Clear political will to promote and support environmentally-friendly agriculture with the necessary financial means: organic farming target 20 % of UAA in 2025, ban on glyphosate, reinforcement of the national action plan to reduce plant protection products.
10. Increasing societal and farmer sensitivity to the protection of natural resources.

2.1.SO5.1.4 Threats

1. Drinking water supplies are limited in the face of growing population and economic development, many catchment areas of drinking water sources often contain important parts of agricultural areas.
2. Sources of surface water pollution are not limited to agriculture, which is often targeted and culpabilised without providing the necessary nuances.
3. Increased erosion through heavy rainfall.
4. Climate change influences the soil: heavy rainfall increases the risk of erosion and buoyant casting; temperatures, with a higher trend, favour mineralisation in the after-season.
5. Demonstration of a risk of local and unwanted depletion of soil fertility.
6. Loss of good quality agricultural land due to the effects of urbanisation and areas of activity.
7. Increase in fodder maize with increased milk production (risk of erosion, nitrate leaching and phosphates if practices are non-compliant).
8. Access to difficult water for market gardening and agriculture, water availability for the population and the health status of groundwater is a priority.
9. Banning certain plant protection products without accompanying measures or alternative measures inhibits the responsiveness of the sector and the adaptation of agricultural practices.
10. Presence of conflicting practices (e.g. Arbres – > weight not considered in the surface of the calculation).
11. Definition of land application periods which are not appropriate from an agricultural policy point of view.
12. Disproportionate complexity of the overall system, difficulty in providing one-size-fits-all solutions. Existence of conflicting policies.
13. Administrative overload at farm level and complex framework of EAW measures makes it difficult to develop a concept of protection of resources at farm level.
14. Implementation of targets for reducing ammonia emissions by 22 %.

2.1.SO5.1.5 Other comments

State of play of water

The result of the surface water monitoring network shows an unfavourable water quality assessment. It highlights that no **water body** meets the criteria necessary to determine ‘good ecological status’.

According to the 2019 preliminary results provided by the MECDD on the ecological status of the 102 natural surface water bodies, 57 % are in medium status, 24 % in satisfactory status and 19 % in poor status (source: Ecological status of the 102 natural surface water bodies (%) (preliminary results updated in 2019) MECDD).

55 % of surface water bodies exceed the standards for good water quality from a nitrate point of view (25 mg/l) and nitrites (50 µg/l) (Sources: River basin management plan for the river basins of the Rhine and Meuse, Luxembourg). For the total phosphorus parameter, 72 % of surface water bodies exceed the good quality standard (16 µg/l) for this parameter.

According to the **Nitrates Directive report** for the period 2016/2019, water quality at the level of 10 out of 16 monitoring stations is classified as ‘eutrophic’, while water quality at other stations is classified as ‘mesotrophe’. As regards the evolution of eutrophication potential, 4 monitoring stations in this network showed a slight upward trend between 2012/15 and 2016/19, seven remained stable and 5 showed a downward trend. Compared to the 2004/2007 average, all surface waters with high nitrate content show an improved balance.

Table 2-7: Mean nitrate levels [mg/l] and trends in nitrate concentrations in surface waters for the last five reporting periods

NO.	Station name		Average 1996/99	Average 2000/03	Evolution 1996/99- 2000/03	Average 2004/07	Evolution 2000/03- 2004/07	Average 2008/11	Evolution 2004/07- 2008/11	Average 2012/15	Evolution 2008/11- 2012/15	Average 2016/19	Evolution 2012/15- 2016/19
L1000 11A01	Esch/ Alzette border	Alzette	—	—	/	7,75	/	8,6	stable	10,06	small increase	9,80	stable
L1000 11A09	Hesperange	Alzette	—	—	/	20,12	/	13,78	sharp decrease	12,94	stable	13,55	stable
L1000 11A15	Steinsel- Heisdorff	Alzette	14,0	18,0	small increase	16,52	small decrease	17,58	small increase	16,94	stable	14,86	small decrease
L1000 11A21	Ettelbruck	Alzette	—	—	/	23,12	/	23,48	stable	20,37	small decrease	19,70	stable
L1040 30A10 *	Mersch	Mamer	21,5	22,5	stable	21,03	small decrease	19,73 *	small decrease	18,60 *	small decrease	20,73 *	small increase
L1050 30A04	Steinfort	Eisch	11,8	12,5	stable	19,32	sharp increase	19,18	stable	18,6	stable	17,96	stable
L1050 30A12	Mersch	Eisch	19,3	19,5	stable	20,20	stable	20,35	stable	19,20	small decrease	20,69	small increase
L1060 30A12	Colmar-Berg	Attert	17,8	24,0	sharp increase	25,39	small increase	25,15	stable	25,66	stable	25,58	stable
L1100 30A11 * *	Kautebach	Wiltz	21,8	23,0	small increase	30,54	sharp increase	26,45	small decrease	27,97	small increase	26,69 * *	small decrease
L1100 40A03	upstream Clervaux	Clervaux	—	—	/	31,08	/	26,95	small decrease	28,6	small increase	27,33	small decrease
L1120	Martel	Sure	11,0	11,0	stable	17,57	sharp	16,05	small	15,25	stable	15,31	stable

10A01	ange						increas e		decrea se				
L1120 10A04	upstre am Esch/S ûre	Sure	—	—	/	21,39	/	19,88	small decrea se	19,61	stable	19,38	stable
L1120 10A24	Wasse rbillig	Sure	18,3	22,3	small increas e	25,78	small increas e	23,23	small decrea se	24,05	stable	20,50	small decrea se
L1440 30A09	Grund hof	Ernz Black	24,0	22,0	small decrea se	26,78	small increas e	26,40	stable	27,29	stable	24,77	small decrea se
L2020 30A12	Merter t	Syr	19,3	20,0	stable	22,93	small increas e	19,13	small decrea se	18,40	stable	19,85	small increas e
L3000 30A06	Rodan ge	Chairs	—	—	/	10,90	/	12,25	small increas e	12,12	stable	16,13	small increas e

* samples from station L104030A10, listed in the Regulation of 25 April 2005, have taken place at station L104030A11 since 2008.

* * samples from station L110030A11, listed in the Regulation of 25 April 2005, have taken place at station L110030A11-1 since 2015.

Sources: MECDD

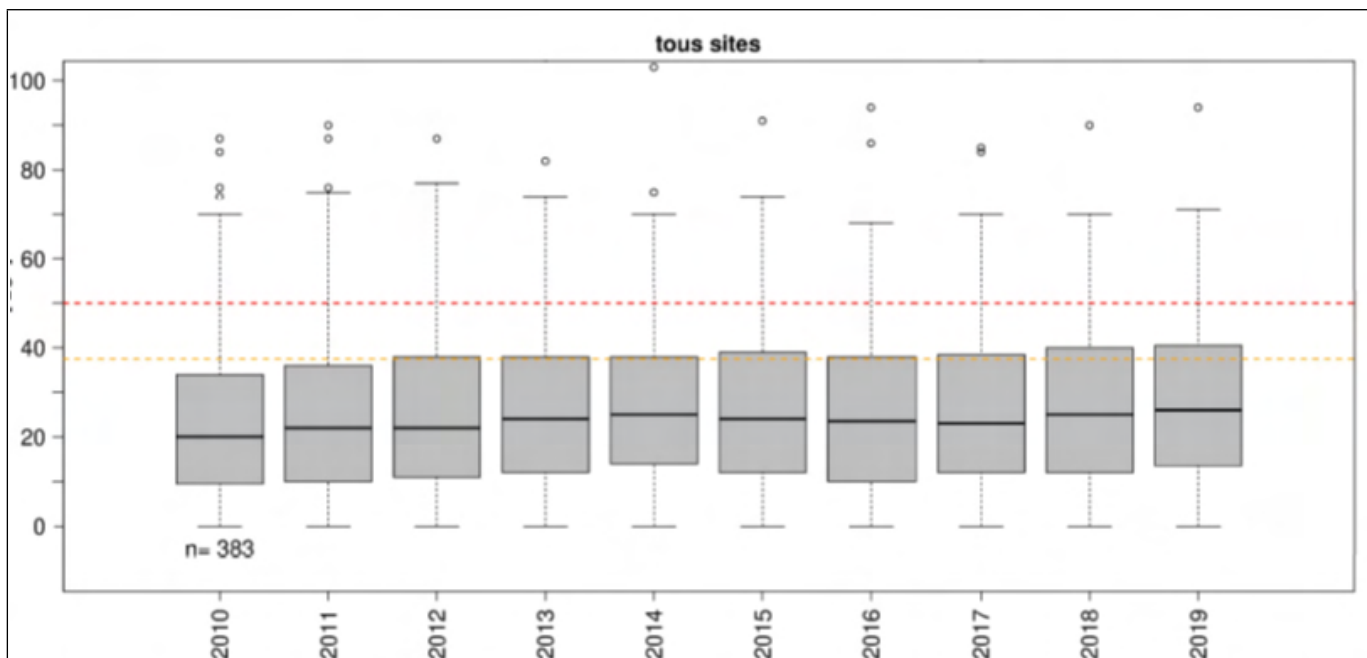
For **groundwater bodies**, there is a risk of non-achievement of good chemical status due to the presence of nitrates and metabolites of plant protection substances for 4 out of 6 groundwater bodies.

38 % of monitoring stations under the Nitrates Directive exceed the threshold of 37,5 NO₃ mg/L, a threshold above which Member States are obliged to take measures. A cumulative flow rate of at least ^{20.000 m³} per day is affected by nitrate concentrations exceeding 37.5 mg/l. The percentage of total flow shows regional variations of 1241 % of drinking water supplied by groundwater abstractions at concentrations > 37,5 NO₃ mg/L.

Impact flow rate (m³/day)	1.580	7.286	4.248	2.181	4.591	19.886
% of total flow	12 %	27 %	28 %	14 %	41 %	28 %

About 2 % of the UAA poses a high risk of nitrate leaching to groundwater (Source: MECDD).

Figure: Nitrate concentration (mg/l) in groundwater



Sources: ASTA, 2020

Nitrate concentrations in groundwater vary only slightly on average across the country. After a slight increase between 2010 and 2014, concentrations decrease between 2014 and 2017 to slightly increase until 2019.

The nitrate report (Report in accordance with Article 10 of Directive 91/676/EEC concerning the protection of waters against pollution of nitrates from agricultural sources. Period 2016-2019) identified at national level 3 sources of nitrogen discharge into the aquatic environment. In 2019, the total discharge was 4.046 tonnes N, of which 77 % came from agriculture, 23 % from urban waste water and less than 0.1 % from industrial waters. Agricultural inputs decreased slightly by 1.2 % between 2012/15 and 2016/19. This is mainly due to the decreasing livestock population since 2018, after a continuous increase from 2012 to 2017.

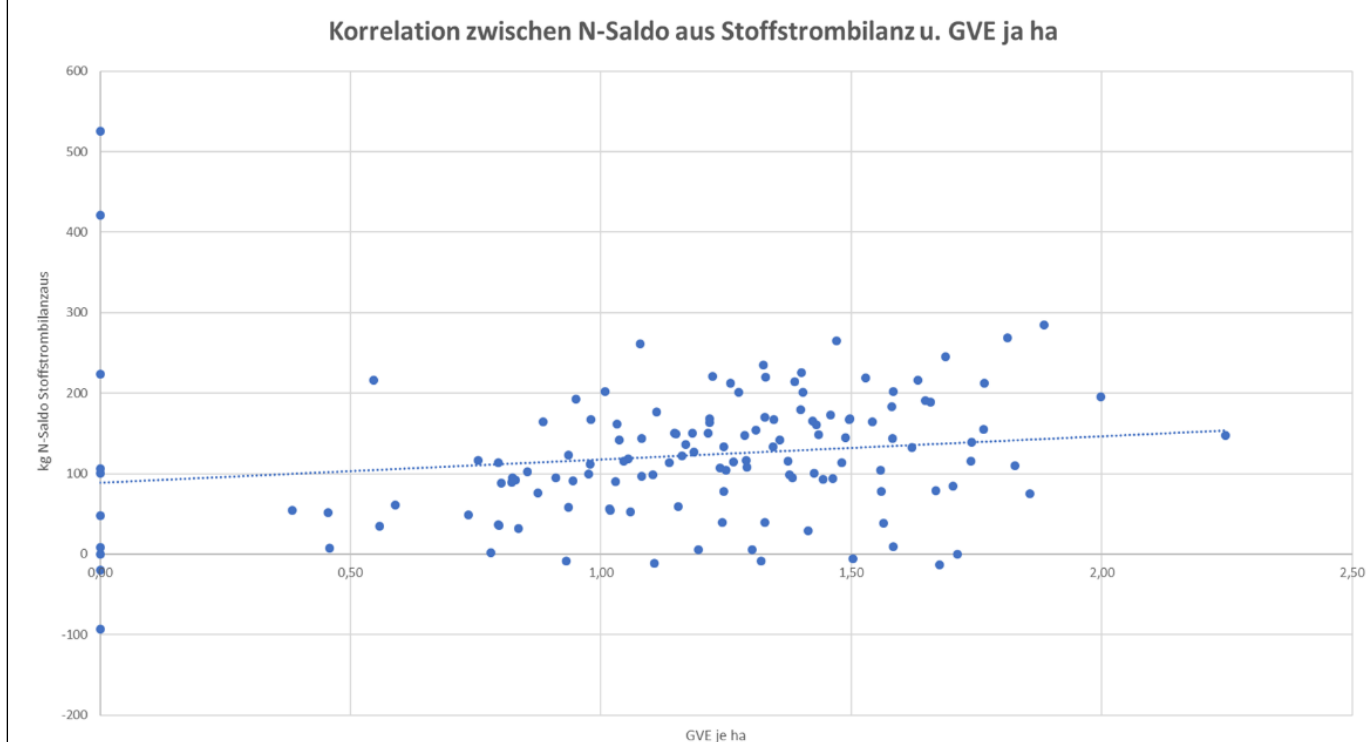
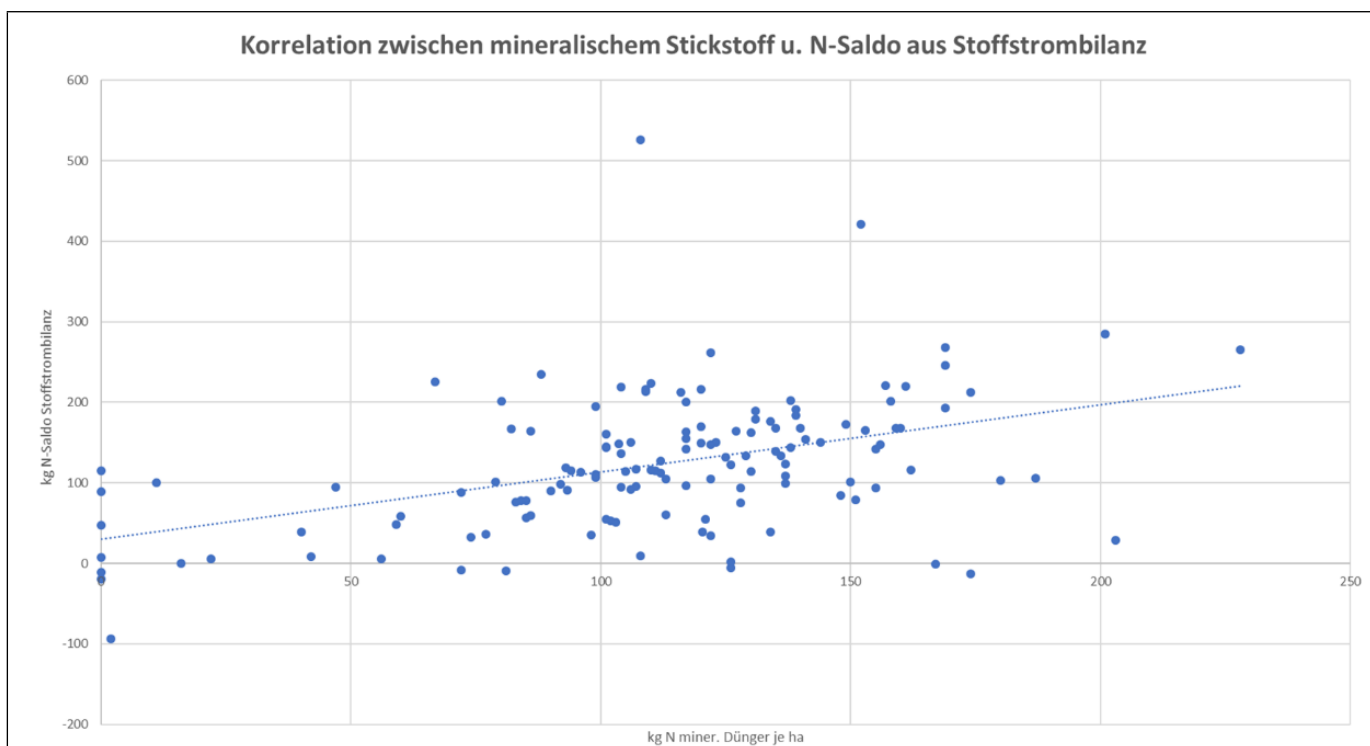
Plant protection products

It should be stressed that plant protection products and their metabolites are the main pollutants affecting groundwater. At the end of 2020, $49.500 \text{ m}^3/\text{day}$ of water intended for human consumption was affected by exceedances of potability standards (nitrates, metabolites of plant protection products). 6.500 hectares of agricultural land, of which 3.250 hectares of arable land are likely to contribute to a significant deterioration of groundwater used for drinking water as a result of the use of plant protection products (Source MECDD).

The MECDD estimates that currently abstractions of water intended for human consumption, the flow of which allows the supply of 62.000 people (around 10 % of the national population), are out of service due to agricultural pollution.

The high nitrate concentrations in surface or groundwater are therefore linked to agricultural activities and above all to nitrogen fertilisation. Non-assimilated surpluses are leached by rainfall, especially nitrogen balances after harvest.

Table: Correlation between the presence of different pollutants

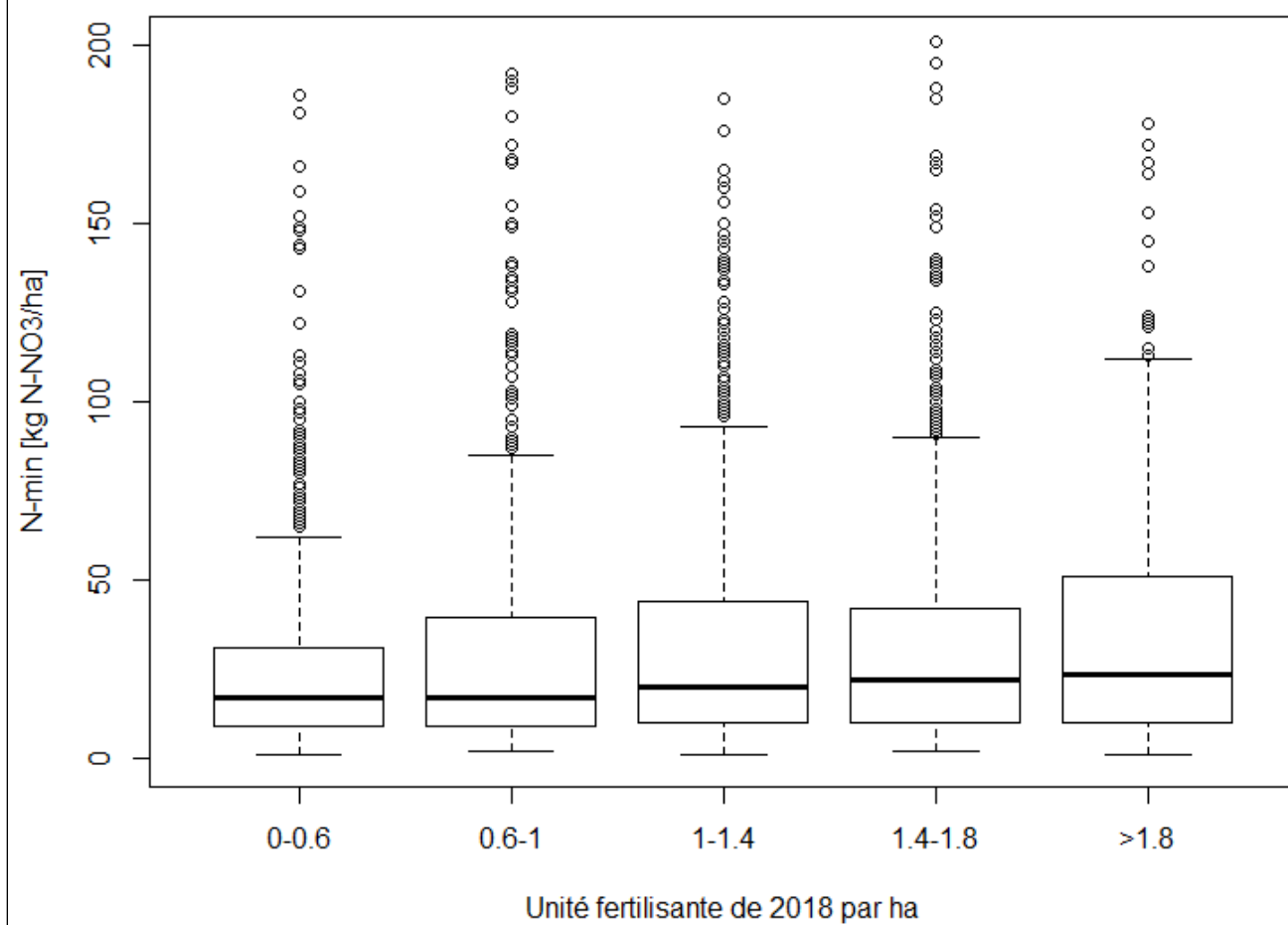


Sources: ASTA, soil service

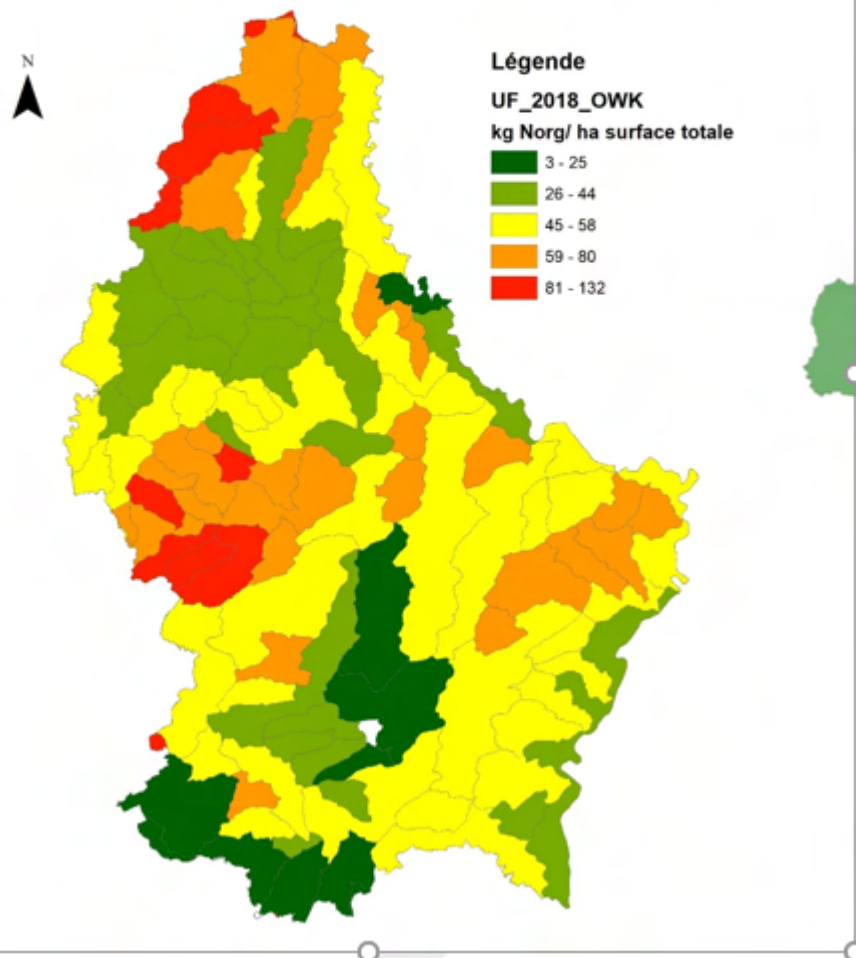
Nitrate concentration

The development of the beef sector has increased somewhat since the abolition of milk quotas and especially in the north-west and central eastern and western parts of the country. Regions with high fertiliser units are also affected by high nitrate concentrations in surface waters. The graph below shows that nitrogen leftovers in soils are increasing for farms with high fertiliser units. Table: comparison of remaining nitrogen (kg Nmin/ha) in 2018 with fertiliser units/ha.

Table and map: comparison of nitrogen balances (kg Nmin/ha) in 2018 with fertiliser units/ha

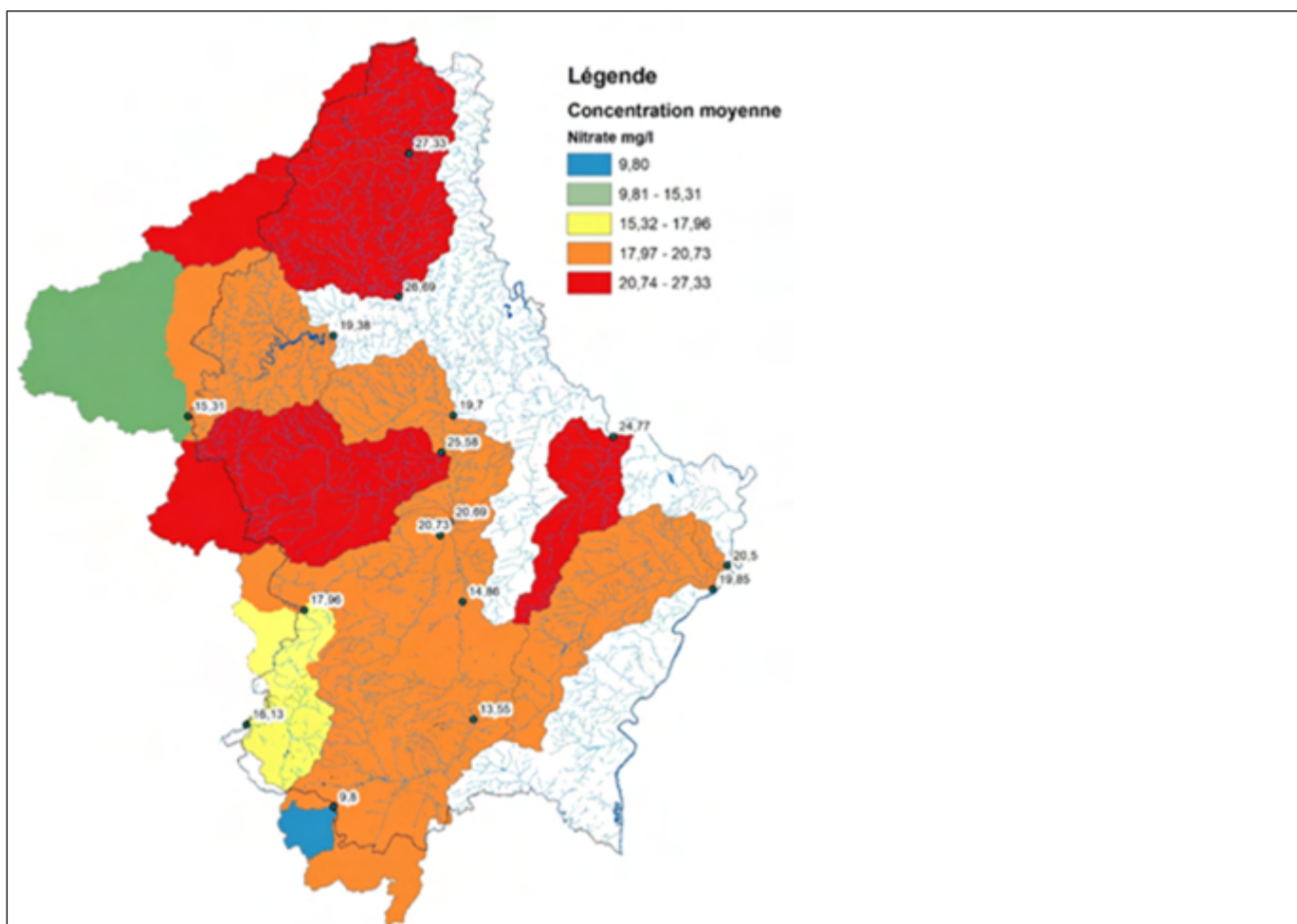


Azote organique produit par le cheptel par rapport à la surface totale des bassins-versar



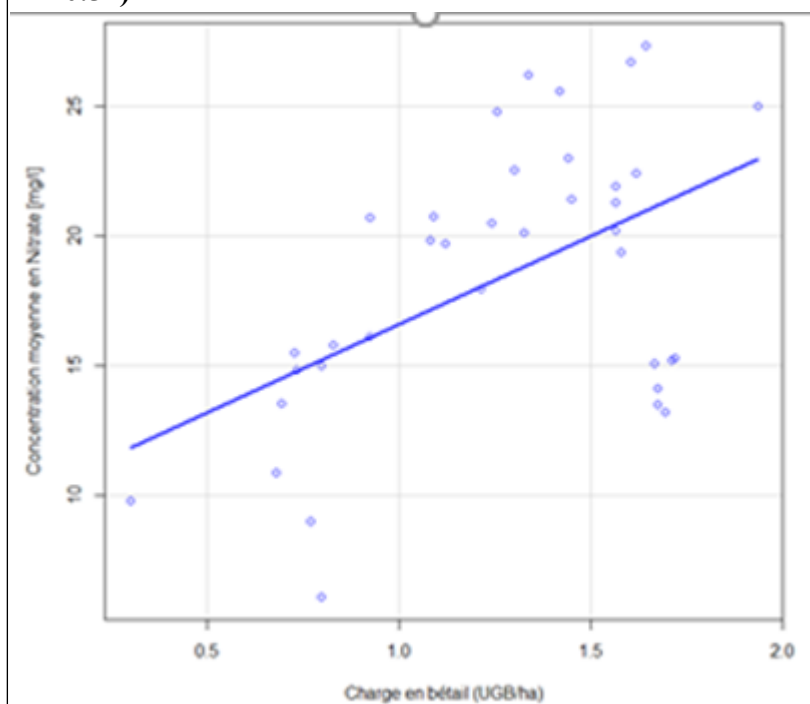
Sources: ASTA, soil service

Map: Average nitrate content in surface waters (2016-2019)



Sources: ASTA, soil service

Table: Relation between livestock load and annual mean nitrate concentration (Linear Correction: $P = 0.52$)



Sources: ASTA, soil service

Nutrient balance

The gross nutrient balance (Feld-Bilanz) shows high nitrogen (N) and phosphorus (P) surpluses estimated at over 100.0 kg/N/ha and 5.0 kg/P/ha respectively in 2015. These surpluses are well above the EU average (46.5 kg/N/ha and 0.5 kg/P/ha). However, these figures are estimates that can be subject to factors that cause variations (how to take into account exports and imports of organic matter, N used for industrial production (explosive)). The departments of the Ministries of Agriculture shall endeavour to provide more reliable N and P balances taking account of all farm activities on the basis of material flow balances. Animal production can thus be better integrated in order to show the complete picture of agricultural production.

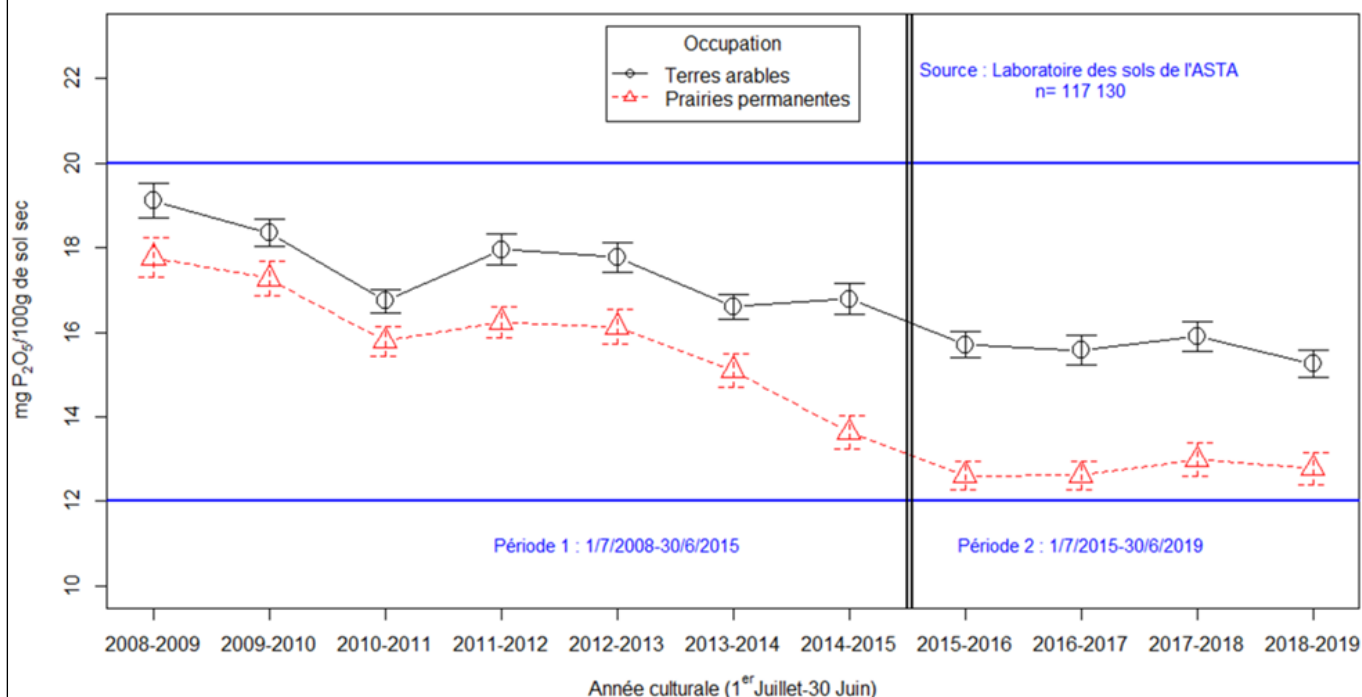
(The nutrient balance is calculated on the agricultural area taking into account the national net inputs of organic and mineral fertilisation and other leguminous inputs, Source: http://ec.europa.eu/eurostat/cache/metadata/en/aei_pr_gnb_esms.htm).

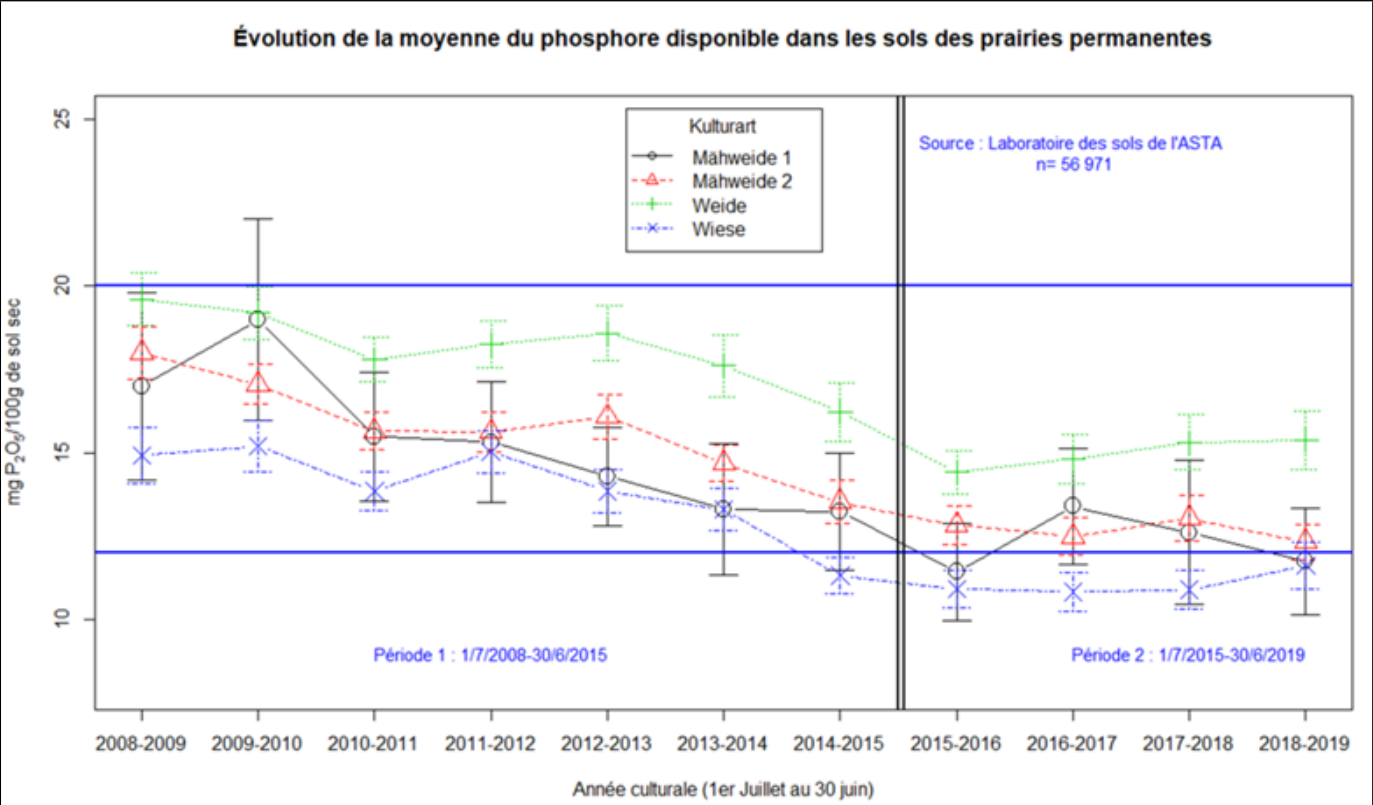
While some soils, occupied by crops requiring higher **phosphorus smoke**, are characterised by phosphorus surpluses, ASTA's observations have shown that phosphorus content in other soils is decreasing in different locations, with an acceleration since 2012. The problem is more acute on grassland than on arable land. If pastures remain in the target class, mown, mown and grazing meadows are at an optimal sup limit. This is due to an insufficient refund compared to exports of phosphorus driven by 2 to 3 silage or hay cuts. The reasons are manifold:

- ° Quasi-absence of phosphatic mineral smoke in permanent grassland
- ° From sufficient refunds by organic fertilisers due to the repeated combination of winter spreading ban periods (15 November – 15 February) and seasonal weather hazards
- ° Limitation of organic inputs to 170 kg Norg/ha.

Tables: Change in average phosphorus available in soils

Évolution de la moyenne du phosphore disponible dans les sols

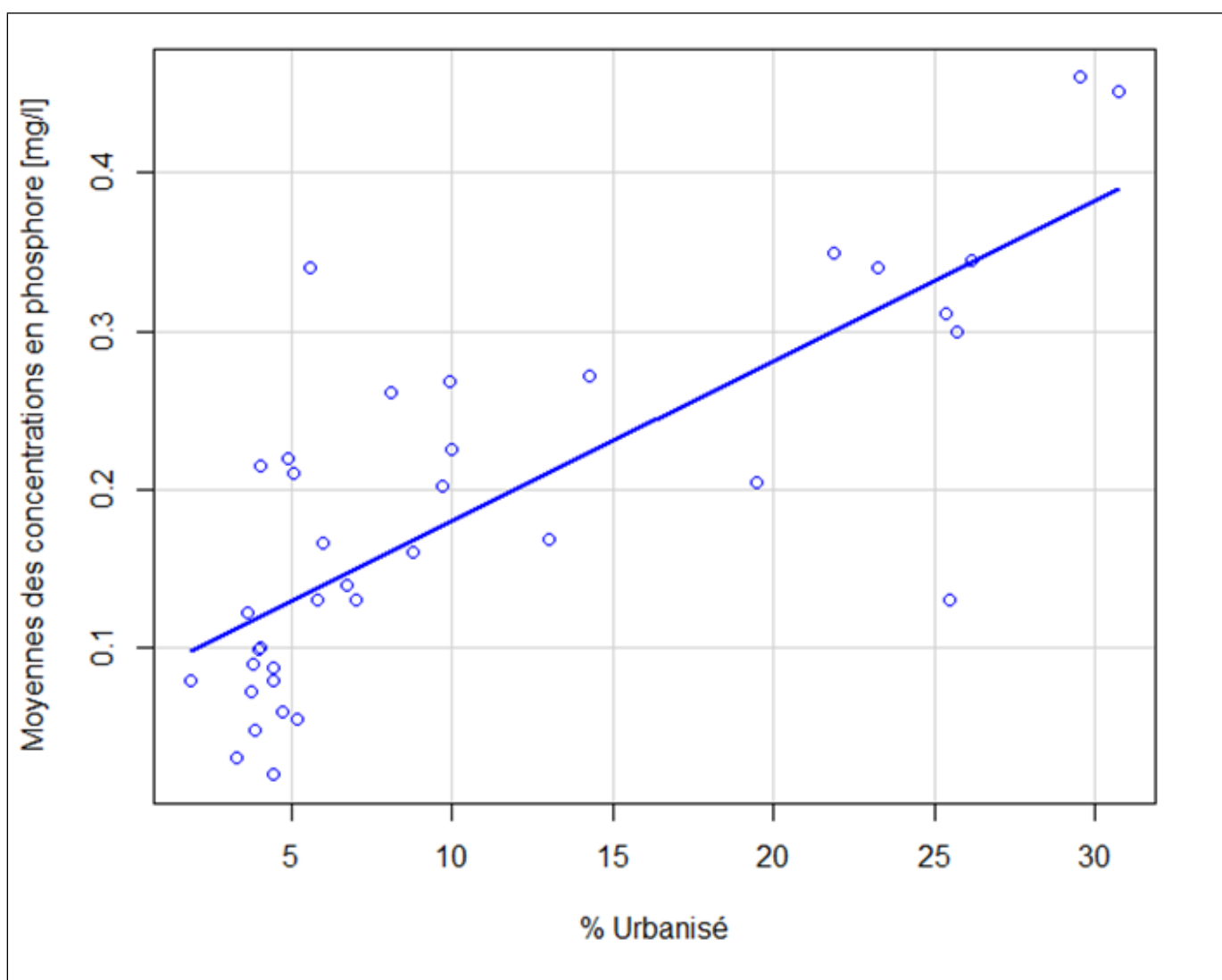


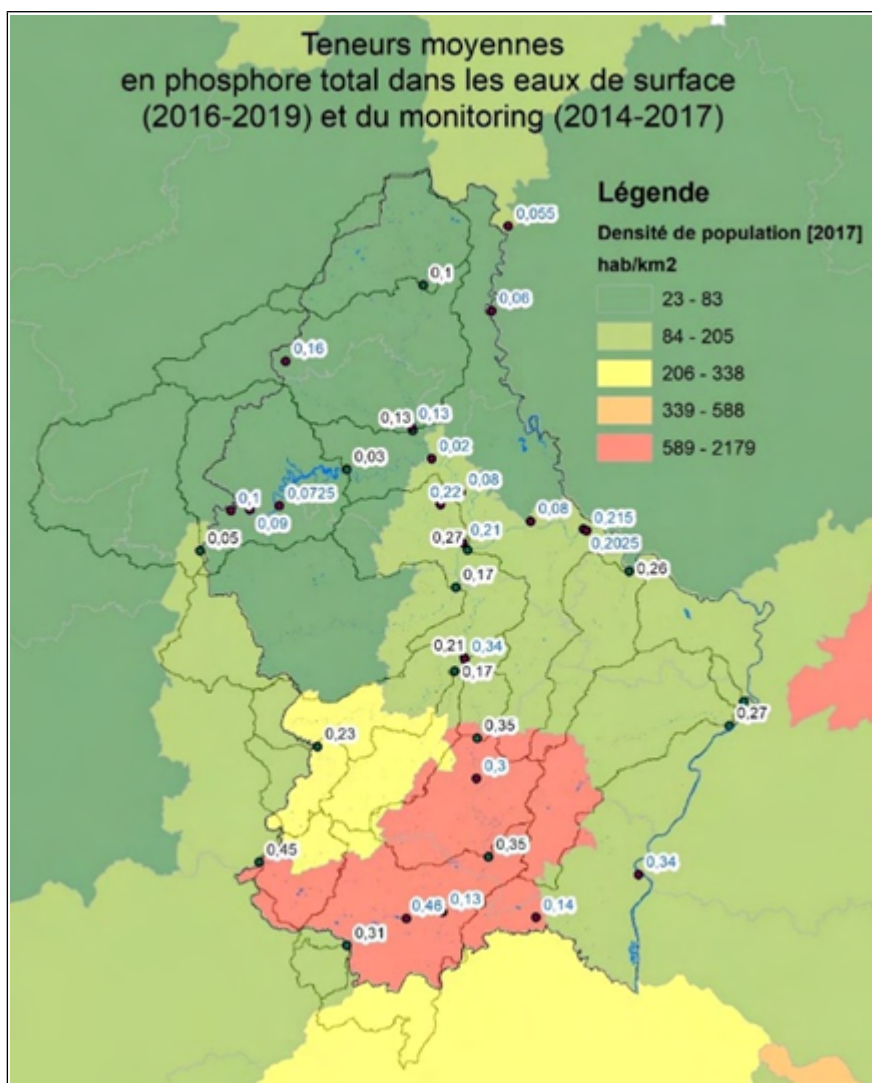


Sources: ASTA, soil service

The sometimes high levels of phosphorus in surface waters are mainly due to the effects of urbanisation. As phosphorus is essentially fixed by the soil, it is much less exposed to the risk of leaching. The phosphorus content in surface waters is indeed correlated with urbanisation.

Table: Correlation between urbanisation release and soil phosphorus content

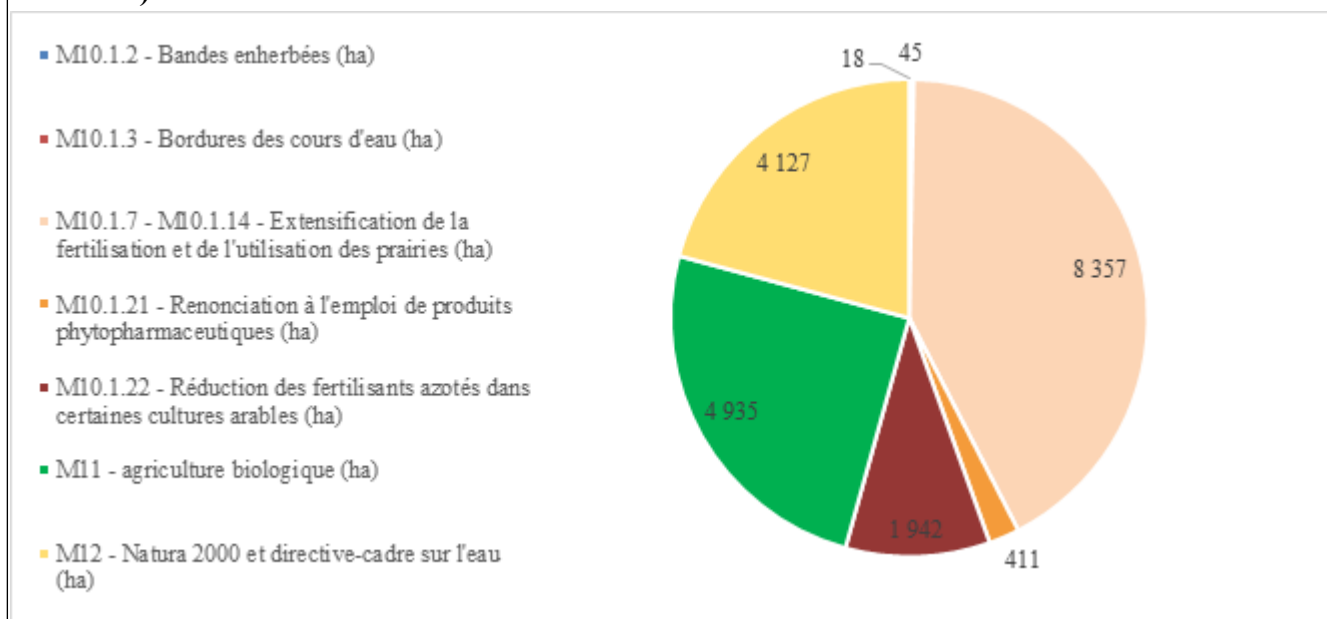




Sources: ASTA, soil service

The Rural Development Programme 2014-2020 proposes a series of measures for good land management for water protection. In 2020 around 18 % of Luxembourg's total UAA participated in management measures favourable to water protection:

Table: Size of areas involved in management measures favourable to water protection (2020, total: 23 535 ha)



The targeting of these measures is such that only measure M12 is specific to water protection zones. The other extensification measures, with the exception of certain options for the reduction of fertilisation, are applicable to all agricultural areas in the country.

An effective measure to avoid the introduction of nutrients and plant protection products and their derivatives is the creation of grass strips along rivers. However, this measure is not sufficiently requested by farmers to show satisfactory effects.

In view of the unencouraging results of water quality, the^{3th} Water Management Plan for the implementation of the Water Framework Directive identified three possible scenarios that could explain these results:

- Protection measures are not sufficiently applied to water protection zones in order to improve water quality.
- A reversal of the trend of nitrate trends in water is not yet visible as protection zones have only just been declared a few years ago and the process has not yet been completed.
- Nitrogen stocks in the surface areas of the soil are so large that the smoke reduction measures show significant latency in their effectiveness.

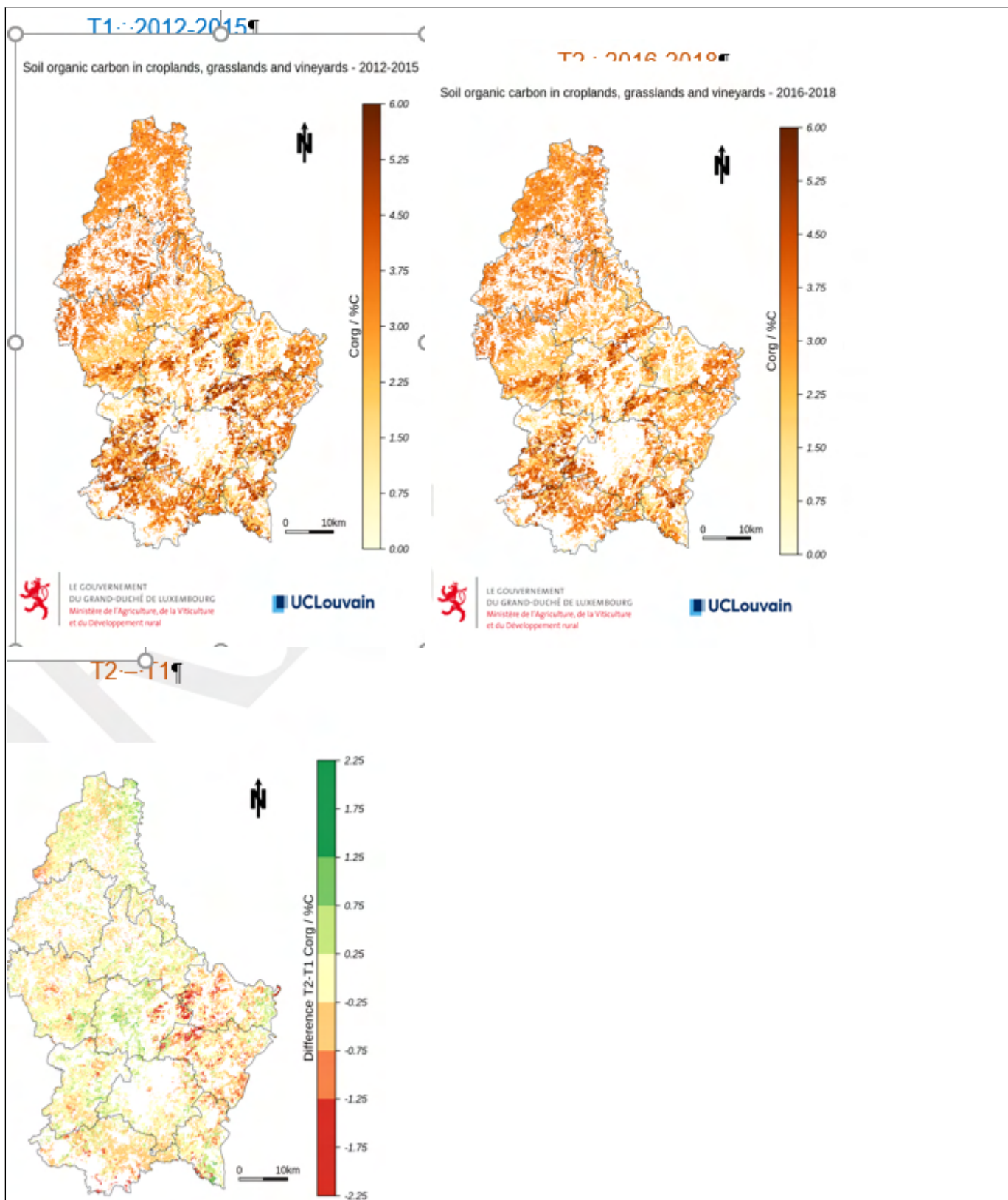
Soil organic carbon

The soil organic carbon (SOC) under cultivation varies according to a north-south gradient linked to the colder and humid Oesling climate that reduces biological activity and the decomposition of organic matter. Soil organic matter levels are therefore largely determined by natural environmental factors but also by agricultural practices.

The average soil organic carbon (SOC) content is estimated nationally at 2.25 % C in arable land, 3.57 % C in permanent grassland and 1.74 % C in vines. (Recent Evolution of Soil Organic Carbon in the Grand Duchy of Luxembourg: C. Chartin, B. van Wesemael, S. Marx, M. Steffen, L. Leydet [2020]). Between two observation periods – 2012-2015 and 2016-2019 – there is no clear national trend on the evolution of SOC, but minor regional changes are emerging. Oesling has significantly higher levels of SOC than in Gutland due to a colder and humid climate.

The study showed that the main factors influencing SOC are grassland land cover. On arable land, temporary grassland significantly increases the SOC content and, to a lesser extent, the reduced tillage of the soil. Intermediate crops seem to play an important role in improving SOC after maize crops.

Maps: Presence of organic carbon in soils



Sources: ASTA, soil service

Soil losses by water erosion are estimated at 2.1 tonnes per hectare per year (CI 40 soil erosion by water), which is lower than the EU average of 2,4. It is estimated that 3.3 % of UAA (around 4.000 ha) are considered at medium to high erosion risk, (EU average 7.5 %), Source: le/agridata.ec.europa.eu/extensions/IndicatorsEnvironmental/SoilErosionByWater.html).

In general, Luxembourg's soils are weakly to moderately susceptible to erosion. However, there may be risk situations arising from topography and crop rotation. To this end, the soils most to be monitored are

sandy, sandy-sandy and sandy-loamy soils on the Grès de Luxembourg, the stony clayey soils on the Bajocien limestone and these clayey soils in Keuper and the lower Lias, the proportion of which exceeds average (see predictions of annual soil loss by diffuse erosion to arable land).

Compared to the EU average, soil quality, expressed as total organic carbon content, is low (source: CAP context indicator C.41 Organic matter in arable land; JRC, based on Land Use/Coverage Area Area Area Area Area Survey 2015 (LUCAS). According to the RUSLE2015 model, Luxembourg has an average loss of soil by water of 2.1 tonnes per hectare (compared to 2,5 for the EU), which is equivalent **to medium to low erosion**. The estimated agricultural area affected by severe water erosion is moderate to low in Luxembourg. Conventional tillage is practiced on 66 % of arable land, and the share of maize in arable land is increasing, which increases the risk of soil erosion and surface run-off.

In 2020, almost 20 % of agricultural land was under RDP management contracts to improve soil management and/or prevent soil erosion.

Agricultural land (ha) under management contracts to improve soil management and/or prevent soil erosion (focus area 4C)	25.905
M10.1.5 – Diversification of champion crops (ha)	9.731
M10.1.19 – Prevention of nitrate erosion and leaching (ha)	16.174

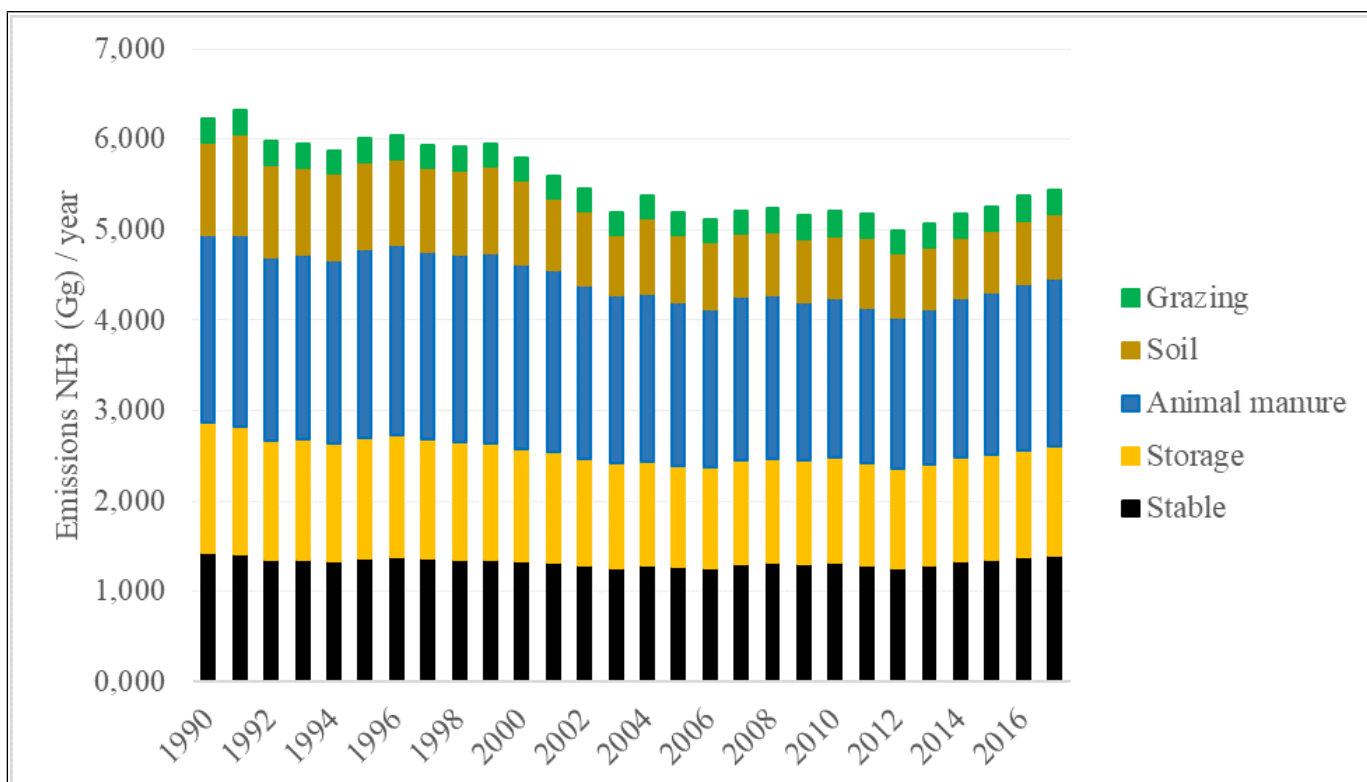
The erosion prevention measure supports reduced tillage, intermediate crops and subsemi. It has a wide application on labourable land (26 % of arable land).

Mention should be made **of the project on soil protection and the management of polluted sites**. The draft law in question aims at a coordinated approach addressing all aspects of soil protection and aims to establish a national soil protection plan in order to curb, inter alia, the effects of erosion and protect the soil resource and its ecosystem services.

Ammonia emissions

National commitments to **implement the NEC Directive** require ammonia emissions to be reduced by - 22 % in 2030 compared to the level achieved in 2005, with agriculture being the main source of ammonia emissions, accounting for almost 95 % of NH3 emissions. The following graph shows the evolution of ammonia emissions since 1990. In 2017, livestock farming, including housing, storage, land application and grazing, is responsible for 87 % of ammonia emissions from agriculture.

Diagram: Trends in ammonia emissions from agriculture



Sources: RES – Agricultural statistics, agricultural markets and external relations

Of the different animal categories, the majority of ammonia emissions are attributable to cattle (89 % ammonia emissions from livestock, 78 % from agriculture).

Luxembourg's agricultural production, which is strongly focused on livestock production and is characterised in particular by the expansion of milk production after quotas, is facing a major challenge. Several options for reducing ammonia emissions have been addressed with regard to techniques for storing and spreading livestock manure (manure and manure), lower use of chemical fertilisers, balanced animal feed with no excess protein, as well as measures related to the housing or even grazing of ruminants.

For the year 2021, the RDP has been adapted to provide for an additional support rate for the acquisition of these techniques.

Ammonia reduction should be linked to efforts to reduce greenhouse gases in the agricultural sector, or even an integrated concept promoting possible synergies and co-benefits on air, water and soil, while combining animal welfare requirements.

Multiple measures for the reduction of ammonia are foreseen in the NEC Action Plan (hereinafter referred to as "NEC Action Plan"//environnement.public.lu/fr/loft/air/plans-air/NAPCP.html) and form the basis for the NSP:

Adapt manure application techniques to limit nitrogen emissions and losses:

- Ban on the spray and nozzle broadcaster, as from 31.12.2023. Thus, only the use of low-ammonia spreading machines will be allowed.
- From 2027, the obligation to incorporate purine manure and digestate within 4 hours after spreading on arable land without cover.

Adapt manure application techniques to limit nitrogen emissions and losses:

- Proposal for an eco-scheme to incorporate manure directly after spreading (4 hours).

Adapt manure, manure or digestate storage techniques and evaluate manure storage techniques:

- From 2021, introduce an additional aid rate of 20 % to cover existing and new external slurry tanks in order to encourage more farmers to cover their external tanks.
- Legal obligation to cover external slurry/purin/digestate tanks from 1.1.2025.
- Prohibition of new constructions of slurry lagoons.

Adaptation of the Board for Farmers:

- Introduction of new advisory provisions to accompany the voluntary measures that will be implemented.
- Promotion of increased grazing time for livestock (grazing premium).
- Promotion of organic farming.
- Preparation of a national guide to good agricultural practice to limit ammonia emissions in accordance with the Grand-Ducal Regulation in force.
- Reduction of NH₃ emissions from mineral fertilisation. Promotion of the CULTAN method.

It is estimated that this package of measures will reduce ammonia emissions by 0.089 kt in 2020, 0.718 kt in 2025 and 1.231 kt in 2030.

It should be noted that the 2014-2020 RDP offers a measure that supports the spreading of slurry and slurry by spreading techniques near the soil. This measure is applied over 20.000 ha (about 15 % of the UAA). Participation in this measure was increasing throughout the period. The measure was supplemented in 2021 at the level of investment aid with an additional aid rate (national aid) for the acquisition of compatible techniques. Farmers' responsiveness was instantaneous, as spreading with sparse nozzles will be defended in 2025. 80 aid applications for machinery for near-ground spreading were approved during the first six months of the implementation of the aid.

The European Commission points out that "Luxembourg has already (for 2023) placed 89 % of its agricultural land under contract to protect biodiversity and improve water and soil management, but the results seem insufficient. The impact of soil management practices can be further increased if, for example, they are linked to research, innovation and demonstration activities available under the next Horizon Europe Mission on Soil Health".

Sealing of floors

In terms of land use, Luxembourg notes a slight but continuous decrease in the share of agricultural land. Since 2001, the resident population in Luxembourg has increased by more than 40 % from around 450.000 inhabitants in 2001 to 632.000 inhabitants in 2020 (Source: STATEC, 2022). This development is based on the country's economic development, creating strong pull forces, resulting in a significantly positive migration rate. In order to accommodate new inhabitants, housing is being created because of rapid growth and the relative urgency of making new units accessible, developments are being carried out effectively throughout the country, creating new residential constructions even in small rural villages. It should be noted that most of these developments take place on agricultural land.

Diagram: Population trends in Luxembourg municipalities by territorial typology, 2000-2022

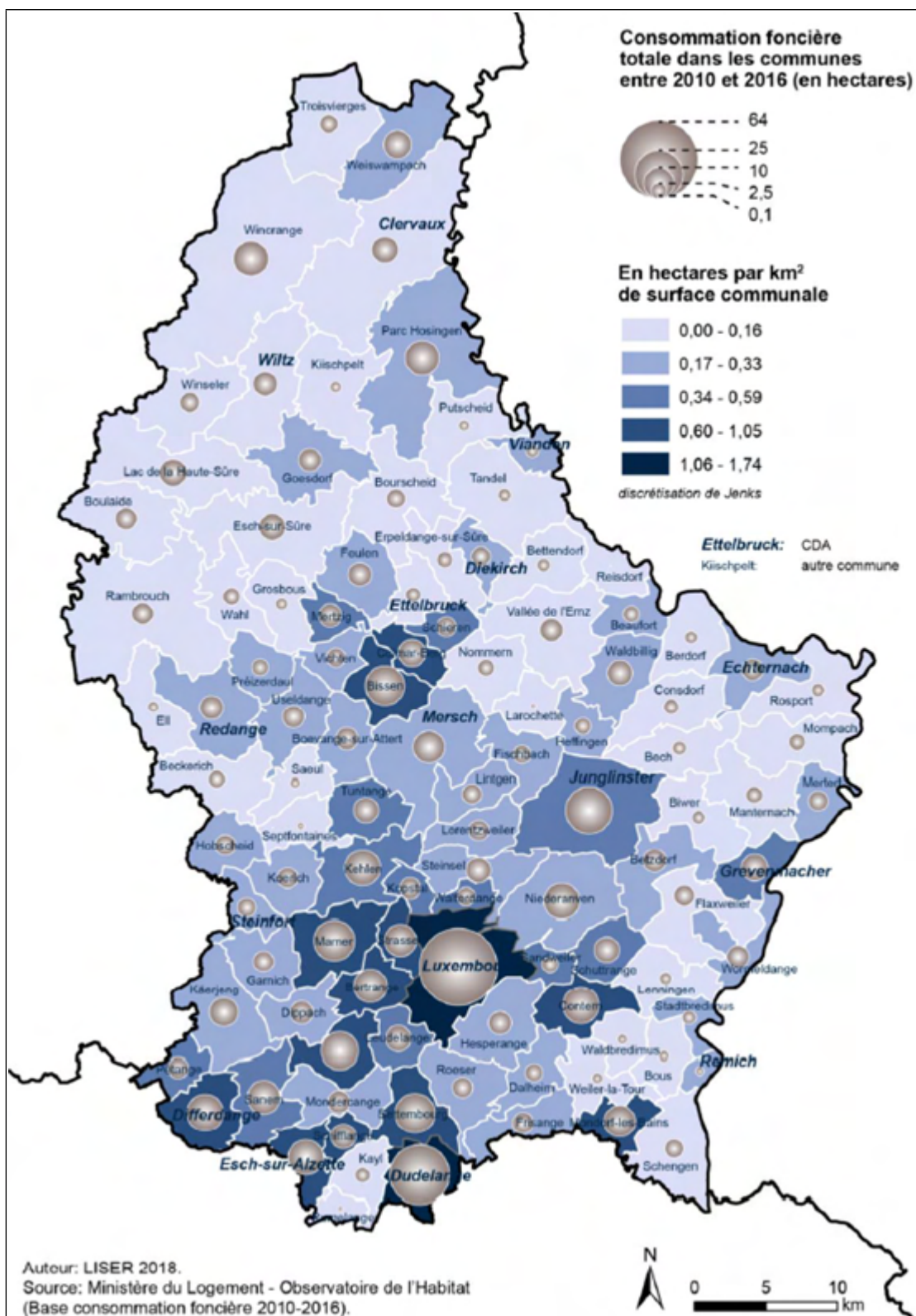


Sources: MAVDR, 2022, based on Statec data

Unlike the major trends in demographic development in Europe, all rural typology municipalities in Luxembourg show a positive population rate. Because of the limited land potential in cities, and consequently high prices in the centres of the country, more and more residents move to rural areas. In this context, reference should be made to population trends by typology. The average growth rate for the 71 'rural' municipalities is much higher (57.1 %, 2000-2022) than for the 26 'urban' municipalities (41.2 %, the same years). Between 2000 and 2022, some rural municipalities even doubled their population, which is a sign of strong demographic development outside the centres.

This demographic change has a major impact on soil consumption. Between 2010 and 2016, land consumption only for housing constructions amounted to one hectare consumed every 3 days (3.120 m² per day) (Decoville, A. & Feltgen, V., 2018, Diagnostic of Territorial Development). The vast majority of these constructions are carried out on new land, which is therefore impermeabilised and made inaccessible for any other use except for the function of the dwelling. It should be noted that this rate does not include ancillary functions, such as sealed surfaces for the construction of public equipment, such as roads, reception or water supply/treatment facilities, which also contribute to soil consumption. The actual soil consumption rate is therefore even higher.

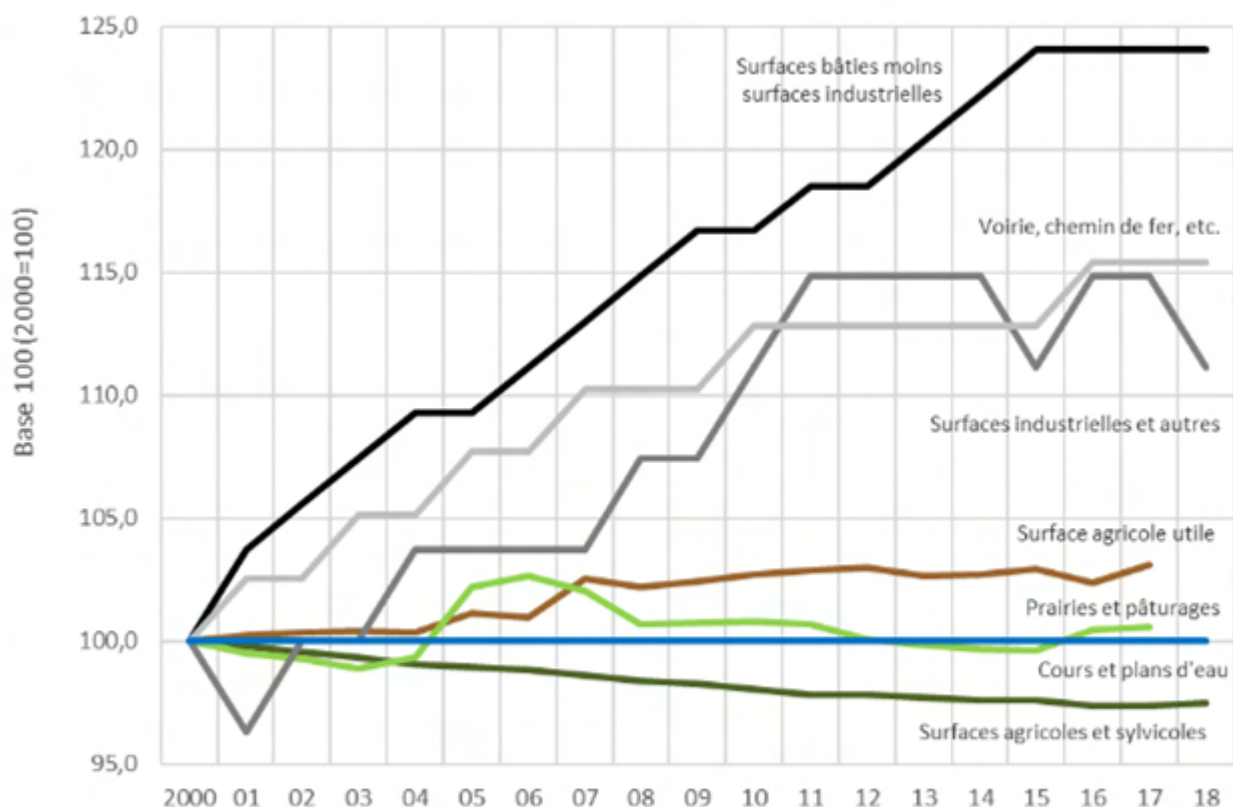
The structure of Luxembourg's territory is marked by huge breaks in urbanised fabric. As a result, urbanised areas and municipalities are located in direct proximity to rural areas and municipalities. The map shows land consumption by municipality between 2010 and 2016. Although the majority of consumption is geographically concentrated on municipalities urbanised in and around Luxembourg town, Dudelange, Esch-sur-Alzette and Differdange, it should be noted that many municipalities in rural areas demonstrate similar development. The examples are Reckange-sur-Mess, Mondorf-les-Bains, and a large number of rural municipalities around and between the major urban areas of Luxembourg City and the southern region.



Sources: Decoville, A. & Feltgen, V., 2018, Diagnostic of Territorial Development

This development described above contributes to a reduction in the share of agricultural land. Between 2000 and 2018, the share of agricultural and forestry areas decreased steadily by around 2,5 percentage points (Index 100 in 2000). It should be noted that land pressure also affected the average price of agricultural land, which more than doubled between 2003 and 2017 (Source: MAVDR, 2020, Analysis of the situation in the agricultural sector). In the long term, this development risks reducing the accessibility of land for agricultural production, which may lead to farmers' activities. The topic is addressed to the perspective of young farmers in PO 7.

Diagram: Trends in main soil occupations (index 100 in 2000)



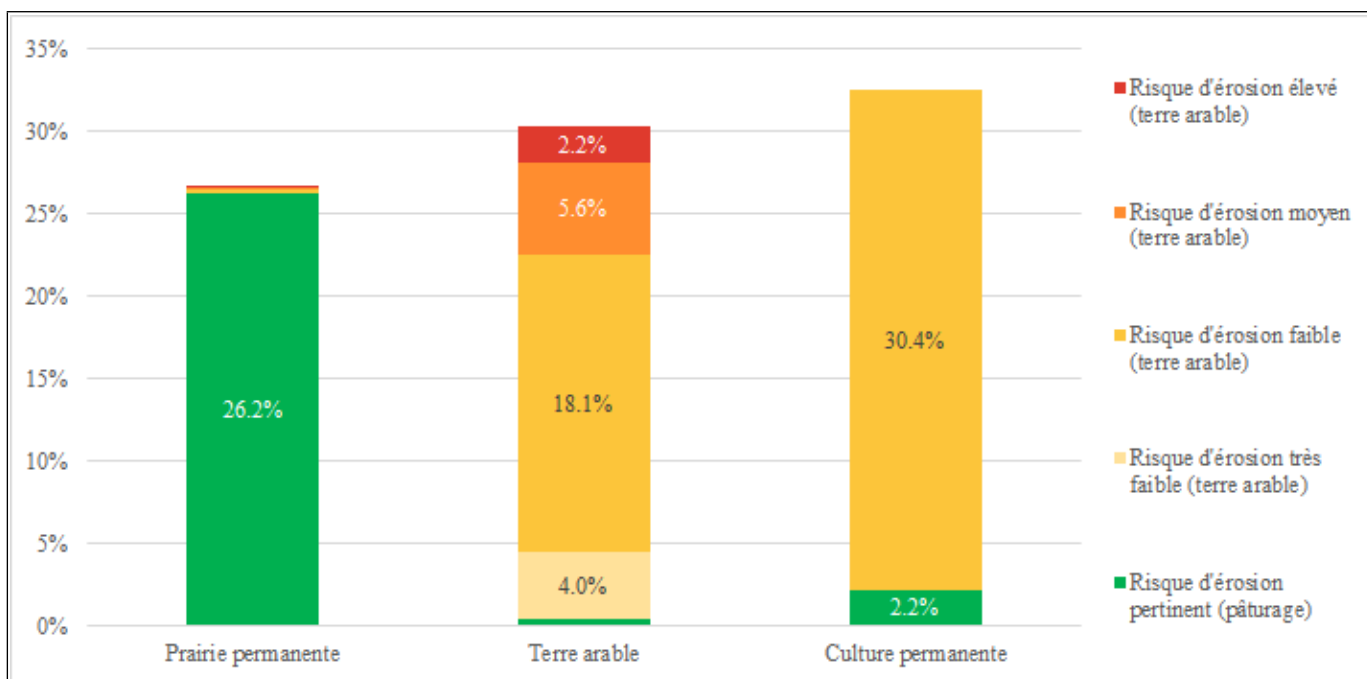
Sources: MAVDR, 2020, Analysis of the situation in the agricultural sector

Protection of water

To reduce the input of pollutants into surface and groundwater, Luxembourg has defined different protection zones, with the aim of improving and protecting water. There are several types of protection zones, it should be noted that each zone obliges operators to take different protection measures. If all the different protection areas are combined to exclude intersections, 37 % of all agricultural grazing areas are in areas under one or more water or erosion protection schemes, 24 % of arable land and 9 % of permanent crops (based on land use 2021). Because of the geographical distribution of the protection zones, agricultural areas with protection status can be found under almost each type of agricultural use. To maintain a good overview, only the most relevant comments will be described below.

According to ASTA's analysis, 7.8 % of arable land in Luxembourg is at risk of medium or high erosion. 18.1 % of areas have a low risk of erosion and 4 % have a very low risk of erosion. The rate of permanent grassland with a risk of erosion is significantly higher, more than a quarter (26.2 %) of all grazing areas have been classified as an area with a relevant erosion risk. Around a third of permanent crops demonstrate a low risk of erosion.

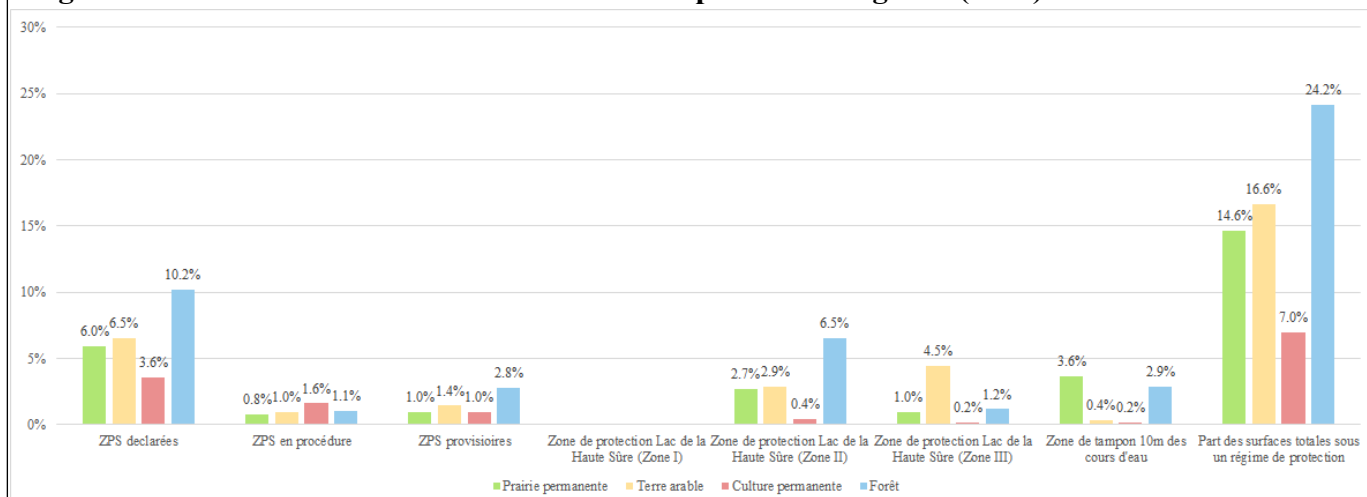
Diagram: Risk of erosion on permanent grassland, arable land and permanent cultivation (2021)



Sources: MAVDR, 2022

The protection of waters is regulated in Luxembourg by two types of zone. The first type is source protection areas (SPAs), under which 6 % of pastures and 6.5 % of arable land were classified (3.900 ha, 3.600 ha respectively). It should be noted that new areas of this typology are currently in procedure or have been declared provisionally. The second type is the protection zone around the Artificial Lake of the Upper Sûre, which guarantees a large part of the country's water supply. Although the area is geographically limited to the region around the lake, 11.1 % of all agricultural areas in the country (pasture, arable land, permanent crops) are classified (6 500 ha). During the development of the NSP for the post-2022 period, it was decided to introduce restrictions on agricultural practices around permanent and non-permanent rivers. Applying a buffer zone of 10 m, 3.6 % of pasture, 0.4 % of arable land and 0.2 % of the country's permanent crops (2 600 ha) are located in these areas.

Diagram: Share of surfaces under different water protection regimes (2021)

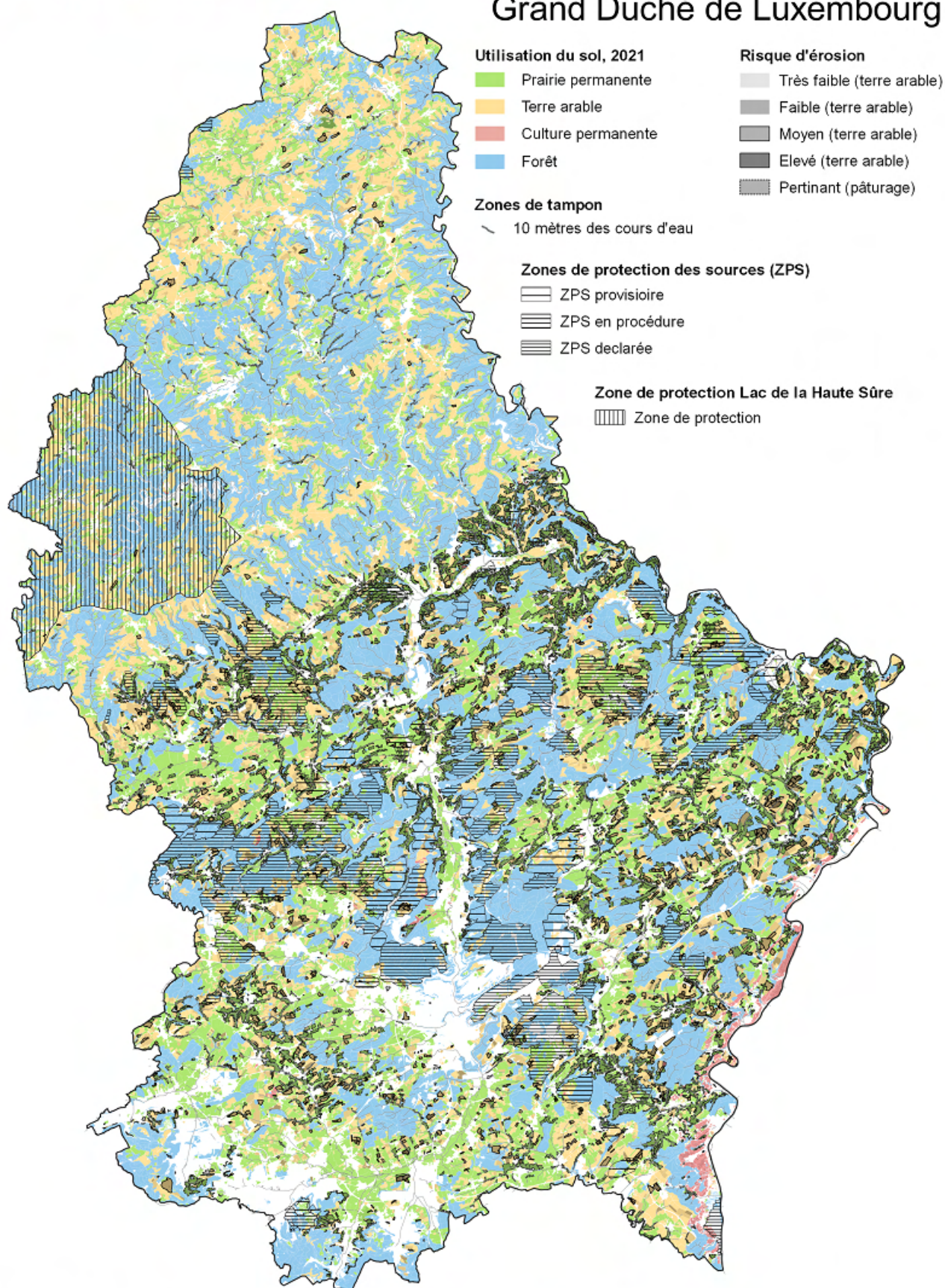


Sources: MAVDR, 2022

Overall, 14.6 % of pasture land, 16.6 % of agricultural land and 7 % of permanent crops fall under at least one water protection scheme in Luxembourg, representing a significantly high rate.



Protection des eaux, risque d'érosion et agriculture au Grand Duché de Luxembourg



Source : Ministère de l'Agriculture, de Viticulture et du Développement rural, 2022 sur base d'information de l'ASTA et Luxembourg Open Data Portal.

2.1.SO5.2 Identification of needs

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan
B5.1	Ensuring the protection of groundwater and surface water (Water Framework Directive)	P1	Yes
B5.2	Reducing ammonia emissions from the agricultural sector	P1	Yes
B5.3	Reduce the use of plant protection products and limit the risks and negative effects associated with	P2	Yes
B5.4	Ensuring soil fertility and combating soil degradation	P2	Yes
B5.5	Building a holistic approach to the AKIS system taking into account the specific needs of OS5	P1	No

Other comments related to needs assessment.

No further comments

2.1.SO5.3 Identification of the relevant (elements of) national plans emanating from the legislative instruments referred to in Annex XI of the CAP plan Regulation that have been taken into account in the CAP plans' needs assessment for this specific objective

The following national plans were taken into account in the SWFOM analysis and needs under Objective 5

- Integrated National Energy and Climate Plan 2021-2030, taking into account:
 - Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013;
 - Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 2013/30/EU, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU and 2012/27/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council
 - Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC;
- Management plan for the parts of the international Rhine and Meuse river basin districts located on Luxembourg territory (2015-2021) in application of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy;
- Nitrate Action Plan resulting from Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources;

- National air pollution control programme (NAPCP), transposition of Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC;
- National air quality programme to achieve the limit values for nitrogen dioxide and to limit fine particulate matter in air in accordance with Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe;
-
- National action plan for the reduction of plant protection products under Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides.

2.1.SO5.4 Intervention logic

Form of Intervention	Type of Intervention	Intervention Code (MS) - Name	Common Output Indicator
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.512 - Aid for the installation of non-productive areas	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.513 - Aid for the installation of non-productive strips	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.514 - Aid for renunciation of plant protection products	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.515 - Aid for setting up catch crops and undersowing on arable land	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.516 - Aid for the use of synthetic pheromones in viticulture	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.518 - Aid to encourage the incorporation of manure	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.519 - Aid for the use of arboriculture synthetic pheromone nozzles	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPcoupled	CIS(32) - Coupled income support	1.03.503 - Coupled aid for legumes	O.10. Number of hectares benefitting from coupled income support
DPcoupled	CIS(32) - Coupled income support	1.03.505 - Coupled aid for suckler cows	O.11. Number of heads benefitting from coupled income support
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.540 - Premium for the establishment of sustainable and environmentally-friendly agriculture — Agriculture	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-	2.02.542 - Premium for sustainable and environmentally-friendly	O.14. Number of hectares (excluding forestry) or number of other units covered by

	related and other management commitments	agriculture — Viticulture	environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.543 - Support for the conversion and maintenance of organic farming	O.17. Number of hectares or number of other units benefitting from support for organic farming
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.544 - Support for slurry injection and manure composting	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.549 - Support for reduced tillage	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.551 - Aid for the conversion of arable land into permanent grassland	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ASD(72) - Area-specific disadvantages resulting from certain mandatory requirements	2.01.530 - PAYMENTS UNDER THE WATER FRAMEWORK DIRECTIVE	O.13. Number of hectares benefitting from support under Natura 2000 or Directive 2000/60/EC
RD	INVEST(73-74) - Investments, including investments in irrigation	2.04.714 - Aid for environmental investments	O.20. Number of supported on-farm productive investment operations or units

Overview

Interventions for efficient resource management are intertwined with each other and sometimes have contributions at different levels and objectives.

Ensuring the protection of groundwater and surface water (B5.1)

Some interventions aim to achieve stagnation or even decrease in the leaching of nutrients and plant protection products in order to comply with the requirements of the Water Framework Directive and the Nitrates Directive and to contribute to the supply of drinking water.

The interventions are supported by enhanced conditionality by protecting the banks of all watercourses over a width of 10 m. The implementation of the Nitrate Directive provides for a multitude of technical aspects for water protection: application period for manure from farms, authorised quantities of organic and mineral smoke per crop, coefficients necessary for the determination of the nitrogen available, and many other obligations with regard to smoke and water protection. These obligations are currently being reformulated with the aim of strengthening water protection.

Efforts **should be made to adapt fertilisation practices and manure management** in order to achieve the objectives set for water protection, while taking into account the National Air Pollution Control Programme (NEC).

Payments under the Water Framework Directive for agricultural parcels located in water protection zones are specifically directed to water protection zones to compensate for restrictions on mineral and organic fertilisation in order to limit diffuse nitrate pollution. Similar interventions, however applicable at national level, also aim at reducing fertilisation:

- Aid for the reduction of nitrogen fertilisation (national aid)
- Aid for the setting up of non-productive areas (ecological scheme)

- Aid for the installation of catch crops and under-sowing on arable land (ecological scheme)
- Aid for the establishment of non-productive strips on agricultural land. (ecological regime)

It should be pointed out that catch crops are not fertilised but make it possible to recover nitrates after harvesting, as do the undersowing technique. Nitrogen is thus fixed in the plants and released in spring for the following crop. At the same time, the soil is protected during winter and enriched in spring with organic matter, which avoids soil erosion. Decomposed organic matter plays the role of organic fertiliser and reduces the fertilisation of the following crop again. It should be noted that any reduction in fertilisation is a reduction in greenhouse gases.

It should be noted that non-productive surfaces and strips are not subject to fertilisation or application of a PPP product.

Measures to reduce livestock load and support extensive livestock production (maintenance of a reduced livestock load, national aid) also make a significant contribution to water protection, as they will reduce the number of cattle and thus the livestock manure which may be problematic if there is an excess of land available for land application. At the same time, a nominal reduction in cattle will lead to a reduction in GHG emissions.

The countryside maintenance premium is reoriented for the 2023-2027 programming period and becomes the **premium for sustainable and environmentally friendly agriculture**. The main aim is to limit the livestock burden and promote the implementation of key elements for sustainable agriculture that respects natural resources (water, soil, air, climate, biodiversity). This measure has a broad spectrum of commitment, but also a great deal of participation by farmers. It is an entry measure for sustainable protection and environmental awareness. It should guide farmers towards agri-environmental measures. Its orientation towards limiting livestock load should therefore contribute to limiting greenhouse gas emissions, ammonia and diffuse nitrate pollution through better manure management.

That measure has been adapted for the new programming period by a particular monitoring of maize cultivation which may create a risk to diffuse water pollution by nitrates. The beneficiaries of the aid are required to comply with a certain reference level of nitrogen balances after the maize harvest.

Reducing the use of plant protection products (B5.3)

Water quality is also determined by the presence of plant protection products (PPPs) and its decomposition residues. The following interventions shall be implemented to limit the application of plant protection products in accordance with the action plan for the reduction of plant protection products:

- Aid for the renunciation of plant protection products
- Aid for the use of synthetic pheromones in viticulture and arboriculture
- Support for conversion to and maintenance of organic farming.
- All measures with a favourable impact on temporary and permanent grassland

These interventions aim to reduce PPPs either through the complete abandonment of a product group or accompanied by alternative techniques (organic farming, pheromone diffuser, mechanical control). After the successful introduction of pheromone broadcasters in viticulture, sexual confusion by pheromone is extended in the NSP to fruiticulture and is expected to replace insecticides. These interventions are also programmed at Pillar I level as an ecological scheme to encourage wider participation in these interventions as the objectives of the Phyto NAP are ambitious.

The PPP opt-out premium also includes an option that aims at substituting PPP products of concern with lower-risk products. This intervention is thus consistent with the national plant protection action plan.

Banning the use of synthetic PPPs in **organic farming** could make a significant contribution to the reduction of these products, especially if this intervention is linked to an ambitious target of 20 % of UAA organic in 2025, fully in line with the European Commission's strategy.

Farm advice and holistic AKIS approach (B5.5)

Alongside this offer of interventions aimed at reducing the inputs involved in water pollution, there is a catalogue of **advisory modules** for water protection^[1]: preparation of smoking plans, conversion to organic farming, arable crops, energy balance and nutrient balance, etc. These modules are supported by state aid and are publicised by a network of approved agricultural advisers.

In the water protection zones there is also a **network of facilitators** from the Ministry of the Environment who are responsible for raising awareness among stakeholders of the advisory modules and the promotion of measures proposed by the NSP and other State aid. It is planned to develop, jointly with the Ministry of the Environment, a monitoring system which should make it possible to determine the impact of the various measures on water quality and, where appropriate, to provide the information needed to give greater guidance to the assistance in order to achieve the expected results.

The Luxembourg authorities thus demonstrate compliance with the European Commission's recommendation as regards the efforts to be made to improve water quality. All the necessary tools are made available to the actors: reduction of manure, pesticides and livestock load, protection of banks by protective strips, manure management measures, holistic farm advice and monitoring of measures.

Ensuring soil fertility and combating soil degradation (B5.4)

From one point of view **of soil protection**, multiple interventions are proposed:

- All measures to reduce PPPs also have a positive impact on soil fauna and flora and thus contribute to maintaining soil fertility.
- Interventions that promote soil organic matter also support soil fertility and erosion control. The following co-financed interventions should be highlighted in this context: Direct sowing or reduced tillage, aid for the installation of catch crops and under-sowing on arable land.
- Undercross-compliance, areas at high erosion risk are defined and protected by a ploughing ban and grass protection strips. It is also planned to prescribe green cover of ploughing land during winter. (GAEC 6). Crop diversification/rotation also contributes to soil fertility.

The Commission's recommendations for combating erosion are therefore widely considered.

Reducing ammonia emissions from the agricultural sector

Intervention aimed at spreading liquid manure using ready-to-land land application techniques significantly reduces ammonia evaporation. These techniques may be applied to arable land and grassland. A new measure is planned at ecological regime level which also provides for the incorporation of manure within 4 hours of spreading and therefore also contributes to the reduction of ammonia emissions. The main purpose of grazing cattle is animal welfare. However, grazing of the animals leads to the separation of liquid and solid manure, which will contribute to limiting the formation of ammonia.

At the level of aid for agricultural investments, it is planned to raise farmers' awareness of the integration of techniques that also limit ammonia emissions such as covering external tanks, separation of liquid and solid phases of manure. The indoor and outdoor space of livestock buildings must be adapted to limit the mixing of excrements by rapid removal of urine and regular scraping of the excavations. This technique makes it possible to limit the formation of ammonia by avoiding contact between urease and the nitrogen elements responsible for the formation of ammonia.

Openings to an underlying slurry tank of livestock buildings shall be reduced by means of sealing valves

or by means of a slatted carpet designed to reduce the number of slatted slots, thereby limiting evaporations. The interior space of new buildings must be equipped with thermal insulation of the roof or a green roof to limit an increase in temperatures and ultimately ammonia evaporations. The new establishments eligible for investment aid shall be constructed to be close to a connection to a biogas installation. The national component of agricultural investment aid (machinery) also includes support for soil slurry injection spreading techniques that significantly limit ammonia evaporations.

Eligible investments shall be planned in coordination with advice aimed at reducing greenhouse gas emissions, responsible water use and animal welfare. It should be noted that the measure also provides for support for investments in rainwater retention and favours equipment for monitoring the sealing of slurry pits.

At the level of the ammonia reduction target, the farm council (national aid) also provides for a specific module which may take account of advice on the constitution of food rations or the reduction of the age of first calving which also contribute to a reduction in emissions.

The evolution of the cattle population is decisive for the impact of the beef production sector on water, air and climate. The Luxembourg authorities plan to analyse closely the development of the bovine herd and the impact of the various reduction measures on that herd. The development of suckler cows' herds is particularly targeted in order to keep up with the introduction of coupled support for suckler cows. Adjustments to the interventions are envisaged if their impact does not make it possible to match the targets set.

Water availability

According to the opinion of the Water Management Administration (AGE), drinking water resources are limited and new resources are to be explored. Groundwater bodies have limited capacity and winter rainfall is no longer optimal. Population growth and economic growth draw on water reserves. Farm development, especially in milk production, has accelerated in the past and contributes to increasing water consumption. It should be noted that the overall water consumption of a dairy cow exceeds that of an equivalent inhabitant. The AGE must provide, at least at regional level, authorisations for fodder or the extraction of water from rivers and rivers in order to guarantee the necessary quantities for all consumers. River flow rates must be guaranteed to ensure adequate biophysical quality as well. Farms are constrained to have more efficient water management systems. Investment solutions should be provided as well as in the provision of water resources.

[1] [//data.legilux.public.lu/eli/etat/leg/rmin/2020/02/28/a109/jo](https://data.legilux.public.lu/eli/etat/leg/rmin/2020/02/28/a109/jo)

2.1.SO5.5 Where relevant, a justification for the use of InvestEU, including the amount and its expected contribution to the Specific Objective/Cross-Cutting Objective

Not applicable

2.1.SO5.7 Are you planning CAP contribution towards the LIFE programme (only for SO4, SO5, SO6)

: No

2.1.SO5.8 Selection of the result indicator(s)

Selection of the result indicator(s) for this specific objective

Result indicators [recommended Result indicators for this specific objective are fully displayed in bold]	Target value
R.19^{PR} - Improving and protecting soils Share of utilised agricultural area (UAA) under	91.99 %

supported commitments beneficial for soil management to improve soil quality and biota (such as reducing tillage, soil cover with crops, crop rotation included with leguminous crops)	
R.20^{PR} - Improving air quality Share of utilised agricultural area (UAA) under supported commitments to reduce ammonia emission	54.66 %
R.21^{PR} - Protecting water quality Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies	91.99 %
R.22^{PR} - Sustainable nutrient management Share of utilised agricultural area (UAA) under supported commitments related to improved nutrient management	91.10 %
R.24^{PR} - Sustainable and reduced use of pesticides Share of Utilised Agricultural Area (UAA) under supported specific commitments which lead to a sustainable use of pesticides in order to reduce risks and impacts of pesticides, such as pesticides leakage	36.36 %
R.26^{CU} - Investment related to natural resources Share of farms benefitting from CAP productive and non-productive investment support related to care for the natural resource	2.55 %

Justification of the targets and related milestones

As regards the targets and milestones, reference is made to the 'other comments' section of the SWOT section and to the detailed description of the interventions falling within that specific objective.

2.1.SO5.9 Justification of the financial allocation

The financial allocations come from both the EAGF and the EAFRD in order to combine as much as possible the financial means and the effects of the various interventions (EAWs and the ecological scheme) in order to meet multiple environmental objectives and needs. At the same time, national resources are provided to complement interventions co-funded by European funds with the aim of having complementary and multiple effects in order to achieve the objectives set.

The provision of funds is also the result of a process of concertation between actors and is the result of a political agreement.

Regular monitoring of implementation and impacts is foreseen in order to be able to respond to the evolution of the emissions trajectory and to adapt interventions and means.

2.1.SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

2.1.SO6.1 Summary of the SWOT Analysis

2.1.SO6.1.1 Strengths

1. High geomorphan-soil diversity with a relatively high corresponding diversity of habitats and species.
2. More than 52 % of the total UAA under permanent grassland and pasture (restricted pesticide application; in 2018, 19 % of permanent grassland and pasture are subject to an extensive production method).
3. Since 2014, PEPEN has contributed by introducing a minimum threshold of landscape structural elements, biotopes or non-fertilised areas to maintain and improve biodiversity in an open environment. The general ban on conversion of permanent grassland and the ban on turning over to Natura 2000 areas make it possible to maintain the biodiversity assets of grasslands and pastures.
4. Implementation of different regulatory measures (severe and accurate GAEC on biodiversity) and increasing voluntary participation of farmers in AECMs and Biodiversity schemes.
5. The biotope cadastre, available throughout the territory, allows operators to know the location of the protected biotopes.
6. As 95 % of winegrowers work with pheromone dispersers, insecticides are rarely used.
7. Many green areas are present in vineyards which are subject to grass strips.

2.1.SO6.1.2 Weaknesses

1. Decline in the biodiversity of vertebrates, invertebrates and flora, in particular through the development of certain agricultural practices and increasing peri-urbanisation.
2. Nature conservation objectives not yet achieved, in particular under certain EU directives.
3. Lack of systematic monitoring and evaluation of the effectiveness of biodiversity contracts and agri-environment measures.
4. Significant delays in the implementation of Natura 2000 measures.
5. Control system for measures to be improved: the most effective measures for biodiversity are difficult to monitor (indicators, etc.).

2.1.SO6.1.3 Opportunities

1. More ambitious environmental objectives of the future CAP.
2. Increasing environmental sensitivity of society and farmers.
3. Elimination of glyphosate as a total herbicide as of 2021.
4. Political will to significantly increase organic farming with positive effects on biodiversity: 20 % in 2025.
5. 27 % of the national territory under Natura 2000 network with management plans and local structures being finalised.
6. Structure of actors present on the ground with biological stations, natural park unions of municipalities.
7. Successive introduction of result-based measures with greater flexibility for farmers.
8. Implementation of the national action plan for the reduction of plant protection products.
9. Funding provided through available public funds.

2.1.SO6.1.4 Threats

1. Milk production increasing from 2015 onwards (end of the milk quota system); number of farms in decline with a relatively high age pyramid and risk of an increasing number of large farms with priority challenges focused on productivity and not on environmental services.
2. There is a risk that support measures to increase competitiveness may partly counteract the protection

of the environment and biodiversity (antagonists).

3. Constraints linked to environmental objectives, regulatory weaknesses (including the cumbersome regulatory procedure in Luxembourg) and the multiannual nature of AECMs are often cited as a barrier to “solving” environmental problems.

4. Impact of climate change (drought) on the state of certain biotopes.

5. Demographic pressure and economic growth.

2.1.SO6.1.5 Other comments

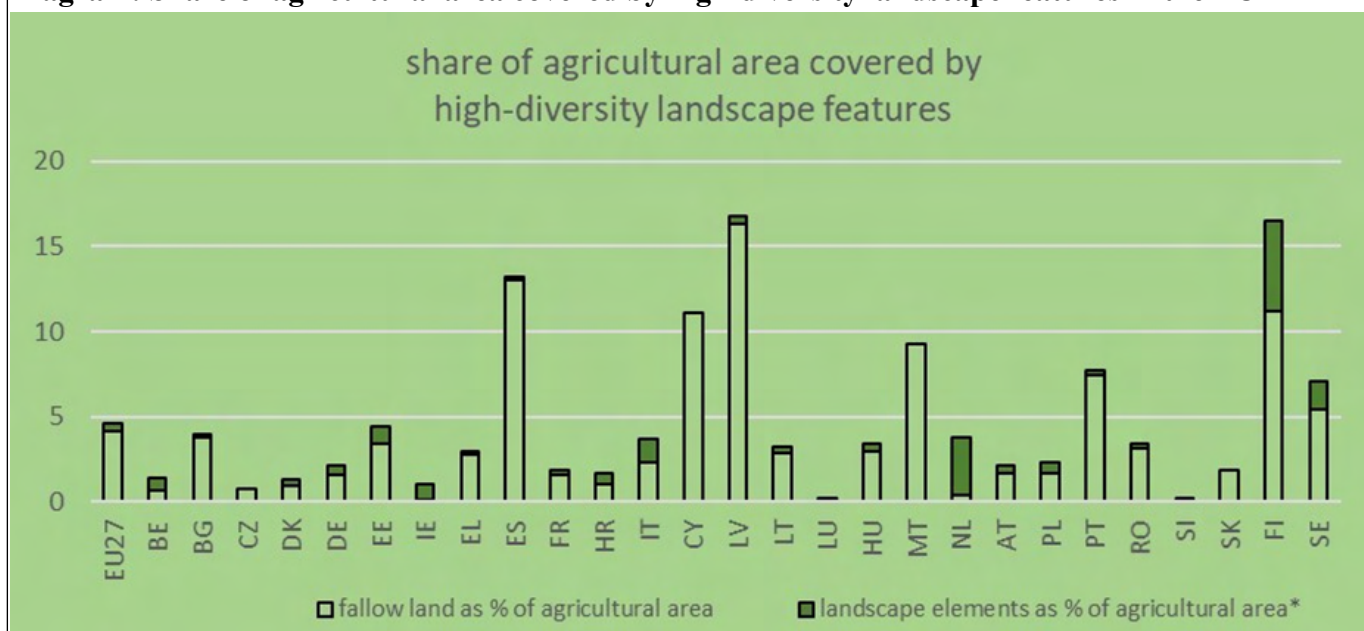
Impact of agriculture on biodiversity

The different sectors of agriculture have an impact, sometimes beneficial, and sometimes negative, on biodiversity, ecosystem services and habitats and landscapes. The Luxembourgish Field Bird Population Index shows a decline: it was 66 in 2018 (compared to the 100 baseline in 2010), slightly below the EU average of 70 in that year. For cropland, a key biodiversity indicator is the skylark (*Alauda arvensis*); Its national population decreased by around 50 % between 1980 and 2018, and by around 30 % between 2007 and 2018 (source: prioritised Action Framework (PAF) for Natura 2 000 in Luxembourg for the Multiannual Financial Framework period 2021 – 2027). For tree orchards, a key biodiversity indicator is the little owl (*Athenenoctua*); Between 1980 and 2018, its national population decreased by around 60 %. However, significant nature conservation efforts have led to a slight increase in recent years (source: CAP context indicator C.35 Field bird population index; based on Eurostat data, original source: EBCC, BirdLife, RSPB and CSO).

The conservation of agricultural habitats in grassland is unsatisfactory, which is a matter of concern in view of the large proportion of permanent grassland areas in Luxembourg. According to reporting on the conservation status and trends of species and habitats under the EU Habitats Directive (2013-2018), only 16 % of grassland habitat types present in Luxembourg are currently in favourable conservation status; The remaining 84 % are in “bad” status and are further declining.

As regards Ecological Focus Areas (EFA), the share is around 18 % of arable land (2019), which is above the minimum 5 % required. However, Luxembourg also relies heavily on catch crops (81 %) and nitrogen-fixing crops (11 %) to meet EFA requirements (such as the majority of Member States). The percentage of non-productive is still very limited, even if the share of buffer strip (1.3 %) is above the EU average (0.9 %).

Diagram: Share of agricultural area covered by high-diversity landscape features in the EU



Sources: Eurostat [org-croparForm h1] and [org-cropar] 59

* Linear elements considered: grass margins, shrub margins, single trees bushes, lines of trees, hedges and ditches. This estimation is to be taken with caution because of methodological caveats.

The share of land under contract to protect biodiversity and/or landscapes and forests is high (87 % or 113.990 ha in 2020), reflecting farmers' awareness of biodiversity. However, there is a lack of analysis and evaluation of the effectiveness of the various contracts, as well as the risk of insufficient efforts by agricultural actors to engage in environmental policy.

Impact of different agricultural sectors

As regards livestock production, the pressures of livestock farming on biodiversity are not very well quantified. While some livestock systems have a negative effect on biodiversity depending on how they are managed, other systems, including grassland systems, can have eco-beneficial effects. Market gardening and fruit-growing are at least more intensive crops. However, the introduction of simple measures such as a dry stone wall, flowering strips or hedges can help to establish areas of shelters, in particular for organisms useful in the context of an integrated pest management system. The winegrowing sector in Luxembourg follows a modular approach consisting of a basic intervention aimed at a broad participation of winegrowing and optional options targeted at combating erosion, banning herbicides, improving biodiversity and soil fertility. In particular, steep sloping and terrace vineyards are an important shelter for several species including various plants, reptiles, birds and insects.

In addition to the options already provided for in the previous period, it is planned to add an option on plant protection products aimed at encouraging winegrowers to substitute products of the greatest concern from an ecotoxicological point of view with less dangerous products. The government is also paying particular attention to biotechnical control of the grape worm, the main pest of the vine, using methods based on sexual confusion, with the objective of achieving a coverage rate of 100 % in the area covered by the designation 'AOP-Moselle' in Luxembourg.

With a view **to safeguarding biodiversity, the Landscape and Landscape Maintenance Premium (PEPEN)** is intended to encourage the maintenance of areas by farmers and seeks to maintain all agricultural, winegrowing or horticultural areas on farms in accordance with forms of farming adapted to the natural environment and the landscape and respectful of the environment. Thus, the premium includes the maintenance and creation of permanent grassland and pasture, the installation of plant-protection strips along watercourses and, since 2021, the voluntary renunciation of herbicides on the basis of the active substance 'Glyü'. Mention should also be made of the general ban on conversion of permanent grassland and the prohibition on turning the soil back into Natura 2000 areas. For the crop year 2019/20, 1.335 farmers benefited from this premium.

In the wine sector, this premium also compensates for the loss of income due to a reduction in production and an increase in production costs as a result of the use of more environmentally-friendly cultivation practices. The scheme thus provides for basic minimum requirements with additional optional modules to combat erosion, ban herbicides, improve biodiversity and soil fertility. Luxembourg winegrowers already voluntarily renounce the use of glyphosate in the crop year 2019/20 at 100 %. For the crop year 2019/2020, 1 025 ha of vineyards were subscribed to the various options of the wine-growing PEPEN.

At national level, the angular elements of the government, and in particular the MECDD, in response to the impact of different agricultural sectors on biodiversity are:

The National Plan for Nature Conservation 2017-2021, under the umbrella of the MECDD, sets out the strategic framework for the preservation and restoration of biodiversity and related ecosystem services. From 2021 onwards, the national plan was replaced by the **Nature Pact 2021-2030**. This new instrument puts more emphasis on concrete measures and projects for the protection and increase of biodiversity. Through joint state conventions, municipalities will be equipped with financial resources to carry out

projects with a predefined list which is supposed to have a positive impact on biodiversity. The measurements will be carried out on municipal areas in accordance with an integrated strategy adapted to the specific characteristics of each municipality. An adviser is made available for each municipality, who will provide concrete expertise on the instrument and measures in order to be able to consult local decision makers. A certification system allows municipalities to certify their efforts to demonstrate efforts to citizens. This model has been inspired by the **Climate Pact** model, which is considered a great success. So far (summer 2022), 83 of Luxembourg's 102 municipalities have committed themselves and will implement concrete measures soon under the Nature Pact.

In addition to regulatory measures for the designation of protected areas or administrative measures, the implementation of voluntary contractual measures for the extensification of agricultural practices is one of the main pillars of national nature protection policy. Two types of measures are implemented:

- (a) agri-environment-climate measures, comprising a set of measures for the extensification of agricultural practices aimed at reducing environmental impacts in the broad sense (reduction of inputs, reduction of emissions, etc.);
- (b) a biodiversity aid scheme, specifically aimed at the conservation and ecological management of land hosting species or habitats of particular ecological interest.

Broadly speaking, the various programmes respond to the scientific consensus on the ecological management of agricultural land (reduction of inputs, limitation of livestock load, delay of mowing date, etc.). However, despite the implementation of these measures, the efforts made have been only partially satisfactory to counteract the negative development of existing biodiversity and are also sometimes difficult to accept by farmers. In 2018, about 5.800 ha of agricultural land was farmed under a biodiversity contract, of which one third of mowing grassland, one third of mown pastures and a quarter of the areas for annual grazing, with a livestock density of 0,8 LU per ha (40 % of the areas under biodiversity contract, i.e. a total of 1.917 ha, are managed as annual grazing by 68 farmers. These figures include both contracted projects and those under planning (Source: Communication Nature and Forest Administration (February 2019). The coordination between the different ecological regimes and the interventions foreseen in this NSP aim at the conservation of Natura 2000 sites).

The share of agricultural areas in the Natura 2000 network is high in Luxembourg: currently 27 % (70.171 ha), compared to 11 % on average in the EU-28 (at the same time, the share of forest areas under the network is 42 %, compared to an EU average of 23 %); Natura 2000 covers 27 % of the national territory. Extensive farming in nature conservation areas, thanks to extensive grazing systems, makes it possible to valorise land with low agricultural productivity.

For example, the National Action Plan for Nature Protection for the period 2017-2021 contains objectives and measures, some of which have a particular impact on agriculture:

- Creation of a compensatory pool in return for the destruction of biotopes;
- Monitoring and scientific analysis of agricultural extensification measures;
- Management of farmland under biodiversity contracts;
- Implementation of a national concept of integrated agricultural and forestry advice;
- Establishment of a network of demonstration farms “bio-diversity-water agriculture”;
- Establishment of a network of agroforestry demonstration projects.

NATURA 2000

The Priority Action Framework (PAP) for Natura 2000 in Luxembourg (under the supervision of the MECDD) identifies the main biodiversity challenges Luxembourg's agriculture faces:

- For grassland, the main pressures identified are intensification of land use (fertilisation, early and overgrazing mowing, overgrazing) and removal of land. The area of grassland that is managed for conservation purposes is considered to be insufficient to ensure the maintenance of sufficiently robust populations of typical grassland species (birds, invertebrates, etc.). Large areas of dry grassland and

mowing grassland have been lost in recent decades;

- For cropland and permanent crops, the main pressures identified are excessive use of pesticides, high sowing densities, lack of landscape features, removal of permanent crops (orchards), consolidation and increasing farm size and intensification of arable land;
- The non-reporting of monitoring data from biodiversity studies, biodiversity contracts with agricultural stakeholders (advisors, trade unions), and the lack of coherence between agri-environment-climate measures and biodiversity-related actions are recurrent problems. The low incentives to create new biotopes, combined with the risk of decreasing ecological corridors due to increased farm size, is a clear risk.

Organic farming

Organic farming can be a powerful driver for improving the state of biodiversity, as the target of 20 % of agricultural land under organic farming by 2025 requires huge efforts from the agricultural sector as well as from consumers. In order to safeguard biodiversity, the preservation of a genetic pool of farmed animals of different breeds is necessary in a context of food and nutrition security and climate change. Farm animals from endangered or low-performing breeds can thus provide a variety of agro-ecological, social, cultural and economic rural services, contributing to the conservation of cultural and natural heritage. It should be noted that support for the conservation of genetic material and the promotion of endangered breeds is granted in the form of State aid.

Law on the Protection of Nature and Natural Resources

The establishment of a compensation system to ensure that ecosystems destroyed by construction projects are compensated by the creation of new habitats. Under this system, agricultural land is used as a modulating mass. The agricultural sector calls for an amendment to the Nature Protection Act and the underlying eco-point assessment and compensation system, by introducing a possibility to introduce compensatory measures in the form of reinvestment of eco-points in the installation of renewable energy measures and to grant a preferential right to agricultural land to agricultural holdings.

National forestry accounting plan

Luxembourg's national forestry accounting plan implements Regulation (EU) 2018/84 in order to comply with the LULUCF Regulation with a view to the Paris Agreement for the reduction of greenhouse gas emissions. Forests play a primary role because of their function as carbon sinks. Luxembourg has ageing forests, as a result of which the capacity of forests to absorb carbon is declining. In order to maintain and increase this capacity in the long term, the national forestry accounting plan describes and commits Luxembourg to concrete measures. These features include:

- Abandonment of clear-cuts for forest areas above 0.5 hectares in size without ministerial authorisation,
- The adoption of sustainable forest management practices for public forests;
- Carrying out complementary projects to improve biodiversity,
- Subsidy for reforestation on agricultural areas,
- Implementation of the International Tropical Timber Agreement, 2006,
- Implementation of the Convention on the European Forest Institute,
- Implementation of European FLEGT and EUTR Regulations,
- FSC and PEFC labelling of publicly owned forests,
- Need to compensate for deforestation with reforestation.

Law on soil protection and management of polluted sites

Structured policy in this area to coordinate all aspects of soil protection, with the objective of establishing a national soil protection plan, in particular to curb the effects of erosion and protect the soil resource and its ecosystem services.

Sector Plan Landscape

Spatial planning framework to preserve landscapes by defining conservation areas for large landscapes, interurban green areas and green cuttings.

Management plan for the parts of the international river basin districts of the Rhine and Meuse located on the territory of Luxembourg

The aim is to achieve good status for all European water bodies; definition of a sustainable development strategy in the field of water management and protection with a programme of measures and actions to be implemented with a view to achieving or maintaining good water status and preventing deterioration.

LAKU project and the setting up of drinking water facilitators

Combine the interests of the drinking water supplier with those of farmers around Lake Haute-Sûre; installation of a drinking water facilitator station at the Mëllerdall Natural Park.

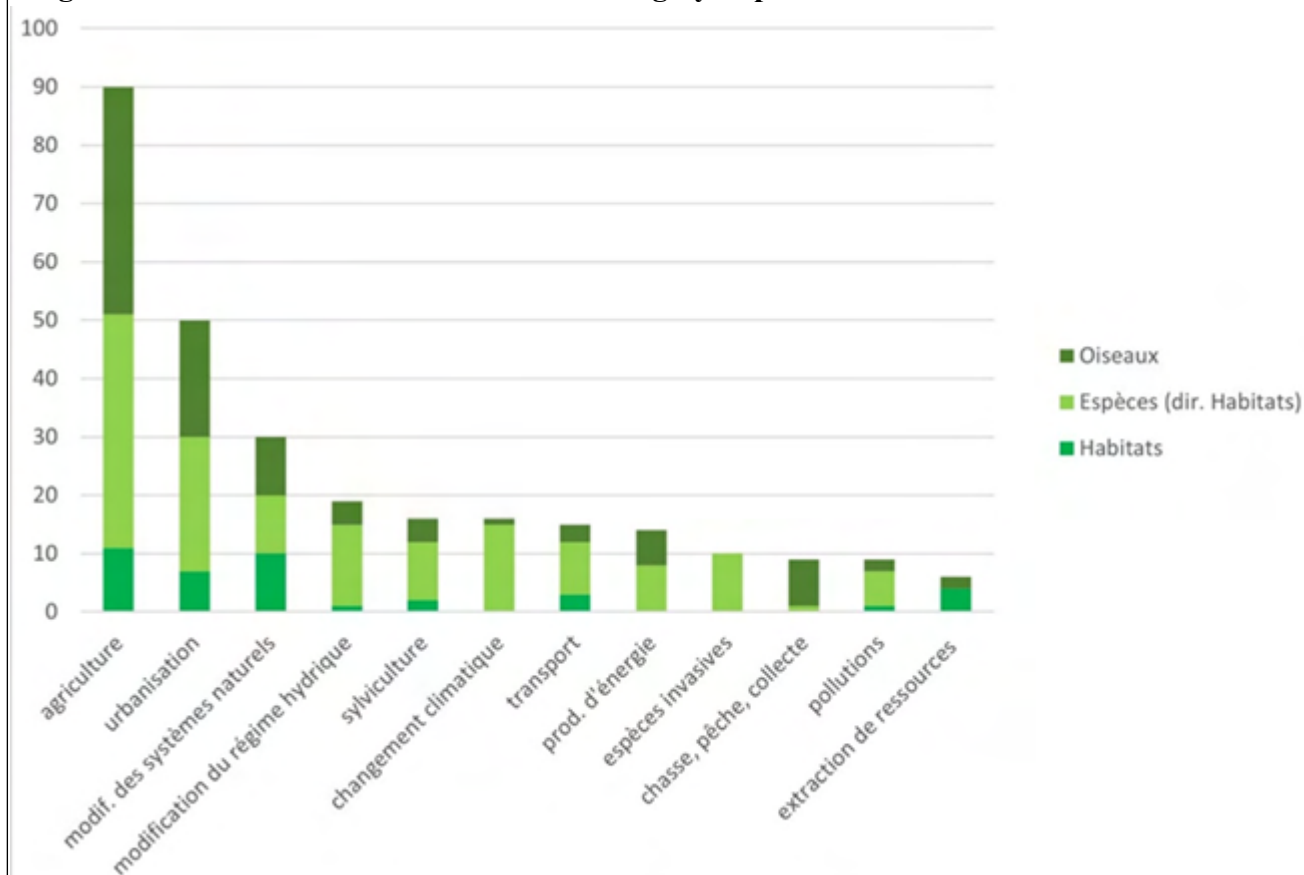
National Plan for Sustainable Development

“Luxembourg 2030”, the 3th National Plan for Sustainable Development, sets out five basic principles with ten priority areas of action, including: *Stop the degradation of our environment and respect the capacities of natural resources.*

The following elements related to agriculture have been identified as having a significant negative impact on biodiversity: input input (also through erosion), overgrazing, reseeding, scrubbing and lack of green shelters and corridors.

The graph below illustrates the evolution at European level.

Diagram: Pressures and threats assessed as “highly important”



Sources: MDDI, 2017

In order to maintain the share of food production relative to its population, Luxembourg should have twice as much agricultural land. Soil is essentially a non-renewable resource and a review of the subsidy policy, favouring sustainable production, is needed. The government's objective is to valorise biological diversity, restore it and use it wisely by ensuring the maintenance of ecosystem services.

Biodiversity benefits if adequate space is available for wild animals, plants, pollinators and natural pest regulators. The Green Deal sets a target of 10 % of **areas with high-diversity landscape features to be** achieved by 2030 on average across all Member States. In Luxembourg, the rate of 1.6 % is thus far from satisfactory, taking into account that the details of the elements to be considered still need to be clarified, in particular as regards rotational or permanent set-aside land or stone walls respectively.

Table: Characteristics of Luxembourg's production for the protection of biodiversity

	Producers	Arable land (TA)	Permanent grassland and pasture (PP)	Isolated trees	Hedges		Tree rows		Bosquets		Mares		Rate on TA	Rate on PP
		in ha	in ha	ha on PP	ha on TA	ha on PP	ha on TA	ha on PP	ha on TA	ha on PP	ha on TA	ha on PP	%	%
Eligible for Greening 2020	1.692	55.003,62	65.002,64	200,73	257,65	1.008,51	17,63	103,43	75,00	297,61	0,26	7,36	0,64	2,49
of which organic prod.	94	2.490,99	2.948,96	9,94	18,91	52,88	1,03	5,55	3,72	20,38	0,00	0,81	0,95	3,04
Not eligible for Greening 2020	245	135,55	435,43	2,22	0,74	8,24	0,06	0,43	0,10	2,55	0,00	0,41	0,66	3,18
of which prod. bios	10	10,75	50,93	0,32	0,18	1,20	0,05	0,00	0,02	0,70	0,00	0,03	2,33	4,42
Prod. Total Bios	104	2.501,74	2.999,89	10,26	19,09	54,08	1,08	5,55	3,74	21,08	0,00	0,84	0,96	3,06
Large total	1.937	55.139,17	65.438,07	202,95	258,39	1.016,75	17,69	103,86	75,10	300,16	0,26	7,77	0,64	2,49

Sources: SER, 2021

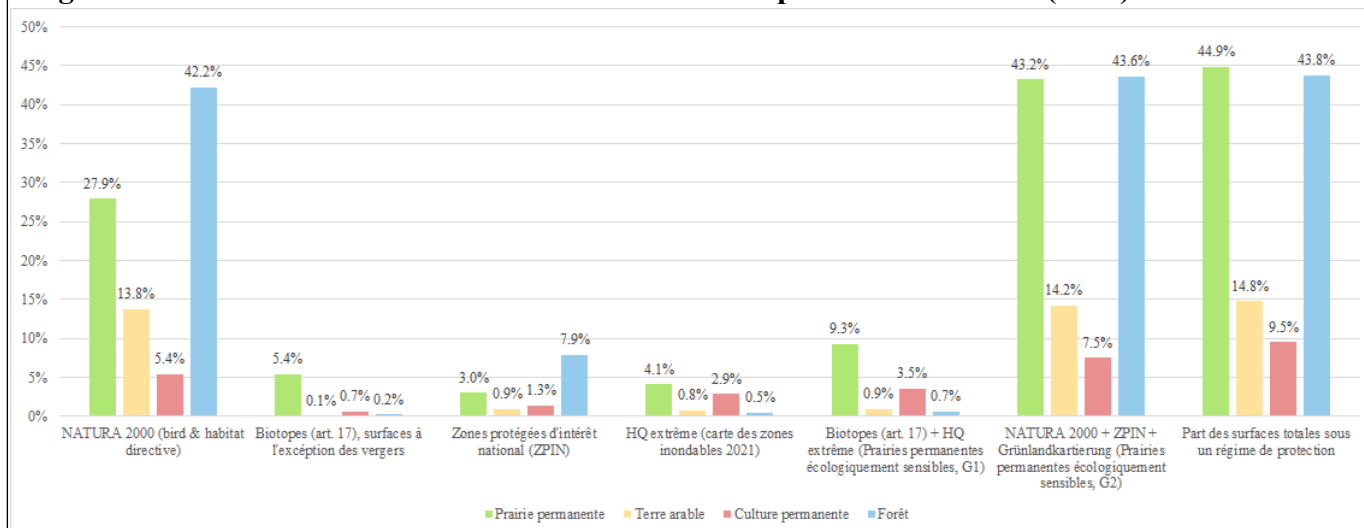
Protecting the environment

Luxembourg has declared itself to protect and increase the quality of nature and ecosystems in the various protection zones. In addition to Natura 2000 protection areas (birds and habitats), the protected areas of national interest (PZs) and the biotope cadastre, which groups small surface and one-off elements, should

be mentioned. In the context of CAP implementation, ecologically sensitive meadows and pastures have been declared and are entitled to a special premium. These areas are differentiated into areas of environmentally sensitive permanent grassland G1 and G2. It should be noted that 44.9 % of pastures are classified under at least one environmental protection status (29 180 ha), 14.8 % of arable land (8 230 ha) and 9.5 % of permanent crops (140 ha). Because of the geographical distribution of the protection zones, agricultural areas with protection status can be found under almost each type of agricultural use. To maintain a good overview, only the most relevant comments will be described below.

27.9 % of permanent grassland, 13.8 % of arable land and 5.4 % of permanent crops are classified as protection areas under the Natura 2000 Directive (birds and habitats). Biotopes under Article 17 of the Nature Protection Act have highly protected areas. Despite the small size of the individual elements, 5.4 % of all pastures and 0.7 % of permanent crops are classified. The ZNIPs, with protection zones of national origin, mainly cover forest areas. However, 3 % of permanent grassland and 0.9 % of arable land are in the ZPIN. In terms of protection of environmentally sensitive permanent grassland, large areas are classified, under area G1 permanent grassland in extreme flood areas (extreme HQ) and biotope area, under area G2 are permanent grassland in Natura 2000 protection area, in ZPIN and permanent grassland identified in the 2016 grassland mapping. 9.3 % of permanent grassland areas are classified as G1 and 43.2 % as G2. Ploughing, processing and re-sowing are prohibited without prior authorisation in these areas.

Diagram: Share of areas under different environmental protection schemes (2021)

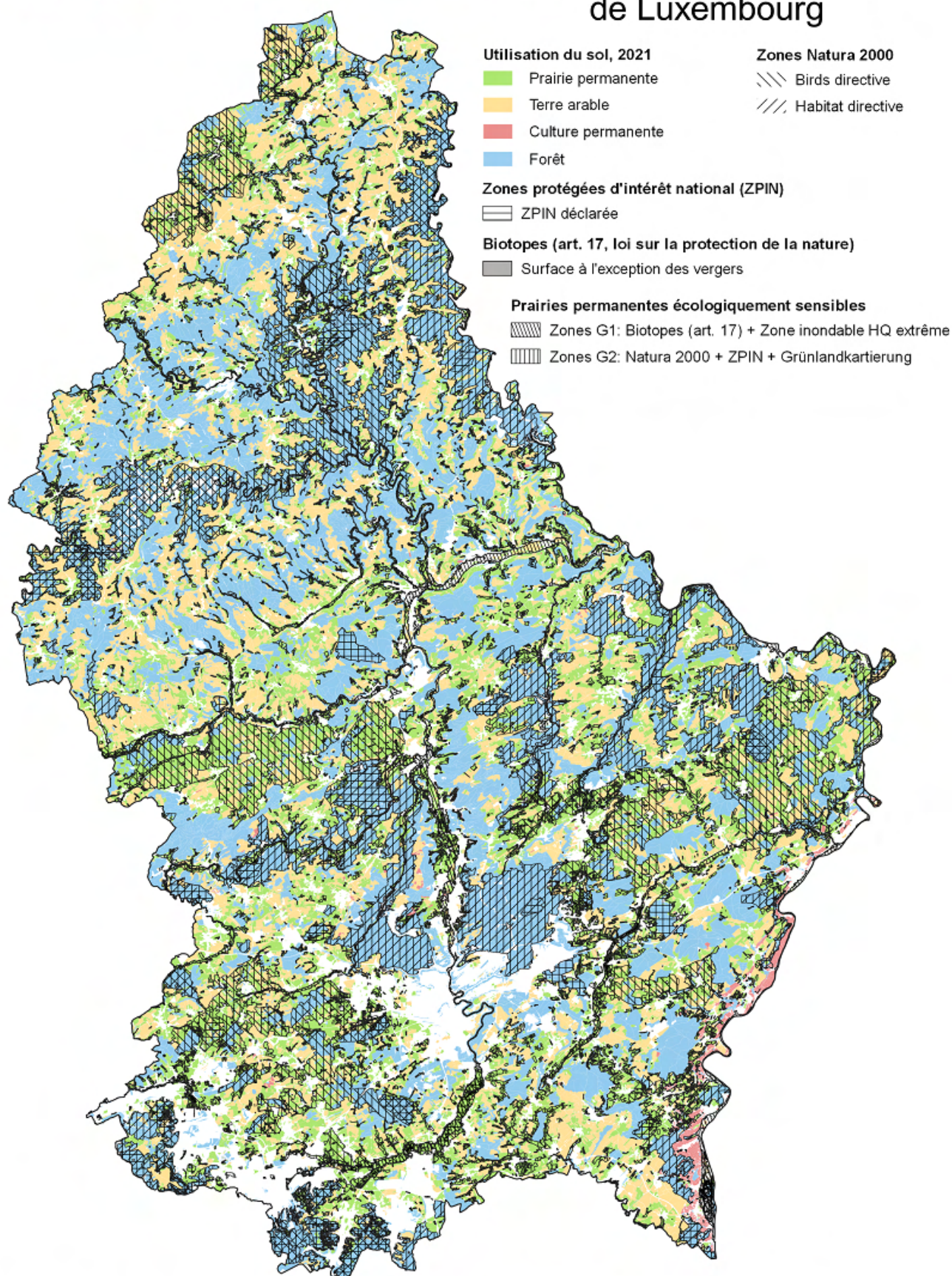


Sources: MAVDR, 2022

Overall, 44.9 % of permanent grassland in Luxembourg is classified under at least one environmental protection scheme, as well as 14.8 % of arable land and 9.5 % of permanent crops. This represents 30 % of the total area eligible for support.



Protection de l'environnement et agriculture au Grand Duché de Luxembourg



Source : Ministère de l'Agriculture, de Viticulture et du Développement rural, 2022 sur base d'information de l'ASTA et Luxembourg Open Data Portal.

2.1.SO6.2 Identification of needs

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan
B6.1	Developing environmentally-friendly and climate-friendly farming practices	P1	Yes
B6.2	Maintaining and enhancing landscape diversity	P1	Yes
B6.3	Protect and promote local endangered breeds.	P3	No
B6.4	Limiting intensification and promoting extensification, especially in sensitive areas	P1	Yes
B6.5	Maintaining agricultural activities in less productive and marginal sites	P2	Partially
B6.6	Improve the system for monitoring, evaluation and control of biodiversity-related interventions	P3	Partially
B6.7	Harmonise existing initiatives to protect biodiversity	P2	Partially

Other comments related to needs assessment.

The European Court of Auditors (ECA) concluded in a report that **biodiversity efforts** over the last decade have **not produced the desired results**. The ECA considers that the Member States have missed the objective of halting the degradation of natural environments and that the biodiversity of agricultural areas has even continued to deteriorate. Since 1990, species of birds and butterflies associated with crops have experienced a significant decline.

The trends are similar for Luxembourg when looking at the latest observations of the 2019 Reporting under the EU Habitats and Birds Directives. Around 25 % of Luxembourg's UAA is located in protected areas or Natura 2000 areas. According to the latest report on the Nature Directives, the conservation status of many habitats and species of European interest is unfavourable or poor, with a majority of negative trends, particularly in open and agricultural environments.

The European Court of Auditors' special reports regret the lack of monitoring and analysis of impacts of GAEC standards on biodiversity. It is therefore necessary to provide for targeted measures for the development of biodiversity in those areas and for functional ecological connectivity within and between those areas (Natura 2000). The restoration of ecological corridors and the network of biotopes, particularly along rivers, will be promoted as a matter of priority (ES Non-productive banks on agricultural land). A minimum rate of **high-diversity landscape features per holding** will be part of good agricultural and environmental condition. Incentives will be offered to achieve, on a voluntary basis, an even more ambitious rate such as such elements contribute to enhancing carbon sequestration, preventing soil erosion and degradation, filtering air and water, and supporting adaptation to climate change for more sustainable and biodiversity-friendly production.

To foster biodiversity, protection of permanent grassland in certain sensitive areas is important while also contributing to soil carbon storage. The Ministry of the Environment, Climate and Sustainable Development (MECDD) has drawn up **management plans** for the areas in question which it is important to implement. These biodiversity conservation plans are a decisive and targeted step towards reversing negative trends and improving the conservation status of habitats and species. Tools will be developed to facilitate and incentivise the implementation of targeted measures.

Agricultural ecosystems are home to wild and domestic animal and plant biodiversity, provided that agricultural practices have a positive impact on biodiversity and ecosystems. These practices are currently on the rise (biodiversity contracts, organic farming, agri-environment contracts, extensive management, etc.), although national biodiversity, and in particular biodiversity linked to the agricultural environment,

is still declining. The extensification of agricultural practices should therefore be further promoted. It is therefore planned to aim for extensification of practices on 30 % of the UAA, both in grassland and ploughing, paying particular attention to sensitive areas.

As part of the ‘ **One Health**’ approach, which integrates human, animal and environmental health, the monitoring of plant protection, antiparasitic and antibiotic practices and the fight against antibiotic resistance must be integrated into a context of environmental protection.

The National Action Plan (**NAP**) for the reduction of plant protection products, the abandonment of the use of glyphosate and the **PAN-Bio 2025** are key actions to protect biodiversity (see target 5).

For pollinator protection, high-diversity landscape features combined with reduced use of plant protection products, and in particular insecticides, have the greatest potential to offer food resources and nesting sites (European Commission, Assessment study on the payment for agricultural practices beneficial for the climate and the environment, 2017). The report indicates that the most beneficial EFA types in this respect are nitrogen-fixing plants, catch crops and cover crops, land lying fallow, landscape features (hedges and wooded strips, as well as groups of trees), field margins and buffer strips. The introduction and preservation of all these elements on agricultural areas should therefore be encouraged. In addition to the protection of wild species, it is important to safeguard endangered species in the agricultural environment in order to contribute to the proper functioning and diversity of agricultural ecosystems. Programmes for the protection of endangered breeds are therefore continued, but as State aid.

As the extent of biodiversity decline is wide, Luxembourg has decided to focus in its NSP on approaches designed to have **beneficial effects on the wide variety of different elements of biodiversity** and not just targeting a species of fauna or flora. Most eco-schemes thus aim to improve biodiversity:

1.02.512 – aid for the setting up of non-productive areas

1.02.513 – aid for the installation of non-productive strips

1.02.515 – aid for the installation of catch crops and under-sowing on arable land

1.02.514 – aid for the renunciation of plant protection products

1.02.516 – aid for the use of synthetic pheromones in viticulture

1.02.517 – support for the establishment of areas of refuge on mowing grassland

1.02.519 – aid for the use of synthetic pheromones in arboriculture

The government attaches great importance to the green objectives and aims in particular to set aside 25 % of the EAGF budget for green schemes under the first pillar.

In particular, support for the establishment of areas of refuge on hay meadows with the maintenance of an unmown refuge on part of the mown grassland is expected to have the desired effect of extending the temporal availability of resources for biodiversity such as nectar and pollen for pollinators in order to improve the level of conservation of agricultural habitats in grassland.

The beekeeping sector programme, with knowledge transfer, genetic improvement of bees and quality analyses of apiculture products, also contributes to safeguarding biodiversity in general and pollinators in particular.

The **new green architecture of the CAP** requires proper coordination of environmental measures, both co-financed and not co-financed by European budgetary means. It is important to harmonise the different aid schemes in order to avoid antagonisms while stimulating synergies. See the intervention logic for information on this topic.

It should be noted that aid for the maintenance of extensive orchards will be made available under the national biodiversity programme, under the supervision of the Ministry of the Environment, Climate and Sustainable Development.

Finally, greater attention to the reduction of the beef burden and the development of organic farming are also aimed at conserving or improving biodiversity.

In order for the farmer to be aware of the biodiversity situation and the level of pollution of water sources or currents in his or her property, better reporting of monitoring data from relevant studies should be put in place. Better coherence between agri-environment-climate measures and measures to safeguard biological biodiversity is needed.

In general, the current **monitoring and evaluation** system requires **mutual consultation between the competent authorities** and needs to be improved, in particular through research projects aimed at identifying relevant indicators to assess the impact of local farming practices so that proper monitoring can be carried out. The vision is to confirm the effectiveness of the new green architecture and the interventions put in place.

The needs listed under PO6 are to be seen as part of the “green” needs of PO4,5 and 6.

2.1.SO6.3 Identification of the relevant (elements of) national plans emanating from the legislative instruments referred to in Annex XI of the CAP plan Regulation that have been taken into account in the CAP plans’ needs assessment for this specific objective

National action plan for the reduction of plant protection products pursuant to Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides

Prioritised action framework (PAF) for natura 2 000 in Luxembourg pursuant to Article 8 of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the habitats directive) for the *multiannual financial* framework period 2021-2027

It should be noted that the additional plans (excluding Annex XIII) have also been taken into account in the preparation of this NWP:

- National Plan for Nature Protection 2017-2021.
- Pollinator Action Plan

At the suggestion of the European Commission, the forestry accounting plan can also provide a source of information on the biodiversity situation. However, the Managing Authority (MAVDR) would like to stress that it is not the author of this accounting plan and therefore cannot be held responsible for its content. The forestry accounting plan follows the LULUCF Regulation with a census of forests in Luxembourg and informs about the carbon storage capacity of forests. Although the carbon stock is currently still good in forests in Luxembourg, which are of a certain age and whose carbon storage capacity is in decline. A forest management plan that aims, inter alia, at biodiversity conservation is supposed to counterbalance this decline. Biodiversity-related measures were thus introduced by the Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the related reduction, destruction or deterioration measures with a view, in particular, to a positive impact on broadleaved forests.

2.1.SO6.4 Intervention logic

Form of Intervention	Type of Intervention	Intervention Code (MS) - Name	Common Output Indicator
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the	1.02.512 - Aid for the	O.8. Number of hectares or of

	environment and animal welfare	installation of non-productive areas	livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.513 - Aid for the installation of non-productive strips	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.514 - Aid for renunciation of plant protection products	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.516 - Aid for the use of synthetic pheromones in viticulture	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.517 - Aid for the establishment of refuge areas on hay meadows	O.8. Number of hectares or of livestock units benefitting from eco-schemes
DPdecoupled	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare	1.02.519 - Aid for the use of arboriculture synthetic pheromone nozzles	O.8. Number of hectares or of livestock units benefitting from eco-schemes
Sectoral - Apiculture products	ADVICEES(55(1)(a)) - advisory services, technical assistance, training, information and exchange of best practices, including through networking, for beekeepers and beekeepers' organisations	1.09.582 - Transfer of knowledge	O.37. Number of actions or units for beekeeping preservation or improvement
Sectoral - Apiculture products	PRESBEEHIVES(55(1)(d)) - actions to preserve or increase the existing number of beehives in the Union, including bee breeding	1.09.580 - Programmes for genetic improvement of bees	O.37. Number of actions or units for beekeeping preservation or improvement
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.540 - Premium for the establishment of sustainable and environmentally-friendly agriculture — Agriculture	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.542 - Premium for sustainable and environmentally-friendly agriculture — Viticulture	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.543 - Support for the conversion and maintenance of organic farming	O.17. Number of hectares or number of other units benefitting from support for organic farming

Overview

The Biodiversity Strategy is based on a triple model with a broad spectrum (the premium for sustainable and environmentally friendly agriculture/winegrowing) promoting sustainable practices for habitat conservation. This measure is accompanied by interventions from the eco-schemes and AECMs favouring extensive agriculture and ultimately complemented by highly targeted measures, grouped together at the level of the national support scheme for biodiversity protection.

In this NWP, conditionality has been strengthened on several biodiversity aspects.

Thus, **GAEC 1** on the maintenance of permanent grassland refers to the date of 2018 as a reference for the calculation of the ratio of areas under permanent grassland to the total agricultural area and has more restrictive conditions for all beneficiaries.

The new **BCAE2** on minimum protection of wetlands and peatlands provides for a ban on the destruction of targeted habitats, thereby ensuring the protection of carbon-rich soils, habitats and biodiversity. It should be noted that this standard incorporates provisions already introduced at national level for several years.

The width of the strips provided for the protection of watercourses has been extended in **BCAE4**. Thus, the establishment of buffer strips reduces river contamination and is also beneficial for biodiversity as a habitat for flora and fauna. The GAEC thus contributes to the creation of ecological corridors and the interconnection of habitats and biotopes.

GAEC 8, which provides for a minimum share of agricultural area devoted to non-productive areas or **features**, is a clear reinforcement of the Greening of the previous period with a **rate of 4 % of arable land**, including set-aside land. Catch crops and areas with nitrogen-fixing crops shall no longer be taken into account. It is likely that this decision will have a considerable impact on the creation of non-productive features which are currently below 2 % (**suspension of this Regulation for the crop year 2024**).

It should be noted that the obligations of GAEC 8 (non-productive bands), GAEC 4 (buffer strips) and GAEC 5 (antierosive bands) are complementary and enable better interconnectivity of biotopes and improved ecological mesh size on the target bands. In addition, GAEC 8 provides for a ban on cutting hedges and trees during the bird breeding season and measures to avoid invasive plant species for which the action threshold for meadow control has been increased from 1 are to 2.5 ares in order to comply with the pollinator plan. The standards applied refer to the prohibitions and obligations already contained in the Law of 18 July 2018 on the protection of nature and natural resources.

These already rather binding obligations are complemented by actions on grassland and pastures introduced by the intervention for sustainable and environmentally-friendly agriculture (former PEPEN), which provides for stimulating the creation of structural elements on permanent grassland.

The main objective of **GAEC 9** is the ‘protection of habitats and species’ with a ban on the conversion or ploughing of permanent grassland designated as environmentally sensitive grassland in Natura 2000 sites (Directives 92/43/EEC and 2009/147/EC) thus contributing to the protection of nesting and breeding sites of bird species.

See chapters 3.1.2, 3.1.3 and 3.1.4 for the detailed description of the GAEC.

Under the MAEC measure “premium for sustainable and environmentally friendly agriculture”, measures to protect permanent grassland and pasture are extended (see intervention sheet concerned).

For example, most needs include:

- Developing environmentally-friendly agricultural, wine and horticultural practices
- Maintaining and enhancing landscape diversity i
- Promote a network of biotopes and ecological corridors
- Limit intensification and promote extensification of agricultural practices
- Maintain agricultural activities compatible with the preservation of biodiversity in less productive and marginal sites
- Harmonise existing initiatives to protect biodiversity

... are addressed in the majority of ecological schemes, including:

- Non-productive strips on agricultural land
- Premiums for the use of synthetic pheromone broadcasters by: (a) arboriculture and (b) viticulture
- Premium for installation of catch crops and under-sowing on arable land (catch crops with melliferous

cover contribute to the protection of biodiversity and improve ecosystem services)

- Renunciation premium for plant protection products
- Premium for the installation of non-productive areas
- Assistance in setting up areas of refuge on mowing grasslands.

Ecological schemes, which make up 25 % of the Pillar 1 budget, thus create stronger incentives than voluntary measures to commit a majority of farmers to the protection of the environment, biodiversity and natural resources such as water, soil, the area and the fight against climate change. The need to ‘harmonise existing initiatives to protect biodiversity’ is addressed by bringing together all the actions linked to non-productive bands in ecological schemes, which, on the one hand, simplifies the support system in place and, on the other hand, demonstrates the importance attached to biodiversity in the NSP.

Non-productive areas (strips, fallow land, catch crops) and interventions promoting the abandonment of plant protection products all have a direct impact on biodiversity. The first group of interventions creates habitats favourable to biodiversity and contributes to the creation of ecological corridors, while the second group avoids dispersing chemical elements toxic to biodiversity.

These interventions are supported by agri-environmental measures and state aid such as organic farming, biodiversity support schemes, intervention to reduce nitrogen fertilisation that promote extensive agriculture and above all have an impact on habitat and thus also on biodiversity.

A measure of the former RDP favouring the conservation of genetic material and the promotion of endangered breeds will be granted in the form of State aid. An allocation in the form of an intervention was considered undesirable by the managing authority in view of:

- a small financial contribution (0.04 % of the budget to the NSP (excluding investments);
- a modest scope given the limited number of potential beneficiaries (see RDP Annual Report 2022 when the measure was co-financed: 22 nursery horse breeders; 5 nursery sheep farmers (for a total of 270 sheep); 60 animals genotypically attributable to the former Oesling Red Pie type)
- reduced contribution to indicators R27 (climate change mitigation) and R 25 (improving environmental sustainability) and I.18, I.19 and I.20.
- other interventions and schemes (e.g. non-productive areas and strips, abandonment of PPPs, catch crops and under-sowing and the premium for sustainable and environmentally-friendly agriculture) are likely to have a more substantial effect on result indicators.

Thus, an allocation in the form of an NSP intervention would have created administrative burdens which would no longer be in line with the limited contribution of the intervention to the objectives of the NSP and it was decided to catch up that aid in the form of State aid.

The link between the contribution of this State aid and the NSP is maintained through the water quality and fertiliser management chapter of the NSP evaluation plan, for which the impact of this State aid and NSP interventions on livestock diversification and on improving water quality will be taken into account.

The premium for sustainable and environmentally-friendly agriculture/winegrowing is a soft measure but favours sustainable farming practices that contribute to maintaining habitats. The aim of the measure is to promote integrated production and, in particular, to reduce the impact on water, the environment and the climate. This is a **modular approach** aimed at a broad participation of farmers/winegrowing and preparation for the implementation of AECMs.

The changes and simplifications provided for in measures to protect biodiversity will enable better coordination at national level with the schemes for safeguarding and protecting biodiversity (Grand-Ducal Regulation of 11 September 2017 establishing a set of aid schemes to safeguard biodiversity in rural areas), which offer dedicated and targeted tools, including diversified extensification measures for the creation and maintenance of habitats:

- Mowing grassland with very limited exploitation

- Mown grassland and pasture with a very limited holding
- Meadow pasture with a very limited holding
- Extensive grazing throughout the year
- Restoration of lean meadows with extensive farming
- Conservation of flower meadows
- Travelling grazing with kept sheep (and goats)
- Creation of structural elements: Cairns, dry walls, dead hedges.
- Management of traditional high-stem orchards

2.1.SO6.5 Where relevant, a justification for the use of InvestEU, including the amount and its expected contribution to the Specific Objective/Cross-Cutting Objective

Not applicable

2.1.SO6.7 Are you planning CAP contribution towards the LIFE programme (only for SO4, SO5, SO6)

: No

2.1.SO6.8 Selection of the result indicator(s)

Selection of the result indicator(s) for this specific objective

Result indicators [recommended Result indicators for this specific objective are fully displayed in bold]	Target value
R.29^{PR} - Development of organic agriculture Share of utilised agricultural area (UAA) supported by the CAP for organic farming with a split between maintenance and conversion	19.85 %
R.31^{PR} - Preserving habitats and species Share of utilised agricultural area (UAA) under supported commitments for supporting biodiversity conservation or restoration including high-nature-value farming practices	26.27 %
R.34^{PR} - Preserving landscape features Share of utilised agricultural area (UAA) under supported commitments for managing landscape features, including hedgerows and trees	1.75 %

Justification of the targets and related milestones

R: 29 development of organic farming: a national target of 20 % in 2025 has been set at the level of the national action plan for organic farming, including in-conversion areas. Slow progress is expected at the beginning of the period. The ambitious target will be achieved at most by the end of 2025.

R31: Preserving habitats and species:

Targets & Milestones	2023	2024	2025	2026	2027	2028	2029
Unit of measurment (%)	43 %	50 %	58 %	59 %	59 %	59 %	59 %
Number of hectares	56 170	6 570 00	76 500	77 500	77 500	77 500	77 500
Total UAA	132 136	13 213 6	132 136	132 136	132 136	132 136	132 136
Total ha	2023	2024	2025	2026	2027	2028	2029
FIXED SERIES BANDINGS	2 140	2 140	2 140	2 140	2 140	2 140	2 140
FIXSER-SECTION Missors of Synthetic pheromones – Arboriculture	60	60	60	60	60	60	60

FIXSERVIES Missors of Synthetic pheromones – Viticulture	1 000	000	1 000	1 000	1 000	1 000	1 000
FIVIDSERVES SPECIFICATION of plant protection products	19 000	19 000	19 000	19 000	19 000	19 000	19 000
FIXSERTENES- Non-productive areas	2 900	2 900	2 900	2 900	2 900	2 900	2 900
FIXSERVIES Zones of refuge on hay meadows	6 000	6 000	6 000	6 000	6 000	6 000	6 000
FIXSERMAN Organic Farming	16 400	16 400	16 400	16 400	16 400	16 400	16 400
FIXSER-NEW new PEEN-VITI	1 100	1 100	1 100	1 100	1 100	1 100	1 100

R.34 Preservation of landscape features

Targets & Milestones	2023	2024	2025	2026	2027	2028	2029
Unit of measurment (%)	86 %	86 %	86 %	86 %	86 %	86 %	86 %
Number of hectares	113 100	113 100	113 100	113 100	113 100	113 100	113 100
Total UAA	132 136	132 136	132 136	132 136	132 136	132 136	132 136
Total ha	2023	2024	2025	2026	2027	2028	2029
FIXSER-NEW new PEEN-VITI	1 100	1 100	1 100	1 100	1 100	1 100	1 100
FIXSERTENES- Non-productive areas	2 900	2 900	2 900	2 900	2 900	2 900	2 900
FIXSERVIES Zones of refuge on hay meadows	6 000	6 000	6 000	6 000	6 000	6 000	6 000
FIXED SERIES BANDINGS	2 140	2 140	2 140	2 140	2 140	2 140	2 140
FIXSER-NEW NEW new PEEN-NEW	112 000	112 000	112 000	112 000	112 000	112 000	112 000

2.1.SO6.9 Justification of the financial allocation

The financial allocations come from both the EAGF and the EAFRD in order to combine as much as possible the financial means and the effects of the various interventions (EAWs and the ecological scheme) in order to meet multiple environmental objectives and needs. At the same time, national resources are provided to complement interventions co-financed by European funds with the aim of having complementary and multiple effects in order to achieve the objectives set.

The provision of funds is also the result of a process of concertation between actors and is the result of a political agreement.

Regular monitoring of implementation and impacts is foreseen in order to be able to respond to the evolution of the emissions trajectory and to adapt interventions and means.

2.1.SO7 Attract and sustain young farmers and other new farmers and facilitate sustainable business development in rural areas

2.1.SO7.1 Summary of the SWOT Analysis

2.1.SO7.1.1 Strengths

1. The vast majority of modern, well-structured and family-type farms, making it easier for young buyers to access the sector.
2. Motivated, dynamic, well-organised young farmers and winegrowers with good basic training. More and more young people also have tertiary education.
3. Favourable aid for the takeover of farms by young people (single premium, reimbursement of registration fees, favourable tax framework, top-up in the framework of investment aid).
4. Well-developed counselling structures for setting up young people.

2.1.SO7.1.2 Weaknesses

1. Access to the sector is difficult because of the growing need for capital to settle in agriculture.
2. Income is insufficient on average compared to other socio-occupational groups in Luxembourg (see OS1).
3. Difficult access to production factors for new entrants outside the family (land and rent prices, capital needs); moreover, national legislation on the setting up of young people is currently mainly focused on taking over existing farms (intra-family, natural persons).
4. Training and provision of specialist advice on vegetable and fruit growing, or even alternative crops, which are still insufficient.

2.1.SO7.1.3 Opportunities

1. Take over of farms by outside the family (new entrants outside the family).
2. New forms of agriculture (e.g. solidarity-based farming/AMAP, urban farming, organic farming, etc.) creating new markets; niches to be explored.
3. Environmental challenges offer opportunities in the context of AECMs.
4. Well-developed Agricultural Council (with the exception of very specific areas such as horticulture and fruit-growing).
5. Digitalisation and new technologies giving special attention to the agricultural sector.

2.1.SO7.1.4 Threats

1. Other sectors of the economy are more attractive to young people (high wages in Luxembourg).
2. Difficult access to land due to increasing pressure on land (high land prices, increasing demography and urbanisation, etc.).
3. Environmental requirements, regulatory restrictions and increasing administrative burdens, e.g. for construction in green areas.
4. Societal change: family structures have changed in recent decades, resulting in a problem of availability of family labour on farms.

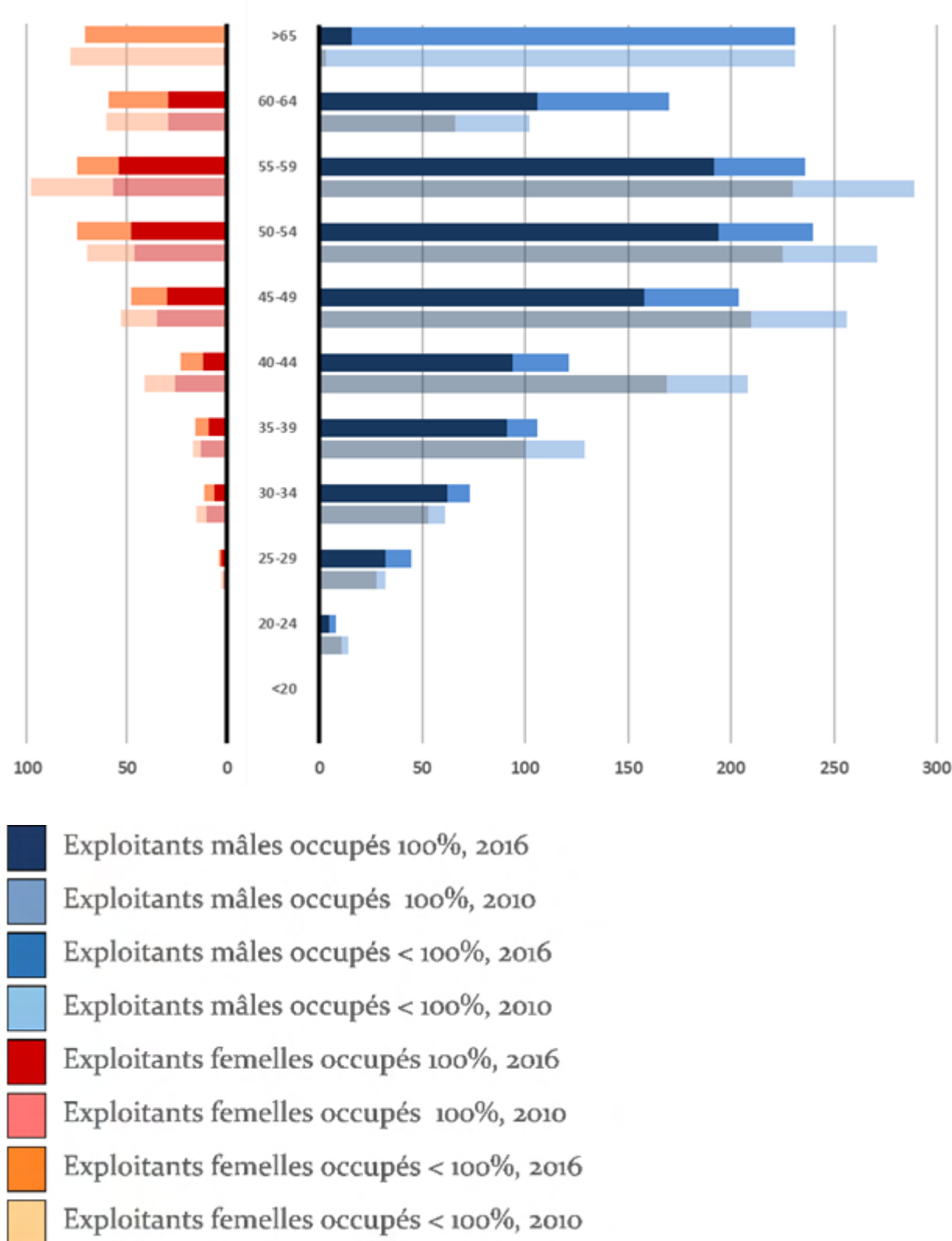
2.1.SO7.1.5 Other comments

Demographic situation

Compared to other sectors of the economy, the working population is relatively older in agriculture. A significant proportion of farmers are still active beyond the statutory retirement age. The proportion of farmers aged 35-59 decreased compared to 2010 and during the same period the percentage of farmers aged 60-64 increased from 5 to 13 %. By projecting this trend towards 2026, at the end of the 2020-2026 programming period, these farmers will all have reached or even exceeded the retirement age. Compared

to 2010, there is a slight increase in the category of young farmers aged between 25 and 34. The succession situation varies greatly depending on the type of holding. Thus, the situation of farm takeover is the most uncertain at the level of specialist cattle farms with livestock and meat orientation, showing that the situation of farm takeover is directly linked to the economic situation and profitability of enterprises. In general, women farmers are under-represented in the sector, all age groups combined, but with a more favourable proportion in the higher age groups.

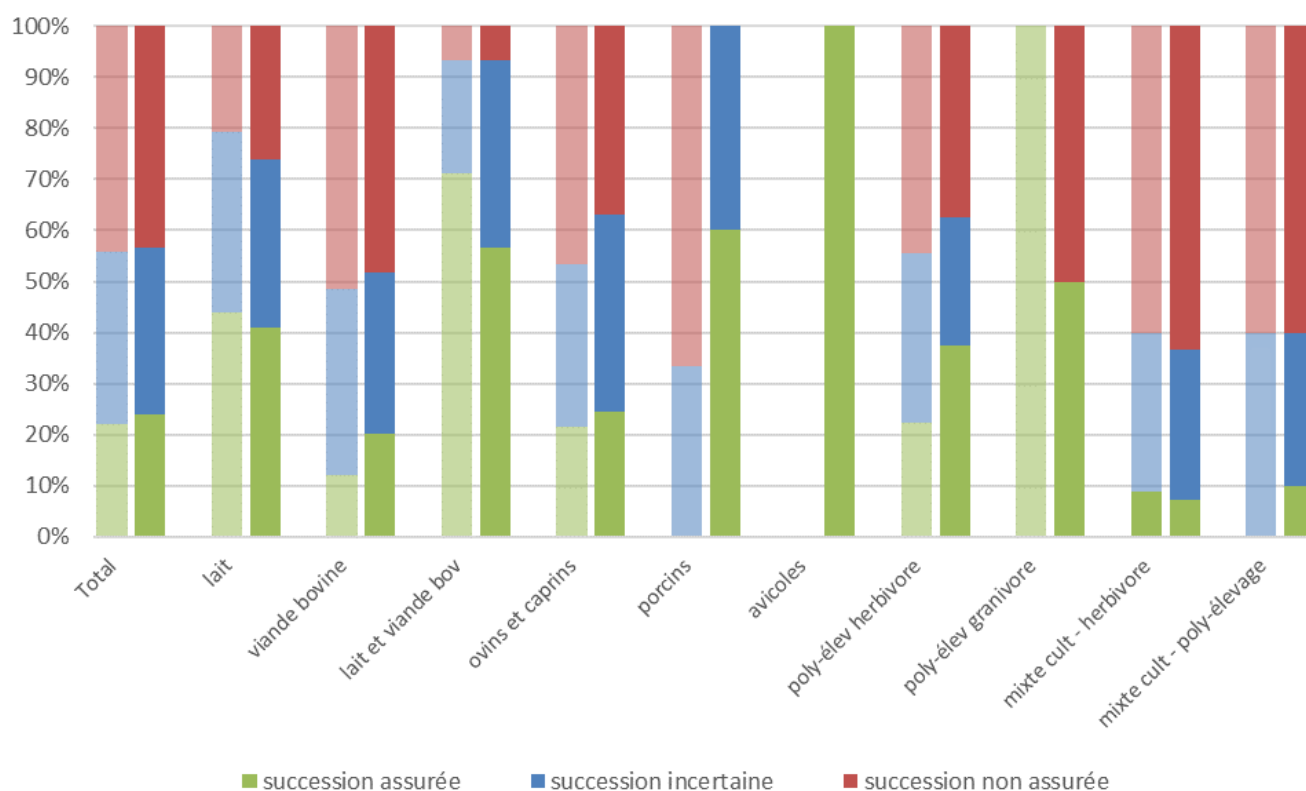
Diagram: Age of farmers, comparison 2010/2016



Sources: SER, 2016, Farm Structure Survey (FSS)

On average, 30 % of the agricultural labour force (family and employed) is women. There are 24 % women among the population of young people active in agriculture, with only 13 % of farm managers being women. This trend cannot be explained by the conditions for setting up, because since the creation of the scheme for setting up young farmers, the conditions were the same for women as for men. Since 2016, it is even possible that several young people, whether women or men, may be able to set up as farm managers on an agricultural business. In the period 2016-2020, 112 young farmers' facilities were identified, of which 27 were by women farmers (24 %).

Figure: Succession situation of farm managers > 54 years by OTE (comparison 2010/2016)

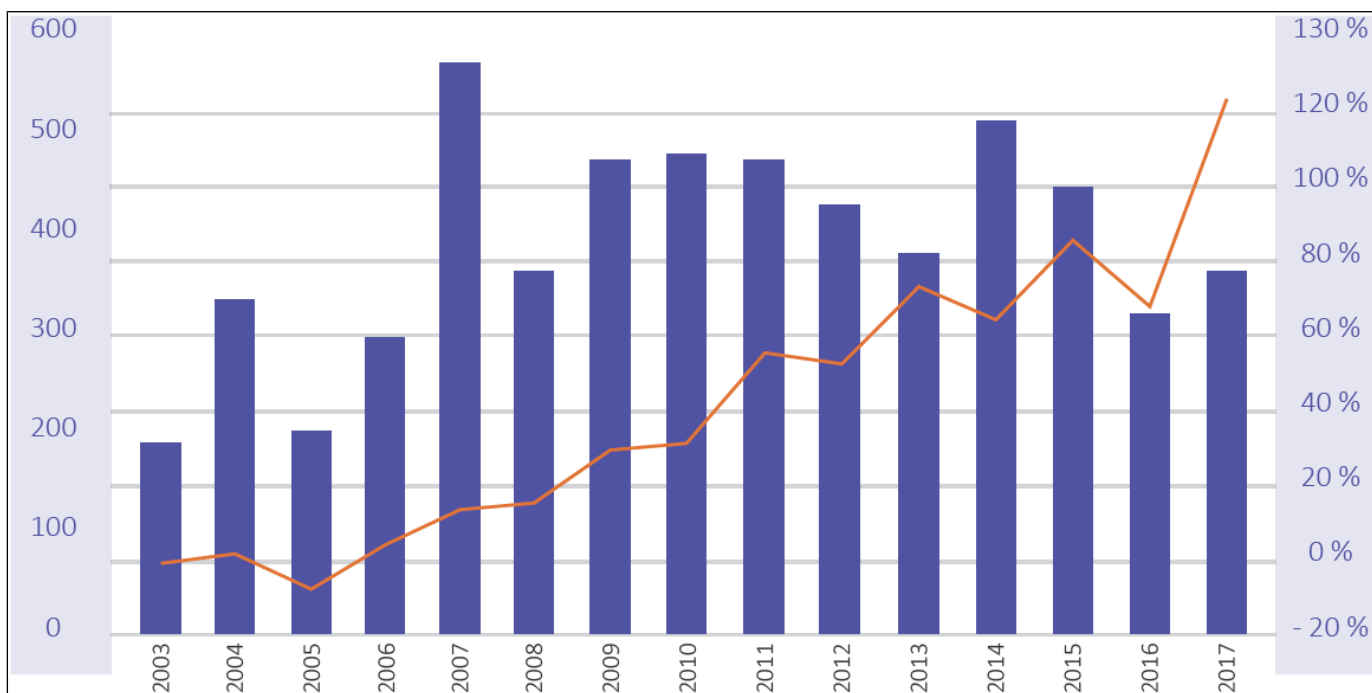


Sources: SER, 2021

Access to land, land mobility, land restructuring

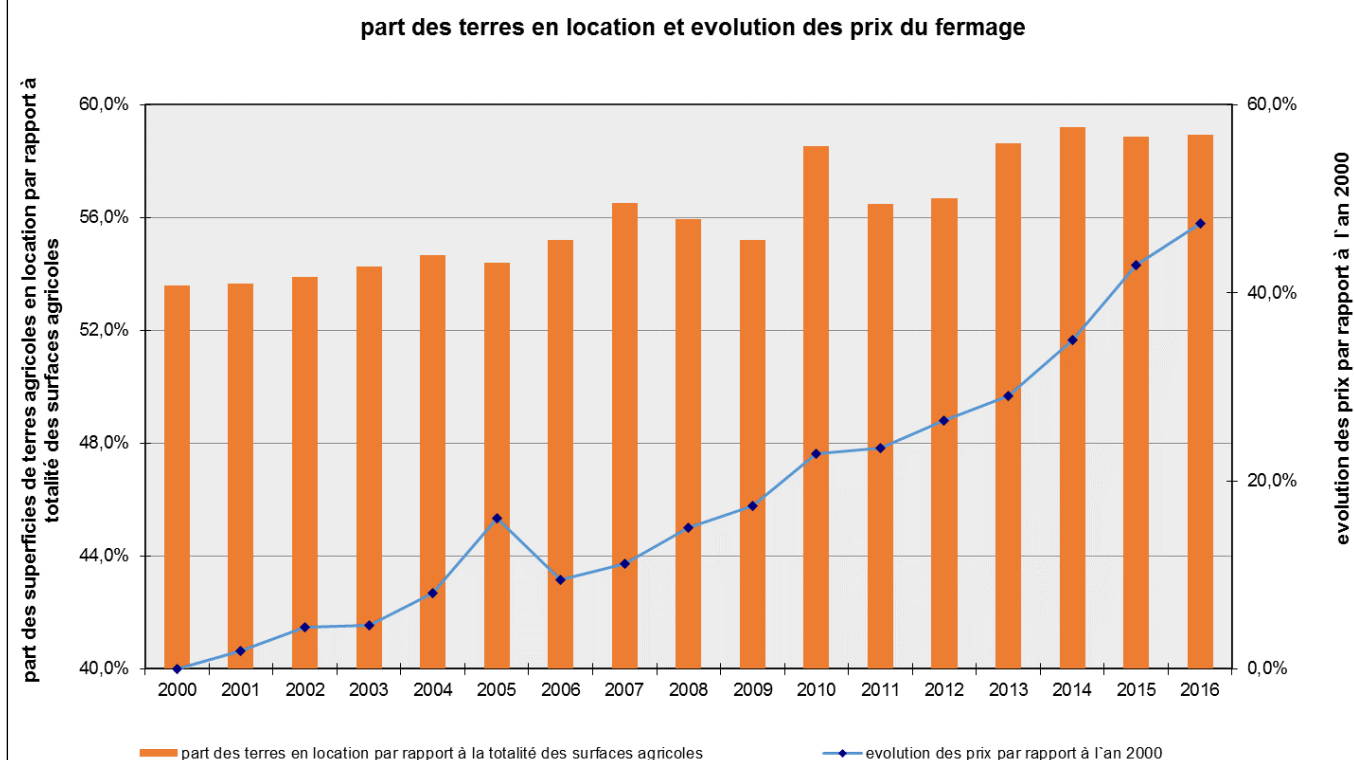
Access to land is now one of the major problems faced by Luxembourg's agriculture, which is a major obstacle mainly for young farmers wishing to set up. Agricultural land prices have experienced a particular boom in recent years. There are many causes: the development of structures towards agriculture that is highly linked to soil and milk production, the implementation of ecological compensatory measures on agricultural land, but above all accelerated urbanisation in urban and rural areas, which has created a competition for the purchase of arable land that is often unbalanced between active farmers and landowners and even players speculating on the land market.

Figure: Evolution of agricultural land prices and areas



Sources: SER, 2018, orange line: change compared to 2003 in%, mauve bar: area assessed in ha

Figure: Changes in rented land prices and share of rented agricultural land over total agricultural land



Sources: SER, 2017

During the period 2000-2018, the share of agricultural area in the whole territory of Luxembourg decreased by 3 percentage points from 64 % to 61 %. Built-up areas increased from 5 % to 7 % during the same period (source: Statistics Greater Region, www.grande-region.lu), which ultimately represents a growth of around 40 %. The forest areas remained constant. At the same time, the population has grown from 439.500 to 602.000, which represents an average growth of 9 % per year. In 2022, the residential population reached 645.000 inhabitants. This scarcity of access to land is a particular problem for new

entrants to the agricultural sector who do not initially have land capital. This pressure is less pronounced in winegrowing, where there is an increased availability of vineyard land due to a problem of farm takeovers.

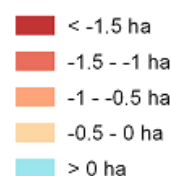
The overall development of agricultural areas in Luxembourg is alarming. In almost all municipalities in the country, there was a decline in agricultural land between 2007 and 2018, with the exception of the municipalities of Winseler, Lintgen, Lenningen and Stadtbredimus, or there was an increase in agricultural land and in Rumelange, or the share of agriculture remained stable. The loss of agricultural land was calculated on the basis of the shares of land use for each municipality for both dates. A total of 17 municipalities shows an average annual loss between 0 and -0.5 hectares, 31 municipalities show an average annual loss between -0,5 and -1 hectares and the vast majority (49) shows losses of more than one hectare per year of agricultural land. It should be noted that areas close to populated cities and along access routes (rail, road) in the centre of the country are as much affected as several rural municipalities in the north of the country. For example, the municipalities of Troisvierges, Weiswampach, Wincrange, Clervaux and Parc Hosingen all show values of more than 1.5 hectares of agricultural land loss per year.

However, this development is less serious for these large municipalities with a large number of available agricultural areas than for small municipalities in the south of the country. Considering the absolute value of the loss of agricultural land in relation to the municipal area, several municipalities stand out: urban expansion in the municipalities of Steinfort, Colmar-Berg, Diekirch, Bertrange, Dudelange, Schiffflage, Sanem, Ville de Luxembourg and Dudelange is so fast that agricultural land of a size higher than 2 % has been lost in just 11 years. This rapid change means a change in the character of these towns and villages and major challenges for farmers to maintain or access land. A total of 1 615 hectares of agricultural land was lost between 2007 and 2018.

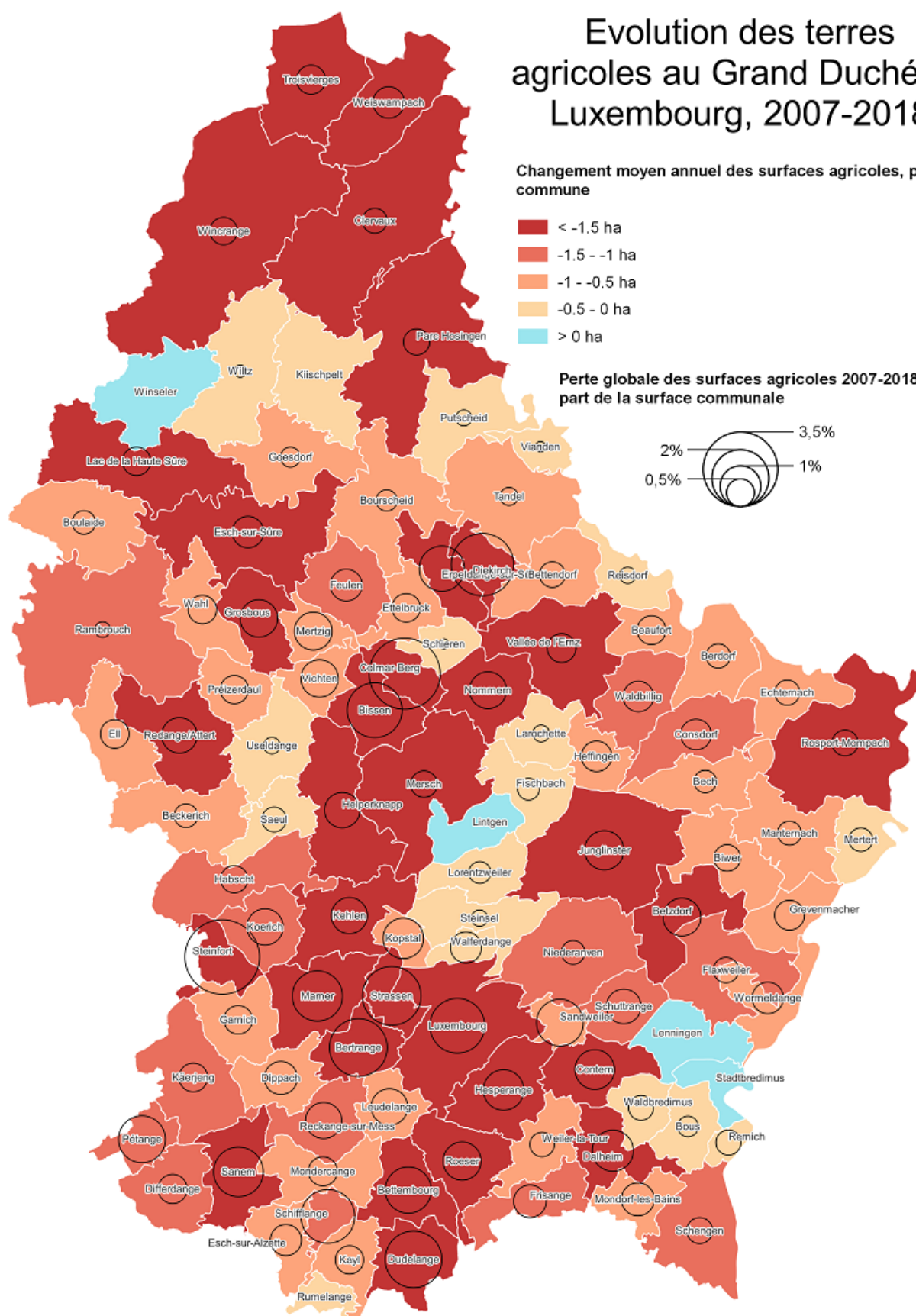
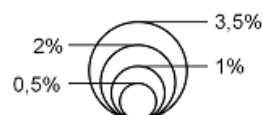


Evolution des terres agricoles au Grand Duché de Luxembourg, 2007-2018

Changement moyen annuel des surfaces agricoles, par
commune



Perte globale des surfaces agricoles 2007-2018,
part de la surface communale



Source : Ministère de l'Agriculture, de Viticulture et du Développement rural, 2022 sur les informations de LIS-L Land Cover, 2018, Luxembourg Open Data Portal.

Land restructuring is well developed, with significant benefits for winegrowing enterprises.

	Unité	1991 ¹	2001 ¹	2011 ¹	2018 ²	2019 ²	2020 ²
Population totale*	1000 Pers.	384,4	439,5	512,4	602,0	613,9	626,1

DONT:

Hommes	1000 Pers.	188,3	216,5	255,0	302,6	308,7	315,0
Femmes	1000 Pers.	196,1	223,0	257,4	299,4	305,2	311,1
Luxembourgeois	1000 Pers.	271,4	277,2	291,9	313,8	322,4	329,6
Non-Luxembourgeois	1000 Pers.	113,0	162,3	220,5	288,2	291,5	296,5

POPULATION D'APRÈS L'ÂGE*:

Âge actif (15 - 64 ans)	(%)	68,4	67,2	68,7	69,5	69,5	69,5
Enfants (0 - 14 ans)	(%)	17,3	18,9	17,3	17,3	16,1	16,0
3^e âge (65 ans et plus)	(%)	14,3	13,9	14,0	14,0	14,4	14,5

Source: STATEC

* Situation au 1^{er} janvier.

¹ Recensement général de la population.

² Évaluation sur base du dernier recensement général de la population et des soldes naturel et migratoire (STATEC).

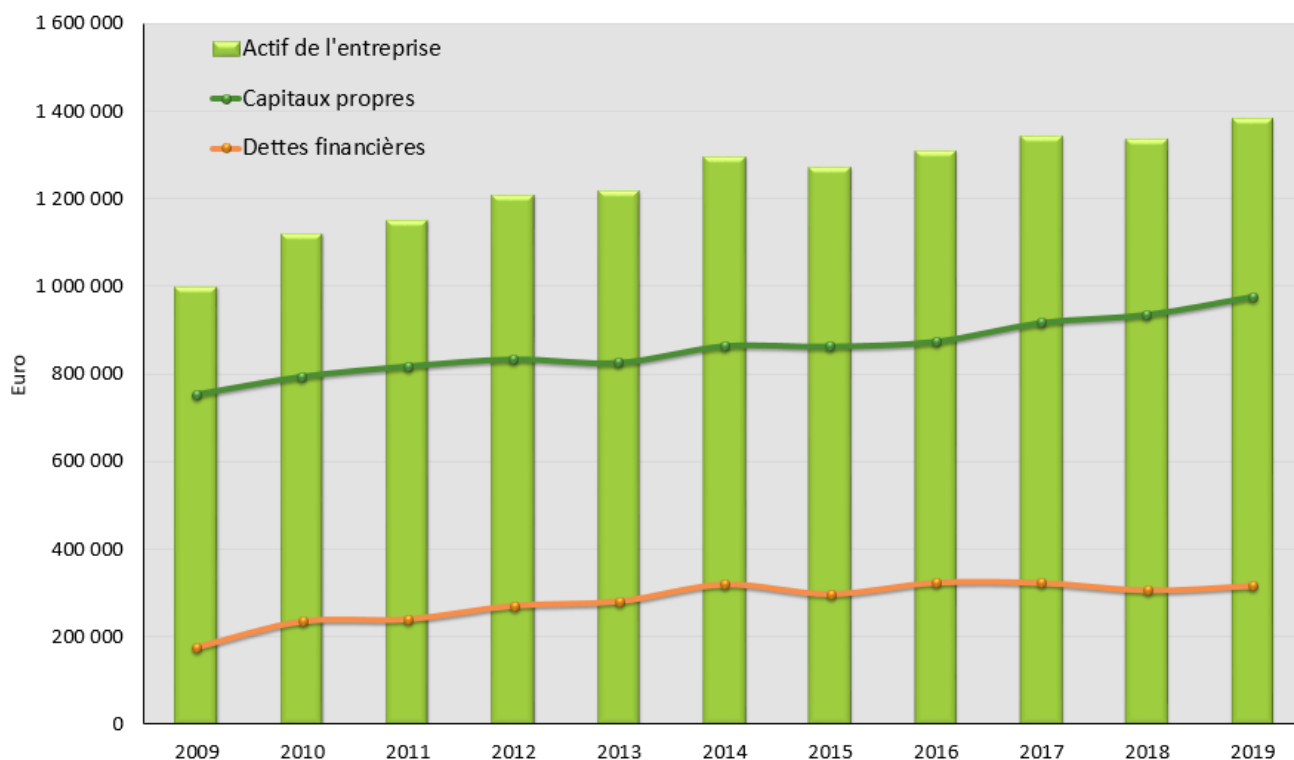
Sources: MAVDR, 2021, based on information from STATEC

Access to finance and credit

About 45 % of farmers' UAA is owned land. Given the high value of land and the fact that farms in Luxembourg generally have modern infrastructure and equipment, the assets of farms are high. This capital is a significant guarantee for financial and credit institutions. In addition, holdings' capital and reserves are high, so that the ratio of foreign capital to equity is very healthy. Thus, the ratio of financial autonomy, i.e. between equity and total capital, is on average 67 %. The debt ratio is low, with 65 % of Luxembourg farmers having had a debt ratio of less than 20 % in 2017.

However, with the very rapid development of farm structures in recent years, more and more farms are seeing a considerable increase in their indebtedness. Access to finance may be a major concern for a new entrant to the sector who does not have the necessary capital to set up in agriculture.

Figure: Changes in equity and foreign capital by agricultural holding in Luxembourg



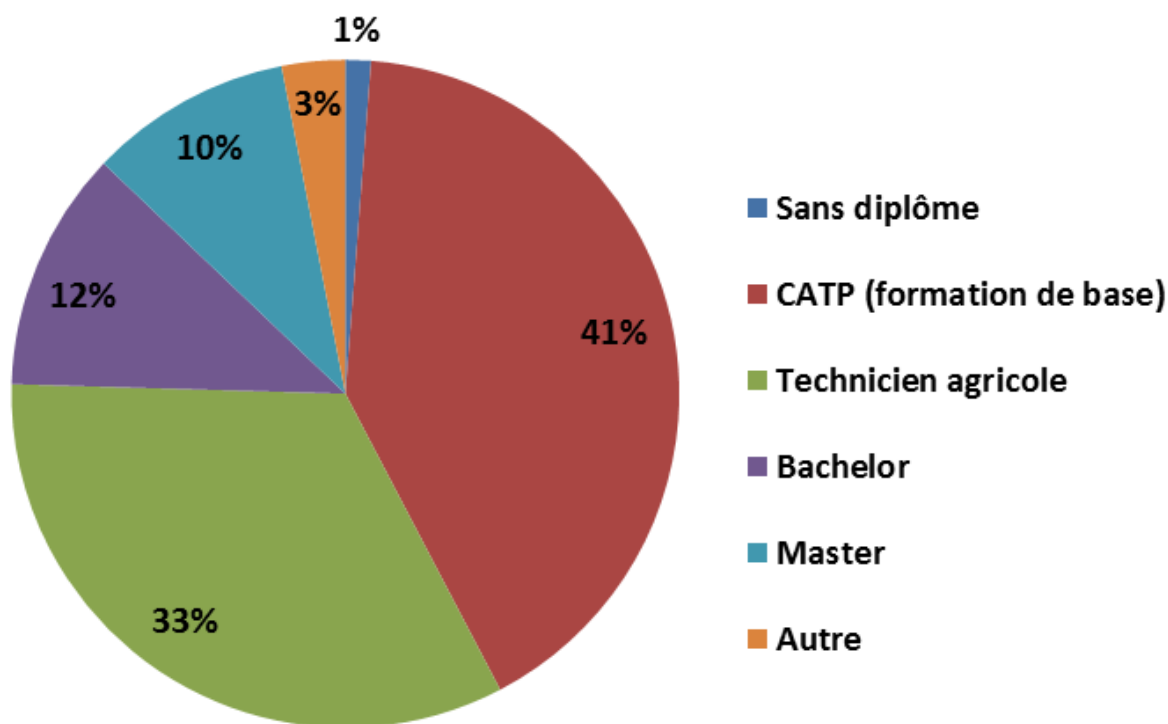
Sources: RICA

Access to knowledge and advice

In general, the training of young farmers, horticulturists and winegrowers is good and the share of farm managers under the age of 35 with at least a basic level of agricultural training is higher than the EU average. Moreover, several specific training opportunities exist for those intending to setup as a young farmer. In addition, more and more young people have higher education. A survey of farms participating in the RES accounting network showed that in 2015 almost 60 % of young transferees had higher education than basic training (certificate of technical and professional competence or diploma in professional competence) and 25 % of young people had a higher education degree at least equivalent to that of a bachelor. Access to training and advice is easy.

However, there is a lack of training and specialised advice in the specialised sectors, in particular market gardening and fruit growing. Similarly, there is currently insufficient support for people from another professional field wishing to acquire new skills (new entrants to the sector).

Figure: Level of training of young farmers



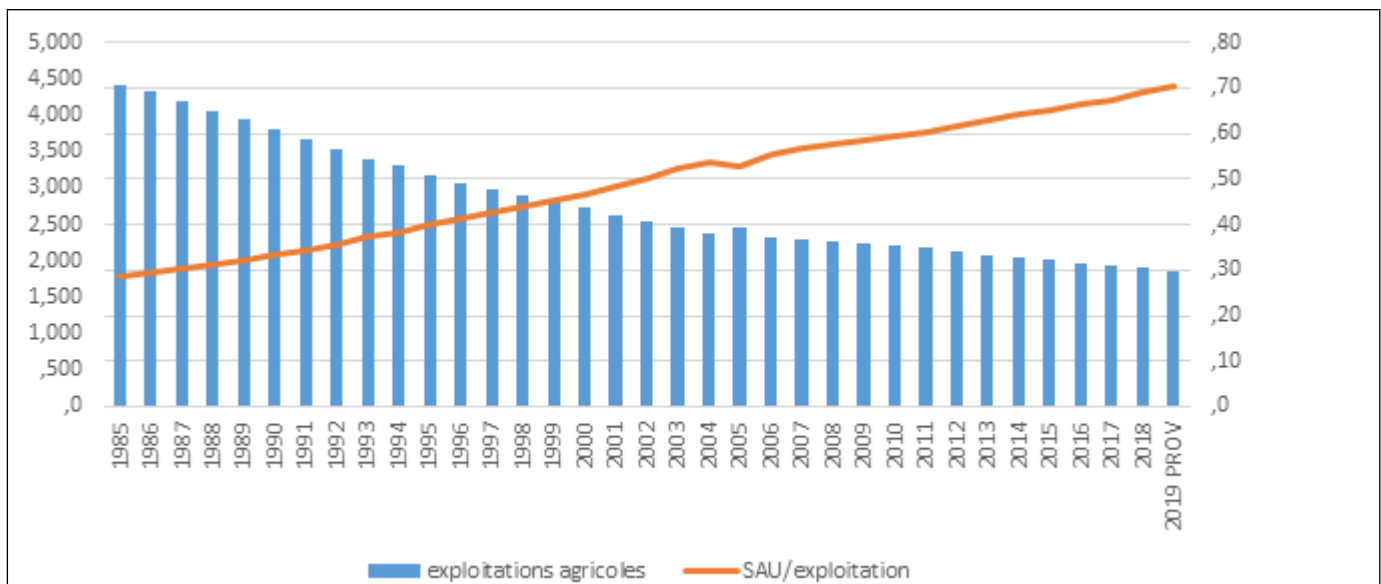
Sources: SER, 2015

Changes in farm structures

The graph below shows the evolution of farm structures in recent years. The recovery rate of agricultural holdings is relatively low, in particular as a result of a move towards larger and higher productivity units. Between 1985 and 2018, the number of agricultural holdings decreased from 4,410 to 1,906, while in 2021 there were 1,869 holdings. In this way, there is some deterioration in the age structure linked to the increase in the over-55s with holdings where succession is not always ensured. Looking at the first five years of the 2014-2020 RDP implementation, there is a reduction in the number of agricultural holdings of 178 units. However, 68 young farmers were set up during the period 2014-2018. Out of 246 farms, 68 were therefore taken over during these five years, giving a rate of 27 %.

While this rate may seem low, it should always be seen in the context of changing structures. Young farmers are now generally taking over farms with well-developed and restructured structures, which is certainly an advantage for the initial phase and future development.

Figure: Changes in the number of agricultural holdings and UAA per holding in Luxembourg



Sources: SER, STATEC, 2019

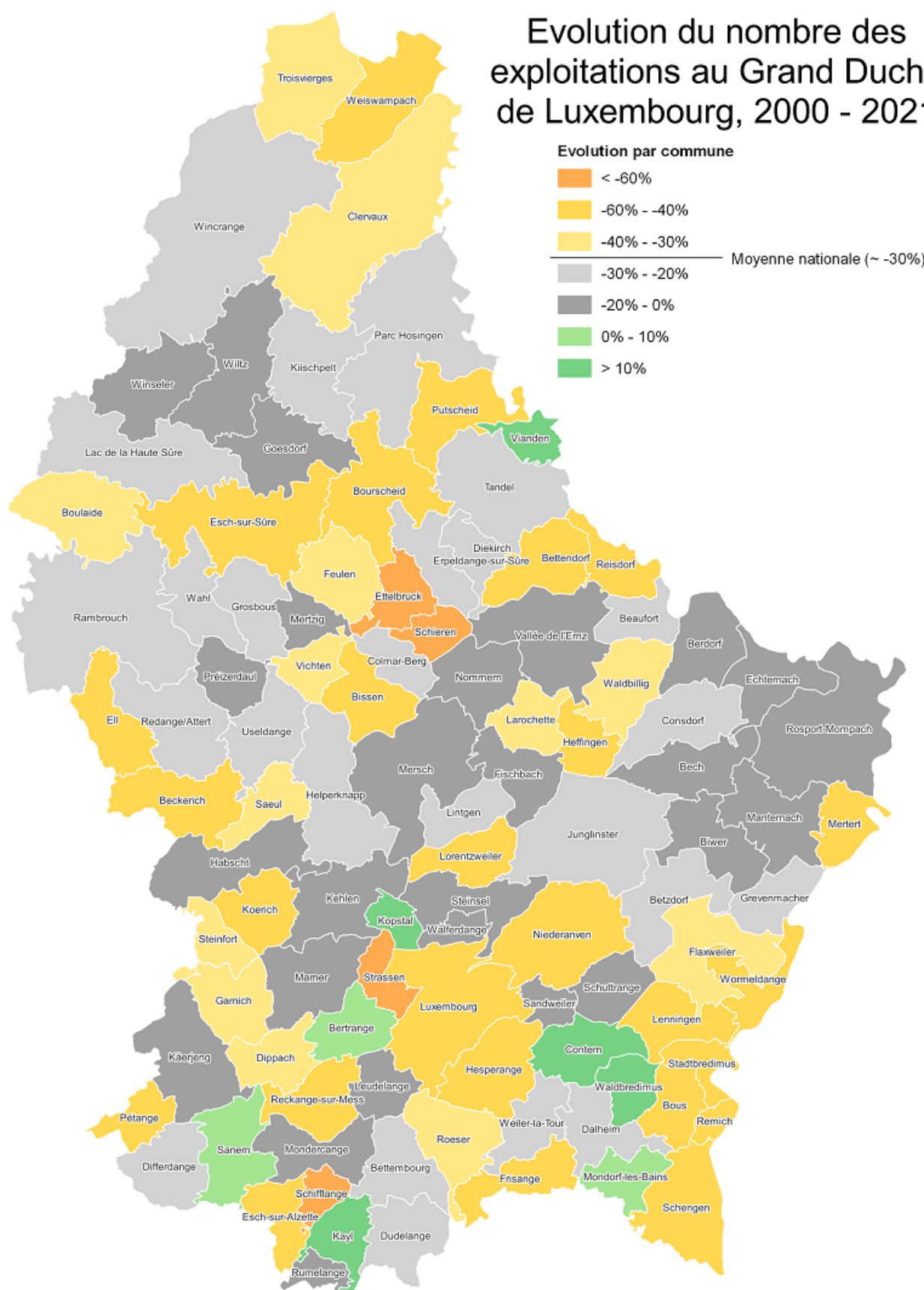
Difficulties in the succession of holdings and structural change have led to a considerable reduction in agricultural holdings in Luxembourg. The rate of reduction in the last years of 2000 and 2021 is around 30 % (31 %), noting that the number of farms decreased by one third in 21 years. Reference is made to the growing average UAA per holding which demonstrates the trend of absorption of redundant farms by larger farms.

In this context, a distinction should be made between municipalities or the decay rate of agricultural holdings is once lower and once higher than the national average to distinguish between areas of rapid structural change and slower areas of change. Around 40 % of municipalities have a decay rate of less than -30 %, slightly more municipalities have a negative decay rate but above the national average between -30 % and 0 %. In a small number of municipalities, the number of registered holdings has increased: in eight municipalities, the absolute number is a positive development, contrary to the national trend. In these municipalities, a very low number of farms can be seen, and the positive rates are small anomalies.

The development of farms follows a very heterogeneous territorial distribution. However, some territorial patterns show a spatial correlation. Thus, decay rates above and below the national average are geographically isolated, referring to regional conditions (e.g. water protection, dominant crops, topography, etc.) which affect changes in the number of farms in Luxembourg.



Evolution par commune



Source : 2022, Ministère de l'Agriculture, de Viticulture et du Développement rural sur les informations de LIS-L Land Cover 2018, Luxembourg Open Data Portal

Support for young farmers

Luxembourg supports young farmers through various means: under the first pillar with a lump sum and under the second pillar of the RDP with installation support. So far, no young farmer has been refused under this scheme due to a lack of budget. In order to facilitate access to factors of production, young farmers benefit from an additional 15 % support rate on investment measures for the first 5 years after setting up, but no land purchase subsidy to avoid an increase in land price.

The setting up of young farmers is accompanied by a farm advisory system specifically geared to the needs of young farmers and which includes support for the preparation of a business plan. A holistic approach that takes into account economic, social and environmental aspects is planned to provide a framework for setting up young people. Alongside this specific framework, a broad catalogue of advisory modules is available to all farmers, financed by a state aid scheme (cf. transversal OS). Support for the takeover of holdings is directed towards farms of a certain economic size (minimum of EUR 75.000 of standard products) providing a main holding. Small farms in the development phase, often with innovative projects focusing on market needs (niches), do not reach the level of production necessary to become eligible for aid, as planned in the period 2014-2020.

According to the European Commission, in 2016 Luxembourg ranked fifth in the ranking of the countries with the highest share of young farmers in the total number of farm managers, with a figure of 8.1 %, well above the EU average (5.1 %) (Source Eurostat). In the period 2005-2016, the number of holdings of young farmers has decreased (-7 %), while the land area has increased (25 %), and standard output has more than doubled (112 %). This trend is more positive than in the majority of Member States, which means that in Luxembourg each young farmer has an average of 87 ha of agricultural holding and has a standard output of more than EUR 270.000, which places the country well above the EU average. In addition, for the age group 25-34, the average economic size of agricultural holdings is the highest (Source: CAP context indicator C.23 Age pyramid of farm managers; based on Eurostat data).

For previous programming, the country allocated 2 % of its rural development budget to support business creation in this area, which is well below the EU average (3.8 %) (source: DG Agriculture and Rural Development, Annual Implementation Report of Rural Development Programmes, 2018). The European Commission notes that women in rural areas account for 25 % of the agricultural workforce, but only 17 % are farm managers, well below the EU average (28 %). Although the rate of women among young farmers was only 13 % in 2016, it is hoped that there will be a positive development in this regard. The latest figures from 2020 show a slight change with 18 % of farm managers and 14 % of the population of entrepreneurs under 41 are women (Source: SER). This development will be monitored more closely in the next programming period.

The situation of young winegrowers

74 % of farmers are over 50 years old and farm 68 % of the vineyard area in Luxembourg. For the coming decades, Luxembourg's winegrowing will face the challenge of ensuring succession and thereby ensuring the maintenance of winegrowing areas in production. However, young people taking over an existing family winegrowing holding are at least faced with the difficulty of accessing vines, either through purchase or rental through a lease, as many wine-growing areas remain unexploited. Access to wine-growing areas is easier than access to agricultural land. The takeover of existing farms by young people whose families had not previously held a holding has so far been very rare.

2.1.SO7.2 Identification of needs

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan
B7.1	Maintaining farms with sizes that allow recovery by the next generation	P1	Partially

B7.2	Maintain a system of support and advice for young people to take back	P2	Partially
B7.3	Encourage non-family or atypical take-overs and the entry of new producers	P2	Partially
B7.4	Create a general framework encouraging the setting up of young farmers	P1	Partially
B7.5	Maintain and improve support and advice to the JAs in connection with the installation	P1	Yes

Other comments related to needs assessment.

All identified needs related to this objective aim to support generational renewal. Incentives are needed to attract young people to take over existing farms to engage in new production. Indeed, the graph “Age of farmers, comparison 2010/2016” shows that the vast majority of farmers are over 45 years old. According to STATEC’s analysis of agricultural structures, succession is guaranteed for only 26 % of current holdings (see also Graph “Succession situation of farm managers > 54 years by OTE (comparison 2010/2016)”). It should also be noted that only 14 % of the population of farm managers under the age of 41 are women.

As the costs in Luxembourg are high, sufficiently attractive aid must generally be available to young farmers and more precisely at the time of the first setting up in order to counteract the current trend of a reduction in the number of holdings accompanied by an increase in existing holdings, particularly in dairy herds. In this way, family-sized farms are favoured by Luxembourg and support is offered to several young farm managers who wish to set up in the same agricultural enterprise. Support by a farm council tailored to the needs of young people is crucial, especially in the start-up phase, to guide young people well so that they can ensure an adequate income while taking into account environmental and animal welfare considerations imposed at national and European level.

In order to support new entrants wishing to take over businesses in a non-family or atypical context, a new farm council module will be developed which will specifically address this category of actors.

Modernisation and management of a farm requires young people to have skills that need to be provided through initial and continuous training targeted at their needs.

2.1.S07.4 Intervention logic

Form of Intervention	Type of Intervention	Intervention Code (MS) - Name	Common Output Indicator
DPdecoupled	CIS-YF(30) - Complementary income support for young farmers	1.01.502 - Complementary income support for young farmers	O.6. Number of hectares benefitting from complementary income support for young farmers
RD	INVEST(73-74) - Investments, including investments in irrigation	2.04.712 - Aid for agricultural investments	O.20. Number of supported on-farm productive investment operations or units
RD	INVEST(73-74) - Investments, including investments in irrigation	2.04.714 - Aid for environmental investments	O.20. Number of supported on-farm productive investment operations or units
RD	INSTAL(75) - Setting up of young farmers and new farmers and rural business start-up	2.09.711 - Support for setting-up of young farmers	O.25. Number of young farmers receiving setting-up support

Overview

The following interventions and support contribute to this objective and thus meet priority need B7.4 Creating a general framework encouraging the setting up of young farmers:

- Payment for young farmers (1st pillar support, SPR Art.30)
- Setting up of young people (Pillar2 support, SPR Art. 75)

- Aid for investments in agricultural holdings (Pillar 2aid, SPR Art. 73)

The number of farms has steadily decreased over the past decades and the phenomenon continues, although it has slowed down slightly in recent years. In order to maintain family-type (medium-sized) farms, it is necessary to encourage the resumption of such holdings and the need for capital increases, in particular because of the growing size of farms and the increase in the price of rent and land.

The government thus encourages the resumption and creation of family-type farms by means of substantial financial support. This aid is paid to young winegrowers and horticultural farmers as their main component. In the first pillar, payments for young farmers will be activated. This scheme is complemented by a scheme for setting up young people in the second pillar. The installation must be accompanied by a business development plan which plans the young person's installation project.

As a response to the need "B7.2. Maintaining a farm recovery support and advice system ", throughout the process of preparation for installation, an advisory service is offered to assist young people in their choices and in the implementation of their ideas. The integrated farm council, geared towards competitiveness, respect for the environment and animal welfare, environmental performance and social life, is offered in order to support young farmers with the expertise they need in the development of their holdings. The business development plan is to be carried out for 5 years after installation. During this period, the holding receives an additional rate of aid on the investments made. This option should further facilitate the necessary investments to consolidate the entire farm and prepare it for the new generation.

Given the modernisation of farms and the multiple skills needed to manage a significant farm size, it is important to have a certain level of training and the necessary skills, also in order to deal with administrative and management matters. In order to promote young people's training and experience, the support scheme offers a "Topup" for a traineeship on an agricultural holding abroad.

Particular attention shall be paid to avoiding any discrimination against women who wish to settle as farm managers. The rate of female entrepreneurs currently stands at 13 % (source EUROSTAT), which is well below the EU average (28 %).

A specific framework is provided for the creation of new farms by new entrants known as 'outside the family' who, given the capitalisation of holdings, do not always have the possibility to set up directly as primary farmers. The installation aid thus provides for a new option which allows an installation from a planned standard production of EUR 25.000 to be developed up to the limit of EUR 75.000 for a period of 5 years. During this development phase, the young person may also benefit from the additional support rate at the level of investment aid. This new option is a response to the needs identified (B7.3 Fostering take-overs outside the family or atypical context and the development of new producers and B7.5 Maintaining and improving support and advice for young farmers in the context of setting up).

A specific state aid scheme also supports the creation and development of micro-enterprises with a view to diversifying the rural economy and, in particular, increasing the number of initiatives aimed at short marketing of agricultural production. The different schemes are sequentially compatible and arranged in such a way as to be able to start with the launch of a micro-enterprise which could grow up to the standard production limit of EUR 25.000, which then allows a main installation to develop towards a PS of EUR 75.000.

However, the consultation of the agricultural profession noted that financial support cannot be the only way to encourage a young person to take up a holding. All the conditions linked to the holding are important: administrative and environmental barriers, working time and participation in society and work intensity. Another State aid scheme is therefore proposed which makes it possible to make use of reinforcements for farmers in the event of illness, maternity leave or even replacement in the event of

leave. This support, which covers the costs of mutual assistance and replacement, is intended to improve conditions for family life by helping to achieve a better work-life balance. It is hoped that this support will encourage more facilities for young women farmers.

Particular attention will be paid to the respect of the European Pillar of Social Rights. Considerations relating to the social protection of workers, working and housing conditions and the protection of health and safety concern the entire agri-food sector. The sector regularly uses casual employees (employment of less than 3 months) as well as seasonal employees (between 3 and 10 months of employment) who usually come from abroad. Both categories of workers have an employment contract and, for European seasonal workers, the same social security cover as domestic workers covering health, pensions and accidents.

2.1.SO7.5 Where relevant, a justification for the use of InvestEU, including the amount and its expected contribution to the Specific Objective/Cross-Cutting Objective

None.

2.1.SO7.6 Are you planning CAP contribution towards the Erasmus programme : No

2.1.SO7.8 Selection of the result indicator(s)

Selection of the result indicator(s) for this specific objective

Result indicators [recommended Result indicators for this specific objective are fully displayed in bold]	Target value
R.36^{CU PR} - Generational renewal Number of young farmers benefitting from setting up with support from the CAP, including a gender breakdown	235.00

Justification of the targets and related milestones

As regards the targets and milestones, reference is made to the 'other comments' section of the SWOT section and to the detailed description of the interventions falling within that specific objective.

2.1.SO7.9 Justification of the financial allocation

The setting-up of young people is supported by the two measures indicated, complemented by the top up of investment aid to support investments made by young people during the implementation phase of the business plan.

The budget to be reserved takes account of the minimum laid down in Annex XII to Regulation (EU) 2021/2115. It is also based on past experience, which will differ if the general conditions for the agricultural sector continue to deteriorate.

2.1.SO8 Promote employment, growth, gender equality, including the participation of women in farming, social inclusion and local development in rural areas, including the circular bio-economy and sustainable forestry

2.1.SO8.1 Summary of the SWOT Analysis

2.1.SO8.1.1 Strengths

1. Continued population growth.
2. Cultural diversity, multilingualism and diversity of age groups.
3. Small national territory favouring proximity.
4. Conservation of the typology of villages.
5. Presence of a large number of SMEs with quality jobs.
6. High purchasing power.
7. Rural areas favourable to renewable energy production.
8. Improvement of the provision of basic, continuous and decentralised training.
9. Existence of several joint mobility initiatives and connection of cycle paths.
10. Development of community services and businesses initiatives.
11. Rich built, natural and cultural heritage of rural areas.
12. Diversity and quality of recreational, cultural and tourism services and infrastructure.
13. Landscape diversity and numerous advisory and management services.
14. Dense fabric of rural development actors and extensive experience of bottom-up practices.

2.1.SO8.1.2 Weaknesses

1. Difficulties in integrating newcomers.
2. Weak volunteering and civic involvement in local life.
3. Heterogeneous territory with a large proportion of small rural municipal entities (< 1.500 inhabitants).
4. Rurbanisation and lack of mixed functions and type of housing in new neighbourhoods.
5. Insufficient utilisation of the potential for skilled jobs located in rural areas and a lack of decentralised job opportunities.
6. Lack of small reception areas for craft activities.
7. Lack of cascading recovery of available biomass.
8. Insufficient recognition of traditional professions and lack of skilled artisanal labour
9. Predominance of individual transport in rural areas.
10. Reduction of primary services and closure of local desks.
11. Reduction of hotel capacity in rural areas.
12. Insufficient management of seasonality and insufficient professionalisation at local level.
13. Landscape fragmentation due to urbanisation.
14. Lack of prospective vision/practice of elected representatives and managers.

2.1.SO8.1.3 Opportunities

1. Development of an open and multicultural society with increased awareness for a quality of life in rural areas.
2. Strengthening the regional identity linked to the restructuring of LEADER regions.
3. Awareness and increased awareness of facilitating access for persons with disabilities for the elderly, etc.
4. Inter-municipal/regional and rural/peri-urban cooperation through regular dialogue.
5. Repurposing existing built heritage to enhance village nuclei and maintain economic life.

6. Involvement of municipalities in the creation of different types of housing.
7. Development of co-working and teleworking areas.

2.1.SO8.1.4 Threats

1. A sharp increase in population in a short period of time.
2. Poverty and risk of segregation between different groups of the rural population.
3. Reduced quality of life and community/citizen engagement.
4. High urban pressure and land use conflicts.
5. Pressure on the built rural heritage as a result of changes in property and land prices and heavy urban planning constraints/regulations.
6. Disappearance of small shops and certain traditional trades and heavy dependence on foreign labour.
7. Pressure on resources, potential source of conflicts between different interest groups.
8. Social exclusion, youth unemployment, early school leaving and lack of adequate infrastructure for a strong population.

2.1.SO8.1.5 Other comments

Geographical area and territorial organisation

Given the small size of its national territory of 2.586 km², the Grand Duchy of Luxembourg is considered to be a single 'region' at NUTS 3 level. The national territory, which represents 2 geographical natural regions, namely 'Gutland' in the centre and south (68 %) and 'Eislek' in the north (32 %), is divided into 12 cantons (LAU1) and 102 municipalities (LAU2). The canton represents a rather administrative subdivision of the territory. Depending on its importance and its territorial centrality, each canton comprises 3 to 14 municipalities. The number and configuration of the cantons has remained unchanged since their creation, while the number of municipalities as the smallest political and administrative territorial entities in the country has steadily decreased throughout the last 20 years after the merger of some 20 small rural municipalities.

With regard to spatial planning, the 2018 PDAT (Regional Planning Director Programme) defines 6 planning regions for Luxembourg's national territory, namely: the 'North' region, the 'Central North' region, the 'East' region, the 'Central South' region, the 'West' region and the 'South' region. This regional division approach groups municipalities with geographical characteristics, which helps explain some of the above phenomena, even though the 2018 PDAT is currently under revision.

Demographic analysis

A. Population and population density

Despite the small size of the country, demographic change shows strong growth dynamics in GRACE to the economic development of the country. As of¹ January 2021, Luxembourg had 634.730 inhabitants in 2022 645.397, spread over 102 municipalities. The capital city is the most populated municipality, with 124.509 inhabitants in 2021, followed by the municipality of Esch-sur-Alzette with 36.228 inhabitants. In total, there are 13 municipalities with a population of > 10.000. 39 municipalities of the 102 municipalities have a population of between 3.000 and 10.000, followed by the other 50 municipalities with fewer than 3.000 inhabitants.

In addition to **strong population growth in the** national population of around 12.000-14.000 inhabitants per year, Luxembourg is also experiencing a sharp increase in population density (STATEC, 2021). In addition, in recent years this trend is even more pronounced in rural areas than in densified centres in the country. Since 1981, all municipalities in the country have experienced strong population growth, ranging from 2.0 % to > 2.5 % on average per year, also and especially in rural municipalities (STATEC, 1980, 2010, 2020).

In 2021, the population density arrived at a national average value of 245,4 inhabitants per km². In rural areas (see point d), the average population density is still lower than the national average, although it has reached an evolving value of 143,8 inhabitants per km². It should be noted that while the average national population density has increased by around 24 % in 10 years (198,1 to 245,4 inhabitants/km²), it has evolved less in rural areas of the country, i.e. an increase of 15.5 % in 10 years (124,5 to 143,8 inhabitants/km²) (STATEC, 2010, 2021) and 44 % in 20 years (STATEC, 2000, 2021).

B. Share of foreigners

The resident population of Luxembourg is highly characterised by foreign residents. With **strong population growth** of 2.0 % to > 2.5 % on an annual average, especially in rural areas since the 1980s, the country is also experiencing a marked rejuvenation and considerable diversity of the resident rural population (STATEC, 2019).

In 2021, 335.304 inhabitants of Luxembourg nationality with 299.426 inhabitants of foreign nationality make up the resident national population of a total of 634.730 inhabitants. For example, Luxembourg has a current average ratio of 47.2 % in foreign resident population (STATEC, 2021). In 2010, the national average foreign resident population ratio was still 43 % relative to a total resident national population of some 502.100 inhabitants (STATEC, 2010). On the other hand, it should be noted that the share of foreign-born inhabitants has been slightly declining since 2018 at a rate of 47.9 % (STATEC, 2017).

Currently, this high proportion of foreign residents can rise up to > 70 % in the capital city – City of Luxembourg, or also up to > 50 % in other densified centres in the ‘Sud’ development region (Esch/Alzette, Differdange) or even ‘Centre-Sud’ (Hesperange, Mamer, Strassen). On the other hand, municipalities in rural areas such as Beaufort, Pigen, Larochette, Mertzig and Vallée de l’Ernz also show high rates of > 48 % of non-Luxembourg residents. With 58.3 % of foreign residents, Larochette is even the third municipality of Luxembourg with the most foreigners in shares (STATEC, 2019). Other rural or peri-urban municipalities such as Biwer, Junglinster, Niederanven, Schuttrange and Wormeldange are mainly characterised by a gradual high degree of diversity of nationalities among their resident population. One example is the municipality of Schuttrange, which hosts > 85 different nationalities out of a municipal resident population of < 4.150 inhabitants.

Given the socio-economic attractiveness of Luxembourg at the heart of the Greater Region Sarre-Rhineland/Palatinat-Luxembourg-Lorraine-Wallonia-Ardenne, the modest national territory is exposed to high demographic or even socio-economic pressure, which increases annually and is also reflected in increased and heightened land pressure, especially in rural areas (high land price levels).

C. Population age

Population growth due to positive net migration is reflected positively in the average age of the country. At country level, the average age of women is higher than that of men. Indeed, the female population is on average 40.1 years old, whereas the male population is 38.6 years old on average. The average age of the total population is 39,4 on 1st January 2018.

In Luxembourg, the structure of the population remains relatively young, compared to the EU-28 and neighbouring countries. This is due in particular to the immigrant population, which ‘rejuvenates’ the Luxembourg population. At the age of 41,6, Luxembourgers are on average older than foreigners (37,0). The majority of the immigrant population are young people of working age. And in general, families with minor children seem to be more inclined to settle in the most rural municipalities. For example, the proportion of children under the age of 3 is slightly higher in the northern part of the country – rural municipalities – than in the south – urban municipalities (STATEC, 2019).

D. Rural and urban municipalities

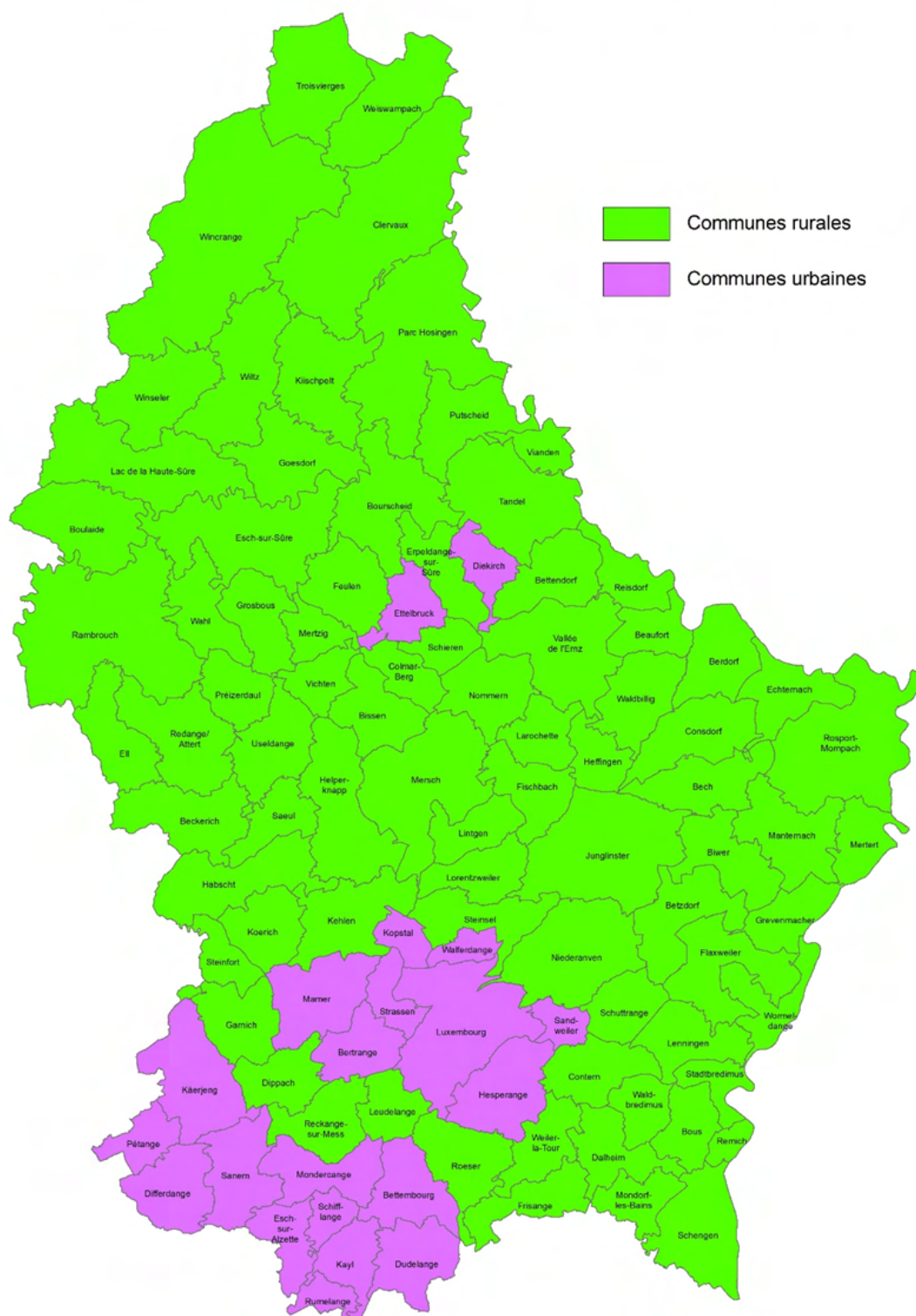
The vast majority of Luxembourg's municipalities are rural typology. In general, it is the number of inhabitants (more than 3.000 inhabitants) and the population density (more than 250 inhabitants per km²) that characterise 'urban' or 'rural' spaces in a territory. In particular, demographic change in Luxembourg means that the second criterion for distinguishing between rural and urban areas is adapted to current realities. That is why the future demarcation between rural and urban areas in Luxembourg is defined by an discounted value in terms of population density, i.e. $\leq 310 \text{ hab./km}^2$ (rural) or $> 310 \text{ hab./km}^2$ (urban). On the other hand, the vast majority of the municipalities covered by the National Strategic Plan still have a resident population of ≤ 3.000 inhabitants. In addition to rural and urban areas, Luxembourg still has a 3th type of area with both rural and urban characteristics, namely the growing proliferation of 'rurban' areas (DATer-PDAT, 2003).

10 Luxembourg cantons are unquestionably predominantly "rural", with a wide range of population density ranging from 53 hab./km² to 242^{hab./km²}, namely: Clervaux (5 comm./53), Wiltz (7 comm./63), Vianden (3 comm./66), Redange (10 comm./69), Diekirch (10 comm./159), Mersch (10 comm./143), Echternach (7 comm./102), Grevenmacher (8 comm./141), Remich (8 comm./174) and Capellen (9 comm./242). By analogy, the 2 cantons of Esch/Alzette (14) and Luxembourg (11) are unequivocally 'urban' with a population density of 766 resp. 728 hab./km² (STATEC, 2018).

After analysis, **81 out of a total of 102 municipalities are considered rural**. With 2 201.53 km², the area of the 81 municipalities in rural areas represents **85.1 % of the national territory**. At the same time, all rural areas comprise a resident population of 254.105 inhabitants, i.e. 40 % of the national resident population in 2021. 50 municipalities in rural areas, and the vast majority of them, document an inhabited population of < 3.000 , with population densities of $< 310 \text{ inhab./km}^2$, ranging from 36,0 inhabitants per km² to 223,5 inhabitants per km². (STATEC, 2021).

By analogy with the 81 municipalities in rural areas, **21 municipalities should be identified and defined in urban areas**. These municipalities have a population of more than 3.000 inhabitants and a density of more than 310 inhabitants per km² and are mainly located in the three development poles of the country, i.e. the southern, Luxembourg and northern agglomerations (STATEC, 2021). Finally, it should be noted that all regional rural development and attraction centres (CDA) are part of rural municipalities and are therefore eligible for LEADER local development and national rural development measures.

Communes rurales et communes urbaines



Employment

a. Labour market, mobility and teleworking

The number of jobs in the country is growing strongly, attracting a large number of commuters from neighbouring countries. In 2010, the **national labour force** represented only 234.000 inhabitants out of a total of 502.100 inhabitants. Daily inbound flows were around 151.000 commuters in a total domestic

labour market with almost 364.000 jobs. In 2018, the resident active population accounted for almost 282.000 inhabitants out of a total current resident population of > 602.000 inhabitants, i.e. + 20.4 %. In addition, more than 196.000 professional commuters from the Greater Region were added to the resident labour force, i.e. + 29.8 %. This considerable share of “additional daily population” (07: 00-19: 00), spread across all urban and rural regions of the country, is primarily active in Luxembourg’s domestic labour market, with a total current supply of > 456.000 jobs, i.e. + 25.4 % since 2010 (high income levels!) (STATEC, 2018 & CEPS/INSTEAD, 2013).

In addition to its strong population growth of 19.9 % (2010-2018), Luxembourg is characterised by a remarkable change **in the total domestic labour market** with an increase of 25.4 % (2010-2018). In the same period, the national labour force increased from 234.000 inhabitants to 282.000 inhabitants, an increase of 20.4 %. On the other hand, in 2018 Luxembourg also saw outflows of > 12.500 resident professional commuters, who, as outbound active residents, are employed beyond the national territory in the Greater Region ($\pm$ 11.100 outgoing professional residents in 2010).

All ‘place of residence – place of work’ travel in connection with the employment function leads to significant daily mobility flows within the national territory which have a greater impact on individual transport networks (primarily rural areas) than on public transport networks (rather urban and densified areas). More work and home travel is made by car. The **average national modal split rate** (report: private transport – public transport) currently runs around $\pm$ 20 %. On the other hand, the modal split is significantly lower in rural areas of the country at 12 % – 15 % (LISER & dater, 2018).

Since the Covid19 health crisis in Luxembourg as well as in many other EU countries, **teleworking** has been strongly promoted and has developed rapidly in terms of people working remotely. If a person had neither the possibility to be physically present at the workplace, nor to work remotely, then they were probably obliged to be partially unemployed or to lose their job. In 2020, the proportion of residents teleworking increased in all EU countries, but levels vary widely across countries. The share of residents who never telework ranged from 97 % in Bulgaria to 52 % in Luxembourg, with 79 % in Germany, 71 % in France and 66 % in Belgium. For example, Luxembourg has the highest proportion of residents sometimes or normally working remotely in 2020. It should be noted that data on telework are only available for residents, so the proportion of people teleworking in total employment in Luxembourg may be lower, if cross-border commuters work more in occupations or teleworking is more difficult (for example, they account for about 60 % of the commercial workforce). This change in the number of people working remotely will have a significant impact on rural areas, as residents spend more time at home, leading, for example, to fewer traffic flows. On the other hand, this increase may lead to the rural environment becoming even more attractive as a place to live.

B. Unemployment rate

Historically, the employment rate in Luxembourg shows low levels, and the rate continues to decline with the exception of 2020. The unemployment rate moved slightly downwards between 2010 (6.97 %) and 2019 (5.76 %), mainly due to strong economic growth.

In 2020, however, it went against previous years at a rate of 6.59 %. This considerable increase for a relatively short period is explained by the COVID-19 health crisis and the negative impact of this crisis on the labour market.

Many rural municipalities currently report lower unemployment rates and below the national average of 6.59 %. In this context, particular attention should be paid to the specific unemployment values in the rural municipalities of cantons such as Grevenmacher < 4.68 %, Mersch < 4.66 %, or Redange, as well as < 4.86 %. This sustained regional development has certainly contributed to the socio-economic strengthening of these rural areas, but has focused on the creation of quality endogenous jobs at regional level. On the other hand, rising unemployment rates persist in other rural cantons, such as Vianden with 7.5 % or Wiltz with 8.49 %. Such deficits clearly document the need for, and priorities for, intrinsic regional development initiatives, with the clear aim of strengthening or even stabilising the endogenous

supply of quality and adapted jobs for these most disadvantaged rural areas (STATEC, 2020).

C. Density of employment

Areas with higher job density in the country are concentrated around urban centres, which is the result of strong urban forces and a territorial imbalance in the availability of jobs. The relationship “resident population – resident assets – domestic jobs” can well be documented by an analysis of employment densities (number of jobs per 1.000 inhabitants) per region or municipality. Given the considerable evolution of the domestic labour market, the national average of employment density arrived at 758 emplois/1.000 in 2018, compared to only 724 emplois/1.000 in 2010 (STATEC, 2018).

The concentration of the tertiary sector of public and private services has developed mainly in the capital city of Luxembourg and in the peri-urban municipalities of the Centre-Sud development region. For example, the 10 municipalities ‘capital with its urban belt’ offer 55 % of total domestic employment, even though they account for only 30 % of the national resident population. However, the Centre-Sud development region, on the one hand, densified and urban around the capital and close to the major roads, still retains another part of the rural typology, which is further away from the conurbation centres. These rural municipalities in the Central South region show lower job densities of < 350-400 emplois/1.000 inhabit and rather retain their residential profile (LISER & dater, 2018). Some of the rural municipalities in the Central South region, such as Garnich, Habscht and Koerich, are actively participating in the bottom-up LEADER local development projects in the Lëtzebuerg West region and thus contribute to strengthening the socio-economic and cultural potential in the region.

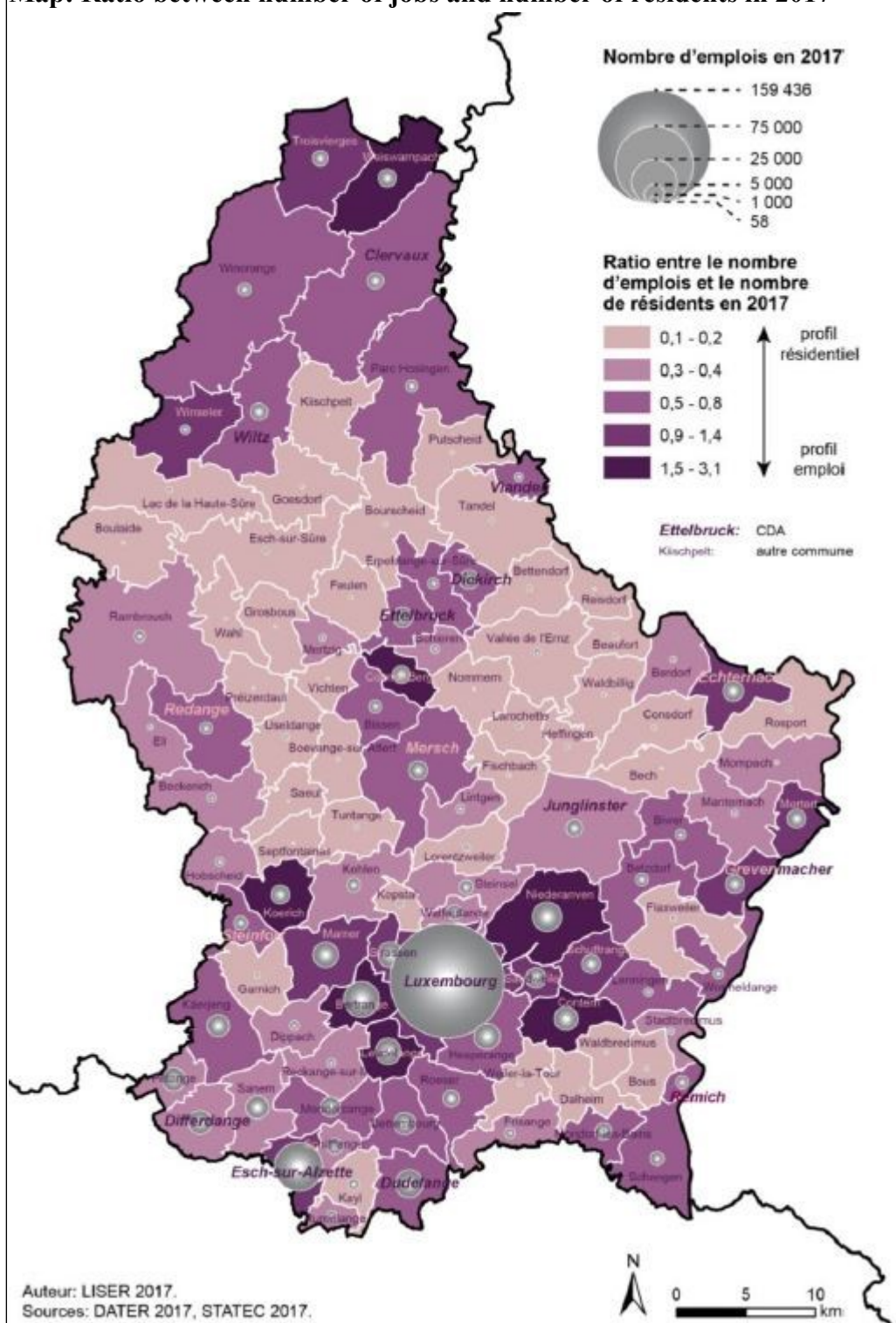
Unlike the rural areas of other EU Member States, the number of jobs in rural areas in Luxembourg shows a positive trend. Other development regions in the country, with a clearly rural typology, such as the Central North and the North, and then, for a smaller reason, the East and ultimately even the West, have already revealed consolidated population densities of 360-620 emplois/1.000 inhabited before 2010. (CEPS/INSTEAD & dater, 2008). In 2018, these regions with a rural typology changed significantly and today have a high intrinsic job potential and relatively high ratios ranging from 650 to 1.250 emplois/1.000 inhabits. (CEPS/INSTEAD & dater, 2008; Liser & dater, 2018) Many municipalities in rural areas currently show more home-grown job profiles (strong ratios!) than residential profiles (low ratios!). For example, municipalities in rural areas such as Lintgen, Mersch, Pen, Colmar-Berg and Mertzig should be noted for the Central North region.

For the northern part of the **northern development region**, with undeniable rural typology and where agriculture and related activities still represent a considerable economic sector, the ratios and endogenous job profiles are even more relevant. Municipalities such as Wincrange, Troisvierges, Weiswampach, Clervaux, Parc Hosingen and Vianden have now developed towards endogenous job densities from 650 to > 1.400 emplois/1.000. These numerous local and regional jobs, which show a considerable increase in regional development, are located on the one hand in the agricultural sector with related activities, but also in the secondary or even tertiary sector around the highly efficient construction and construction activities and located mainly in the major regional areas of activity. It is true that the projects and initiatives for the supported regional development of both the Our Nature Park and the LEADER initiative in the Eislek region have made an important contribution to strengthening the socio-economic potential of the North region. On the other hand, other rural municipalities in the north, further away from mobility networks, such as Kiischpelt, Putscheid or Tandel, retain their clearly residential profile with low job densities of < 300 emplois/1.000 inhabited. (Liser & dater, 2018).

With many municipalities in Luxembourg with a very low ratio between jobs and residents, concrete challenges arise. If there are significantly more residents than jobs, the local economy risks turning into “residential economies” (English: Residential Economies) or the economic power of municipalities is primarily affected by the purchasing power of the inhabitants and not by the added value created by labour. It should be noted that municipal revenue is generally less high if the municipal budget consists mainly of taxes on residents. Many small municipalities in rural areas include a residential economy,

partly explaining their limited financial resources.

Map: Ratio between number of jobs and number of residents in 2017



Sources: LISER, 2018

Between regions, there are large differences in the employment ratio in Luxembourg. Compared to the 2 rural regions North and Central North, which already showed endogenous job densities of 450-480 emplois/1.000 inhabit before 2005, most of the municipalities East and even more West had fewer employment densities in the past of ± 360 jobs resp. < 300 emplois/1.000 inhabit, with a profile still clearly residential (R + T/AS & P/L.A.U.B. & MINT, 2004). Only CDA East Echternach, Grevenmacher and Remich municipalities already revealed a job profile as regional employment centres.

In 2018, this development changed profoundly for the **East development region**. Incidentally, it is the CDA Echternach, Grevenmacher and Mertert municipalities which currently show highly developed job densities of > 800-1.400 emplois/1.000. This clearly confirms their development towards rural municipalities with a 'job' profile. Moreover, this marked change in the residential towards one job profile also characterises other commonalities in the East region, such as Biwer, Betzdorf, Junglinster, Schengen and Wormeldange, with increased job densities of > 500-800 emplois/1.000 inhabit. In addition, it should be noted that the range of jobs identified is both endogenous and cross-border, regardless of their location (LISER & dater, 2018).

On the other hand, in 2018 the East region was also characterised by other municipalities in rural areas, which had a clearly residential profile and had low endogenous job densities of < 300 emplois/1.000 inhabit, such as Beaufort, Bech, Dalheim, Waldbillig and Waldbredimus.

As with other northern and western rural development regions, the East region has also experienced important bottom-up regional development projects and initiatives. In this context, reference should be made to the numerous participatory initiatives and projects in the LEADER Mëllerdall and LEADER Miselerland regions, as well as the more recent official creation of the^{3th} Nature Park in Luxembourg, the Mëllerdall Naturel Park.

As for the **West development region**, the vast majority of these municipalities had the lowest job densities in the country. Even the CDA of Redange/Attert was around 300 emplois/1.000 inhab. as the regional average of the past (R + T/AS & P/L.A.U.B. & MINT, 2004). In 2020, the employment density for the municipality of Redange, as well as for the canton of Redange, was around 440 emplois/1.000 inhabitants and therefore also increased by 46 % in 10 years. Thus, almost the whole of the West development region, documented a clearly rural typology, was heavily impregnated by the agricultural sector and its related activities and was characterised in the past by a clearly residential profile. One exception for the region was the northern western part with the CDA Wiltz municipality, with industrial and artisanal typology, and its neighbouring municipality Winseler. Already before 2005, these two western municipalities had a higher employment density of > 380 emplois/1.000 inhabitants. This is mainly due to a regional area of activity situated on the territory of the two municipalities in question. (R + T/AS & P/L.A.U.B. & MINT, 2004).

In 2018, thanks to the numerous bottom-up regional development initiatives implemented by the inter-municipal union 'De Réidener Kanton' (cooperation partnerships between the 10 rural municipalities in the canton of Redange), by the LEADER Atert-Wark initiative and by Parc Naturel Öewersauer, the West development region, which is still clearly rural, has profoundly changed its purely residential profile to an enhanced employment profile. In addition, the western rural region and, above all, the municipalities in the canton of Redange have been able to make a significant difference in their regional development approach, by strengthening their socio-economic dynamics in a sustainable and sustained manner.

A. Education and training

Luxembourg's education and training system is characterised by the diversity of the origin of its population. Due to its small size, Luxembourg has always turned to the outside world and, for its development, has relied on the know-how of its residents, but also of its border residents and foreign nationals from all over the world who have moved to the Grand Duchy. This multiculturalism, combined with the Luxembourg education system, which allows children to speak French, German, English and Luxembourgish, means that most employees in Luxembourg are fluent in speaking at least 3 languages, an obvious advantage over other countries. But in addition to being a polyglotte, the labour force in Luxembourg is also qualified, as demonstrated by the World Economic Forum (WEF) Human Capital Report 2015.

According to this study, which ranks 124 countries according to their level of skills development, Luxembourg ranks first in terms of the share of highly qualified people in the total labour force. Almost 60 % of all employees in Luxembourg have highly qualified skills (ADEM – Employment Development

Agency 2021).

Economic growth

A. GDP

GDP developments in Luxembourg, over the last 10 years, have increased sharply, with the exception of the years 2012 and 2020. In 2012, real GDP decreased by 0.4 % and in 2020 by -1.3 %. The decrease in 2020 was due to a recession following the health crisis. After a sharp decline in the 1st half of 2020, economic activity in Luxembourg rebounded well in the second half of the year. And in 2020 as a whole, the recession appears to be much less marked than in the other euro area countries, although this year is marked by a recession following the historic health crisis.

B. Tourism

The richness of natural and cultural built heritage with typical villages characterises rural areas and is one of the foundations of the rural tourism sector. With the diversity and quality of their offer of recreational, cultural and tourism services and infrastructure, the rural regions of the Grand Duchy of Luxembourg are ideal for active, sporting and cultural holidays. However, hotel capacity is falling sharply. For example, the Eislek region still had 127 hotels, hostels and pensions in 1995, compared with 53 in 2021, a decrease of 58.3 % in 26 years. The Mullerthal region, for its part, still had 78 hotels, hostels and pensions in 1995, while there were only 27 establishments left in 2021, a considerable reduction of 65.4 % in 26 years. At national level, the number of hotels, hostels and pensions decreased during this period from only 369 to 224, i.e. -39.3 % (STATEC 1995, 2021). This decrease translates into a low mix of types of accommodation remaining available.

In addition, seasonal management and professionalisation are insufficient at local level. For example, there is often a general lack of supply in the low season, for example with closed museums and tourist attractions.

Social inclusion

Despite favourable economic and demographic development, the at-risk-of-poverty rate is steadily increasing. **The at-risk-of-poverty rate** is defined as the percentage of people with an income below 60 % of the median equivalised income. In Luxembourg, for the year 2019, the median equivalised income is EUR 36 367 per year and the annual at-risk-of-poverty threshold is therefore EUR 21 820.

As early as 2011, Luxembourg's at-risk-of-poverty rate rose almost uninterruptedly (only 2015 is the exception, with a slight decrease), reaching the highest rate of 17.5 % in 2019, the highest rate ever recorded in the country. Thus, in the long term, i.e. since 2005, Luxembourg has been the euro area country with the highest at-risk-of-poverty rate, with an average of + 1.8 % per year, compared with + 0.4 % per year for the euro area. Luxembourg currently ranks second in the euro area in the at-risk-of-poverty rate for people in work, which has even been rising steadily for three years: from 10.8 % in 2017 to 12.1 % in 2019. Single-parent households (41.3 %) or large families (35.1 %) are the most affected. Almost one in two unemployed persons is below the at-risk-of-poverty threshold (Chamber of Employees, 2021).

Local development in rural areas

A. Villagers' development and LEADER

In the country's rural areas, different actors can benefit from effective instruments, supporting local and regional development. Since 1989, the Ministry of Agriculture, Viticulture and Rural Development has been supporting innovative and participatory projects in rural municipalities.

This support has so far delivered over 500 projects to promote **village development**. During the 2014-2022 programming period, a set of six national measures aimed at improving the quality of life of residents and promoting the diversification of the rural economy. From 2023 onwards, a new instrument will be effective, responding to the new needs of rural stakeholders. For example, municipal development

plans have been implemented with the main objective of the urban, ecological, economic and socio-cultural development of rural municipalities. Other measures targeted the development of non-agricultural activities in rural areas, recreation and tourism activities, basic services and the conservation and enhancement of the natural and cultural heritage of villages. Some 80 projects were supported.

With the European **LEADER** initiative, MAVDR supports local development in its rural areas. Since its introduction in 1991, LEADER has thus become a major integral part of regional and national rural development policy. In the 2014-2022 programming period, the five Local Action Groups (LAGs) bring together a total of 176 partners, including 60 municipalities, 11 other public partners (e.g. nature parks) and 105 private partners from a variety of sectors such as tourism, culture, environment, agriculture, forestry, viticulture, environment, social, youth or women. It should be noted that the SME sector is not strongly represented both in the composition of LAGs and in the projects carried out.

The seven basic LEADER principles are applied by LAGs. The bottom-up approach is applied from the beginning of the process. Innovative projects implemented by LAGs involve public and private partners and respect the balance between different socio-economic sectors in the region. Civil society actors are involved in the governance of LAGs. All LEADER actions cross at least two sectors of activity and all LAGs are involved in inter-territorial and transnational cooperation projects. Each of the LAGs has carried out at least one transnational project, which is unique for Europe as a whole. In addition, the Luxembourg LAG Miselerland and the LAG Moselfranken in Rhineland-Palatinate implemented the first joint transnational LEADER strategy in Europe.

More than 570 projects have been initiated and implemented in Luxembourg so far through LEADER. Many people living in rural areas have been involved in LEADER projects and have been able to derive added value from them. The range of themes covered by the projects is rich and several of them have a proven economic dimension. New jobs have been created, and culture and society have benefited from them (mid-term evaluation, RDP of the Grand Duchy of Luxembourg, 2018).

B. Bioeconomy

The share of renewable energy and waste-based energy has been steadily growing since the 1990s. In 1990, the share of renewable energy was around 0.75 % of total energy supply, while in 2019 it reached 6.78 % (STATEC 1990, 2019). This growth is mainly due to a sharp increase in wind power production and solar photovoltaic power over the last 10 years. For example, wind energy production has increased by 410 % in 10 years! In 2010, Luxembourg's annual wind production was around 55 GWh, reaching 281 GWh in 2019 (STATEC 2010; 2019). Photovoltaic electricity production has even increased, with 519 % in 10 years! Despite this growth in renewables, efforts still need to be made to increase the percentage of renewables even further.

C. Forestry

In Luxembourg, a country with large wooded land, forestry for the creation of raw materials plays a very important role. In 2019, 84.8 % of Luxembourg's total area was agricultural and forestry. Of that 84.8 %, the forest covers ca. 34.5 %, corresponding to 90.000 ha, or more than a third of the Grand Duchy. Broadleaves occupy 64 % of this area, and softwood 36 %. The northern region of the country is the most afforested region in Luxembourg, accounting for 55 % of the country's total forest area. Private forests account for 54 % of the total area.

The production of raw wood decreased over the last 10 years by 31 %, with a production of raw wood of 341.000 millimetres in 2020. At the same time as this decrease in production, timber imports are also decreasing and decreased by 23 % between 2010 and 2020. As regards the health status of forests in Luxembourg, it should be noted that there has been a sharp decrease in the share of trees without damage and, as a result, an increase in significantly damaged trees.

As regards the health status of forests in Luxembourg, it should be noted that there has been a sharp decrease in the share of trees without damage and, as a result, an increase in significantly damaged trees. According to the results of the plant health inventory carried out by the Administration of Nature and Forests in 2020, the forest suffers, following the hot and dry summers of the 2018s, 2019 and 2020. After a dramatic deterioration in 2019, the 2020 observations show that the health status of forests remains a serious concern, with a smaller increase in damage between 2019 and 2020 compared to the previous period. All species combined, it can be seen that in summer 2020:

- 14 % of trees do not show damage,
- 32.1 % of trees are slightly damaged,
- 53.9 % of trees are clearly and/or heavily damaged or dead trees

Following these results, the Nature and Forestry Administration decided in 2021 to reduce the production of raw wood, in order to enable the forests to regenerate further, following dry and hot summers.

2.1.SO8.2 Identification of needs

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan
B8.1	Social inclusion and intergenerational relations	P1	Yes
B8.2	Housing and land management/valorisation	P2	Yes
B8.3	Employment and business development other than agriculture	P2	Yes
B8.4	Sustainable Mobility.	P3	Yes
B8.5	Services to the population	P1	Yes
B8.6	Development of tourism, culture and recreation	P2	Yes
B8.7	Protection and management of natural resources	P3	No
B8.8	Strengthening the governance of rural areas	P1	Yes

Other comments related to needs assessment.

No further comments

2.1.SO8.4 Intervention logic

Form of Intervention	Type of Intervention	Intervention Code (MS) - Name	Common Output Indicator
DPdecoupled	CIS-YF(30) - Complementary income support for young farmers	1.01.502 - Complementary income support for young farmers	O.6. Number of hectares benefitting from complementary income support for young farmers
RD	INSTAL(75) - Setting up of young farmers and new farmers and rural business start-up	2.09.711 - Support for setting-up of young farmers	O.25. Number of young farmers receiving setting-up support
RD	COOP(77) - Cooperation	2.05.570 - Local LEADER development	O.31. Number of supported local development strategies (LEADER) or preparatory actions

Overview

Description of identified needs and planned interventions:

Consolidation of the governance of rural regions

Existing bottom-up local development practices and experienced actors active in rural areas should be promoted, synergies between those involved in rural development should be further encouraged and inter-municipal, cross-border and transnational collaborations should be strengthened. This need will be

addressed by setting up LEADER local action groups with a LEADER regional office equipped with qualified staff to ensure the animation and governance of rural areas.

Social inclusion and intergenerational relations

Given the high population growth and diversity of the rural population, it is necessary to promote the integration of newcomers, the promotion of multiculturalism and the multilingualism of Luxembourg's rural society by developing solidarity and social and intergenerational relations, citizen involvement and user-friendliness and intergenerational relations. In addition, it is important to foster participation in local life, a sense of belonging to a rural community and voluntary engagement, as well as the recreation of places of friendliness in rural areas. This need will be addressed as part of the VLDC national development measure of the MAVDR "Consolidation and development of social life in rural areas".

Services to the population

The aim is to meet the needs of the rural population in terms of services (education, healthcare, administrative services, digital inclusion, security, businesses, culture, education, training, etc.). This need will be addressed as part of the VLDC National Development Measure "Basic Services for the Local Population".

Housing and management/enhancement of hereditament

The aim is to meet the needs of the rural population in terms of housing (social mix and functions) and to manage/valorise land and built heritage by preventing/regulating conflicts of use (urban pressure, agriculture, forestry, environmental protection, tourism) (subject to growth). In addition, cultural and intangible heritage must be preserved and enhanced. This need will be addressed as part of the VLAHDR national development measures "new forms of rural housing" and "conservation and enhancement of the cultural and natural heritage of villages".

Employment and business development other than agriculture

The aim is to harness the potential of skilled jobs located in rural areas and to increase the supply of decentralised jobs. In addition, digitalisation in rural areas should be encouraged, traditional professions and training in traditional professions (crafts) should be promoted and the skilled workforce in these professions should be increased. This need will be addressed as part of the VLDC national development measure of the MAVDR "diversification of economic activities in rural areas".

Development of tourism, culture and recreation

The aim is to encourage the development of rural and leisure tourism and to stimulate the development of creative and innovative cultural offers and services. This need will be addressed in the context of the Villagers' national development measure of the MAVDR "Recreational, cultural and tourist activities in rural areas".

Sustainable mobility

The aim is to meet the needs of the rural population by organising sustainable mobility in rural areas by strengthening high-quality, diversified, flexible and multimodal transport services within the EU. This need will be addressed as part of the VLDC National Development Measure "Basic Services for the Local Population".

Protection and management of natural resources

We need to protect and manage natural resources (biodiversity, water, landscapes, forests, etc.), promote renewable energy production and combat climate change. This need will not be addressed under Objective 8, but will be addressed under specific objectives 4, 5 and 6 of the NSP and national programmes under the authority of other ministries such as the Nature Pact, the Climate Pact or the Natura 2000 Steering Committees.

It should be clarified that all needs identified at national level will serve as a basis for the development of LEADER local development strategies. In order not to counteract the innovative spirit and bottom-up approach of LEADER, the choice of themes to be dealt with as part of a local development strategy is to be defined by local LAGs stakeholders.

Intervention strategy:

Rural areas, known for the great diversity of their landscapes and the richness of their built, natural and cultural heritage, are currently marked by strong population growth. This translates into a marked rejuvenation and a considerable mix of the rural population, with a high proportion of foreign residents. However, this demographic development leads to an increase in land consumption and car traffic and therefore has a negative impact on the environment.

Rural areas are also marked by the presence of a large number of small and medium-sized enterprises and a reduction in the importance of the primary sector. Some rural municipalities have experienced very high employment growth rates over the last decade. There is a wide variety of recreational, cultural and tourism services and infrastructure. However, the disappearance of small shops and certain traditional trades is evident, as is the continuous decline in basic services and the closure of local shops.

This demographic and economic development is the result of new **challenges**.

The major challenge is to meet citizens' demands in terms of social, economic and environmental sustainability and to ensure a high quality of life. The aim is to preserve the local character of villages through endogenous development, promote the social inclusion of newcomers, promote a multimodal approach and active mobility, counter the seasonality of the cultural and tourist offer, support the development of small local shops, reduce land pressure and the consumption of green spaces.

The **main objectives** will therefore be to boost rural areas, promote social innovation and ensure rural culture through a strategy to enhance socio-economic and socio-cultural potential for the people living there, while focusing on the many endogenous assets of their territorial entities. Attractive living, employment and services conditions for the rural population must be ensured and promoted while respecting and cultivating the diversity of local situations.

The Government intends to promote participatory and integrated local development by implementing innovative local strategies. It will thus support the creation of **LEADER** Local Action Groups (LAGs) that involve public partners, including municipalities and natural parks, and private partners from rural areas to implement innovative projects. LEADER will be implemented exclusively by the EAFRD and all LEADER projects will be selected from LAGs. It should be noted that umbrella projects will be supported as well as inter-territorial and transnational cooperation projects. The dynamism of rural areas will need to be supported by building local capacities, building on knowledge and professionalisation, stimulating innovation and thus promoting their attractiveness.

Alongside the regional approach, it will be important to make greater use of the local level, i.e. the nucleus of society with multicultural and multi-generational village communities through the development of smart village strategies or key participatory projects with the inhabitants of a specific village or rural municipality under LEADER. 'Smart villages' means communities in rural areas that use innovative solutions to improve their resilience, building on local strengths and opportunities. They shall use a participatory approach to develop and implement their strategy to improve their economic, social and/or environmental conditions, including by mobilising solutions offered by digital technologies.

In addition to LEADER, the Government will implement a set of **five national village development measures** in order to meet the needs identified and to carry out small-scale infrastructure projects, namely:

1. Diversification of economic activities in rural areas
2. Recreational, cultural and tourism activities in rural areas
3. Basic services for the local population
4. Conservation and enhancement of the cultural and natural heritage of villages
5. Consolidation and development of social life in rural areas

Complementarity between LEADER and these five measures will be ensured by the fact that LEADER focuses mainly on 'software' type projects, while village development measures are mainly based on 'hardware' projects. In addition, LAGs' facilitators will provide advice to the promoters of public and private projects in LEADER municipalities in the initiation of village development projects.

The focus in all local development projects will be on the participatory approach that encourages citizen engagement, networking, networking and therefore the widest possible diversity of rural development project promoters.

2.1.SO8.5 Where relevant, a justification for the use of InvestEU, including the amount and its expected contribution to the Specific Objective/Cross-Cutting Objective

None.

2.1.SO8.8 Selection of the result indicator(s)

Selection of the result indicator(s) for this specific objective

Result indicators [recommended Result indicators for this specific objective are fully displayed in bold]	Target value
R.37^{CU} - Growth and jobs in rural areas New jobs supported in CAP projects	260.00
R.38^{CU} - LEADER coverage Share of rural population covered by local development strategies	83.56 %

Justification of the targets and related milestones

As regards the targets and milestones, reference is made to the 'other comments' section of the SWOT section and to the detailed description of the interventions falling within that specific objective.

2.1.SO8.9 Justification of the financial allocation

For the purpose of administrative simplification, the Leader measure will be fired exclusively by the EAFRD. Additional public contributions are foreseen by local action group partner municipalities.

A political agreement has been elucidated in order to determine the different levels of participation of the different partners.

EAFRD expenditure for LEADER shall comply with the minimum allocation of 5 % of the 2th pillar envelope. Expenditure on rural development will be supplemented by an additional national allocation to finance complementary State aid in order to meet the various needs identified in the preliminary analyses.

2.1.SO9 Improve the response of Union agriculture to societal demands on food and health, including high quality, safe, and nutritious food produced in a sustainable way, the reduction of food waste, as well as improving animal welfare and combatting antimicrobial resistances

2.1.SO9.1 Summary of the SWOT Analysis

2.1.SO9.1.1 Strengths

Safety, quality, human health

1. Most of Luxembourg's agricultural production valued under certification or quality procedures based on specifications laying down more or less strict production criteria.
2. Primary production and high levels of processing in terms of food quality, safety and hygiene.

Sustainability

3. The vast majority of farms are family-type compatible with consumer perception and preferences.
4. Existence of certain quality labels geared towards "life cycle assessment" approaches.
5. Increased conversion to GMO-free animal feed (milk and egg sectors).

Food wastes

6. Campaigns against food waste and raising awareness of food waste among consumers and official bodies.

Animal welfare

7. High consideration of animal welfare at farm level, farms with modern, spacious, ventilated, well-equipped for animal comfort.
8. There is good professional supervision of the animal sectors.

2.1.SO9.1.2 Weaknesses

Safety, quality, human health

1. Operational traceability systems in the agri-food sector, but low interconnection between operators in the food chain, insufficient development of innovative concepts in this field.
2. Need for better framework conditions and support to further promote innovation and lack of rapid translation of research results into practice.

Sustainability

3. Low protein autonomy and low development of crop production, horticultural production geared towards a healthy, balanced diet, encouraging a transition to less meat diets.
4. Lack of a system to characterise the sustainability of production systems as a decision-making tool for consumers.
5. Lack of a comprehensive, adapted and coordinated innovation strategy and vision for the agri-food sector in Luxembourg.

Food wastes

6. High level of food waste in gastronomy, trade, mass catering and households.

Animal welfare

7. Trend towards convergence of milk production systems towards more industrialised systems ("above ground").
8. Insufficient communication and awareness of animal welfare efforts among the general public; Call for greater consideration to be given to animal welfare requirements.

2.1.SO9.1.3 Opportunities

Safety, quality, human health

1. Resources and presence of actors active in agri-food research and innovation to improve and develop the knowledge base linked to this objective through the establishment of multiple forms of support and

cooperation.

2. Thanks to the small size of the market and the limited number of players in the sector, it is appropriate to move the sector towards greater responsiveness to new consumer expectations.

3. Needs to improve public health by promoting a healthy and balanced diet and lifestyle, with a key position to be played by regional, high-quality seasonal products and the consumption of plant proteins.

Sustainability

4. Significant increase in demand for organic products.

5. Company requests to reduce the use of plant protection products.

Food wastes

6. National waste and resource management plan to reduce food waste in Luxembourg by at least 50 % by 2022.

Animal welfare

7. Increased consumer awareness of animal welfare.

8. Increased availability of IT tools for accurate rearing taking into account animal welfare.

2.1.SO9.1.4 Threats

Safety, quality, human health

1. Society losing the link with agriculture due to increased complexity and permanent innovations; disaffection of part of the population for the value of food.

2. A supply policy for processing establishments which are too oriented towards the European or even international market, causing significant pressure on prices, and an approach to sustainable and high-quality regional production.

3. A general trend towards an increase in the poverty line, leading to a decrease in consumers' purchasing power.

4. Increased risk for the development of animal diseases induced by climate change and the presence of antibiotic resistance.

5. Unbalanced diet of inhabitants that may cause health problems.

Sustainability

6. Difficulty in consolidating support measures to increase the competitiveness of farms and the objectives to be achieved in terms of environmental protection, animal welfare, climate and biodiversity, as well as industry/consumer demand for low-priced products.

7. Lack of well-structured statistical data or databases to better characterise agricultural production from a sustainability point of view (e.g. pesticides, GMO soya, etc.).

8. General tendency to reduce the number of varieties grown and breeds kept (loss of diversity).

9. Very heterogeneous expectations on the part of the population with regard to production and consumption patterns, speed of change in expectations exceeding the potential of the agri-food chain to adapt.

Food wastes

10. The existence of marketing standards making fruit and vegetable production very difficult; often with loss generation.

11. Frequent lack of knowledge of the aspects of food conservation which are at the source of avoidable losses (final consumption and intermediate stages).

Animal welfare

12. Often inappropriate societal expectations/views on topics related to animal production – anthropologisation of animals and misconceptions received on new holding systems.

13. Conflicting national/global greenhouse gas obligations with the Air Quality Directive with animal welfare objectives (outdoor housing, unclosed system, outdoor access).

2.1.SO9.1.5 Other comments

Animal Protection

Luxembourg is one of the few countries that have incorporated the concept of dignity into its legislation on the protection of animals. The keeping of various animal species and the commercial activities related to them are heavily regulated. The law also prohibits certain practices on its territory such as the destruction of male chicks, the gavage of geese and the keeping of fur animals. As regards productive animals, however, the measures laid down in national legislation do not go beyond the relevant European standards.

The official bodies responsible for animal welfare surveillance are in the process of setting up a coherent alert and follow-up system for animal protection files. The centralisation of information under the supervision of an animal welfare coordinator and the initiation of action on the basis of the information obtained and observations made make it possible to monitor animal welfare effectively on farms and other facilities and events. Animal welfare control infringements are rather limited and in the vast majority of cases administrative findings.

Over the last decade, thanks to the farm investment support scheme, farmers have invested considerably in establishing modern, spacious, well-ventilated farms adapted to **animal welfare**. The condition for access to this aid was, inter alia, linked to the parallel expansion of production. This paradox seems to have further accelerated the structural change that is automatically observed in agriculture (universal phenomenon) and linked to the abolition of the milk quota system. The general trend towards the expansion of herds, the confinement of animals to the livestock with little or no possibility of walking outside, or even a technological ‘obstruction’ of grazing as a result of the increased robotisation of milking, and a lack of rounded green areas to accommodate these larger dairy herds around livestock buildings, pose the risk that Luxembourg’s agriculture will move further away from the more natural forms of holding with grazing.

However, it would be wrong to conclude that ‘small is always beautiful – big is always bad’ and that the growth in herd size and an increased degree of specialisation go hand in hand with phenomena of degradation of animal welfare. However, in the absence of meaningful monitoring of animal welfare on farms, figures and evidence are missing to prove or refute a ‘herd size’ effect on animal welfare parameters. The age of culled dairy cows (leaving at slaughter) is only 67,8 months (i.e. 5.6 years), with an average of 2,7 lactations and a milk performance per day of around 10.6 kg of milk per day.

Animal welfare is also a major concern for farm advisory services, as well as for monitoring the performance of herds (performance checks), which are supported by the vast majority of farmers. These services to farmers include not only the monitoring and regular monitoring of performance parameters, but also the monitoring of a multitude of animal welfare factors through the monitoring of measurable indicators such as fertility, longevity, balanced diet, metabolic indicators and animal conformation. Animal welfare is therefore an increasingly important concern in the mandate of farm advisors who are called upon to assess issues such as housing, animal feed and general herd management.

However, animal welfare measures need to be seen in a broader context by striking the right balance between animal welfare and climate-related objectives, natural resources and biodiversity. Finding this balance is a challenge to be addressed in the interventions planned for the coming years.

In order to meet the growing demands of animal health and welfare while maintaining stable production and a decent income, it is important to note that in Luxembourg in the milk and meat sectors, there is a combination of increased financial pressure on farms in general and in particular on more extensive forms of livestock farming. Indeed, Luxembourg is not immune from the pressure of prices paid on world markets with often higher associated production costs. In addition, there is enormous land pressure on farmland, which is felt more by more extensive forms of livestock than those operating under more intensive methods of farming. This particularly affects the suckler cow sector, which, depending on its nature, is less profitable, thus decreasing in favour of the development of the dairy sector.

Also in the field of pig production despite the introduction of a quality label, pig production in Luxembourg is also part of the above-mentioned European or even global context, which leaves little room for manoeuvre to make significant progress on animal welfare, in the absence of guarantees of sufficient remuneration in the long term. The practice of tail-docking piglets is often still common practice. There appear to be many reasons and reluctance. Quoting inter alia:

- the frequent lack of adequate sources of supply of intact tails piglets – the fattening machines are partly dependent on piglets imported;
- the farming arrangements currently in place are partly unsuitable for proper control and risk management of these stereotyping.

It is therefore important to “rethink” the pig farming model also in Luxembourg and to increase the value of national pig production in order to better distinguish it from conventional production. Some steps are emerging and need to be boosted more: keeping pigs from particular breeds with slower growth, and raising farmers’ awareness of alternative forms of stabulation, such as ‘Aussenklimaställe (outdoor climates)’ style ‘Pigport’ and ‘Tierwohlställe’. In this context, in view of the demand for organic products and, more particularly, for organic pigmeat, the conversion of conventional farms to organic farming methods, the associated requirements for keeping on a paired area and the provision of a suitable pathway outdoors are often binding factors linked to very high investment needs. In order to achieve the objectives of the pig sector and the implementation of the prohibition of systematic tail docking, pig farmers should be made more aware of converging towards methods of production that promote animal welfare more or even organic pig production, while providing sufficient incentives.

Antimicrobial Resistance

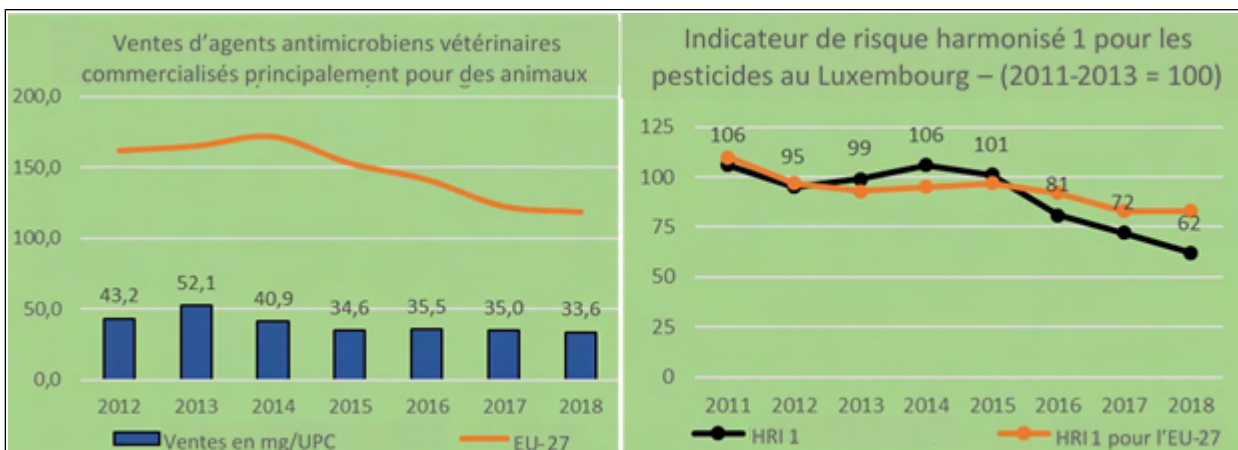
In addition to animal welfare, **antimicrobial resistance** is another priority area of the Farm to Fork strategy, strongly linked to animal welfare, i.e. animal keeping conditions, with a target of a 50 % reduction in sales of antimicrobials for farmed animals by 2030. The tenth ESVAC report in 2020 shows a downward trend in the use of veterinary medicinal products in Luxembourg at 33.6 mg/PCU (2018), which is well below the European average (with some uncertainties regarding the purchase of medicines outside Luxembourg territory). Although available data suggest that the use of antimicrobials in animals is relatively low, this may be an underestimation of total use given that antimicrobials supplied to farmers by veterinarians based in neighbouring Member States are not included in these data. In addition, some critical antibiotics are widely used in the agricultural sector. The national plan thus aims to raise producers’ awareness of limiting the use of antibiotics in the various types of livestock farming.

Antibiotic resistance is recognised as one of the biggest threats to public health in Europe and globally. The consequences of this growing health challenge are numerous: longer periods of hospitalisation, increased mortality, therapeutic impasses, etc.

In Luxembourg, the consumption of antibiotics in human health is one of the highest among all EU countries. For productive animals, Luxembourg is one of the smallest consumers of antibiotics. However, some critical antibiotics are widely used in this sector. Efforts and progress must be made in both human and animal health.

Under the **National Antibiotic Plan 2018-2022**, the Luxembourg authorities have set themselves the objective of reducing the emergence, development and transmission of antibiotic resistance in Luxembourg using a ‘One Health’ approach, including human, veterinary and environmental aspects. This national plan focuses on the principle of prevention, monitoring and recommendation on the use of antimicrobials in animal production. It will contribute to raising awareness of AMR and is also expected to improve surveillance data on AMR, which were previously relatively limited.

Tables: Indicators on the use of veterinary antimicrobials and pesticides in Luxembourg



Sources: DG AGRI according to the 10th ESVAC report (2020), based on Eurostat [aeilegitimately hri]

Waste and food waste

According to the study ‘Aufkommen, Behandlung und Vermeidung von Lebensmittelabfällen im Großherzogtum Luxemburg 2018/2019’, an average of 118 kg of **food waste** per inhabitant per year was generated in Luxembourg in the years 2018/2019, of which 48 kg is avoidable food waste. Overall, the study finds that there has been a clear improvement in the overall reduction of the fraction of food waste that is described as ‘preventable’, which shows that the various actions taken to combat food waste have a positive effect.

In the field of waste management and prevention, new measures are introduced at national level through **legislative amendments** to make food donation for human consumption a higher priority than other recycling and recovery methods. Supermarkets with a commercial surface area of at least 400 m² will have to submit a ‘food waste prevention plan’ in accordance with this legislative approach and, at catering level, all customers will have the right to take away their meals. Therefore, the draft law aims to apply tax incentives for food donations. The draft packaging law further provides that quantities below 1.5 kg of non-sensitive fresh fruit and vegetables may no longer be sold in plastic packaging. Bulk sales should allow customers to buy the quantities they really need and, in addition, this will limit the proportion of fruit and vegetables that can be discarded in the sales shelves. These measures are expected to contribute significantly to an effective reduction of food waste.

Luxembourg has developed a new waste and resource management plan to reduce **food waste** by at least 50 % by 2022, which will require the involvement of private households, the catering sector and all actors in the agri-food chain. However, according to the European Commission, this plan does not pay sufficient attention to food losses and food waste occurring in primary production and in the early stages of the supply chain (including lack of data). This problem could be addressed by extending the scope of the new national food waste prevention programme (developed under Article 29(2) (a) of Directive 2008/98/EC, known as the Waste Framework Directive), to be developed after 2022.

With regard to awareness-raising activities, in 2016 the Ministry of Agriculture launched a campaign to combat food waste (www.antigaspi.lu), with the aim of raising consumer and other stakeholders’ awareness of food waste and thus promoting more responsible consumption of food. The campaign includes various activities:

- A travelling exhibition aims to make young students and pupils aware of food waste (purchase, storage, preparation, interpretation of the expiry date and other golden rules to be followed in order to combat food waste effectively).
- The Ministry of Agriculture has also concluded a solidarity pact against food waste with the country’s municipalities (92 out of 102 municipalities). In a similar context, the government decided that all events organised under its responsibility should comply with the codes of practice in the fight against food waste.

- As part of the United Nations International Day against Food Waste, the Ministry of Agriculture launches calls for projects, thus supporting targeted actions against food waste.
- Also, the Ministry launched the yellow tape campaign. As part of this action, municipalities are encouraged to mark fruit trees where citizens can collect fruit using a yellow tape.
 - In addition, the Ministry has established a user charter for the official ‘antigaspi’ logo. This allows interested users to use the official logo to distinguish their actions to combat food waste and thus increase the visibility of the topic vis-à-vis the general public.
- The Ministry of Agriculture encourages other activities in the field of distribution such as food donations, self-service refrigerators, and the valorisation of fruit and vegetables which do not meet standard marketing standards.
- The characterisation of food losses in primary production will be achieved through the introduction of a farm diagnosis.

Labelling of products

In terms of labelling products from farms with higher animal welfare standards, consumer surveys carried out in Luxembourg show that consumers attach paramount importance to ensuring that food is produced in full respect of animal welfare. It appears that consumers are currently rarely able to make a reasoned choice in favour of products with higher standards of animal welfare as is the case for laying hen holding systems. Also at European level, an important key issue for consumers is animal welfare labelling through the introduction of an animal welfare label at European level. Luxembourg is in favour of voluntary animal welfare labelling, which is effective in promoting ambitious standards for the protection of farm animals. In Luxembourg, animal welfare will be further strengthened through the development of legislation on quality labels for agricultural products which will also include animal welfare criteria.

Thus, with the result that the ‘enemy’ of animal welfare is multifaceted, the establishment of high standards of animal welfare also entails multiple opportunities: the establishment of a strengthened animal welfare strategy and policy in Luxembourg thus includes many other benefits (co-) benefits – in economic terms for farms (increased resilience of farms if paid for correctly), ecological terms (safeguarding natural resources, conservation of biodiversity and cultural landscapes), climate change through extensification of animal production, resulting in methane from enteric fermentation (ruminants) being reduced, and human health through a more conscious consumption of quality meat from livestock systems that are more focused on animal welfare, geared towards grazing ruminants, as well as in relation to air quality (ammonia and fine particles). All this will, however, have to be paid at its fair value for farmers.

Dietary habits

Luxembourg’s dietary habits do not seem to be in line with the recommendations for healthy diets. The consumption of meat, in particular red and processed meat, remains high, and that of fruits and vegetables rather low. In addition, a significant percentage of the Luxembourg population is overweight or obese (Source: Luxembourg’s food basket, 2016, - op.europa.eu/fr/publication-detail/-/publication/ca5ebcc4-b8f6-11e5-8d3c-01aa75ed71a1/language-en and ec.europa.eu/eurostat/databrowser/view/sdg_02_10/default/table?lang=fr).

A shift towards healthy diets in Luxembourg, in line with national recommendations, would therefore be likely to help reduce rates of people with overweight or obesity, as well as the incidence of non-communicable diseases, while simultaneously seeking to reduce the overall environmental impact of food systems.

Use of pesticides

The use of pesticides poses a direct risk to human health, water quality and biodiversity. Herbicides should be included in the list of products causing the highest risk to water pollution, followed by fungicides. This is further described at Objective 5 level.

However, since 2017 Luxembourg has had a **national action plan to reduce plant protection products**

with the aim of:

- Generalisation of agricultural systems and known ways of reducing the use of plant protection products.
- Reduction of risks to human health, animal health and the environment from the use of plant protection products.
- Reduction of unintended effects of the use of plant protection products on the environment.
- Establishment of indicators for monitoring the quantities of plant protection products placed on the market and their use both in the professional and non-professional fields.
- Obtain substitution of plant protection products of concern with substances of lower concern or alternative technical substances.
- On the basis of indicators, consider reducing “big movers” by 30 % until 2025.
- Development and implementation of phase-out strategies for certain active substances (e.g. Glyü) in order to guide the sectors concerned in this process.
- Ban plant protection products of concern for non-professional use.
- In drinking water protection zones delimited by Grand-Ducal Regulation, increase in the number of agricultural areas under contract for relevant agri-environmental measures or programmes of measures to protect drinking water.
- Better protection of pollinators and maintaining an unfavourable position vis-a-vis neonicotinoid active substances posing an unacceptable risk to pollinators.
- Reduction in the use of 50 % of plant protection products (reduction in tonnages applied) until 2030.

The context indicator HR1 proposed by the European Commission already shows a 38 % decrease in risk in Luxembourg between 2011 and 2018, compared to 17 % in the EU. Since the HR1 index is based solely on the sale of products, the Luxembourg authorities have also published a database of the use of plant protection products on the basis of FADN data

(<http://agriculture.public.lu/de/agrarstatistik/landwirtschaft-umwelt/verbrauch-psm.html>). This interactive database informs about the use of different pharmaceuticals by crop. This database confirms the trend towards decreasing use of plant protection products, in particular metazachlor. It should be noted that glyphosate was still the most widely used herbicide in 2018, while its use had decreased in previous years.

The context indicator is complemented by a TFI (Treatment Frequency index) index for the main crops (Results on this indicator can be found on - agriculture.public.lu/de/publications/pflanzen-boden/Pflanzenschutz/brochure-ift.html). Currently, it is difficult to draw conclusions on the information from a frequency indicator. On the one hand, the data available are limited over a period that is too short to identify a trend. On the other hand, the influence of the climate on the use of plant protection products is too significant over this limited period. Similarly, the marketing strategy of the sellers of plant protection products influences the availability of these products from one year to the next. The TFI indicator is thus always to be seen in relation to other data as the TFI does not give any indication of the quantities used or the toxicity of these products. Thus, the precautionary strategy – reducing the quantities used – can be useful.

Plant Health

The assessment of the use of plant protection products in agriculture was established by means of a **national network of pilot farms** which includes both national and foreign areas of farms. It is therefore quite possible that this assessment may contain plant protection products or active substances which are not authorised in Luxembourg but which are authorised in neighbouring countries. The same applies to the authorisation of certain plant protection products on certain crops. The data shall be entered using the economic accounts of the holdings. The data assessed are extrapolated to all agricultural holdings as a main or secondary activity.

The crops assessed are selected on the basis of their agricultural importance, the size of the area and the environmental importance: winter wheat, winter rye, winter barley, spring barley, oats, triticale, rapeseed, potatoes, maize and viticulture. Fruit and vegetable crops are not represented in the network of pilot farms due to their limited number and data are not statistically relevant. Permanent grassland and fodder account

for about 60 % of the utilised agricultural area in Luxembourg, but are not systematically treated with plant protection products on their entire surface. However, they are included in the sum of the plant protection products used, as well as all other crops which are not specifically indicated. Treatment products used for purchased seeds are not included in the assessment due to lack of information on the plant protection products used.

At the same time, the implementation of the general principles of integrated pest management could be better promoted. Although national regulation has not yet been applied due to differences in the interpretation of European regulation, efforts to promote integrated control continue and have been confirmed in audit reports. In addition, several research projects have been launched in the recent past (effo, Digital Pilot Farms, ANGEL), all covering IPM content. See also Chapter 8 for project details. Guidelines for integrated management are produced annually for the protection of winegrowing crops. Different surveillance systems (Sentinelle, Vitimeteo) are in place to accompany the monitoring of the measures applied.

2.1.SO9.2 Identification of needs

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan
B9.1	Increase the share of production covered by quality schemes	P2	No
B9.2	Strengthen coordination and synergies between labels and improve traceability systems	P2	No
B9.3	Reducing the use of antibiotics and plant protection products in agriculture	P2	Partially
B9.4	Reduce losses and waste along the food chain, including from farms	P2	No
B9.5	Raising the standard of taking into account animal welfare on farms	P2	Yes
B9.6	Improving communication and information to the public on production methods and food	P3	No

Other comments related to needs assessment.

No further comments

2.1.SO9.4 Intervention logic

Form of Intervention	Type of Intervention	Intervention Code (MS) - Name	Common Output Indicator
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.543 - Support for the conversion and maintenance of organic farming	O.17. Number of hectares or number of other units benefitting from support for organic farming
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.546 - Aid to promote the planting of bovine animals to grass	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	ENVCLIM(70) - Environmental, climate-related and other management commitments	2.02.550 - Aid to reduce cattle stocking rates	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
RD	INVEST(73-74) - Investments, including investments in irrigation	2.04.714 - Aid for environmental investments	O.20. Number of supported on-farm productive investment operations or units

To strengthen the links between consumers and producers and strengthen this framework of trust, transparency and solidarity in a sustainable way, the government promotes and pursues a wide range of approaches.

Aid for the participation of producers of agricultural products in quality schemes (state aid)/Information and promotion of quality agricultural products (state aid) (as a response to needs B9.1 Increasing the share of production covered by quality schemes and B9.2 Strengthening coordination and synergies between labels and improving traceability systems).

In order to meet the growing demands of consumers with regard to food covered by recognised quality schemes (labelled products) and to encourage the primary sector and processing sectors to continue to invest more in quality approaches, as well as with a view to ensuring sustainability and climate change in the development of food policies (Farm to Fork strategy), it is important to further encourage agri-food operators to engage in quality approaches. For example, the Ministry of Agriculture has introduced a legal framework for **the approval of agricultural product quality** schemes which assesses labels objectively on the basis of clear and verifiable technical criteria established by the official bodies and aims to ensure overall consistency in quality procedures and to increase transparency and consumer confidence.

The Chamber of Deputies voted on the law on the approval of a quality or certification scheme for agricultural products on 3 May. This aid scheme allows producer groups to focus more on quality approaches (also covering sustainability) and will increase the visibility of quality products. In particular, it enables quality approaches (labels) to be used to calculate LCA (Life cycle assessment) or to calculate the ‘carbon footprint’ as a tool for consumers’ decision, which is addressed in the SWOT analysis. The draft law in question also addresses the carrying out of market and design studies and offers new opportunities for operators in the food value chain, in particular new technologies with digitalisation, which promote greater connection between the various operators in the food chain, as raised in the SWOT analysis. This new national aid contributes, together with the various aid linked to investment, processing and marketing, to accelerating innovation and the processing process in this field.

Draft law on the establishment and coordination of food policy (As a response to the need B9.6 Improving communication and information to the public on production methods and food)

In order to address various threats and weaknesses identified during the SWOT analysis, the Ministry of Agriculture, together with the Ministry of Consumer Protection, introduced in 2021 a draft law on the establishment and coordination of food policy, the aim of which is to strengthen the sustainability of the food system at national level in order to better respond to emerging challenges for the benefit of consumers and producers. The aim is to promote **better coordination of local actors in the food system**, their networking, the sharing of information on everyone’s expectations and activities, to improve education on sustainable food systems, to carry out research/projects/studies and to make proposals for the development of a food strategy for the Luxembourgish government. The aim of this draft law is to establish a coherent and participatory food policy in Luxembourg through a ‘food system’ approach as advocated by the European Farm to Fork strategy. The aim of the draft law is to ensure greater cohesion and coordination of the various national policies and strategies directly or indirectly linked to food.

It is planned that an inter-departmental commission and a food policy council will constitute the implementing structures. The task of the inter-departmental commission would be to support the food strategy of the Ministries of Agriculture and Consumer Protection and to coordinate relevant initiatives around food policy objectives. The Food Policy Council will connect civil society, the production sector and relevant institutional structures and will function as a forum for discussion and exchange. It will coordinate the views and positions of the different stakeholders in the food system. This national approach will thus contribute to the achievement of this NSP objective.

Reduction of food waste (Besoin B9.4 Reducing losses and waste along the food chain, including farms)

The progressive reduction of food waste is a concern raised on several occasions in the SWOT. The Ministry of Agriculture will continue its national campaign to combat food waste (antigaspi.lu), which began in 2016, and has anchored the issue of combating food waste and has therefore maintained the measures relating to it at the level of the draft law on the establishment and coordination of food policy.

The Luxembourg government's objective is to reduce the amount of food waste by 50 % by 2022. Combating food waste is an important lever to reduce overproduction and over-consumption. It will remove some of the pressure on the climate and agricultural land and thus reduce agricultural inputs such as fertilisers, plant protection products and dependence on protein sources such as soya.

In this context, an aid scheme will be introduced to support and encourage public or private actions to combat food waste. The draft law therefore provides for the establishment of a national action plan which will draw up an analysis of the situation and the actions to be taken to ensure the implementation of measures to combat food waste. In this context, a platform for exchange and consultation on combating food waste will also be established. It should also be noted that a diagnosis of food losses on agricultural holdings and the establishment of a specific farm council is one of the elements of this national approach in order to advance agricultural holdings towards reducing their food losses.

Animal welfare measures (Besoin B9.5 Reducing the level of requirement for animal welfare to be taken into account on farms)

As regards animal welfare, this NWP strives to continue efforts to strengthen the (already high) requirements for animal welfare on farms in Luxembourg. Thus, the **support scheme for agricultural investments** will be strengthened on this aspect and will add additional requirements to this objective. The intervention will focus on financing new standard farms for organic farming – also with a view to preparing for an accelerated transition to organic farming (important for any long-term investment). This means that provision must be made for permanent mulching and open courtyard for cattle farming. Fully slatted stalls are no longer supported. Poultry stables and pig farms now also have to comply with organic norms in order to become eligible for the aid payment. Under the 2014-2020 RDP for the pig sector, investment aid was limited to closed-circuit pig farms, as well as to farms for breeding sows. For closed-circuit farms, fattening facilities were eligible only up to the limit of the volume of piglets produced on the farm. In the new NWP, fattening facilities are now becoming eligible again, but only in organic production, i.e. on straw and with a free range.

As regards pig production, the Administration of Veterinary Services has recently drawn up a detailed action plan to prevent tail-docking on pig farms.

In addition to measures under the plan aimed at animal welfare, including the application of organic farming criteria in the construction of new farms, Luxembourg has taken concrete initiatives to eliminate the practice of tail docking in pigs.

EU Directive 2001/88/EC prohibits partial tail docking of pigs on a routine basis. The Grand-Ducal Regulation of 17 March 2003, which transposes this Directive, lays down minimum standards for the protection of pigs and provides that 'partial tail section and reduction of corners may not be carried out on a routine basis, but only where there is evidence that injuries to sows' udders or the ears or tails of other pigs have taken place.' Checks on tail biting (tail biting) are carried out as part of inspections on the welfare of pigs on farms.

The reworked action plan which has just been submitted to the European Commission foresees an improvement in the situation by providing for a self-assessment of the factors influencing tail-biting (housing pigs, climate in porcheries, feeding) by the breeder in collaboration with his veterinarian. This

self-assessment will be supervised at regular intervals by the inspectors of the Veterinary Services Administration. Projects will be initiated in collaboration with farmers by removing tail-docking in certain groups of piglets and analysing the effects on tail-biting. At slaughterhouse level, the problem of lesions due to tail-biting will be analysed in order to detect problematic farms with a view to addressing them on the ground.

The reworked action plan foresees studies to be carried out to provide the necessary information for the possible development of a more binding legal framework for a potential ban on tail docking. In this context, a survey of the practice of tail docking in Luxembourg will be carried out in order to have the data needed to make a possible amendment to the legal framework.

Thus, Luxembourg undertakes to carry out a national census of tail docking and to follow the European regulatory framework for the abolition of tail docking.

It should be noted that, however, for the aid scheme for agricultural investments, exceptions to compliance with organic production standards will be provided for converting new equipment at the level of existing establishments. Therefore, the construction of farms eligible for the aid scheme in excess of a certain size will be accompanied in advance by an integrated advice focused on the promotion of animal welfare, climate and environmental objectives and the competitiveness of farms.

In addition to the reorientation of investment aid, this NSP also introduces an **intervention for the grazing of all cattle**. The increase in the size of herds (especially dairy herds) and the rationalisation of husbandry techniques result in a clear decline in the grazing of cows with increased housing – a phenomenon which goes hand in hand with the decline in profitability in the suckler cow sector, which is intended to maintain the grassland landscapes and biodiversity present in this type of agricultural ecosystem. In order to further promote cattle grazing, the agri-environmental measure on grazing of dairy cows set up under the 2014-2020 RDP has been reworked and will be extended to all categories of cattle. This intervention requires a minimum of five months of grazing and gives farmers more flexibility in choosing grazing periods during the summer season, taking into account the weather situations linked to climate change (periods of increased drought, rainy periods with risk of soil degradation) and the physiological state of the animals. It also requires sufficient shading spaces.

In addition, in order to complement animal welfare measures, an animal-welfare farm council (certification of on-farm animal welfare) will be introduced to identify weaknesses and to characterise the effectiveness of the measures implemented, while ensuring monitoring. Other already existing advisory modules also include aspects directly or indirectly related to animal welfare and health (e.g. performance monitoring, fertility of herds, animal feed). The approval of labels will make it possible to increase in particular those labels which make additional efforts in the field of animal welfare.

It should be noted that, in general, the intervention relating to the “conversion to and maintenance of organic farming” and measures aimed at the extensification of animal production systems, in particular support for the reduction of the burden of cattle, support for the maintenance of a herd and a low livestock load should contribute significantly to the achievement of the ‘animal welfare’ objective. In these reflections, animal welfare in transport should be included in order to reduce the duration of animal transport.

Luxembourg undertakes to analyse the development of animal welfare measures planned at national level (i.e. outside the CAP). In addition, intensive dialogue with the Commission will continue in this regard with a view to achieving future improvements, in particular for tail docking.

Improving protein autonomy (feed and food domain)

Other societal demands or expectations raised in the context of the SWOT analysis and linked to this

objective, such as low protein autonomy and low development of crop production, with horticulture geared towards a transition to less meat regimes, are covered in particular by the following interventions:

- Coupled aid for market garden crops and arboriculture
- Aid coupled to legumes
- Premium for sustainable and environmentally friendly agriculture
- Support for crop rotation and diversification on arable land
- Aid to promote the conversion of arable land into permanent grassland
- Aid to reduce the burden of cattle; aid for the maintenance of a low herd and livestock load
- Grass of bovine animals.

A general improvement in the protein autonomy of farms makes it possible to support farms in their gradual conversion to GMO-free sectors. The promotion of local protein sources will significantly reduce the import of GM and GMO-free soya (high price level) by replacing it with other alternative protein sources (e.g. lupin cultivation, grazing promotion) or even meet some of the protein needs through local soya cultivation.

Family-type farm, soil-related production

In order to counteract the trend of convergence of milk production systems towards more industrialised systems and to continue to promote family-type farms, both of which enjoy great public consideration, it is considered that the following interventions linked to livestock farming will have a positive effect on the achievement of these objectives:

- Coupled aid for suckler cows
- Aid to reduce the burden of cattle
- Aid for the maintenance of a low herd and livestock load
- Grass of bovine animals

Animal diseases and antibiotic resistance (B9.3 Reducing the use of antibiotics and plant protection products in agriculture)

In order to limit the increased risk to the development of animal diseases induced by climate change and the presence of antibioresistances raised in the SWOT discussions, the following measures will serve as a response:

- The national **risk management** measure provides for financial support in the form of State aid to farms for the conclusion of insurance contracts not only for harvest losses due to climatic hazards or natural disasters, but also to cover certain animal disease risks (livestock insurance).
- Some of the measures provided for in **the National Antibiotic Plan** help to curb the risk of the development of antibiotic resistance, including measures relating to prevention, education and communication aimed at improving awareness and understanding of antibiotic resistance by the general population and by health professionals through appropriate communication and education. Antibiotic campaigns will be extended to the veterinary and agricultural sectors and developed in collaboration with the professionals concerned in order to respond as effectively as possible to the problem of antibiotic resistance. In this context, a national antibiotic monitoring system is in place (consumption, presence of antibiotics, antibiotic residues and resistant and antibiotic bacteria). A platform for centralising antibiotic resistance data from the human and veterinary sector will be established. The objective is to improve knowledge of antibiotic resistance in Luxembourg and to identify priority actions to be taken in order to combat the emergence of antibiotic resistance. The National Antibiotic Plan thus contributes to the implementation of the European Farm to Fork Strategy, which calls for a 50 % reduction in the sale of antimicrobials for farmed animals and aquaculture in Europe by 2030.
- It should also be pointed out that any investment **inequipment** designed to promote animal welfare and the proper design and planning of livestock farms is expected to have positive effects also in terms of improving the health of livestock, thus reducing the use of antibiotic and medicated

treatments in general.

Other needs (B9.3 Reducing the use of antibiotics and plant protection products in agriculture)

In order to curb the general trend towards a reduction in the number of cultivated varieties and breeds held **(loss of agro-biodiversity)** as addressed by the SWOT threats, State aid promoting the conservation and promotion of endangered breeds and other measures such as coupled aid for market garden crops and tree farming, support for crop rotation and crop diversification on arable land shall be introduced.

The objective of **reducing the use of plant protection products**, which is a major concern for citizens and consumers, will be covered by the introduction of the following **ecological regimes**:

- aid for the use of synthetic pheromone broadcasters in arboriculture
- aid for the use of synthetic pheromones in viticulture
- support for the renunciation of plant protection products.

In general, **innovation, research and digitalisation across the** food chain will be used for production that takes into account the latest developments and knowledge in the sector and ensures better productivity and efficiency of agricultural production systems while ensuring animal welfare and sustainable agricultural production taking into account economic principles, the environment and social aspects. The **Farm Council** has an important role to play in disseminating these key elements for the development of the sector. It will thus be supported under a State aid scheme with the aim of also supporting sustainable agricultural production that respects natural resources and ensures the competitiveness of the sector. All aspects of knowledge transfer are further described at the level of the cross-cutting objective respectively in Chapter 8.

National measures such as the **development of the currently loss-making fruit and vegetable sectors**, the increased diversification of agricultural production, the development of niche markets, the development of processing and packaging structures for agricultural products, the strengthening of farm structures engaged in direct sales, the increase in the share of organic products, particularly in the field of mass catering, all contribute to the emergence of new value chains which can offer a competitive advantage on the agricultural market. More details on this topic are taken up at the level of Specific Objectives 2 and 3.

2.1.SO9.5 Where relevant, a justification for the use of InvestEU, including the amount and its expected contribution to the Specific Objective/Cross-Cutting Objective

none.

2.1.SO9.8 Selection of the result indicator(s)

Selection of the result indicator(s) for this specific objective

Result indicators [recommended Result indicators for this specific objective are fully displayed in bold]	Target value
R.43^{PR} - Limiting antimicrobial use Share of livestock units (LU) concerned by supported actions to limit the use of antimicrobials (prevention/reduction)	6.59 %
R.44^{PR} - Improving animal welfare Share of livestock units (LU) covered by supported actions to improve animal welfare	23.37 %

Justification of the targets and related milestones

As regards the targets and milestones, reference is made to the 'other comments' section of the SWOT section and to the detailed description of the interventions falling within that specific objective.

2.1.SO9.9 Justification of the financial allocation

The financial allocations provided for in the NSP for this objective come from the EAFRD. At the same time, national resources are provided to complement interventions co-financed by European funds with the aim of having complementary and multiple effects in order to achieve the objectives set.

The provision of funds is also the result of a process of concertation between actors and is the result of a political agreement.

2.1.XCO Cross-cutting objective of modernising the sector by fostering and sharing of knowledge, innovation and digitalisation in agriculture and rural areas, and encouraging their uptake

2.1.XCO.1 Summary of the SWOT Analysis

2.1.XCO.1.1 Strengths

Training and advice

1. Good knowledge of young farmers in digitalisation.
2. Good supervision for arable crops apart from plant health.

Other

3. Transfer of knowledge from abroad and neighbouring regions.

2.1.XCO.1.2 Weaknesses

Training and advice

1. Economic Council: too little input for farms in difficulty.
2. Further development of the integrated council.
3. More targeted advice: energy aspects.
4. RES accounting mainly focused on the most common agricultural production (data on niches production sometimes loss-making).
5. Different farm advisory bodies work quite isolated at farm level.
6. Members' lack of competence, especially from a technological point of view.
7. Lack of cooperation between organisations working in the field of farm councils.
8. Motivating farms for qualitative and non-quantitative growth.
9. Primary and especially secondary education: agriculture and food are too small.
10. Agricultural education: too little interaction with the rest of society. As soon as they are engaged, young people must be made aware of the need to communicate with consumers.
11. Insufficient level of French.
12. Further training in the field of smoking and phyto products.
13. Lack of winegrowing (no critical mass to form a class).
14. Lack of qualified labour.
15. Lack of public supervision of the dairy sector (experimental farm) to expand Know-How.

Innovation-New market opportunities

16. There is currently no regulatory framework on the use of drones.

Research-Technologie-Digitalisation

17. Lack of coordination of cultivation trials, no professional supervision.
18. No budget for research in agriculture ("Regenerative Agriculture").

Other

19. A multitude of off-shore farm advisory structures.

2.1.XCO.1.3 Opportunities

Training and advice

1. Introduction of BTS agriculture and food training.
2. Better integrate specific needs into training.
3. Knowledge interconnection.
4. Possibility of bringing together all farm council actors in a single structure (consultancy house).

Research-Technologie-Digitalisation

5. More targeted use of fertilisers and phyto products.
6. Data network; availability of a large amount of data within the agricultural sector, which can be used more efficiently.
7. Go to the root of the problems instead of hiding problems with technical means.
8. Create a competence centre for the “traditional” (non-organic) sector.

Other

9. Promotion campaign, marketing with several relevant ministries (agriculture, economy, environment, education, the region, etc.) to promote the sector.

2.1.XCO.1.4 Threats

There were no threats identified in the SWOT development workshops.

2.1.XCO.1.5 Other comments

General remark

Although the participatory workshops to develop the SWOT focused mainly on the specific objectives and there was no specific workshop for the cross-cutting objective, the workshops on the specific objectives have recently identified ‘cross-cutting’ elements which are explained and analysed below. In order to help agriculture meet the major challenges of sustainable development, account will have to be taken of the complexity of living, the interactions between natural systems and its role in producing quality food.

Tailored responses to these complex challenges require a systemic, multidimensional and cross-cutting approach. In order for agriculture to respond to simultaneous contemporary challenges – food security, the fight against climate change, protection of natural resources, rural development, employment, **knowledge** transfer plays a crucial role. So far, Luxembourg has mainly focused on 4 strands of relevant actions designed and **funded by national grants**:

- continuing vocational training in the sector,
- establishment of demonstration and/or testing fields,
- traineeship grants for participation in a traineeship abroad
- the farm council.

The legal basis for actions is:

- Commission Regulation (EU) No 702/2014 of 25 June 2014 declaring certain categories of aid in the agricultural and forestry sectors and in rural areas compatible with the internal market in application of Articles 107 and 108 of the Treaty on the Functioning of the European Union,
- The amended Law of 27 June 2016 on support for the sustainable development of rural areas (in particular Article 38) and the Grand-Ducal Regulation of 17 May 2017 implementing the provisions of Chapters 17 and 18 of the Law of 27 June 2016 referred to above.

Ongoing vocational training

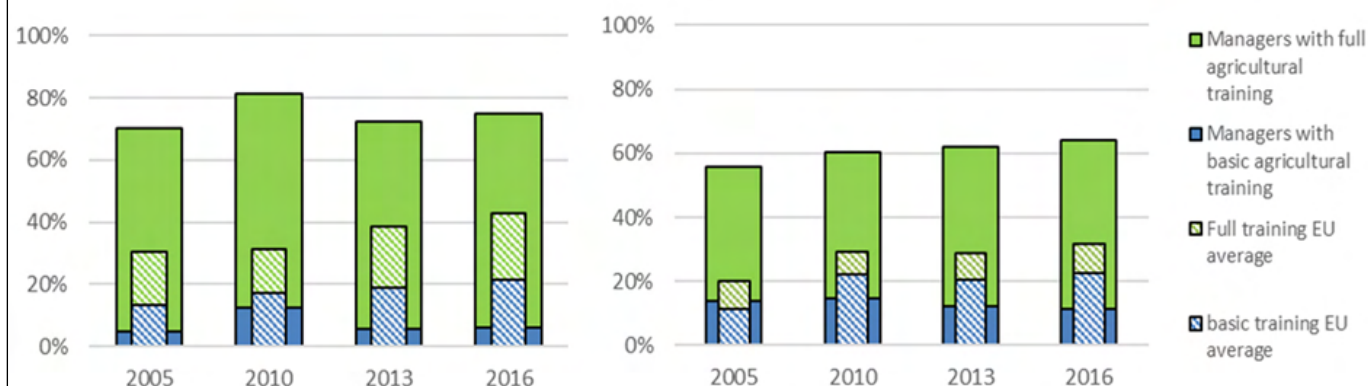
In order to ensure the effectiveness of continuous training activities, the legislator instructed the Chamber of Agriculture to carry out an annual inventory of the needs of the sector and to carry out coordination work. In the period 2017-2018, the Ministry of Agriculture supported 9 continuing training organisations for 114 actions with a total of almost 3.000 participants. The thematic orientation of the actions differs greatly between the organising organisations and the system and the aid rates in place sometimes do not guarantee the funding desired by the organisers.

In its recommendations on the Strategic Plan, the European Commission pointed out that in 2016, 53 % of farm managers in Luxembourg had completed full agricultural training, which represents an increase of almost ten percentage points over the last decade. This share is the highest in the EU-27, and is also very

high for farmers under 35 years old (69 % vs 21.69 % in the EU). Luxembourg also has the fourth highest training rate in the EU: in total, 64 % of its farmers have undergone at least basic agricultural training. Moreover, farmers who are pursuing their studies in agronomy abroad bring a very wide range of knowledge in the agricultural sector.

Although the system in place therefore seems to be working rather well, compared with other Member States, ways of improving the future to be implemented with the various stakeholders are the adaptation of the services offered to current challenges, in particular those linked to the climate, the environment, biodiversity and animal welfare.

Diagram: agricultural training of managers under 35 years of age (left) and total population of farm managers (right)



Sources: Eurostat [efractionale training]

Demonstration and/or testing fields

Demonstration field and/or testing projects may receive 80 % of the eligible costs and require prior approval by the Minister and must be published on the website of the Chamber of Agriculture. Annually, almost EUR 100.000 per year of aid is paid by the Ministry for demonstration and/or testing projects. During the years 2014-2020, three farm advisory organisations benefited from this support for demonstration activities, agricultural trials and varietal trials. Major challenges for the future are the coordination between actors and projects and the management and evaluation of the success of projects in the sector.

Scholarships abroad

Since to date only one application for a scholarship for a traineeship abroad has been submitted to the Minister, who still had to be refused because the conditions for granting it were not met, a review of the arrangements for granting or the merits of that measure is necessary, bearing in mind that the potential educational benefits of such traineeships are undeniable.

The farm council

For the 2014-2020 programming period, a modular farm advisory system has been set up in order to establish a degree of transparency in the system of advisory services. For each subsidised advisory service, the Ministerial Regulation of 28 February 2020 lays down the objective and content of the advisory modules, the rate and maximum amount of aid and the minimum qualifications of advisers. The policy choice was to subsidise at preferential rates advisory services in the fields of environmental protection, particularly water protection zones, as well as the promotion of organic farming. However, this modular system is considered not to be flexible enough or adapted to farmers' future needs (Source: report for AKIS inventory (task 1.3) of the i2connect project, and SWOT analysis).

Currently 8 advisory organisations with 44 advisers are accredited. Although stakeholders in Luxembourg are familiar with each other, collaboration between advisory organisations and/or advisers could be

improved (source: report for AKIS inventory (task 1.3) of the i2connect project). The same finding was made directly and indirectly as weaknesses in the SWOT analysis. The various advisory modules and accredited advisory bodies are listed at:

[le//agriculture.public.lu/de/publications/beihilfen/beratungsmodule.html](http://agriculture.public.lu/de/publications/beihilfen/beratungsmodule.html) (in German).

Some conclusions can be drawn from the analysis of the farm advisory modules requested by farmers during the previous programming. The vast majority of advisory services aim to promote sustainable development and efficient management of resources to protect the environment. The need for advice on “water protection” is expected to further increase significantly with the final creation of many water protection zones. According to estimates by the Water Management Administration, the volume could double or even triple.

An evaluation of the advisory system for farms affected by a water protection zone is ongoing.

- in 2019, there were 1.746 farmers in Luxembourg who benefited from the basic payments. More than 84 % of primary farmers already benefit from nutrient management advice
- the number of advice provided to promote organic farming is increasing.
- there is currently no specific module on advice for plant protection products. The vast majority of ‘plant protection products’ advice is provided by ‘commercial’ advisers.
- the modules ‘permanent grassland’, ‘legume cultivation’ and ‘cross-compliance’ are not too much needed.

In addition to this system of advisory services, there are other structures or organisations which employ advisers active in the agricultural sector. These involve:

- the Rural Economy Service (management advice and economic analysis) of the Ministry of Agriculture
- the Viti-Vinicole Institute for winegrowers (in particular oenological processes; use of plant protection products in viticulture and grapevine diseases; organic winegrowing)
- the grouping of biological stations (advice under the Biodiversity Programme)
- private advisers or consultants working on behalf of the Ministry of Environment, Climate and Sustainable Development (management boards and economic analysis, integrated councils).

Their services are offered free of charge to farmers. For example, a comprehensive farm advisory system is made available to farmers to help them implement their obligations under policies, in particular those relating to the environment, climate and biodiversity. The farm council is cited many times in the context of the SWOT and the objectives of the SP, and although it is essential for the implementation of policies and interventions, it is also necessary to consider the limitations of this instrument which are due to its optional and non-binding nature for the farmer.

Challenges in this context:

- Exact definition of “advisory services”: the various stakeholders (politicians, state services, NGOs, farmers, etc.) have very different expectations of advice. Very often, advice is seen as the best way to “change” farmers while it can only support farmers in making their choices.
- Organisation of an integrated and multidisciplinary council that is effective and best meets the expectations of all actors involved. The integrated advice should include a simultaneous analysis of agricultural and environmental opportunities and constraints with a view to optimising the ecological, nutritional and economic impact of an agricultural undertaking, based on production, as well as the protection of nature, biodiversity and water. Thus, the integrated council will have to take into account the very specific challenges which may vary greatly depending on the type of farming, the geographical location and topography of the site in question and the nature of the investment projects envisaged.

These challenges have also been raised in the public consultation and in the ex-ante evaluation and will be addressed, through national means, as a matter of priority and urgency. The Ministry, together with its Rurale Economic Service, has therefore planned to launch a broad consultation campaign with farmers in 2022 in order to devise and implement the concept of integrated advice, which will be based on the specific needs of farmers. Particular attention will be paid to the participation and opinion of young farmers and new entrants in order to design an advisory system adapted to the concrete needs of the whole sector. The participation of other actors such as accredited farm advisers and facilitators in organic stations in this exercise will be encouraged. Particular attention will be paid to the fact that specialised support for farmers needs to be put in place to guide them towards and support them in diversifying their farms. Training of advisors on the topics identified will accompany the approach to the implementation of the Integrated Board.

Digitalisation

Luxembourg promotes the promotion of digitalisation and the development of IT support at national level. In 2021, the government presented the [e-governance strategy 2021-2025](#), which aims to strengthen eGovernment and enable the switchover to digital government and aiming for a 100 % digital government. An action plan addressing the various sectors will be drawn up shortly, which will also have an impact on the agricultural sector.

Currently, broadband internet access in rural areas is already excellent (92 %) and many initiatives are underway to further develop digitalisation in the agricultural sector. According to the European Commission, digitalisation in rural areas could, among other things, lead to the adoption of precision farming and modern methods to reduce the use of fertilisers and plant protection products, as well as to increase the use of drones and robots. At farm level, Luxembourg has witnessed rapid development of digitalisation, but there are certain weaknesses, such as a lack of data networking. Luxembourg's approach to digitalisation in the agricultural sector is set out in Chapter 8.

Innovation and research

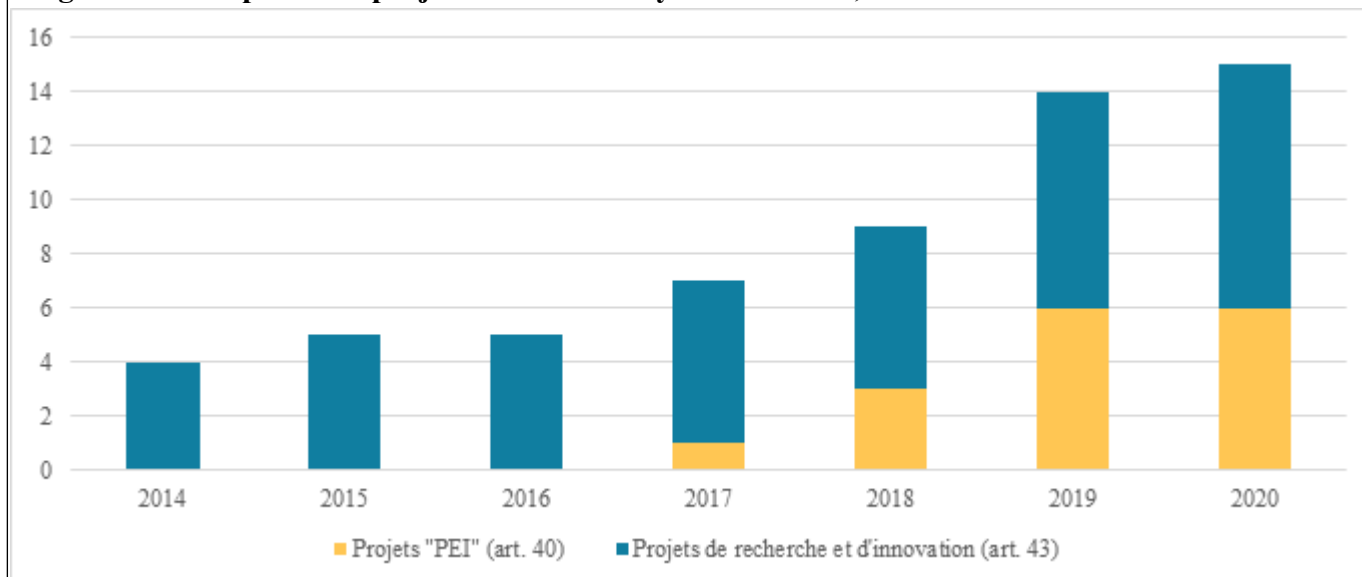
Innovation and research initiatives are fully funded **by national means**. The amended Law of 27 June 2016 on support for the sustainable development of rural areas provides in Articles 40 to 43 for financial support to research organisations and dissemination of knowledge to support innovation and research projects in the agricultural or wine sector. The purpose of the aid scheme is the implementation of applied research projects aimed at developing one or more solutions to a specific problem or challenge encountered on the ground through the **European Innovation Partnership** (Article 40) and public policy support through research and innovation projects aimed at the development of a resilient agricultural sector (Article 43). The knowledge resulting from the research activities is intended to be disseminated to the sector at the end of the project. An additional support scheme for the transfer of agricultural knowledge shall, inter alia, support demonstration activities, including agricultural trials, implemented exclusively by the farm council.

The Commission for the Promotion of Innovation, Research and Development of the Agricultural Sector, referred to in Article 71 of the aforementioned Law, is responsible for drawing up a national innovation strategy, promoting and accelerating knowledge transfer and innovation.

The committee launches calls for tenders for research projects such as 'European Innovation Partnership' via the 'Agriculture Portal' webpage. Project proposals are evaluated by the Commission on the basis of selection criteria published in the call for projects.

The diagram below shows the projects subsidised by the Ministry of Agriculture, Viticulture and Rural Development during the period 2014-2020. 5 projects for the "EIP" typology according to Article 40 are coordinated by the Farm Council and 1 by a research institute. Farmers, farm councils and researchers participate in each EIP project. Each 'research and innovation' typology project under Article 43 is coordinated by a research institute, with farm advisory providers participating in 3 projects.

Diagram: Development of projects subsidised by the MAVDR, 2014-2020



Sources: MAVDR, 2021

The diagram shows an increase in the number of subsidised projects for the two types of aid schemes provided for in the Luxembourg legal framework. This increase in the number of projects is due to increased demand for innovation and research in Luxembourg's agricultural sector, which is also reflected in the needs identified for several objectives.

Currently, access to the European Research Area is very limited and contacts with the Horizon Europe National Contact Point (Luxinnovation) have only started to be forged recently. In addition, the use of up-to-date scientific information for agricultural practices is difficult due to the lack of real partnerships and exchange platforms and knowledge pools to collect the latest knowledge and innovations and share it with field advisors and farmers.

The European Innovation Partnership has proven to be an excellent tool to support the implementation of innovation directly among farmers, easy to implement in Luxembourg's agricultural knowledge and innovation system "AKIS", but also presenting some challenges. The fact that Luxembourg has chosen to finance EIP projects entirely by **national means** causes difficulties in networking with the European EIP network and its various working groups. See Chapter 8 for information about AKIS.

The main actors are the public sector (Ministry of Agriculture and its agencies, providing advisory services), public research centres, the technical college of agriculture for research and education, the agricultural chamber. Several farmers' organisations such as Convis (a farming association specialised in plant and animal production), Biog (organic farming association) and FILL (Fördergemeinschaft Integrierte Landbewirtschaftung Luxembourg, the association to promote integrated agriculture) are also involved. Private companies also act as providers of product-related advisory services.

The actors in this system are all involved in at least one EIP project (all EIP projects are funded by national means) with the participation of many partners in each project, including the farm council, research institutes, food chain actors and farmers. National research activities are mainly carried out by three public research centres (LIST, LIH and LISER) and the University of Luxembourg, which are public institutions with a statutory research mission. In addition, IBLA ('Institut fir Biologësch Landwirtschaft an Agrarkultur Luxemburg') asbl supports organic farming through research, advice and knowledge transfer and is also eligible for assistance from the National Research Fund following approval with the Ministry of Higher Education and Research.

The lack of a public research institute specialising in agriculture, as well as a faculty in agro-biosciences, limits access to innovation and the establishment of an exchange network. Currently, only one public research centre is active in agricultural research and covers only part of the sector's research and new knowledge needs.

Although there is a good exchange between these different AKIS actors, their coordination, which is essential in order to make better use of the skills of each actor, remains a major challenge for the coming period. Given the small size of the national AKIS network, it is all the more important to improve the networking of national stakeholders with the farm council and research institutes abroad, to ensure the transfer of scientific knowledge to the field and to develop the provision of support services.

2.1.XCO.2 Identification of needs

Code	Title	Prioritisation at the level of the CAP Strategic Plan	Need is addressed in Cap Strategic Plan
BCC.1	Creation of a competence hub	P1	No
BCC.2	Adapting training and farm advice	P1	No
BCC.3	Strengthening the AKIS system and digitalisation in agriculture	P1	No
BCC.4	Develop AKIS and participation in EIP-AGRI	P3	No
BCC.5	Developing smart and precision agriculture	P2	No
BCC.6	Provide adequate tools to implement political priorities	P2	No

Other comments related to needs assessment.

All identified needs will be covered and financed by national actions, including:

- Creation of a knowledge hub: Create an interface between researchers, farm advisors and farmers and contribute to improving the quality and efficiency of advice (P1)
- Strengthening AKIS system and digitalisation in agriculture (P1)
- Developing smart and precision farming: Use of new tools and technologies to develop new markets (P2)
- Develop AKIS and participation in EIP-AGRI: Developing knowledge exchange between farmers, international networking, scientific monitoring and monitoring (P3)
- Adapting training and farm advice (P1)

o Integrating environmental, climate, social and economic issues to ensure the sustainable development of the agri-food sector

o Identifying new developments and trends (circular economy)

o Developing specialised or non-standard training and advice (organic farming, market gardening, alternative production, etc.).

o Includes animal welfare aspects (food, sustainability, animal care, etc.).

2.1.XCO.4 Intervention logic

Form of Intervention	Type of Intervention	Intervention Code (MS) - Name	Common Output Indicator
Sectoral - Apiculture products	ADVICEES(55(1)(a)) - advisory services, technical assistance, training, information and exchange of best practices, including through networking, for beekeepers and beekeepers' organisations	1.09.582 - Transfer of knowledge	O.37. Number of actions or units for beekeeping preservation or improvement

Overview

All the actions envisaged for the knowledge transfer component, including farm council and AKIS, are planned to be financed by national measures. The entire knowledge transfer system will be implemented through AKIS (**Agricultural** Knowledge and Innovation Systems). AKIS integrates researchers, teachers, advisors and farmers. Coordination of the system lies with the Ministry of Agriculture through the definition of political objectives and priorities and the networking of the various actions of AKIS stakeholders.

Although there is some exchange between the different actors, the current system will be adapted, in particular by defining a national innovation strategy in the agri-food sector that guides actors along the different parts of the production chain. Exchanges with farmers and better consideration of their experiences will be essential in order to raise awareness of the needs of the sector and to achieve faster transposition of research results on the ground. Farmers will be better integrated into **the Operational Groups** by means of calls for independent projects promoting innovation on farms. The integration of the actors in the processing chain into the Operational Groups will speed up the producer's adaptation to consumer demands. In the medium term, European Innovation Partnership projects (or transnational projects such as thematic networks) will open up new avenues for innovative solutions for Operational Groups by involving research and innovation actors (Luxinnovation). This therefore requires a more targeted coordination of all actors around this strategy.

The networking of different actors from different sectors with different perspectives in order to jointly develop innovative solutions, provided for in a package of measures to support the agricultural sector in the fight against COVID-19, decided by the Council in Government in June 2020, is carried out as part of an **Innovation Hub**. It is the ideal tool to provide the essential elements of a national innovation strategy for future agriculture, the Landwirtschaft +, gathering innovative ideas, including citizens.

Currently, research actors at national level can only intervene on isolated topics, but cannot cover all the needs of the sector in terms of new knowledge, in particular in the field of animal production. The connection of AKIS with foreign networks is essential to improve innovation in the agricultural sector and to meet the needs of targeted knowledge which cannot be covered by local expertise. AKIS will focus on improving the performance and sustainable competitiveness of the agricultural sector as well as on the Green Deal challenges related to climate change, circular economy, pollution elimination and biodiversity.

The SWOT analysis reveals innovation and research challenges that will be addressed by the tools in place as well as new initiatives. A partnership with the National Scientific Research Fund has made it possible **to launch a joint call for research projects** in order to attract new national research players and develop new skills in the various fields affecting agriculture. Strengthening collaboration with Luxinnovation, the Horizon Europe National Contact Point, will create new opportunities for national actors to participate in Horizon Europe calls, aiming to also involve farmers and advisors, albeit at a modest level at a later stage.

Innovation is linked to the transition to sustainable, organic and ecological farming, as advocated in the Third Industrial Revolution Strategic Study for the Grand Duchy of Luxembourg, which calls for “minimising nutrient losses, maximising net solar energy production, maintaining or improving soil fertility, minimising GHG emissions, maximising carbon sequestration and optimising profitability”. This transition can only be achieved with the support of an IT management support system that is both effective and tailored to the specific needs of the various agricultural practices.

Digitalisation in agriculture covers many aspects of business management, herds, crops and also marketing. The digital parcel book and precision farming are two aspects of these applications. In the future, other digital applications will emerge, such as sensors, drones and robots that will network data from agricultural machinery, meteorology, seed databases, soil, plant health application and harvest results. Digitalisation therefore helps to have a holistic view of the farm and requires a robust organisation and regulatory framework to ensure safe use in agriculture.

Improved data management, including processing and monitoring, is crucial for developing relevant evidence-based policies and strategies, was raised in the SWOT analysis. In order to achieve this, data from different sources must be put together. A trusted third party approach could enable data from different sources to be collected and hosted in a secure way.

In order to achieve agriculture in the future, economically viable, socially fair and ecologically viable, better data management will have to be used to adapt current methods to determine more relevant indicators, including at the micro and macroeconomic levels, in order to allow for monitoring and better evaluation of interventions. An approach to modelling the different parameters, applied in the national territory, could thus provide robust and relevant data sets on the basis of which evidence-based policies can be designed to guide agricultural policy.

A **‘knowledge hub’**, incorporating a Data Warehouse, as advocated in the coalition agreement, will allow for more comprehensive monitoring and aggregation of data in a holistic manner in order to provide farm advisors with an effective advisory tool to share the latest knowledge and innovations with farmers.

The current **farm advisory** offer will be analysed taking into account the needs of the new CAP and the national strategy in order to ensure an integrated, neutral and efficient advisory system. Close cooperation with other actors is desirable in order to build capacity in the different areas, notably related to the green architecture of the CAP.

Challenges and adjustments for the next programming period

The farm advisory tool will continue to be financed by national means and will evolve on the basis of the old system. In the medium term, initiatives will be taken to try to integrate farm advisory bodies into interdependent services of farm advisors, researchers, farmers’ organisations and other relevant stakeholders forming AKIS and to develop a voucher based support system. **The voucher system** gave the farmer the flexibility to choose from among the advisory modules offering them the most important ones for them.

Through these state-of-the-art advisory services, appropriate assistance can be offered throughout the farm development cycle, including for the first installation, conversion to environmentally friendly agricultural production models, biodiversity, promoting climate resilience and adaptation, improved animal welfare and, where appropriate, safety standards and social assistance.

Together, these adjustments are intended to address the weaknesses identified and to meet the needs for improvement of the AKIS system and the farm council.

The following national plans and programmes serve as a guiding framework for defining the content of future farm advisory services:

- NEC: environmental and climate advisory module (22 % reduction NH₃ for 2030 p.r. to 2005 for the agricultural sector).
- Integrated National Energy and Climate Plan (NECP) for the period 2021-2030 foresees a reduction in GHG emissions for the agricultural sector of -5 % in 2025 and -20 % in 2030, compared to the base year 2005.
- The ‘PAN-Bio 2025’ aims in particular to increase the visibility and attractiveness of organic farming and to develop and structure the production, processing and distribution sectors.
- The NAP for the reduction of plant protection products foresees a reduction in the use of 50 % of plant protection products until 2030 and a reduction of 30 % of the most hazardous or used plant protection products until 2025.
- Coalition agreement 2018-2023: Free technical and economic advice to improve the net balance of farms by reducing input and mechanisation costs as a matter of priority.

- The objectives of the farm to fork and biodiversity strategies, including reductions in nutrient surpluses.

It is planned that any major agricultural investment project supported financially by the State will be the subject of an economic, social, ecological and energy analysis and fully financed by the Luxembourg State and which could be described as an integrated or systemic analysis.

The new green NSP architecture requires efforts by all actors to offer more efficient farm advice, in particular with a view to improving the carbon balance and reducing the overall level of intensification and use of nitrogen and its surpluses generated at the level of the farming system (carbon sequestration, reduction in the use and emission of nitrogen and GHG inputs (other than N), reduction of methane and ammonia emissions). Particular attention will be paid to the development of a farm council supporting farmers in their efforts to adapt to climate change.

Thus, the existing modules will be adapted to take into account the following elements:

- Use of better adapted varieties and breeds
- Soil protection and climate change adaptation measures
- Prevention of erosion and limitation of nitrate leaching
- Adopt climate-resilient farming and animal production methods
- Installation of shading and protection areas against bad weather, supply of water for drinking. A reinforcement of the current farm council module called “Permanent and Temporary Prairie” is important in this respect.
- energy efficiency of farms.
- climate change mitigation.

The last two topics are also the subject of a tool that is already available to the agricultural sector via the website ‘[//klimacheck.lu/](http://klimacheck.lu/)’ (in German).

Discussions will continue to provide independent farm advice on plant protection products given the importance of PPPs in ecological regimes.

The current training and advisory tools related to plant protection products are:

- Compulsory training linked to the premium for sustainable and environmentally-friendly agriculture (agriculture and winegrowing), which targets a large majority of wine growers and plant protection products;
- The ‘organic farming’ farm advisory module (state aid) is also available to traditional farmers, who thus benefit from advice on PPPs authorised in organic farming;
- The farm advisory module “PPP in fruit crops” (state aid) is part of a cross-border collaboration with Rhineland-Palatinate;
- The agricultural advisory module ‘PPP – potato cultivation’ (state aid) addresses one of the most demanding crops in terms of the use of plant protection products.

Since 2021, the application of plant protection products by professional users in the agricultural sector (including agricultural distributors and advisers) has been subject to the obligation to hold a certificate (Sprëtzpass), issued by the Minister of Agriculture, which may be obtained through agricultural training, an equivalent foreign certificate or participation in specific training (Grand-Ducal Regulation of 26 September 2017 on the sale, use and storage of plant protection products).

With a view to the implementation of the eco-scheme ‘Aid for the renunciation of plant protection products’, the Ministry will analyse the need for the introduction of a specific module for this eco-scheme,

which, if necessary, will then report on a possible future amendment of the NSP.

While most of the elements of the NWP are addressed through existing farm advisory modules (which will be adapted to the new requirements), other elements of the NWP require support and advice, in particular on the following topics:

- support farm diversification and new forms such as urban agriculture by involving marketing/communication/social media modules (in consultation with the Ministry of the Economy)
- support the use of new technologies targeting precision farming (as part of EIP or demonstration projects)
- support farm innovation (products, working methods, services) and offer knowledge transfer; (requires an analysis of needs and links to be established with other modules (demonstration fields, investments, fertilisation plan, EPZ, etc.))

In order to support new entrants wishing to take over businesses in a non-family or atypical context, a new farm council module will be developed which will specifically address this category of actors.

In order to meet the new requirements, the skills of farm advisers are evolving through **continuous training** which will be organised according to a coherent and coordinated system. Exchange and cooperation with international partners is important to boost the sector and provide effective solutions to the sector by combining the scientific approach with field experiences. The training of current and future farmers (through further training such as BTS or exchanges such as through the European ERASMUS + programme), particularly in the field of digitalisation, and the farm council sent to them, must reflect the new trends and knowledge arising from future developments in the agricultural sector, which must take account of society's expectations, particularly with a view to a circular economy.

The innovation platform, the knowledge hub and research initiatives, such as IPCs, which can be facilitated by innovation brokers or facilitators for the provision of support services, will together form the national AKIS system, which will be financed by national funds.

More details on this integrated approach can be found in Chapter 8.

As it is planned to finance EIP projects and Operational Groups through national measures, this information is provided to enable the European Commission to gain a better understanding of our strategy in this regard. Thus, as we want to keep the option of possibly changing this approach along the way by adhering to the co-financed system, we will follow the European framework as closely as possible.

Currently, R1 is the only indicator that can be systematically monitored from the beginning of the CAP. The target is determined according to the experience gained in the previous period taking into account the ambitions of the NWP as described in the SWOT analysis. Since it is a priority to develop the bottom-up approach further by giving more weight to the role of farmers throughout the process of identifying EIP projects, it is difficult at this stage to determine a target value as the experiences gained from the previous period can only partially serve as a reference.

For result indicators 'R2 Linking advice and knowledge systems. Number of advisors receiving support to be integrated within Agricultural Knowledge and Innovation Systems (AKIS)' and 'R.3 Digitalising agriculture: Share of farms deriving from support to digital farming technology through CAP', the necessary steps are taken at national level in order to have this information available in the future.

Chapter 8 of the NSP is closely linked to the cross-cutting objective. The AKIS system is described in detail and the EIP operational groups will be financed by national financial means. Assurance from the European Commission has been given that Luxembourg will be able to benefit from certain operations at European level that are related to AKIS, PIEs and Operational Groups. The assurance from the European

Commission of being able to benefit from certain operations at European level that are related to AKIS, PIEs and Operational Groups is appreciated. Thus, Luxembourg confirms its desire to disseminate its national projects related to Operational Groups on the European EIP Platform, to participate in all actions related to the EIP AGRI and to participate, where appropriate, in Horizon Europe multi-stakeholder projects. Consultation with neighbouring countries to develop avenues for cross-border collaboration is presumed to consolidate the AKIS national system and the related operations.

2.1.XCO.5 Where relevant, a justification for the use of InvestEU, including the amount and its expected contribution to the Specific Objective/Cross-Cutting Objective

none.

2.1.XCO.8 Selection of the result indicator(s)

Selection of the result indicator(s) for this specific objective

Result indicators [recommended Result indicators for this specific objective are fully displayed in bold]	Target value

Justification of the targets and related milestones

As it is planned to finance EIP projects and Operational Groups through **national measures**, the following information is provided mainly to enable the European Commission to gain **a better understanding of our strategy** in this regard. However, as we want to keep the option of possibly changing this approach along the way by adhering to the co-financed system, we will **follow the European framework** as closely as possible.

Currently, R1 is the only indicator that can be systematically monitored from the beginning of the CAP. The target is determined according to the experience gained in the previous period taking into account the ambitions d for the next period as described in the SWOT analysis. As our priority for the next period is to further develop the bottom-up approach by giving more weight to the role of farmers throughout the process of identifying EIP projects, it is difficult at this stage to determine a target value as the experiences gained from the previous period can only partially serve as a benchmark.

For result indicators ‘R2 Linking advice and knowledge systems. Number of advisors receiving support to be integrated within Agricultural Knowledge and Innovation Systems (AKIS)’ and ‘R.3 Digitalising agriculture: Share of farms deriving from support to digital farming technology through CAP’, the necessary steps are taken at national level in order to have this information available in the future.

2.1.XCO.9 Justification of the financial allocation

It is planned to finance actions falling under the cross-cutting objective entirely through **national measures/state aid**.

2.2 Context Indicators and other values used for the calculation of the targets

Context indicators (PMEF Code)	Baseline value	Baseline year	Updated value	Updated year	Justification/Comments	Source of data
C.01 Total rural population – for LEADER (R.38) (Person)		2020	258,269.00	2022	We do not have a “rural population” in Luxembourg notified to Eurostat and therefore we use a proxy for rural population:	STATEC (National Institute for Statistics and Economic Studies of the Grand Duchy of Luxembourg)
C.01b Total rural population – for services and infrastructure (R.41) (Person)		2020	254,105.00	2021	We do not have a “rural population” in Luxembourg notified to Eurostat and therefore we use a proxy for rural population:	STATEC (National Institute for Statistics and Economic Studies of the Grand Duchy of Luxembourg)
C.05 Total forest area (Hectares)	94,763.00	2018	97,028.06	2021	Data confirmed by ANF	ANF
C.12 Total number of farms (Farm)	1,970.00	2016	1,881.00	2020	amount corrected with recent figures	SER
C.17 Total utilised agricultural area (UAA) (Hectares)	131,590.00	2019	122,944.43	2020	CSP interventions are limited to national UAA. Above all UAA for PESCO needs is limited to national UAA. This is different to Eurostat data.	SER
C.19 Total agricultural area and forest area in Natura 2000 sites (Hectares)	29,208.00	2018	70,171.74	2021	Data confirmed by ANF	ANF
C.23 Total number of livestock units (Livestock units)	173,600.00	2016	166,885.00	2020	amount corrected with recent figures	SER/ASV
D.35 Total number of beehives notified to the EU Commission: average of the latest three years available at the time of establishing the plan. (Beehives)	7,134.00	2020				

2.3 Targets Plan

2.3.1 Recapitulative table

Result Indicator	Specific Objective	2023	2024	2025	2026	2027	2028	2029	Overall Target Value
R.4 Linking income support to standards and good practices Share of utilised agricultural area (UAA) covered by income support and subject to conditionality	SO1		98.60 %	98.60 %	98.60 %	98.60 %	98.60 %		98.60 %
R.4 Numerator: Number of hectares paid			121,221.00 ha	121,221.00 ha	121,221.00 ha	121,221.00 ha	121,221.00 ha		121,221.00 ha
R.4 Denominator: Total utilised agricultural area (UAA)		122,944.43	122,944.43	122,944.43	122,944.43	122,944.43	122,944.43	122,944.43	122,944.43

Result Indicator	Specific Objective	2023	2024	2025	2026	2027	2028	2029	Overall Target Value
		ha	ha	ha	ha	ha	ha	ha	ha
R.6^{PR} Redistribution to smaller farms Percentage of additional direct payments per hectare for eligible farms below average farm size (compared to average)	SO1		101.48 %	101.48 %	101.48 %	101.48 %	101.48 %		101.48 %
R.6 Numerator: Average DP/ha paid to beneficiaries below average farm size			274.00 EUR/ha	274.00 EUR/ha	274.00 EUR/ha	274.00 EUR/ha	274.00 EUR/ha		274.00 EUR/ha
R.6 Denominator: Average DP/ha paid to all beneficiaries			270.00 EUR/ha	270.00 EUR/ha	270.00 EUR/ha	270.00 EUR/ha	270.00 EUR/ha		270.00 EUR/ha
R.7^{PR} Enhancing support for farms in areas with specific needs Percentage of additional support per hectare in areas with higher needs (compared to average)	SO1		99.26 %	99.26 %	99.26 %	99.26 %	99.26 %		99.26 %
R.7 Numerator: Average income support/ha for beneficiaries in areas with specific needs			268.00 EUR/ha	268.00 EUR/ha	268.00 EUR/ha	268.00 EUR/ha	268.00 EUR/ha		268.00 EUR/ha
R.7 Denominator: Average income support/ha paid to all beneficiaries			270.00 EUR/ha	270.00 EUR/ha	270.00 EUR/ha	270.00 EUR/ha	270.00 EUR/ha		270.00 EUR/ha
R.8 Targeting farms in specific sectors Share of farms benefitting from coupled income support for improving competitiveness, sustainability or quality	SO2		44.71 %	44.71 %	44.71 %	44.71 %	44.71 %		44.71 %
R.8 Numerator: Number of beneficiaries of coupled income support			841.00 farm	841.00 farm	841.00 farm	841.00 farm	841.00 farm		841.00 farm
R.8 Denominator: Total number of farms		1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm
R.9^{CU PR} Farm modernisation Share of farmers receiving investment support to restructure and modernise, including to improve resource efficiency	SO2		2.66 %	3.19 %	4.52 %	5.85 %	7.18 %	8.51 %	8.51 %
R.9 Numerator: Number of beneficiaries receiving relevant support			50.00 farm	60.00 farm	85.00 farm	110.00 farm	135.00 farm	160.00 farm	160.00 farm
R.9 Denominator: Total number of farms		1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm
R.14^{PR} Carbon storage in soils and biomass Share of utilised agricultural area (UAA) under supported	SO4		91.99 %	91.99 %	91.99 %	91.99 %	91.99 %		91.99 %

Result Indicator	Specific Objective	2023	2024	2025	2026	2027	2028	2029	Overall Target Value
commitments to reduce emissions or to maintain or enhance carbon storage (including permanent grassland, permanent crops with permanent green cover, agricultural land in wetland and peatland)									
R.14 Numerator: Number of hectares paid			113,100.00 ha	113,100.00 ha	113,100.00 ha	113,100.00 ha	113,100.00 ha		113,100.00 ha
R.14 Denominator: Total utilised agricultural area (UAA)		122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha
R.16^{CU} Investments related to climate Share of farms benefitting from CAP investment support contributing to climate change mitigation and adaptation, and to the production of renewable energy or biomaterials	SO4		2.13 %	2.55 %	3.83 %	5.10 %	6.38 %	7.66 %	5.85 %
R.16 Numerator: Number of farms benefitting from CAP investment support contributing to climate change mitigation and adaptation, and to renewable energy or biomaterials production			40.00 farm	48.00 farm	72.00 farm	96.00 farm	120.00 farm	144.00 farm	110.00 farm
R.16 Denominator: Total number of farms		1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm
R.19^{PR} Improving and protecting soils Share of utilised agricultural area (UAA) under supported commitments beneficial for soil management to improve soil quality and biota (such as reducing tillage, soil cover with crops, crop rotation included with leguminous crops)	SO5		91.99 %	91.99 %	91.99 %	91.99 %	91.99 %		91.99 %
R.19 Numerator: Number of hectares paid			113,100.00 ha	113,100.00 ha	113,100.00 ha	113,100.00 ha	113,100.00 ha		113,100.00 ha
R.19 Denominator: Total utilised agricultural area (UAA)		122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha
R.20^{PR} Improving air quality Share of utilised agricultural area (UAA) under supported commitments to reduce ammonia emission	SO5		44.49 %	44.49 %	49.62 %	54.66 %	46.53 %		54.66 %
R.20 Numerator: Number of hectares paid			54,700.00 ha	54,700.00 ha	61,000.00 ha	67,200.00 ha	57,200.00 ha		67,200.00 ha
R.20 Denominator: Total utilised agricultural area (UAA)		122,944.43	122,944.43	122,944.43	122,944.43	122,944.43	122,944.43	122,944.43	122,944.43

Result Indicator	Specific Objective	2023	2024	2025	2026	2027	2028	2029	Overall Target Value
		ha	ha	ha	ha	ha	ha	ha	ha
R.21^{PR} Protecting water quality Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies	SO5		91.99 %	91.99 %	91.99 %	91.99 %	91.99 %		91.99 %
R.21 Numerator: Number of hectares paid			113,100.00 ha	113,100.00 ha	113,100.00 ha	113,100.00 ha	113,100.00 ha		113,100.00 ha
R.21 Denominator: Total utilised agricultural area (UAA)		122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha
R.22^{PR} Sustainable nutrient management Share of utilised agricultural area (UAA) under supported commitments related to improved nutrient management	SO5		91.10 %	91.10 %	91.10 %	91.10 %	91.10 %		91.10 %
R.22 Numerator: Number of hectares paid			112,000.00 ha	112,000.00 ha	112,000.00 ha	112,000.00 ha	112,000.00 ha		112,000.00 ha
R.22 Denominator: Total utilised agricultural area (UAA)		122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha
R.24^{PR} Sustainable and reduced use of pesticides Share of Utilised Agricultural Area (UAA) under supported specific commitments which lead to a sustainable use of pesticides in order to reduce risks and impacts of pesticides, such as pesticides leakage	SO5		24.81 %	31.31 %	36.36 %	36.36 %	36.36 %		36.36 %
R.24 Numerator: Number of hectares paid			30,500.00 ha	38,500.00 ha	44,700.00 ha	44,700.00 ha	44,700.00 ha		44,700.00 ha
R.24 Denominator: Total utilised agricultural area (UAA)		122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha
R.26^{CU} Investment related to natural resources Share of farms benefiting from CAP productive and non-productive investment support related to care for the natural resource	SO5		0.85 %	0.85 %	0.96 %	1.28 %	1.59 %	1.91 %	2.55 %
R.26 Numerator: Number of farms receiving relevant support			16.00 farm	16.00 farm	18.00 farm	24.00 farm	30.00 farm	36.00 farm	48.00 farm
R.26 Denominator: Total number of farms		1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm	1,881.00 farm

Result Indicator	Specific Objective	2023	2024	2025	2026	2027	2028	2029	Overall Target Value
R.29^{PR} Development of organic agriculture Share of utilised agricultural area (UAA) supported by the CAP for organic farming with a split between maintenance and conversion	SO6		7.49 %	14.06 %	19.82 %	19.85 %	19.84 %		19.85 %
R.29 Numerator: Number of hectares paid			9,210.00 ha	17,290.00 ha	24,370.00 ha	24,410.00 ha	24,390.00 ha		24,410.00 ha
R.29 Denominator: Total utilised agricultural area (UAA)		122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha
R.31^{PR} Preserving habitats and species Share of utilised agricultural area (UAA) under supported commitments for supporting biodiversity conservation or restoration including high-nature-value farming practices	SO6		13.83 %	20.42 %	26.19 %	26.27 %	26.27 %		26.27 %
R.31 Numerator: Number of hectares paid			17,000.00 ha	25,100.00 ha	32,200.00 ha	32,300.00 ha	32,300.00 ha		32,300.00 ha
R.31 Denominator: Total utilised agricultural area (UAA)		122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha
R.34^{PR} Preserving landscape features Share of utilised agricultural area (UAA) under supported commitments for managing landscape features, including hedgerows and trees	SO6		1.75 %	1.75 %	1.75 %	1.75 %	1.75 %		1.75 %
R.34 Numerator: Utilised Agricultural Area (UAA) under supported commitments for managing landscape features, including hedgerows and trees			2,150.00 ha	2,150.00 ha	2,150.00 ha	2,150.00 ha	2,150.00 ha		2,150.00 ha
R.34 Denominator: Total utilised agricultural area (UAA)		122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha	122,944.43 ha
R.36^{CU PR} Generational renewal Number of young farmers benefitting from setting up with support from the CAP, including a gender breakdown	SO7	15.00	44.00	169.00	191.00	213.00	235.00		235.00
R.37^{CU} Growth and jobs in rural areas New jobs supported in CAP projects	SO8	15.00	44.00	171.00	196.00	228.00	257.00	260.00	260.00
R.38^{CU} LEADER coverage	SO8		76.62 %	77.96 %	79.32 %	80.71 %	82.12 %	83.56 %	83.56 %

Result Indicator	Specific Objective	2023	2024	2025	2026	2027	2028	2029	Overall Target Value
Share of rural population covered by local development strategies									
R.38 Numerator: Rural population covered by LAG funded through LEADER over the programming period			197,878.00 person	201,341.00 person	204,864.00 person	208,450.00 person	212,097.00 person	215,809.00 person	215,809.00 person
R.38 Denominator: Total rural population – for LEADER (R.38)		258,269.00 person	258,269.00 person	258,269.00 person	258,269.00 person	258,269.00 person	258,269.00 person	258,269.00 person	258,269.00 person
R.43^{PR} Limiting antimicrobial use Share of livestock units (LU) concerned by supported actions to limit the use of antimicrobials (prevention/reduction)	SO9		4.19 %	5.39 %	5.99 %	6.59 %	6.59 %		6.59 %
R.43 Numerator: Number of livestock units for which a related payment was made			7,000.00 LU	9,000.00 LU	10,000.00 LU	11,000.00 LU	11,000.00 LU		11,000.00 LU
R.43 Denominator: Total number of livestock units		166,885.00 LU	166,885.00 LU	166,885.00 LU	166,885.00 LU	166,885.00 LU	166,885.00 LU	166,885.00 LU	166,885.00 LU
R.44^{PR} Improving animal welfare Share of livestock units (LU) covered by supported actions to improve animal welfare	SO9		15.03 %	17.24 %	20.25 %	22.47 %	23.37 %	23.37 %	23.37 %
R.44 Numerator: Number of livestock units for which a related payment was made			25,084.00 LU	28,775.00 LU	33,800.00 LU	37,500.00 LU	39,000.00 LU	39,000.00 LU	39,000.00 LU
R.44 Denominator: Total number of livestock units		166,885.00 LU	166,885.00 LU	166,885.00 LU	166,885.00 LU	166,885.00 LU	166,885.00 LU	166,885.00 LU	166,885.00 LU

2.3.2 Planned interventions and outputs with a direct and significant link to result indicators

See the table in SFC2021 application

2.3.3 Consistency with and contribution to the Union targets for 2030 set out in the Farm to Fork Strategy and the EU Biodiversity for 2030

In addition to the detailed information provided under the various specific objectives, in particular under the SWOT, the following actions at national level contribute to the European targets under the Farm to Fork and Biodiversity 2030 strategies:

- National Antibiotic Plan (PNS) 2018-2022 as part of the target of the 50 % reduction in antimicrobial sales at EU level;
- National BioPlan (national target: 20 % for 2025) under the 25 % organic farming target
- National action plan for the reduction of plant protection products as part of the 50 % reduction target for pesticide use; it should be noted that this plan provides for a 30 % reduction in 'big movers' until 2025 and a 50 % reduction in plant protection products (reduction in the tonnages applied) until 2030.

For the European targets "50 % reduction in nutrient losses without deterioration of soil fertility, reduction of fertiliser use by 20 %" and "10 % high diversity landscape elements", there are various actions related to the Nitrates Directive as well as, inter alia, under the National Plan of Action for the Conservation of pollinator insects 2021-2026 and the new National Plan for Nature Protection (under preparation).

More specifically for measures that contribute to the objectives of the Farm to Fork and Biodiversity 2030 strategies, the following relationships can be indicated:

10 % high-diversity landscape features:

- Aid for the setting up of non-productive areas
- Aid for the installation of non-productive strips
- Aid for the establishment of areas of refuge on mowing grassland
- Premium for sustainable and environmentally friendly agriculture
- Support for the conversion and maintenance of organic farming
- Aid to promote the conversion of arable land into permanent grassland
- GAEC 2
- GAEC 4
- GAEC 5
- GAEC 8

It should be noted that, after implementation of GAEC and EAW-related and co-regional targets, the NSP provides for landscape features amounting to 9 % of the UAA in 2027.

Reduction of use of plant protection products by 30 %

- Aid for the renunciation of plant protection products
- Aid for the use of synthetic pheromones in viticulture and fruit-growing
- Premium for sustainable and environmentally-friendly agriculture – Viticulture
- Support for the conversion and maintenance of organic farming

- Aid to promote the conversion of arable land into permanent grassland
- Payments under the Water Framework Directive.

reduction of nutrient losses by 50 % without deterioration of soil fertility, reduction of fertiliser use by 20 %

- Aid for the setting up of non-productive areas
- Aid for the installation of non-productive strips
- Aid for the installation of catch crops and under-sowing on arable land
- Aid to promote manure incorporation
- Aid coupled to legumes
- Premium for sustainable and environmentally friendly agriculture
- Aid for manure injection and manure composting
- Support for the conversion and maintenance of organic farming
- Aid to promote the conversion of arable land into permanent grassland
- Payments under the Water Framework Directive
- GAEC 1
- GAEC 7
- GAEC 9
- SMR 2.

With all these measures, the national authority expects nutrient surpluses to be reduced without being able to quantify them.

25 % of UAA in organic farming

Support for the conversion and maintenance of organic farming

It should be stressed that, in addition to the measures mentioned above, several NSP interventions contribute to the achievement of major European strategies. Given that NSP interventions are accepted and implemented by the agricultural sector, an effective contribution from the Luxembourg agricultural sector may be described, which contributes to approaching the objectives of European strategies, in particular the European Green Deal, the Farm to Fork strategy and the Biodiversity Strategy for 2030. The NSP contributes to the following objectives of the three strategies:

A European Green Deal

- Strengthening the EU's climate ambition for 2030 and 2050;
- “from farm to fork”: designing a fair, healthy and environmentally-friendly food system;
- Preserving and restoring ecosystems and biodiversity;
- Zero pollution ambition for a toxic-free environment.

Sustainable mobility as well as industry and sustainable energy supply, which play an important role in the objectives of the Pact, are not part of the NSP interventions as these are addressed by other national policies.

From farm to Fork

- Ensuring sustainable food production,
- Ensuring food security,
- Promote sustainable practices in food processing, wholesale, hotel retail and restaurant services;

- Promote sustainable food consumption and facilitate the uptake of healthy and sustainable diets,
- Reduce food losses and food waste.

Luxembourg's national agricultural policy objectives are aligned with EU agricultural policy, including in the Farm to Fork strategy, which is reflected in a broad intersection between the objectives.

Biodiversity Strategy to 2030

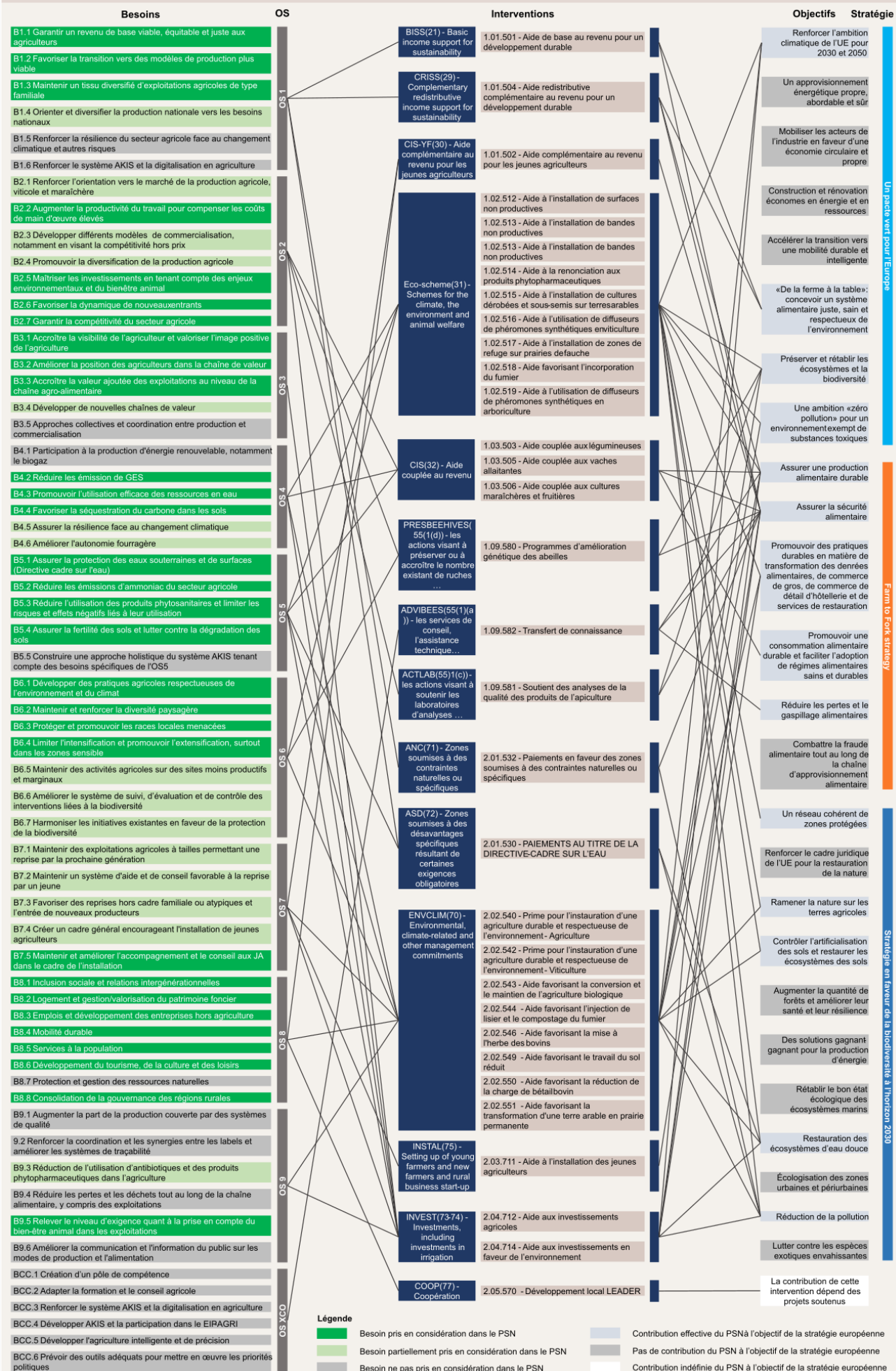
- A coherent network of protected areas,
- Bring nature back to agricultural land,
- Control land take and restore soil ecosystems,
- Restoration of freshwater ecosystems,
- Pollution reduction.

In the context of biodiversity conservation, the European strategy covers a wide territorial diversity across Europe. However, it should be noted that Luxembourg does not have maritime spaces and, due to the small size of the country, a differentiated territorial approach where certain measures are designed for territorial typologies is not necessary. This is why the NSP refers to a limited number of European objectives. However, for the intersections of the national targets with the European targets, the NSP contributes concretely to the achievement of the latter.

The contribution of LEADER projects cannot be described in advance. In the context of the bottom-up approach of LEADER regions, uncertainty about the projects carried out makes it difficult to draw conclusions on effectiveness and contribution to major European strategies. It should be noted that Luxembourg's local development strategies, structuring LEADER support for the programming periods, have historically set out current and relevant objectives. In addition, each local action group is requested to develop and describe in its strategy its contribution to major European strategies. This contribution is measured at strategy and NSP level by specific indicators under PO8.

The following analysis provides a summary of the NSP interventions and their effects in order to highlight the various relationships between inputs and results obtained. It should be noted that contributions are complex and only one intervention can support projects and measures that contribute to several strategies.

Contribution des interventions du PSN aux objectifs des grandes stratégies européennes



Légende

- Besoin pris en considération dans le PSN
- Besoin partiellement pris en considération dans le PSN
- Besoin ne pas pris en considération dans le PSN

- Contribution effective du PSN à l'objectif de la stratégie européenne
- Pas de contribution du PSN à l'objectif de la stratégie européenne
- Contribution indéfinie du PSN à l'objectif de la stratégie européenne

3 Consistency of the Strategy and complementarities

3.1 Overview of the environmental and climate architecture

3.1.1 A description of the overall contribution of conditionality to the specific environmental- and climate-related objectives set out in points (d), (e) and (f) of Article 6(1)

At the level of good agricultural and environmental condition, the following elements of cross-compliance can be mentioned:

Conditionality applies to all beneficiaries of first and second pillar aid. It thus applies to the entire agricultural area and is therefore an important tool for ensuring the requirements linked to compliance with the guidelines of the specific objectives (d), (e) and (f) of the CAP. Even if these requirements are only minimum standards to be met, the fact that these standards apply to the whole UAA is an important lever.

Cross-compliance has been strengthened in the 2023-2027 period as it integrates the 2014-2022 greening payment requirements. In the past, green payments only applied to one third of direct payments. With this CAP reform, all cross-compliance applies to all CAP area payments. In addition, these standards have been strengthened for the new period (see Section 3.1.3.). The effects on specific objectives (d), (e) and (f) are therefore reinforced.

The requirements of good agricultural and environmental condition are described in detail in Chapter 3.10.

GAEC 1: Maintenance of permanent grassland

Luxembourg has a high percentage of permanent grassland (52 % compared to UAA) which is a significant storage of CO₂. In recent years, this percentage shows an upward trend.

The soil organic matter of the roots even exceeds that of the soil surface. It should also be stressed that the shells are mown several times during the year, depending on their intensity. Grassland therefore addresses climate change issues (adaptation and mitigation) given the capacity of permanent grassland to store and capture carbon from the atmosphere.

Grassland also contributes to the prevention of soil erosion. Areas covered by grassland are not subject to this phenomenon, which degrades soil fertility.

Grassland also plays an important role in water protection. Given the permanent soil cover and growth until late in the year, the phenomenon of nitrogen leaching in the after-season, which is largely responsible for nitrates in the water, is minimal. Grassland is rarely subject to the application of plant protection products. Any area under grass therefore contributes to the reduction of plant protection products and thus to the reduction of their residues in water.

This also applies to the protection of biodiversity. In addition, grass areas offer more shelter to insects than arable crops.

The maintenance of grassland therefore has many positive aspects that significantly contribute to climate objectives, the environment and the protection of water and soil resources.

The authorisation system and applicable conditions have already been in place for several years, notably in the context of agri-environment-climate measures and have proven their worth.

GAEC 2: Minimum protection of wetlands and peatlands

The main objective of this standard is the “protection of carbon-rich soils”. Wetlands and peatlands represent an important carbon sink on the planet and preserving current levels of soil organic carbon could

be more effective than additional carbon sequestration.

The objective of this GAEC is to avoid degradation of areas identified as sensitive to further carbon depletion. The protection of these areas is therefore highly relevant in the context of climate mitigation and adaptation.

Wetlands and peatlands are also very valuable ecosystems in terms of biodiversity and contribute to habitat protection, especially for birds, but also for water quality and soil quality protection.

The designated areas are already protected as part of the protection of biotopes and habitats of national and Community interest. By prohibiting the destruction of these habitats, the protection of carbon-rich soils is ensured as much as habitats and biodiversity.

GAEC standards 2 therefore directly target the protection of habitats and biodiversity, which is an essential element of SO6, as well as the maintenance of a significant carbon stock to respond to climate protection.

GAEC 3: Ban on burning stubble

The objective of this standard is to contribute to the ‘maintenance of soil organic matter’, among other agricultural practices (soil cover, reduced or zero tillage, etc.). The ban on burning arable stubble encourages the incorporation of stubbles, which contributes to increasing the organic matter content of the soil and prevents the direct release of CO₂ into the atmosphere. Preventing further losses of soil organic matter has several advantages: it contributes to mitigating climate change and improves soil condition and fertility. Soil organic matter contributes to the control of erosion. The GAEC also helps to avoid an increase in air pollution.

Burning the stubble was not part of the cultivation practices in Luxembourg. The ban on burning chaumes only confirms a well-established practice for generations.

GAEC 4: Establishment of strips

The objective of this standard is the “Protection of watercourses against pollution and run-off” (objective e). The GAEC standard aims to contribute to the protection of rivers against pollution and run-off and prevents or limits eutrophication of waters. The establishment of buffer strips reduces river contamination and improves water quality. They therefore contribute to the achievement of good surface water quality and thus meet the objective of the Water Framework Directive.

Buffer strips are also beneficial for biodiversity. Depending on the vegetation cover, they constitute a habitat for flora and fauna. In view of all rivers and depending on the vegetation cover, this measure also contributes to the creation of ecological corridors, the interconnection of habitats and biotopes and thus ultimately to the development of biodiversity.

Planting the edges with plants of a certain size also provides a shading of the water to limit warming and thus eutrophication. This practice is therefore in favour of adapting to climate change.

Plant cover therefore plays an important role, and it is therefore appropriate to link this GAEC to interventions directing the cover of the strips.

Buffer strips with vegetation cover can also play a role in reducing the risk of erosion. However, it is important to steer the bands perpendicular to the levelling off.

This GAEC therefore contributes to SO objectives 4,5 and 6.

GAEC 5: Tillage management, reducing the risk of degradation and erosion while taking into account the slope

The objective of this standard is to minimise soil loss/depletion due to erosion by using the most soil friendly tillage management techniques and taking into account that slopes increase the risk of soil erosion. Preventing further soil loss contributes to maintaining the availability of good quality soils for agriculture.

The ban on winter ploughing on arable land in low and high erosion areas and the installation of anti-

erosive grasslands in high and medium erosion risk areas can effectively prevent erosion and leaching of nutrients and plant protection products. Soil erosion and leaching near a river is a potential hazard to water quality. Practices thus limiting run-off are also favourable practices for water quality.

The GAEC standards therefore contribute to the objective of protecting soil and water resources (SO objective 5).

GAEC 6: Minimum soil cover to avoid bare soils at the most sensitive periods

The objective of this standard is “to protect the soil in winter.” The green cover of the soils in winter is a protective screen against the beat of the land. It stabilises the soil structure through the root system, maintains the organic matter content and reduces nutrient leaching.

GAEC 7: Crop rotation in arable land

Crop rotation is based on the cultivation of a series of different types of plantations on the same parcel during sequential seasons. Following this rotation sequence avoids three major problems encountered in monoculture applied year by year:

- Loss of soil fertility: if the same crop is continuously exploited, the plant always drains the same nutrients in the soil. This leads to nutrient depletion and soil infertility.
- Pest infestations: many parasites specialise in a certain type of crop. By permanently planting the same crop, this provides them with favourable conditions for their development.
- Soil erosion: the repeated planting of the same crop makes the soils more susceptible to erosion. Each cultivated species has a specific root shape and specific needs, water supply, spacing between plants and canopy. During the growth of only one type of crop over prolonged periods, the soil starts to erode where plants leave it to be discovered and weakened.
- Crop diversification also contributes to the conservation of biological biodiversity on the one hand in terms of crops and, on the other hand, at the level of biological diversity, as different crops are accompanied by different plant associations.
- Where rotation also includes protein crops, it offers benefits for water protection by reducing mineral fertilisation. Moreover, the smaller the share of maize, the more favourable the rotation is from a water protection perspective.

GAEC 8: Minimum share of agricultural area devoted to non-productive areas. Conservation of landscape features. Ban on cutting hedges and trees during the bird breeding season. Measures to avoid invasive plant species

The standards in question address the protection of biodiversity and the conservation of landscape features, including the protection of birds and pollinators. They refer to the prohibitions and obligations already contained in the Law of 18 July 2018 on the protection of nature and natural resources.

The standards provide for the maintenance and protection of landscape structural elements and the creation of non-productive areas to improve biodiversity.

The Luxembourg authorities had chosen that 4 % of arable land should be devoted to non-productive features, including set-aside land. This decision could have had a considerable impact on the creation of non-productive features that are currently below 2 %. With the introduction of Regulation (EC) No 2024/1468, only surface ecoregions and non-productive strips will contribute to the realisation of structural elements. The creation of new elements of structures will significantly contribute to the creation of habitats and areas of refuge in order to develop biodiversity on arable land.

As regards the installation of non-productive bands, it should be noted that the obligations of GAEC 8 (non-productive bands), GAEC 4 (buffer strips) and GAEC 5 (antierosive bands) are complementary and allow, in addition to achieving the specific objectives of the respective standards, better interconnectivity of biotopes and improved ecological mesh size.

These significant constraints are accompanied by comparable measures on grasslands and pastures introduced by the intervention to establish sustainable and environmentally friendly agriculture, which is

intended to stimulate structural elements there.

Landscape features also offer a number of important environmental benefits for soil, water quality and climate change (in particular carbon sequestration and erosion), with a major role in the provision of ecosystem services such as pest control and erosion prevention. These elements will also provide wider connectivity corridors constituting part of 'green infrastructure' in agricultural areas.

GAEC 8 is thus mainly directed towards SO 6.

GAEC 9: Ban on processing or ploughing permanent grassland designated as environmentally sensitive grassland in Natura 2000 sites

The main objective of the standard is the 'protection of habitats and species'. The preservation of permanent grassland in Natura 2000 sites established under Directives 92/43/EEC and 2009/147/EC, by prohibiting their ploughing or conversion, contributes to the protection of valuable habitats and species, including nesting and breeding sites of bird species.

The ban on ploughing generally protects all meadows and pastures within a Natura 2000 area.

These meadows also contribute to carbon sequestration given the mass of significant organic matter stored in the roots of the plants.

Meadows and pastures are crops characterised by negligible nitrate leaching, which leaves the meadows well suited for water protection.

The erosion effect is not present on grassland, thus contributing to soil preservation.

GAEC 9 thus complies with the guidelines of SO 5 and 6.

Under the MAEC measure, the measures to protect permanent grassland and pasture are extended to promote sustainable and environmentally friendly agriculture (see the intervention sheet concerned).

In addition to Good Agricultural and Environmental Conditions (GAEC), cross-compliance incorporates compliance with sectoral rules by each beneficiary of CAP aid. Under objectives (e) and (f) several regulatory requirements are addressed.

- SMRs 1 and 2 relating to compliance with the minimum conditions for the protection of water resources and their regulatory obligations under the Water Framework Directive and the Nitrates Directive;
- SMRs 3 and 4 on compliance by farmers benefiting from the CAP with measures to protect wild bird habitats on the one hand, and natural habitats and species in Natura 2000 sites on the other, which provide support for measures to protect endangered or at-risk species;
- SMR 7 and SMR 8 on the reduction of environmental and health risk factors related to the use of synthetic inputs and compliance with restrictions and prohibitions on the use of plant protection products in relation to the application of the Water Framework Directive and Natura 2000 regulations.

3.1.2 Overview of the complementarity between the relevant baseline conditions, as referred to in Article 31(5) and Article 70(3), conditionality and the different interventions addressing environment and climate-related objectives

The Strategic Plan is an important tool for the implementation of the CAP objectives, but also to support the implementation of numerous action plans, programmes and strategies at national level, including:

1. The integrated National Energy and Climate Plan
2. The national plan to reduce emissions of air pollutants
3. The national air quality programme
4. The national plan for nature protection
5. The national Biodiversity Strategy

- 6.The national action plan for pollinators
- 7.The 3th management plan for parts of the Rhine and Meuse international river basin districts located on Luxembourg territory
- 8.The national antibiotic plan
- 9.The renewable Energy Action Plan
- 10.The organic farming action plan
- 11.The action plan for plant protection products.

The NSP tools are thus based on 4 main pillars complemented by national actions and measures with complementary effects:

- 1.Conditionalitiy
- 2.Eco-schemes
- 3.Agri-environmental measures (co-financing and state aid)
- 4.Aid for agricultural investment.

Enhanced conditionality must be respected by any beneficiary of area-related aid. These rules therefore apply to the entire agricultural area of the country (see section 3.1.1. of the NSP). They are the minimum basis on which NSP interventions and national measures are based. None of these interventions or measures remunerate conditions to be met ex officio under the enhanced conditionality described in the NSP.

In general, the links between cross-compliance and environmental commitments at intervention level are described in Title 5 at measure level. This section only sets out all commitments, their effects and relationship with the objectives of the NSP.

Eco-schemes are annual measures that farmers are more or less forced to implement if they want to maintain their income at the current level. The managing authority therefore considers these measures to be more stringent than the environmental and climate commitments referred to in Article 70 of Regulation (EC) No 2021/2115. Eco-schemes can also be renewed annually and thus provide more flexibility for the farmer. The managing authority therefore considers that these measures will be more demanding than agri-environmental measures, which are voluntary and governed by contracts with a duration of at least 5 years.

As regards investment measures, the managing authority is of the opinion that the commitments linked to these measures must have a long-term vision as investments persist over time and require long-term amortisation. The multiplier effect of these measures is more limited due to the reduced commitment of farmers to investment projects. On the other hand, depending on the projects and specific objectives, the impact of investments may be considerable, as they may apply, where appropriate, to the entire herd.

(A) Climate change mitigation and adaptation

The conditionality taken over from the NSP includes a set of GHG reduction obligations, including carbon sequestration:

- 1.Maintenance of permanent grassland at national level: a new reference for the year 2018 is introduced to consolidate the new permanent grassland created since 2015. Indeed, the permanent grassland rate has been increasing in recent years. The new reference makes it possible to consolidate the newly created permanent grassland.
- 2.Protection of wetlands (especially meadows and peatlands).
- 3.Prohibition of turning permanent grassland into sensitive areas (Natura 2000).

4. Crop rotation/diversification in arable land.

5. Introduction of a minimum rate of non-productive areas: Luxembourg has chosen to provide for a minimum rate of 4 % of non-productive areas on arable land.

Cross-compliance therefore focuses on soil carbon sequestration by ensuring the maintenance of permanent grassland and other practices favourable for sequestration.

Planned interventions mainly address GHG reduction and carbon sequestration needs and go far beyond the elements of conditionality to address the challenges posed by climate change.

The origin of the majority of GHGs from agriculture is to be found in bovine production through enteric methane production. The most important lever is therefore to control livestock.

Maintaining a moderate grazing livestock load makes it possible to align beef production systems more closely with environmental objectives and is an important lever for greenhouse gas emissions.

Thus, the aid **for the introduction of sustainable and environmentally friendly agriculture** has been adapted to these prerogatives and the eligibility condition for the maximum livestock load has been reduced from 2 to 1,8 LU/ha. It should be noted that this intervention has in the past covered more than 80 % of the total UAA (rate of participation **in the countryside and countryside maintenance premium**) and the vast majority of agricultural holdings participate in it.

At the same time, the managing authority is proposing support for the **reduction of livestock load**, a new intervention with the objective of nominally reducing the number of cattle present on the farm and thus reducing methane emissions, which have a high greenhouse gas potential.

In addition, the introduction of aid **for the maintenance of a low livestock load** (state aid) may encourage a reduction in the livestock load, or at least the maintenance of the small cattle herd present on the holding, and contributes to improving the feed autonomy of the holding. Intervention imposes limitations on grazing livestock per hectare of forage area: it must not be more than 1,4 LSU/ha of forage area or less than 0,5 LSU/ha. In addition, it may not increase in relation to the initial cost of the operation before the entry into force of the contract.

In addition to area-related measures, the government plans, at the level of **agricultural investment aid**, to limit public financial support to holdings to an eligible investment ceiling varying according to the AWU determined for the holding and limited to a maximum of EUR 2 million. Any overshooting of production capacity of 5 AWU will no longer be supported by investment aid.

In addition to the aid schemes, the Luxembourg Government provides for the introduction of an authorisation system for any increase in livestock load. Thus, the preliminary draft agrarian law provides for an authorisation for:

1. The increase in the livestock of an agricultural holding, where the average of the number of annual work units relating to animal production on the holding in the years 2020, 2021 and 2022 is more than two;

2. The establishment of an agricultural holding, where the intended livestock holding corresponds to more than two annual work units relating to animal production on the holding.

The permit may be refused if the national ammonia emission reduction commitments are not met.

No authorisation shall be granted where the number of annual work units relating to the animal production of the holding exceeds five or where the operation has the effect of increasing the number of annual work units relating to the animal production of the holding to more than five.

Maintaining a low livestock load avoids creating additional emissions. Reducing livestock or avoiding an increase in livestock overall contributes to a reduction in greenhouse gas emissions. Luxembourg has to report an annual abandonment of the number of holdings of around 2 %.

Organic farming does not use synthetic fertilisers but uses organic fertilisers more. As mineral fertilisers are highly energy-intensive, organic farming, which does not use these fertilisers, has a positive effect on GHG emissions. The use of organic fertilisers and extended rotation in organic farming further promotes the creation of organic matter and thus the sequestration of carbon in the soil, which also increases the soil's water retention capacity. This effect also makes crops more resilient to drought and increases soil

fertility.

Luxembourg has set a national target of 25 % of UAA under organic production.

Other agri-environmental measures also contribute to a reduction in GHG emissions such as the **reduction of mineral nitrogen fertilisation** leading to a reduction of N₂O emissions. The same applies to **low-tillage measures that** save fuel.

Support for the conversion of arable land into grassland directly promotes carbon sequestration and also feed autonomy.

Aid for crop diversification on arable land (state aid) covers, inter alia, the introduction of legumes in rotation. As leguminous cultivation is capable of fixing nitrogen in the roots, the next crop requires reduced nitrogen inputs, which again contributes to GHG reduction. This support has been adapted to make temporary grassland that play an important role in carbon sequestration and water protection measures eligible as well.

The managing authority also expects considerable efforts to improve forage autonomy. A more grass and forage system of beef production improves the feed autonomy of farms and helps to reduce the distribution of concentrated feed. Grass fodder crops also allow for an increase in carbon sequestration. At the same time, reducing imports of concentrated food generally also leads to GHG reductions by avoiding transport.

However, reduction targets are so important that it is planned to support the use of **food additives** to reduce methane formation during enteric fermentation of feedingstuffs by ruminants. Methane formation can be inhibited by these food additives. However, this method is not yet put into practice, but experiments are increasing and their use can be foreseen in the medium term.

Direct sowing or reduced tillage has a direct effect on fuel consumption, which is indeed reduced compared to ploughing. A reduction in CO₂ emissions can be reported. Semi-direct or reduced tillage techniques contribute to the improvement of soil structure at least in the surface layer. The sequestration of CO₂ in the soil is promoted and water retention increases and water evaporation decreases.

At the level of eco-schemes, several interventions will complement agri-environmental measures: **the installation of non-productive surfaces and strips, with a ban** on fertilisation on these surfaces, results in a reduction in the formation of nitrous oxide (one of the GHGs). The vegetation that settles on these areas ultimately allows carbon sequestration

Aid for the installation of catch crops and under-sowing on arable land shall contribute to the fixing of the remaining fertilisation. The green cover that protects the soil during the winter is an organic fertiliser stock for the next crop. This must be taken into account when determining fertilisation for the following crop, thus reducing the additional nitrogen inputs again.

(B) Fostering sustainable development and efficient management of natural resources such as water, soil and air

Water protection.

At the level of cross-compliance, several references have a direct influence on natural resources (see section 3.10).

1. GAEC 1: Maintenance of permanent grassland

2. GAEC 4: Establishment of strips

3. GAEC 5: Tillage management, reducing the risk of degradation and erosion while taking into account the slope

4. GAEC 6: Minimum soil cover to avoid bare soils at the most sensitive periods

5. GAEC 7: Crop rotation in arable land

6. GAEC 8: Minimum share of agricultural area devoted to non-productive areas.

7.GAEC 9: Ban on processing or ploughing permanent grassland designated as environmentally sensitive grassland in Natura 2000 sites

It should be noted that cross-compliance has been strengthened on several points compared with the previous period (see Section 3.1.3).

1.Cross-compliance also includes sectoral minimum regulatory requirements (SMRs): SMRs 1 and 2 relating to compliance with the minimum conditions for the protection of water resources and their regulatory obligations under the Water Framework Directive and the Nitrates Directive;

2.SMRs 7 and 8 relating to the reduction of environmental and health risk factors related to the use of synthetic inputs and compliance with restrictions and prohibitions on the use of plant protection products in connection with the application of the Water Framework Directive and Natura 2000 regulations.

These minimum standards focus on reducing nitrate leaching and the use of PPPs to limit diffuse water pollution.

The ecological schemes provided for in Article 35 (5) remain compatible with minimum standards and cross-compliance. They were drawn up with the aim of providing only for commitments that go beyond the basic conditions. The details of the compatibility are described at the level of the interventions.

Environmental and climate commitments (Article 70) remain compatible with minimum standards and conditionality. Details are described at intervention level.

The entire territory of Luxembourg is classified as a sensitive area from the point of view of water status. 55 % of surface water bodies exceed the standards for good water quality from a nitrate point of view (25 mg/l) and nitrites (50 µg/l). For groundwater bodies, there is a risk of non-achievement of good chemical status due to the presence of nitrates and metabolites of plant protection substances for 4 out of 6 groundwater bodies in Luxembourg.

Specific protection measures are thus put in place. The Water Management Administration is in the process of determining specific protection zones for drinking water protection. The formal identification of these areas will allow for the definition of the targeted commitments applicable to these areas. These include restrictions on smoking and the application of plant protection products. Once the areas have been officially determined, the intervention for payments under the Water Framework Directive may compensate for the restrictions in place in the protection zones.

The national management plan for the part of the Rhine and Meuse river network located in Luxembourg identified, inter alia, the risks of diffuse pollution by nitrates and plant protection products. For example, broad spectrum interventions have been developed, applicable at national level, also aimed at reducing fertilisation:

1.Aid for the **reduction of nitrogen fertilisation** (state aid)

2.Aid for the installation of **non-productive strips and areas** (ecological scheme), with prohibition of fertilisation or application of PPP products.

3.Aid for the installation of **catch crops and under-sowing on arable land** (ecological scheme)

Water quality is also determined by the presence of plant protection products (PPPs) and its decomposition residues. The following interventions shall be implemented to limit the application of plant protection products:

1.Aid for the **renunciation of plant protection products** with 7 available options for products of all categories.

2.Aid for the **use of synthetic pheromones** in viticulture and arboriculture.

3.Support for **conversion to and maintenance of organic farming**.

4.All measures having a favourable impact on temporary and permanent grassland, including intervention for fertilisation or application of PPP products.

These interventions aim to reduce PPPs either through the complete abandonment of a product group or accompanied by alternative techniques (organic farming, pheromone diffuser, mechanical control). After the successful introduction of pheromone broadcasters in viticulture, sexual confusion by pheromone is extended in the NSP to fruiticulture and is expected to replace insecticides.

Banning the use of synthetic PPPs **inorganic farming** could make a significant contribution to the reduction of these products, especially if this intervention is linked to the ambitious target of 20 % of UAA organic in 2025, fully in line with the European Commission's strategy.

These interventions are also programmed under the first pillar as an ecological scheme to encourage wider participation in these interventions. They contribute to the implementation of the action plan for the reduction of plant protection products, which aims, inter alia, at reducing the use of 50 % of plant protection products until 2030 and reducing by 30 % 'big movers' (the most hazardous or most used plant protection products) until 2025.

The **premium for sustainable and environmentally-friendly agriculture aims, inter alia**, to limit the livestock burden and promote the implementation of key elements for sustainable agriculture that respects natural resources (water, soil, air, climate, biodiversity). This measure offers a broad spectrum of commitments, but also ensures a wide participation by farmers. The intervention aims at sustainable protection and environmental awareness. It directs farmers towards agri-environmental measures. Limiting livestock load should thus contribute to limiting greenhouse gas and ammonia emissions and limiting diffuse nitrate pollution due to better manure management.

This measure has been adapted for the 2022-2027 programming period by reducing the expected maximum livestock load from 2 to 1,8 LU/ha UAA and by a particular monitoring of maize cultivation which may pose a risk to diffuse water pollution by nitrates. Aid beneficiaries are now required to comply with a certain maximum reference level of nitrogen balances after the maize harvest.

The new interventions for the **reduction of livestock load** and the **maintenance of a reduced livestock load** (national aid) also contribute to the protection of water with the planned reduction in manure, which may pose problems in the event of an excess of land available for land application. At the same time, a nominal reduction in cattle will lead to a reduction in GHG emissions.

At the level of **agricultural investment aid**, the Luxembourg authorities provided for an additional support rate for investments particularly conducive to water protection:

1. Leak detection systems in slurry and slurry tanks, silos and storage areas with reservoir;
2. The construction of a washing area for sprayers of plant protection products with water collection device;
3. High precision slurry spreading equipment;
4. The construction of a sealed manure storage area with juice recovery;
5. Physical weed control equipment

Alongside this offer of measures aimed at reducing the inputs involved in water pollution, there is a catalogue of **advisory modules** (state aid) aimed at protecting waters: preparation of smoking plans, conversion to organic farming, arable farming, energy balance and nutrient balance. These modules are supported by state aid and transmitted by a network of approved farm advisors.

In the water protection zones there is also a **network of facilitators from** the Ministry of the Environment who are responsible for raising awareness among stakeholders of the advisory modules and the promotion of measures proposed by the NSP and other State aid.

It is planned to develop, jointly with the Ministry of the Environment, a monitoring system which should

make it possible to determine the impact of the various measures on water quality and, where appropriate, to provide the necessary information to better target the interventions in order to achieve the expected results.

Farm advisers and facilitators in the protection zones are all available to farmers to analyse the situation of the farm and to propose the most appropriate interventions to their situation.

In the case of financial support for large-scale agricultural investment projects, a holistic advice is needed which should analyse the situation of the project from an economic, environmental and social point of view.

Protection of soils

From the point of view of soil protection, the good agricultural and environmental condition proposes concrete actions such as maintaining permanent grassland, banning grassland turning to areas at risk and during sensitive periods, installing anti-ero-grass strips, green cover of ploughing land during winter. The national authorities define a map specifying the areas at risk (see 3.10 and 3.1.1).

The objective of **GAEC 5** is to minimise soil loss/depletion due to erosion using the most respectful tillage management techniques.

It should also be noted that soil erosion and leaching near a river is a potential danger to water quality. Practices thus limiting run-off are also favourable practices for water quality.

The preservation of soil potential is ensured through the implementation of **GAEC 6** by replacing the requirement of crop diversification with the requirement of basic crop rotation.

From the point of view **of soil protection**, multiple interventions are proposed to contribute to this objective:

1. All measures to reduce PPPs (see above) also have a positive impact on soil fauna and flora and thus contribute to maintaining soil fertility
2. Intervention that promotes soil organic matter shall also support soil fertility and erosion control. The following co-financed interventions should be highlighted in this context: Direct sowing or reduced tillage, aid for the installation of catch crops and under-sowing on arable land.

The premium for the installation of sustainable agriculture also includes good practices to ensure soil fertility above GAEC standards: obligation of a smoking plan and regular soil analysis, more or less homogeneous distribution of organic fertilisation on all farm surfaces.

Organic farming is expected to ensure better soil fertility and more efficient management in this respect.

Protection of air quality

Ammonia emissions from livestock are the main air pollutants in the agricultural sector.

GAEC do not provide a legal basis for air protection.

On the other hand, the NSP proposes various measures to reduce these emissions. Intervention aimed at the application of liquid manure using **spreading techniques near the soils** significantly reduces the evaporation of ammonia. These techniques can be applied to arable land and grassland. A new measure is planned at ecological regime level which also provides for **the incorporation of manure within 4 hours of spreading** and therefore also contributes to the reduction of ammonia emissions. **The main purpose of grazing cattle** (state aid) is animal welfare. However, grazing of the animals leads to the separation of liquid and solid manure, which will contribute to limiting the formation of ammonia.

In terms of **support for agricultural investments**, it is planned to raise farmers' awareness of the

integration of techniques that also limit ammonia emissions such as covering external tanks, separation of liquid and solid phases of manure. The indoor and outdoor space of livestock buildings must be adapted to limit the mixing of excrements by rapid removal of urine and regular scraping of the excavations.

This technique makes it possible to limit the formation of ammonia by avoiding contact between urease and the nitrogen elements responsible for the formation of ammonia.

Openings to an underlying slurry tank of livestock buildings shall be reduced by means of sealing valves or by means of a slatted carpet designed to reduce the number of slatted slots, thereby limiting evaporations. The interior space of new buildings must be equipped with thermal insulation of the roof or a green roof to limit an increase in temperatures and ultimately ammonia evaporations.

The national component of agricultural investment aid (machinery) also provides support for techniques for spreading manure injection into the soil, which significantly limits ammonia evaporations.

Eligible investment shall be planned in coordination with advice aimed at reducing greenhouse gas emissions, responsible water use and animal welfare. It should be noted that the measure also provides for support for investments in rainwater retention and water protection in general (see above).

At the level of the ammonia reduction target, the **farm council** (national aid) also provides for a specific module which may take account of advice on the constitution of food rations or the reduction of the age of first calving which also contribute to a reduction in emissions.

However, alongside these measures, the NSP also proposes a series of measures to reduce the livestock responsible for emissions (see point A) above).

(C) contribute to halting the loss of biodiversity

GAEC 1 on the maintenance of permanent grassland refers to the date of 2018 as a reference for the calculation of the ratio of areas under permanent grassland to the total agricultural area and has more restrictive conditions for all beneficiaries.

The new **BCAE2** on minimum protection of wetlands and peatlands provides for a ban on the destruction of targeted habitats, thereby ensuring the protection of carbon-rich soils, habitats and biodiversity. It should be noted that this standard incorporates provisions already introduced at national level for several years.

The width of the bands provided for the protection of watercourses has been extended in **BCAE4**. Thus, the establishment of buffer strips reduces river contamination and is also beneficial for biodiversity as a habitat for flora and fauna. The GAEC thus contributes to the creation of ecological corridors and the interconnection of habitats and biotopes.

A particular aspect to be raised on behalf of biodiversity is compliance at the level of cross-compliance with the minimum 4 % of structural elements on arable areas per farm (BCAE8). BCAE8 also provides for a ban on cutting hedges and trees during the bird breeding season and measures to avoid invasive plant species. BCAE9 also strengthens the protection status of environmentally sensitive permanent grassland in protected areas of national interest. (Natura 2000 areas):

It should be noted that the obligations of BCAE8 (non-productive strips), BCAE4 (buffer strips) and BCAE5 (anti-erosive strips) are complementary and enable better interconnectivity of biotopes and improved ecological mesh size.

It should also be noted that cross-compliance includes compliance with the minimum regulatory requirements for the conservation of wild birds and natural habitats and wild fauna and flora (EMRG 3 and 4).

In terms of favourable ecological regimes for biodiversity protection, it is important to note the new intervention for the creation of shelters in hay meadows and support for non-productive areas and strips. Other ecological schemes also have a significant impact on biodiversity, including:

- Premium for the use of synthetic pheromone broadcasters by: (a) arboriculture and (b) viticulture
- Premium for installation of catch crops and under-sowing on arable land (catch crops with melliferous cover contribute to the protection of biodiversity and improve ecosystem services)
- Renunciation premium for plant protection products

At the AECM level, the premium for sustainable and environmentally-friendly agriculture/winegrowing is a soft measure but favours sustainable farming practices that contribute to maintaining habitats. The measure aims to promote integrated production and, in particular, to reduce impacts on water, the environment, climate and biodiversity. The measure includes an addition to BCAE8 by introducing an option to create structural elements on permanent grassland.

Other CEAM and state aid measures may also have an effect on biodiversity protection even if they are less perceptible. This concerns aid for the maintenance and conversion to organic farming, aid for the reduction of nitrogen fertilisation, aid for diversification of rotations or grazing of cattle.

It is true that the bee sector programme also has a positive impact on pollinators.

The main tools for biodiversity-friendly management, however, are support schemes to safeguard biodiversity in rural areas (state aid), which offer dedicated and targeted tools, including diversified extensification measures for habitat creation and maintenance:

1. Hot premises with very limited exploitation
2. Topped and pastured grassland with a very limited holding
3. Graved grassland with a very limited holding
4. Extensive pasture throughout the year
5. Catering of lean meadows with extensive farming
6. Conservation of flower meadows
7. Moving pasture with kept sheep (and goats)
8. Creation of structural elements: Cairns, dry walls, dead hedges.
9. Management of traditional high-stem orchards

A summary table annexed to the NWP shows the compatibilities between the different measures.

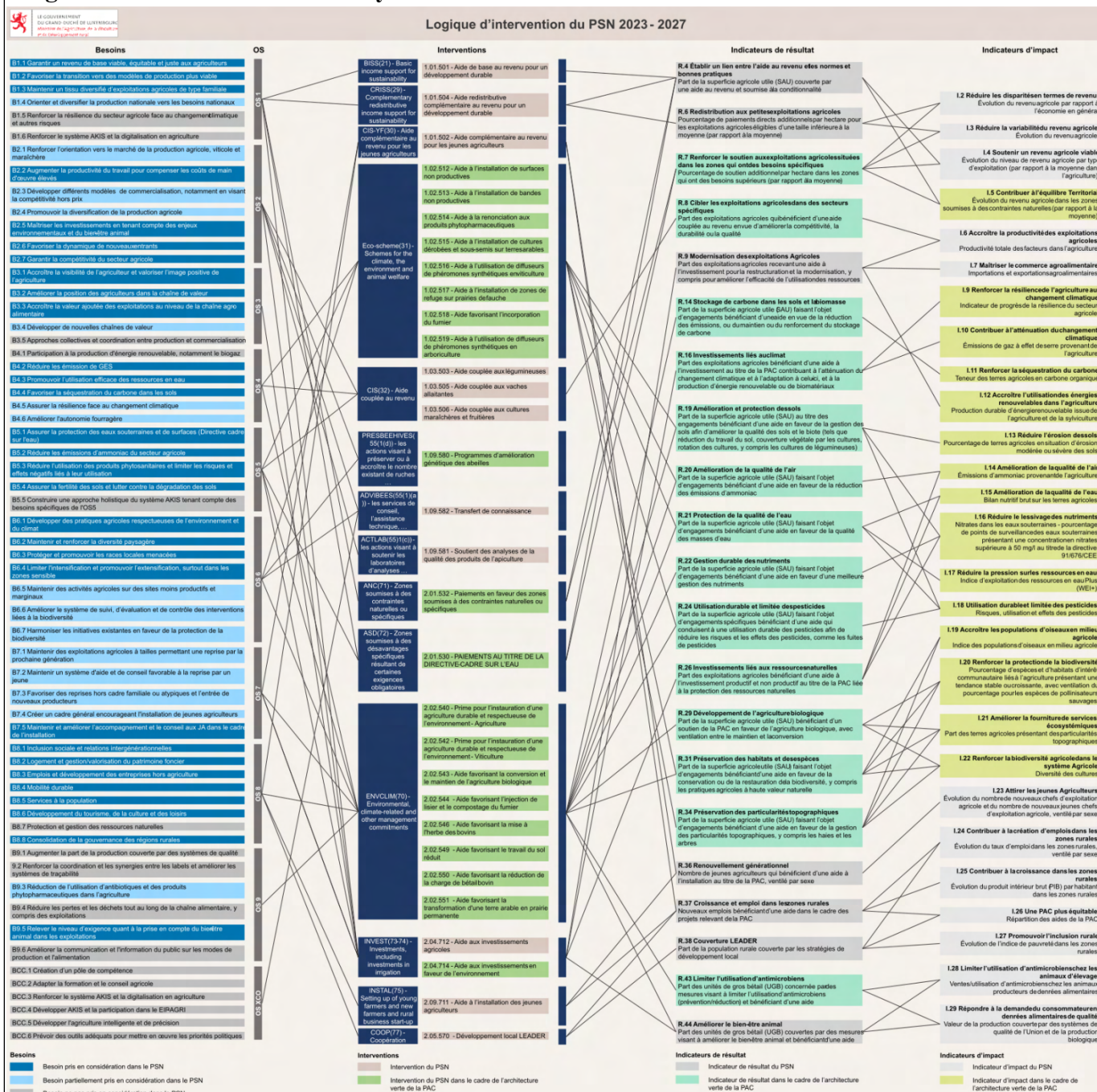
The relationship between cross-compliance and the requirements of each measure, eco-scheme or AECM is described for each measure in detail at the level of the description of the measures.

The NSP intervention logic is complex. The various objectives of the common agricultural policy are addressed by the various interventions. To provide an overview for the reader and to illustrate the impact relationships graphically, a contribution analysis has been created, providing an overview of needs, their relationship with interventions, result indicators to assess the progress of the measures and impact indicators, which provide information on the effectiveness of the NSP.

The interventions and indicators of the 'green' typology and consequently implementing the green architecture of the CAP have been marked in green in the diagram below. This NSP architecture reflects European and national objectives to achieve environmental and climate-related objectives.

It should be noted that the vast majority of the measures developed contribute to a green objective, namely climate change mitigation, climate change adaptation or environmental protection. Efforts are assessed by 16 result indicators and 15 impact indicators of 'green' typology. Given the large number of these measures and indicators, the NSP actively contributes to the implementation of the green architecture of the CAP.

Diagram: NWP contribution analysis



Sources: MAVDR, 2023

3.1.3 Explanation on how to achieve the greater overall contribution set out in Article 105

Compared to the 2014-2022 programming period, Luxembourg's National Strategic Plan strengthened the ambition of environmental and climate commitments from several perspectives:

Conditionality is strengthened at several levels:

o At the level of GAEC 1, the reference period for calculating the ratio of areas under permanent grassland to the total agricultural area is now advanced to 2018. The rate of permanent grassland has increased between time and the new reference is now higher. The efforts made in the previous period are therefore consolidated.

While in the period 2014-2020 the ratio for the maintenance of permanent grassland was a minimum limit not to be crossed, applied throughout the country, the baseline defined at the level of this NWP provides

that conversions of authorised permanent grassland are now supervised on an individual and precise basis. Areas of permanent pasture may not be converted without prior individual authorisation and under conditions that were part of a MAEC (PEPEN) in the previous period. Thus, these more restrictive conditions are applicable to all beneficiaries.

o GAEC 2 is newly introduced as a CAP standard: however, this standard merely takes over provisions that have already been introduced at national level for several years.

o GAEC 4: Establishment of protective strips: the width of the strips for river protection has been extended from 3 to 10 metres.

o GAEC 5: The definition of erosion zones is based on a new, more precise and specific approach. Erosion zones are established precisely by a map determined on the basis of scientific criteria linked to erosion risks. The sensitivity to soil erosion and a topographical factor are taken into account at the level of permanent grassland. On arable land, account is also taken of erosion events detected in aerial photos over the last 10 years (2010-2020) and the impact of intense rainfall events. Depending on the frequency of detection of erosion ridges and their size, parcels are classified in five different erosion classes (high, medium, low, very low, safe).

The standard has been reinforced by a new obligation: In areas at high and medium erosion risk, the installation of anti-erosion grass strips in relation to run-off axes is mandatory, except in the case of temporary grassland. Grass strips must have a minimum width of 3 metres.

o GAEC 6: Minimum soil cover to avoid bare soils at the most sensitive periods: On arable land in low, medium and high erosion areas of the entire holding at least crop and shoot residues must remain in place between 15 October and¹ January

It is complemented by an additional obligation on arable land set aside, where the farmer must create plant cover by 31 May of the first year of set-aside.

o GAEC 7: Crop rotation in arable land: The greening conditions for the 2014-2020 period, which foresaw simple crop diversification, were also reinforced by a multi-year rotation. Thus, the following additional conditions must be met from 2023:

(1) Each year, the farmer ensures that there is a change of crop on a reasonable share of his arable land, e.g. on 40 % of arable land (instead of 100 %). In order to rule out the possibility that this flexibility leaves certain monoculture areas as an additional guarantee, provision is made for:

- After 3 years, all arable land parcels are supposed to be rotated or, in other words, there must always be a main crop change after 3 years (e.g. 1 plot: maize, maize, maize => change).
- secondary or intermediate crops can be used to ensure minimum annual rotation (1 parcel: maize + intermediate crop, maize + intermediate crop, maize + intermediate crop...

‘Culture’ means a culture of one of the different genera defined in the botanical classification of crops. This definition is stricter than in the previous period, or winter crops and spring crops were considered as separate crops, even if they belong to the same genus.

(2) The following operations shall be exempted from the requirement of this Standard:

(a) holdings where more than 75 % of the arable land is used for the production of grasses or other herbaceous forage, is land lying fallow, is used for the cultivation of legumes or is subject to a combination of those uses;

(b) holdings where more than 75 % of the eligible agricultural area is permanent grassland, is used for the production of grasses or other herbaceous forage or for crops under water for a significant part of the crop year or cycle, or is subject to a combination of those uses; or

(C) holdings with an arable land area not exceeding 10 hectares.

o GAEC 8: Minimum share of agricultural area devoted to non-productive areas or features. This standard originated in the Greening. It was taken up at the level of the GAEC of this NSP with significantly reinforced commitments which are therefore no longer compensated: the rate of 4 % of non-productive features is limited to these areas *stricto sensu* (**cancellation of the 4 % standard for the crop year 2024**). Catch crops and areas with nitrogen-fixing crops shall no longer be taken into account. Coefficients applicable to certain elements to determine their area to be taken into account are set more restrictively.

Measures to avoid invasive plant species: The intervention threshold for the control of cardoon has been increased from 1 are to 2.5 ares in order to comply with the pollinator plan.

oGAEC 9: Ban on processing or ploughing permanent grassland designated as environmentally sensitive grassland in Natura 2000 sites: the protection of sensitive grassland is now transferred from a AECM to the baseline and must therefore be respected throughout the country. The area of sensitive grassland in sensitive areas is also increased from 3 207 ha to 6 713 ha. It's more than a doubling!

Thenewly introduced eco-schemes in the first pillar represent an additional challenge for farmers. They account for a value of 25 % of aid under the first pillar and thus an amount of more than 8 million. EUR/year. This corresponds roughly to that of the Greening that farmers could receive by complying with certain criteria on rotation, maintenance of permanent grassland, and the presence of a minimum percentage of ecological areas. All these elements are now integrated into the improved Good Agricultural and Environmental Practices (GAEC) of the new programming period and must therefore be complied with without any exchange of money. This reform in itself is already a drastic increase in ambition. In order to maintain the same level of income, the farmer is obliged to undertake additional environmental commitments notwithstanding market conditions.

Ultimately, under the new programming period, farmers see their income support under the 1st pillar of the previous period (basic payment and Greening), which is essential income support, reduced by 25 % of their value, which they are forced to demand by implementing targeted ecological schemes for the environment, biodiversity and natural resources such as water, soil, air and climate.

In conclusion, Pillar I measures offer additional actions for environmental, natural resources, biodiversity and climate objectives with an estimated value of more than 40 million. EUR 000 000 over the entire programming period.

These measures aim, *inter alia*, at the creation of habitats for insects and for the benefit of all biodiversity through the installation of non-productive strips at field level and along water courses. These strips also have beneficial effects on water quality as they significantly reduce diffuse pollution by reducing the run-off of nutrients and residues of plant protection products into water courses. Depending on the plant composition of the strips, they can be shading zones for animals and waters and thus represent tools for both climate change adaptation and water protection.

Entire non-productive areas (fallow land) but under plant cover may also be built up under this scheme, thus providing habitats for biodiversity while ensuring fertility and soil protection.

All these non-productive features contribute to the ecological grid of the different protection and

ecological focus areas in response to the National Plan of Action for the Conservation of pollinating insects and the EU Biodiversity Strategy. The farm council (state aid scheme) plays an important role in ensuring that non-productive strips and areas are installed at the most suitable places and the crop composition of these areas with an appropriate ecological value.

Specific measures are designed as ecological schemes to encourage farmers and winegrowers to abandon applications of plant protection products (PPPs) in line with the national action plan which aims to reduce plant protection products by 30 %. A similar measure existed as an agri-environmental measure during the period 2014-2022. However, the areas under these commitments were limited. In order to further stimulate its implementation, the measure has been adapted and proposed as an ecological scheme. In 2025, measure 541 is complemented by an option on voluntary renunciation of Glyphosa. These interventions benefit both biodiversity and water quality.

Support for the installation of catch crops and undersowing has also been included in this NSP as an eco-scheme with the aim of implementing this practice on even larger areas than in the past. These practices are beneficial for water quality and, depending on the composition of sown mixtures, they can also be beneficial for pollinators.

Ammonia emissions

In this NWP and at national level, the Managing Authority proposes several measures to further reduce ammonia emissions. A new ecological regime is proposed to stimulate the rapid incorporation of manure, at the latest after 4 hours after its application in order to minimise ammonia emissions. This contributes to better air quality and responds to efficient nutrient and manure management, as immediate incorporation also promotes the availability of nitrogen. It should be noted that the managing authorities proclaimed a ban on the spreading of slurry by nozzle from 1 January 2024. The new standard will therefore be applied by means of rigged pipes. The NSP continues to stimulate slurry injection techniques into the soil that represent the best results in reducing ammonia emissions. At the same time, the authorities are offering financial support at national level to finance the purchase of new manure injection techniques. To highlight also all measures aimed at reducing livestock, which also have a direct effect on ammonia emissions.

At the level of aid for agricultural investment, eligible projects, mainly livestock farms, must apply the best available techniques for reducing ammonia emissions. Agricultural investment aid will henceforth be limited to a maximum ceiling of 5 annual work units (AWU), determined on the basis of the livestock present on the holding.

The new NSP thus offers relevant improvements in ammonia reduction.

Greenhouse gas emissions

The origin of the majority of GHGs from agriculture is linked to bovine production through enteric methane production. The most important lever is therefore to control livestock. Maintaining a moderate grazing livestock load makes it possible to align beef production systems more closely with environmental objectives and is an important lever for greenhouse gas emissions while contributing to forage autonomy.

Thus, the aid for the introduction of sustainable and environmentally friendly agriculture (former landscape and landscape maintenance premium) has been adapted to these prerogatives and the eligibility condition for the maximum livestock load has been reduced from 2 to 1,8 LSU/ha.

At the same time, the managing authority is proposing support for the reduction of livestock load, a new intervention with the objective of nominally reducing the number of cattle present on the farm and thus reducing methane emissions, which have a high greenhouse gas potential. An allowance shall be paid for any reduction in livestock units during the duration of a contract. This measure is accompanied by an intervention aimed at maintaining a low livestock load in order to prevent these holdings from developing their beef production more favourably.

These stringent measures therefore aim at reducing livestock with a view to reducing GHG emissions in order to achieve the objectives of the integrated national energy and climate plan.

These measures will be complemented in the future by an incentive to use natural additives in cattle feed rations in order to limit methane production during gastroenteric digestion. The measure is foreseen from 2025 onwards in the NECP plan)

Other measures contribute to GHG limitation such as nitrogen smoke reduction measures and new application techniques. The last set of measures, however, focuses on limiting ammonia emissions with the aim of improving air quality.

Carbon sequestration must also be linked to the reduction of greenhouse gases. Permanent or temporary grassland, through its capacity to store carbon in the soil through the organic matter of the roots formed, plays a crucial role. The new NSP also responds to this need by further stimulating permanent and temporary grassland. GAEC 1 has been strengthened to protect permanent grassland from overturning. The NSP proposes an enhanced measure to stimulate the transformation of arable land into permanent grassland. A national measure to promote crop diversification has also been adapted compared to the previous period in order to increase the attractiveness of temporary grassland that is now eligible for area aid.

Non-productive areas as well as national measures for the creation of structural elements (installation of hedges and tree rows, agroforestry) have beneficial effects for carbon sequestration. The new forestry programme (national aid) also proposes new measures for reforestation and maintenance of young peoples or farms of old stands favourable to sequestration.

Indicator I11 (increase in soil organic carbon) is expected to increase in response to the proposed measures.

Indicator I10 (greenhouse gases from agriculture) should indicate decreasing trends in view of the proposed measures related to the reduction and maintenance of livestock load.

Soil Erosion

The reinforcement of GAEC 5, the offer for the installation of non-productive areas, the support for reduced tillage and the eco-scheme for the installation of catch crops and undersowing are expected to have positive effects on the prevention of erosion. However, the effect of these measures will not be visible on indicator I13 (reduction of erosion) as these measures have already been well implemented in the previous programming period 2014-2022.

Protection of water

As regards water protection, a major priority of the NWP, the Luxembourg authorities have introduced several improvements:

- Several newly introduced measures for the reduction of the bovine herd, described above, also have consequences for the reduction of livestock manure which also contribute to the production of potentially leaching nitrates. While these measures are called for in regions known to have high cattle loads per hectare, they will have a positive impact on water protection.
- Limiting investment aid to farms of less than 5 AWU is above all a brake on the expansion of farms and reduces the risk of a high bovine burden in the future.
- The conversion of arable land into permanent grassland is an important tool for water protection areas to reduce diffuse water pollution by nitrates. This measure provides for improved financial incentives to achieve the expected impact of this tool.
- The new land application techniques, compulsory in 2024, promote better utilisation of livestock manure by reducing nitrate production and thus limiting the potential for pollution. The CULTAN fertilisation technique is newly integrated into the NSP and is now applied throughout

Luxembourg. It allows very precise management of nitrogen fertilisation and thus limits the risk of over-fertilisation.

- The intervention to support manure composting has been reworked to make it more accessible to farmers. It allows for better valorisation of manure on grass surfaces and reduces the potential for nitrate pollution.
- The premium for the introduction of sustainable and environmentally friendly agriculture introduces enhanced monitoring of nitrogen balances in maize cultivation often linked to nitrate leaching problems in the after-season. Enhanced monitoring provides more guidance for farm advice and farmers' awareness of efficient nitrogen management.
- Intervention to promote crop diversification (state aid) has been improved with a view to making fodder crops, in particular temporary grassland, eligible as well. This amendment encourages participation in this measure, which is once again an advantage for fodder production and thus for a crop that is more respectful of water quality (as regards nitrate and plant protection products). In addition, the development of temporary grassland has a positive effect on carbon storage, as grassland is a carbon sink.
- Other effective measures in the reduction of nitrates are maintained such as nitrogen smoke reduction measures, payments under the Water Framework Directive applicable in water protection zones, and support for the installation of catch and undersowing crops.

Luxembourg set itself an ambitious target in 2020 for the development of organic farming in Luxembourg: 20 % of UAA in 2025. In order to achieve this objective, the compensation for conversion and for the maintenance of organic farming was significantly increased in 2020. Certain national conditions related to organic production have been relaxed. Options have been introduced to also facilitate partial conversion. These adjustments are maintained in the new programming period.

Organic farming, with its development potential in Luxembourg, is an intervention that contributes to several CAP objectives such as the protection of water and soil resources and biodiversity.

Given the interventions at stake and the targets set, the managing authority expects a decrease in nutrient surpluses and in particular nitrogen (impact indicator I15). However, it is difficult to predict an assessment of the evolution of indicator I16, which is the percentage of groundwater stations with a nitrate concentration value above 50 mg/l. The logic is that this indicator should be downwards. However, given the very limited number of observation points included in these statistics, the proposed measures should be applied rigorously in the regions concerned. Moreover, before seeing an effect on nitrate concentrations in groundwater, several years may elapse. Even if concentrations decrease, the water body may still be in the class above 50 NO₃ mg/l (from 70 to 55 p.e.).

Biodiversity

As far as agri-environmental measures promoting biodiversity are concerned, the premium for sustainable and environmentally friendly agriculture remains to be mentioned. It has been strengthened with regard to the prohibition of re-sowing or oversowing on areas with C-biotopes status in Natura 2000 areas in order to maintain or improve the ecological value of the biotope. In addition, an additional commitment has been introduced which provides for a ban on the removal of Venus shells in order to protect bird nests during the breeding phase.

The ecological schemes described above include other interventions for the protection of biodiversity.

Major agri-environmental measures for the protection of biodiversity are grouped in a state aid scheme which provides for a full catalogue of specific and targeted measures according to the needs of the different biotopes. The aid scheme in question will also be reformed for the new programming period. In particular, it will take over the EAW for maintaining traditional orchards in the 2014-2022 programming period.

The I20 impact indicator (percentage of species and habitats of Community interest, linked to agriculture with stable or increasing trends) should show a positive trend. This indicator is mainly influenced by the

condition of pollinators who are expected to respond positively to habitats created by non-productive areas and structural elements as well as to the reduction of the use of plant protection products, in particular insecticides. The response should be similar for the FBI champion birds index (I19) in response to the creation of habitats more favourable to these species.

Ultimately, the MA programmed more than 55 % of the NSP's public expenditure for interventions supporting specific objectives for the quality of the area, environment, climate, natural resources and biodiversity.

Increased ambition at target level

The increased ambition of the green architecture is reflected at different levels:

- Adaptation and strengthening of obligations for existing measures
- Implementation of new measures
- Increase in targets to be achieved at the end of the programming period.

The following table compares the target values for the 2023-2027 programming with the quantities achieved in 2021 by the various measures (Greening, MAEC or State aid) of the green architecture of the 2013-2022 programming.

Measure No.	Type	Wording	New	Existant	Adapted	Target Tel. (ha or head)	Qté Greening 2021 (ha)	Qté MAEC 2021 (ha or head)	Q Biodiversity State Aid Programme 2021 (ha or head)	Total Qt 2021 (ha or head)
512	ECOR	Aid for the setting up of non-productive areas	New			2 860,00	132,00	0,00	0,00	132,00
513	ECOR	Aid for the installation of non-productive strips	Adapted	Increased width; Including CP; enhanced conditions		2 150,00	188,00	263,00	167,00	618,00
514	ECOR	Aid for the renunciation of plant protection products	Adapted	Addition of new variants; Increased flexibility		14 100,00	0,00	4 809,00	0,00	4 809,00
515	ECOR	Aid for the installation of catch crops and under-sowing on arable land	Adapted	Extension of coverage period		9 900,00	0,00	5 525,00	0,00	5 525,00
516	ECOR	Aid for the use of synthetic pheromones in viticulture	Existing			1 150,00	0,00	979,18	0,00	979,18
517	ECOR	Aid for the establishment of areas of refuge on mowing grassland	New			760,00	0,00	0,00	0,00	0,00

518	ECOR	Aid to promote manure incorporation	New		5 200,00	0,00	0,00	0,00	0,00
519	ECOR	Aid for the use of synthetic pheromone broadcasters in arboriculture	New		80,00	0,00	0,00	0,00	0,00
540	MAEC	Support for sustainable and environmentally friendly agriculture (agriculture)	Adapted	Addition of new obligations	111 250,00	0,00	110 994,00	0,00	110 994,00
542	MAEC	Aid for sustainable and environmentally friendly agriculture (viticulture)	Existing		1 150,00	0,00	1 059,00	0,00	1 059,00
546	MAEC	Aid to encourage the grass of bovine animals	Adapted	Opening to suckler cows	7 500,00	0,00	1 377,00	0,00	1 377,00
549	MAEC	Support for reduced tillage	Existing		12 000,00	0,00	12 776,00	0,00	12 776,00
551	MAEC	Aid for the processing of arable land and permanent grassland	Adapted	Addition of an extensive variant	490,00	0,00	257,00	0,00	257,00
550	MAEC	Aid to reduce the burden of cattle (head)	New		3 850,00	0,00	0,00	0,00	0,00
552	MAEC	Aid for endangered breeds (Tests)	Existing		660,00	0,00	567,00	0,00	567,00
544	MAEC	Aid for manure injection and manure composting	Adapted	Slurry spreading with trained pipes becomes standard as of 31.12.2023	32 000,00	0,00	22 000,00	0,00	22 000,00
543	MAEC	Aid for conversion to and maintenance of organic farming	Existing		24 390,00	0,00	5 347,00	0,00	5 347,00
545	State aid	Reduction of nitrogen fertilisation	Existing		3 000,00	0,00	2 601,00	0,00	2 601,00
548	State aid	Support for crop rotation and diversification on arable land	Adapted	Inclusion of temporary grassland in rotation	12 000,00	0,00	9 754,00	0,00	9 754,00
547	State aid	Aid for the maintenance of a herd and low livestock load	New		20 000,00	0,00	0,00	0,00	0,00
541	State aid	Support for sustainable and environmentally friendly agriculture (nurseries)	Existing		14,00	0,00	13,68	0,00	13,68

For a large number of measures, the targets are significantly higher than the quantities achieved in the previous programming. For others, the quantities are rather stable. This is due to the fact that the maximum potential of the areas has already been reached in the previous programming. It should be noted that increased ambition in terms of reducing the use of plant protection products hampers, or even mitigates, the increase in areas subject to reduced tillage. It is therefore estimated that the quantities under this measure remain stable or will show a certain decline.

3.1.4 Explanation of how the environmental and climate architecture of the CAP Strategic Plan is meant to contribute to already established long-term national targets set out in or deriving from the legislative instruments referred to in Annex XI

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the

conservation of wild birds

The following operations contribute to the objectives of the Directives:

— GAEC 2: protection of wetlands: these are often pre-designated habitats for certain migratory birds in particular.

— GAEC 8: Conservation of landscape features. Ban on cutting hedges and trees during the bird breeding season.

— Certain commitments of the premium for sustainable and environmentally-friendly agriculture:

o Ban on the size of hedgerows: preservation of bird habitats

o Prohibition of levelling/weaning of meadows after XX March: protection of birds during the breeding period.

o Prohibition on the use of rodenticide in Natura 2000 areas: rodenticides are used to protect against rodents, which are the preferred prey of the prey of the prey. Their prohibition also protects prey birds.

— Ecological regime, strips and non-productive areas: depending on the vegetation associated with these non-productive bands and surfaces, they may have habitats favourable to birds. It should be noted that the creation of strips and non-productive areas contributes to the interconnection of protected areas and habitats.

— AEM grass of bovine animals: grazing meadows by cows creates a special and diverse habitat for birds. Even fences play a role in these habitats as a point of view for hunting.

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

In addition to the actions listed in support of Directive 2009/147/EC, the following contributions should be made:

— GAEC 8: Minimum share of agricultural area devoted to non-productive areas. Conservation of landscape features. Measures to avoid invasive plant species: contributes to the maintenance and creation of new biotopes and habitats.

— Aid for the use of pheromones in vineyards and orchards: pheromones substitute insecticides for biodiversity.

— Aid for the renunciation of plant protection products: any reduction in PPPs is in favour of biodiversity.

— Support for the conversion and maintenance of organic farming.

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy

Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources

The following operations are beneficial for the management and protection of groundwater and surface water:

— GAEC 1: maintenance of the ratio of areas under permanent grassland: herb surfaces are not at risk for nitrate leaching.

— GAEC 2: protection of wetlands: the ban on destroying these biotopes is a guarantee to maintain water quality in relation to these areas.

— GAEC 4: establishment of protective strips: These strips along rivers, especially in arable crops, are protections against run-off and thus the introduction of nutrients and residues of pesticides into water. Together with specially adapted vegetation strips, they are an important tool for ensuring water quality.

— GAEC 5: Tillage management, reducing the risk of degradation and erosion: protection against run-off of areas at risk of erosion reduces the introduction of nutrients and PPP residues into watercourses, which limits the degradation of water quality.

— GAEC 6: minimum soil cover: see GAEC 5.

— GAEC 8: Minimum share of agricultural area devoted to non-productive areas: non-productive

surfaces will not receive either smoking or PPP treatment, which limits the risk of water pollution.

— GAEC 9: Ban on processing or ploughing permanent grassland designated as environmentally sensitive grassland in Natura 2000 sites: unploughed grassland does not pose a risk of nitrate leaching.

— Ecological regime

o Waiver of the use of PPPs: a reduction in PPPs leads to a potential reduction in the transfer of PPP residues to rivers or groundwater.

o Aid for the installation of catch crops and sowing: these practices allow nitrogen balances to be fixed after harvest to prevent possible transfer to groundwater.

o Aid for the installation of non-productive strips and areas: see GAEC 4.

— MAEC manure spreading and manure composting: these measures contribute to better management of organic smoke, reduce nutrient run-off to rivers, increase the efficiency of organic manure to ultimately improve nitrogen and phosphorus balances.

— AECM reduction of nitrogen fertilisation: limits the risk of nitrate leaching.

— EAW reduction of livestock load and maintenance of a low load: limits the production of organic fertilisers and the risk of diffuse water pollution by nitrates and phosphores in case of overloading of local livestock.

— Premium for sustainable and environmentally-friendly agriculture: promotes better management of land fertilisation and monitoring. Limits nitrate leaching after maize cultivation.

— Payments under the Water Framework Directive: allows compliance with obligations in water protection zones.

— Aid for agricultural investments: supports efficient irrigation techniques as well as techniques that support the reduction of water consumption in general and the use of reclaimed rainwater.

Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe

Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC

The NSP brings together a number of measures promoting ammonia reductions in agriculture:

— Ecological scheme for the incorporation of manure within 4 hours after spreading: the sooner manure is incorporated into the soil, ammonia emissions are lower.

— New slurry spreading techniques: steer slurry spreading towards soil spreading techniques or injection into soil.

— Aid for agricultural investment. Aid for construction and technical support for the separation of liquid and solid phases of animal manure in order to reduce the production and emission of ammonia.

— EAW reduction of livestock load and maintenance of a low load: reductions in cattle are automatically accompanied by emission reductions.

— AEM grass in cattle: during grazing, the liquid and solid fractions of the manure are naturally separated and ammonia emissions reduced.

Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU (Text with EEA relevance)

GHG emissions are limited by many NSP operations and interventions:

— GAEC 1: maintenance of the ratio of areas under permanent grassland: areas under herbs stock carbon (estimated at 143 tonnes per ha, source agrarheute.com).

— GAEC 2: protection of wetlands: these wetlands are carbon pools, peatlands even more than grasslands.

— GAEC 5: Tillage management, reducing the risk of degradation and erosion: grass strips to limit

erosion store carbon in the same way as grassland.

— GAEC 6: minimum soil cover: each soil cover stores carbon back into the soil afterwards.

— GAEC 8: Minimum share of agricultural area devoted to non-productive areas: these areas have a vegetation cover that stores carbon, and the same applies to woody plants.

— GAEC 9: Ban on processing or ploughing permanent grassland designated as environmentally sensitive grassland in Natura 2000 sites: unploughed meadows constitute carbon stocks.

— Direct aid coupled to legumes: legumes have the capacity to enrich the soil with nitrogen, the nitrogen fertilisation of the previous crop may be reduced. The production of mineral nitrogen is highly energy intensive and therefore emits GHGs if it does not come from renewable sources. Any reduction of mineral nitrogen smoke is therefore a reduction in GHG.

— Ecological diets:

o Aid for the installation of strips and non-productive areas: these surfaces accumulate CO₂, subsequently incorporated into soil organic matter, the largest overall CO₂ reservoir.

o Aid for installation of catch crops and undersowing: see above.

o Incorporation of manure 4 hours after spreading: organic smoke quickly incorporated into the ground increases its efficiency as nitrogen does not evaporate in the form of ammonia. Additional mineral smoke can be reduced and GHGs avoided.

— Support for the conversion and maintenance of organic farming: organically grown soils are richer in organic matter, CO₂ reservoir

— New slurry spreading techniques: the aid directs slurry spreading towards soil spreading techniques or injection into the soil. Organic smoke quickly incorporated into the ground increases its efficiency as nitrogen does not evaporate in the form of ammonia. Additional mineral smoke can be reduced and GHGs avoided.

— AMF Reduction in nitrogen fertilisation: Such a reduction avoids the production of GHG during the production process.

— MAE Transformation of arable land into shells: Venus shells store more carbon than arable crops.

— MFA Direct Luning Semis: reduced tillage is less fuel consuming and avoids GHG production.

— Premium for sustainable and environmentally-friendly agriculture: It ensures a more favourable management of smoking and promotes the maintenance of grass areas as well as elements of landscape structures that fix carbon.

— Payment under the Water Framework Directive: this aid is linked to a reduction in nitrogen smoke and thus limited GHG emissions.

— Aid for agricultural investment: allows techniques to be directed towards less energy-intensive production processes.

Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (Text with EEA relevance)

Renewable energies are the responsibility of the Ministry of Energy. Their support is not foreseen by the NSP.

—* [Directive 2018/2002 of the European Parliament and of the Council of 11 December 2018 amending Directive 2012/27/EU on energy efficiency];

—* Amendments adopted by the European Parliament on 17 January 2018 on the proposal for a regulation of the European Parliament and of the Council on the Governance of the Energy Union, amending Directive 94/22/EC, Directive 98/70/EC, Directive 2009/31/EC, Regulation (EC) No 663/2009, Regulation (EC) No 715/2009, Directive 2009/73/EC, Council Directive 2009/119/EC, Directive 2010/31/EU, Directive 2012/27/EU, Directive 2013/30/EU and Council Directive (EU) 2015/652 and repeat Regulation (EU) No 525/2013

Energy efficiency will be taken into account in agricultural investment aid. The selection will be based on the best available techniques.

Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides

— GAEC 1: maintenance of the ratio of areas under permanent grassland. The use of PPPs on permanent grassland is negligible. Maintaining permanent shells therefore helps to limit PPP applications.

— GAEC 2: protection of wetlands and peatlands: the use of PPPs on these biotopes is prohibited.

— GAEC 4: establishment of protective strips: the use of PPPs on these biotopes is prohibited.

— GAEC 8: minimum share of agricultural area devoted to non-productive areas: the use of PPPs on non-productive areas is not practised.

— Ecological diets:

o Aid for waiving PPPs: reduces the use of PPPs

o Aid for the use of pheromone broadcasters in viticulture and arboriculture: insecticides are substituted by pheromone diffusers. The measure thus contributes to reducing the use of PPPs. It became a State aid scheme for the 2024/25 marketing year.

o Aid for waiving the use of Glyŷ from 2025 onwards, an additional option introduced at intervention level 540

— Support for the conversion and maintenance of organic farming. Synthetic PPPs are substituted by other products that are less harmful to the environment.

— MAE Transformation of arable land into grassland: the use of PPPs on grasslands is very limited, which contributes to reducing the use of PPPs.

— MFA Prime Minister for the introduction of sustainable and environmentally-friendly agriculture. Ban on the use of rodenticides. In winegrowing, options are proposed for abandoning the use of weed control agents. The measure includes commitments that reduce the use of PPPs.

3.1.5 Where relevant, CAP contribution towards LIFE projects

3.2 Overview of the generational renewal strategy

Young farmers deserve particular attention at NSP level. Their support is all the more important given the unfavourable age structure at farm level. Different support schemes are foreseen to facilitate the takeover of an agricultural holding.

Complementary income support for young farmers

The young farmer must be no more than 40 years old and must take control of an agricultural holding. Farmers have sufficient professional knowledge and skills (at least one professional qualification).

Setting up aid for young farmers

This aid is targeted at an installation as a primary farmer. Young farmers shall receive start-up aid on an agricultural holding if they fulfil specific conditions, in particular:

— they are at least 23 years old and are not more than 40 years of age.

— the total standard output of the holding is EUR 75.000. A young farmer setting up on a holding with a total standard output of at least EUR 25.000 may demonstrate, through a business plan to be established, that the holding will reach the minimum standard product threshold of EUR 75.000. The minimum economic size of the holding must be reached at the end of the business plan after 5 years.

— have professional knowledge and skills and professional experience of at least 1 year.

— they implement a business plan for the operation which is the subject of the installation. The business plan defines the development of the company.

— that they set up as head of the holding.

Aid for agricultural investments

Young farmers set up as farm manager may benefit from an additional aid rate of 15 % on eligible investments in real estate.

Start-up aid for the development of micro-enterprises (national aid)

This support shall be accessible to micro-enterprises within the meaning of Article 2 of Annex I to the Regulation.

Commission Regulation (EU) No 702/2014 of 25 June 2014 with the objective of producing marketed agricultural products.

The various aid schemes for young farmers are compatible and cumulative.

National aid that is available to any farmer could be of particular interest to young farmers in order to help them consolidate their family and working life: **aid for farm replacement services (State aid scheme)** in the form of subsidised services to cover part of the costs of replacing a farmer or a member of his family necessary for the holding whose working time spent on the farm's activities is at least 20 hours per week.

The following cases of absence shall be considered:

- on account of agricultural vocational training,
- due to illness
- due to death
- on account of maternity leave or parental leave
- on account of a recreation leave.

3.2.1 Where relevant, CAP contribution towards Erasmus projects

3.3 Explanation on how the interventions under coupled income support as referred to in Subsection 1 of Section 3 of Chapter II of Title III are consistent with the Water Framework Directive - 2000/60/EC

The last management plan for the parts of the international river basin districts of the Rhine and Meuse located on Luxembourg territory dates from 2015 and covers the period (2015-2021). A new version of the plan is not yet available. In the absence of updated information, reference is made to the 2015 plan. The most significant pressures on surface waters, reported in this plan, are primarily those caused by diffuse nutrient pollution (nitrogen and phosphorus), in particular because of the importance of these substances for the possible eutrophication of the North Sea where Moselle waters flow via the Rhine and those of Chiers via the Meuse. Land farming and forestry are the main cause of diffuse inputs and should therefore be given special attention in the fight against eutrophication. The plan also assumes that all surface water bodies are exposed to pressures resulting from plant protection products. Inappropriate use of these products can lead to leaching of applied substances and their discharge into water.

Aid coupled to legumes

Protein crops make it possible, through their ability to capture nitrogen in the air (symbiotic nitrogen fixation), to reduce an additional amount of mineral or organic nitrogen. This makes it possible to reduce nitrogen inputs and thus reduce pollutant discharges. In general, leguminous crops have a beneficial effect in terms of nutrient management on the overall rotation and fertility of soils.

In addition, with the introduction of a protein crop in cereal rotation, a non-host cereal disease crop is introduced. This reduces the sensitivity of rotation to diseases, resulting in a reduction in the use of plant protection products.

Coupled support for legumes is therefore directly beneficial to reduce the pressures identified in the River Basin Management Plan.

Coupled aid for suckler cows

At first sight, coupled support for suckler cows could be an obstacle to river basin management whiting. However, the architecture of this measure has been chosen in order not to cause additional pressure on water bodies. Indeed, an eligibility criterion for intervention is a livestock load not exceeding 1,8 LU/ha. This criterion thus excludes cattle farms with a high livestock burden. In this way, it is also avoided that the introduction of coupled support leads to an excessive increase in livestock and thus to a deterioration in water quality through manure. In addition, where the number of animals eligible for payment exceeds the number of reference LSU, the premium shall decrease, which also hinders the increase in the livestock. The reference number of eligible LSU is 21.000. It is well below the average of the years 2015 to 2019 determined at 27.800 LU.

The key challenges of the management plan are diffuse pollution from nitrate leaching and plant protection products. Coupled support for suckler cows will not contribute to aggravating this diffuse pollution. On the contrary, it is programmed to support, above all, more extensive farms, with a limit of 1,8 LU/ha, the maximum load provided for by the Nitrate Directive being 2,35 LSU/ha. The aid will be limited to the maximum support of 150 cows per holding. Given the precarious income situation of this approach, producers have every interest in participating in this intervention. Overly intensive producers will not be eligible for aid unless they reduce their livestock load, thus ultimately reducing diffuse nitrate pollution.

The farm council for water protection is largely supported by national support in Luxembourg, and is even offered free of charge to farms located in water protection zones. Farmers are thus particularly well regulated in order to ensure water protection. The farm council helps to stimulate participation in income support while guiding the holding in terms of manure management and plant health applications. Ultimately, coupled support strives not to create additional pressures on water quality and respects the River Basin Management Plan while ensuring the viability and resilience of cattle farms.

Coupled aid for market garden and arboriculture crops

The beneficiaries of this aid must comply with the obligations of cross-compliance with regard to the protection of waters laid down in the Nitrates Directive. Moreover, the area under eligible crops currently accounts for only 400 ha or 0.3 % of the UAA. Therefore, they do not pose a real risk to all water bodies in the river basin district. Support from the farm council is also foreseen for fruit and vegetable producers.

3.4 Overview as regards the aim of fairer distribution and more effective and efficient targeting of income support

The basic payment

Over time, it has become increasingly difficult to justify the existence of significant individual differences that characterise the level of support per hectare resulting from the use of historical references. Therefore,

direct income support should be more evenly distributed among farmers. Thus, it is planned to converge the value of payment entitlements towards the average value of entitlements over the period 2023-2027. As from claim year 2027, the basic payment scheme with basic payment entitlements will be replaced by a uniform per hectare aid scheme without payment entitlements.

The redistributive payment

The aid shall aim at a more balanced distribution of aid to medium-sized family farms. To this end, aid shall be granted at rates varying according to the following eligible area ranges:

The distribution of the basic payment in Luxembourg is proportional to the utilised agricultural area. The distribution of income support is therefore quite balanced. However, as the redistributive payment and the minimum envelope are mandatory, the aim is to target aid fairly at the farms most in need:

1. Supporting the redistributive payment to agricultural holdings living from agricultural activity.

The target effect for small farmers (below 30 ha) is neutral (on average no gain, no loss).

2. Targeting the redistributive payment towards farms with lower incomes.

3. Targeting the redistributive payment towards traditional family farms.

In order to comply with these criteria, the redistributive payment is distributed by farm size band. Two tranches are provided for: A first tranche of 0 to 30 hectares and a second tranche ranging from 30 to 70 hectares.

Direct payments, as designed in the NSP, would have the following redistribution effect:

PDIR: All direct payments including green schemes

NBR-EXPL: number of holdings

DIFFativity MONTOCEXT = Absolute difference between the current situation and the situation in 2027

DIFFA MOY-CEXT = Average difference per farm of OTE between the current situation is that in 2027

DIFF_% CEXT = Percentage of difference from current situation

These figures disregard the effect of external convergence.

Template 1: PDIR without coupled support for suckler cows, no redistributive payment

OTE – Free and code	NBR-EXPL		DIFF- MONT-CEXT	DIFF- MOY-CEXT	DIFF_% CEXT
Milk production (5)	527		— 483 795,95	— 918,02	— 3,22
Cattle farming (4)	734		— 168 734,23	— 229,88	— 1,27
— of which V.lacit.	357		— 115 868,00	— 324,56	— 1,54
Pig raising (51)	29		62 335,52	2 149,50	9,69
Sheep/goat farming (48)	28		9 593,01	342,61	4,62
Lifting of poultry (52)	3		461,80	153,93	3,78
Arable crops (1)	173		237 707,29	1 374,03	13,03
Mixed plant (6)	13		81 255,86	6 250,45	41,80
Winegrowing (35)	162		128 430,47	792,78	33,83
Market gardening (2)	8		45 317,19	5 664,65	208,20
Arboriculture	9		78 704,21	8 744,91	272,87

(36)					
Others (9)	23		8 724,83	379,34	3,14
SUM	1709		0,00	0,00	0,00
			Absolute Change		
			1 305 060,35	763,64	4,09

Template 2: PDIR without redistributive payment with suckler cow CA

OTE – Free and code	NBR-EXPL		DIFF- MONT-CEXT	DIFF- MOY-CEXT	DIFF_% CEXT
Milk production (5)	527		— 1 524 909,54	— 2 893,57	— 10,15
Cattle farming (4)	734		1 080 584,41	1 472,19	8,12
— of which V.lacit.	357		1 429 650,50	4 004,62	19,00
Pig raising (51)	29		36 121,87	1 245,58	5,61
Sheep/goat farming (48)	28		773,93	27,64	0,37
Lifting of poultry (52)	3		— 711,39	— 237,13	— 5,83
Arable crops (1)	173		98 404,18	568,81	5,39
Mixed plant (6)	13		76 771,38	5 905,49	39,49
Winegrowing (35)	162		100 641,59	621,24	26,51
Market gardening (2)	8		43 128,20	5 391,03	198,14
Arboriculture (36)	9		77 135,88	8 570,65	267,44
Others (9)	23		12 059,49	524,33	4,33
SUM	1709		0,00	0,00	0,00
			Absolute Change		
			3 051 241,87	1 785,40	9,56

Template 3: PDIR with redistributive payment and suckler cow CA

OTE – Free and code	NBR-EXPL		DIFF- MONT-CEXT	DIFF- MOY-CEXT	DIFF_% CEXT
Milk production	527		— 1 552 586,27	— 2 946,08	— 10,33

(5)					
Cattle farming (4)	734		1 106 385,51	1 507,34	8,32
— of which V.lacit.	357		1 513 205,35	4 238,67	20,11
Pig raising (51)	29		41 607,23	1 434,73	6,47
Sheep/goat farming (48)	28		2 512,49	89,73	1,21
Lifting of poultry (52)	3		— 464,87	— 154,96	— 3,81
Arable crops (1)	173		92 421,80	534,23	5,07
Mixed plant (6)	13		78 789,42	6 060,72	40,53
Winegrowing (35)	162		98 291,61	606,74	25,89
Market gardening (2)	8		43 503,23	5 437,90	199,87
Arboriculture (36)	9		77 055,32	8 561,70	267,16
Others (9)	23		12 484,53	542,81	4,49
SUM	1709		0,00	0,00	0,00
			Absolute Change		
			3 106 102,27	1 817,50	9,73

Summary of the 3 models

OTE – Free and code	NBR-EXPL	DPIR Without AC Valley * Without CRISS (EUR)	DPIR Without CRISS (EUR)	DPIR With CRISS (EUR)
Milk production (5)	527	— 483 795,95	— 1 524 909,54	— 1 552 586,27
Cattle farming (4)	734	— 168 734,23	1 080 584,41	1 106 385,51
— of which V.lacit.	357	— 115 868,00	1 429 650,50	1 513 205,35
Pig raising (51)	29	62 335,52	36 121,87	41 607,23
Sheep/goat farming (48)	28	9 593,01	773,93	2 512,49
Lifting of poultry (52)	3	461,80	— 711,39	— 464,87
Arable crops (1)	173	237 707,29	98 404,18	92 421,80
Mixed plant (6)	13	81 255,86	76 771,38	78 789,42
Winegrowing (35)	162	128 430,47	100 641,59	98 291,61
Market gardening	8	45 317,19	43 128,20	43 503,23

(2)				
Arboriculture (36)	9	78 704,21	77 135,88	77 055,32
Others (9)	23	8 724,83	12 059,49	12 484,53
SUM	1709	0,00	0,00	0,00
Absolute Change (compared to the 2019 IORPs; without the effect of external convergence)		1 305 060,35	3 051 241,87	3 106 102,27

Conclusion

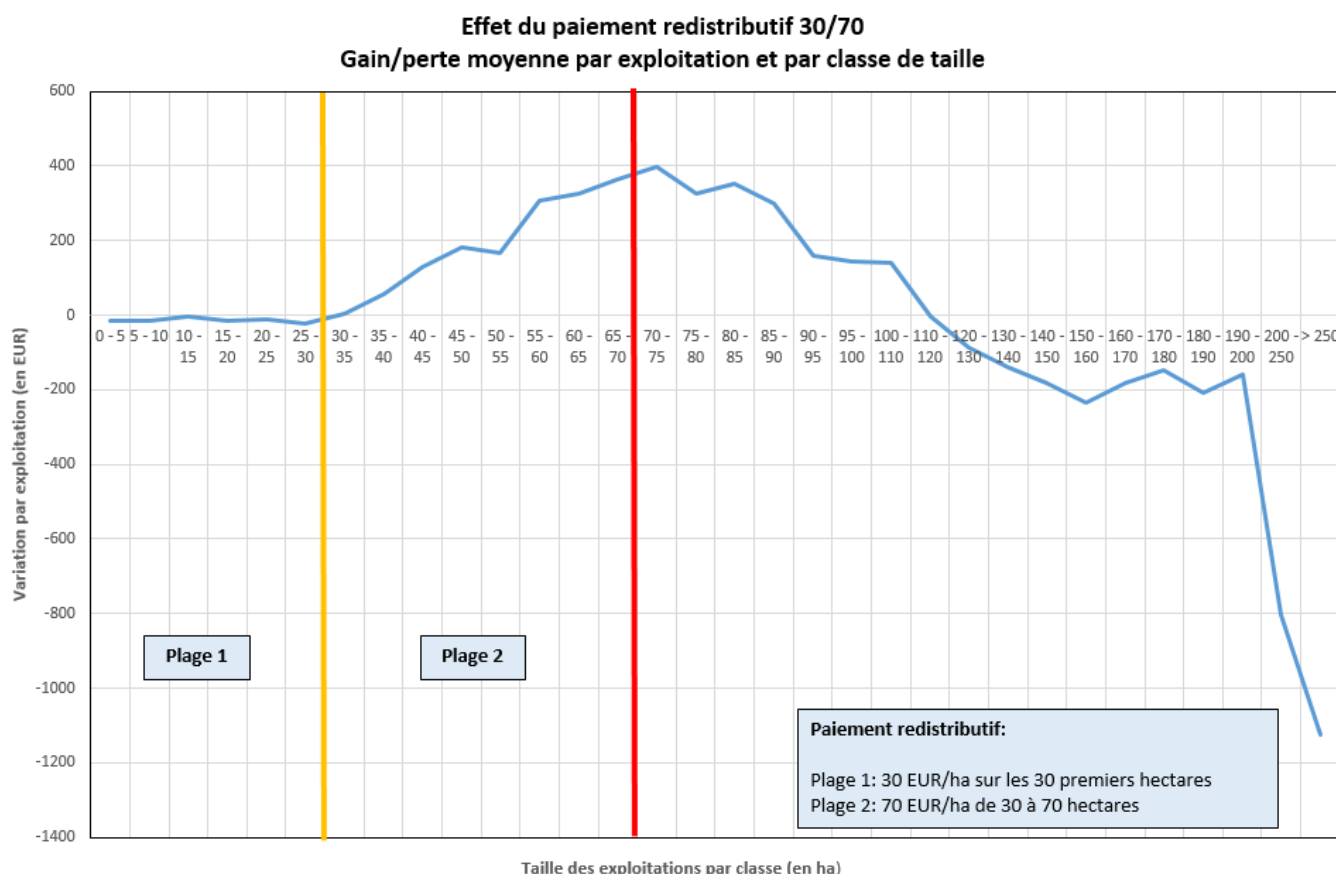
— The introduction of coupled aid will have a significant redistribution effect. The most burdened OTE will be milk production. Cattle farming is the winning orientation

— The introduction of the redistributive payment, on the other hand, has a moderate net redistribution effect but in line with the needs identified $[(3\ 106\ 102,77 - 3\ 051\ 241,87) / 3\ 051\ 241,87] * 100 = 1.8 \%$. This is because the envelope used for the redistributive payment is deducted from that of the BISS. Thus, beneficiaries pay their redistributive payment by reducing their BISS.

Effect of redistribution according to size classes (ha)

Classes	Number expl.	SAUCELY2019	overall breakdown by class	Average Redistr. per expl.
0-5	174	430.61	— 2484.54	— 14.28
5-10	131	949.91	— 2802.21	— 21.39
10-15	92	1104.22	— 777.36	— 8.45
15-20	48	826.56	— 2469.6	— 51.45
20-25	53	1175.45	— 1837.94	— 34.68
25-30	61	1691.38	— 3680.93	— 60.34
30-35	46	1489.57	438.97	9.54
35-40	45	1671.26	10052.52	223.39
40-45	55	2332.83	22191.72	403.49
45-50	54	2577.2	31793.69	588.77
50-55	39	2050.88	29108.88	746.38
55-60	56	3229.04	53310.82	951.98
60-65	48	3018.7	56704.23	1181.34
65-70	48	3227.86	63350.85	1319.81
70-75	52	3763.33	69488.71	1336.32
75-80	50	3860.3	56435.29	1128.71
80-85	59	4874.69	61085.88	1035.35
85-90	59	5152.78	52186.52	884.52
90-95	40	3700.44	28028.9	700.72
95-100	46	4486.58	25292.87	549.85
100-110	82	8566.96	24450.42	298.18
110-120	80	9175.32	— 829.35	— 10.37
120-130	52	6480.78	— 15308.33	— 294.39
130-140	42	5627.98	— 24675.44	— 587.51

140-150	34	4924.38	— 31625.29	— 930.16
150-160	32	4960.2	— 40993.61	— 1281.05
160-170	20	3318.26	— 31887.78	— 1594.39
170-180	13	2269.45	— 25663.47	— 1974.11
180-190	16	2941.3	— 36259.08	— 2266.19
190-200	11	2136.66	— 27470.5	— 2497.32
200-250	43	9328.1	— 139481.42	— 3243.75
> 250	28	9272.24	— 195673.16	— 6988.33



The analysis shows that the effect of redistribution is in line with the intended objectives, i.e. that in the end medium-sized farms between 30 and 110 ha are the main beneficiaries of redistribution to the detriment of large farms and in particular dairy farms. The isolated effect of the introduction of coupled support for suckler cows is clearly directed towards cattle production farms with the lowest incomes in the agricultural sector.

Coupled aid for market garden and arboriculture crops

Market garden farms are mainly small farms with high labour costs, which has a significant impact on income. Coupled support is an effective and efficient way to target these farms well.

Coupled aid for suckler cows

The current situation on the beef market does not ensure a fair income for producers specialising in quality beef. Aid should therefore be granted to those producers to ensure that their income is maintained at an adequate level.

In view of the suckler cow coupled support and beef until the decoupling of these aids, the single payment entitlements in 2005 and the basic payment entitlements in 2015 of farms specialising in suckler cow rearing were higher than those of other types of farming. Internal convergence towards a uniform basic payment value therefore leads to a loss of direct income support to these farms in a low-profitability

sector.

Payment for naturally constrained areas

This measure makes it possible to compensate for part of the income differential caused by natural or specific constraints on agricultural holdings in areas where farming conditions are difficult.

Payment under the Water Framework Directive

This measure is intended to compensate farmers for additional costs and loss of income that may result from the implementation of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy transposed into national law by the Water Act of 19 December 2008 (Article 26). The aid is granted in drinking water protection zones. The Grand-Ducal Regulation of 9 July 2013 on administrative measures in all protection zones for bodies of groundwater or parts of bodies of groundwater used as a resource for the production of water intended for human consumption, as well as an individual specific regulation for any catchment area or body of surface and groundwater used as a resource for the production of drinking water, define the restrictions and obligations of actors on the ground.

Thus, farmers growing areas in such areas are compensated for the stricter standards they have to meet and fair treatment of all farms under different obligations is ensured.

Justifications on the derogation related to second subparagraph of Article 29(1) and Article 98

not applicable, envelope $\geq 10\%$

3.5 Overview of the sector-related interventions

3.5.1 Fruit and Vegetables

Luxembourg does **not have an EAGF budget** for sectoral interventions for fruit and vegetables. However, managing authorities have planned several specific measures for this sector in order to further develop it. Indeed, there is a strong political ambition to develop the sector and improve the domestic supply of fruit and vegetables, despite high labour costs and strong foreign competition.

With regard to aid for agricultural investment, it should be pointed out that investments in buildings relating to horticulture (including fruit production) may benefit from an additional rate of aid of 20 percentage points above the standard rate of 20 %, with the aim of stimulating projects in this loss-making production. Investments in irrigation techniques, which are essential for this orientation, remain eligible for (national) aid. Aid for investments for processing and marketing (national aid) also remains available for the horticultural sector. Investments in buildings on the agricultural holding for storage and packaging may even benefit from the additional rate of aid.

Start-up aid for young farmers is eligible for fruit and vegetable producers, as well as for all direct payments.

The NSP introduces for the first time substantial coupled support to producers in the fruit and vegetables sector to support the income of these farms to at least partially compensate for the high labour costs in this sector. This aid can thus contribute to the consolidation of farms and stimulate their development or the creation of new entities.

In terms of access to ecological schemes, fruit and vegetable producers are particularly targeted by aid for the use of synthetic pheromone broadcasters, aid for the renunciation of plant protection products or aid for the installation of non-productive strips.

ANational support measure for agroforestry is under preparation which could also be an alternative for adaptation to climate change. It should be stressed that fruit trees may also be eligible for the formation of

woody strips.

In the recent past, climatic hazards have caused significant damage to certain orchards and horticultural crops. Thus (national) risk management aid through insurance to compensate for damage is available to fruit and vegetable producers. This important support contributes to the resilience of these farms.

The new law on the approval of a quality or **certification scheme for agricultural products** provides greater transparency for consumers when purchasing them and also promotes **regional quality products** to consumers and mass catering. This system makes it possible to better visualise domestic production and thus offers new opportunities for domestic producers so that they can stand out from foreign competition. In order to obtain approval as a quality scheme for an agricultural product, producer groups must comply, in their product specification, with certain criteria laid down for three pillars 'Quality – Saving', 'Regional – Solidarity' and 'Environment – Animal Welfare'.

Producer organisations are also an asset in this process. Their creation is supported by specific national support.

The complacency for the creation of **solidarity-based farming systems** is more evident in Luxembourg. These systems are particularly focused on fruit and vegetable production. To accompany this development, managing authorities have introduced **national support for setting up micro-enterprises** by financing the first investments to start a business before it is eligible for other investment aid which includes a minimum threshold of EUR 25,000 of standard product.

In order to finalise the multifunctional framing of the development of the fruit and vegetable production sector, the national authorities also provided for flexible financing of the **advisory system**, based on vouchers (vouchers) that can be used by producers to finance these services. Producers may thus use specialised services, even across national borders, provided that the advisory service is recognised by the managing authority. This is particularly important for the fruit and vegetables sector, which requires specialised advice which unfortunately has not been able to develop in Luxembourg due to a lack of critical mass on the ground.

3.5.2 Apiculture products

Honeybees provide an important part of the pollination of wild flora and are therefore indispensable for maintaining biodiversity. Similarly, pollination and thus productivity of certain cultivated plants is ensured by these bees. Competitive beekeeping, which addresses health challenges, guarantees the maintenance of a sufficient number of beehives distributed across the national territory and contributes to maintaining biodiversity.

In 2021, there were 553 beekeepers operating around 7.500 beehives in the beekeeping sector. The vast majority are amateur beekeepers with only a few professional beekeepers.

While the average annual production of honey over the last 10 years was 1.262 tonnes, it should be noted that there are very large variations in production from one year to the next.

Strengths

Luxembourg honey is generally of high quality and is well accepted by consumers.

Quality honey can be sold at a price acceptable to producers.

Beekeepers are organised in beekeeping unions, which allows for the smooth organisation of training and the transfer of technical information.

Genetic selection programmes in the sector enable the production of resistant and productive bees.

Weaknesses

The vast majority of beekeepers carry out this activity on an ancillary basis. Know-how and technical equipment therefore generally do not reach the level of professional beekeepers. This is particularly

evident in the effective control of bee pests and diseases.

Opportunities

There is good demand for quality honey in Luxembourg on the national market.

Threats

Honey production varies widely from year to year. The market can be saturated during years of high production. Foreign honeys sold at low prices, as well as honeys of European quality, are a significant competition for national honeys.

Bee pests and diseases remain permanent threats, especially for the production of amateur beekeepers.

Needs

(1) knowledge transfer and enhancement of technical know-how

In order to ensure the necessary technical knowledge of beekeeping, harvesting, packaging and marketing of honey, as well as bee diseases and parasites, a transfer of knowledge and information is crucial. Information tools and training courses are key factors for achieving this.

The intervention provides for the reimbursement to representative beekeepers of the costs of running courses for beekeepers, the costs associated with the transfer of information (beekeeping journal, website, colloquia, regulatory follow-up) and consultancy costs.

(2) genetic improvement of bees

Selecting bees that are tolerant or resistant to diseases and pests (in particular varroasis) that maintain a good level of productivity is a key asset in maintaining efficient and competitive beekeeping. In the long term, a significant reduction in bee treatments could thus be possible. Existing genetic breeding programmes should be pursued to achieve this objective. These programmes are organised within representative beekeeping unions.

(3) analyses of honey quality parameters

In order to ensure proper marketing of honey in food distribution chains, it is necessary to guarantee an excellent quality of honey. Analyses of honey in specialised laboratories make it possible to verify the relevant quality parameters. The beneficiaries are producer groups which market under a quality label.

(4) investment aid

Given the small amount of Union financial assistance for types of intervention in the apiculture sector, investment aid for beekeepers shall not be implemented within the framework of Article 55 of Regulation (EU) 2021/2115.

Complementarity with other interventions

Interventions in the apiculture sector are complementary to other interventions aimed at protecting wild flora biodiversity

Co-financing rate of the European Union

Interventions are co-financed by the EAGF, which varies from year to year:

2023	2024	2025	2026	2027
31.43 %	33.79 %	38.46 %	38.46 %	38.46 %

Double funding

The proposed interventions will not be eligible for other public funding.

Apiculture programme end 2022

It is foreseen to use EUR 10.500 of the 2013 EAGF financial envelope (Annex X to Regulation (EU) 2021/2115) to finance measures under the apiculture programme for the period 01.08. to 31.12.2022.

Description of an established reliable method for determining the number of beehives ready for wintering in the territory of the Member States between 1 September and 31 December each year

The number of hives present on national territory during the period 1 September to 31 December is recorded as part of the compulsory declaration of hives to the veterinary authorities. Animal health legislation obliges beekeepers to declare their hives annually. Compliance with this obligation should be considered as very high, as undeclared hives are considered abandoned and destroyed upon prescription of the responsible veterinary inspector.

3.5.3 Wine

Not applicable

3.5.4 Hops

Not applicable

3.5.5 Olive oil and tables olive

Not applicable

3.5.6 Beef and veal

The operating result of old cattle holdings (OTE 46) is significantly lower than the farm result of Luxembourg farms on average. A very low turnover (EUR 17.600 in 2019 compared to the overall average of agricultural holdings, which in 2019 amounted to EUR 60.200), combined with structural problems (costly infrastructure, high operational expenditure, etc.) means that the operating result of OTE 46 farms earn barely 30 % of the average farm result of Luxembourg's farms.

Compared to this low turnover and compared to other sectors, costs are quite high: expenditure on materials and consumables, farm leases, depreciation and other operational expenditure. Beef prices have been fairly stable in recent years. However, the yield of virgin production is much lower than that of other agricultural products, in particular milk production. Beef and veal production is very extensive in the Grand Duchy of Luxembourg. The cost of land as a factor of production therefore plays a considerable role. (See 2.1.SO1.1.5 Other observations)

For this reason, **coupled support for suckler cows** is foreseen to support farmers' income.

Nevertheless, the cattle sector (rearing and milk production) is heavily affected by ammonia and greenhouse gas reduction targets. There are also other environmental protection claims (reduction of diffuse pollution from organic manure produced by the sector). Animal welfare needs to be further developed if consumer demands are to be taken into account.

Aid for agricultural investment is therefore proposed for the construction of farms, subject to compliance with commitments **to reduce ammonia emissions and to develop animal welfare**. An additional aid rate is granted for

1. creation of leak detection devices for slurry and slurry tanks, silos, and storage areas with tank
2. the construction of covering devices for slurry and slurry tanks;
3. production of a sealed manure storage area with juice recovery;
4. the acquisition of high-precision slurry spreading equipment, construction of covering devices for slurry and slurry tanks.

In order **to reduce livestock and thus greenhouse gas and ammonia emissions, the** Luxembourg authorities propose several interventions.

1. The aid for sustainable and environmentally friendly agriculture was adapted to these prerogatives and the eligibility condition on the maximum livestock load was reduced from 2 to 1,8 LSU/ha. It should be noted that this intervention covers more than 80 % of the total UAA and the vast

majority of agricultural holdings participate.

2. Aid for the reduction of livestock load: a new intervention aimed at a nominal reduction in the number of cattle present on the farm and thus reducing methane emissions, which have a high greenhouse gas potential.
3. Aid for maintaining a low livestock load (state aid). It may encourage a reduction in the livestock load or at least the maintenance of the low cattle population present on the holding and contributes to improving the feed autonomy of the holding. The intervention shall provide for a grazing livestock charge per hectare of forage area of less than 1,4 LU/ha forage area.

In order **to specifically reduce ammonia emissions**, the NWP provides for an intervention aimed at the spreading of liquid manure through injection application techniques into the soil that significantly reduce ammonia evaporation. A new measure is planned for eco-schemes, which also provides for the incorporation of livestock manure within 4 hours of application and therefore also contributes to the reduction of ammonia emissions.

Aid for **grazing cattle** is primarily aimed at animal welfare. However, grazing of the animals leads to the separation of liquid and solid manure, which is also contrary to the limitation of ammonia formation.

The beef and veal sector is thus more geared towards **extensification of production and a reduction in livestock**. However, this hinders the development opportunities of agricultural enterprises active in this sector. In addition, there is a clear problem of access to land, inhibited by urbanisation and price developments.

The national authorities are thus trying to provide support for the **diversification** of agricultural activities. These interventions are mainly supported by state aid schemes. First, start-up aid for the development of micro-enterprises (national aid) can be used as an initial support for innovative projects. New initiatives such as solidarity-based farming, urban farming or the bioeconomy can benefit from specific frameworks to counter the risks often associated with these initiatives.

The draft agrarian law also provides for the creation of an aid scheme to facilitate the creation of clusters and thus improve the position of farmers in the value chain.

A new law on the approval of a quality or certification system for agricultural products lays down the minimum requirements for obtaining approval as a quality or certification scheme for agricultural products and the conditions for using an approval logo. Its aim is to provide consumers with greater transparency when purchasing and to promote quality regional products among consumers and mass catering.

It should be noted that a State aid scheme is intended to support investment in processing and marketing for the agri-food industry. These aids are linked to the following three conditions to strengthen the resilience of the agricultural sector.

In order to be eligible, investments must therefore meet one of the following objectives:

1. increasing the processing rate of local production so as to ensure better incomes for producers, increase outlets or increase the adjustment of supply to changing demand;
2. improving the efficiency of production chains in terms of resource use, greenhouse gas emissions and waste of agricultural products;
3. maintaining employment and preserving know-how.

Support for processing and marketing shall also be the subject of agricultural investment if the products referred to are listed in Annex I to the TFU.

3.5.7 Milk and milk products

Although the dairy sector is currently experiencing much more favourable economic developments than

the beef and veal sector, it is subject to the same environmental and emission reduction targets as those of the beef and veal sector. Interventions to support and implement these targets are also available to dairy farms as well as support for diversification of production.

3.5.8 Sheep and goat

None.

3.5.9 Protein crops

The development of fodder production, and in particular the production of protein crops, is an important need for a well-developed beef sector. Further efforts are therefore needed to develop a certain degree of forage autonomy. Thus, the Managing Authority proposes to maintain and **further develop coupled support for leguminous cultivation**. This intervention will be extended in the period 2022-2027 with eligible crops covering, alongside pure legumes, mixtures of legumes and cereals, with the aim of guaranteeing aid for a wider range of areas.

Coupled aid is accompanied by a series of **interventions** which may have a favourable effect on the development of fodder. Enhanced cross-compliance ensures the maintenance of permanent grassland. An aid measure is intended to stimulate the transfer of arable crops to permanent grassland. The main aim is the protection of water, but the secondary effect of the intervention is also to ensure the production of fodder for a decreasing livestock. Promoting the reduction of livestock will also have an impact on the availability of fodder if these areas are maintained. State aid for rotation diversification has been amended to make temporary grassland eligible as well.

However, climate change can have negative consequences for the production of fodder. Heat waves and periods of drought can inhibit fodder production and decrease harvest yields. For example, risk management measures (state aid) have been offered to farmers who make these farms more resilient to harvest losses.

Research projects (national action) for the most appropriate fodder crops promote fodder plants that are more drought resistant.

Support to farm advice (state aid) also includes a module to improve fodder production. Holistic farm advice should focus more on farms towards more sustainable production taking into account the specificities of the farm and its natural environment.

3.5.10 Sugar beet

none.

3.5.11 Other sectors

Not applicable

3.6 Overview of the interventions that contribute to ensure a coherent and integrated approach to risk management, where relevant

Not applicable

Risk management interventions are national measures under the state aid regime.

3.7 Interplay between national and regional interventions

3.7.1 Where relevant, a description of the interplay between national and regional interventions, including the distribution of financial allocations per intervention and per fund

Luxembourg has a national programme only. The NSP is fully financed at European level by the EAGF and EAFRD

3.7.2 Where relevant, where elements of the CAP Strategic Plan are established at regional level, how does the interventions strategy ensure the coherence and the consistency of these elements with the elements of the CAP Strategic Plan established at national level

Not applicable

3.8 Overview of how the CAP Strategic Plan contributes to the objective of improving animal welfare and reducing antimicrobial resistance set out in point (i) of Article 6(1), including the baseline conditions and the complementarity

This NWP aims to ensure a high level of animal welfare on farms.

New livestock buildings shall be eligible for investment aid only in accordance with **organic production** methods. This condition was introduced to prepare for an even more accelerated transition to organic production with the national target of using 20 % of UAA in organic production in 2025. In addition, from a certain level of investment, farmers wishing to benefit from support for the construction of a new farm must use **integrated advice focusing on animal welfare**, environmental and climate objectives, as well as farm competitiveness. Support for agricultural investments shall also aim at the use of **digitalisation and other technical innovations and monitoring tools** that support a high level of animal welfare on farms.

In addition to the reorientation of investment aid, this NSP puts in place an intervention promoting **cattle grazing** favourable to animal welfare and promoting the image of Luxembourg's agriculture.

In order to complement and support animal welfare measures, a farm council will be introduced focusing on animal welfare (**monitoring and certification of on-farm animal welfare** on the basis of the animal welfare indicator statement), which makes it possible to identify weaknesses and define corrective measures. Other already existing advisory modules already include aspects related to animal welfare and health (e.g. performance monitoring, monitoring of fertility of herds, calculation of dietary rations adapted to physiological needs, genetic selection programmes). It is recalled that the farm council will be subject to the State aid scheme.

It should be noted that, in general, intervention relating to the “**conversion to and maintenance of organic farming**” and measures aimed at the extensification of **animal production systems**, in particular support for the **reduction of the burden of cattle and support for the maintenance of a herd and a low livestock load** (financed by national means) contribute significantly to the achievement of the ‘animal welfare’ objective.

The Ministry of Agriculture has put in place a formal procedure for granting **labels**, which goes hand in hand with the payment of State aid to support producer groups in their quality procedures and encourages the introduction of production criteria that go beyond standard animal welfare and environmental standards.

As regards **antimicrobial resistance**, Luxembourg is well below the European average. The Ministry of Agriculture already provides maximum support for health programmes and vaccination campaigns on Luxembourg farms. Under the **National Antibiotic Plan 2018-2022**, the Luxembourg authorities also set themselves the objective of reducing the emergence, development and transmission of antibiotic resistance using a ‘One Health’ approach, including human, veterinary and environmental aspects. This national plan focuses on the principle of **prevention, surveillance and recommendation** on the use of antimicrobials in livestock.

The Ministry of Agriculture will ensure greater monitoring and control of the prohibition of tail-docking practices in piglets on Luxembourg farms – however, it should be noted that Luxembourgish fattening companies are heavily dependent on imports of piglets from other Member States. The Ministry of Agriculture has launched an awareness-raising campaign involving both pig farmers and treatment veterinarians. The aim of this campaign is to take stock of the situation and carry out a diagnosis of holdings in order to identify ways of **abandoning tail-docking piglets** in closed farms and piglet producers.

3.9 Simplification and reducing the administrative burden

In order to ensure simplification and reduction of administrative burden, a number of principles have guided the development of the various interventions:

1. Ensure that the rules are simple, easily understandable and effective.
2. Not to modify existing interventions that have been shown to be effective and simple to manage.
3. Adapt or remove rules that have created problems in previous programming and replace them where necessary with simpler rules.
4. Harmonise rules for similar interventions.
5. In the interventions, if possible, provide for a limited number of conditions per variant.
6. Limit the number of information and documents to be provided by the applicant and rely as much as possible on the data and information already available to the administration.
7. Ensure that demand via the geo-spatial application is simple, structured and intuitive.

The basic payment

Basic payment entitlements will converge towards a unit value and will be replaced by a per hectare payment in 2027. Thus, the management of payment entitlements and their transfers will become obsolete.

The redistributive payment

The number of payment tranches was limited to 2 (from 0 to 30 hectares and from 30 to 70 hectares).

Coupled subsidies

Coupled aid is an easily managed targeted aid. For area-coupled aid, only eligible crop codes may be declared by the applicant.

For suckler cow coupled support, the application will be of the ‘claimless’ type. The number of LUs to be taken into account will be based on the bovine identification and registration database.

Complementary income support for young producers

The aid is paid on a flat-rate basis, which is the simplest form. In addition, the aid may be granted to several young people on the same holding. This harmonisation with the installation support provided for in the second pillar greatly facilitates farmers’ understanding and administrative management of the aid by the administration in charge.

Eco-schemes

Aid applications will be made annually via the geo-spatial application using checkboxes or drop-down lists at the level of the parcels declared.

For each variant, a limited number of conditions must be met.

For similar interventions, the rules and conditions have been harmonised. Thus, for eco-schemes for non-

productive bands and non-productive areas, the rules have been harmonised regardless of location. Differences are due only to differences in cross-compliance obligations.

Agri-environmental and climate measures

A number of agri-environmental and climate interventions have not been modified, as they have proved their worth in previous programming and the arrangements are well known to farmers.

On the other hand, the problematic rules have been adapted, respectively, if necessary.

The calculation rules have been harmonised for similar interventions. Thus, for the AECM ‘maintaining a low livestock load’ and the AECM ‘Reduction of the livestock load’, the calculation of the livestock load is done in the same way.

Payments under the Water Framework Directive

This intervention, which is well known to farmers, has not been changed.

Payment for areas facing natural or specific constraints

This intervention, which is well known to farmers, has not been changed.

The area monitoring system

The area monitoring system may, where appropriate, help to assess the scale of a case of force majeure and exceptional circumstances. Article 3 of Regulation (EU) 2021/2116 provides for the following cases of force majeure or exceptional circumstances:

(a) A serious natural disaster or weather event. In this case, the area monitoring system can help to delimit the affected area. Geo-referenced photos can help to document the condition of parcels in case of drought or floods.

(b) accidental destruction of farm buildings intended for livestock farming. High-resolution satellite photos may confirm other supporting documents such as insurance company reports.

(C) An epizootic outbreak of a plant disease or the presence of a plant pest affecting all or part of the beneficiary’s herd or plant capital. In the case of a plant disease, markers such as the evolution of NDVI or ILL may give an indication of the health status of the crops. Geo-referenced photos can help to assess the extent of damage to affected plots.

(D) expropriation of all or a large part of the holding, provided that such expropriation could not have been anticipated on the date on which the application was made. In this case, the area monitoring system does not add value. At most, if the expropriation took place due to construction works, SENTINEL satellite images or high-resolution images help to delineate the eligible areas and update the reference parcel. However, this area monitoring work is in any event provided for as part of the checks on the homogeneity of the parcels declared.

(e) the death of the beneficiary. In this case, the area monitoring system is not applicable.

(f) long-term professional incapacity of the beneficiary. In this case, the area monitoring system is not applicable.

3.10 Conditionality

3.10.1 Main issue: Climate change (mitigation of and adaptation to)

3.10.1.1 GAEC 1: Maintenance of permanent grassland based on a ratio of permanent grassland in relation to agricultural area

3.10.1.1.1 Summary of the farm obligation (e.g. prior authorisation system and reconversion obligation)

(1) The ratio of areas under permanent grassland to the total agricultural area declared by farmers shall not decrease by more than 5 % compared to the reference ratio of the year 2018 by dividing the areas of permanent grassland by the agricultural area.

This obligation applies at national level.

(2) Areas under permanent pasture may not be converted without prior individual authorisation and under the following conditions:

(a) in the case of renewal of permanent grassland:

— reseeding must be carried out by means of an appropriate mixture,

— reseeding must take place on the same agricultural parcel no later than the year following the destruction of the herbaceous vegetation of the permanent grassland.

Sowing by a cereal crop with under-sowing before re-sowing is permitted.

Sowing with maize cultivation with under-sowing before re-sowing is allowed only if the permanent grassland is turned over in spring.

— may be renewed as arable land per year up to a maximum of 6 hectares of the area under permanent grassland if this area is less than 60 hectares and a maximum of 10 per cent of the area under permanent grassland if it is 60 hectares or more,

The renewal of grazing grassland is linked to a high proportion of tense root weeds or undesirable grasses (e.g. dogfish, meadow vulpin, soft pasture, meadow pasture, etc.) and a small proportion of grasses grown for their nutritional quality. To take precautions to ensure that new sowing is not covered too quickly with undesirable grasses, it is necessary to completely destroy the old layer.

Reseeding with a cover crop is primarily used to protect young sowing and to reduce grazing with undesirable grasses. The sowing of grassland as an under-sowing in cereal or maize crops makes it possible to successfully prevent flooding of the new stand with undesirable grasses. Sowing as under-sowing protects the new herbaceous stand against drying and increases the success of the new sowing.

(b) where part of the permanent grassland of the holding is converted into arable land:

— an area of arable crops must be sown to permanent grassland by means of an appropriate mixture in the year of conversion or an area of temporary grassland must be reallocated to permanent grassland,

— the total area thus reallocated must correspond to at least 95 per cent of the area of permanent grassland concerned by the conversion,

— may be converted into arable land per year up to a maximum of 6 hectares of the area into permanent grassland if the area is less than 60 hectares and a maximum of 10 per cent of the area into permanent grassland if the area is equal to or greater than 60 hectares,

(C) where a farmer carries out a major reorientation of his holding, the farming industry of the holding is not suitable for the holding of permanent grassland or the farmer changes the use of permanent grassland affected by land consolidation, the farmer must submit a plan to reallocate his permanent grassland to the Rural Economy Service, which consults the Administration of Technical Services for Agriculture in order to verify whether such reassignment is detrimental to environmental interests. Where appropriate, the authorisation for repurposing may be subject to an environmental commitment.

(D) In order to ensure the protection of environmentally useful permanent grassland:

— permanent grassland located in flood areas established for medium probability floods for a probable

return period of 100 years under Article 38 of the amended Water Act of 19 December 2008 may be converted or ploughed only in cases of force majeure.

— biotopes of permanent grassland deriving from Article 17 of the Law of 18 July 2018 on the protection of nature and natural resources cannot be converted or ploughed;

— areas that pose a risk of erosion based on soil erodibility and topographical factors in the area cannot be converted or ploughed. However, re-sowing without ploughing or over-sowing is permitted. A derogation also applies in the case of damage to game.

In order to be eligible for the authorisation in question, farmers must submit a corresponding application to the Rural Economy Service.

(3) Where the ratio has decreased by more than 5 per cent compared to the reference ratio, areas shall be converted to areas of permanent grassland. Furthermore, in order to avoid a further conversion of areas of permanent grassland, no conversion authorisation shall be granted.

3.10.1.1.2 Territorial scope (national, regional, farm-level, group-of-holdings)

national

3.10.1.1.3 Value of the reference ratio (including calculation method)

Ratio **53.42**

Explanation

The ratio shall be calculated on the basis of producers eligible for direct payments in 2018 on the basis of control statistics provided in accordance with Article 9 of Regulation (EU) No 809/2014. The figures used for the calculation are:

Number of beneficiaries: 1 713

Area under permanent grassland and pasture: 65 136.65 ha

Total utilised agricultural area: 121 943.91 ha

3.10.1.1.4. Type of farmers concerned (all farmers that have permanent grasslands)

Active farmers using permanent grassland.

3.10.1.1.5 Explanation of the contribution to achieve the main objective of the GAEC standard

The system aims to address climate change challenges (adaptation and mitigation) given the capacity of permanent grassland to store and sequester carbon from the atmosphere. It is designed as a ‘general guarantee against conversion of permanent grassland to other agricultural uses in order to preserve carbon stock’.

Maintaining these areas also contributes to the protection of water, the prevention of soil erosion and the protection of soil quality, as well as biodiversity.

The authorisation system and the conditions as defined have already been in place for several years in the context of agri-environment-climate measures and have proved their worth. Indeed, the ratio established in 2015 has steadily increased.

3.10.1.2 GAEC 2: Protection of wetland and peatland

3.10.1.2.1 Summary of the on-farm practice

(1) Wetlands

Measures relating to protected biotopes and wet- or aquatic habitats as defined in Article 5 of the Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable and specifying the related reduction, destruction or deterioration measures shall be prohibited.

These general measures for the reduction, destruction or deterioration of protected biotopes and habitats of Community interest, wet or aquatic, and prohibited by Article 17 of the Law on the Protection of Nature

and Natural Resources of 18 July 2018, are:

1. the use of biocides or pesticides;
2. amendment, liming or fertilisation;
3. turning or ploughing;
4. backfilling or unpacking;
5. whether or not incorporated into the ground;
6. reseedling or oversowing;
7. grazing of livestock or bait of game on the surface itself or within a radius of ten metres around the protected biotope or habitat of Community interest;
8. water flow change, water intake, abstraction, pumping, direct or indirect bypass, drainage or curing;
9. surface grinding of vegetation, with the exception of localised mechanical control of agricultural weeds in the context of cross-compliance;
10. the introduction of specimens of plants or animals, whether indigenous or not, other than restocking of fish native to natural watercourses.

In addition to these general measures, specific reduction, destruction or deterioration measures for certain protected biotopes and habitats of Community interest, wet or aquatic, are defined as follows:

(a) Hygrophyllous meadows of planitium and mountainous to alpine floors [6430]

— The curing of ditches containing meadows;

— Current burning;

Reforestation;

— Annual mowing, which is not suitable for maintaining the favourable conservation status of the meadow and has the effect of reducing the number, abundance or rate of recovery of characteristic species or of damaging the structure.

(b) Petrifying sources with formation of travertine (Cratoneurion) [7220]

— Any intervention without ministerial authorisation, including within a 10-metre radius of petrifying sources;

— All interventions resulting in damage to the underground hydrological system associated with the source.

(c) Magnocarpietalia [BK04]

Grazing;

— Annual mowing, which is not suitable for maintaining the favourable conservation status of the carpietalia and has the effect of reducing the rate of recovery of characteristic species or of degrading the structure.

(D) Sources [BK05]

— Early or repetitive mowing, which is not suitable for maintaining the favourable conservation status of the source and has the effect of reducing the number, abundance or recovery rate of the characteristic species or structural degradation;

— The modification, liming, fertilisation, use of biocides or pesticides within a radius of 10 metres from the source;

— Ploughing or turning within a 10-metre radius of the source;

— The stocking of livestock or bait of game on the surface itself and within a radius of 10 metres from the source;

Reforestation.

(e) Rowels (Phragmition, Phalaridion, Sparganio-Glycerion) [BK06]

Mowing or grazing, with the exception of mowing provided for in a duly approved management plan.

(f) Wetlands of Calthion [BK10]

— Early or overrepetitive mowing, exceeding two mowing passages per year, not suitable for maintaining the favourable conservation status of wet meadows and reducing the rate

covering the characteristic species or damaging the structure;

— Grazing which is not suitable for maintaining the favourable conservation status of wet meadows and which has the effect of reducing the rate of recovery of characteristic species or of degrading the structure.

(2) Peatland

Measures relating to protected biotopes and wet- or aquatic habitats as defined in Article 5 of the Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable and specifying the related reduction, destruction or deterioration measures shall be prohibited.

These general measures for the reduction, destruction or deterioration of protected biotopes and habitats of Community interest, wet or aquatic, and prohibited by Article 17 of the Law of 18 July 2018, are:

1. the use of biocides or pesticides;
2. amendment, liming or fertilisation;
3. turning or ploughing;
4. backfilling or unpacking;
5. whether or not incorporated into the ground;
6. reseedling or oversowing;
7. grazing of livestock or bait of game on the surface itself or within a radius of ten metres around the protected biotope or habitat of Community interest;
8. water flow change, water intake, abstraction, pumping, direct or indirect bypass, drainage or curing;
9. surface grinding of vegetation, with the exception of localised mechanical control of agricultural weeds in the context of cross-compliance;
10. the introduction of specimens of plants or animals, whether indigenous or not, other than restocking of fish native to natural watercourses.

In addition to these general measures, specific reduction, destruction or deterioration measures for certain protected biotopes and habitats of Community interest, wet or aquatic, are defined as follows:

(a) Transitional and dirty tourism [7140]

— Any intervention at peat level without ministerial authorisation;

— The modification, liming, fertilisation, use of biocides or pesticides within a radius of 10 metres around the bog;

— Ploughing, turning, filling and clearing within a 10-metre radius around the bog.

(b) wet rich, spring marshes, low marshes and small lettuce vegetation [BK11]

— Early or repetitive mowing, which is not suitable for maintaining the favourable conservation status of the protected biotope and has the effect of reducing the number, abundance or recovery rate of the characteristic species or of damaging the structure;

— The modification, liming, fertilisation, use of biocides or pesticides within a 10-metre radius of marshes from sources, low marshes or small lettuce vegetation;

— The stocking of livestock or bait of game on the surface itself and within a radius of 10 metres of the protected biotope;

— Grazing of the two subtypes, low marshes and small lettuce vegetation;
Reforestation.

The designation of wetlands under GAEC 2 takes into account all wetlands and peatlands on the agricultural area. Wetland mapping includes two types of biotopes:

- Wetlands listed in Annex I to Directive 92/43/EEC (Habitats). Wetlands are designated by their 4-digit Natura 2000 code.

- Wetlands, other than those of Directive 92/43/EEC, protected by national legislation. These wetlands are designated by a code with the letters BK (Biotopkataster) followed by two digits.

It should be noted that both types are already mapped. Therefore, the implementation of GAEC 2 can be implemented as of 2023. Needless to say, the areas concerned are updated in cases where drained parcels are further transformed into wetlands as part of renaturation projects. Similarly, the results of the Commission's JRC SEPLA project will help to refine the wetland layer.

For reasons of clarity and in order to avoid any overlap between the requirements of GAEC 2 and GAEC 8, GAEC 8 requirements for wetland and marshland are integrated into GAEC 2.

Wetlands & Loss areas: The following are prohibited:

Early or repetitive mowing, which is not suitable for maintaining the favourable conservation status of the source and has the effect of reducing the number, abundance or recovery rate of characteristic species or of deteriorating the structure;

Amendment, liming, fertilisation, use of biocides or pesticides within a 10-metre radius of the source;

Ploughing or turning within a 10-metre radius of the source;

Grazing of the two subtypes, low marshes and small lettuce vegetation;

Reforestation.

3.10.1.2.2 Year of application of the GAEC

Please select year: **2023**

Justification

The provisions are already in force for many years to protect biotopes and habitats.

3.10.1.2.3 Territorial scope and area designated

(1) The following habitats of Community interest and protected biotopes are defined as wetlands:

(a) Hygrophyll meadows of planitium and mountainous to alpine floors [6430]

(b) Petrifying sources with formation of travertine (Cratoneurion) [7220]

(c) Magnocaricæes [BK04]

(d) Sources [BK05]

(e) Rowels (Phragmites, Phalaridion, Sparganio-Glycerion) [BK06]

(f) Wetlands of Calthion [BK10]

(2) The following habitats of Community interest and protected biotopes are defined as peatland areas:

(a) Transitional and dirty tourism [7140]

(b) wet rich, spring marshes, low marshes and small lettuce vegetation [BK11]

Biotopes [7140] and [BK11] cover all bogs in Luxembourg.

Wetlands and peatlands are mapped and searchable on geoportail.lu. The layer of wetlands and peatlands will be displayed in the GSAA.

3.10.1.2.4 Type of farmers concerned

Active farmers using land in designated areas.

3.10.1.2.5 Explanation of the contribution to achieve the main objective of the GAEC standard

The main objective of this standard is the “protection of carbon-rich soils”. Wetlands and peatlands represent an important carbon sink on the planet and the preservation of current soil organic carbon levels could be more effective than additional carbon sequestration.

The objective of this GAEC is to avoid the degradation of areas considered sensitive to further carbon depletion. The protection of these areas is therefore highly relevant in the context of climate mitigation and adaptation.

Wetlands and peatlands are also highly biodiverse ecosystems and contribute to the protection of habitats, in particular for birds, but also for water quality and soil quality protection.

Designated areas are already protected in the context of the protection of biotopes and habitats of national and Community interest. By prohibiting the destruction of these habitats, the protection of carbon-rich soils is ensured.

3.10.1.3 GAEC 3: Ban on burning arable stubble, except for plant health reasons

3.10.1.3.1 Summary of the on-farm practice

Burning the stubble is prohibited.

3.10.1.3.2 Territorial scope

All arable land

3.10.1.3.3 Type of farmers concerned

Active farmers using arable land.

3.10.1.3.4 Explanation of the contribution to achieve the main objective of the GAEC standard

The aim of this standard is to contribute to ‘maintaining soil organic matter’, among other agricultural practices (soil cover, reduced or zero tillage, etc.). Banning the burning of arable stubble promotes the incorporation of stubble, which contributes to an increase in soil organic matter and prevents the direct release of CO₂ into the atmosphere. Preventing further losses of soil organic matter has two main benefits: it contributes to mitigating climate change and improves the state and fertility of the soil. The GAEC also contributes to the prevention of greater air pollution.

Stubble burning was not one of the cultivation practices in Luxembourg. Banning stubble burning only confirms a well-established practice for generations.

3.10.2 Main issue: Water

3.10.2.1 GAEC 4: Establishment of buffer strips along water courses

3.10.2.1.1 Summary of the on-farm practice

(1) The amendment, liming, fertilisation, use of biocides and pesticides over 10 metres on either side of the river are prohibited.

(2) Tillage, ploughing, turning, backfilling and clearing over five metres on either side of the river's banks are prohibited; repairs to game damage which may be carried out in accordance with the instructions of the Nature and Forestry Administration.

(3) Rivers are the rivers mentioned in the Rhine and Meuse River Basin Management Plan. They are published and available on geoportail.lu.

Rivers are defined in accordance with Article 2 of the amended Water Law of 19 December 2008.

A river is a substantially superficial fairway, a permanent or temporary water conductor, a fairway being a natural or artificial bed, clearly identifiable, containing running water permanently or periodically.

Rivers are mapped by the Water Management Administration and can be consulted on Geoportail.lu.

Water courses with their buffer strips will be displayed in the GSAA.

Explanatory note 1:

At the level of GAEC 4, the obligations of national environmental legislation have been taken over. *The wording 'Modification, liming, fertilisation, use of biocides or pesticides over 10 metres on either side of the river's banks shall be prohibited'* means that the following operations are all prohibited, either in isolation or in combination: Amendment, liming, fertilisation, use of biocides and use of pesticides.

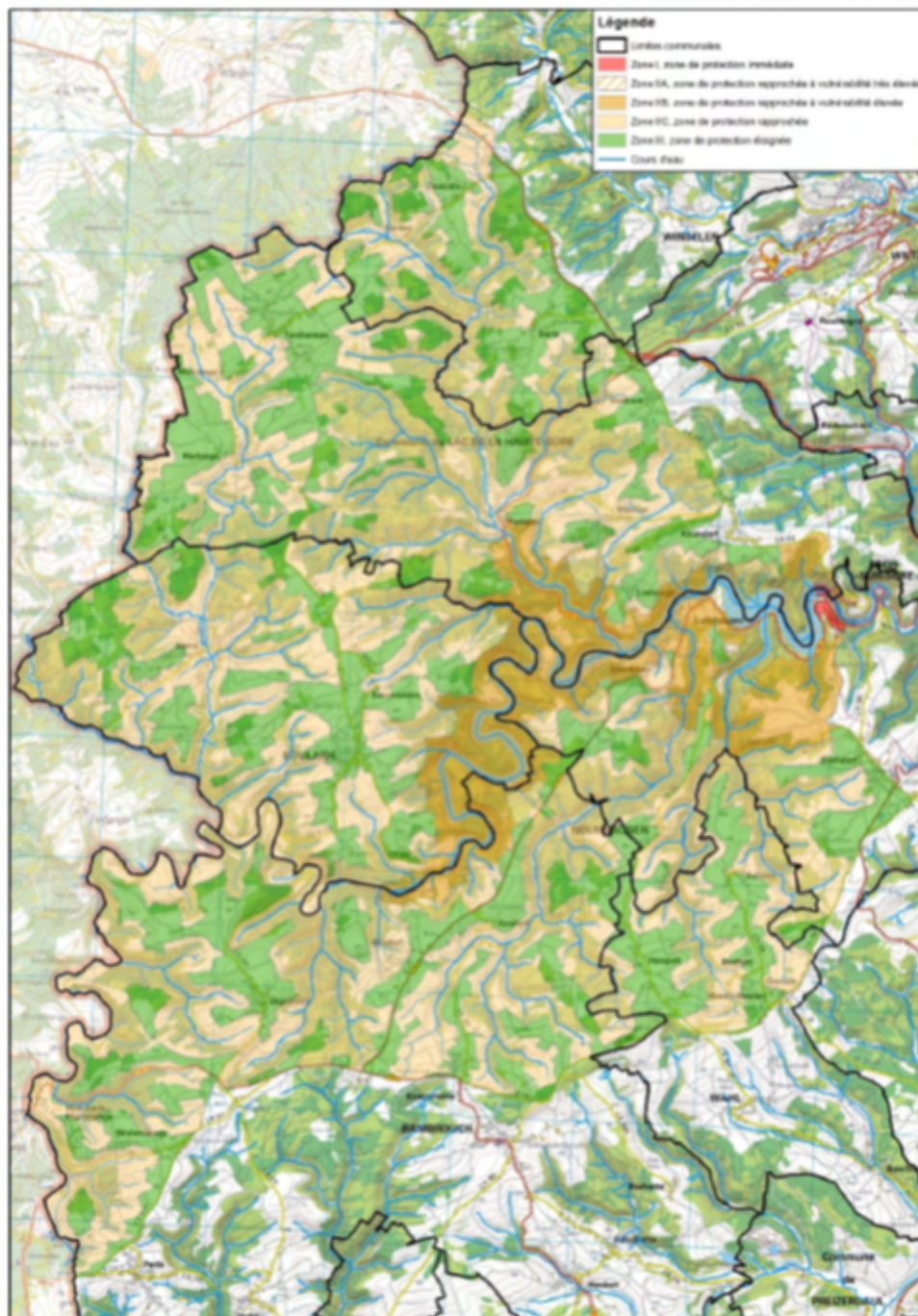
Legislative legislation considers "or" to be synonymous with "and/or". The Council of State, which verifies the legislation and the constitutionality of laws and regulations, has repeatedly stated that: *"The use of 'and/or', which can generally be replaced by 'or', should be avoided"*.

Explanatory note 2:

The regulations delimiting the protection zones around the Lake Haute-Sûre have been amended and the prohibition on the application of fertilisers and organic and mineral soil improvers has been repealed. It has been replaced by mapped zoning and more refined fertilisation regulations. In this way, the rules have been strengthened.

The following areas have been defined:

- Zone I
- Area IIA
- Zone IIB
- Zone II C
- Area III



The areas are published and can be consulted on geoportail.lu

In Zone I, all structures, installations, depots, works or activities are prohibited except those relating to the operation and maintenance of the area, surface water abstraction works and the dam of the Lake Haute-Sûre.

In area IIA. Fertilisation is prohibited.

In zones IIB, IIC and III, the application of organic and mineral fertilisers and soil improvers is regulated according to the type of organic and mineral fertilisers and soil improvers. An information campaign will be carried out with a view to applying the new provisions from the 2022/2023 crop year onwards.

	Zone IIA	Zone IIB	Zone IIC	Zone III
Fertilisation with	— —	+ 47	+ 47	47

mineral fertilisers				
Fertilisation with phosphate fertilisers	— —	+ 36	+ 36	+ 36
Fertilisation with sewage sludge and composted sewage sludge	— —	— —	— —	— —
Fertilisation with compost from a public or private industrial or commercial plant	— —	— 37	a 38	+ 38
Fertilisation with poultry effluent (manure and fibers) ³⁹	— —	— —	— —	a 38, 40
Fertilisation with other types of manure than soft manure	— —	— 37	+ 38,41	+ 38,41
Fertilisation with solid fraction of treated digestate or manure	— —	— 37	+ 38,41	+ 38,41
Fertilisation with soft manure	— —	— 37	+ 38, 40	+ 38,40
Fertilisation with purin, slurry, liquid fraction of digestate from plants	— —	— 37	+ 38, 40	+ 38, 40
biomethanisation or liquid fraction of treated manure				

Caption/Explications:

+ = authorised; — = prohibited; a = subject to authorisation

36	On land in zone IIB, fertilisation with phosphate fertilisers is only allowed for land beyond a strip of land of a width of 100 metres to be measured from the edge of the lake or from the pre-dams at the N.N. + 321. Fertilisation with phosphate fertilisers – taking into account animal manure during grazing – must be carried out on the basis of soil analyses (to be carried out at least all

	five years) and depending on the needs of the crops. The period to be taken into account for compiling the balance of phosphate background fumide may not exceed five times years. Class C limits of P₂O₅ content (mg/100 g dry soil) for the different soil types must not be exceeded after a period of five years after the entry into force of this Regulation. For arable crops in fertility class E all phosphate manure is prohibited. For arable crops – with the exception of maize, beet and potatoes – as well as for permanent meadows and pastures in fertility classes D, phosphatic fluoride are authorised according to the recommendations in force. For maize, beet and potato crops, of which soils have levels of class D P₂O₅, although phosphatic fluoride is only authorised in a localised manner. An analysis of the P₂O₅ content (mg/100 g dry land) for all parcels FLIK is to be transmitted by the operator to the Water Management Administration for the 30 April of the year following the entry into force of this Regulation and thereafter all five years, and therefore accompanied by a phosphate balance over the five-year period past.
37	An authorisation may be granted for land in Area IIB and located beyond a land strip of a width of 100 metres to be measured from the edge of the lake or from the pre-dams at N.N. + 321:

	— if the land application of the authorised liquid organic fertilisers on grassland will be carried out by injection, — if on arable land the authorised liquid and solid organic fertilisers will be injected directly into the soil or incorporated into the soil within 4 hours.
38	Must comply with the limits laid down in the amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture. When the objectives set out in Annex I to the amended Regulation of 7 October 2002 on quality of water intended for human consumption and by the objectives set by the water Framework Directive (2000/60/EC) transposed by the amended law of 19 December 2008 water is not reached, more restrictive measures may be set.
39	Without prejudice to other legal and regulatory provisions, only poultry effluents produced in the protection zones around the Lake Haute-Sûre.
40	For fast-acting organic fertilisers (slurry, purin, digestate, liquid fraction of treated digestate and manure, soft manure, poultry manure and poultry fientes: (1) bare land (i.e. any type of set-aside): land application prohibited all year round (2) arable land without grassland and temporary pasture: — limit to 80 kg Norg/ha from 1 September to 30 September inclusive; — prohibition of spreading from 1 October to 15 February inclusive; — after maize, late potato or beet: no fast-acting fertilisers up to and including 15 February, independently of

	winter crop monitoring; — without prejudice to other legal and regulatory provisions, on parcels FLIK with an average gradient of more than 10 %, the spreading is to be carried out by incorporation or direct injection into the ground and a grass strip of a width of at least 6 metres must be planted on the parcel at the bottom of the slope. But there is one exception: crops grown in brine, this band should not be planted if downstream of the FLIK parcel is a parcel of permanent grassland and pasture, or temporary staff; (3) permanent and temporary grassland and pasture: — limit to 80 kg Norg/ha from 1 September to 30 September — prohibition of land application from 1 October to 15 February inclusive
41	For slow acting organic fertilisers (other than soft manure, manure of poultry and poultry fientes), compost, the solid fraction of digestates and of treated manure: (1) bare land (i.e. any type of set-aside): land application prohibited all year round (2) arable land without grassland and temporary pasture: — prohibition of land application from 16 November to 15 January inclusive.
47	On land in zone IIB fertilisation with nitrogen fertilisers is only authorised for land beyond a strip of land of a width of 100 metres to be measured from the edge of the lake or from pre-dams at N.N. + 321. In the case of unique fertilisation of mineral

	nitrogen fertilisers, the amount of fertilising products nitrogen minerals applied per year and per hectare must not exceed the quantities defined by the amended Grand-Ducal Regulation of 24 November 2000 concerning the use of nitrogen fertilisers in agriculture, without prejudice to the provisions special provisions provided for in the attached Regulation. In zones IIC and III, the maximum nitrogen mineral fumide in case of absence organic fertilisation is limited to 130 kg N/ha/year for maize crops, beet and potatoes.

3.10.2.1.2 Minimal width of buffer strips (in m)

3.10.2.1.3 Territorial scope, including water courses definition

National

3.10.2.1.4 Type of farmers concerned

Active farmers exploiting agricultural land along water courses and bodies.

3.10.2.1.5 Explanation of the contribution to achieve the main objective of the GAEC standard

The objective of this standard is “Protection of rivers against pollution and run-off”. The GAEC standard aims to contribute to the protection of rivers against pollution and run-off. The establishment of buffer strips reduces river contamination and improves water quality. Buffer strips are also very beneficial for biodiversity. They are habitat for flora and fauna and prevent or limit eutrophication.

The width of 10 metres is considered to be sufficiently broad to provide effective protection against pollution and run-off.

3.10.3 Main issue: soil(protection and quality)

3.10.3.1 GAEC 5: Tillage management, reducing the risk of soil degradation and erosion, including consideration of the slope gradient

3.10.3.1.1 Summary of the on-farm practice

An erosion risk map shall be drawn up. The risk of erosion is classified in five classes: No risk of erosion, risk of very low erosion, risk of low erosion, risk of medium erosion and risk of high erosion.

Erosion mapping under GAEC

Choice of method

Erosion is a natural phenomenon that can be exacerbated by certain agricultural practices and topographical and soil conditions. In order to increase the efficiency and acceptance of these measures, it is preferable to concentrate its efforts in areas where the risk is real. The slope is not considered to be a satisfactory criterion for defining the erosive risk for the Grand Duchy of Luxembourg. Many parcels with low slopes have erosion and, in contrast, sloped parcels are not affected. This is mainly due to the very different nature of the soils between the two major natural regions (Gutland and Oesling).

The risk classification method is different depending on the land cover. The arable land methodology comes from a methodology using multivariate statistical learning (Machine Learning). The methodology for grassland is done by calculating potential erosion from RUSLE.

RUSLE: Revised universal soil loss equation: Calculation of erosion risk

$$A = R * K * LS * C * P$$

- A: Multiannual average land loss (t/ha.an)
- R: Rainfall erosivity factor
- K: Soil Erodibility
- LS: Topographical factor: Length and gradient intensity (Desmet & Govers (1996))
- C: Land cover factor
- P: Anti-erosive measures, a value $P = 1$ has been adopted (ploughing)

The absence of soil erosion measurements in Luxembourg, whether direct (via Wischmeier parcels) or indirect (via high-frequency monitoring of sediment flows in watercourses), does not allow the calibration/validation of quantitative models of land losses. In this context, the RUSLE approach includes many limitations (Alewell, C., Borrelli, P., Meusburger, K. & Panagos, P. (2019)). Using the USLE: Chances, challenges and limitations of soil erosion modelling. 10.1016/j.iswcr.2019.05.004.

. A multivariate methodology has therefore been developed and is explained in the following section.

Risk of erosion on arable land

In arable land, the erosion risk map is established by photo-interpretation and statistical learning. Photo-interpretation was carried out using 11 high-resolution ortho-photographs visible on geoportail.lu for the years: 2001, 2004, 2007, 2010, 2013, 2016, 2017, 2018, 2019 in winter, 2019 in summer and 2020. This technique is applicable because the size of the country and thus its arable area remains small.

The methodology for obtaining the first set of learning is represented graphically in Figure 1.

The initial selection of parcels to be observed was made on the basis of an erosive risk defined in advance, depending on the RUSLE and the field experience. For each parcel, it was collected in the years when erosion is visible and the type of erosion (diffuse, concentrated). In addition, in the event of concentrated erosion, the ephemeral rigoles/ravines of each parcel have been digitalised. In order to avoid differences in interpretation, only one operator carried out this digitalisation. The flow direction of the water before digitalisation is checked to ensure that the supposedly rigole is not an artefact (trace of tyres, damage to game, passage of pedestrians).

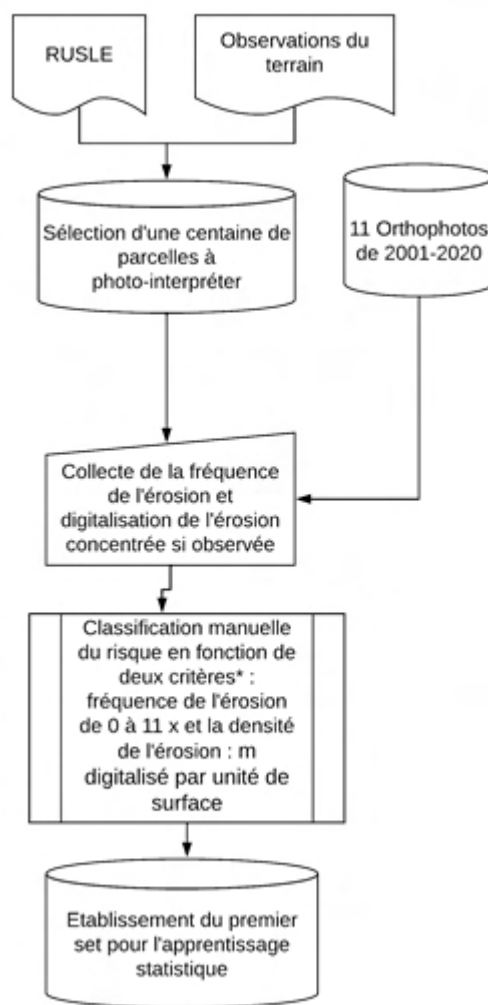


Figure 1: Phase 1 initial establishment of the learning set. In the case of plots of land with only diffuse erosion, the criterion of frequency of occurrence of erosion shall be used (Table 2).

For parcels with concentrated erosion, the risk classification matrix is based on two criteria (Table 1): observation frequency and density.

The area unit for the calculation of density is the area in hectare at $1/4$. This choice has been made to avoid small parcels ending up with much higher arithmetically higher densities than large parcels. Density thresholds were estimated on the basis of the data distribution (percentile) and checked by knowledge of the risk of certain parcels.

Table 1: Classification of the erosive risk for parcels **with concentrated erosion**

	Fréquence/10 years		
Density [$\text{m/ha}^{1/4}$]	1-2 times	3-4 times	5 times and more
Not very dense: $< 33\text{M/ha}^{1/4}$	Very weak	Low	Medium
Moderately dense: $33\text{-}72 \text{ m/ha}^{1/4}$	Low	Medium	Medium
Dense $72\text{-}114 \text{ m/ha}^{1/4}$	Medium	Medium	Elevated

Very dense < 114M/ha ^{1/4}	Medium	Elevated	Elevated

For parcels with only diffuse erosion, only the frequency criterion is used for classification (Table 2).

Table 2: Classification of erosive risk for **diffuse erosion** plots

Fréquence/10 years			
1-2 times	3-4 times	5 times and more	
Low	Medium	Elevated	

The procedure for generalising classification to all arable land uses statistical learning (Figure 2). Several algorithms have been put into competition. The Random Forest (Package Ranger on R) method obtained the best performance in cross-validation and on an independent set. The Cohen Kappa Index was used to check classification quality.

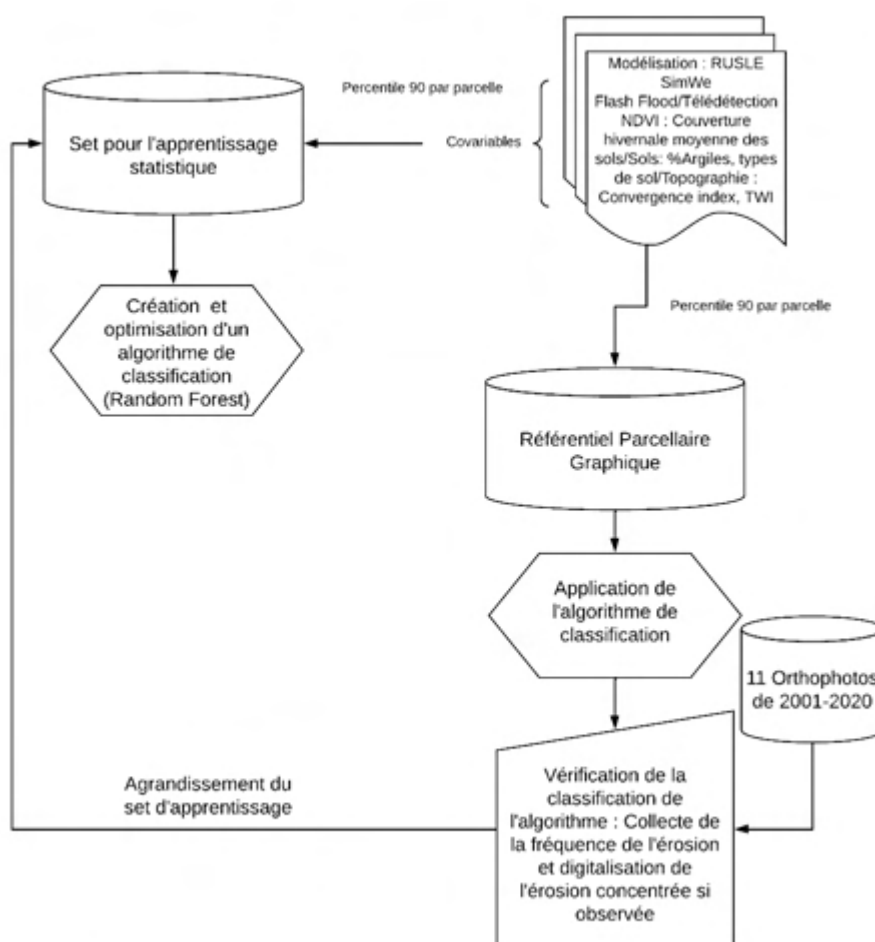


Figure 2: Phase 2, iterative process of classification of all arable land.

The co-variables used for this automated classification cover different aspects:

- modelling of uncalibrated erosion: RUSLE empirical model and the physically based SimWe model (Mitas & Mitasova 1998).
- hydrological modelling: Maximum flow rate and depth of the water slide for extreme rain (return period of 100 years).
- soil cover: Average of the vegetation index (NDVI) during winters 2017-2020 of sentinel images II and

the RUSLE C factor calculated over the period 2010-2020

- soil characteristics: RUSLE K-factor, soil texture, profile development, pH
- topographical indices: Topographic wetness index, Pente, Convergence index.
- Presence/absence of simplified tillage.

These co-variables were built on 10 m x 10 m rasters. A calculation of the 90 percentile of each covariable per parcel has been made. The co-variables are selected by the template in a selection procedure (fast forward feature) implemented in the CAST package. The LS factor, the potential erosion of RUSLE, the flow rate of the hydrological modelling of an extreme event and the earth losses of the SimWe model are the main co-variables of slightly higher importance than others.

The iterative process illustrated in Figure 2 makes it possible to identify parcels at risk. The inventory highlighted regional differences between Gutland and Oesling (Figure 3).

Figure 3: Mapping of the parcel erosion risk classification for arable land

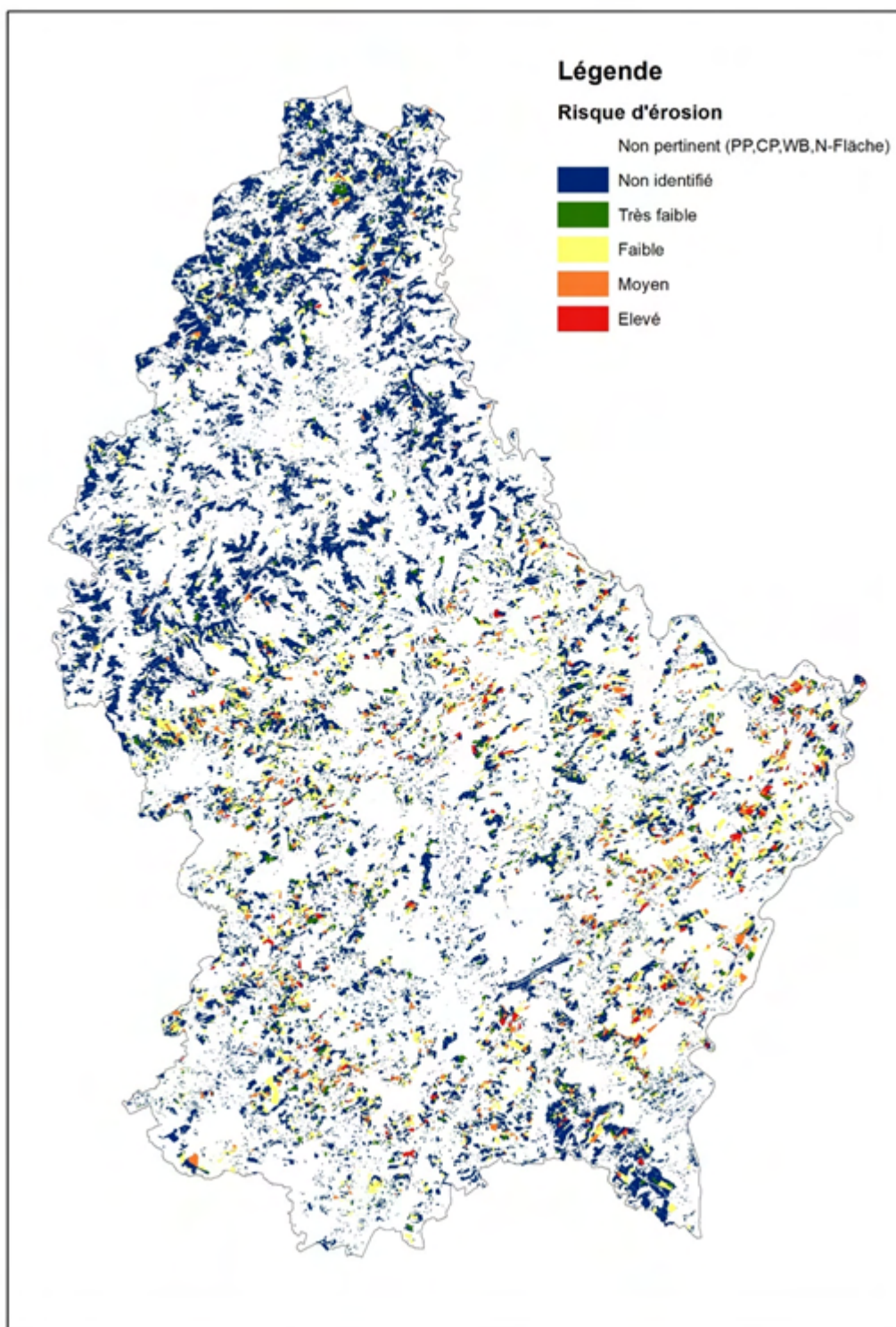


Table 4: Overview of the risk of erosion in arable land

Risk of erosion	Arable UAA [ha]	Arable UAA [%]
Unidentified	38.692	69
Very weak	2.332	4
Low	10.391	19
Medium	3.147	6
Elevated	1.252	2
Total	55.814	100

Risk of erosion in permanent grassland and crops

Under grassland and other permanent crops, erosion is very rarely observed due to permanent soil cover. In order to determine the intrinsic sensitivity of the soil and the topographical position of the plot to erosion, the risk of potential erosion determined by the RUSLE equation, the product $R * K * L * S$.

To determine the risk of potential erosion, the choice was made to remove the R-factor from the equation. A similar choice is made in Germany and Flanders (R-constant throughout the region). The K-factor corresponds to the soil erodibility of the RUSLE equation and the factor LS to the topographical factor.

With Ap: the estimation of the potential erosive risk for permanent crops.

RUSLE empirical modelling was used using MNT from lidar overflight at a resolution of 2mx2m. Parcels under permanent cultivation with an average KLS value of more than 0.027 should be considered sensitive from the point of view of potential erosion.

The value of 0.027 is the average of parcels classified with low risk as arable land.

27 % of grassland, mostly in Gutland, has an average KLS of more than 0.027 (Figure 4 and Table 5).

Figure 4: Mapping of the erosion risk parcel classification for permanent grassland

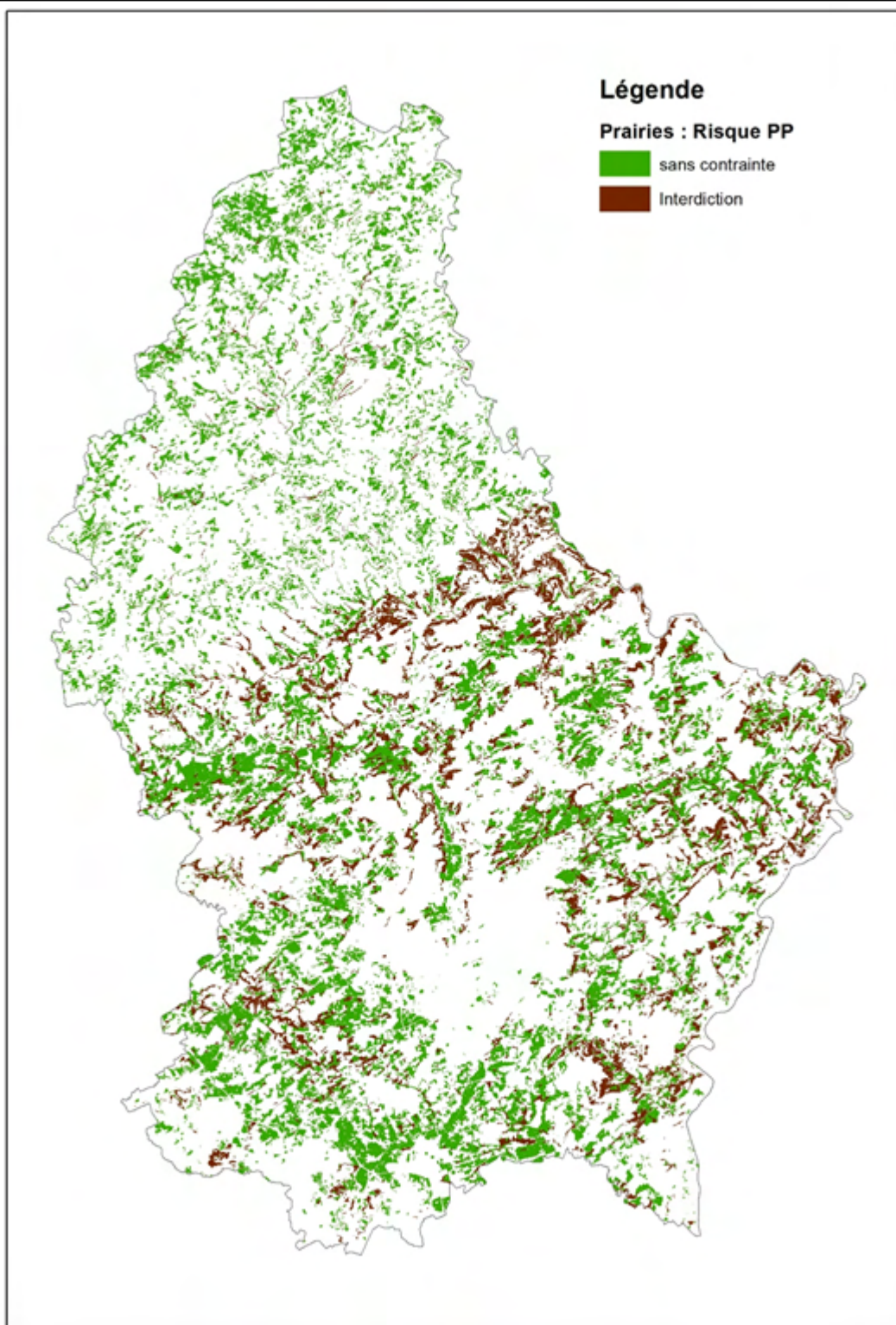


Table 5: Areas covered by the ban on ploughing on permanent grassland

Risk of potential erosion	UAA permanent grassland and crops [ha]	UAA permanent grassland and crops [%]
Not relevant	49.395	73
Relevant	17.962	27
	67.357	100

Obligations to be complied with

1.The existing retention terraces shall be maintained throughout the UAA (in arable land, permanent grassland and permanent crops).

2.Arable land

(a) The overturning of arable land by ploughing shall be prohibited in respect of 80 per cent of the arable land of the holding between 15 October and 1 January.

During this period, tillage without ploughing and turning and the preparation of the seed bed are still permitted for the installation of a winter crop.

(b) In areas at low, medium and high risk of erosion, the overturning of arable land by ploughing shall be prohibited between 15 October and¹ January.

During this period, tillage without ploughing and turning and the preparation of the seed bed are still permitted for the installation of a winter crop.

(C) In areas at high and medium erosion risk, the establishment of anti-erosion grass strips in relation to erosion igoles is mandatory, except for temporary grassland and other multiannual crops on arable land. Grass strips must have a minimum width of 3 metres. The installation of a fascine or a new hedge may replace the mandatory grass strip.

3. On permanent grassland:

In areas at risk of erosion, the roll-over of permanent grassland shall be prohibited.

However, re-sowing without ploughing or over-sowing is permitted. A derogation also applies in the case of damage to game.

4.Hobbbles

Mechanical tillage of vineyards is prohibited between 1 October and 1 March, except in the following cases:

- · in case of input of organic matter,
- · in case of replanting,
- · in the case of subsolation work aimed at deep ventilation of the soil without destroying the grass cover,
- · except in the case of sowing of winter cover.

The number of winegrowing soils is limited to three times a year, except in the case of replanting of vineyards.

Arable land is classified in 5 erosion risk classes:

1.No risk of erosion

2.Risk of very low erosion

3.Risk of low erosion

4.Medium erosion risk

5.Risk of high erosion

Areas at risk of erosion are defined on a map. It is published and searchable on geoportail.lu.

3.10.3.1.2 Territorial scope (including erosion risks areas and the slope gradient)

National

3.10.3.1.3 Type of farmers concerned

Active farmers farming agricultural land in the areas concerned.

3.10.3.1.4 Explanation of the contribution to achieve the main objective of the GAEC standard

The objective of this standard is to minimise soil loss/depletion due to erosion by using the most soil friendly soil tillage management techniques and taking into account that slopes increase the risk of soil erosion. Preventing further loss of soil contributes to maintaining the availability of good quality soils for agriculture.

Permanent grassland in a topographical position such as the product of the two factors of the K erosion map (soil sensitivity) and LS (topographical factor) above 0,15 cannot be returned by ploughing and erosion is thereby avoided.

With regard to arable land, the ban on turning the soil by ploughing in winter and the installation of anti-erosion grasslands in areas at high risk of erosion makes it possible to prevent erosion and leaching of nutrients and plant protection products effectively. Mapping areas at risk of erosion provides better advice and guidance to farmers in identifying the most suitable and effective place to combat erosion. The fact that these anti-erosion bands can be counted as non-productive bands under GAEC 8 is an additional incentive to install such bands.

The obligations in vineyards have proved their worth and do not need to be strengthened.

3.10.3.2 GAEC 6: Minimum soil cover to avoid bare soils in period(s) that are most sensitive

3.10.3.2.1 Summary of the on-farm practice (including the period concerned)

On arable land:

(a) Of 80 per cent of the arable land of the holding as a whole, the land must be covered between 15 October and 1 January.

During this period, tillage without ploughing and turning and the preparation of the seed bed are still permitted for the installation of a winter crop.

(b) In low, medium and high erosion risk areas, soil shall be covered between 15 October and 1 January. Tillage without ploughing and turning and preparation of the seed bed is still permitted for the installation of a winter crop.

(c) On arable land set aside, the farmer must put in place plant cover before 31 May of the first year of set-aside.

In vineyards:

Spontaneous herbaceous vegetation must be maintained between 1 October and 1 March, except in the following cases:

- in the case of input of organic matter;
- in the case of replanting;
- in the case of undersoiling with the aim of ventilation the soil in depth without destroying the grass cover;
- in case of sowing of winter cover.

The following shall be considered as floor coverings:

- temporary grassland;
- winter crops;
- intermediate crops;
- harvesting residues and shoots.
-

Areas at risk of erosion are defined on a map. It is published and searchable on geoportail.lu.

3.10.3.2.2 Territorial scope

National

3.10.3.2.3 Type of farmers concerned

Active farmers using arable land.

3.10.3.2.4 Explanation of the contribution to achieve the main objective of the GAEC standard

The objective of this standard is "soil protection in winter."

The green cover of the soil in winter is a shield against the battle of the land. It stabilises the soil structure through the root system, maintains the organic matter content and reduces the leaching of nutrients.

The installation of a vegetation cover between 1 October and 1 March makes it possible to avoid erosion by run-off during the dormant period of vegetation in autumn and winter.

The obligation to install green cover on fallow land also avoids erosion by run-off during intense rainfall events in spring or summer.

3.10.3.3 GAEC 7: Crop rotation in arable land except for crops grown under water

3.10.3.3.1 Summary of the on-farm practice for crop rotation

Over the entire area of the holding, the farmer shall apply either the principles of rotation or the principles of diversification set out below:

Rotation

(1) Each year, the farmer shall ensure that there is a change of cultivation on at least 40 % of the arable land. In order to exclude that this flexibility leaves certain areas in monoculture, as an additional guarantee, provision is made in this case:

- After 3 years, all arable land parcels are assumed to be rotated, i.e. there must always be a change of main crop after 3 years (e.g. 1 plot: maize, maize, maize => change).
- secondary or intermediate crops and sub-semi can be used to ensure the minimum annual rotation (1 plot: maize + intermediate crop, maize + intermediate crop, maize + intermediate crop...). The sowing of secondary/intermediate crops and sub-sowing shall be no later than 15 October and shall remain in place until at least 1 February of the following year.

Winter crops and summer crops of the same species are considered to be different crops.

(2) The following holdings shall be exempted from the obligation laid down in this standard:

- (a) holdings where more than 75 % of the arable land is used for the production of grasses or other forage herbaceous crops, is land lying fallow, is used for the cultivation of legumes or is subject to a combination of these uses;
- (b) holdings where more than 75 % of the eligible agricultural area consists of permanent grassland, is used for the production of grasses or other herbaceous forage or for crops under water for a significant part of the year or of the crop cycle, or is subject to a combination of those uses; or
- (c) holdings with arable land up to 10 hectares.

Pursuant to Implementing Regulation (EU) 2022/1317, Article 1, Luxembourg decides to derogate, for claim year 2023, from the application of GAEC 7 – crop rotation on arable land

Diversification

(a) Where the arable land of a holding covers between 10 and 30 hectares, crop diversification shall consist of practising at least two different crops on that arable land; the main crop shall not cover more than 75 % of that arable land;

(b) Where the arable land of a holding covers more than 30 hectares, crop diversification shall consist of practising at least three different crops on that arable land; the main crop shall not cover more than 75 % of that arable land and the two main crops shall not together cover more than 95 % of that arable land.

Holdings shall be exempted from the obligations laid down in this standard if:

- where more than 75 % of the arable land is used for the production of grasses or other herbaceous forage, is land lying fallow, is used for cultivation of leguminous crops, or is subject to a combination of those uses;
- where more than 75 % of the eligible agricultural area is permanent grassland, is used for the production of grasses or other herbaceous forage, or for crops under water for a significant part of the year or for a large part of the crop cycle, or is subject to a combination of those uses; or
- with an area of arable land of up to 10 hectares

Farmers certified in accordance with Regulation (EU) 2018/848 shall be deemed to comply with this

GAEC standard.

3.10.3.3.2 Summary of the farm practice for crop diversification

Not applicable.

3.10.3.3.3 Territorial scope

National

3.10.3.3.4 Type of farmers concerned

☐ All farmers who have at their disposal arable land (no exemption)

☒ Exemptions that apply

With a size of arable land up to 10 hectares (footnote 5 of annex III, point (1)(c))

Where more than 75% of the eligible agricultural area is permanent grassland (footnote of Annex III, point(1)(b))

Where more than 75% of arable land is used for the production of grasses or other herbaceous forage, is used for land laying fallow, cultivation of leguminous crops, or is subject to a combination of those uses (footnote of Annex III, point(1)(a))

3.10.3.3.5 Explanation of the contribution to achieve the main objective of the GAEC standard (notably if MS has chosen crop diversification)

The objective of this standard is to “preserve the potential of the soil”. The potential of the soil stems from several factors, mainly the physical structure of the soil, its fertility, its organic matter and microflora, its chemical content, including pollutants (excess fertilisers or pesticide residues, etc.), but also pests and diseases transmitted by the soil.

Lowering thresholds implies a greater diversity of crops on the farm. As in Luxembourg the size of arable parcels is not high (on average 2.21 ha), the cultural landscape is quite diverse.

3.10.4 Main issue: Biodiversity and landscape (protection and quality)

3.10.4.1 GAEC 8: Minimum share of arable land devoted to non-productive areas and features, and on all agricultural area, retention of landscape features and ban on cutting hedges and trees during the bird breeding and rearing season

3.10.4.1.1 Summary of the in-farm practice

Standard of minimum share:

☒ At least 4% of arable land at farm level devoted to non-productive areas and features, including land lying fallow.

Share (%) of arable land devoted to non-productive areas and features : **4.0%**

☒ At least 3% of arable land at farm level devoted to non-productive areas and features, including land lying fallow when the farmer commits to at least 7% of arable land devoted to non-productive areas and features, including land lying fallow, under an enhanced eco-scheme in accordance with Article 31(5a).

☐ At least 7% of arable land at farm level devoted to non-productive areas and features, including land lying fallow, and catch crops and nitrogen fixing crops, cultivated without the use of plant protection products, of which 3% shall be non-productive areas and features, including land lying fallow. Member States should use the weighting factor of 0,3 for catch crops.

List of features (Indicative list of features and non-productive areas eligible for calculating the minimum share)

☐ Buffer strips

☒ Cairns

Explanation

Definition:

Cairns and walls: Amas of cut stones, with a minimum surface area of 25 m², either built at once during the clearing and clearing of a plot of land, or slowly consisting of recurrent epidemic, mainly ploughs, but also grassland.

For the calculation of the total number of hectares representing non-productive areas per holding, a conversion and weighting coefficient of 2 shall be used.

☐ cultural features

☐ Ditches

☒ Fiels margins, patches or parcelsbuffer strips

Explanation

Definition:

The following are considered to be non-productive champions:

- Non-productive buffer strips along water courses.
- Non-productive strips along forest edges
- Non-productivefield borders
- Non-productive anti-erosion strips

- In the case of vegetation cover, it must be sown by 1May of the year at the latest.
- The surfaces are to be maintained either by mowing, grinding or grazing from 15 July. No operations affecting vegetation cover shall be permitted between1 January and 15 July.
- The areas in question shall not be used for agricultural production. However, the use of vegetation cover after the deadline for fodder purposes is allowed.
- The vegetation cover must remain in place until the start of preparatory work for the sowing of the following crop.
- The use of organic or mineral fertilisers and plant protection products is prohibited (with possible exemptions). However, these restrictions shall no longer apply from the moment the next crop is installed.

For the calculation of the total number of non-productive hectares per holding, the following minimum and maximum conversion factors and widths shall be used:

Particularities	Conversion coefficient	Minimum width	Maximum width
Field margins	n.e.s.	3 m	30 m
Anti-erosion strips	n.a	3 m	30 m
Buffer strips	n.e.s.	3 m	30 m
Strips of eligible hectares bordering non-productive forests	n.e.s.	3 m	30 m

☒ Hedgerows individual or group of treestrees rows

Explanation

Hedges must have the following characteristics:

1. these are linear structural elements formed mainly by wood;
2. they have a minimum length of 5 metres;
3. they have a maximum average width of 10 metres measured on the ground;
4. forest edges are not considered hedges;
5. interruptions of hedges of less than 10 metres are treated as forming part of the hedge; this rule does not apply to interruptions formed by concrete surfaces such as paths or access to plots.

Groups of trees or jars must have the following characteristics:

1. they are non-linear blocks of woody vegetation located in the open space, physically separated from the surrounding forest and clearly distinguishable from it by its plant structure, consisting mainly of shrubs or trees and which cannot be farmed;
2. they are integrated into the eligible area with a maximum area of 30 ares;
3. groups of trees or squares with an area exceeding 30 ares are considered to be forests

Adjacent groups of trees or squares shall be taken into account in proportion to the length of contact with the parcel.

Rows of trees must have the following characteristics:

1. they are linear tree plantations composed of at least 5 trees;
2. the maximum space between two trees is 15 metres measured at the centre of the crown;
3. several rows of fruit trees are not regarded as rows of trees but form orchards.

For the calculation of the total number of non-productive hectares per holding, the following minimum and maximum conversion factors and widths shall be used:

Particularities	Conversion coefficient	Minimum width	Maximum width
Hedges/wooded strips/trees online (per 1 m)	5 m	n.e.s.	n.a
Bosquet (per 1 m ²)	n.e.s.	n.e.s.	n.e.s.

For the calculation of the total number of non-productive hectares per holding, a weighting factor of 2 shall be used for hedges and tree rows.

☒ Land Lying fallow

Explanation

The following shall be considered as fallow land:

- Fallow land
- Meliferous fallow land

For the calculation of the total number of non-productive hectares per holding, a weighting coefficient of 2 for meliferous fallow land shall be used.

- In the case of vegetation cover, it must be sown by 1 May of the year at the latest.
- The surfaces are to be maintained either by mowing, grinding or grazing from 15 July. No operations affecting vegetation cover shall be permitted between 1 January and 15 July.
- The areas in question shall not be used for agricultural production. However, the use of vegetation cover after the deadline for fodder purposes is allowed.
- The vegetation cover must remain in place until the start of preparatory work for the sowing of the following crop.
- The use of organic or mineral fertilisers and plant protection products is prohibited (with possible exemptions). However, these restrictions shall no longer apply from the moment the next crop is installed.

☒ Others

Explanation

Isolated trees or bushes must have the following characteristics:

1. these are solitary elements which do not meet the definition of the row of trees or that of a group of trees or trees.
2. bushes which do not correspond to the definition of hedge are also considered to be isolated trees.

The following tree classes and coefficients are defined:

Tree class per parcel	Average number of trees retained	Conversion coefficient	Weighting factor
1-10	5	20 m ²	1.5
11-20	15	20 m ²	1.5
21-30	25	20 m ²	1.5
31-40	35	20 m ²	1.5
41-50	45	20 m ²	1.5
51-60	55	20 m ²	1.5
...	...		

☒ Small ponds

Explanation

The **mares** must have the following characteristics:

1. they are natural or artificial water bodies which can be clearly identified in relation to the agricultural area and which cannot be exploited;
2. they are integrated into the eligible area with a maximum surface area of 30 ares.

Adjacent mares are taken into account in proportion to the length of contact with the parcel.

☒ Small wetlands

Explanation

Reeds: Relatively high amphibian grasslands, with a minimum surface area of 100 m², often dominated by one or a few species of plants, present mainly on the banks and landing areas of running or stagnating water, on the water plated or in the advanced reclamation phase or on the periphery of wet meadows, marshes and marshes.

Adjacent reeds are taken into account in proportion to the length of contact with the parcel.

☐Stonewalls

☐Streams

☐Terraces

List of features (for retention)

- **Others**
- **Cairns**
- **Hedgerows individual or group of trees rows**
- **Small ponds**
- **Terraces**

Ban on cutting hedges and trees during the bird breeding and rearing season (mandatory)

Maintaining landscape features

It is prohibited to reduce, destroy or deteriorate protected biotopes, habitats of Community interest and habitats of species of Community interest in accordance with Article 17 of the Law of 18 July 2018 on the protection of nature and natural resources.

The general measures for the reduction, destruction or deterioration of protected biotopes and habitats of Community interest of open environments, and prohibited by Article 17 of the abovementioned Law of 18 July 2018, are:

- 1° the use of biocides or pesticides;
- 2° the use of sewage sludge, purin or slurry;
- 3° reduction in the number, abundance or recovery rate of species characteristic of the biotope or habitat concerned, including inappropriate fertiliser, lime or any other input material for the purpose of changing soil structure or fertility;
- 4° overturning or ploughing;
- 5° backfilling or clearing;
- 6° construction whether or not incorporated into the ground;
- 7° reseeding or sowing;
- 8° water regime change, drainage or curing;
- 9° current fire shut-off;
- 10° surface grinding of vegetation, with the exception of localised mechanical control against weeds agriculture in the context of cross-compliance;
- 11° the feeding of livestock on the surface of the protected biotope or habitat of Community interest;
- 12° over-exploitation by mowing or grazing;
- 13° change of land cover by reforestation.

In addition to these general measures, reduction, destruction or deterioration specific to certain protected biotopes and habitats of Community interest to the environment open are defined as follows:

Hedges: The following are prohibited:

Clearing or descaling * *;

The annual size of the hedge, except the annual lateral height of hedges along a road, only on the side of the taxiway;

The use of a scourage mower for pruning;

Overstrain over more than one third of their length or area within three years, if the length exceeds one hundred metres or if the area exceeds 250 m²;

Overstrain over more than fifty percent of their length or area within three years, if the length is less than one hundred metres or if the area is less than 250 m², with the exception of hedgerows less than 25 metres in length or with an area of less than 100 m² which may be placed on the strain in a single haul;

The repetition of the overstrain of the same section of the hedge or of the same part of the scrub in a rabbit of less than 10 years * *;

The permanent reduction in the volume of hedge or scrub by more than one third * *.

* * with the exception of measures provided for in a duly approved management plan

Rows of trees: The following are prohibited:

Removal of trees;

The pruning of branches to a height of more than four metres;

Ploughing or turning into the root system, or any other measure affecting the roots;

Measures not suitable for maintaining the favourable conservation status of groups or rows of trees and which have the effect of directly or indirectly damaging the trees or of damaging the general structure of the groups or rows of trees.

Groups of trees/squares: The following are prohibited:

Removal of trees;

The pruning of branches to a height of more than four metres;

Ploughing or turning into the root system, or any other measure affecting the roots;

Measures not suitable for maintaining the favourable conservation status of groups or rows of trees and which have the effect of directly or indirectly damaging the trees or of damaging the general structure of the groups or rows of trees.

Isolated trees: The following are prohibited:

Removal of trees;

Champions and herbaceous stripes along rural roads: The following are prohibited:

Destruction of herbaceous tails or tails along paths by ploughing or using biocides or pesticides;
Mowing before 15 June of the path, strips or heels;

Terraces: The following are prohibited:

Total or partial removal of the wall;

Removal of non-woody vegetation from the openings, crown or foot of the wall; Pressurised water cleaning;

The jointing or sealing of stones.

Orchards: The following are prohibited:

Removal of trees;

Ploughing or turning into the root system, or any other measure affecting the roots;

Measures which are not suitable for maintaining the conservation status of orchards and which have the effect of directly or indirectly damaging the trees or of damaging the general structure of orchards.

Etangs: Are prohibited

All interventions at the level of the water body and its banks without ministerial authorisation or not provided for in a duly approved management plan;

Amendment, liming, fertilisation, use of biocides or pesticides within 10 metres of the water surface;

Ploughing, turning, backfilling and clearing within a radius of 10 metres around the water surface.

Prohibition on cutting hedges and trees during the bird breeding and rearing season.

In accordance with Article 17 (6) and (7) of the Law of 18 July 2018 on the protection of nature and natural resources, the size of hedgerows and scrubbing and the pruning of forest edges are prohibited during the period^{from} 1 March^{to} 1 October. The exception is the size of hedges used for the approval of residential houses or parks, as well as the size required by work carried out in forest stands. Any pruning resulting in deterioration of hedgerows, scrubbers or forest edges, including through the use of inappropriate tools and methods such as scouring mowers, shall be prohibited.

Common fire spinning and the incineration of the vegetation cover of meadows, brownfields or field edges, nearby forest land, paths and roads shall be prohibited, unless authorised by the Minister.

Measures for avoiding invasive plant species

Measures to avoid invasive plant species

All agricultural land shall be maintained in good agricultural condition: the proliferation of weeds such as orties, ryes, cardones, fergings, broms, Jacob seneons, locals, millets and folles as well as flooding by woody species must be avoided.

The fight against weed proliferation must be effective from a threshold of:

(a) Jacob nerves from a cover of 25 % of the surface or seats with an area of more than 1 are;

(b) chargfish, orties, ryes, excavations, broms, common berths, millets and folles from a cover of 25 % of the surface or seating spaces with an area of more than 2,5 ares.

It is not permitted to abandon agricultural land or to convert it into uncultivated land.

The above conditions apply only in so far as they are not incompatible with agri-environmental requirements and in so far as they risk destroying habitats protected by the amended Law of 19 January 2004 on the protection of nature and natural resources.

It is mandatory to fight against powdery mildew and downy mildew, except in vineyards cultivated with vine varieties resistant to these diseases.

3.10.4.1.2 Territorial scope (applicable for the “minimum share” standard)

The whole national territory is subject to compliance with this standard

In accordance with Article 1 of Implementing Regulation (EU) No^{2022/1317}, Luxembourg decides to derogate, for claim year 2023, from the application of GAEC 8 – minimum share of at least 4 % of arable land at farm level devoted to non-productive areas and features (**suspension of that Regulation for crop year 2024**).

3.10.4.1.3 Type of farmers concerned

☐ All farmers who have at their disposal arable land (no exemption)

☒ Exemptions that apply

☐ Non Applicable

With a size of arable land up to 10 hectares (footnote 5 of annex III, point (1)(c))

Where more than 75% of the eligible agricultural area is permanent grassland (footnote 5 of annex III, point (1)(b))

Where more than 75% of arable land is used for the production of grasses or other herbaceous forage, is used for land laying fallow, cultivation of leguminous crops, or is subject to a combination of those uses (footnote of Annex III, point(1)(a))

3.10.4.1.4 Explanation of the contribution to the main objective of the practice/standard

The protection of biodiversity and the conservation of landscape features, including the protection of birds and pollinators, are the environmental issues to be addressed by this GAEC. Maintenance of non-productive features and areas to improve on-farm biodiversity is the main objective of the standard.

Landscape features also provide a number of important environmental benefits for soil, water quality and climate change (in particular carbon sequestration), with a major role in providing ecosystem services such as pest control and erosion prevention. These elements will also provide wider connectivity corridors constituting part of ‘green infrastructure’ in agricultural areas.

3.10.4.2 GAEC 9: Ban on converting or ploughing permanent grassland designated as environmentally-sensitive permanent grasslands in Natura 2000 sites

3.10.4.2.1 Summary of the on-farm practice

(1) The following are designated as permanent grassland that is environmentally sensitive in protected areas of national interest under Chapter 7 of the Law of 18 July 2018 (Natura 2000 areas):

1. biotopes of permanent grassland resulting from Article 17 of the amended Law of 19 January 2004 on the protection of nature and natural resources;

2. permanent grassland located in flood areas established for medium probability extreme floods for a probable return period of more than one hundred years under Article 38 of the amended Water Act of 19 December 2008.

3. sensitive grasslands containing plants listed in Annex II Grand-Ducal Regulation of 11 September 2017 establishing a set of aid schemes to safeguard biological diversity in rural areas and accessible on an electronic site installed for that purpose.

(2) Conversion and ploughing of environmentally sensitive grassland and permanent pasture as defined in point (1) shall be prohibited.

3.10.4.2.2 Territorial scope

Total indicative area of environmentally-sensitive permanent grasslands in Natura 2000 sites covered by the GAEC in ha: **6713.0**

3.10.4.2.3 Type of farmers concerned

Active farmers farming grassland and permanent fishing in Natura 2000 areas

3.10.4.2.4 Explanation of the contribution to achieve the main objective of the GAEC standard

The main objective of the standard is the “protection of habitats and species”. The preservation of permanent grassland in Natura 2000 sites established under Directives 92/43/EEC and 2009/147/EC, by prohibiting their ploughing or conversion, contributes to the protection of valuable habitats and species, including nesting and breeding sites of bird species.

These grasslands also contribute to carbon sequestration as well as water and soil quality.

Under the MAEC measure ‘Premium for the maintenance of the landscape and the countryside and the promotion of environmentally-friendly agriculture’, the measures to protect permanent grassland and pasture are extended (see the relevant intervention sheet).

In this way, all meadows and pastures are located within a Natura 2000 area.

3.10.5 Additional GAEC (if applicable)

N/A

4 Elements common to several interventions

4.1 Definition and minimum requirements

4.1.1 Agricultural activity

4.1.1.1 Definition of production

That set out in Article 4 (1) (c) (i) of Regulation (EU) No 1307/2013.

4.1.1.2 Definition of maintenance of agricultural area

4.1.1.2.1 Maintenance criteria in arable land

Arable land, including fallow land, if not harvested, must be maintained by appropriate tillage operations. In the case of multiannual fallow land with vegetation cover, at least one mulching or mowing per year shall be carried out. Maintenance measures shall take place at least once between 15 June and 15 September of the year of the application at the latest.

By way of derogation from paragraph 1, melliferous fallow land composed of pollen and nectar rich species shall be maintained **between 15 June and 15 October of the year of the application respectively, or** by two-yearly mechanical control operations against the proliferation of grasses and perennial weeds such as common rye and field circus. The operations take place prior to the flowering of those weeds.

The conditions apply only in so far as they are not incompatible with the requirements of agri-environmental measures and in so far as they do not risk destroying the habitats protected by the amended Law of 18 July 2018 on the protection of nature and natural resources.

4.1.1.2.2 Maintenance criteria in permanent crops

In the case of permanent crops, it is compulsory to combat the degeneration of the potential produced, in particular by regular and biennial interventions against epiphytes such as gui. This covers all permanent crops.

In particular in winegrowing, in order to combat the spread of diseases and parasites in vineyards, vines not used for more than one year must be grubbed up.

The conditions apply only in so far as they are not incompatible with the requirements of agri-environmental measures and in so far as they do not risk destroying the habitats protected by the amended Law of 18 July 2018 on the protection of nature and natural resources.

4.1.1.2.3 Maintenance criteria in permanent grassland

In the case of permanent grassland and pasture, the areas are maintained either by grazing, mowing or mulching.

In the case of mulching or mowing, the operation shall be carried out at least once a year **between 15 July and 15 September** of the year of the application at the latest.

The conditions apply only in so far as they are not incompatible with the requirements of agri-environmental measures and in so far as they do not risk destroying the habitats protected by the amended Law of 18 July 2018 on the protection of nature and natural resources.

4.1.2 Agricultural area

4.1.2.1 Elements of agroforestry systems when it is established and/or maintained on the agricultural area

4.1.2.1.1 Elements of agroforestry systems in arable land

Agroforestry is a set of agricultural practices that combine trees on the same plot (in all their forms: hedges aligned, bosquets, etc.) with an agricultural crop and/or livestock farming.

Plantings include either:

- or at least 20 trees and a maximum of 150 trees per ha with a minimum size of 10 ares for a given

parcel. The purpose of planted trees and related management is to produce quality fruit or wood.

- short rotation coppice with a minimum size of 3 ares and a maximum size of 10 ares.
- Plantation shall comprise at least 3 % and not more than 50 % of structured strips of a mixture of trees or bushes and hedges. The minimum size is 3 ares.

It remains to be clarified that our NSP does not include a measure on agroforestry. State aid is planned in the medium term. The concept of agroforestry is nowhere involved in the measures covered by this NWP.

4.1.2.1.2 Elements of agroforestry systems in permanent crops

Agroforestry is an umbrella of agricultural practices that combine trees on the same parcel (in all their forms: hedges aligned, bosquets, etc.) with an agricultural crop and/or livestock farming.

Plantings include either:

- or at least 20 trees and a maximum of 150 trees per ha with a minimum size of 10 ares for a given parcel. The purpose of planted trees and related management is to produce quality fruit or wood.
- short rotation coppice with a minimum size of 3 ares and a maximum size of 10 ares.
- Plantation shall comprise at least 3 % and not more than 50 % of structured strips of a mixture of trees or bushes and hedges. The minimum size is 3 ares.

It remains to be clarified that our NSP does not include a measure on agroforestry. State aid is planned in the medium term. The concept of agroforestry is nowhere involved in the measures covered by this NWP.

4.1.2.1.3 Elements of agroforestry systems in permanent grassland

Agroforestry is an umbrella of agricultural practices that combine trees on the same parcel (in all their forms: hedges aligned, bosquets, etc.) with an agricultural crop and/or livestock farming.

or at least 20 trees and a maximum of 150 trees per ha with a minimum size of 10 ares for a given parcel. The purpose of planted trees and related management is to produce quality fruit or wood.

Plantation shall comprise at least 3 % and not more than 50 % of structured strips of a mixture of trees or bushes and hedges. The minimum size is 3 ares.

It remains to be clarified that our NSP does not include a measure on agroforestry. State aid is planned in the medium term. The concept of agroforestry is nowhere involved in the measures covered by this NWP.

4.1.2.2 Arable land

4.1.2.2.1 Other comments relating to the definition of arable land

No further comments

4.1.2.3 Permanent crops

4.1.2.3.1 Definition of nurseries

The following areas of young woody plants in the open air intended for replanting:

- vine nurseries and mother nurseries of rootstocks,
- nurseries of fruit trees and berry plants,
- ornamental nurseries,
- commercial forest nurseries, excluding those intended for the holding itself and located in forest,
- tree nurseries and shrubs for planting gardens, parks, roadsides, slopes (for example, hedgerows, roses and other ornamental shrubs, ornamental coniferous trees), as well as their rootstocks and young plants.

4.1.2.3.2 Definition of Short Rotation Coppice

Areas planted with tree species (CN code 0602 90 41), consisting of perennial and woody crops, the rootstocks or mother plants of which remain in the soil after harvesting and which develop new shoots in the following season. These coppices comprise approximately 1.000 to 4.000 stems per hectare or up to 10.000 to 20.000 plants per hectare for dense coppice with very short rotation.

The following species are suitable for short rotation coppice: saule, poplar, birch, alder and maple. The

harvesting cycle is limited to 12 years.

4.1.2.3.3 Other comments relating to the definition of permanent crops

No further comments

4.1.2.4 Permanent grassland

4.1.2.4.1 Definition of grasses and other herbaceous forage

Land used to grow grasses or other herbaceous forage naturally (self-seeded) or through cultivation (sown) and that has not been included in the crop rotation of the holding for at least five years.

Grasses and other herbaceous forage are mainly plants of the poaceae family and amazaceae. They are grown either as pure crops or in mixtures.

By way of derogation and in accordance with Article 4(3)(c) (i) of Regulation (EU) 2021/2115, areas occupied by the callet shall be considered as permanent pasture.

4.1.2.4.2 Decision to use 'ploughing' criterion in relation to permanent grassland classification

: No

4.1.2.4.3 Decision to use 'tilling' criterion in relation to permanent grassland classification

: No

4.1.2.4.4 Decision to use 'reseeding with different types of grasses' criterion in relation to permanent grassland classification

: No

4.1.2.4.5 Decision regarding the inclusion of other species such as trees and/or shrubs which produce animal feed, provided that grasses and other herbaceous forage remain predominant

: No

4.1.2.4.6 Decision regarding the inclusion of other species, such as shrubs and/or trees, which could be grazed and/or which produce animal feed, where grasses and other herbaceous forage are traditionally not predominant or are absent in grazing areas

Decision regarding the inclusion of other species, such as shrubs and/or trees, which could be grazed and/or which produce animal feed, where grasses and other herbaceous forage are traditionally not predominant or are absent in grazing areas : No

a) In case of affirmative, applicable to all MS/region? : No

b) in case of negative reply to question a), applicable only to land which forms part of established local practices? : No

c) in case of negative reply to question a), not limited to or applicable to other areas than established local practices? : No

4.1.2.4.7 Other comments relating to the definition of permanent grassland

No further comments

4.1.2.5 Other comments relating to the definition of agricultural area in general

No further comments

4.1.3 Eligible hectare

4.1.3.1 Criteria how to establish the predominance of agricultural activity in case the land is also used for non-agricultural activities

Where an agricultural area of a holding is also used for non-agricultural activities, that area shall be considered to be predominantly used for agricultural purposes if the agricultural activities can be carried out without being significantly hampered by the intensity, nature, duration and timing of the non-agricultural activities.

An area used for non-agricultural activities shall be considered to be predominantly used for agricultural

purposes if it complies with the following conditions:

1. as regards the duration and timing of the non-agricultural activity:

(a) for permanent and temporary grassland and pasture, the non-agricultural activity is limited to six weeks during the growing season; where such land is not used to graze the animals, the non-agricultural activity shall be eligible after the crop cover has been harvested;

(b) for arable land, non-agricultural activity is eligible between harvest and sowing;

2. as regards the intensity of non-agricultural activity, where there is an obstacle to maintaining the land in good agricultural and environmental condition, it must be possible to restore the initial condition of the agricultural area and to restore it as soon as possible.

4.1.3.2 Criteria to ensure that the land is at the disposal of the farmer

Except in cases of force majeure or exceptional circumstances, the parcels declared shall be at the farmer's disposal on the date fixed for the amendment of the aid application.

The right of enjoyment is not systematically requested when an application for land is submitted.

However, in addition to special cases, proof of the right of enjoyment is required as proof of use of land in the cases set out below. A written document in the following form shall be regarded as proof of entitlement to use:

- In the case of land belonging to the State areas: a lease contract concluded with the Administration de l'Enregistrement et des Domaines;
- In the case of other land rented or made available: a lease agreement, a declaration by the owner (s), proof of rent transfer.

Proof of ownership of land is not required, as it can be verified by direct consultation of land registers of the Land Registry Administration.

The reactivation of parcels, as referred to below, shall be without prejudice to the rules on eligibility of land.

[Note: Subsequently, reference parcels are referred to as 'FLIK parcels' or 'FLIK', commonly known terminology.]

(1) Reactivation of FLIK parcels deactivated/Increase of eligible area of FLIK parcel/Conversion of FLIK parcel ineligible to eligible

In accordance with Articles 8 and 9 of the Grand-Ducal Regulation of 28 April 2017 implementing, in the Grand Duchy of Luxembourg, methods for updating and maintaining the identification system for agricultural parcels, applications received by farmers of FLIK parcels must be accompanied by proof of entitlement in the following cases:

(a) Reactivation of deactivated FLIK parcels

If FLIK parcels are deactivated (by the SIG department of the Administration des Services Techniques de l'Agriculture (ASTA), following their failure to declare them for 3 consecutive years), the farmer of the land concerned must submit an application for the reactivation of the FLIK. That request must be accompanied by proof of the applicant's right to enjoy. This proof shall cover at least 80 % of the area of FLIK. In the absence of sufficient evidence, the application shall not be upheld. After finalisation of the entry of parcel data by the Rurale Economy Service (SER), l'ASTA extracted the reference parcels declared by producers from the IACS database. Extraction is used to identify reactivated reference parcels which have not, however, been declared. In such cases, the parcels in question shall be deactivated again.

(b) Increase in the eligible area of a FLIK parcel

No proof of enjoyment is required if the new surface is part of a cadastral parcel already covered by the old geometry of the FLIK parcel to be changed. However, if the area to be added is on a cadastral parcel

not covered by the initial FLIK parcel, the applicant must provide proof of his right to use at least 80 % of the area concerned. In the absence of sufficient evidence, the application shall not be upheld.

(C) Conversion of a FLIK parcel ineligible as eligible

— Amendment of the Staff Regulations:

The applicant must provide proof of his right to use at least 80 % of the area concerned if the plot is situated on a new cadastral parcel. If the new area is part of a cadastral parcel already covered by an eligible FLIK operated by the same operator, no proof of enjoyment rights is required. In the absence of sufficient evidence, the application shall not be upheld.

— Change of status in the event of taking over an area covered by a site or temporary storage:

Where the surface taken over after the site is operated by the same operator who declared it the year before the site was installed, no right of use is required. Where the area taken over after the site is taken over by an operator other than the last declarant, 80 % of the area concerned must be used.

The applicant does not have to provide proof of his right to use for conversion to eligible land of a site or temporary storage classified as an ineligible reference parcel within an eligible reference parcel which he himself declares.

In the two cases described above, the ASTA's GIS department systematically checks the eligibility and geometry/size of the areas concerned on site before validation.

As part of the systematic updating (by photo-interpretation) of the LPIS described in Section 1 of Chapter III of the abovementioned Regulation, the GIS service marks with a specific code (code f) the parcels to be substantially enlarged according to the visible boundaries of the orthophotos on an area not yet digitalised. The operators concerned by the extension of their FLIK area are contacted by the GIS service to request an extension of the FLIK area in the event of operation of the non-digitalised area. In this respect, the procedure is as follows:

- No proof of enjoyment is required if the new surface is part of a cadastral parcel already covered by the old geometry of the FLIK parcel to be changed.
- However, if the area to be added is on a cadastral parcel not covered by the initial FLIK parcel, it must be requested to provide proof of its right to use at least 80 % of the area concerned. In the absence of sufficient evidence, the application shall not be upheld.

(2) **Resolution of double declarations involving several producers (anomalies E3)**

In the event of a persistent E3 anomaly for which the parties involved maintain their declaration, the SER instructor shall ask the registrants to provide proof of their enjoyment rights. This shall cover at least 80 % of the area of FLIK. However, a producer does not need to provide such proof if the other producer (s) withdraws the plot in dispute from its/their application.

(3) **Request from landowners**

If an owner contacts the SER to express his disagreement with the fact that a farmer exploits land unlawfully (without the consent of that owner), the PEP Service (special procedures and investigations) of the SER will reduce the eligible area of the FLIK parcel by the area in dispute. The PEP Service launches a Non-contentious Administrative Procedure (PANC) in which the declarant is requested to provide proof of his right to use the area in dispute. If the producer does not provide the required proof for the entire area in dispute, the disputed area remains at zero. If the producer decides to adapt the geometry of the FLIK plot on the ground in order to reduce the size of the FLIK area in the part at issue, he shall submit an application for modification of FLIK parcels to I'ASTA, which shall measure the new configuration of the parcel. At the time of the field visit, the part exploited from now on must be clearly delimited from the disputed part (by means of a fence or by stakes allowing an indisputable boundary) and the land must be used at that time under the new boundaries created. ASTA activates the new plot of land for which the

producer holds 100 % of the right of enjoyment. The disputed part is defined as inactive FLIK. This procedure is also applied in the event of a dispute arising between the State Domains Department of the Administration de l'Enregistrement et des Domaines and the producers using State-owned land. The exchange of data and information between the Administration de l'Enregistrement et des Domaines and the Service for Rural Economy is formalised in a separate procedure. The same applies to similar facts brought forward by other public authorities.

In all cases, a challenge by an owner must give rise to an instruction from the PEP service.

(4) On-the-spot checks

Inspectors do not systematically request proof of the right to use for each plot subject to inspection. On the other hand, they do so in the following cases:

- Unused parcels on which the producer does not carry out the minimum activities required by national legislation on the implementation of direct payments (land maintenance work, grazing, mulching or mowing):

The area in the application is cancelled.

The parcel is to be reclassified as ineligible FLIK if restoration requires operations going beyond normal agricultural practices.

- Plots of land with weed proliferation

The parcel remains eligible.

The inspector shall ask for proof of the right of enjoyment in all cases where there is a well-founded suspicion of artificially creating conditions for fraudulently receiving payments (declaration of areas used by other producers). The same applies to new (additional) parts of the plot to be eligible from the following year. The evidence must cover at least 80 % of the areas in question. In the absence of such proof, the plot of land FLIK shall not be altered.

(5) Suspicion of deliberate misrepresentation or fraudulent declaration

In the event of a suspicion of deliberate misrepresentation or fraudulent declaration, the department which became aware of these facts immediately notifies the PEP service of the SER, which will take charge of the file in order to prevent undue payments. The PEP department will block the files in question. The Alert Plan and the actions/investigations to be carried out in such cases are part of specific procedures.

4.1.3.3 Period during which an area has to comply with the definition of 'eligible hectare'

Areas shall be considered to be eligible hectares only if they comply with the definition of eligible hectare throughout the calendar year, except in the case of force majeure or exceptional circumstances.

4.1.3.4 Decision to include areas used for agricultural activity only every second year : Yes

Biennial operations are appropriate in the event of constraints relating to nature and water protection areas (biotopes, Natura2000, etc.). For example, fallow melliferous plants composed of pollen and nectar rich species have a series of biennial plants with flowering only in^{year} 2. Maintenance operations are mechanical measures to combat the proliferation of grasses and perennial weeds such as common kernels and field circuses. The operations shall take place prior to the flowering of those weeds.

In the case of travelling grazing, the passage may take place only every 2th year, if this is required by the rules laid down by the Nature and Forestry Administration as part of commitments to maintain biodiversity.

4.1.3.5 Decision regarding the inclusion of other landscape features (those not protected under GAEC), provided that they are not predominant and do not significantly hamper the performance of an agricultural activity due to the area they occupy

: No

4.1.3.6 Decision as regards permanent grassland with scattered ineligible features, to apply fixed reduction coefficients to determine the area considered eligible

: No

4.1.3.7 Decision to maintain the eligibility of previously eligible areas when they no longer meet the definition of ‘eligible hectare’ pursuant to paragraphs a) and b) of Article 4(4) of the SPR regulation as a result of using national schemes the conditions of which comply with the interventions covered by integrated system referred to in Art 63(2) of Regulation (EU) HzR allowing for the production of non-annex 1 products by way of paludiculture and which contribute to envi-clima related objectives of the SPR regulation

: No

4.1.4 Active farmer

4.1.4.1 Criteria to identify those who have minimum level of agricultural activity

The following shall be considered to be active farmers:

1° a natural person who:

(a) carries out the activity of producing agricultural products or maintaining the agricultural area within the meaning of Article 4(2) of Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013;

(b) hold agricultural training or training in a related trade, attested by a higher education diploma, a diploma at the end of secondary or technical studies, a diploma in technician, a certificate of technical and professional competence or a diploma in professional competence, or have two years’ full-time agricultural experience carried out on behalf of another person, if the training was completed in another field;

(C) is affiliated to the Joint Centre for Social Security as an agricultural self-employed person;

(D) is not in receipt of an old-age pension;

(e) is less than 72 years of age; and

(f) cultivate a minimum area of 3 hectares of agricultural land, 50 ares of nurseries, 30 ares of orchards, 25 ares of market garden or 10 ares of vineyards;

2° a legal person which fulfils the condition set out in point 1 (f) and at least one partner meets the other conditions laid down in point 1;

3° an active farmer in receipt of an old-age pension or having reached the age of seventy years shall remain eligible for intervention provided that the aid payments are made in respect of the cultivation or calendar year, as the case may be, the beginning of which is in the year in which the date from which the condition laid down in paragraph 2 (1) (d) or (e) is no longer met.

Point 1 (b) does not apply to persons who, on the date of entry into force of the law, are in receipt of at least one of the aid covered by the common agricultural policy. For other persons, it shall apply from 1 January 2025.

Point 1 (b) on the necessary agricultural training shall apply from 1.1.2028.

Paragraph 1 (d) shall not apply to persons in receipt of an old-age pension on the date of entry into force of this Law.

Point 1 (d) and (e) shall apply from 1^{January} 2025.

Article 2 of the Law of 27 June 2016 on support for the sustainable development of rural areas defines the minimum surface thresholds, which constitute historical achievements with the profession and other actors. It is envisaged that the same thresholds will be included in the future legislation currently being drawn up for the financial framework 2023 to 2027.

4.1.4.2 Decision to use a negative list of non-agricultural activities as a complementary tool

: No

4.1.4.3 Decision to set an amount of direct payments not higher than EUR 5 000 under which farmers shall in any event be considered as ‘active farmers’

: No

4.1.5 Young farmer

4.1.5.1 Maximum age limit

Maximum age limit: 39

4.1.5.2 Conditions for being ‘head of the holding’

‘Young farmers’ means the active agriulator:

- (a) who exercise effective and lasting control over an agricultural holding for the first time, or who have exercised effective and lasting control over an agricultural holding during the five years preceding the first submission of an application under the support scheme for young farmers; and
- (b) is less than 40 years of age on the date fixed for the submission of the application to which the aid allocation is linked.

In the case of holdings managed in the form of a company, where several natural persons, including persons who are not young farmers, participate in the capital or management of the holding, the young farmer shall exercise such control, alone or jointly with other farmers.

In order to ensure that the young person has effective control over the holding, the body relies on a number of sources of information:

1. Information received from the Joint Social Security Centre

As an active farmer, the farmer must be registered with the Joint Social Security Centre, which lists the following statuses:

Principal contributor

Chief ancillary contributor

Principal non-contributor

Non-contributor ancillary

Associate

Main contributor

Ancillary contributor

Main contributor spouse

Ancillary contributor spouse

No agricultural affiliation

The following statuses shall show that the farmer exercises effective control over the holding:

Principal contributor

Chief ancillary contributor

Principal non-contributor

Non-contributor ancillary

Associate

2. Beneficiaries of start-up aid for young people under the second pillar of the CAP.

Beneficiaries of support for setting up young people under the second pillar of the CAP must exercise effective and lasting control over the holding.

3. Other documents to be provided by the applicant

Where previous sources fail to provide clear evidence that the young person is involved in the management and decision-making of the holding, additional documentation shall be required from the applicant.

Evidence that the young person is involved in decision-making may include:

a. Private contract

B. Notary deed

C. Bank identification statement proving that the young person is entitled to access the holding's accounts and is authorised to pay invoices.

The different types of evidence apply equally to natural persons, groups of natural persons (family farms, the most common case) and legal persons (company forms).

4.1.5.3 Appropriate training and/or skills required

Farmers shall have adequate professional knowledge and skills if they have one of the following training courses:

- agricultural, wine or horticultural training attested by a diploma as a technician, a certificate of technical and professional competence or a diploma of professional competence, or;
- training attested by a diploma at the end of secondary or technical secondary education or by a diploma in technician, a certificate of technical and professional competence or a diploma of professional competence.

4.1.5.4 Other comments relating to Young farmer definition

In the case of legal persons, persons who meet the criteria laid down in terms of seniority and age and who exercise effective and lasting control over the legal person in terms of decisions relating to management, benefits and financial risks shall be regarded as young farmers.

The young farmer (s) is/are able to exercise such effective and lasting control either alone or jointly with other young people or farmers.

4.1.6 New farmer

4.1.6.1 Conditions for being 'head of the holding' for the first time

'New farmer' means a natural or legal person who has not yet been registered as head of the holding previously and who did not, during the two years preceding the start of the agricultural activity, carried out an agricultural activity in his own name and at his own account or who did not have the control of a legal person exercising an agricultural activity. In the case of a legal person, the natural person (s) controlling the legal person must not have carried out any agricultural activity in their own name and on their own account or must not have had control of a legal person exercising an agricultural activity in the

two years preceding the start of the agricultural activity by the legal person.

4.1.6.2 Appropriate training and skills required

Farmers shall have sufficient professional knowledge and skills if they have one of the following training courses:

- agricultural, wine-growing or horticultural training attested by a diploma in technician, a certificate of technical and professional competence or a diploma in professional competence, or;
- training attested by a secondary or technical secondary education diploma or by a technician's diploma, a certificate of technical and professional competence or a diploma in professional competence.

4.1.7 Minimum requirements for receiving direct payments

4.1.7.1 Threshold

Threshold in ha:

Threshold in EUR: **100**

4.1.7.2 Explanation

We recall that monetary and surface thresholds are in fact not thresholds for the viability of farms, but were introduced at the time to limit the administrative burden. Thus, recital 12 of Regulation (EU) No 1307/2013 stated as follows:

*“In order to avoid an excessive administrative burden caused by the management of small payments, Member States should generally not grant direct payments where:
the amount concerned shall be less than EUR 100 or where the application for support relates to eligible areas of less than one hectare.”*

A threshold in EUR is easier to manage.

An analysis of the payment data for the years 2019 to 2021 shows that the number of applicants excluded by the threshold of EUR 100 varies between 2 and 6 farmers with a total of EUR 121,22 and EUR 416,98 (between EUR 56,28 and EUR 69,50 per holding). The impact is therefore minimal.

4.1.8 Other definitions used in the CAP Plan

Title	Description
To be specified	To be specified

4.2 Element related to Direct Payments

4.2.1 Description of the establishment of the payment entitlements, if applicable, and functioning of the reserve

4.2.1.1 Entitlements

Do you keep using entitlements at least for the first year of application of the [CAP Plan regulation]? :

Yes

If yes, do you plan to stop using entitlements during the period? : **Yes**

If yes, what is the first year without entitlements (Art. 23(2))? **2027**

4.2.1.2 Territorialisation

Do you apply the territorialisation of the BIS?(art 22(2)) : **No**

Do you differentiate the system of entitlements according to the group of territories? : **No**

Definition of the group of territories	Do you use entitlements in that group of territories?	Do you plan to stop using entitlements during the new programming period post-2020 (Art. 19(2))?	If yes, what is the first year without entitlements (Art. 23(2))?	Explanation

4.2.1.3 System of internal convergence

Do you differentiate the method of internal convergence according to the group of territories? : **No**

Do you implement 'flat rate' from the first year : **No**

Convergence Method Code

Target Year for the maximum level for the value of entitlements (Art. 24(3)) in EUR/entitlement **2026**

Maximum level for the value of entitlements (Art. 24(3)) **656.71**

Target Year for the minimum convergence percentage (Art. 24 (5)) **2026**

Minimum unit value as % of the average planned unit amount for BIS for the target year (Art. 24 (5)) **92.0**

Convergence steps (Art. 24 (4)) **2027, 2026, 2025, 2024, 2023**

Financing of convergence (Art. 24 (6))

The financial needs for the increase of entitlements below the national average value are guaranteed by a linear reduction of the part of the other entitlements that exceeds the national average value.

Over time, it has become increasingly difficult to justify the existence of significant individual differences in the level of support per hectare resulting from the use of historical references. Therefore, direct income support should be more evenly distributed among farmers. Thus, it is planned to converge the value of payment entitlements towards the average value of entitlements over the period 2023-2027.

As from claim year 2027, the basic payment scheme with basic payment entitlements will be replaced by a uniform per hectare aid scheme without payment entitlements.

Do you apply the reduction to only a part of the payment entitlements exceeding the average planned unit amount (Art. 20 (6 2nd §))? : **No**

Do you apply maximum decrease of unit value of entitlement? (Art. 24(7)) : **No**

If flat rate reached by the target year, what is the flat rate value? (Art 24(4)) in EUR/entitlement

Explanation

The Luxembourg authorities do not apply the maximum to ensure non-discriminatory treatment between producers.

Possible additional explanation on convergence rules

none.

4.2.1.4 Functioning of the reserve

Do you apply a reserve in each group of territories (Art. 26 (2))? : **No**

Do you differentiate the method for the establishment of the reserve according to the group of territories? :
No

Description of the system for the establishment of the reserve

As basic payment entitlements will continue under the basic income support for sustainability, the latter scheme will also include a national reserve. Its size will be determined according to the expected needs. Thus, the value of the rights at the BISS will have to be revised downwards.

Categories of eligible farmers and other rules on allocations from the reserve. (Art. 26)

Title of the category	Description	Rules	Priority
Young/New Farmers	Young and new farmers must comply with the definitions set out in points 4.1.5 and 4.1.6 in order to be eligible for an allocation from the national reserve.	/ Allocation of new entitlements/ Increase of value of existing entitlements	1
Final judicial decision or final administrative act	This category covers the provisions of Article 26(5) of Regulation (EU) 2021/2115.	/ Allocation of new entitlements/ Increase of value of existing entitlements	1

Rules on financial replenishment of the reserve

The national reserve shall be replenished by amounts coming from:

(a) payment entitlements not giving rise to payment in two consecutive years as a result of the application of the provisions relating to:

(I) the active farmer; or

(II) minimum conditions for granting direct payments; or

(b) a number of payment entitlements equivalent to the total number of payment entitlements which have not been activated by farmers in a period of two consecutive years, except where their activation has been prevented by force majeure or exceptional circumstances; when establishing the owned or leased-in payment entitlements held by a farmer that shall revert to the national reserve or regional reserves, priority shall be given to those entitlements which have the lowest value;

(C) payment entitlements voluntarily paid back by farmers;

(D) a linear reduction in the value of payment entitlements under the basic payment scheme to cover allocation needs.

The renewals referred to in points (a) and (b) shall be the subject of a Non-contentious Administrative Procedure (NAC), under which the holding first receives a letter of intent signed by the Director of the Rural Economy Service and in which the farmer is made aware that the administration intends to carry out a renewal. The farmer then has 2 weeks to take a position and, if necessary, to put forward additional elements. As a result, the procedure is either cancelled or the farmer receives a ministerial decision specifying the execution of the renewal.

Rules on Payment Entitlements expiration and reversion to reserve

Reference is made to the previous paragraph (point c).

Other elements related to reserve

Requests for allocation are made within the framework of GSAA. Transfer notifications are made using a separate form which may, however, be attached to the GSAA in the form of a scanned PDF.

4.2.1.5 Rules related to transfers of payment entitlements (if any)

Payment entitlements may only be transferred to a farmer established in Luxembourg who is entitled to be granted direct payments in accordance with the provisions relating to the active farmer, except in the case of inheritance or anticipated inheritance.

Payment entitlements, including in case of inheritance or anticipated inheritance, can only be activated in Luxembourg.

Transfer notifications may be submitted up to 31 May of the current calendar year.

4.2.2 Reduction of direct payments

4.2.2.1 Description of the reduction and/or capping of direct payments

Do you apply the reduction of payments? : **No**

Do you apply capping (i.e. 100% reduction)? : **No**

4.2.2.2 Subtraction of labour costs

Do you apply the subtraction of labour costs? : **No**

4.2.2.3 Estimated product of the reduction of direct payments and capping for each year

Claim year	2023	2024	2025	2026	2027	Explanations
Financial year	2024	2025	2026	2027	2028	
Total annual estimated product (EUR)	0	0	0	0	0	The various ceilings and the BISS national reserve prevent overruns.
- use for redistributive payment (EUR)	0	0	0	0	0	The various ceilings and the BISS national reserve prevent exceeding.hent
- use for other Direct Payments interventions (EUR)	0	0	0	0	0	The various ceilings and the BISS national reserve prevent overruns.
- transfer to EAFRD (EUR)	0	0	0	0	0	The various ceilings and the BISS national reserve prevent overruns.

4.2.3 Application at the level of members of legal persons or groups/ at the level of group of affiliated legal entities (Article 110)

☐ **Application of thresholds/limits set-up in the [SPR] or [HZR] at the level of members of legal persons or groups:**

Article 17(4) of [SPR] Reduction of payments

Apply threshold : **No**

Article 29(6) first subparagraph of [SPR] CRIS

Apply threshold : **No**

Article 30(4) of [SPR] CISYF

Apply threshold : **No**

Article 17(1) of [SPR] Financial discipline

Apply threshold : **No**

☐ **Where thresholds/limits set-up by the MS, application of these thresholds/limits at the level of members of legal persons/groups:**

Article 28 of [SPR] Payment for small farmers

Apply threshold : **No**

Article 31 of [SPR] Eco-Schemes

Apply threshold : **No**

Article 32-34 of [SPR] CIS

Apply threshold : **No**

Article 70 of [SPR] Environmental, climate and other management commitments

Apply threshold : **No**

Article 71 of [SPR] Natural and other area-specific constraints

Apply threshold : **No**

Article 72 of [SPR] Area-specific disadvantages resulting from certain mandatory requirements

Apply threshold : **No**

Article 73 of [SPR] Investments

Apply threshold : **No**

Article 75 of [SPR] Installation of young farmers and rural business start-up

Apply threshold : **No**

☐ **Application of thresholds/limits set-up in the [SPR] at the level of group of affiliated legal entities:**

Article 29(6) second subparagraph of [SPR] CRIS

Apply threshold : **No**

4.2.4 Contribution to risk management tools

Do you apply the option to condition up to 3% of direct payments to the fact that this amount is used for contribution to a risk management tool? : **No**

What is the percentage?

Main elements

4.3 Technical Assistance

4.3.1 Objectives

LU will not use technical assistance

4.3.2 Scope and indicative planning of activities

LU will not use technical assistance

4.3.3 Beneficiaries

LU will not use technical assistance

4.3.4 Rate

Indicate the percentage of total EAFRD contribution to the CAP Strategic Plan to be used to finance the actions of Technical Assistance. A single percentage over the period (up to 4%/up to 6% for BE, DK, EE, CY, LV, LT, LU, MT, NL, SI, SE) **0**

4.4 CAP Network

4.4.1 Summary overview and objectives of the National CAP Network, including activities to support EIP and knowledge flows within the AKIS

In accordance with Article 126 of Regulation (EU) 2021/2115, the national CAP network of the Grand Duchy of Luxembourg will be established within the competent authority, which will be the Ministry of Agriculture, Viticulture and Rural Development. It will be financed exclusively by national means.

Mention should be made of the particular context in Luxembourg, which does not strictly speaking justify

setting up a national CAP network operating independently and having several staff members in order to be able to respond to the various activities requested. Indeed, given the small number of farmers and other potential beneficiaries, direct contacts already exist between actors, responsible bodies and the competent authority. The competent authority wishes to use internal experience to respond to the requested activities.

In general, the national CAP network will ensure the networking of organisations and administrations, advisors, researchers and other innovation actors as well as other actors in the field of agriculture and rural development at national level. It will thus provide a framework for formal and informal exchanges between the various actors.

The **objectives** of the national CAP network are to:

- increase the involvement of all relevant actors in the implementation of the CAP Strategic Plan (= NSP);
- support administrations in the implementation of the NSP and in the transition to a performance-based delivery model;
- contribute to improving the quality of the implementation of the NSP;
- contribute to informing the public and potential beneficiaries about the CAP and funding opportunities;
- stimulate innovation in agriculture and rural development and foster peer-to-peer learning and inclusion of, and interaction between, all stakeholders in the knowledge-building and exchange process;
- contribute to monitoring and evaluation capacity and activities;
- contribute to the dissemination of NSP results.

The **tasks** entrusted to the national CAP network are as follows:

- the collection, analysis and dissemination of information on the actions and good practices implemented or supported under the NSP, as well as the analysis of developments in agriculture and rural areas;
- contribution to capacity building of administrations and other actors involved in the implementation of the NSP, in particular as regards monitoring and evaluation processes;
- the creation of platforms, forums and events to facilitate the exchange of experiences between stakeholders and peer-to-peer learning, including, where appropriate, exchanges with networks in third countries;
- gathering information and facilitating its dissemination, as well as networking of funded structures and projects, such as LEADER Local Action Groups, EIP Operational Groups and equivalent structures and projects;
- support for cooperation projects between EIP Operational Groups, LEADER Local Action Groups or similar local development structures, including transnational cooperation;
- creating links with other EU-funded strategies or networks;
- the contribution to the further development of the CAP and the preparation of any period covered by a subsequent NSP;
- participation in and contribution to the activities of the European CAP network.

The national CAP network will be set up no later than 12 months after the approval of the NWP by the Commission.

4.4.2 Structure, governance and operation of the National CAP Network

The national CAP network will be established within the Ministry of Agriculture, Viticulture and Rural Development and will be led by two to three officers. It will be composed of the same members as the NSP Monitoring Committee (Article 124 of Regulation (EU) 2021/2115) so that the exchange of information between these two bodies is ensured.

The network will thus consist of representatives of organisations and administrations working in the field of agriculture and rural development, which are involved in agriculture and rural development at both national and regional level. This structure will allow for a regular exchange of information between all relevant actors. The network will include scientists, advisors, civil servants/employees, innovation actors and farmers representing different organisations. It will be ensured that the network is inclusive and that the national and European CAP networks will be closely linked to ensure maximum exchange of knowledge. The network will be able to add experts for consultation.

In the context of setting up the national CAP network, close cooperation with the AKIS network, also financed by national means, including the European Innovation Partnership for Agricultural Productivity and Sustainability (EIP) and its operational groups, and the LEADER network and its Local Action Groups (LAGs) will be implemented. This will allow AKIS to benefit from the well-established networking structure between LAGs and LAGs will have the opportunity to broaden their contacts with AKIS actors, including farmers, farm advisors and researchers.

4.5 Overview of the coordination, demarcation and complementarities between the EAFRD and other Union funds active in rural areas

It should be noted that rural development measures, in particular the LEADER initiative, will be financed exclusively by the EAFRD.

The managing authority shall ensure continuous consultation with the other ministries responsible for implementing operational programmes linked to the other European Funds. Throughout the programming period, technical committees bringing together the managers of the other funds are organised on an ad hoc basis as necessary, in order to ensure coordination between the different funds.

With regard to EAFRD priorities requiring coordination, such as the LEADER approach, which aims to finance projects with a varied number of issues, and in order to avoid double funding from several funds for the same project, any application for funding is systematically submitted for opinion and/or information to the ministries concerned by the project.

It should be noted that the coordination of other EU funds such as ERDF, INTERREG or the Recovery and Resilience Facility (RRF) does not fall under the competence of the Ministry of Agriculture.

Although agriculture is not directly targeted by the thematic objectives of the ERDF or ESF programmes in Luxembourg (see the related programming for the period 2021-2027), the priorities of these programmes and those of the CAP, in particular for LEADER, are approaching on certain axes, particularly in terms of social inclusion. Thus, a national consultation committee aims to ensure complementarity and synergies between the various European funds and instruments and also to define the scope of the funds in order to maximise the impact of the assistance supported.

These other European funds are not directly additional to EAFRD aid to support the agricultural sector.

The Employment Development Agency (ADEM) is the central actor to facilitate employment. In addition to ADEM, social initiatives, sheltered workshops and other projects supported by the European Social Fund (ESF) contribute to the integration of jobseekers who are difficult to enter or re-enter the labour market.

With regard to social inclusion and employment initiatives, the Employment Forum, co-set up in 1998 by LEADER LAGs, plays an important role in work initiatives and has as its objectives the management, initiation and support of initiatives against unemployment promoting the integration of jobseekers into the world of work and improving the employability of every worker in employment. The Ministry of Agriculture is part of the board of directors of this asbl, which is under the supervision of the Ministry of Labour, Employment and the Social and Solidarity Economy. The Forum plays a key role in providing labour for regional market gardening.

The Initiative and Management Centres (IGC), also under the supervision of the Ministry of Labour, Employment and the Social and Solidarity Economy, allow municipalities to hire jobseekers for a specific period of time and under advantageous conditions, to train them and initiate them in various works in order to be able to offer public utilities to the local or regional community.

The European Recovery and Resilience Facility (RRF) has been translated into a Plan for Recovery and Resilience (RRP), under the supervision of the Ministry of Finance, which is based on three pillars:

- Cohesion and social resilience with: Skilling, reskilling and upskilling/rebuilding health system resilience/increasing the supply of affordable and sustainable public housing
- Green transition with: decarbonisation of transport/protection of the environment and biodiversity
- Digitalisation, Innovation and Governance with: promotion of a data-driven economy/modernisation of public administration/promotion of a transparent and fair economy.

Thus, the agriculture sector is directly affected by the three pillars identified in the RRP, although the Ministry of Agriculture is not one of the benefiting entities.

A strategic priority for the EAFRD is to make the agricultural sector more sustainable. To this end, it presents multiple interventions for the protection of the environment, climate and biodiversity and complementarities with the ERDF programme (Greener Europe – PO2 (ii)).

Luxembourg's agricultural sector accounts for only 6.5 % of national greenhouse gas emissions. In the framework of the "Integrated National Energy and Climate Plan" for the period 2021-2030, the government decided that agriculture should contribute to the country's greenhouse gas reductions in order to achieve the goals of the Paris Agreement. This reduction must take into account the fact that Luxembourg's agriculture is strongly geared towards livestock production and the dependence of any compensation on the reduction of greenhouse gas emissions linked to other economic sectors.

The integrated National Energy and Climate Plan (NECP) for the period 2021-2030 puts a national weight on reducing greenhouse gas emissions (55 %), increasing renewable energy to 25 % of total energy consumption and increasing energy efficiency from 40 % to 44 % by 2030. Emissions reduction targets for the agricultural sector target -5 % in 2025 and -20 % in 2030, compared to the base year 2005.

The EAFRD will focus instead on creating structural elements to strengthen habitats and biodiversity, protecting water and reducing applications of plant protection products, thus also contributing to the implementation of the National Action Plan for the Reduction of Plant Protection Products and the National Plan on Pollinators.

As regards support for renewable energies (biogas, photovoltaic or wind energy), the EAFRD has not provided for any measures, since Luxembourg is responsible for this matter by the Ministry of Energy and Regional Planning.

In general, the NSP intervenes in the financing of interventions related to primary production (Annex I TFEU). More sophisticated products will not be included in the scope of the NSP.

It should be noted that Luxembourg does not have a budget at the level of the European Maritime, Fisheries and Aquaculture Fund (EMFAF).

There are currently no plans to link EAFRD funding with funding under the European Framework Programme for Research and Innovation. However, the Ministry of Agriculture is aware of the potential for synergies between the CAP and the Horizon Europe programme and plans to further exploit these synergies. It should first be noted that research and innovation activities in the agricultural sector and the

Ministry of Agriculture are financed by national means without co-financing by the EAFRD programme. In addition, the fact that Luxembourg does not have a university or university faculty dedicated to agriculture is a factor to be considered when analysing the potential for participation and cooperation in research and innovation activities related to the CAP.

Despite these facts and limitations, a range of cooperation activities exist or are being put in place at national level, through national funding, aimed in particular at bringing together and synergies between the agricultural and research and innovation sectors.

For example, as regards the various European programmes which refer to research and innovation, the Ministry of Agriculture is in direct contact with the Ministry of Higher Education and Research, which is part of the 'Commission for the Promotion of Innovation, Research and Development in the Agricultural Sector'. This committee is responsible for drawing up a national innovation strategy for research and development priorities for the agricultural sector, for promoting and accelerating knowledge transfer and innovation and for evaluating projects submitted by the Operational Groups. A regular exchange between the ministries responsible for research and innovation and agriculture ensures that research and innovation developments concerning agriculture are transferred to the agricultural sector via the members of the committee that are part of the Ministry of Agriculture.

Some partnerships and missions of the European Framework Programme for Research and Innovation Horizon Europe are indeed of interest to the Ministry, in particular those on adaptation to climate change and sustainable food systems that work for people, the planet and the climate.

It is clear, however, that the Ministry of Agriculture has no authority with regard to national participation in European partnerships and missions which fall within the remit of the Ministry of Higher Education and Research. At present, the decision of the Luxembourg Government on participation in and financing of partnerships is still pending. As regards the implementation of possible participation, the expertise of the National Research Fund in European programmes related to cooperation in the fields of research and innovation such as ERA-Nets (with e.ex ORGANIC CORE), actions under Article 185 of the Treaty on the Functioning of the European Union (ex PRIMA) and joint programming initiatives (e.ex Water4All) will be extremely useful.

The Ministry recognises the importance of the cross-cutting nature of European partnerships and missions, which therefore target not only the research sector, but also actors such as businesses, state administrations, non-governmental organisations and citizens. This approach requires the various partners and sectors involved to raise awareness of the diversity of potential results beyond their traditional jurisdictions and therefore requires good preparation in order to succeed.

In addition, the Ministry is in close dialogue with the Ministry of Economy as well as with the Innovation Agency, Luxinnovation, on the establishment of a national approach to the implementation of the Green Deal, including sustainable food systems. Luxinnovation is the national contact point for the European Framework Programme for Research and Innovation. An inter-ministerial working group bringing together the Ministries of Economy, Environment, Energy and Agriculture, as well as stakeholders in the research sector, focused in particular on informing agri-food and/or circular economy projects submitted for financing to the Ministry of Economy. This working group is chaired by Luxinnovation, which thus ensures the exchange of knowledge with all activities related to the European Framework Programme for Research and Innovation. As part of the establishment of the Innovation Hub (see chapter 2 – cross-cutting objective and chapter 8-modernisation for detailed information), the avenue for concrete collaboration on the topic of agri-food with the Ministry of Economy and Luxinnovation is currently under revision.

As collaboration on the various themes linked to innovation in the agricultural and agri-food sectors has started at national level, participation in EIP projects or in the Horizon Europe programme cannot be required. For example, in order to bring players in the agriculture and research sectors closer together, the

first of which move mainly to the EIP projects and the last to the Horizon Europe programme, joint calls for projects with the National Research Fund were launched in 2021 in order to encourage greater collaboration between stakeholders from both sectors on subjects of importance to national agricultural policy. These calls for projects are financed entirely by national means (see chapter 2 – cross-cutting objective and chapter 8-modernisation for additional information).

Another area which is not within the competence of the Ministry of Agriculture and plays a crucial role in the development and modernisation of the agricultural sector is digitalisation. The European digitalisation framework, including the Digital Europe Programme (Regulation (EU) 2021/694), the European Digital Innovation Hub and the Digital Connecting Europe Facility (Regulation (EU) 2021/1153), is thus followed by other ministries in Luxembourg. As digitalisation is one of the priorities of the Luxembourg Government, the Ministry of Digitalisation has established a very effective national digitalisation strategy which has recently ranked 3th in the European Commission's eGovernment Benchmark 2022 ranking.

In 2021, the Ministry of Economy ensured better cooperation in the digitalisation of businesses by involving the Luxembourg Digital Innovation Hub (L-DIH) with the other digital innovation hubs in the Greater Region, a good example for the future European EDIH network. As L-DIH is primarily addressed to businesses, collaborations with the agricultural sector do not yet exist. However, as part of the requirements imposed by the CAP which require extensive data exchange and processing, the State Information Technology Centre (CTIE), the technical arm of the Ministry of Digitalisation, deploys human resources to assist the Ministry in the implementation of the necessary IT processing operations. Talks between the Chamber of Agriculture, other stakeholders from the Luxembourg farm council and the GAIA-X regional hub took place in 2022 to facilitate the access of agricultural stakeholders to the European infrastructure GAIA X on federated and secure data. Future collaboration in this framework will also be financed through national financial means.

In short, the EAFRD fund is not triggered for participation in or cooperation with other European funds related to innovation and research, while a range of national approaches have been launched to develop the research aspects of innovation, including digitalisation, in the agricultural sector.

The Ministry of Agriculture is currently supporting research aimed at digitalisation in the agricultural and wine sectors through EIP and innovation projects which are fully funded by national means. Over the last five years, the considerable amount of EUR 2 509 000 has been invested for the digitalisation projects concerned. In addition to this amount in 2020, a substantial amount of EUR 850,000 was made available to set up a single national platform for managing all data in the agricultural sector, with a view to securing and exploiting data, thereby increasing the productivity of farms by providing them with holistic farm advice which is essential to meet the increasingly complex challenges facing agriculture. This is part of the recovery package for agriculture with measures to support the sector in the fight against COVID-19, financed entirely by national financial means.

4.6 Financial instruments

4.6.1 Description of the financial instrument

Luxembourg will not use financial instruments.

4.7 Common elements for Rural Development types of interventions

4.7.1 List of non eligible investments

In addition to the ineligible investment projects listed in Article 73 of Regulation (EU) 2021/2115, irrigation projects will not be eligible for EU co-financing.

4.7.2 Definition of rural area and applicability

Definition of rural area for Objective 8 and LEADER:

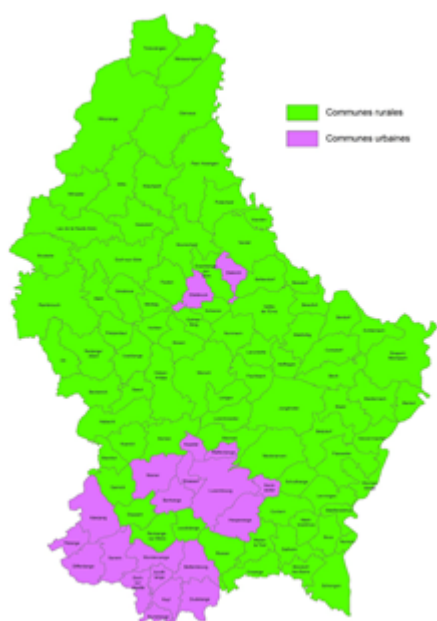
In general, it is the number of inhabitants (more than 3.000 inhabitants) and the population density (more than 250 inhabitants per km²) that characterise 'urban' or 'rural' spaces in a territory. In particular, demographic change in Luxembourg means that the second criterion for distinguishing between rural and urban areas is adapted to current realities. This is why the future demarcation between rural and urban areas in Luxembourg is defined by an discounted value in terms of population density, i.e. $\leq 310^{\text{hab./km}^2}$ (rural) or $> 310^{\text{hab./km}^2}$ (urban). On the other hand, the vast majority of the municipalities covered by the National Strategic Plan still have a resident population of ≤ 3.000 inhabitants.

After analysis, **81 out of a total of 102 municipalities are considered rural**. With 2 201.53 km², the area of the 81 municipalities in rural areas represents **85.1 % of the national territory**. At the same time, all rural areas comprise a resident population of 254.105 inhabitants, i.e. 40 % of the national resident population in 2021. 50 municipalities in rural areas, and the vast majority of them, document an inhabited population of < 3.000 , with population densities of $< 310^{\text{inhab./km}^2}$, ranging from 36,0 inhabitants per km² to 223,5 inhabitants per km².

By analogy with the 81 municipalities in rural areas, **21 municipalities should be identified and defined in urban areas**. These municipalities have a population of more than 3.000 inhabitants and a density of more than 310 inhabitants per km² and are mainly located in the three development poles of the country, i.e. the southern, Luxembourg and northern agglomerations (STATEC, 2021).

Finally, it should be noted that all regional rural development and attraction centres (CDA) are part of rural municipalities and are therefore eligible for LEADER local development and national rural development measures.

Communes rurales et communes urbaines



4.7.3 Additional elements common for Sectoral interventions, for rural development interventions, or common for both Sectoral and Rural Development interventions

The environmental impact assessment of agricultural investments is governed by the Grand-Ducal Regulation of 15 May 2018 laying down the lists of projects subject to an environmental impact assessment.

In accordance with Directive 92/43 EEC on the conservation of natural habitats and of wild fauna and flora, projects not directly connected with or necessary to the management of the site shall be subject to appropriate assessment of their implications for the site, having regard to the conservation objectives of the site concerned.

Investments receiving aid under the aid scheme on agricultural investments included in Title 5.3 of this NSP must comply with the conditions for granting the aid for a period of 10 years.

As regards interventions outside Article 42 TFEU, undertakings in difficulty as well as undertakings still subject to an outstanding recovery order following a Commission decision declaring aid illegal and incompatible with the internal market, except in the cases mentioned in the applicable State aid rules, shall be excluded from aid.

It should be noted that the document entitled 'Attestation confirming the adequacy and accuracy of the calculations relating to payments under the national strategic plan of the Grand Duchy of Luxembourg' can be found under 'General – Documents'.

4.7.4 Contribution rate(s) applicable to Rural Development interventions

National contribution rate(s)

Article	Applicable rate	Min Rate	Max Rate
155(2)(c) - Early retirement		20.00%	43.00%
91(2)(a) - Less developed regions		20.00%	85.00%
91(2)(b) - Outermost regions and in the smaller Aegean islands		20.00%	80.00%
91(2)(c) - Transition regions within the meaning of Article 108(2), first subparagraph, point (b), of Regulation (EU) 2021/1060		20.00%	60.00%
91(2)(d) - Other regions	20.00%	20.00%	43.00%
91(3)(a) - Payments for natural or others area-specific constraints under Article 71		20.00%	65.00%
91(3)(b) - Payments under Article 70, payments under Article 72, support for non-productive investments referred to in Article 73, support for the projects of EIP operational groups under Article 77(1), point(a), and LEADER under Article 77(1), point(b)		20.00%	80.00%
91(3)(c) - Operations receiving funding from funds transferred to the EAFRD in accordance with Articles 17 and 103		20.00%	100.00%
91(3)(b) - 70 - Payments under Article 70		20.00%	80.00%
91(3)(b) - 72 - Payments under Article 72		20.00%	80.00%
91(3)(b) - 73 - Support for non-productive investments referred to in Article 73		20.00%	80.00%
91(3)(b) - 77(1)(a) - Support for the European Innovation Partnership under Article 77(1), point(a)		20.00%	80.00%
91(3)(b) - 77(1)(b) - LEADER under Article 77(1), point(b)	25.00%	20.00%	80.00%
91(3)(c) - 70 - Operations, under Article 70, receiving funding from funds transferred to the EAFRD in accordance with Articles 17 and 103		20.00%	100.00%
91(3)(c) - 71 - Operations, under Article 71, receiving funding from funds transferred to the EAFRD in accordance with Articles 17 and 103		20.00%	100.00%
91(3)(c) - 72 - Operations, under Article 72, receiving funding from funds transferred to the EAFRD in accordance with Articles 17 and 103		20.00%	100.00%
91(3)(c) - 73-74 - Operations, under Articles 73-74, receiving funding from funds transferred to the EAFRD in accordance with Articles 17 and 103		20.00%	100.00%
91(3)(c) - 75 - Operations, under Article 75, receiving funding from funds transferred to the EAFRD in accordance with Articles 17 and 103		20.00%	100.00%
91(3)(c) - 76 - Operations, under Article 76, receiving funding from funds transferred to the EAFRD in accordance with Articles 17 and 103		20.00%	100.00%

91(3)(c) - 77 - Operations, under Article 77, receiving funding from funds transferred to the EAFRD in accordance with Articles 17 and 103		20.00%	100.00%
91(3)(c) - 78 - Operations, under Article 78, receiving funding from funds transferred to the EAFRD in accordance with Articles 17 and 103		20.00%	100.00%

Regional contribution rate(s)

Region	Article	Applicable rate	Min Rate	Max Rate

5 Direct payments, sectoral and rural development interventions specified in the strategy

Fund	Form of Intervention	Type of Intervention	Intervention Code (MS) - Name	Carry-over	Common Output Indicator	Gen. Renewal	Env.	ES rebate system	LEADER
EAGF	Decoupled Direct Payments	BISS(21)	1.01.501 - Basic income support for sustainability		O.4				
EAGF	Decoupled Direct Payments	CRISS(29)	1.01.504 - Complementary redistributive income support for sustainability		O.7				
EAGF	Decoupled Direct Payments	CIS-YF(30)	1.01.502 - Complementary income support for young farmers		O.6				
EAGF	Decoupled Direct Payments	Eco-scheme(31) / Art. 31(7)(b) - Compensatory payment	1.02.512 - Aid for the installation of non-productive areas	No inclusion	O.8				
EAGF	Decoupled Direct Payments	Eco-scheme(31) / Art. 31(7)(b) - Compensatory payment	1.02.513 - Aid for the installation of non-productive strips	It does partially	O.8				
EAGF	Decoupled Direct Payments	Eco-scheme(31) / Art. 31(7)(b) - Compensatory payment	1.02.514 - Aid for renunciation of plant protection products	It does partially	O.8				
EAGF	Decoupled Direct Payments	Eco-scheme(31) / Art. 31(7)(b) - Compensatory payment	1.02.515 - Aid for setting up catch crops and undersowing on arable land	It does fully	O.8				
EAGF	Decoupled Direct Payments	Eco-scheme(31) / Art. 31(7)(b) - Compensatory payment	1.02.516 - Aid for the use of synthetic pheromones in viticulture	It does fully	O.8				
EAGF	Decoupled Direct Payments	Eco-scheme(31) / Art. 31(7)(b) - Compensatory payment	1.02.517 - Aid for the establishment of refuge areas on hay meadows	No inclusion	O.8				
EAGF	Decoupled Direct Payments	Eco-scheme(31) / Art. 31(7)(b) - Compensatory payment	1.02.518 - Aid to encourage the incorporation of manure	No inclusion	O.8				
EAGF	Decoupled Direct Payments	Eco-scheme(31) / Art. 31(7)(b) - Compensatory payment	1.02.519 - Aid for the use of arboriculture synthetic pheromone nozzles	No inclusion	O.8				

EAGF	Coupled Direct Payments	CIS(32)	1.03.503 - Coupled aid for legumes		O.10				
EAGF	Coupled Direct Payments	CIS(32)	1.03.505 - Coupled aid for suckler cows		O.11				
EAGF	Coupled Direct Payments	CIS(32)	1.03.506 - Coupled aid for market gardening and fruit crops		O.10				
EAGF	Sectoral - Apiculture products	ADVIBEEES(55(1)(a))	1.09.582 - Transfer of knowledge		O.37				
EAGF	Sectoral - Apiculture products	ACTLAB(55(1)(c))	1.09.581 - Supports analyses of the quality of beekeeping products		O.37				
EAGF	Sectoral - Apiculture products	PRESBEEHIVES(55(1)(d))	1.09.580 - Programmes for genetic improvement of bees		O.37				
EAFRD	Rural Development	ENVCLIM(70)	2.02.540 - Premium for the establishment of sustainable and environmentally-friendly agriculture — Agriculture	It does partially	O.14	No	Yes	No	No
EAFRD	Rural Development	ENVCLIM(70)	2.02.542 - Premium for sustainable and environmentally-friendly agriculture — Viticulture	It does partially	O.14	No	Yes	No	No
EAFRD	Rural Development	ENVCLIM(70)	2.02.543 - Support for the conversion and maintenance of organic farming	It does partially	O.17	No	Yes	No	No
EAFRD	Rural Development	ENVCLIM(70)	2.02.544 - Support for slurry injection and manure composting	It does partially	O.14	No	Yes	No	No
EAFRD	Rural Development	ENVCLIM(70)	2.02.546 - Aid to promote the planting of bovine animals to grass	No inclusion	O.14	No	Yes	No	No
EAFRD	Rural Development	ENVCLIM(70)	2.02.549 - Support for reduced tillage	It does partially	O.14	No	Yes	No	No
EAFRD	Rural Development	ENVCLIM(70)	2.02.550 - Aid to reduce cattle stocking rates	No inclusion	O.14	No	Yes	No	No
EAFRD	Rural Development	ENVCLIM(70)	2.02.551 - Aid for the conversion of arable land into permanent grassland	No inclusion	O.14	No	Yes	No	No
EAFRD	Rural Development	ANC(71)	2.01.532 - Payments to areas facing natural or specific constraints	No inclusion	O.12	No	Yes	No	No
EAFRD	Rural Development	ASD(72)	2.01.530 - PAYMENTS UNDER THE WATER FRAMEWORK DIRECTIVE	No inclusion	O.13	No	Yes	No	No

EAFRD	Rural Development	INVEST(73-74)	2.04.712 - Aid for agricultural investments	No inclusion	O.20	No	No		No
EAFRD	Rural Development	INVEST(73-74)	2.04.714 - Aid for environmental investments	No inclusion	O.20	No	Yes	No	No
EAFRD	Rural Development	INSTAL(75)	2.09.711 - Support for setting-up of young farmers	No inclusion	O.25	Yes	No		No
EAFRD	Rural Development	COOP(77)	2.05.570 - Local LEADER development	No inclusion	O.31	No	No		Yes

5.1 Direct Payments Interventions

BISS(21) - Basic income support for sustainability

1.01.501 - Basic income support for sustainability

Intervention Code (MS)	1.01.501
Intervention Name	Basic income support for sustainability
Type of Intervention	BISS(21) - Basic income support for sustainability
Common Output Indicator	O.4. Number of hectares benefitting from for basic income support

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO1 Support viable farm income and resilience of the agricultural sector across the Union in order to enhance long-term food security and agricultural diversity as well as to ensure the economic sustainability of agricultural production in the Union

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B1.1	Ensuring a viable, fair and just basic income for farmers	P1	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.4 Share of utilised agricultural area (UAA) covered by income support and subject to conditionality

5 Specific design, requirements and eligibility conditions of the intervention

Description

Objective of the intervention:

The basic payment scheme provides direct income support, in particular with a view to ensuring a fair standard of living for the agricultural community.

As incomes from agricultural activities are still well below the average wages of the overall economy, the basic payment scheme supports the reduction of the income gap between the agricultural sector and other sectors. Without this income support, agriculture will not be economically viable. Beyond the negative impact on food security, the absence of income support would lead to land abandonment in some regions and its concentration in the most productive areas.

Direct payments improve incomes and ensure relative stability of incomes for farmers facing significant price and production volatility.

The basic payment per holding shall be subject to compliance with environmental, food safety, animal health and welfare standards and to the maintenance of the holding in good agricultural and environmental

condition grouped under “cross-compliance”.

Description of the intervention:

Support under the basic payment scheme may be granted to farmers who are:

- * Active farmer,
- * Hold basic payment entitlements,
- * Use eligible areas.

Support under the basic payment scheme shall be granted to farmers, on the basis of a declaration, after activation of a payment entitlement per eligible hectare. Activated payment entitlements shall give entitlement to the annual payment of amounts equivalent to the value of the entitlements, without prejudice to the application of any regulatory reductions (financial discipline, administrative reductions and penalties, etc.).

For the purpose of activating payment entitlements, the farmer shall declare the parcels corresponding to the eligible hectares linked to a payment entitlement. Except in cases of force majeure or exceptional circumstances, the parcels declared shall be at the farmer’s disposal on the date fixed for the amendment of the aid application.

Payment entitlements may be transferred only to a farmer who is entitled to be granted direct payments, except in the case of inheritance or anticipated inheritance.

National reserve:

The national reserve is intended for:

- facilitate participation in the scheme for young farmers and farmers commencing an agricultural activity;
- to cover needs in case of final judicial decision or final administrative act

The national reserve shall be replenished by the amounts coming from:

(a) payment entitlements not giving rise to entitlement to payments in two consecutive years as a result of the application of the provisions relating to:

(I) the active farmer; or

(II) minimum conditions for granting direct payments; or

(b) a number of payment entitlements equivalent to the total number of payment entitlements which have not been activated by farmers during a period of two consecutive years, except where their activation was prevented by force majeure or exceptional circumstances; when establishing the owned or leased-in payment entitlements held by a farmer that shall revert to the national reserve or regional reserves, priority shall be given to those entitlements which have the lowest value;

(c) payment entitlements voluntarily returned by farmers;

(D) a linear reduction of the value of payment entitlements under the basic payment scheme to cover allocation needs

Internal convergence:

Over time, it has become increasingly difficult to justify the existence of significant individual differences in the level of support per hectare resulting from the use of historical references. Therefore, direct income support should be more evenly distributed among farmers. Thus, it is planned to converge the value of payment entitlements towards the average value of entitlements for the period 2023 to 2027.

As of claim year 2027, the basic payment scheme with basic payment entitlements will be replaced by a uniform aid per hectare scheme without payment entitlements.

Where the envelope for eco-schemes is insufficient, unused funds from the national reserve may be transferred to the eco-schemes envelope.

Where the envelope for eco-schemes and the transfer of the unused national reserve are insufficient,

entitlements may be reduced linearly in accordance with Community rules and the amount transferred to the eco-schemes envelope.

Transfers to the eco-schemes envelope shall respect the maximum amounts set for these schemes.

The scheme thus contributes to the following objective:

* supporting viable farm incomes and resilience across the EU to improve food security.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

Active farmer.

Hold basic payment entitlements.

Use eligible areas

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

N/A

7 Range and amounts of support

Description

The support is a basic income support for sustainability. It is based on payment entitlements under EU rules. The value of payment entitlements converges towards a unit value in 2027 in 5 not equal. In 2027, it will be replaced by an aid per hectare, the same for each holding.

8 Additional questions/information specific to the Type of Intervention

Is this BIS intervention a Payments for small farmers? (Art. 28)

☐ Yes ☒ No

9 WTO compliance

Green Box

Paragraph 6 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Entitlement to such payments shall be determined on the basis of the level of production during a defined and fixed base period.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.01.501.UA1 - Basic income support Unit Amount	Average		R.4

Explanation and Justification (including the flexibility)

1.01.501.UA1 - Basic income support Unit Amount

With a unit amount of EUR 132,48/ha, the basic payment represents, for an average holding of 70 ha, an amount of EUR 9 273,60. Thus, the income gap is reduced. The minimum unit amount shall be the minimum average value of the existing basic payment entitlements. With internal convergence, this value will be the same as the average unit amount in 2027. The maximum unit amount shall be the maximum average value of the existing basic payment entitlements. With internal convergence, this value will be the same as the average unit amount in 2027.

Incomes from agricultural activities are significantly lower than the average wages of the overall economy.

Table 1 shows the average gross annual gains per economic activity in 2019.

	2019
Industry and services	EUR 63 015
Industry and market services	EUR 60 896
Industry	EUR 53 427
Industry and construction.	EUR 48 145
Manufacturing industries	EUR 51 904
Construction	EUR 44 005
Market services	EUR 65 419
Services	EUR 64 679
Trade; repair of motor vehicles and motorcycles'	EUR 46 939
Financial and insurance services	EUR 99 912

Table 1: Gross average annual gains by economic activity – Full-time workers, source: STATEC

Farm income, including direct payments, in 2019 was EUR 41 884 per person (FADN data). Excluding direct payments, it was EUR 25 256 per person. This income is therefore significantly lower than the average income from other economic activities in Luxembourg.

The basic payment scheme supports the reduction of the income gap between the agricultural and other sectors. Without this income support, agriculture will not be economically viable. The basic payment with the unit amount referred to above is therefore clearly justified.

The minimum unit amount corresponds to the convergence of the average value of payment entitlements below the average.

The maximum unit amount corresponds to the higher than average convergence of the average value of payment entitlements.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.01.501.UA1 - Basic income support Unit Amount	Planned unit amount	132.48	132.48	132.48	132.48	132.48	
	Minimum Amount for the Planned unit amount	120.03	123.14	126.25	125.00	125.00	
	Maximum Amount for the Planned unit amount (EUR)	149.34	145.12	140.90	145.00	145.00	
	O.4 (unit: Hectares)	121,221.00	121,221.00	121,221.00	121,221.00	121,221.00	
	Planned output * Planned unit amount	16,059,358.08	16,059,358.08	16,059,358.08	16,059,358.08	16,059,358.08	80,296,790.40
TOTAL	O.4 (unit: Hectares)	121,221.00	121,221.00	121,221.00	121,221.00	121,221.00	Sum: 606,105.00 Max: 121,221.00
	Annual indicative financial allocation (Union Contribution in EUR)	16,059,358.08	16,059,358.08	16,059,358.08	16,059,358.08	16,059,358.08	80,296,790.40
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						

CRISS(29) - Complementary redistributive income support for sustainability

1.01.504 - Complementary redistributive income support for sustainability

Intervention Code (MS)	1.01.504
Intervention Name	Complementary redistributive income support for sustainability
Type of Intervention	CRISS(29) - Complementary redistributive income support for sustainability
Common Output Indicator	O.7. Number of hectares benefitting from complementary redistributive income support

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO1 Support viable farm income and resilience of the agricultural sector across the Union in order to enhance long-term food security and agricultural diversity as well as to ensure the economic sustainability of agricultural production in the Union

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B1.1	Ensuring a viable, fair and just basic income for farmers	P1	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.4 Share of utilised agricultural area (UAA) covered by income support and subject to conditionality

R.6 Percentage of additional direct payments per hectare for eligible farms below average farm size (compared to average)

5 Specific design, requirements and eligibility conditions of the intervention

Description

The aid aims at a more balanced distribution of support for medium-sized family farms. To this end, aid shall be granted at rates varying according to the following eligible areas:

The distribution of the basic payment in Luxembourg is proportional to the utilised agricultural area. The distribution of income support is therefore fairly balanced. However, as the redistributive payment as well as the minimum envelope are mandatory, the aim is to target the support fairly to the farms most in need (low income, small size):

1. Target the redistributive payment to agricultural holdings that live in farming. The target effect for small farmers (less than 30 ha) is neutral (on average no gain, no loss).
2. Target the redistributive payment to farms with lower income.
3. Target the redistributive payment to traditional family farms.

In order to comply with these criteria, the redistributive payment is distributed by farm size band. The

envelope is set at EUR 3 895 563, representing 11.89 % of Annex VII to Regulation 2021/2115.

Taille de l'exploitation	Nombre d'exploitations				Total
	Retraités	Exploitations de loisirs (<25 000 € SO)	Exploitations à titre accessoire	Exploitations à titre principal (≥75 000 € SO)	
0 - 3 ha	37	45	12	3	97
3 - 5 ha	25	22	19	10	76
5 - 10 ha	33	50	12	37	132
10 - 20 ha	46	34	16	44	140
20 - 30 ha	38	11	48	17	114
30 - 40 ha	17	0	43	31	91
40 - 50 ha	16	0	36	57	109
50 - 60 ha	11	0	14	70	95
60 - 70 ha	8	0	4	84	96
70 - 80 ha	4	0	3	95	102
80 - 90 ha	6	0	0	112	118
90 - 100 ha	3	0	0	83	86
100 - 110 ha	2	0	0	80	82
110 - 120 ha	1	0	0	79	80
120 - 130 ha	1	0	0	51	52
130 - 140 ha	0	0	0	42	42
140 - 150 ha	0	0	0	34	34
150 - 160 ha	0	0	0	32	32
160 - 170 ha	0	0	0	20	20
170 - 180 ha	1	0	0	12	13
180 - 190 ha	0	0	0	16	16
190 - 200 ha	0	0	0	11	11
200 - 250 ha	0	0	0	43	43
> 250 ha	0	0	0	28	28
Total	249	162	207	1091	1709

First tranche: UAA between 0 and 30 hectares:

Farms with a size up to a useful agricultural area of 30 ha are pensioners (32 %) and leisure farms (29 %), but also intensive crops such as market gardening, arboriculture and viticulture. Only 20 % are mainly holdings, particularly winegrowing holdings, with one of the highest agricultural income per hectare. An additional income support for the first 30 hectares is therefore not justified. Thus, the rate to be allocated for this tranche is fixed in such a way that the redistributive effect will be neutral, also taking into account the estimated effect of other direct payment schemes.

Second tranche: UAA between 30 and 70 hectares:

The average size of holdings holding basic payment entitlements is 70 ha of utilised agricultural area in Luxembourg. The second tranche is for farms below average.

The main (62 %) and ancillary (25 %) holdings in this tranche are confronted with the choice of: should we grow to survive and at what price? The need to acquire land in order to grow increases pressure on land prices. In order to reduce the pressure on the land and ensure the viability of these farms, these farms should be particularly supported.

UAA greater than 70 hectares:

Farms with a UAA of more than 70 hectares are not excluded from aid, but their support is limited to 70 hectares. The chosen model also makes it possible to generate an average gain for farms up to the size class of 100 to 110 hectares. Larger farms are considered to be large farms that can finance redistribution.

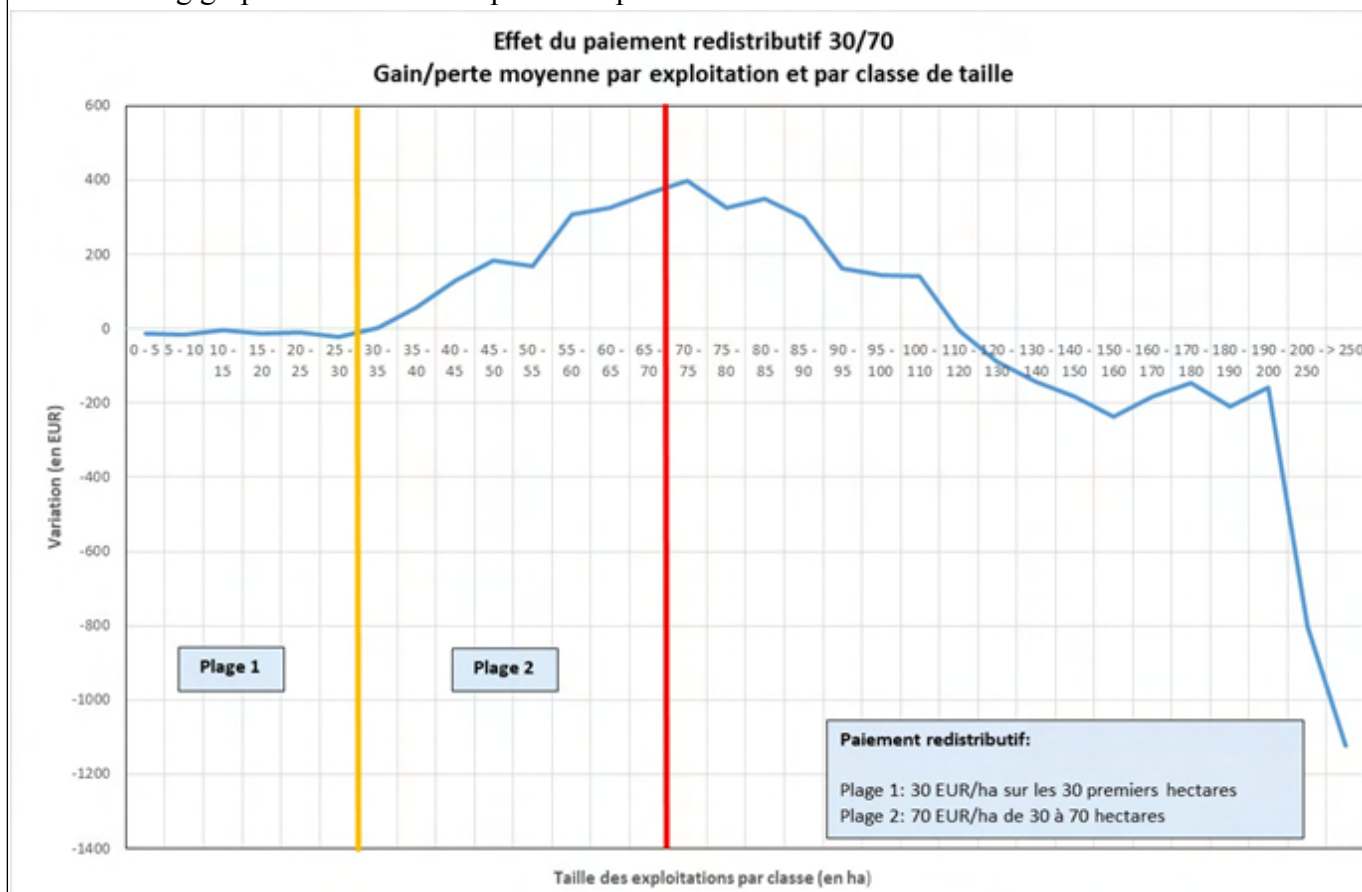
On the basis of the simulations carried out, it is therefore clear that the '30/70/0' model best meets the

objectives set. The model provides for the following ranges and rates:

- * 0 to 30 hectares: The aid is fixed at EUR 30/ha.
- * 30,01 to 70 hectares: The aid is fixed at EUR 70/ha.
- * > 70 hectares: No aid granted.

The higher rate paid for the 2nd tranche of surface area makes it possible to generate the loop illustrated by the curve below.

The following graph illustrates the expected impact of the model:

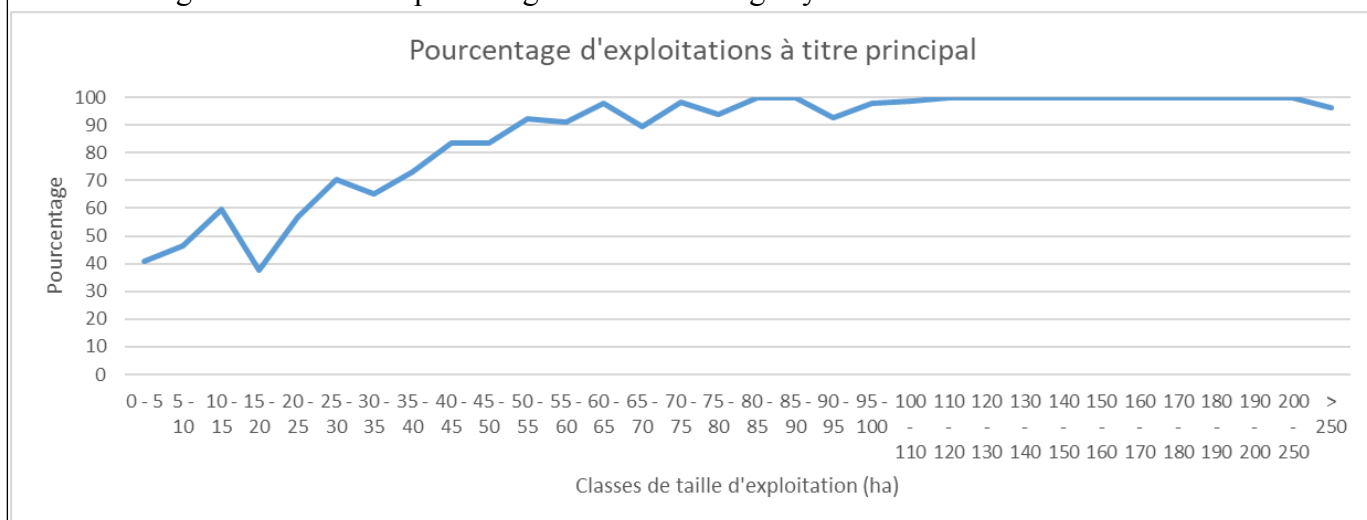


The curve displays the following data (by farm size class).

Classes (ha)	No prod.	SAU_LU_2019 (ha)	VAR_30/70/0/0 (total change in EUR)	VAR_30/70/0/0_m (average change in EUR)
0-5	174	430,61	— 2 484,54	— 14,28
5-10	131	949,91	— 2 802,21	— 21,39
10-15	92	1 104,22	— 777,36	— 8,45
15-20	48	826,56	— 2 469,60	— 51,45
20-25	53	1 175,45	— 1 837,94	— 34,68
25-30	61	1 691,38	— 3 680,93	— 60,34
30-35	46	1 489,57	438,97	9,54
35-40	45	1 671,26	10 052,52	223,39
40-45	55	2 332,83	22 191,72	403,49
45-50	54	2 577,20	31 793,69	588,77
50-55	39	2 050,88	29 108,88	746,38
55-60	56	3 229,04	53 310,82	951,98
60-65	48	3 018,70	56 704,23	1 181,34

65-70	48	3 227,86	63 350,85	1 319,81
70-75	52	3 763,33	69 488,71	1 336,32
75-80	50	3 860,30	56 435,29	1 128,71
80-85	59	4 874,69	61 085,88	1 035,35
85-90	59	5 152,78	52 186,52	884,52
90-95	40	3 700,44	28 028,90	700,72
95-100	46	4 486,58	25 292,87	549,85
100-110	82	8 566,96	24 450,42	298,18
110-120	80	9 175,32	— 829,35	— 10,37
120-130	52	6 480,78	— 15 308,33	— 294,39
130-140	42	5 627,98	— 24 675,44	— 587,51
140-150	34	4 924,38	— 31 625,29	— 930,16
150-160	32	4 960,20	— 40 993,61	— 1 281,05
160-170	20	3 318,26	— 31 887,78	— 1 594,39
170-180	13	2 269,45	— 25 663,47	— 1 974,11
180-190	16	2 941,30	— 36 259,08	— 2 266,19
190-200	11	2 136,66	— 27 470,50	— 2 497,32
200-250	43	9 328,10	— 139 481,42	— 3 243,75
> 250	28	9 272,24	— 195 673,16	— 6 988,33

The following curve shows the percentage of main holdings by area size class:



SAU exploitée au Luxembourg							
Taille de l'exploitation	Retraités	Exploitations de loisirs (<25 000 € SO)	Exploitations à titre accessoire	Exploitations à titre principal (≥75 000 € SO)	Total par classe	Total additionné	% de la SAU
0 - 3 ha	49	50	24	8	131	131	0,11%
3 - 5 ha	100	87	73	43	303	434	0,36%
5 - 10 ha	245	348	85	277	955	1 389	1,15%
10 - 20 ha	646	461	255	568	1 931	3 319	2,75%
20 - 30 ha	958	250	1 231	427	2 867	6 186	5,13%
30 - 40 ha	580	0	1 485	1 096	3 161	9 347	7,75%
40 - 50 ha	702	0	1 599	2 609	4 910	14 257	11,82%
50 - 60 ha	610	0	752	3 917	5 280	19 537	16,20%
60 - 70 ha	526	0	256	5 465	6 247	25 784	21,38%
70 - 80 ha	288	0	230	7 105	7 624	33 407	27,70%
80 - 90 ha	507	0	0	9 520	10 027	43 435	36,01%
90 - 100 ha	286	0	0	7 901	8 187	51 622	42,80%
100 - 110 ha	210	0	0	8 357	8 567	60 189	49,90%
110 - 120 ha	115	0	0	9 060	9 175	69 364	57,50%
120 - 130 ha	123	0	0	6 358	6 481	75 845	62,88%
130 - 140 ha	0	0	0	5 628	5 628	81 473	67,54%
140 - 150 ha	0	0	0	4 924	4 924	86 397	71,63%
150 - 160 ha	0	0	0	4 960	4 960	91 357	75,74%
160 - 170 ha	0	0	0	3 318	3 318	94 676	78,49%
170 - 180 ha	172	0	0	2 097	2 269	96 945	80,37%
180 - 190 ha	0	0	0	2 941	2 941	99 886	82,81%
190 - 200 ha	0	0	0	2 137	2 137	102 023	84,58%
200 - 250 ha	0	0	0	9 328	9 328	111 351	92,31%
> 250 ha	0	0	0	9 272	9 272	120 623	100,00%
Total	6 119	1 196	5 990	107 318	120 623		

Montant Paiement de base 2019							
Taille de l'exploitation	Retraités	Exploitations de loisirs (<25 000 € SO)	Exploitations à titre accessoire	Exploitations à titre principal (≥75 000 € SO)	Total	%	% cumulé
0 - 3 ha	15 029,58	16 202,28	5 645,96	1 829,70	38 707,52	0,17%	0,17%
3 - 5 ha	19 927,75	15 146,01	21 018,55	9 485,15	65 577,46	0,29%	0,46%
5 - 10 ha	45 574,81	52 773,11	18 104,66	75 345,36	191 797,94	0,85%	1,32%
10 - 20 ha	107 029,41	65 676,31	35 228,38	142 104,26	350 038,36	1,56%	2,87%
20 - 30 ha	160 689,51	42 754,94	204 514,28	72 992,29	480 951,02	2,14%	5,01%
30 - 40 ha	90 658,82	0,00	250 571,62	219 724,13	560 954,57	2,49%	7,50%
40 - 50 ha	119 975,48	0,00	263 170,86	490 917,64	874 063,98	3,88%	11,38%
50 - 60 ha	112 718,16	0,00	134 303,79	746 122,64	993 144,59	4,41%	15,80%
60 - 70 ha	87 703,63	0,00	38 159,14	1 009 236,02	1 135 098,79	5,04%	20,84%
70 - 80 ha	51 079,51	0,00	34 106,01	1 368 909,87	1 454 095,39	6,46%	27,30%
80 - 90 ha	83 439,47	0,00	0,00	1 801 624,20	1 885 063,67	8,38%	35,68%
90 - 100 ha	61 388,85	0,00	0,00	1 487 811,41	1 549 200,26	6,88%	42,56%
100 - 110 ha	36 923,61	0,00	0,00	1 596 092,34	1 633 015,95	7,26%	49,82%
110 - 120 ha	25 539,48	0,00	0,00	1 677 699,49	1 703 238,97	7,57%	57,39%
120 - 130 ha	16 002,25	0,00	0,00	1 166 831,86	1 182 834,11	5,26%	62,64%
130 - 140 ha	0,00	0,00	0,00	1 026 636,67	1 026 636,67	4,56%	67,21%
140 - 150 ha	0,00	0,00	0,00	898 155,32	898 155,32	3,99%	71,20%
150 - 160 ha	0,00	0,00	0,00	911 168,69	911 168,69	4,05%	75,25%
160 - 170 ha	0,00	0,00	0,00	647 559,00	647 559,00	2,88%	78,12%
170 - 180 ha	43 478,29	0,00	0,00	415 979,85	459 458,14	2,04%	80,17%
180 - 190 ha	0,00	0,00	0,00	546 244,78	546 244,78	2,43%	82,59%
190 - 200 ha	0,00	0,00	0,00	393 977,90	393 977,90	1,75%	84,34%
200 - 250 ha	0,00	0,00	0,00	1 731 439,52	1 731 439,52	7,69%	92,04%
> 250 ha	0,00	0,00	0,00	1 791 921,22	1 791 921,22	7,96%	100,00%
Total	1 077 158,61	192 552,65	1 004 823,25	20 229 809,31	22 504 343,82	100,00%	
	4,79%	0,95%	4,47%	89,89%	100,00%		

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

The farmer is an active farmer.

Agriculture is entitled to basic income support for sustainability.

A farmer whose size of the holding (in number of hectares of agricultural area) covers the ranges of eligible hectares between 0 and 70 hectares. Farmers whose area of the holding exceeds the threshold of 70 hectares are not excluded from the benefit, but receive aid only for the first 70 hectares.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

N/A

7 Range and amounts of support

Description

Aid is aid per hectare which varies according to the range of eligible areas.

From 0 to 30 hectares: The aid is fixed at EUR 30/ha.

From 30,01 to 70 hectares: The aid is fixed at EUR 70/ha.

> 70 hectares: No aid granted

8 Additional questions/information specific to the Type of Intervention

Do you apply the territorialisation for the CRISS?

☐ Yes ☒ No

Do you apply different amounts for different ranges of hectares? (Art. 29(3))

☒ Yes ☐ No

If yes, what are the ranges of hectares? (Art. 29(3))

Amounts	
30.00	0.00 ha to 30.00 ha
70.00	30.00 ha to 70.00 ha

What is the maximum number of hectares per farmer to which CRIS is paid? (Art. 29(3))

70.00

-Do you exclude farm holdings from CRIS on the basis of their physical size?

☐ Yes ☒ No

- Additional rules and/or explanations related to CRIS

none.

9 WTO compliance

Green Box

Paragraph 6 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Entitlement to such payments shall be determined on the basis of the level of production during a defined and fixed base period.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or

international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.01.504.01 - Complementary redistributive income support for sustainability Unit Amount No 1	Uniform		R.4; R.6
1.01.504.02 - Complementary redistributive income support for sustainability Unit amount No 2	Uniform		R.4; R.6

Explanation and Justification (including the flexibility)

1.01.504.01 - Complementary redistributive income support for sustainability Unit Amount No 1

This is the rate of EUR 30/ha to be paid for the first 30 hectares.

In the absence of historical data, the maximum and minimum amounts are set at + 10/-10 %.

1.01.504.02 - Complementary redistributive income support for sustainability Unit amount No 2

This is the rate of EUR 70/ha to be paid for hectares on the range of > 30 ha and < = 70 ha.

In the absence of historical data, the maximum and minimum amounts are set at + 10/-10 %.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.01.504.01 - Complementary redistributive income support for sustainability Unit Amount No 1	Planned unit amount	30.00	30.00	30.00	30.00	30.00	
	Minimum Amount for the Planned unit amount	27.00	27.00	27.00	27.00	27.00	
	Maximum Amount for the Planned unit amount (EUR)	33.00	33.00	33.00	33.00	33.00	
	O.7 (unit: Hectares)	40,678.00	40,678.00	40,678.00	40,678.00	40,678.00	
	Planned output * Planned unit amount	1,220,340.00	1,220,340.00	1,220,340.00	1,220,340.00	1,220,340.00	6,101,700.00
1.01.504.02 - Complementary redistributive income support for sustainability Unit amount No 2	Planned unit amount	70.00	70.00	70.00	70.00	70.00	
	Minimum Amount for the Planned unit amount	63.00	63.00	63.00	63.00	63.00	
	Maximum Amount for the Planned unit amount (EUR)	77.00	77.00	77.00	77.00	77.00	
	O.7 (unit: Hectares)	38,227.00	38,227.00	38,227.00	38,227.00	38,227.00	
	Planned output * Planned unit amount	2,675,890.00	2,675,890.00	2,675,890.00	2,675,890.00	2,675,890.00	13,379,450.00
TOTAL	O.7 (unit: Hectares)	78,905.00	78,905.00	78,905.00	78,905.00	78,905.00	Sum: 394,525.00

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
							Max: 78,905.00
	Annual indicative financial allocation (Union Contribution in EUR)	3,896,230.00	3,896,230.00	3,896,230.00	3,896,230.00	3,896,230.00	19,481,150.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)	0.00	0.00	0.00	0.00	0.00	0.00

CIS-YF(30) - Complementary income support for young farmers

1.01.502 - Complementary income support for young farmers

Intervention Code (MS)	1.01.502
Intervention Name	Complementary income support for young farmers
Type of Intervention	CIS-YF(30) - Complementary income support for young farmers
Common Output Indicator	O.6. Number of hectares benefitting from complementary income support for young farmers

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO7 Attract and sustain young farmers and other new farmers and facilitate sustainable business development in rural areas

SO8 Promote employment, growth, gender equality, including the participation of women in farming, social inclusion and local development in rural areas, including the circular bio-economy and sustainable forestry

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B7.4	Create a general framework encouraging the setting up of young farmers	P1	Partially

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.36 Number of young farmers benefitting from setting up with support from the CAP, including a gender breakdown

R.37 New jobs supported in CAP projects

5 Specific design, requirements and eligibility conditions of the intervention

Description

The creation and development of new economic activity in the agricultural sector by young farmers is financially challenging and constitutes an element that should be considered in the allocation and targeting of direct payments. That development is essential for the competitiveness of the agricultural sector in the Union, and it is therefore appropriate to establish income support for young farmers starting their agricultural activity in order to facilitate their takeover and the structural adjustment of their holding once they are established.

Since the costs of developing economic activities are independent of the size of the holdings, a top-up payment for young flat-rate farmers is chosen.

The intervention thus contributes to the following objective:

* attract young farmers and facilitate business development in rural areas.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

The farmer is an active farmer.

The farmer must be eligible for the basic payment.

The farmer shall be entitled to a payment for young farmers provided that control over an agricultural holding has been taken as follows:

‘Young farmers’ means natural persons:

- (a) who exercise for the first time effective and sustainable control over an agricultural holding, or who have exercised effective and sustainable control over an agricultural holding during the five years preceding the first submission of an application under the support scheme for young farmers; and
- (b) who are no more than 39 years of age on the final date for submission of the application referred to in point (a).

The farmer shall prove to the satisfaction of the competent authority that he exercises effective and lasting control over the holding either alone or jointly with other farmers.

In the case of holdings managed as members, where several natural persons, including persons who are not young farmers, participate in the capital or management of the holding, the young farmer shall exercise that control alone or jointly with other farmers.

In order to ensure the effective control of the young person on the holding, the body relies on a number of sources of information:

1. Information received from the Joint Social Security Centre

As an active farmer, the farmer must be registered with the Joint Social Security Centre, which lists the following statuses:

Principal Contributor

Ancillary contributor

Principal non-contributor

Non-contributory non-contributor

Associated

Primary contributor

Ancillary contributor

Spouse assisting principal contributor

Ancillary contributing spouse

No agricultural affiliation

The following statutes show that the farmer exercises effective control over the holding:

Principal Contributor

Ancillary contributor

Principal non-contributor

Non-contributory non-contributor

Associated

2. Beneficiaries of support for setting up young people under the second pillar of the CAP.

Beneficiaries of support for setting up young people under the second pillar of the CAP must exercise effective and sustainable control over the holding.

3. Other documents to be provided by the applicant

Where previous sources fail to demonstrate clearly that the young person is involved in the management and decision-making of the holding, additional documents shall be requested from the applicant.

Evidence that the young person is involved in decision-making may include:

a. Private contract

b. A notarial act

C. Bank identification report proving that the young person is entitled to access the farm accounts and can pay invoices

The different types of evidence are equally applicable to natural persons, groups of physical persons (family farms, the most common case) and legal persons (forms of partnership).

Groups of legal persons are not eligible for support.

Farmers shall have sufficient professional knowledge and skills if they have one of the following training courses:

- agricultural, viticultural or horticultural training attested by a technician diploma, a certificate of technical and professional competence or a diploma of professional competence, or;
- training attested by a secondary or secondary technical diploma or a technician's diploma, a certificate of technical and professional competence or a diploma of professional competence.

The payment for young farmers shall be granted per farmer for a period of five years from the first submission of the application for the payment for young farmers, provided that this is done within five years of the taking of control referred to in point (a). Farmers benefiting from the current scheme from a year before 2023 shall receive the present aid for the number of years remaining in the five-year period.

Where the total amount of the payment for young farmers applied for in a given year exceeds the envelope for intervention, a linear reduction of the amounts to be paid shall be made in order to respect the envelope of the intervention.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

N/A

7 Range and amounts of support

Description

The support shall be a complementary income support for young farmers in the form of a flat-rate payment. It is fixed at EUR 6 660 per beneficiary and corresponds to the lump sum applied under the previous scheme. In contrast to the previous regime, however, the flat-rate amount is not capped at a lower value of the rights held.

The annual number of new beneficiaries is expected to be 25, leading, with an eligibility period of 5 years, to a total of 125 beneficiaries per year. The annual envelope is therefore $125 \times 6\,660 = \text{EUR } 832\,500$.

8 Additional questions/information specific to the Type of Intervention

The intervention gives support to young farmers for how many years? **5**

What are the conditions applied for the definition of newly setting-up?

Producers who first take control of an agricultural holding or who have taken control during the five years preceding the first submission of an application under this scheme

What form the support does take: **a lump-sum payment**

What is the amount of aid per hectare/lump-sum? **6660**

Do you set a maximum in terms of number of ha? **Y/N**

☐ Yes ☒ No

Other comments on thresholds?

Contrary to the current regime under Regulation (EU) No 1307/2013:

- the aid is not capped at a value of BISS entitlements lower than the lump sum;
- the aid may be allocated to more than one young person per holding.

Do you apply a continuity with the previous scheme (Young Farmer Payment)?

Yes, the payment remains a lump sum payment with the same amount.

Other comments

No further comments.

9 WTO compliance

Green Box

Paragraph 6 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

The payment is not dependent on the volume or type of production, price or factors of production. It is defined on the basis of a lump sum budget for a set of 125 payments, which is equivalent to a lump sum payment of EUR 6 660. The payment will be reduced proportionally if the claims exceed the reference value of 125 payments.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.01.502.01 - Complementary income support for young farmers Unit Amount	Uniform		R.36; R.37

Explanation and Justification (including the flexibility)

1.01.502.01 - Complementary income support for young farmers Unit Amount

The Luxembourg authorities decide to maintain the annual flat-rate amount defined pursuant to Article 50(10) of Regulation (EU) No 1307/2013. The amount is EUR 6.660.

Precedent: At that time, young milk producers were eligible for a ‘young’ quota from the national reserve. Over time, the Luxembourg authorities have started to allocate a number of suckler cow premium rights to young cattle holders (old decoupled aid scheme in 2005). This number has been set in such a way as to represent the same value as the youth quota. When introducing the premium for young farmers in 2015, the authorities fixed the flat-rate amount at a level which corresponds to the value of the old allocations.

The aid amount covers part of the costs of taking over a holding. If the number of eligible young people increases beyond the target value of 125 young people, the support shall be reduced proportionally. A minimum unit amount of EUR 4 750 shall correspond to 175 eligible applications.

Economic justification:

Acquiring or setting up an agricultural business as a young farmer often involves modernisation pathways and a number of investments to be made in order to ensure long-term competitiveness. Investment or restructuring decisions pose considerable risks, with the actual costs of investments in immovable property made by a young farmer varying between EUR 150.000 million and EUR 1.8 million in the 2014-2020 financing period. In addition, young farmers also take over the financial debts of the farm. Unlike established farmers, young farmers use advisory services to design a business plan and often need specific legal advice on how to distribute capital between siblings or other family members not involved in farming.

In addition, a common procedure for transferring rights and shares from the agricultural enterprise to the younger generation is to set up the agricultural enterprise in legal form, such as a limited liability company. The main annual operating costs of a company include the compulsory accounting service, the publication of balance sheets and other administrative and operating costs. However, the agricultural succession procedure varies considerably among young farmers and it is almost impossible to rigorously assess risks and costs on the basis of agricultural accounting data. On the other hand, a possible option to assess the implicit costs of a young farmer taking over the succession of an agricultural holding is to assume that the young farmer is a company.

In this respect, a representative young farmer would bear the following annual costs: (I) economic advice, (ii) legal advice, (iii) costs of a company. Costs = EUR 2 000 + EUR 3 000 + EUR 2 000 = EUR 7 000.

To calculate the planned unit amount, the lump sum was divided by the average UAA of the farms receiving the young payment from Pillar 1 of the years

2017 to 2021.

To calculate the minimum unit amount, the lump sum was divided by the UAA of the smallest holding that was the beneficiary of the 1st pillar young payment for the years 2017 to 2021, i.e. 0.3 ha.

To calculate the maximum unit amount, the lump sum was divided by the UAA of the largest holding in Luxembourg, i.e. 536 ha, and rounded down to the lower whole amount.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.01.502.01 - Complementary income support for young farmers Unit Amount	Planned unit amount	6,660.00	6,660.00	6,660.00	6,660.00	6,660.00	
	Minimum Amount for the Planned unit amount	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	
	Maximum Amount for the Planned unit amount (EUR)	6,660.00	6,660.00	6,660.00	7,000.00	7,000.00	
	O.6 (unit: Beneficiaries)	110.00	110.00	110.00	110.00	110.00	
	Planned output * Planned unit amount	732,600.00	732,600.00	732,600.00	732,600.00	732,600.00	3,663,000.00
TOTAL	O.6 (unit: Beneficiaries)	110.00	110.00	110.00	110.00	110.00	Sum: 550.00 Max: 110.00
	Annual indicative financial allocation (Union Contribution in EUR)	732,600.00	732,600.00	732,600.00	732,600.00	732,600.00	3,663,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)	700,000.00	700,000.00	700,000.00	700,000.00	700,000.00	3,500,000.00

Eco-scheme(31) - Schemes for the climate, the environment and animal welfare

1.02.512 - Aid for the installation of non-productive areas

Intervention Code (MS)	1.02.512
Intervention Name	Aid for the installation of non-productive areas
Type of Intervention	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare / Art. 31(7)(b) - Compensatory payment
Common Output Indicator	O.8. Number of hectares or of livestock units benefitting from eco-schemes

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

CAP AREAS OF ACTION Code + Description

AOA-C protection or improvement of water quality and reduction of pressure on water resources

AOA-E protection of biodiversity, conservation or restoration of habitats or species, including maintenance and creation of landscape features or non-productive areas

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B5.1	Ensuring the protection of groundwater and surface water (Water Framework Directive)	P1	Yes
B6.7	Harmonise existing initiatives to protect biodiversity	P2	Partially

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.19 Share of utilised agricultural area (UAA) under supported commitments beneficial for soil management to improve soil quality and biota (such as reducing tillage, soil cover with crops, crop rotation included with leguminous crops)

R.21 Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies

R.24 Share of Utilised Agricultural Area (UAA) under supported specific commitments which lead to a sustainable use of pesticides in order to reduce risks and impacts of pesticides, such as pesticides leakage

R.31 Share of utilised agricultural area (UAA) under supported commitments for supporting biodiversity conservation or restoration including high-nature-value farming practices

5 Specific design, requirements and eligibility conditions of the intervention

Description

The “non-productive land installation” eco-scheme has positive effects on soil management and a strong influence on the evolution of nitrates in soils by combating nitrate erosion and leaching.

The whole territory of Luxembourg is regarded as a vulnerable zone from the point of view of water quality under the Nitrate Directive. This intervention prohibits the application of plant protection products and excludes fertilisation on eligible areas. It is therefore an essential tool for tackling diffuse pollution from these inputs and should contribute to an improvement in water quality.

In addition, the intervention contributes to the protection of biodiversity and the improvement of ecosystem services by ensuring that maintenance practices occur only at a relatively advanced date in the growing season and that coverage must remain in place until the next crop is installed. Finally, the measure on permanent grassland and pasture promotes the maintenance of valuable native fauna.

The measure therefore contributes to the following objectives:

- Promote sustainable development and efficient management of natural resources such as water, soil and air.

- Contribute to the protection of biodiversity, the improvement of ecosystem services and the preservation of nature and landscapes.

This eco-scheme is an important part of the NSP’s vision to reduce negative impacts on water quality, together with GAEC, the majority of other eco-schemes and various AECMs. For example, it is complementary to the eco-scheme for the installation of non-productive strips to target more agricultural areas with a positive impact on water quality.

The detailed commitments are described in the following paragraph.

Description of commitments for eco-scheme

The intervention has positive effects on soil management and a major influence on the evolution of nitrates in soils by acting against erosion and nitrate leaching.

In addition, it contributes to the protection of biodiversity and the improvement of ecosystem services. Finally, the measure on permanent grassland and pasture promotes the conservation of valuable native fauna.

The intervention thus contributes to the following objectives:

- foster sustainable development and efficient management of natural resources such as water, soil and air;
- contribute to the protection of biodiversity, improve ecosystem services and preserve habitats and landscapes.

Eligibility conditions:

1. Active farmer

2. Request in the framework of the GSAA

3. The purpose of the aid scheme is to encourage the following non-productive areas:

- Fallow land with melliferous cover on arable land;

- Non-productive meadows and pastures, with two variants:

- Variant 1: with an intervention from 15 July;

- Variant 2: with an intervention from 1 September.

- On arable land:

- A copy of the invoice for the melliferous cover mixture must be attached to the aid application.

- Plant cover must be sown by 1^{May} of the year at the latest.

- The vegetation cover must remain in place until the start of the preparatory work for the sowing of the next crop.

- The areas entered for the obligation under BCAE8 (minimum rate of non-productive areas) are not eligible.

- The areas are to be maintained either by mowing, grinding or grazing respectively from 15 July or, in the case of variant 2 on permanent grassland and pasture, from 1 September. No operations affecting the vegetation cover shall be permitted between 1 January and the respective cut-off dates.
- The areas in question are not used for agricultural production. However, the use of the vegetation cover after the respective cut-off dates for fodder purposes shall be allowed.
- The use of organic or mineral fertilisers and plant protection products is prohibited (with possible exemptions). However, these restrictions shall no longer apply on arable land from the start of the preparatory work for sowing the following crop.
- Parcels which are the subject of an application for aid for the establishment of non-productive strips or refuge areas on hay meadows shall be excluded from this scheme.

The combined area eligible for Measures 1.02.512 and 1.02.513 shall be limited at farm level to 10 per cent of the area of crops eligible for these two aids.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

See above

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
GAEC06	Minimum soil cover to avoid bare soil in periods that are most sensitive
GAEC08	Retention of landscape features. Ban on cutting hedges and trees during the bird breeding and rearing season. As an option, measures for avoiding invasive plant species
SMR01	Directive 2000/60/EC of 23 October 2000 of the European Parliament and of the Council establishing a framework for Community action in the field of water policy: Article 11(3), point (e), and point (h), as regards mandatory requirements to control diffuse sources of pollution by phosphates
SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5
SMR07	Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC: Article 55, first and second sentence
SMR08	Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: Article 5(2) and Article 8(1) to (5); Article 12 with regard to restrictions on the use of pesticides in protected areas defined on the basis of Directive 2000/60/EC and Natura 2000 legislation; Article 13(1) and (3) on handling and storage of pesticides and disposal of remnants

List of relevant mandatory national standards

Non-productive areas are part of the non-productive areas provided for in GAEC 8. In that case, they shall not be eligible for payment under this scheme.

Basic elements concerning water protection

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy transposed into national legislation by the Water Act of 19 December 2008 (Article 26).

General requirements for control of pressures and diffuse sources:

(1) Grand Ducal Regulations lay down general requirements to control adverse effects on water status attributable to diffuse pressures or sources, including one-off dispersed pressures and discharges with a low individual effect, in accordance with the provisions of Article 27.

(2) These Grand-Ducal Regulations may lay down, in the form of restrictions, limitations or prohibitions, general conditions based, depending on the nature of the pressures and diffuse sources, on best environmental practices, and applicable to:

(a) the development or operation of installations or structures, respectively, for the execution of works or activities, including water abstraction or discharges and releases of pollutants, of a small individual scale but of sufficiently frequent and widespread use that, by cumulative effect, they may have an adverse effect on the status of the waters affected;

(b) the use of land, whether developed or not, resulting in production involving the use of products or substances of a nature and in such quantities that those products or substances are, or are likely to be, leaching or infiltration into water and causing a deterioration in the status of the bodies of water affected;

(c) the manufacture, placing on the market and use of products which, depending on their method of use, may enter the urban cycle of water or come directly into surface water or groundwater and which are liable either to impair the functioning and operation of sanitation or treatment installations or to pollute, directly or indirectly, surface water or groundwater.

(3) Where the land use referred to in paragraph (2) (b) relates to agriculture, including the use or application of organic fertilisers, mineral fertilisers, plant protection products or any other agricultural product which can be regarded as a pollutant, the general requirements referred to in paragraph (1) may provide for:

(a) the temporary restriction or prohibition of the application of certain of those products or substances, in particular in the case of dangerous substances or priority hazardous substances; or

(b) in the case of surface waters, the determination of areas bordering protection areas in which the use of the abovementioned products or substances may be subject to specific restrictions or prohibitions, or in which certain types of farming may be prescribed, limited or prohibited if this is necessary for the achievement of the environmental objectives referred to in Article 6 in the bodies of water affected or likely to be affected.

Council Directive of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources transposed into national legislation by the Grand-Ducal Regulation of 24 November 2000 concerning the use of nitrogen fertilisers in agriculture (Article 6):

(1) the application of nitrogen fertilisers is prohibited

- on black fallow land;*
- on multiannual fallow land;*
- On spontaneous set-aside;*
- Deep frozen soils that are likely to cause surface run-off outside the area of application before thawing;*
- On impounded, flooded or snow soils, in particular when their absorption capacity is exceeded;*
- At a distance of less than 50 metres from wells, abstractions and drinking water reservoirs for organic fertilisers and less than 10 metres from wells and drinking water abstraction for mineral nitrogen fertilisers;*
- At a distance of less than 10 metres from rivers and water bodies for organic fertilisers. The application of mineral nitrogen fertilisers must take place so as to ensure that the application is directed away from river banks. Any discharge of nitrogen fertilisers into water courses is prohibited.*

(4) the spreading of mineral nitrogen fertilisers is prohibited on a strip of 3 metres from the peak of the banks of the rivers mentioned in the Rhine and Meuse River Basin Management Plan.

(5) on land with an average slope of more than 15 % and less than 30 metres apart from a watercourse, the spreading of mineral nitrogen or organic fertilisers is prohibited, unless the land has a grassland strip

at least 6 metres wide downstream of the land or is separated from the river by meadow or permanent pasture.

Basic elements concerning the protection of biodiversity

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora transposed into national legislation by the Law of 18 August 2018 on the protection of nature and natural resources and the Grand-Ducal Regulation of 1^{August} 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the measures for reduction, destruction or deterioration relating thereto (Annex II):

Structured forest selvages

- *The destruction of the herbaceous hurlet over a width of 2 metres from the shrub stratum, by ploughing or using biocides;*
- *Mowing the herbaceous hemlet before 15 June;*
- *The annual size of the shrub stratum or the annual pruning of the trees;*
- *Pruning of branches, except in the framework of a duly approved selvedge management plan;*
- *Ploughing or turning into the root system, or any other measure affecting the roots.*

Natural watercourses

- *Deepening the bottom of the river;*
- *Removal of meanders;*
- *Consolidation of banks with a view to preventing alluvial dynamics;*
- *Annual mowing, which is not suitable for maintaining the favourable conservation status of the banks and banks of the river, which has the effect of reducing the number, abundance or recovery rate of the characteristic species or of damaging the structure;*
- *Clearing of woody vegetation along rivers;*
- *The annual size of the woody vegetation;*
- *Stirring on more than a third of woody vegetation within three years;*
- *Repetition of the stitching of the same section in a rabbit of less than 10 years;*
- *Modification, liming, fertilisation, use of biocides or pesticides over 10 metres on either side of the river's banks;*
- *Ploughing, turning, filling and clearing over five metres from the banks of the river.*

Standing water

- *Any intervention at the level of the water body and its shores without ministerial authorisation or not provided for in a duly approved management plan;*
- *The modification, liming, fertilisation, use of biocides or pesticides within a radius of 10 metres around the water body;*
- *Ploughing, turning, filling and unpacking within a radius of 10 metres around the water body.*

Permanent rural roads, including herbaceous or wooded strips and slopes

- *Stepping up a permanent earth path;*
- *Covering an unsealed path with a macadam, asphalt, tar or concrete coating;*
- *Destruction of herbaceous strips or slopes along the tracks by ploughing or using biocides or pesticides;*
- *Mowing before 15 June of the lane, strip or slope;*
- *Removal of trees;*

- *Pruning branches to a height of more than four metres;*
- *The annual size of afforestation or hedge;*
- *A definitive reduction in the volume of afforestation or hedge by more than one third.*

On arable land set aside, the farmer must create vegetation cover by 31 May of the first year of set-aside at the latest.

Link between GAEC, SMR and national standards with the eco-scheme (explain how the eco-scheme goes beyond the baseline, notably for SMR and national standards)

This measure goes beyond the baseline for the following requirements:

- SMR1: Ban on the use of manure and plant protection products
- SMR2: Ban on the use of fertilisers and plant protection products
- GAEC4: Ban on the use of manure and plant protection products
- GAEC6: Bare fallow, ban on manure and plant protection products
- GAEC8: Eligible areas are not included in the 4 % of compulsory non-productive areas on arable land
- SMR7: Prohibition of the use of plant protection products
- SMR8: Ban on the use of pesticides

1.02.512	Aid for the installation of non-productive areas		
Purpose:	The purpose of the aid scheme is to support the following non-productive areas: Fallow land with melliferous mixture on arable land; Non-productive meadows and pastures, with two variants: Variant 1: with an intervention from 15 July; Variant 2: with an intervention from 1 September.		
	Obligations to be complied with	Requirements and standards	Explanation of the link between the ecological regime and cross-compliance
Basic conditions:	Grand Ducal Regulations lay down general requirements to control adverse effects on water status attributable to diffuse pressures or sources, including one-off dispersed pressures and discharges with a low individual effect, in accordance with the provisions of Article 27.	SMR 1	Grand Ducal Regulations provide for the restriction or prohibition of substances necessary for the achievement of environmental objectives in bodies of water affected or likely to be affected. The Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture (Article 6) transposes these obligations.
	It is prohibited to apply nitrogen fertilisers	SMR 2	The Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen

	• on black fallow land; • on multiannual fallow land; • on spontaneous set-aside;		fertilisers in agriculture (Article 6) transposes these obligations. Fertiliser may not be applied to set-aside land.
	Structured forest selvages: The following are prohibited: — The destruction of the herbaceous wafer over a width of 2 metres from the shrub stratum by ploughing or using biocides; — Mowing the herbaceous hemlet before 15 June; Natural watercourses and standing waters: The following are prohibited: — The modification, liming, fertilisation, use of biocides or pesticides over 10 metres on either side of the river's banks, which has the effect of reducing the number, abundance or recovery rate of the typical species or of damaging the structure. — Ploughing, turning and clearing over five metres on either side of the river's banks. — Annual mowing, not suitable for maintaining the favourable conservation status of the banks and banks of the river Permanent rural paths, including herbaceous or wooded strips and slopes: The following are prohibited: — Destruction of herbaceous strips or slopes along the tracks by ploughing or using biocides or pesticides; — Mowing before 15 June of the lane, strip or slope; Protected habitats on grasslands The Grand-Ducal Regulation of 1 August 2018 prohibits the fertilisation and use of phyto-pharmaceutical products and, where appropriate,	SMR 4	The Grand-Ducal Regulation of¹ August 2018 prohibits the fertilisation and use of phyto-pharmaceutical products, or, where appropriate, mowing before 15 June. Interdiction of early or repetitive mowing, several mowing runs per year, not suitable for maintaining conservation status for different types of protected meadows.

	mowing before 15 June. — Interdictioun from early or repetitive mowing, several mowing runs per year, not suitable for maintaining conservation status.		
	Plant protection products shall be used properly. Appropriate use includes the application of the principles of good plant protection practice and compliance with the conditions laid down in the authorisation of plant protection products and mentioned on the labelling. Food business operators producing or harvesting plant products must take appropriate measures to ensure, where appropriate, the correct use of plant protection products and biocides, in accordance with the applicable legislation.	SMR 7 + 8	Article 7(1), sentences 1 and 2 of the Law of 19 December 2014 on plant protection products Annex I, Part A, II 5 to Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs, as amended The use of phyto-pharmaceutical products is not generally prohibited, but must be carried out in an appropriate manner, in accordance with the rules.
	The amendment, liming, fertilisation, use of biocides or pesticides over 10 metres on either side of the river are prohibited. Ploughing, turning, filling and clearing over five metres on either side of the river's banks are prohibited.	GAE C 4	Fertilisation and the use of plant protection products is prohibited over 10 metres, production of arable crops over 5 metres.
	On arable land set aside, the farmer shall create vegetation cover by 31 May of the first year of set-aside at the latest. On land set aside, field margins, buffer strips and strips of eligible hectares bordering forests without production, it shall be prohibited: (a) the application of mineral or organic fertilisers, sewage sludge or waste water. However, in the case of vegetation cover created by the farmer, the application of organic fertilisers is authorised in the first year within the limit laid down in the amended Grand-Ducal Regulation of	GAE C 6	Obligation of vegetation cover Prohibition of fertilisation and use of phyto-pharmaceutical products

	24 November 2000 on the use of nitrogen fertilisers in agriculture; (b) use plant protection products, with the exception of herbicides, to control perennial weeds.		
	4 % of non-productive areas on arable land	GAE C 8	Eligible areas under eco-scheme 512 are not included in the 4 % of compulsory non-productive areas on arable land
General conditions for aid 512:	The farmer is classified as an 'active' farmer, i.e. he has his own holding number.	512	General condition for obtaining aid
	Aid applications must be submitted within the time limits laid down using the area application.	512	General condition for obtaining aid
	The set-aside period shall run from 1 January to 15 July or, in the case of variant 2 on PP, to 1 September of the year of application.	512	Cross-compliance obligations do not provide for a set-aside period, just the installation of a simple green cover by 1 May at the latest.
Conditions on arable land	The vegetation cover must consist of a melliferous mixture	512	The obligation to have a melliferous plant cover goes beyond the obligation to install a simple vegetation cover. It is on the basis of that obligation that the amount of aid is calculated.
	A copy of the invoice for the melliferous cover mixture must be attached to the aid application.	512	No documents are requested under cross-compliance (simple plant cover).
	The vegetation cover must remain in place until the start of the preparatory work for the sowing of the next crop.	512	Common sense condition, but not mandatory in the context of cross-compliance.
Conditions on permanent grassland:	The areas are to be maintained either by mowing, grinding or grazing respectively from 15 July or, in the case of variant 2 on permanent grassland and pasture, from 1 September. No operations affecting the vegetation cover shall be permitted between 1 January and the respective cut-off dates.	512	The planned cut-off dates exceed the deadline of 15 June laid down in the habitat protection regulations. On other fallow areas, the basic rules do not provide for a period of prohibition of maintenance.
	The areas in question are not used for agricultural production. However, the use of the vegetation cover after the respective cut-off dates for fodder purposes shall be allowed.	512	Clarification that plant cover can be used after the fallow period. The aim of the measure is not to limit production, but to develop biodiversity.

7 Range and amounts of support

Description

Variant 1: Non-productive area on arable land with melliferous sowing

We take as a benchmark the average costs and income of all eligible crops.

Calculation of costs and income foregone:

The value of crop production in the initial situation is EUR 1075/ha.

On the one hand, the variable costs relating to this production are in the order of EUR 221/ha.

Loss of additional income (seed + melliferous seed – standard seed economy): $105 + (15 \text{ kg/ha} \times \text{EUR}$

21,4/kg) – 110 = EUR 316/ha.

The total costs and income foregone therefore amount to EUR 1.170/ha.

Transaction costs relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation. The expected transaction costs are EUR 30/ha or up to 2.5 % of the premium paid as part of each annual payment.

Overall aid amount: EUR 1200/ha of strip.

Variant 2: Non-productive meadows and grazing with maintenance from 15 July

We assume that there is a 75 % decrease in agricultural income.

Calculation of costs and income foregone:

The average income of a hay meadow is EUR 735/ha, resulting in a decrease in income of EUR 551/ha.

Variable costs amount to EUR 117/ha.

Constraints difficult to quantify exceeding an overall economic value of EUR 180/ha (grinding, etc.).

If the parcel is not fully committed, the committed part must be started by closing the rest of the parcel in order to exclude grazing from the committed part. In this case, there are additional costs for closure.

A person will work twice for four hours to transport, install and move this fence. The costs therefore amount to $(2 \times 4 \text{ h} \times \text{EUR } 15/\text{h}) = \text{EUR } 120/\text{ha}$.

It is assumed that half of the parcels are not fully committed, so EUR 60/ha is taken into account.

The total costs and income foregone therefore amount to EUR 674/ha.

The transaction costs of EUR 30/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Overall aid amount: EUR 700/ha.

Variant 3: Non-productive meadows and grazing with maintenance from 1 September

We assume that there is a total loss of farm income.

Calculation of costs and income foregone:

The average income of a hay meadow is EUR 735/ha. Variable costs amount to EUR 117/ha.

Constraints difficult to quantify exceeding an overall economic value of EUR 180/ha (grinding, etc.).

If the parcel is not fully committed, the committed part must be started by closing the rest of the parcel in order to exclude grazing from the committed part. In this case, there are additional costs for closure.

A person will work twice for four hours to transport, install and move this fence. The costs therefore amount to $(2 \times 4 \text{ h} \times \text{EUR } 15/\text{h}) = \text{EUR } 120/\text{ha}$.

It is assumed that half of the parcels are not fully committed, so EUR 60/ha is taken into account.

The total costs and income foregone therefore amount to EUR 858/ha.

The transaction costs of EUR 30/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Overall aid amount: EUR 880/ha

8 Additional questions/information specific to the Type of Intervention

N/A

9 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of

production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.02.512.01 - Rate per hectare No 1	Uniform		R.19; R.21; R.24; R.31
1.02.512.02 - Rate per hectare No 2	Uniform		R.19; R.21; R.24; R.31
1.02.512.03 - Rate per hectare No 3	Uniform		R.19; R.21; R.24; R.31

Explanation and Justification (including the flexibility)

1.02.512.01 - Rate per hectare No 1

Variant 1: Non-productive area on arable land with melliferous sowing

We take as a reference the average costs and income of all eligible crops.

Calculation of costs and income foregone:

The value of the crop's production in the initial situation is EUR 1075/ha.

On the one hand, the variable costs for this production are in the order of EUR 221/ha.

Additional income loss (seed + melliferous seed – standard seed economy): $105 + (15 \text{ kg/ha} \times \text{EUR } 21,4/\text{kg}) - 110 = \text{EUR } 316/\text{ha}$.

The total costs and income foregone are therefore EUR 1.170/ha.

Transaction costs relate to the collection of information and the acquisition of knowledge necessary for the effective implementation of the operation. The planned transaction costs amount to EUR 30/ha or maximum 2.5 % of the premium paid to be paid under each annual payment.

Total amount of aid: EUR 1200/ha of strip.

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

1.02.512.02 - Rate per hectare No 2

Variant 2: Non-productive meadows and grazing with maintenance from 15 July

We assume that there is a 75 % decrease in farm income.

Calculation of costs and income foregone:

The average income from a mowing meadow is EUR 735/ha, so income is reduced by EUR 551/ha. The variable costs amount to EUR 117/ha.

Constraints which are difficult to quantify exceeding an overall economic value of EUR 180/ha (crushing, etc.).

If the plot is not fully committed, the committed part must be severed by a fence of the remainder of the plot in order to exclude grazing from the committed party. In this case there are additional costs for closure.

A person will work twice for four hours to transport, install and move this fence. The costs are therefore $(2 \times 4 \text{ hours} \times \text{EUR } 15/\text{h}) = \text{EUR } 120/\text{ha}$.

It is assumed that half of the parcels are not fully committed, so EUR 60/ha are taken into account.

The total costs and income foregone are therefore EUR 674/ha.

The transaction costs of EUR 30/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Total amount of aid: EUR 700/ha.

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

1.02.512.03 - Rate per hectare No 3

Variant 3: Non-productive meadows and grazing with maintenance from 1 September

We assume that there is a total loss of farm income.

Calculation of costs and income foregone:

The average income of a mowing meadow is EUR 735/ha. The variable costs amount to EUR 117/ha.

Constraints which are difficult to quantify exceeding an overall economic value of EUR 180/ha (crushing, etc.).

If the plot is not fully committed, the committed part must be severed by a fence of the remainder of the plot in order to exclude grazing from the committed

party. In this case there are additional costs for closure.

A person will work twice for four hours to transport, install and move this fence. The costs are therefore (2 x 4 hours x EUR 15/h) = EUR 120/ha.

It is assumed that half of the parcels are not fully committed, so EUR 60/ha are taken into account.

The total costs and income foregone are therefore EUR 858/ha.

The transaction costs of EUR 30/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Total amount of aid: EUR 880/ha

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.512.01 - Rate per hectare No 1	Planned unit amount	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	
	Minimum Amount for the Planned unit amount	1,080.00	1,080.00	1,080.00	1,080.00	1,080.00	
	Maximum Amount for the Planned unit amount (EUR)	1,200.00	1,200.00	1,200.00	1,300.00	1,300.00	
	O.8 (unit: Hectares)	280.00	280.00	280.00	280.00	280.00	
	Planned output * Planned unit amount	336,000.00	336,000.00	336,000.00	336,000.00	336,000.00	1,680,000.00
1.02.512.02 - Rate per hectare No 2	Planned unit amount	700.00	700.00	700.00	700.00	700.00	
	Minimum Amount for the Planned unit amount	630.00	630.00	630.00	630.00	630.00	
	Maximum Amount for the Planned unit amount (EUR)	704.00	704.00	704.00	850.00	850.00	
	O.8 (unit: Hectares)	1,290.00	1,290.00	1,290.00	1,290.00	1,290.00	
	Planned output * Planned unit amount	903,000.00	903,000.00	903,000.00	903,000.00	903,000.00	4,515,000.00

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.512.03 - Rate per hectare No 3	Planned unit amount	880.00	880.00	880.00	880.00	880.00	
	Minimum Amount for the Planned unit amount	792.00	792.00	792.00	792.00	792.00	
	Maximum Amount for the Planned unit amount (EUR)	888.00	888.00	888.00	1,000.00	1,000.00	
	O.8 (unit: Hectares)	1,290.00	1,290.00	1,290.00	1,290.00	1,290.00	
	Planned output * Planned unit amount	1,135,200.00	1,135,200.00	1,135,200.00	1,135,200.00	1,135,200.00	5,676,000.00
TOTAL	O.8 (unit: Hectares)	2,860.00	2,860.00	2,860.00	2,860.00	2,860.00	Sum: 14,300.00 Max: 2,860.00
	Annual indicative financial allocation (Union Contribution in EUR)	2,374,200.00	2,374,200.00	2,374,200.00	2,374,200.00	2,374,200.00	11,871,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						

1.02.513 - Aid for the installation of non-productive strips

Intervention Code (MS)	1.02.513
Intervention Name	Aid for the installation of non-productive strips
Type of Intervention	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare / Art. 31(7)(b) - Compensatory payment
Common Output Indicator	O.8. Number of hectares or of livestock units benefitting from eco-schemes

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

CAP AREAS OF ACTION Code + Description

AOA-C protection or improvement of water quality and reduction of pressure on water resources

AOA-E protection of biodiversity, conservation or restoration of habitats or species, including maintenance and creation of landscape features or non-productive areas

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B5.1	Ensuring the protection of groundwater and surface water (Water Framework Directive)	P1	Yes
B6.7	Harmonise existing initiatives to protect biodiversity	P2	Partially

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.19 Share of utilised agricultural area (UAA) under supported commitments beneficial for soil management to improve soil quality and biota (such as reducing tillage, soil cover with crops, crop rotation included with leguminous crops)

R.21 Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies

R.24 Share of Utilised Agricultural Area (UAA) under supported specific commitments which lead to a sustainable use of pesticides in order to reduce risks and impacts of pesticides, such as pesticides leakage

R.31 Share of utilised agricultural area (UAA) under supported commitments for supporting biodiversity conservation or restoration including high-nature-value farming practices

R.34 Share of utilised agricultural area (UAA) under supported commitments for managing landscape features, including hedgerows and trees

5 Specific design, requirements and eligibility conditions of the intervention

Description

The objective of the **eco-scheme ‘Installation of non-productive bands’** is to encourage the establishment of extensive bands along the structural features of the landscape, as well as other biotopes, at places critical of erosion and along rivers.

These measures aim at simultaneously developing biodiversity and protection against erosion by creating strips that form both a network of biotopes and enhance protection against erosion through the cultivated landscape. In addition, they must try to curb or avoid the effects of run-off and erosion, i.e. the flow of fertilisers, plant protection products and sediments.

The whole territory of Luxembourg is regarded as a vulnerable zone from the point of view of water quality under the Nitrate Directive. This intervention prohibits the application of plant protection products and excludes fertilisation on eligible areas. It is therefore an essential tool for tackling diffuse pollution from these inputs and should contribute to an improvement in water quality.

The detailed commitments are described in the following paragraph.

Description of commitments for eco-scheme

The aim of the measure is to encourage the creation of extensive bands along landscape structure elements and other biotopes, in places critical for erosion and along rivers.

The measures aim at developing biodiversity at the same time by developing strips that make up a mesh of biotopes and protection against erosion through cultivated countryside. In addition, they seek to curb or avoid run-off and erosion effects, i.e. inputs of fertilisers, phytos and sediments.

The intervention thus contributes to the following objectives:

- foster sustainable development and efficient management of natural resources such as water, soil and air;
- contribute to the protection of biodiversity, improve ecosystem services and preserve habitats and landscapes.

Eligibility conditions:

1. Active farmer
2. Application in the context of the GSA
3. The aid scheme aims to encourage the establishment and maintenance of non-productive strips on agricultural land. We distinguish the following bands:

Type of strip	Width (m)	Covered
Border strip on arable land	3-30	— Spontaneous vegetation
Inland strip on arable land		
Strip along a watercourse on arable land	3-30	— Normal cover
Forest border on arable land		— Melliferous cover
Border strip on meadows and permanent pasture	3-30	— Mowing meadows — Moveable fence pastures
Strip along a watercourse on permanent meadows and pastures		
Forest border on meadows and permanent pasture		
Permanent crop border strip	3-30	— Spontaneous vegetation — Normal cover — Melliferous cover

On arable land/permanent crops:

- In the case of melliferous cover, a copy of the invoice for the mixture must be attached to the aid application.
- In the case of vegetation cover, it must be sown by 1^{May} of the year at the latest.
- The vegetation cover must remain in place until the start of the preparatory work for the sowing of the next crop.
- On TA: The bands entered for the obligation under BCAE8 (minimum rate of non-productive areas) are not eligible.

On permanent grassland and pasture:

- Two variants:

Variant 1: with intervention from 15 July;

Variant 2: with intervention from 1 September ('Altgras').

- In the case of pasture plots, the strip is separated by a removable fence.

- The areas are to be maintained either by mowing, grinding or grazing respectively from 15 July or, in the case of variant 2 on permanent grassland and pasture, from 1 September. No operations affecting the vegetation cover shall be permitted between 1 January and the respective cut-off dates.
- The areas in question are not used for agricultural production. However, the use of the vegetation cover after the respective cut-off dates for fodder purposes shall be allowed.
- The use of organic or mineral fertilisers and plant protection products is prohibited (with possible exemptions). However, these restrictions shall no longer apply on arable land from the start of the preparatory work for sowing the following crop.
- The same strip cannot belong to more than one type of strip and therefore cannot benefit from different aid.
- Parcels which are the subject of an application for aid for the establishment of non-productive areas or refuge areas on hay meadows shall be excluded from this scheme.

The combined area eligible for Measures 1.02.512 and 1.02.513 shall be limited at farm level to 10 per cent of the area of crops eligible for these two aids.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

See above

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
GAEC04	Establishment of buffer strips along water courses
GAEC05	Tillage management, reducing the risk of soil degradation and erosion, including consideration of the slope gradient
GAEC08	Retention of landscape features. Ban on cutting hedges and trees during the bird breeding and rearing season. As an option, measures for avoiding invasive plant species
SMR01	Directive 2000/60/EC of 23 October 2000 of the European Parliament and of the Council establishing a framework for Community action in the field of water policy: Article 11(3), point (e), and point (h), as regards mandatory requirements to control diffuse sources of pollution by phosphates

SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5
SMR07	Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC: Article 55, first and second sentence
SMR08	Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: Article 5(2) and Article 8(1) to (5); Article 12 with regard to restrictions on the use of pesticides in protected areas defined on the basis of Directive 2000/60/EC and Natura 2000 legislation; Article 13(1) and (3) on handling and storage of pesticides and disposal of remnants

List of relevant mandatory national standards

Non-productive strips are part of the non-productive areas provided for in GAEC 9. In that case, they shall not be eligible for payment under this scheme.

Basic elements concerning water protection

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy transposed into national legislation by the Water Act of 19 December 2008 (Article 26).

General requirements for control of pressures and diffuse sources:

(1) Grand Ducal Regulations lay down general requirements to control adverse effects on water status attributable to diffuse pressures or sources, including one-off dispersed pressures and discharges with a low individual effect, in accordance with the provisions of Article 27.

(2) These Grand-Ducal Regulations may lay down, in the form of restrictions, limitations or prohibitions, general conditions based, depending on the nature of the pressures and diffuse sources, on best environmental practices, and applicable to:

(a) the development or operation of installations or structures, respectively, for the execution of works or activities, including water abstraction or discharges and releases of pollutants, of a small individual scale but of sufficiently frequent and widespread use that, by cumulative effect, they may have an adverse effect on the status of the waters affected;

(b) the use of land, whether developed or not, resulting in production involving the use of products or substances of a nature and in such quantities that those products or substances are, or are likely to be, leaching or infiltration into water and causing a deterioration in the status of the bodies of water affected;

(c) the manufacture, placing on the market and use of products which, depending on their method of use, may enter the urban cycle of water or come directly into surface water or groundwater and which are liable either to impair the functioning and operation of sanitation or treatment installations or to pollute, directly or indirectly, surface water or groundwater.

(3) Where the land use referred to in paragraph (2) (b) relates to agriculture, including the use or application of organic fertilisers, mineral fertilisers, plant protection products or any other agricultural product which can be regarded as a pollutant, the general requirements referred to in paragraph (1) may provide for:

(a) the temporary restriction or prohibition of the application of certain of those products or substances, in particular in the case of dangerous substances or priority hazardous substances; or

(b) in the case of surface waters, the determination of areas bordering protection areas in which the use of the abovementioned products or substances may be subject to specific restrictions or prohibitions, or in which certain types of farming may be prescribed, limited or prohibited if this is necessary for the achievement of the environmental objectives referred to in Article 6 in the bodies of water affected or likely to be affected.

Council Directive of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources transposed into national legislation by the Grand-Ducal Regulation of 24 November 2000 concerning the use of nitrogen fertilisers in agriculture (Article 6):

(1) the application of nitrogen fertilisers at a distance of less than 10 metres from water courses and water bodies for organic fertilisers shall be prohibited. The application of mineral nitrogen fertilisers must take place so as to ensure that the application is directed away from river banks. Any discharge of nitrogen fertilisers into water courses is prohibited.

(4) the spreading of mineral nitrogen fertilisers is prohibited on a strip of 3 metres from the peak of the banks of the rivers mentioned in the Rhine and Meuse River Basin Management Plan.

(5) on land with an average slope of more than 15 % and less than 30 metres apart from a watercourse, the spreading of mineral nitrogen or organic fertilisers is prohibited, unless the land has a grassland strip at least 6 metres wide downstream of the land or is separated from the river by meadow or permanent pasture.

Basic elements concerning the protection of biodiversity

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora transposed into national legislation by the Law of 18 August 2018 on the protection of nature and natural resources and the Grand-Ducal Regulation of 1^{August} 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the measures for reduction, destruction or deterioration relating thereto (Annex II):

Structured forest selvages

- *The destruction of the herbaceous hurlet over a width of 2 metres from the shrub stratum, by ploughing or using biocides;*
- *Mowing the herbaceous hemlet before 15 June;*
- *The annual size of the shrub stratum or the annual pruning of the trees;*
- *Pruning of branches, except in the framework of a duly approved sedge management plan;*
- *Ground work, ploughing or turning into the root system, or any other measure impacting roots at a distance of 2 metres from the shrub belt*

Natural watercourses

- *Deepening the bottom of the river;*
- *Removal of meanders;*
- *Consolidation of banks with a view to preventing alluvial dynamics;*
- *Annual mowing, which is not suitable for maintaining the favourable conservation status of the banks and banks of the river, which has the effect of reducing the number, abundance or recovery rate of the characteristic species or of damaging the structure;*
- *Clearing of woody vegetation along rivers;*
- *The annual size of the woody vegetation;*
- *Stirring on more than a third of woody vegetation within three years;*
- *Repetition of the stitching of the same section in a rabbit of less than 10 years;*
- *Modification, liming, fertilisation, use of biocides or pesticides over 10 metres on either side of the river's banks;*
- *Tillage, ploughing, turning, backfilling and clearing over five metres on either side of the river's banks; repairs to game damage which may be carried out in accordance with the instructions of the Nature and Forestry Administration.*

Standing water

— Any intervention at the level of the water body and its shores without ministerial authorisation or not provided for in a duly approved management plan;

— The modification, liming, fertilisation, use of biocides or pesticides within a radius of 10 metres around the water body;

— Tillage, ploughing, turning, backfilling and unpacking within a radius of 10 metres around the water body; repairs to game damage which may be carried out in accordance with the instructions of the Nature and Forestry Administration.

Permanent rural roads, including herbaceous or wooded strips and slopes

— Stepping up a permanent earth path;

— Covering an unsealed path with a macadam, asphalt, tar or concrete coating;

— Destruction of herbaceous strips or slopes along the tracks by ploughing or using biocides or pesticides;

— Mowing before 15 June of the lane, strip or slope;

Removal of trees;

— Pruning branches to a height of more than four metres;

— The annual size of afforestation or hedge;

— A definitive reduction in the volume of afforestation or hedge by more than one third.

Link between GAEC, SMR and national standards with the eco-scheme (explain how the eco-scheme goes beyond the baseline, notably for SMR and national standards)

This measure goes beyond the baseline for the following requirements:

- SMR1: Ban on the use of manure and plant protection products
- SMR2: Ban on the use of fertilisers and plant protection products
- GAEC4: Ban on the use of manure and plant protection products
- GAEC5: Installation of anti-erosion bands
- GAEC6: Bare fallow, ban on manure and plant protection products
- GAEC8: Eligible areas are not included in the 4 % of compulsory non-productive areas on arable land
- SMR7: Prohibition of the use of plant protection products
- SMR8: Ban on the use of pesticides

1.02.513	Aid for the installation of non-productive strips		
Purpose:	The purpose of the aid scheme is to encourage the establishment and maintenance of non-productive strips on areas used for agricultural purposes. The following strips are distinguished: Field edge strip on arable earth Strip inside the field on arable earth Buffer strip along watercourses on arable land Forest edge strip on arable land		The same band cannot belong to more than one type of strip and therefore cannot benefit from different aid. The bands accounted for under GAEC 8 (minimum rate of non-productive areas) are not eligible. The bands established for GAEC 5 (Combating Erosion) are not primable. Parcels benefiting from aid for the establishment of non-productive areas (512) or refuge areas on hay meadows (517) shall be excluded from this aid.

	Border strip on meadows and permanent pasture Buffer strip along watercourses on meadows and permanent pasture Forest edge band on meadows and permanent pasture Permanent crop edge strip		
	Obligations to be complied with	Requirements and standards	Explanation of the link between the ecological scheme and cross-compliance
Basic conditions:	Grand Ducal Regulations lay down general requirements to control adverse effects on water status attributable to diffuse pressures or sources, including one-off dispersed pressures and discharges with a low individual effect, in accordance with the provisions of Article 27.	SMR 1	Grand Ducal Regulations provide for the restriction or prohibition of substances necessary for the achievement of environmental objectives in bodies of water affected or likely to be affected. The Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture (Article 6) transposes these obligations.
	The application of nitrogen fertilisers at a distance of less than 10 metres from water courses and water bodies for organic fertilisers shall be prohibited. The application of mineral nitrogen fertilisers must take place so as to ensure that the application is directed away from river banks. Any discharge of nitrogen fertilisers into water courses is prohibited. The spreading of mineral nitrogen fertilisers is prohibited over a 3 metre strip from the peak of the banks of the rivers mentioned in the Rhine and Meuse River Basin Management Plan. On land with an average slope of more than 15 % and less than 30 metres apart from a watercourse, the spreading of mineral nitrogen or organic fertilisers is prohibited, unless the land has a grassland strip at least 6 metres wide downstream of the land or is separated from the river by meadow or permanent pasture.	SMR 2	The Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture (Article 6) transposes these obligations. Variants 1 and 2 which prohibit production until 15 July and go beyond these conditions and are therefore applicable along rivers. Plant cover may be used for fodder purposes after 15 July.
	Structured forest selvages: The following are prohibited: — The destruction of the herbaceous	SMR 4	The Grand-Ducal Regulation of 1 ^{August} 2018 lays down those obligations

	wafer over a width of 2 metres from the shrub stratum by ploughing or using biocides; — Mowing the herbaceous hemlet before 15 June; Natural watercourses and standing waters: The following are prohibited: — The modification, liming, fertilisation, use of biocides or pesticides over 10 metres on either side of the river's banks, which has the effect of reducing the number, abundance or recovery rate of the typical species or of damaging the structure. — Ploughing, turning and clearing over five metres on either side of the river's banks. — Annual mowing, not suitable for maintaining the favourable conservation status of the banks and banks of the river Permanent rural paths, including herbaceous or wooded strips and slopes: The following are prohibited: — Destruction of herbaceous strips or slopes along the tracks by ploughing or using biocides or pesticides; — Mowing before 15 June of the lane, strip or slope; Protected habitats on grasslands The Grand-Ducal Regulation of 1 August 2018 prohibits the fertilisation and use of phyto-pharmaceutical products and, where appropriate, mowing before 15 June. — Interdictioun from early or repetitive mowing, several mowing runs per year, not suitable for maintaining conservation status.		
	Plant protection products shall be used properly.	SMR 7 + 8	Article 7(1), sentences 1 and 2 of the Law of 19 December 2014 on plant protection

	Appropriate use includes the application of the principles of good plant protection practice and compliance with the conditions laid down in the authorisation of plant protection products and mentioned on the labelling. Food business operators producing or harvesting plant products must take appropriate measures to ensure, where appropriate, the correct use of plant protection products and biocides, in accordance with the applicable legislation.		products Annex I, Part A, II 5 to Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs, as amended The use of phyto-pharmaceutical products is not generally prohibited, but must be carried out in an appropriate manner, in accordance with the rules. For certain products, the product authorisation provides for distances to be respected.
	The amendment, liming, fertilisation, use of biocides or pesticides over 10 metres on either side of the river are prohibited. Ploughing, turning, filling and clearing over five metres on either side of the river's banks are prohibited.	GAE C 4	Fertilisation and the use of plant protection products is prohibited over 10 metres, production of arable crops over 5 metres. Variants 1 and 2 which prohibit production until 15 July and go beyond these conditions and are therefore applicable along rivers.
	In areas at risk of high and medium erosion, the installation of anti-erosion grasslands in relation to run-off axes is mandatory, except in the case of temporary grassland. Grass strips must have a minimum width of 3 metres.	GAE C 5	Anti-erosion grasslands in areas at risk of high and medium erosion are not eligible for priority under eco-scheme 513.
	4 % of non-productive areas on arable land	GAE C 8	Eligible areas under eco-scheme 513 are not included in the 4 % of compulsory non-productive areas on arable land
General conditions for aid 513:	The farmer/winegrower is classified as an "active" farmer, i.e. he has his own holding number.	513	General condition for obtaining aid
	Aid applications must be submitted within the time limits laid down using the area application/vineyard register. The request shall be made annually.	513	General condition for obtaining aid
Variant 1: Strip on arable land or permanent cultivation with spontaneous vegetation	Width from 3 to 30 metres for bands in the field edge or within the field Width of 10 to 30 metres for bands along watercourses Width from 10 to 30 at the forest edge The surfaces are to be maintained either by mowing, grinding or grazing	513	All production is prohibited between 1 January and 15 July over 10 metres instead of 5 m and therefore exceeds cross-compliance.

	respectively from 15 July onwards. The areas in question are not used for agricultural production. However, plant cover may be used for fodder purposes after 15 July. The use of organic or mineral fertilisers and plant protection products is prohibited. However, these restrictions shall no longer apply on arable land from the moment the next crop is established. Biennial operations are approached in the event of constraints relating to nature and water protection areas (biotopes, Natura2000, etc.). Maintenance operations are mechanical measures to combat the proliferation of grasses and perennial weeds such as the common osehair and the cirsis of fields. The operations take place before those weeds are flowering.		
Variant 2: Strip on arable land or permanent crop with normal herbaceous vegetation cover	Width from 3 to 30 metres for bands in the field edge or within the field Width of 10 to 30 metres for bands along watercourses Width from 10 to 30 at the forest edge The vegetation cover must be sown by 1 May of the year at the latest. The vegetation cover must remain in place until the start of the preparatory work for the sowing of the next crop. The surfaces are to be maintained either by mowing, grinding or grazing respectively from 15 July onwards. However, plant cover may be used for fodder purposes after 15 July. The use of organic or mineral fertilisers and plant protection products is prohibited. However, these restrictions shall no longer apply on arable land from the moment the next crop is established. Biennial operations are approached in	513	All production is prohibited between 1 January and 15 July over 10 metres, instead of 5 m. The installation of herbaceous vegetation is mandatory and therefore goes beyond cross-compliance

	the event of constraints relating to nature and water protection areas (biotopes, Natura2000, etc.). Maintenance operations are mechanical measures to combat the proliferation of grasses and perennial weeds such as the common osehair and the cirsis of fields. The operations take place before those weeds are flowering.		
Variant 3: Strip on arable land or permanent cultivation with melliferous cover	Width from 3 to 30 metres for bands in the field edge or within the field Width of 10 to 30 metres for bands along watercourses Width from 10 to 30 at the forest edge A copy of the invoice for the mixture must be attached to the aid application. The surfaces are to be maintained either by mowing, grinding or grazing respectively from 15 July onwards. However, plant cover may be used for fodder purposes after 15 July. The use of organic or mineral fertilisers and plant protection products is prohibited. However, these restrictions shall no longer apply on arable land from the moment the next crop is established. Biennial operations are approached in the event of constraints relating to nature and water protection areas (biotopes, Natura2000, etc.). For example, fallow melliferous plants consisting of pollen-rich and nectar species have a series of biennial plants whose flowering takes place only in year 2. Maintenance operations are mechanical measures to combat the proliferation of grasses and perennial weeds such as the common osehair and the cirsis of fields. The operations take place before those weeds are flowering.	513	All production is prohibited between 1 January and 15 July over 10 metres, instead of 5 m. The installation of melliferous vegetation is mandatory. The requirements therefore go beyond cross-compliance.
Variant 4a: Strip on hay meadows until 15 July	Width from 3 to 30 metres for bands in the field edge or within the field	513	All production is prohibited between 1 January and 15 July over 10 metres instead of 5 m and therefore exceeds

	Width of 10 to 30 metres for bands along watercourses Width from 10 to 30 at the forest edge The surfaces are to be maintained either by mowing, grinding or grazing respectively from 15 July onwards. However, plant cover may be used for fodder purposes after 15 July. The use of organic or mineral fertilisers and plant protection products is prohibited. However, these restrictions shall no longer apply on arable land from the moment the next crop is established. Biennial operations are approached in the event of constraints relating to nature and water protection areas (biotopes, Natura2000, etc.). Maintenance operations are mechanical measures to combat the proliferation of grasses and perennial weeds such as the common osetra and the cirsium of fields. The operations take place before those weeds are flowering.		cross-compliance.
Variant 4b: Strip on hay meadow until 1 September	Width from 3 to 30 metres for bands in the field edge or within the field Width of 10 to 30 metres for bands along watercourses Width from 10 to 30 at the forest edge The surfaces are to be maintained either by mowing, grinding or grazing respectively from 1 September. However, plant cover may be used for fodder purposes after 1 September. The use of organic or mineral fertilisers and plant protection products is prohibited. However, these restrictions shall no longer apply on arable land from the moment the next crop is established. Biennial operations are approached in the event of constraints relating to	513	All production is prohibited between 1 January and 1 September over 10 metres instead of 5 m and therefore exceeds cross-compliance.

	nature and water protection areas (biotopes, Natura2000, etc.). Maintenance operations are mechanical measures to combat the proliferation of grasses and perennial weeds such as the common osehair and the cirsis of fields. The operations take place before those weeds are flowering.		
Variant 5a: Strip on grazing until 15 July	Width from 3 to 30 metres for bands in the field edge or within the field Width of 10 to 30 metres for bands along watercourses Width from 10 to 30 at the forest edge The strip is started by a removable fence The surfaces are to be maintained either by mowing, grinding or grazing respectively from 15 July onwards. However, plant cover may be used for fodder purposes after 15 July. Biennial operations are approached in the event of constraints relating to nature and water protection areas (biotopes, Natura2000, etc.). Maintenance operations are mechanical measures to combat the proliferation of grasses and perennial weeds such as the common osehair and the cirsis of fields. The operations take place before those weeds are flowering.	513	All production is prohibited between 1 January and 15 July over 10 metres, instead of 5 m. Obligation to put in place a removable fence. These requirements go beyond cross-compliance.
Variant 5b: Strip on grazing until 1 September	Width from 3 to 30 metres for bands in the field edge or within the field Width of 10 to 30 metres for bands along watercourses Width from 10 to 30 at the forest edge The strip is started by a removable fence The surfaces are to be maintained either by mowing, grinding or grazing respectively from 15 July onwards. However, plant cover may be used for	513	All production is prohibited between 1 January and 1 September over 10 metres, instead of 5 m. Obligation to put in place a removable fence. These requirements go beyond cross-compliance.

	fodder purposes after 1 September. Biennial operations are approached in the event of constraints relating to nature and water protection areas (biotopes, Natura2000, etc.). Maintenance operations are mechanical measures to combat the proliferation of grasses and perennial weeds such as the common osehair and the cirsis of fields. The operations take place before those weeds are flowering. The use of organic or mineral fertilisers and plant protection products is prohibited. However, these restrictions shall no longer apply on arable land from the moment the next crop is established.		

7 Range and amounts of support

Description

Variant 1: crop converted to strip with spontaneous vegetation

We take as a benchmark the average costs and income of all eligible crops.

Calculation of costs and income foregone:

On the one hand, the area income is 0 and the value of crop production in the initial situation is EUR 1075/ha, which is therefore a decrease in yield.

On the other hand, the variable costs for this production are in the order of EUR 332/ha (including seeds).

The total costs and income foregone therefore amount to EUR 743/ha.

Transaction costs relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

The expected transaction costs are EUR 60/ha or up to 7.1 % of the premium paid as part of each annual payment.

Overall aid amount: EUR 800

Variant 2: culture converted into band with normal cover

We take as a benchmark the average costs and income of all eligible crops.

Calculation of costs and income foregone:

The value of crop production in the initial situation is EUR 1075/ha.

The variable costs for this production are in the order of EUR 221/ha.

Assuming a yield reduction of 70 %, a loss of income of $(1.075 \times 0,75) = \text{EUR } 753/\text{ha}$.

The total costs and income foregone therefore amount to EUR 532/ha.

Transaction costs relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

The transaction costs of EUR 60/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Overall aid amount: EUR 590

Variant 3: culture converted to strip with melliferous sowing

We take as a benchmark the average costs and income of all eligible crops.

Calculation of costs and income foregone:

The value of crop production in the initial situation is EUR 1075/ha.

On the one hand, the variable costs relating to this production are in the order of EUR 221/ha.

Loss of additional income (seed + melliferous seed – standard seed economy): $105 + (15 \text{ kg/ha} \times \text{EUR } 21,4/\text{kg}) - 110 = \text{EUR } 316/\text{ha}$.

The total costs and income foregone therefore amount to EUR 1.170/ha.

Transaction costs relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation. The expected transaction costs are EUR 60/ha.

Overall aid amount: EUR 1230/ha of strip.

Variant 4a: hay meadow converted into grass protection strip (maintenance on 15 July)

We assume that there is a 75 % decrease in agricultural income.

Calculation of costs and income foregone:

The average income of a hay meadow is EUR 735/ha, resulting in a decrease in income of EUR 551/ha.

Variable costs amount to EUR 117/ha.

Constraints difficult to quantify exceeding an overall economic value of EUR 180/ha.

The total costs and income foregone therefore amount to EUR 614/ha.

The transaction costs of EUR 60/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Overall aid amount: EUR 670/ha

Variant 4b: hay meadow converted into grass protection strip (maintenance on 1 September)

We assume that there is a total loss of farm income.

Calculation of costs and income foregone:

The average income of a hay meadow is EUR 735/ha. Variable costs amount to EUR 117/ha.

Constraints difficult to quantify exceeding an overall economic value of EUR 180/ha.

The total costs and income foregone therefore amount to EUR 798/ha.

The transaction costs of EUR 60/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Overall aid amount: EUR 850/ha

Variant 5a: grazing converted into grass protection strip (at 15 July)

Calculation of costs and income foregone:

A decrease of 15 % in the income of a grassland will result in a loss of $15 \% \times 735 = \text{EUR } 110/\text{ha}$.

Variable costs amount to EUR 117/ha. In this case, these costs due to seeds, pesticides and fertilisers shall be reduced to zero. However, the costs of installing and moving the electrical fence still need to be taken into account.

If it is assumed that the band has an average width of 10 metres, there must be a fence of one kilometre per hectare of band. A person will work twice for four hours to transport, install and move this fence. In addition, the strip of one metre wide along the river's berth must be mown manually with a brush cutter (full tariff EUR 20/h). On average, according to slope conditions and the presence of trees and shrubs, a person puts 3h/100 m to clear this strip. Next, the mowing product must be collected and disposed of, for which it is still necessary to count 3h/100 m.

The costs therefore amount to $(2 \times 4 \text{ h} \times \text{EUR } 15/\text{h}) + (30 \text{ h} \times \text{EUR } 20/\text{h}) + (30 \times \text{EUR } 15/\text{h}) = \text{EUR } 1.170/\text{ha}$ of grassland protection strip. A flat rate of EUR 200/ha is used for the use of a battery with accumulator for the electrical fence, for monitoring the fence and for loading the accumulator during the grazing season.

The total costs and income foregone therefore amount to EUR 1.363/ha.

The transaction costs of EUR 60/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Overall aid amount: EUR 1 250/ha

Variant 5b: grazing converted into grass protection strip (at 1 September)

Calculation of costs and income foregone:

A decrease of 25 % in the income of a grassland will result in a loss of $25 \% \times 735 = \text{EUR } 184/\text{ha}$.

Variable costs amount to EUR 117/ha. In this case, these costs due to seeds, pesticides and fertilisers shall be reduced to zero. However, the costs of installing and moving the electrical fence still need to be taken into account.

If it is assumed that the band has an average width of 10 metres, there must be a fence of one kilometre per hectare of band. A person will work twice for four hours to transport, install and move this fence. In addition, the strip of one metre wide along the river's berth must be mown manually with a brush cutter (full tariff EUR 20/h). On average, according to slope conditions and the presence of trees and shrubs, a person puts 3h/100 m to clear this strip. Next, the mowing product must be collected and disposed of, for which it is still necessary to count 3h/100 m.

The costs therefore amount to $(2 \times 4 \text{ h} \times \text{EUR } 15/\text{h}) + (30 \text{ h} \times \text{EUR } 20/\text{h}) + (30 \times \text{EUR } 15/\text{h}) = \text{EUR } 1.170/\text{ha}$ of grassland protection strip. A flat rate of EUR 200/ha is used for the use of a battery with accumulator for the electrical fence, for monitoring the fence and for loading the accumulator during the grazing season.

The total costs and income foregone therefore amount to EUR 1.437/ha.

The transaction costs of EUR 60/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Overall aid amount: EUR 1.300

8 Additional questions/information specific to the Type of Intervention

N/A

9 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
1.02.513.01 - Rate per hectare No 1	Uniform		R.19; R.21; R.24; R.31; R.34	No
1.02.513.02 - Rate per hectare No 2	Uniform		R.19; R.21; R.24; R.31; R.34	No
1.02.513.03 - Rate per hectare No 3	Uniform		R.19; R.21; R.24; R.31; R.34	No
1.02.513.04 - Rate per hectare No 4	Uniform		R.19; R.21; R.24; R.31; R.34	No
1.02.513.05 - Rate per hectare No 5	Uniform		R.19; R.21; R.24; R.31; R.34	No
1.02.513.06 - Rate per hectare No 6	Uniform		R.19; R.21; R.24; R.31; R.34	No
1.02.513.07 - Rate per hectare No 7	Uniform		R.19; R.21; R.24; R.31; R.34	No

Explanation and Justification (including the flexibility)

1.02.513.01 - Rate per hectare No 1

Variant 1: culture converted into strip with spontaneous vegetation

We take as a reference the average costs and income of all eligible crops.

Calculation of costs and income foregone:

On the one hand, the income from the area is 0 and the value of the crop's production in the initial situation amounts to EUR 1075/ha, which is therefore a reduction in yield.

On the other hand, the variable costs for this production are in the order of EUR 332/ha (including seeds).

Total costs and income foregone are therefore EUR 743/ha.

Transaction costs relate to the collection of information and the acquisition of knowledge necessary for the effective implementation of the operation.

The planned transaction costs amount to EUR 60/ha or maximum 7.1 % of the premium paid to be paid under each annual payment.

Total amount of aid: EUR 800

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

1.02.513.02 - Rate per hectare No 2

Variant 2: culture converted into strip with normal cover

We take as a reference the average costs and income of all eligible crops.

Calculation of costs and income foregone:

The value of the crop's production in the initial situation is EUR 1075/ha.

The variable costs for this production are in the order of EUR 221/ha.

Assuming a 70 % reduction in yield leads to a loss of income of $(1.075 \times 0,75) = \text{EUR } 753/\text{ha}$.

The total costs and income foregone are therefore EUR 532/ha.

Transaction costs relate to the collection of information and the acquisition of knowledge necessary for the effective implementation of the operation.

The transaction costs of EUR 60/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Total amount of aid: EUR 590

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

1.02.513.03 - Rate per hectare No 3

Variant 3: culture converted into strip with melliferous sowing

We take as a reference the average costs and income of all eligible crops.

Calculation of costs and income foregone:

The value of the crop's production in the initial situation is EUR 1075/ha.

On the one hand, the variable costs for this production are in the order of EUR 221/ha.

Additional income loss (seed + melliferous seed – standard seed economy): $105 + (15 \text{ kg/ha} \times \text{EUR } 21,4/\text{kg}) - 110 = \text{EUR } 316/\text{ha}$.

The total costs and income foregone are therefore EUR 1.170/ha.

Transaction costs relate to the collection of information and the acquisition of knowledge necessary for the effective implementation of the operation. The planned transaction costs amount to EUR 60/ha.

Total amount of aid: EUR 1230/ha of strip.

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

1.02.513.04 - Rate per hectare No 4

Variant 4a: mowing meadow converted into a grass protection strip (maintenance at 15 July)

We assume that there is a 75 % decrease in farm income.

Calculation of costs and income foregone:

The average income from a mowing meadow is EUR 735/ha, so income is reduced by EUR 551/ha. The variable costs amount to EUR 117/ha.

Constraints that are difficult to quantify exceeding an overall economic value of EUR 180/ha.

The total costs and income foregone are therefore EUR 614/ha.

The transaction costs of EUR 60/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Total amount of aid: EUR 670/ha

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

1.02.513.05 - Rate per hectare No 5

Variant 4b: mowing meadow converted into a grass protection strip (maintenance at 1 September)

We assume that there is a total loss of farm income.

Calculation of costs and income foregone:

The average income of a mowing meadow is EUR 735/ha. The variable costs amount to EUR 117/ha.

Constraints that are difficult to quantify exceeding an overall economic value of EUR 180/ha.

The total costs and income foregone are therefore EUR 798/ha.

The transaction costs of EUR 60/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Total amount of aid: EUR 850/ha

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

1.02.513.06 - Rate per hectare No 6

Variant 5a: grazing converted into a grass protection strip (15 July)

Calculation of costs and income foregone:

A 15 % decrease in the income from a grassland, so there will be a loss of $15\% \times 735 = \text{EUR } 110/\text{ha}$. The variable costs amount to EUR 117/ha. In this case, these costs due to seeds, pesticides and fertilisers are reduced to zero. However, the costs of installing and moving the electrical fence still need to be taken into account.

If it is assumed that the strip has an average width of 10 metres, a fence of one kilometre per hectare of strip is required. A person will work twice for four hours to transport, install and move this fence. In addition, the one-metre wide strip along the berth of the watercourse must be manually mown with a cutter (full tariff cutter EUR 20/h). On average, depending on the slope conditions and the presence of trees and shrubs, a person puts 3h/100 m to discharge this strip. The mowing product must then be collected and disposed of, for which it is still 3h/100 m.

The costs are therefore $(2 \times 4 \text{ hours} \times \text{EUR } 15/\text{h}) + (30\text{h} \times \text{EUR } 20/\text{h}) + (30 \times \text{EUR } 15/\text{h}) = \text{EUR } 1.170/\text{ha}$ of grassland protection strip. A flat rate of EUR 200/ha is used for the use of a battery with accumulator for the electric fence, for monitoring this fence and for charging the accumulator during the grazing

season.

The total costs and income foregone are therefore EUR 1.363/ha.

The transaction costs of EUR 60/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Total amount of aid: EUR 1 300/ha

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

1.02.513.07 - Rate per hectare No 7

Variant 5b: grazing converted into a grass protection strip (1 September)

Calculation of costs and income foregone:

A 25 % decrease in the income from a grassland, so there will be a loss of 25 % x 735 = EUR 184/ha. The variable costs amount to EUR 117/ha. In this case, these costs due to seeds, pesticides and fertilisers are reduced to zero. However, the costs of installing and moving the electrical fence still need to be taken into account.

If it is assumed that the strip has an average width of 10 metres, a fence of one kilometre per hectare of strip is required. A person will work twice for four hours to transport, install and move this fence. In addition, the one-metre wide strip along the berth of the watercourse must be manually mown with a cutter (full tariff cutter EUR 20/h). On average, depending on the slope conditions and the presence of trees and shrubs, a person puts 3h/100 m to discharge this strip. The mowing product must then be collected and disposed of, for which it is still 3h/100 m.

The costs are therefore $(2 \times 4 \text{ hours} \times \text{EUR } 15/\text{h}) + (30\text{h} \times \text{EUR } 20/\text{h}) + (30 \times \text{EUR } 15/\text{h}) = \text{EUR } 1.170/\text{ha}$ of grassland protection strip. A flat rate of EUR 200/ha is used for the use of a battery with accumulator for the electric fence, for monitoring this fence and for charging the accumulator during the grazing season.

The total costs and income foregone are therefore EUR 1.437/ha.

The transaction costs of EUR 60/ha relate to the collection of information and the acquisition of knowledge necessary for the efficient implementation of the operation.

Total amount of aid: EUR 1.400

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.513.01 - Rate per hectare No 1	Planned unit amount	800.00	800.00	800.00	800.00	800.00	
	Minimum Amount for the Planned unit amount	720.00	720.00	720.00	720.00	720.00	
	Maximum Amount for the Planned unit amount (EUR)	803.00	803.00	803.00	950.00	950.00	
	O.8 (unit: Hectares)	410.00	410.00	410.00	410.00	410.00	
	Planned output * Planned unit amount	328,000.00	328,000.00	328,000.00	328,000.00	328,000.00	1,640,000.00
1.02.513.02 - Rate per hectare No 2	Planned unit amount	590.00	590.00	590.00	590.00	590.00	
	Minimum Amount for the Planned unit amount	531.00	531.00	531.00	531.00	531.00	
	Maximum Amount for the Planned unit amount (EUR)	592.00	592.00	592.00	720.00	720.00	
	O.8 (unit: Hectares)	200.00	200.00	200.00	200.00	200.00	
	Planned output * Planned unit amount	118,000.00	118,000.00	118,000.00	118,000.00	118,000.00	590,000.00
1.02.513.03 - Rate per hectare No 3	Planned unit amount	1,230.00	1,230.00	1,230.00	1,230.00	1,230.00	
	Minimum Amount for the Planned unit amount	1,107.00	1,107.00	1,107.00	1,107.00	1,107.00	
	Maximum Amount for the Planned unit amount (EUR)	1,230.00	1,230.00	1,230.00	1,500.00	1,500.00	
	O.8 (unit: Hectares)	200.00	200.00	200.00	200.00	200.00	
	Planned output * Planned unit amount	246,000.00	246,000.00	246,000.00	246,000.00	246,000.00	1,230,000.00
1.02.513.04 - Rate per hectare No 4	Planned unit amount	670.00	670.00	670.00	670.00	670.00	
	Minimum Amount for the Planned unit amount	603.00	603.00	603.00	603.00	603.00	
	Maximum Amount for the Planned unit amount (EUR)	674.00	674.00	674.00	800.00	800.00	

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
	O.8 (unit: Hectares)	390.00	390.00	390.00	390.00	390.00	
	Planned output * Planned unit amount	261,300.00	261,300.00	261,300.00	261,300.00	261,300.00	1,306,500.00
1.02.513.05 - Rate per hectare No 5	Planned unit amount	850.00	850.00	850.00	850.00	850.00	
	Minimum Amount for the Planned unit amount	765.00	765.00	765.00	765.00	765.00	
	Maximum Amount for the Planned unit amount (EUR)	858.00	858.00	858.00	1,000.00	1,000.00	
	O.8 (unit: Hectares)	280.00	280.00	280.00	280.00	280.00	
	Planned output * Planned unit amount	238,000.00	238,000.00	238,000.00	238,000.00	238,000.00	1,190,000.00
1.02.513.06 - Rate per hectare No 6	Planned unit amount	1,300.00	1,300.00	1,300.00	1,300.00	1,300.00	
	Minimum Amount for the Planned unit amount	1,170.00	1,170.00	1,170.00	1,170.00	1,170.00	
	Maximum Amount for the Planned unit amount (EUR)	1,423.00	1,423.00	1,423.00	1,500.00	1,500.00	
	O.8 (unit: Hectares)	390.00	390.00	390.00	390.00	390.00	
	Planned output * Planned unit amount	507,000.00	507,000.00	507,000.00	507,000.00	507,000.00	2,535,000.00
1.02.513.07 - Rate per hectare No 7	Planned unit amount	1,400.00	1,400.00	1,400.00	1,400.00	1,400.00	
	Minimum Amount for the Planned unit amount	1,260.00	1,260.00	1,260.00	1,260.00	1,260.00	
	Maximum Amount for the Planned unit amount (EUR)	1,497.00	1,497.00	1,497.00	1,600.00	1,600.00	
	O.8 (unit: Hectares)	280.00	280.00	280.00	280.00	280.00	
	Planned output * Planned unit amount	392,000.00	392,000.00	392,000.00	392,000.00	392,000.00	1,960,000.00
TOTAL							Sum:
	O.8 (unit: Hectares)	2,150.00	2,150.00	2,150.00	2,150.00	2,150.00	10,750.00
							Max:
							2,150.00
	Annual indicative financial allocation (Union Contribution in EUR)	2,090,300.00	2,090,300.00	2,090,300.00	2,090,300.00	2,090,300.00	10,451,500.00
	Out of which needed to reach the						

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
	minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						

1.02.514 - Aid for renunciation of plant protection products

Intervention Code (MS)	1.02.514
Intervention Name	Aid for renunciation of plant protection products
Type of Intervention	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare / Art. 31(7)(b) - Compensatory payment
Common Output Indicator	O.8. Number of hectares or of livestock units benefitting from eco-schemes

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

CAP AREAS OF ACTION Code + Description

AOA-F actions for a sustainable and reduced use of pesticides, particularly pesticides that present a risk for human health or environment

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B5.3	Reduce the use of plant protection products and limit the risks and negative effects associated with	P2	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.21 Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies

R.24 Share of Utilised Agricultural Area (UAA) under supported specific commitments which lead to a sustainable use of pesticides in order to reduce risks and impacts of pesticides, such as pesticides leakage

5 Specific design, requirements and eligibility conditions of the intervention

Description

The objective of the **“non-use of plant protection products”** eco-scheme is to aim at abolishing or reducing the use of plant protection products. The maintenance or introduction of production methods less dependent on plant protection products contributes to the reduction of emissions of plant protection products and thus contributes to the following objectives:

- Promote sustainable development and efficient management of natural resources such as water, soil and air, including the reduction of dependence on chemicals.
- Contribute to halting and reversing biodiversity loss, improving ecosystem services and preserving habitats and landscapes.

This eco-scheme is an important part of the NSP's vision to reduce negative impacts on water quality, together with GAEC, the majority of other eco-schemes and various AECMs. Following a study in 2014 on the extent of pollution of groundwater by pesticides in Luxembourg, the Government took a range of measures to remedy the situation. As agriculture is an important contributor to pollution by plant protection products, this eco-scheme forms part of national policy on this subject and is expected to have a concrete and positive impact on water quality.

It should be noted that the entire territory of Luxembourg is regarded as a vulnerable zone from the point of view of water quality by the Nitrates Directive. Any area participating in this measure therefore makes a real contribution to the objective of improving water quality.

The detailed commitments are described in the following paragraph.

Description of commitments for eco-scheme

Intervention allows for the maintenance or introduction of production methods that are less dependent on plant protection products, which contributes to reducing the emissions of plant protection products.

As part of the intervention, various options are proposed:

Option 1a: Total renunciation of herbicide plant protection products

1. Keeping a parcel book for all cultivation operations.
2. Abandonment of herbicide treatment on surfaces throughout the crop year. Mechanical and thermal weed control is permitted.
3. Plastic cultivation is not eligible.
4. Crops in organic production or in conversion to organic production are not eligible
5. The aid cannot be cumulated with aid for the maintenance and maintenance of extensive orchards.

Option 1b: Restriction of herbicide plant protection product treatments to localised treatment on ranks in sowed crops

1. Keeping a parcel book for all cultivation operations.
2. Possibility to perform limited localised herbicide treatment on ranks for root crops which may be combined with mechanical, thermal or equivalent weed control.
3. Plastic cultivation is not eligible.
4. Crops in organic production or in conversion to organic production are not eligible

Option 1c: Renunciation in winter cereal crops of the use of a herbicide plant protection product after the harvest of the previous crop and before¹ March of the claim year

1. Keeping a parcel book for all cultivation operations.
2. Mechanical and thermal weed control is permitted.
3. Crops in organic production or in conversion to organic production are not eligible

Option 2: Renunciation of insecticide plant protection products

1. Keeping a parcel book for all cultivation operations.
2. Discontinuation of insecticide treatment on surfaces throughout the crop year. Insecticide-based traps and pheromones are still allowed.
3. The aid can be cumulated with aid for the use of pheromone broadcasters.
4. The renunciation of insecticides against pests covered by aid 1.02.516 (vine pheromone broadcasters) and 1.02.519 (arboricultural pheromone broadcasters) on the areas covered by these two measures is not covered by this measure.

Option 3: Renunciation of plant protection products fungicides

1. Enter a parcel book providing information on all cultivation operations.
2. Surrender to fungicidal treatment on surfaces throughout the crop year.

Option 4: Renunciation of growth regulators

1. Enter a parcel book providing information on all cultivation operations.
2. Renewal of treatment by growth regulators on surfaces throughout the crop year.
3. Crops in organic production or in conversion to organic production are not eligible.

Option 5: Renunciation of big movers

1. Enter a parcel book providing information on all cultivation operations.
2. Renewal of treatment with 'big movers' on surfaces throughout the crop year.

Renunciation of "Big Movers"

The national action plan to reduce plant protection products adopted in 2017 by the Luxembourg Government relates to the '30 % reduction in big movers until 2025'. It is therefore important to reduce the use of plant protection products containing one or more active substances identified at national level as 'big movers' which are:

— Glyphosate

— Active substances classified as candidates for substitution in accordance with Regulation (EU) No 1107/2009

— Active substances which caused the closure or treatment of drinking water sources in Luxembourg

Active substances listed as priority substances in Annex III to the Grand-Ducal Regulation of 15 January 2016 on the assessment of the status of bodies of surface water

It follows that the list of active substances concerned is evolving – the addition or deletion of active substances is possible due to the nature of the above criteria.

In order to reduce the amount of big movers used, it is proposed to publish once a year the list of plant protection products concerned and to prohibit the use of plant protection products on all parcels managed by the farmer concerned (alternative: maximum use of a Big Mover PPP per parcel and year).

With regard to the rules laid down in SMRs 7 and 8, this intervention clearly goes beyond that it provides for the waiver of treatment.

Eligibility conditions:

1. Active farmer using eligible areas.
2. Application in the context of the GSA.
3. The applicant must choose at least one of the above options.
4. The applicant must note all the operations relating to the options chosen in a parcel book.
5. Options 1: Mechanical and thermal weed control is permitted.
6. Options 1a: Limited localised herbicide treatment on ranks for root crops is allowed.
7. Option 2: The applicant renounces insecticide treatment on surfaces throughout the crop year.
8. Option 3: The applicant renounces fungicide treatment on surfaces throughout the crop year.
9. Option 4: The applicant renounces growth regulators on areas throughout the crop year.
10. Option 5: The applicant renounces the 'big movers' on all areas of his holding throughout the crop year.
11. Producers may renounce the aid by removing parcels from their applications.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

See above.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations

under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
SMR07	Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC: Article 55, first and second sentence
SMR08	Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: Article 5(2) and Article 8(1) to (5); Article 12 with regard to restrictions on the use of pesticides in protected areas defined on the basis of Directive 2000/60/EC and Natura 2000 legislation; Article 13(1) and (3) on handling and storage of pesticides and disposal of remnants

List of relevant mandatory national standards

The minimum requirements for the use of plant protection products should include, inter alia, the general principles of integrated pest management introduced by Directive 2009/128/EC of the European Parliament and of the Council, the obligation to hold a certificate of land application in accordance with Article 5(2) of the Law of 19 December 2014 on plant protection products, to meet training requirements, to ensure safe storage and to control equipment for spreading and the rules on the use of pesticides in the vicinity of water bodies and other sensitive sites, as laid down in national law (SMR 13):

Article 7(1), sentences 1 and 2 of the Law of 19 December 2014 on plant protection products:

Plant protection products shall be used properly.

Appropriate use includes the application of the principles of good plant protection practice and compliance with the conditions laid down in the authorisation of plant protection products and mentioned on the labelling.

Annex I, Part A, II 5 to Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs, as amended:

Food business operators producing or harvesting plant products are to take adequate measures, as appropriate:

(h) the correct use of plant protection products and biocides in accordance with the applicable legislation.

Link between GAEC, SMR and national standards with the eco-scheme (explain how the eco-scheme goes beyond the baseline, notably for SMR and national standards)

This measure goes beyond the baseline for the following requirements:

- SMR7: Prohibition of the use of plant protection products
- SMR8: Ban on the use of pesticides

1.02.514	Aid for renunciation of plant protection products		
Purpose:	The objective of the “non-use of plant protection products” eco-scheme is to aim at abolishing or reducing the use of plant protection products.		
	Obligations to be complied with	Requirements and standards	Explanation of the link between the ecological scheme and cross-compliance
Basic	Plant protection products shall be	SMR	Article 7(1), sentences 1 and 2 of the Law

conditions:	used properly. Appropriate use includes the application of the principles of good plant protection practice and compliance with the conditions laid down in the authorisation of plant protection products and mentioned on the labelling. Food business operators producing or harvesting plant products must take appropriate measures to ensure, where appropriate, the correct use of plant protection products and biocides, in accordance with the applicable legislation. In particular, food business operators producing or harvesting plant products must keep records of any use of plant protection products and biocides (SMR 5).	7 + 8	of 19 December 2014 on plant protection products Annex I, Part A, II 5 to Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs, as amended The use of phyto-pharmaceutical products is not generally prohibited, but must be carried out in an appropriate manner, in accordance with the rules. In particular the dose and frequency of treatment for authorised crops. For certain products, product authorisation provides for distances to be respected from watercourses.
General conditions for aid 514:	The farmer/winegrower is classified as an “active” farmer, i.e. he has his own holding number.	514	General condition for obtaining aid
	Aid applications must be submitted within the time limits laid down using the area application/vineyard register. The request shall be made annually.	514	General condition for obtaining aid
Option 1a: Total renunciation of herbicide plant protection products	Renounce herbicide treatment of the surfaces throughout the crop year. Mechanical and thermal weed control is permitted. Culture in plastic film is not eligible. Areas under organic farming or conversion to organic farming are not eligible. The aid cannot be combined with aid for the maintenance and maintenance of extensive orchards (state aid for biodiversity).	514	The renunciation of herbicides is not mandatory, but voluntary. The waiver therefore exceeds the basic requirements. Areas subject to such an obligation shall be excluded from the aid.
Option 1b: Restriction of herbicide plant protection product treatments to	Possibility of localised herbicide treatments, limited to ranks, for root crops, which may be combined with mechanical, thermal or equivalent weed control.	514	Limitation of treatment by limited treatment on ranks is not mandatory, but voluntary. The requirements therefore exceed the basic requirements. Areas under organic farming subject to a ban on the use of herbicides shall be excluded

herbicide treatment in ranks in sowed crops.	Culture in plastic film is not eligible. Organic or in-conversion crops to organic farming are not eligible.		from the aid.
Option 1c: Renunciation in winter cereal crops of the use of a herbicide plant protection product after the harvest of the previous crop and before 1 March of the application year.	Mechanical and thermal weed control is permitted. Crops under organic farming or in the process of conversion to organic farming are not eligible. Crops under organic farming or in the process of conversion to organic farming are not eligible.	514	The renunciation of the use of a herbicide after harvesting in summer/autumn is voluntary. Instead of two licences, the operator shall limit himself to one application in spring.
Option 2: Renunciation of insecticide plant protection products.	Refrain from any insecticide treatment of surfaces throughout the crop year. Insecticide-based traps and pheromones are still allowed. The aid can be combined with aid for the use of pheromone broadcasters.	514	Pheromone broadcasters only act against certain pests.
Option 3: Renunciation of fungicide plant protection products.	Refrain from treating areas with fungicides throughout the crop year.	514	The renunciation of fungicides is not mandatory, but voluntary. The waiver therefore exceeds the basic requirements. Areas subject to such an obligation shall be excluded from the aid.
Option 4: Renunciation of growth regulators	No surface treatment with growth regulators throughout the crop year. Crops under organic production or conversion to organic farming are not eligible.	514	The renunciation of growth regulators is not mandatory, but voluntary. The waiver therefore exceeds the basic requirements. Areas subject to such an obligation shall be excluded from the aid.
Option 5: Renunciation of “Big Movers”.	Refrain from treating areas with ‘big movers’ throughout the crop year. The national action plan for the reduction of plant protection products adopted in 2017 by the Luxembourg government aims to ‘reduce the ‘big movers’ by 30 % by 2025. It is therefore important to reduce the use of plant protection products containing one or more active substances identified as ‘big movers’ at national level; this concerns: — active substances considered as candidates for substitution in accordance with Regulation (EU)	514	The use of “Big Movers” substances is authorised, so the renunciation is voluntary. Areas subject to a ban on use are excluded from the aid.

	No 1107/2009. — active substances which have caused the closure or treatment of drinking water sources in Luxembourg. — active substances listed as priority substances in Annex III to the Grand-Ducal Regulation of 15 January 2016 on the assessment of the status of bodies of surface water. As a result, the list of active substances concerned is evolving – the addition or deletion of active substances is possible due to the nature of the criteria mentioned above. In order to reduce the amount of ‘big mover’ used, the list of plant protection products concerned is published once a year.		

7 Range and amounts of support

Description

Keeping a parcel book showing the crops EUR 12,98 per hectare.

The complete abandonment of the use of herbicides, insecticides or fungicides leads to yield decreases of between 15 % and 30 % for non-sarced crops (protein crops and oilseeds). It is assumed that the reductions in oil crop yields due to the deliberate omission of insecticides and fungicides are more substantial and amount to 18 %. Transaction costs relate to the collection of information and the acquisition of knowledge necessary (i.e training or farm advice) for the efficient implementation of the operation and amount to EUR 15 per hectare.

In root crops, chemical weed control can be replaced by mechanical weed control (herd and/or binder) with possibly limited localised herbicide treatment in rows. Thus, it is possible to limit the amount of herbicides applied without having to accept excessive reductions in yield. It should be noted, however, that, as a result of the machinery’s reduced working widths, mechanical weed control is more expensive (working time required) than chemical weed control, and more plants are damaged. Mechanical weed control costs EUR 100 per hectare (2xbinder, MBR 2018 tariff) and, following further damage to plants, a production loss of around EUR 50 per hectare has to be added. This results in a loss of income of EUR 150 per hectare. Noting that yield losses are higher by considering a complete waiver of the application compared to the situation where localised herbicide treatments are authorised.

The elimination of any post-harvest application of total herbicides and the removal of selective herbicides leads to at least 1 additional post-harvest phase-out (cost EUR 21/ha, MBR 2018 tariff) of the main crop for mechanical weed control of kidneys and weeds instead of a common practice of dehulling with a total low cost herbicide. In heavy soils, in particular, for weed control, it is not feasible to control grasses without treatment in autumn, while farms will abandon non-tillage and return the soil again with the aid of the charro (EUR 39/ha, MBR 2018 tariff). In order to control the problem of weeds in autumn, it is also essential to sow by October instead of mid-September/early October, which may lead to yields falling by 5 % in an unfavourable period before winter. It should also be noted that post-emergence herbicides applicable in spring are more expensive than pre-emergence autumn herbicides.

In general, the aim of applying growth regulators is to reduce the height of the plant, which plays an important role in increasing the grain and directly influences yields by altering the distribution of dry matter in the pebbles. The abandonment of growth regulators can lead to yield reductions of up to 12 %

(Sheekofa and Emam, 2008). Transaction costs relate to the collection of information and the acquisition of knowledge necessary (i.e training or farm advice) for the efficient implementation of the operation and amount to EUR 15 per hectare.

In arboriculture, chemical weed control can be completely replaced by mechanical weed control. However, not only does mechanical weeding treatment require more working time, but also a larger number of passages to achieve a similar result to chemical weed control. It must therefore be borne in mind that mechanical weeding in arboriculture may result in damage to trees resulting in a potential reduction of 5 % in yield. Depending on the working tools chosen, an average of 5 passages per hectare per year can be accepted. The average cost of mechanical weeding in arboriculture is EUR 871/ha. If the ungenerated costs for chemical weed control are removed, on average 3 passages, EUR 184/ha, an additional cost of EUR 687/ha is required.

Idem for the renunciation of chemical weed control in market gardening, except that here mechanical and manual weeding requires even more working time, resulting in an average additional cost of EUR 1 700/ha.

The renunciation of the use of insecticides and fungicides in market gardening and arboriculture results in yield decreases from 10 % to 90 % depending on the case. In order to minimise a reduction in yield, certain measures such as the use of safety nets, insect traps, pheromones, selection of resistant sorts, crop rotation, field hygiene or the use of natural plant defences stimulators may be applied. However, these measures generate additional costs in crop management. An example of this would be the establishment of a safety net in a cauliflower crop that requires more labour of 28 hours per hectare (KTBL, Gemüsebau Freiland und Gewächshaus). Plus more than 2 hours per hectare for additional management work (choice of types, monitoring of traps, etc.), the additional costs can be estimated at 30 hours x EUR 20, i.e. EUR 600 per hectare. The introduction of these preventive measures makes it possible to reduce the yield reductions to 20 %.

Table 1: Estimated loss of income due to the abandonment of herbicides.

Herbicides						
Crops	Standard product	Decrease in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Option 1a: Non-root crops ^a	845	15	126	28	154	150
Option 1a: Root crops ^b	3641	2	73	178	251	250
Option 1a: Arboriculture ^c	12828	5	641	687	1328	750
Option 1a: Market gardening ^d	15750	5	787	1700	2487	750
Option 1b: Root crops ^b	3641	1	36	178	204	200
Option 1c: Winter cereals	845	5	43	88	123	120

Source: Rural Economy Service, Farm Accounting Information Networks (2015-2019)

^a: Common wheat, durum wheat, rye, barley, oats, triticale, other cereals, colza, rape and other oil crops, dried vegetables, fodder plants – legumes

^b: Maize, potatoes for human consumption, seed potatoes, other root crops

^c: Pasture, permanent and temporary grassland

D: Fresh vegetables and strawberries grown in the open field

Table 2.: Estimated loss of income due to discontinuation of insecticides and fungicides

Insecticides and Fongicides						
Crops	Standard product	Decrease in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Options 2 + 3						
Non-root crops ^a	845	10	85	28	113	110
Options 2 + 3						
Root crops ^b	3641	4	145	28	173	170
Options 2 + 3						
Arboriculture ^c	12828	20	2565	600	3165	1000
Options 2 + 3						
Market gardening ^d	15750	20	3150	600	3750	1000

Source: Rural Economy Service, Farm Accounting Information Networks (2015-2019)

^a: Common wheat, durum wheat, rye, barley, oats, triticale, other cereals, colza, rape and other oil crops, dried vegetables, fodder plants – legumes

^b: Maize, potatoes for human consumption, seed potatoes, other root crops

Table 3: Estimated loss of income due to discontinuation of treatments by growth regulators

Growth regulators						
Crops	Standard product	Decrease in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Option 4						
Arable crops	691	12	83	28	111	110

Option 5: BIG MOVER:

The abandonment of the “big movers” active substances covered by measure 6-5 of the National Action Plan for the Reduction of Plant Protection Products adopted in 2017 generally leads to 3 % yield reductions in agricultural systems [2] (Steingrimsdottir, et al. 2017, Merot 2020, Frisvold 2019). Substitution/transaction costs of EUR 15 per hectare are added to replace “big mover” active substances with generic/alternative products which are often more expensive due to intellectual law fees.

The five-year average of standard production of all crops during the period 2015 and 2019 is EUR 4 768 per hectare (Grand-Ducal Regulation of 19 April 2018 fixing the amounts of standard products used to

determine the economic size of an agricultural holding). The yield decreases linked to the substitution of “big mover” active substances amount to EUR 143 per hectare, adding up the costs of substitution and the costs of keeping a parcel book, the economic loss is EUR 158 per hectare.

Proposed allowance: EUR 70/ha

[1] e.g agricultural, wine-growing, maraicher and tree production.

8 Additional questions/information specific to the Type of Intervention

N/A

9 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
1.02.514.01 - Rate per hectare No 1 - Option 1a: Non-weeded crops	Uniform		R.21; R.24	No
1.02.514.02 - Rate per hectare No 2 - Option 1a: Weeded crops	Uniform		R.21; R.24	No
1.02.514.03 - Rate per hectare No 3 - Option 1a: Fruits and vegetables	Uniform		R.21; R.24	No
1.02.514.04 - Rate per hectare No 4 - Option 1b: Non-weeded crops	Uniform		R.21; R.24	No
1.02.514.05 - Rate per hectare No 5 - Option 1c: Winter cereal	Uniform		R.21; R.24	No
1.02.514.06 - Rate per hectare No 6 - Option 2 and 3 (Non-weeded crops) + option 4	Uniform		R.21; R.24	No
1.02.514.07 - Rate per hectare No 7 - Option 2 and 3: Weeded crops	Uniform		R.21; R.24	No
1.02.514.08 - Rate per hectare No 8 - Option 2 and 3: Fruits and vegetables	Uniform		R.21; R.24	No
1.02.514.09 - Rate per hectare No 9 - Big movers	Uniform		R.21; R.24	No

Explanation and Justification (including the flexibility)

1.02.514.01 - Rate per hectare No 1 - Option 1a: Non-weeded crops

Keeping a parcel book showing the crops EUR 12,98 per hectare.

The complete abandonment of the use of herbicides, insecticides or fungicides leads to yield decreases of between 15 % and 30 % for non-root crops (protein and oilseed crops). It is assumed that the decreases in oil crop yields due to the deliberate omission of insecticides and fungicides are more significant and amount to 18 %. Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In stony crops, chemical weed control can be replaced by mechanical weeding (grass and/or binder) with possibly limited localised herbicide treatment on the rows. Thus, the amount of herbicides applied can be limited without having to accept too considerable reductions in yield. It should be noted, however, that due to reduced working widths of machinery, mechanical weeding is more expensive (working time required) than chemical weeding, in addition to damage to a larger number of plants. Mechanical weeding costs EUR 100 per hectare (2 * binder, MBR tariff 2018) and, as a result of additional damage to the plants, a production loss of around EUR 50 per hectare must be added. This results in loss of income of EUR 150 per hectare. Noting that yield losses are higher by considering a complete waiver of application compared to the situation where localised herbicide treatments are authorised.

The elimination of all application of total herbicides after harvest and the removal of selective herbicides results in at least 1 additional transition to post-harvest dischaumour (cost of EUR 21/ha, MBR tariff 2018) of the main crop for mechanical weeding of shoots and weeds instead of a common practice of dehydrating with a non-customary total herbicide. On heavy soils, for example for weeding, it is impracticable to control grasses without treatment in autumn, while farms will give up non-tillage and return the soil again using the ploughing (EUR 39/ha, MBR 2018 tariff). In order to control the problem of weeds in the autumn, it is also essential to sow late in October instead of mid-September to early October, which may lead to a drop in yields of 5 % in an unfavourable period before winter. It should also be noted that post-emergence herbicides applicable in spring are more expensive than pre-emergence

autumn herbicides.

In general, the aim of the application of growth regulators is to reduce the height of the plant, which plays an important role in increasing the grain and, among other things, has a direct influence on yields, by altering the partition of dry matter in the grows. The abandonment of growth regulators can lead to yield reductions of up to 12 % (Sheekofa and Emam, 2008). Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In tree farming, chemical weed control can be completely replaced by mechanical weeding. However, not only does mechanical weed treatment require more working time, but also more passages are needed to achieve a similar result to chemical weeding. It should therefore be borne in mind that mechanical weeding in tree farming can cause damage to trees, resulting in a potential reduction of 5 % in yield. Depending on the working tools chosen, an average of 5 passages per hectare per year can be allowed. The average costs for mechanical weeding in tree farming are EUR 871/ha. If the costs not incurred for chemical weeding are deducted, on average 3 passages, EUR 184/ha, an additional cost of EUR 687/ha is required.

The same applies to the waiver of chemical weeding in the market garden, except that mechanical and manual weeding requires even more working time, resulting in an additional cost of EUR 1 700/ha.

Renouncing the use of insecticides and fungicides in market gardening and tree farming leads to yield reductions of 10 % to 90 %, depending on the case. In order to minimise yield reduction, certain measures such as the use of protective nets, insect traps, the use of pheromones, selection of resistant sorts, crop rotation, field hygiene or the use of natural plant defences stimulators may be applied, but these measures generate additional costs in crop management. For example, the establishment of a protective net in a cauliflower crop requires an increased labour force of 28 hours per hectare (KTBL, Gemüsebau Freiland und Gewächshaus). Plus more than 2 hours per hectare for additional management work (choice of types, monitoring of traps, etc.), the additional costs can be estimated at 30 hours x EUR 20, i.e. EUR 600 per hectare. The introduction of these preventive measures makes it possible to reduce the yield reductions to 20 %.

Table: Estimated loss of income due to the abandonment of herbicide treatments.

Herbicides						
Cultures	Standard product	Drop in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Option 1a: Unrooted crops	845	15	126	28	154	150
Option 1a: Root crops	3641	2	73	178	251	250
Option 1a: Arboriculture	12828	5	641	687	1328	750

Option 1a: Market garden	15750	5	787	1700	2487	750
Option 1b: Root crops	3641	1	36	178	204	200
Option 1c: Winter cereals	845	5	43	88	123	120

Sources: Rural Economy Service, Agricultural Accounting Information Networks (2015-2019)

The maximum amount is given by the result of the economic justification.

The minimum amount was set arbitrarily in the absence of historical data. It represents -10 % of the unit amount.

1.02.514.02 - Rate per hectare No 2 - Option 1a: Weeded crops

Keeping a parcel book showing the crops EUR 12,98 per hectare.

The complete abandonment of the use of herbicides, insecticides or fungicides leads to yield decreases of between 15 % and 30 % for non-root crops (protein and oilseed crops). It is assumed that the decreases in oil crop yields due to the deliberate omission of insecticides and fungicides are more significant and amount to 18 %. Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In stony crops, chemical weed control can be replaced by mechanical weeding (grass and/or binder) with possibly limited localised herbicide treatment on the rows. Thus, the amount of herbicides applied can be limited without having to accept too considerable reductions in yield. It should be noted, however, that due to reduced working widths of machinery, mechanical weeding is more expensive (working time required) than chemical weeding, in addition to damage to a larger number of plants. Mechanical weeding costs EUR 100 per hectare (2 * binder, MBR tariff 2018) and, as a result of additional damage to the plants, a production loss of around EUR 50 per hectare must be added. This results in loss of income of EUR 150 per hectare. Noting that yield losses are higher by considering a complete waiver of application compared to the situation where localised herbicide treatments are authorised.

The elimination of all application of total herbicides after harvest and the removal of selective herbicides results in at least 1 additional transition to post-harvest dischaumour (cost of EUR 21/ha, MBR tariff 2018) of the main crop for mechanical weeding of shoots and weeds instead of a common practice of dehydrating with a non-customary total herbicide. On heavy soils, for example for weeding, it is impracticable to control grasses without treatment in autumn, while farms will give up non-tillage and return the soil again using the ploughing (EUR 39/ha, MBR 2018 tariff). In order to control the problem of weeds in the autumn, it is also essential to sow late in October instead of mid-September to early October, which may lead to a drop in yields of 5 % in an unfavourable period before winter. It should also be noted that post-emergence herbicides applicable in spring are more expensive than pre-emergence autumn herbicides.

In general, the aim of the application of growth regulators is to reduce the height of the plant, which plays an important role in increasing the grain and,

among other things, has a direct influence on yields, by altering the partition of dry matter in the grows. The abandonment of growth regulators can lead to yield reductions of up to 12 % (Sheekofa and Emam, 2008). Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In tree farming, chemical weed control can be completely replaced by mechanical weeding. However, not only does mechanical weed treatment require more working time, but also more passages are needed to achieve a similar result to chemical weeding. It should therefore be borne in mind that mechanical weeding in tree farming can cause damage to trees, resulting in a potential reduction of 5 % in yield. Depending on the working tools chosen, an average of 5 passages per hectare per year can be allowed. The average costs for mechanical weeding in tree farming are EUR 871/ha. If the costs not incurred for chemical weeding are deducted, on average 3 passages, EUR 184/ha, an additional cost of EUR 687/ha is required.

The same applies to the waiver of chemical weeding in the market garden, except that mechanical and manual weeding requires even more working time, resulting in an additional cost of EUR 1 700/ha.

Renouncing the use of insecticides and fungicides in market gardening and tree farming leads to yield reductions of 10 % to 90 %, depending on the case. In order to minimise yield reduction, certain measures such as the use of protective nets, insect traps, the use of pheromones, selection of resistant sorts, crop rotation, field hygiene or the use of natural plant defences stimulators may be applied, but these measures generate additional costs in crop management. For example, the establishment of a protective net in a cauliflower crop requires an increased labour force of 28 hours per hectare (KTBL, Gemüsebau Freiland und Gewächshaus). Plus more than 2 hours per hectare for additional management work (choice of types, monitoring of traps, etc.), the additional costs can be estimated at 30 hours x EUR 20, i.e. EUR 600 per hectare. The introduction of these preventive measures makes it possible to reduce the yield reductions to 20 %.

Table: Estimated loss of income due to the abandonment of herbicide treatments.

Herbicides						
Cultures	Standard product	Drop in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Option 1a: Unrooted crops	845	15	126	28	154	150
Option 1a: Root crops ^b	3641	2	73	178	251	250
Option 1a: Arboriculture	12828	5	641	687	1328	750
Option 1a: Market garden	15750	5	787	1700	2487	750

Option 1b: Root crops	3641	1	36	178	204	200
Option 1c: Winter cereals	845	5	43	88	123	120

Sources: Rural Economy Service, Agricultural Accounting Information Networks (2015-2019)

The maximum amount is given by the result of the economic justification.

The minimum amount was set arbitrarily in the absence of historical data. It represents -10 % of the unit amount.

1.02.514.03 - Rate per hectare No 3 - Option 1a: Fruits and vegetables

Keeping a parcel book showing the crops EUR 12,98 per hectare.

The complete abandonment of the use of herbicides, insecticides or fungicides leads to yield decreases of between 15 % and 30 % for non-root crops (protein and oilseed crops). It is assumed that the decreases in oil crop yields due to the deliberate omission of insecticides and fungicides are more significant and amount to 18 %. Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In stony crops, chemical weed control can be replaced by mechanical weeding (grass and/or binder) with possibly limited localised herbicide treatment on the rows. Thus, the amount of herbicides applied can be limited without having to accept too considerable reductions in yield. It should be noted, however, that due to reduced working widths of machinery, mechanical weeding is more expensive (working time required) than chemical weeding, in addition to damage to a larger number of plants. Mechanical weeding costs EUR 100 per hectare (2 * binder, MBR tariff 2018) and, as a result of additional damage to the plants, a production loss of around EUR 50 per hectare must be added. This results in loss of income of EUR 150 per hectare. Noting that yield losses are higher by considering a complete waiver of application compared to the situation where localised herbicide treatments are authorised.

The elimination of all application of total herbicides after harvest and the removal of selective herbicides results in at least 1 additional transition to post-harvest dischaumour (cost of EUR 21/ha, MBR tariff 2018) of the main crop for mechanical weeding of shoots and weeds instead of a common practice of dehydrating with a non-customary total herbicide. On heavy soils, for example for weeding, it is impracticable to control grasses without treatment in autumn, while farms will give up non-tillage and return the soil again using the ploughing (EUR 39/ha, MBR 2018 tariff). In order to control the problem of weeds in the autumn, it is also essential to sow late in October instead of mid-September to early October, which may lead to a drop in yields of 5 % in an unfavourable period before winter. It should also be noted that post-emergence herbicides applicable in spring are more expensive than pre-emergence autumn herbicides.

In general, the aim of the application of growth regulators is to reduce the height of the plant, which plays an important role in increasing the grain and, among other things, has a direct influence on yields, by altering the partition of dry matter in the grows. The abandonment of growth regulators can lead to yield reductions of up to 12 % (Sheekofa and Emam, 2008). Transaction costs relate to the collection of information and the acquisition of knowledge

necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In tree farming, chemical weed control can be completely replaced by mechanical weeding. However, not only does mechanical weed treatment require more working time, but also more passages are needed to achieve a similar result to chemical weeding. It should therefore be borne in mind that mechanical weeding in tree farming can cause damage to trees, resulting in a potential reduction of 5 % in yield. Depending on the working tools chosen, an average of 5 passages per hectare per year can be allowed. The average costs for mechanical weeding in tree farming are EUR 871/ha. If the costs not incurred for chemical weeding are deducted, on average 3 passages, EUR 184/ha, an additional cost of EUR 687/ha is required.

The same applies to the waiver of chemical weeding in the market garden, except that mechanical and manual weeding requires even more working time, resulting in an additional cost of EUR 1 700/ha.

Renouncing the use of insecticides and fungicides in market gardening and tree farming leads to yield reductions of 10 % to 90 %, depending on the case. In order to minimise yield reduction, certain measures such as the use of protective nets, insect traps, the use of pheromones, selection of resistant sorts, crop rotation, field hygiene or the use of natural plant defences stimulators may be applied, but these measures generate additional costs in crop management. For example, the establishment of a protective net in a cauliflower crop requires an increased labour force of 28 hours per hectare (KTBL, Gemüsebau Freiland und Gewächshaus). Plus more than 2 hours per hectare for additional management work (choice of types, monitoring of traps, etc.), the additional costs can be estimated at 30 hours x EUR 20, i.e. EUR 600 per hectare. The introduction of these preventive measures makes it possible to reduce the yield reductions to 20 %.

Table: Estimated loss of income due to the abandonment of herbicide treatments.

Herbicides						
Cultures	Standard product	Drop in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Option 1a: Unrooted crops	845	15	126	28	154	150
Option 1a: Root crops	3641	2	73	178	251	250
Option 1a: Arboriculture	12828	5	641	687	1328	750
Option 1a: Market garden	15750	5	787	1700	2487	750
Option 1b: Root crops	3641	1	36	178	204	200
Option 1c: Winter	845	5	43	88	123	120

cereals					
Sources: Rural Economy Service, Agricultural Accounting Information Networks (2015-2019)					
The maximum and minimum amounts were set arbitrarily in the absence of historical data. They represent respectively + 10 % and -10 % of the unit amount.					
1.02.514.04 - Rate per hectare No 4 - Option 1b: Non-weeded crops					
Keeping a parcel book showing the crops EUR 12,98 per hectare. The complete abandonment of the use of herbicides, insecticides or fungicides leads to yield decreases of between 15 % and 30 % for non-root crops (protein and oilseed crops). It is assumed that the decreases in oil crop yields due to the deliberate omission of insecticides and fungicides are more significant and amount to 18 %. Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare. In stony crops, chemical weed control can be replaced by mechanical weeding (grass and/or binder) with possibly limited localised herbicide treatment on the rows. Thus, the amount of herbicides applied can be limited without having to accept too considerable reductions in yield. It should be noted, however, that due to reduced working widths of machinery, mechanical weeding is more expensive (working time required) than chemical weeding, in addition to damage to a larger number of plants. Mechanical weeding costs EUR 100 per hectare (2 * binder, MBR tariff 2018) and, as a result of additional damage to the plants, a production loss of around EUR 50 per hectare must be added. This results in loss of income of EUR 150 per hectare. Noting that yield losses are higher by considering a complete waiver of application compared to the situation where localised herbicide treatments are authorised. The elimination of all application of total herbicides after harvest and the removal of selective herbicides results in at least 1 additional transition to post-harvest dischaumour (cost of EUR 21/ha, MBR tariff 2018) of the main crop for mechanical weeding of shoots and weeds instead of a common practice of dehydrating with a non-customary total herbicide. On heavy soils, for example for weeding, it is impracticable to control grasses without treatment in autumn, while farms will give up non-tillage and return the soil again using the ploughing (EUR 39/ha, MBR 2018 tariff). In order to control the problem of weeds in the autumn, it is also essential to sow late in October instead of mid-September to early October, which may lead to a drop in yields of 5 % in an unfavourable period before winter. It should also be noted that post-emergence herbicides applicable in spring are more expensive than pre-emergence autumn herbicides. In general, the aim of the application of growth regulators is to reduce the height of the plant, which plays an important role in increasing the grain and, among other things, has a direct influence on yields, by altering the partition of dry matter in the grows. The abandonment of growth regulators can lead to yield reductions of up to 12 % (Sheekofa and Emam, 2008). Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare. In tree farming, chemical weed control can be completely replaced by mechanical weeding. However, not only does mechanical weed treatment require more working time, but also more passages are needed to achieve a similar result to chemical weeding. It should therefore be borne in mind that mechanical					

weeding in tree farming can cause damage to trees, resulting in a potential reduction of 5 % in yield. Depending on the working tools chosen, an average of 5 passages per hectare per year can be allowed. The average costs for mechanical weeding in tree farming are EUR 871/ha. If the costs not incurred for chemical weeding are deducted, on average 3 passages, EUR 184/ha, an additional cost of EUR 687/ha is required.

The same applies to the waiver of chemical weeding in the market garden, except that mechanical and manual weeding requires even more working time, resulting in an additional cost of EUR 1 700/ha.

Renouncing the use of insecticides and fungicides in market gardening and tree farming leads to yield reductions of 10 % to 90 %, depending on the case. In order to minimise yield reduction, certain measures such as the use of protective nets, insect traps, the use of pheromones, selection of resistant sorts, crop rotation, field hygiene or the use of natural plant defences stimulators may be applied, but these measures generate additional costs in crop management. For example, the establishment of a protective net in a cauliflower crop requires an increased labour force of 28 hours per hectare (KTBL, Gemüsebau Freiland und Gewächshaus). Plus more than 2 hours per hectare for additional management work (choice of types, monitoring of traps, etc.), the additional costs can be estimated at 30 hours x EUR 20, i.e. EUR 600 per hectare. The introduction of these preventive measures makes it possible to reduce the yield reductions to 20 %.

Table: Estimated loss of income due to the abandonment of herbicide treatments.

Herbicides						
Cultures	Standard product	Drop in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Option 1a: Unrooted crops	845	15	126	28	154	150
Option 1a: Root crops	3641	2	73	178	251	250
Option 1a: Arboriculture	12828	5	641	687	1328	750
Option 1a: Market garden	15750	5	787	1700	2487	750
Option 1b: Root crops ^b	3641	1	36	178	204	200
Option 1c: Winter cereals	845	5	43	88	123	120

Sources: Rural Economy Service, Agricultural Accounting Information Networks (2015-2019)

The maximum amount is given by the result of the economic justification.

The minimum amount was set arbitrarily in the absence of historical data. It represents -10 % of the unit amount.

1.02.514.05 - Rate per hectare No 5 - Option 1c: Winter cereal

Keeping a parcel book showing the crops EUR 12,98 per hectare.

The complete abandonment of the use of herbicides, insecticides or fungicides leads to yield decreases of between 15 % and 30 % for non-root crops (protein and oilseed crops). It is assumed that the decreases in oil crop yields due to the deliberate omission of insecticides and fungicides are more significant and amount to 18 %. Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In stony crops, chemical weed control can be replaced by mechanical weeding (grass and/or binder) with possibly limited localised herbicide treatment on the rows. Thus, the amount of herbicides applied can be limited without having to accept too considerable reductions in yield. It should be noted, however, that due to reduced working widths of machinery, mechanical weeding is more expensive (working time required) than chemical weeding, in addition to damage to a larger number of plants. Mechanical weeding costs EUR 100 per hectare (2 * binder, MBR tariff 2018) and, as a result of additional damage to the plants, a production loss of around EUR 50 per hectare must be added. This results in loss of income of EUR 150 per hectare. Noting that yield losses are higher by considering a complete waiver of application compared to the situation where localised herbicide treatments are authorised.

The elimination of all application of total herbicides after harvest and the removal of selective herbicides results in at least 1 additional transition to post-harvest dischaumour (cost of EUR 21/ha, MBR tariff 2018) of the main crop for mechanical weeding of shoots and weeds instead of a common practice of dehydrating with a non-customary total herbicide. On heavy soils, for example for weeding, it is impracticable to control grasses without treatment in autumn, while farms will give up non-tillage and return the soil again using the ploughing (EUR 39/ha, MBR 2018 tariff). In order to control the problem of weeds in the autumn, it is also essential to sow late in October instead of mid-September to early October, which may lead to a drop in yields of 5 % in an unfavourable period before winter. It should also be noted that post-emergence herbicides applicable in spring are more expensive than pre-emergence autumn herbicides.

In general, the aim of the application of growth regulators is to reduce the height of the plant, which plays an important role in increasing the grain and, among other things, has a direct influence on yields, by altering the partition of dry matter in the grows. The abandonment of growth regulators can lead to yield reductions of up to 12 % (Sheekofa and Emam, 2008). Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In tree farming, chemical weed control can be completely replaced by mechanical weeding. However, not only does mechanical weed treatment require more working time, but also more passages are needed to achieve a similar result to chemical weeding. It should therefore be borne in mind that mechanical weeding in tree farming can cause damage to trees, resulting in a potential reduction of 5 % in yield. Depending on the working tools chosen, an average of 5 passages per hectare per year can be allowed. The average costs for mechanical weeding in tree farming are EUR 871/ha. If the costs not incurred for

chemical weeding are deducted, on average 3 passages, EUR 184/ha, an additional cost of EUR 687/ha is required.

The same applies to the waiver of chemical weeding in the market garden, except that mechanical and manual weeding requires even more working time, resulting in an additional cost of EUR 1 700/ha.

Renouncing the use of insecticides and fungicides in market gardening and tree farming leads to yield reductions of 10 % to 90 %, depending on the case. In order to minimise yield reduction, certain measures such as the use of protective nets, insect traps, the use of pheromones, selection of resistant sorts, crop rotation, field hygiene or the use of natural plant defences stimulators may be applied, but these measures generate additional costs in crop management. For example, the establishment of a protective net in a cauliflower crop requires an increased labour force of 28 hours per hectare (KTBL, Gemüsebau Freiland und Gewächshaus). Plus more than 2 hours per hectare for additional management work (choice of types, monitoring of traps, etc.), the additional costs can be estimated at 30 hours x EUR 20, i.e. EUR 600 per hectare. The introduction of these preventive measures makes it possible to reduce the yield reductions to 20 %.

Table: Estimated loss of income due to the abandonment of herbicide treatments.

Herbicides						
Cultures	Standard product	Drop in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Option 1a: Unrooted crops	845	15	126	28	154	150
Option 1a: Root crops	3641	2	73	178	251	250
Option 1a: Arboriculture	12828	5	641	687	1328	750
Option 1a: Market garden	15750	5	787	1700	2487	750
Option 1b: Root crops	3641	1	36	178	204	200
Option 1c: Winter cereals	845	5	43	88	123	120

Sources: Rural Economy Service, Agricultural Accounting Information Networks (2015-2019)

The maximum amount is given by the result of the economic justification.

The minimum amount was set arbitrarily in the absence of historical data. It represents -10 % of the unit amount.

1.02.514.06 - Rate per hectare No 6 - Option 2 and 3 (Non-weeded crops) + option 4

Keeping a parcel book showing the crops EUR 12,98 per hectare.

The complete abandonment of the use of herbicides, insecticides or fungicides leads to yield decreases of between 15 % and 30 % for non-root crops (protein and oilseed crops). It is assumed that the decreases in oil crop yields due to the deliberate omission of insecticides and fungicides are more significant and amount to 18 %. Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In stony crops, chemical weed control can be replaced by mechanical weeding (grass and/or binder) with possibly limited localised herbicide treatment on the rows. Thus, the amount of herbicides applied can be limited without having to accept too considerable reductions in yield. It should be noted, however, that due to reduced working widths of machinery, mechanical weeding is more expensive (working time required) than chemical weeding, in addition to damage to a larger number of plants. Mechanical weeding costs EUR 100 per hectare (2 * binder, MBR tariff 2018) and, as a result of additional damage to the plants, a production loss of around EUR 50 per hectare must be added. This results in loss of income of EUR 150 per hectare. Noting that yield losses are higher by considering a complete waiver of application compared to the situation where localised herbicide treatments are authorised.

The elimination of all application of total herbicides after harvest and the removal of selective herbicides results in at least 1 additional transition to post-harvest dischaumour (cost of EUR 21/ha, MBR tariff 2018) of the main crop for mechanical weeding of shoots and weeds instead of a common practice of dehydrating with a non-customary total herbicide. On heavy soils, for example for weeding, it is impracticable to control grasses without treatment in autumn, while farms will give up non-tillage and return the soil again using the ploughing (EUR 39/ha, MBR 2018 tariff). In order to control the problem of weeds in the autumn, it is also essential to sow late in October instead of mid-September to early October, which may lead to a drop in yields of 5 % in an unfavourable period before winter. It should also be noted that post-emergence herbicides applicable in spring are more expensive than pre-emergence autumn herbicides.

In general, the aim of the application of growth regulators is to reduce the height of the plant, which plays an important role in increasing the grain and, among other things, has a direct influence on yields, by altering the partition of dry matter in the grows. The abandonment of growth regulators can lead to yield reductions of up to 12 % (Sheekofa and Emam, 2008). Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In tree farming, chemical weed control can be completely replaced by mechanical weeding. However, not only does mechanical weed treatment require more working time, but also more passages are needed to achieve a similar result to chemical weeding. It should therefore be borne in mind that mechanical weeding in tree farming can cause damage to trees, resulting in a potential reduction of 5 % in yield. Depending on the working tools chosen, an average of 5 passages per hectare per year can be allowed. The average costs for mechanical weeding in tree farming are EUR 871/ha. If the costs not incurred for chemical weeding are deducted, on average 3 passages, EUR 184/ha, an additional cost of EUR 687/ha is required.

The same applies to the waiver of chemical weeding in the market garden, except that mechanical and manual weeding requires even more working time,

resulting in an additional cost of EUR 1 700/ha.

Renouncing the use of insecticides and fungicides in market gardening and tree farming leads to yield reductions of 10 % to 90 %, depending on the case. In order to minimise yield reduction, certain measures such as the use of protective nets, insect traps, the use of pheromones, selection of resistant sorts, crop rotation, field hygiene or the use of natural plant defences stimulators may be applied, but these measures generate additional costs in crop management. For example, the establishment of a protective net in a cauliflower crop requires an increased labour force of 28 hours per hectare (KTBL, Gemüsebau Freiland und Gewächshaus). Plus more than 2 hours per hectare for additional management work (choice of types, monitoring of traps, etc.), the additional costs can be estimated at 30 hours x EUR 20, i.e. EUR 600 per hectare. The introduction of these preventive measures makes it possible to reduce the yield reductions to 20 %.

The maximum amount is given by the result of the economic justification.

The minimum amount was set arbitrarily in the absence of historical data. It represents -20 % of the unit amount.

Table: Estimated loss of income due to discontinuation of insecticidal and fungicide treatments

Insecticides and Fongicides						
Cultures	Standard product	Drop in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Unrooted crops	845	10	85	28	113	110
Root crops	3641	4	145	28	173	170
Arboriculture	12828	20	2565	600	3165	1000
Market garden	15750	20	3150	600	3750	1000

Sources: Rural Economy Service, Agricultural Accounting Information Networks (2015-2019)

Table 1.12.3: Estimated loss of income due to abandonment of treatments by growth regulators

Growth regulators						
Cultures	Standard product	Drop in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Arable crops	691	12	83	28	111	110

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

1.02.514.07 - Rate per hectare No 7 - Option 2 and 3: Weeded crops

Keeping a parcel book showing the crops EUR 12,98 per hectare.

The complete abandonment of the use of herbicides, insecticides or fungicides leads to yield decreases of between 15 % and 30 % for non-root crops (protein and oilseed crops). It is assumed that the decreases in oil crop yields due to the deliberate omission of insecticides and fungicides are more significant and amount to 18 %. Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In stony crops, chemical weed control can be replaced by mechanical weeding (grass and/or binder) with possibly limited localised herbicide treatment on the rows. Thus, the amount of herbicides applied can be limited without having to accept too considerable reductions in yield. It should be noted, however, that due to reduced working widths of machinery, mechanical weeding is more expensive (working time required) than chemical weeding, in addition to damage to a larger number of plants. Mechanical weeding costs EUR 100 per hectare (2 * binder, MBR tariff 2018) and, as a result of additional damage to the plants, a production loss of around EUR 50 per hectare must be added. This results in loss of income of EUR 150 per hectare. Noting that yield losses are higher by considering a complete waiver of application compared to the situation where localised herbicide treatments are authorised.

The elimination of all application of total herbicides after harvest and the removal of selective herbicides results in at least 1 additional transition to post-harvest dischaumour (cost of EUR 21/ha, MBR tariff 2018) of the main crop for mechanical weeding of shoots and weeds instead of a common practice of dehydrating with a non-customary total herbicide. On heavy soils, for example for weeding, it is impracticable to control grasses without treatment in autumn, while farms will give up non-tillage and return the soil again using the ploughing (EUR 39/ha, MBR 2018 tariff). In order to control the problem of weeds in the autumn, it is also essential to sow late in October instead of mid-September to early October, which may lead to a drop in yields of 5 % in an unfavourable period before winter. It should also be noted that post-emergence herbicides applicable in spring are more expensive than pre-emergence autumn herbicides.

In general, the aim of the application of growth regulators is to reduce the height of the plant, which plays an important role in increasing the grain and, among other things, has a direct influence on yields, by altering the partition of dry matter in the grows. The abandonment of growth regulators can lead to yield reductions of up to 12 % (Sheekofa and Emam, 2008). Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In tree farming, chemical weed control can be completely replaced by mechanical weeding. However, not only does mechanical weed treatment require more working time, but also more passages are needed to achieve a similar result to chemical weeding. It should therefore be borne in mind that mechanical weeding in tree farming can cause damage to trees, resulting in a potential reduction of 5 % in yield. Depending on the working tools chosen, an average of 5

passages per hectare per year can be allowed. The average costs for mechanical weeding in tree farming are EUR 871/ha. If the costs not incurred for chemical weeding are deducted, on average 3 passages, EUR 184/ha, an additional cost of EUR 687/ha is required.

The same applies to the waiver of chemical weeding in the market garden, except that mechanical and manual weeding requires even more working time, resulting in an additional cost of EUR 1 700/ha.

Renouncing the use of insecticides and fungicides in market gardening and tree farming leads to yield reductions of 10 % to 90 %, depending on the case. In order to minimise yield reduction, certain measures such as the use of protective nets, insect traps, the use of pheromones, selection of resistant sorts, crop rotation, field hygiene or the use of natural plant defences stimulators may be applied, but these measures generate additional costs in crop management. For example, the establishment of a protective net in a cauliflower crop requires an increased labour force of 28 hours per hectare (KTBL, Gemüsebau Freiland und Gewächshaus). Plus more than 2 hours per hectare for additional management work (choice of types, monitoring of traps, etc.), the additional costs can be estimated at 30 hours x EUR 20, i.e. EUR 600 per hectare. The introduction of these preventive measures makes it possible to reduce the yield reductions to 20 %.

Table: Estimated loss of income due to discontinuation of insecticidal and fungicide treatments

Insecticides and Fungicides						
Cultures	Standard product	Drop in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Unrooted crops	845	10	85	28	113	110
Root crops	3641	4	145	28	173	170
Arboriculture	12828	20	2565	600	3165	1000
Market garden	15750	20	3150	600	3750	1000

Sources: Rural Economy Service, Agricultural Accounting Information Networks (2015-2019)

The maximum amount is given by the result of the economic justification.

The minimum amount was set arbitrarily in the absence of historical data. It represents -10 % of the unit amount.

1.02.514.08 - Rate per hectare No 8 - Option 2 and 3: Fruits and vegetables

Keeping a parcel book showing the crops EUR 12,98 per hectare.

The complete abandonment of the use of herbicides, insecticides or fungicides leads to yield decreases of between 15 % and 30 % for non-root crops (protein and oilseed crops). It is assumed that the decreases in oil crop yields due to the deliberate omission of insecticides and fungicides are more significant and amount to 18 %. Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the

efficient implementation of the operation and amounts to EUR 15 per hectare.

In stony crops, chemical weed control can be replaced by mechanical weeding (grass and/or binder) with possibly limited localised herbicide treatment on the rows. Thus, the amount of herbicides applied can be limited without having to accept too considerable reductions in yield. It should be noted, however, that due to reduced working widths of machinery, mechanical weeding is more expensive (working time required) than chemical weeding, in addition to damage to a larger number of plants. Mechanical weeding costs EUR 100 per hectare (2 * binder, MBR tariff 2018) and, as a result of additional damage to the plants, a production loss of around EUR 50 per hectare must be added. This results in loss of income of EUR 150 per hectare. Noting that yield losses are higher by considering a complete waiver of application compared to the situation where localised herbicide treatments are authorised.

The elimination of all application of total herbicides after harvest and the removal of selective herbicides results in at least 1 additional transition to post-harvest dischaumour (cost of EUR 21/ha, MBR tariff 2018) of the main crop for mechanical weeding of shoots and weeds instead of a common practice of dehydrating with a non-customary total herbicide. On heavy soils, for example for weeding, it is impracticable to control grasses without treatment in autumn, while farms will give up non-tillage and return the soil again using the ploughing (EUR 39/ha, MBR 2018 tariff). In order to control the problem of weeds in the autumn, it is also essential to sow late in October instead of mid-September to early October, which may lead to a drop in yields of 5 % in an unfavourable period before winter. It should also be noted that post-emergence herbicides applicable in spring are more expensive than pre-emergence autumn herbicides.

In general, the aim of the application of growth regulators is to reduce the height of the plant, which plays an important role in increasing the grain and, among other things, has a direct influence on yields, by altering the partition of dry matter in the grows. The abandonment of growth regulators can lead to yield reductions of up to 12 % (Sheekofa and Emam, 2008). Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

In tree farming, chemical weed control can be completely replaced by mechanical weeding. However, not only does mechanical weed treatment require more working time, but also more passages are needed to achieve a similar result to chemical weeding. It should therefore be borne in mind that mechanical weeding in tree farming can cause damage to trees, resulting in a potential reduction of 5 % in yield. Depending on the working tools chosen, an average of 5 passages per hectare per year can be allowed. The average costs for mechanical weeding in tree farming are EUR 871/ha. If the costs not incurred for chemical weeding are deducted, on average 3 passages, EUR 184/ha, an additional cost of EUR 687/ha is required.

The same applies to the waiver of chemical weeding in the market garden, except that mechanical and manual weeding requires even more working time, resulting in an additional cost of EUR 1 700/ha.

Renouncing the use of insecticides and fungicides in market gardening and tree farming leads to yield reductions of 10 % to 90 %, depending on the case. In order to minimise yield reduction, certain measures such as the use of protective nets, insect traps, the use of pheromones, selection of resistant sorts, crop rotation, field hygiene or the use of natural plant defences stimulators may be applied, but these measures generate additional costs in crop management. For example, the establishment of a protective net in a cauliflower crop requires an increased labour force of 28 hours per hectare (KTBL, Gemüsebau Freiland

und Gewächshaus). Plus more than 2 hours per hectare for additional management work (choice of types, monitoring of traps, etc.), the additional costs can be estimated at 30 hours x EUR 20, i.e. EUR 600 per hectare. The introduction of these preventive measures makes it possible to reduce the yield reductions to 20 %.

Table: Estimated loss of income due to discontinuation of insecticidal and fungicide treatments

Insecticides and Fongicides						
Cultures	Standard product	Drop in yield	Production losses	Additional costs	Economic loss	Proposed allowance
Unrooted crops	845	10	85	28	113	110
Root crops	3641	4	145	28	173	170
Arboriculture	12828	20	2565	600	3165	1000
Market garden	15750	20	3150	600	3750	1000

Sources: Rural Economy Service, Agricultural Accounting Information Networks (2015-2019)

The maximum and minimum amounts were set arbitrarily in the absence of historical data. They represent respectively + 10 % and -10 % of the unit amount.

1.02.514.09 - Rate per hectare No 9 - Big movers

Keeping a parcel book showing the crops EUR 12,98 per hectare.

The complete abandonment of the use of herbicides, insecticides or fungicides leads to yield decreases of between 15 % and 30 % for non-root crops (protein and oilseed crops). It is assumed that the decreases in oil crop yields due to the deliberate omission of insecticides and fungicides are more significant and amount to 18 %. Transaction costs relate to the collection of information and the acquisition of knowledge necessary (e.g. training or farm advice) for the efficient implementation of the operation and amounts to EUR 15 per hectare.

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BIG MOVER:

The abandonment of the active substances ‘big movers’ covered by measure 6-5 of the national action plan for the reduction of plant protection products adopted in 2017 generally leads to 3 % reductions in yield in farming systems^[1] (Steingrimsdottir, et al. 2017, Merot 2020, Frisvold 2019).

Substitution/transaction costs of EUR 15 per hectare are added to replace “big mover” active substances with generic/alternative products whose price is often higher due to intellectual law fees.

The five-year average of standard production of all crops during the period 2015 and 2019 is EUR 4 768 per hectare (Grand-Ducal Regulation of 19 April 2018 fixing the amounts of standard products used to determine the economic size of an agricultural holding). The reductions in yield due to the substitution of ‘big mover’ active substances amount to EUR 143 per hectare, adding the costs of substitution and the costs of keeping a parcel book, the economic loss amounts to EUR 158 per hectare.

The aid rate is fixed at EUR 70/ha.

The maximum and minimum amounts were set arbitrarily in the absence of historical data. They represent respectively + 10 % and -10 % of the unit amount.

[1] e.g agricultural, wine-growing, marsh and tree production.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.514.01 - Rate per hectare No 1 - Option 1a: Non-weeded crops	Planned unit amount	150.00	150.00	150.00	150.00	150.00	
	Minimum Amount for the Planned unit amount	135.00	135.00	135.00	135.00	135.00	
	Maximum Amount for the Planned unit amount (EUR)	154.00	154.00	154.00	154.00	154.00	
	O.8 (unit: Hectares)	1,800.00	1,800.00	2,600.00	2,600.00	2,600.00	
	Planned output * Planned unit amount	270,000.00	270,000.00	390,000.00	390,000.00	390,000.00	1,710,000.00
1.02.514.02 - Rate per hectare No 2 - Option 1a: Weeded crops	Planned unit amount	250.00	250.00	250.00	250.00	250.00	
	Minimum Amount for the Planned unit amount	225.00	225.00	225.00	225.00	225.00	
	Maximum Amount for the Planned unit amount (EUR)	251.00	251.00	251.00	251.00	251.00	
	O.8 (unit: Hectares)	440.00	440.00	440.00	440.00	440.00	
	Planned output * Planned unit amount	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	550,000.00
1.02.514.03 - Rate per hectare No 3 - Option 1a: Fruits and vegetables	Planned unit amount	750.00	750.00	750.00	750.00	750.00	
	Minimum Amount for the Planned unit amount	675.00	675.00	675.00	675.00	675.00	
	Maximum Amount for the Planned unit amount (EUR)	825.00	825.00	825.00	825.00	825.00	

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
	O.8 (unit: Hectares)	40.00	40.00	40.00	40.00	40.00	
	Planned output * Planned unit amount	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	150,000.00
1.02.514.04 - Rate per hectare No 4 - Option 1b: Non-weeded crops	Planned unit amount	200.00	200.00	200.00	200.00	200.00	
	Minimum Amount for the Planned unit amount	180.00	180.00	180.00	180.00	180.00	
	Maximum Amount for the Planned unit amount (EUR)	204.00	204.00	204.00	204.00	204.00	
	O.8 (unit: Hectares)	440.00	440.00	440.00	440.00	440.00	
	Planned output * Planned unit amount	88,000.00	88,000.00	88,000.00	88,000.00	88,000.00	440,000.00
1.02.514.05 - Rate per hectare No 5 - Option 1c: Winter cereal	Planned unit amount	120.00	120.00	120.00	120.00	120.00	
	Minimum Amount for the Planned unit amount	108.00	108.00	108.00	108.00	108.00	
	Maximum Amount for the Planned unit amount (EUR)	123.00	123.00	123.00	123.00	123.00	
	O.8 (unit: Hectares)	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
	Planned output * Planned unit amount	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	600,000.00
1.02.514.06 - Rate per hectare No 6 - Option 2 and 3 (Non-weeded crops) + option 4	Planned unit amount	110.00	110.00	110.00	110.00	110.00	
	Minimum Amount for the Planned unit amount	99.00	99.00	99.00	99.00	99.00	
	Maximum Amount for the Planned unit amount (EUR)	113.00	113.00	113.00	113.00	113.00	
	O.8 (unit: Hectares)	5,000.00	5,000.00	6,800.00	6,800.00	6,800.00	
	Planned output * Planned unit amount	550,000.00	550,000.00	748,000.00	748,000.00	748,000.00	3,344,000.00
1.02.514.07 - Rate per hectare No 7 - Option 2 and 3: Weeded crops	Planned unit amount	170.00	170.00	170.00	170.00	170.00	
	Minimum Amount for the Planned unit amount	153.00	153.00	153.00	153.00	153.00	
	Maximum Amount for the Planned unit amount (EUR)	173.00	173.00	173.00	173.00	173.00	
	O.8 (unit: Hectares)	300.00	300.00	300.00	300.00	300.00	
	Planned output * Planned unit amount	51,000.00	51,000.00	51,000.00	51,000.00	51,000.00	255,000.00

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.514.08 - Rate per hectare No 8 - Option 2 and 3: Fruits and vegetables	Planned unit amount	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
	Minimum Amount for the Planned unit amount	900.00	900.00	900.00	900.00	900.00	
	Maximum Amount for the Planned unit amount (EUR)	1,100.00	1,100.00	1,100.00	1,100.00	1,100.00	
	O.8 (unit: Hectares)	80.00	80.00	80.00	80.00	80.00	
	Planned output * Planned unit amount	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	400,000.00
1.02.514.09 - Rate per hectare No 9 - Big movers	Planned unit amount	70.00	70.00	70.00	70.00	70.00	
	Minimum Amount for the Planned unit amount	63.00	63.00	63.00	63.00	63.00	
	Maximum Amount for the Planned unit amount (EUR)	77.00	77.00	77.00	77.00	77.00	
	O.8 (unit: Hectares)	5,000.00	5,000.00	5,848.00	5,848.00	5,848.00	
	Planned output * Planned unit amount	350,000.00	350,000.00	409,360.00	409,360.00	409,360.00	1,928,080.00
TOTAL	O.8 (unit: Hectares)	14,100.00	14,100.00	17,546.00	17,546.00	17,546.00	Sum: 80,838.00 Max: 17,546.00
	Annual indicative financial allocation (Union Contribution in EUR)	1,649,000.00	1,649,000.00	2,026,200.00	2,026,200.00	2,026,200.00	9,376,600.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						

1.02.515 - Aid for setting up catch crops and undersowing on arable land

Intervention Code (MS)	1.02.515
Intervention Name	Aid for setting up catch crops and undersowing on arable land
Type of Intervention	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare / Art. 31(7)(b) - Compensatory payment
Common Output Indicator	O.8. Number of hectares or of livestock units benefitting from eco-schemes

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

CAP AREAS OF ACTION Code + Description

AOA-D prevention of soil degradation, soil restoration, improvement of soil fertility and of nutrient management [and soil biota]

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B5.1	Ensuring the protection of groundwater and surface water (Water Framework Directive)	P1	Yes
B5.4	Ensuring soil fertility and combating soil degradation	P2	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.14 Share of utilised agricultural area (UAA) under supported commitments to reduce emissions or to maintain or enhance carbon storage (including permanent grassland, permanent crops with permanent green cover, agricultural land in wetland and peatland)

R.19 Share of utilised agricultural area (UAA) under supported commitments beneficial for soil management to improve soil quality and biota (such as reducing tillage, soil cover with crops, crop rotation included with leguminous crops)

R.21 Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies

R.22 Share of utilised agricultural area (UAA) under supported commitments related to improved nutrient management

5 Specific design, requirements and eligibility conditions of the intervention

Description

The 'catch crops and undersowing' ecological scheme has favourable effects on soil management and has a strong influence on the evolution of nitrate levels in the soil, as it helps to combat nitrate erosion and leaching:

- soil cover with soil enrichment with organic matter for effective protection against erosion;
- nitrate trapping by counter-season crops limits nitrate leaching;
- a significant reduction in erosion helps to avoid the problem of sedimentation in rivers.

In addition, intermediate crops with melliferous cover contribute to the protection of biodiversity and improve ecosystem services.

The detailed commitments are described in the following paragraph.

Description of commitments for eco-scheme

The intervention has positive effects on soil management and a major influence on the development of nitrates in soils by acting against erosion and nitrate leaching.

- soil cover with enrichment of soil with organic matter for effective action against erosion;
- the fixing of nitrates by crops in the after-season limits their leaching;
- a net reduction in erosion contributes to preventing the problem of sedimentation in rivers.

In addition, catch crops with melliferous cover contribute to the protection of biodiversity and improve ecosystem services.

The whole territory is eligible for the measure in accordance with the needs indicated in the SWOT.

The intervention thus contributes to the following objectives:

- foster sustainable development and efficient management of natural resources such as water, soil and air;
- contribute to the protection of biodiversity, improve ecosystem services and preserve habitats and landscapes.

Eligibility conditions:

1. Active farmer
2. GSAA Request
3. The purpose of the aid scheme is to encourage catch crops and undersowing on arable land. We distinguish the following types:
 - Catch crop with single cover;
 - Catch crop with mixed cover (at least 3 different species);
 - Undersowing maize.
3. In the case of mixed cover, the invoice or other proof of the mixture shall be attached to the aid application.
4. The vegetation cover must be in place no later than 15 October and must remain there at least until¹ January of the following year.
5. The use of nitrogen fertilisers is prohibited if the previous crop was a sereled crop. The use of mineral nitrogen fertilisers shall be prohibited on catch crops.
6. The total quantity of slurry, slurry, digestate, liquid sewage sludge, soft manure (< 15 % MS), poultry manure and poultry fients applied per hectare shall not exceed 80 kg of organic nitrogen per hectare in the period following the harvest of the previous crop.
7. The application of total herbicides after harvesting the previous crop and before sowing the main crop is prohibited.
8. The aid shall be increased where the catch crop consists of at least three plant species/varieties. In this case, total herbicides may be applied before the main crop is sown.
9. The seed of a temporary grassland shall not be eligible for aid.
10. One parcel initially declared may be replaced by another until 01/10 (in duly justified exceptional situations, until 01/11).

It is important to stress that an input of fertilisers (see paragraphs 5 and 6) is required to promote a good development of vegetation cover that ensures effective land cover during the winter period.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

See above.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
GAEC06	Minimum soil cover to avoid bare soil in periods that are most sensitive
SMR01	Directive 2000/60/EC of 23 October 2000 of the European Parliament and of the Council establishing a framework for Community action in the field of water policy: Article 11(3), point (e), and point (h), as regards mandatory requirements to control diffuse sources of pollution by phosphates
SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5

List of relevant mandatory national standards

Basic elements concerning water protection

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy transposed into national legislation by the Water Act of 19 December 2008 (Article 26):

General requirements for control of pressures and diffuse sources:

(1) Grand Ducal Regulations lay down general requirements to control adverse effects on water status attributable to diffuse pressures or sources, including one-off dispersed pressures and discharges with a low individual effect, in accordance with the provisions of Article 27.

(2) These Grand-Ducal Regulations may lay down, in the form of restrictions, limitations or prohibitions, general conditions based, depending on the nature of the pressures and diffuse sources, on best environmental practices, and applicable to:

(a) the development or operation of installations or structures, respectively, for the execution of works or activities, including water abstraction or discharges and releases of pollutants, of a small individual scale but of sufficiently frequent and widespread use that, by cumulative effect, they may have an adverse effect on the status of the waters affected;

(b) the use of land, whether developed or not, resulting in the production, respectively, of products or substances of nature and in such quantities that those products or substances are, or are likely to be, leaching or infiltration into water and causing a deterioration in the status of the bodies of water affected;

(c) the manufacture, placing on the market and use of products which, depending on their method of use, may enter the urban cycle of water or come directly into surface water or groundwater and which are liable either to impair the functioning and operation of sanitation or treatment installations or to pollute, directly or indirectly, surface water or groundwater.

(3) Where the land use referred to in point (b) of paragraph (2) relates to agriculture, including the application or application of organic fertilisers, mineral fertilisers, plant protection products or any other agricultural product which can be considered as a pollutant, the general requirements referred to in paragraph (1) may provide for:

(a) the temporary restriction or prohibition of the application of certain of those products or substances, in particular in the case of dangerous substances or priority hazardous substances; or

(b) in the case of surface waters, the determination of bordering protection areas in which the use of the abovementioned products or substances may be subject to specific restrictions or prohibitions, or in which certain types of farming may be prescribed, limited or prohibited if this is necessary for the achievement of the environmental objectives referred to in Article 6 in bodies of water affected or likely to be affected.

GAEC6

(1) In areas at high risk of erosion, arable land must be covered with vegetation cover between 1 October and 1 March.

The following shall be considered as plant cover:

temporary meadows

winter crops

— catch crops and undersowing

— crop residues and kidneys

Areas at high risk of erosion are defined on a map. It is published and available on geoportail.lu.

(2) On arable land set aside, the farmer must create vegetation cover by 31 May of the first year of set-aside at the latest.

Link between GAEC, SMR and national standards with the eco-scheme (explain how the eco-scheme goes beyond the baseline, notably for SMR and national standards)

This measure goes beyond the baseline for the following requirements:

- SMR1: Ban on the use of manure and plant protection products
- SMR2: Ban on the use of fumery and plant protection products
- BCAE6: Plant cover introduced for compliance with BCAE6 shall not be eligible for aid

1.02.515	Support for setting up catch crops and undersowing on arable land		
Objective:	The ecological scheme ‘catch crops and undersowing’ has positive effects on soil management and has a great influence on the evolution of nitrate levels in the soil, as it helps to combat nitrate erosion and leaching: — soil cover with soil enrichment with organic matter for effective protection against erosion; — nitrate trapping by off-season crops limits nitrate leaching; — a significant reduction in erosion helps to avoid the problem of sedimentation in rivers. In addition, intermediate crops with melliferous cover contribute to the		

	protection of biodiversity and improve ecosystem services.		
	Obligations to be complied with	Requirements and standards	Explanation of the link between the green regime and cross-compliance
Basic conditions:	Turning arable land by tillage shall be prohibited in <u>areas at risk of high, medium and low erosion</u> between 15 October and 1 January. <u>Tillage without ploughing and without overturning is still permitted for the purpose of installing a winter crop</u> In areas at risk of high and medium erosion, permanent anti-erosion grass strips linked to erosion rigles are mandatory, except for temporary grassland, <u>and multiannual crops</u>. Grassstrips must have a minimum width of 3 metres. <u>The introduction of a fascin or a new hedge may replace the mandatory grass strip</u> <u>Where permanent anti-erosion grass strips are installed alongside the erosion rigle, the conditions of point 2 (a) shall not apply to the rest of the parcel concerned</u>	GAE C 6	The establishment of a catch crop goes beyond the baseline.
	General requirements for pressure control and diffuse sources: (1) Grand Ducal Regulations lay down general requirements to control adverse effects on water status attributable to diffuse pressures or sources, including dispersed occasional pressures and discharges with a low individual effect, in accordance with the provisions of Article 27. (2) These Grand-Ducal Regulations may lay down, in the form of restrictions, limitations or prohibitions, general conditions based, depending on the nature of the pressures and diffuse sources, on best environmental practices, and	SMR 1	The purpose of setting up a catch crop is to capture nitrates and limit their leaching and thus diffuse pollution. The legislation transposing the Nitrates Directive does not lay down any obligation as regards the installation of catch crops.

	applicable to: (a) the development or operation of installations or works, respectively, in the execution of works or activities, including abstraction or discharges of water and discharges of pollutants, of a small individual size but of sufficiently frequent and widespread use, which, as a result of the cumulative effect, may have an adverse effect on the status of the waters affected; (b) the use of the land, whether developed or not, resulting in the production, respectively, involving the use of products or substances of nature and in quantities such that those products or substances are, or are likely to be, induced by leaching or infiltration into water and cause deterioration of the status of the affected bodies of water; (c) the manufacture, placing on the market and use of products which, depending on their mode of use, may enter the urban water cycle or enter surface water or groundwater directly and which are likely either to impair the functioning and operation of sanitation or treatment facilities or to pollute, directly or indirectly, surface water or groundwater. (3) Where the land use referred to in point (b) of paragraph (2) relates to agriculture, including the use or application of organic fertilisers, mineral fertilisers, plant protection products or any other agricultural related product which may be considered as a pollutant, the general requirements referred to in paragraph (1) may provide for:		

	(a) the temporary restriction or prohibition of the application of certain such products or substances, in particular in the case of dangerous substances or priority hazardous substances; or (b) in the case of surface waters, the determination of riparian protection areas in which the implementation of the abovementioned products or substances may be subject to specific limitations or prohibitions, or in which certain types of agriculture may be prescribed, limited or prohibited if this is necessary for the achievement of the environmental objectives referred to in Article 6 in the bodies of water affected or likely to be affected.		
	Grand-Ducal Regulation of 24 November 2000 concerning the use of nitrogen fertilisers in agriculture aims to reduce water pollution caused or induced by nitrates from agricultural sources and prevent further such pollution.	SMR 2	The purpose of setting up a catch crop is to capture nitrates and limit their leaching and thus diffuse pollution. The legislation transposing the Water Framework Directive does not lay down any obligation as regards the installation of catch crops.
General conditions of aid 515:	The farmer/winegrower is classified as an 'active' farmer, i.e. he has his own farm number.	515	General condition for obtaining aid
	The aid application must be submitted within the prescribed time limit using the area application/vineyard register statement. The request shall be made annually.	515	General condition for obtaining aid
Intermediate culture with single cover	The vegetation cover must be maintained until at least 1 February following the establishment of the catch crop The use of nitrogen fertilisers is prohibited if the previous crop was a root crop. The use of nitrogenous inorganic fertilisers is prohibited. The total amount of slurry, purin, digestate, liquid sewage sludge, soft manure (< 15 per cent dry matter), poultry manure and poultry manure applied per hectare must not exceed	515	The purpose of setting up a catch crop is to capture nitrates and limit their leaching and thus diffuse pollution. In areas where there is a high risk of erosion, areas covered by catch crops or undersowing shall not be eligible for support 515 when installing single vegetation cover.

	80 kg organic nitrogen per hectare during the period following the harvest of the previous crop. The use of total herbicides is prohibited after the previous crop has been harvested and before sowing the main crop. One parcel initially declared may be replaced by another parcel until 01/10 (until 01/11 in duly justified exceptional situations). The sowing of temporary grassland shall be excluded from the aid. The sowing of temporary grassland shall be excluded from the aid.		
Intermediate crop with mixed cover (at least 3 different species)	The vegetation cover must be maintained until at least 1 February following the establishment of the catch crop The use of nitrogen fertilisers is prohibited if the previous crop was a root crop. The use of nitrogenous inorganic fertilisers is prohibited. The total amount of slurry, purin, digestate, liquid sewage sludge, soft manure (< 15 per cent dry matter), poultry manure and poultry manure applied per hectare must not exceed 80 kg organic nitrogen per hectare during the period following the harvest of the previous crop. The use of total herbicides is prohibited after the previous crop has been harvested and before sowing the main crop. One parcel initially declared may be replaced by another parcel until 01/10 (until 01/11 in duly justified exceptional situations). The sowing of temporary grassland shall be excluded from the aid. The invoice or other proof of mixing must be attached to the aid application.	515	The purpose of setting up a catch crop is to capture nitrates and limit their leaching and thus diffuse pollution. The obligation to install a mixture of at least 3 seeds is not mandatory, but voluntary
Under-sowing in	The vegetation cover must be	515	The purpose of setting up a catch crop is

maize crops	maintained until at least 1 February following the undersowing. The use of nitrogen fertilisers is prohibited if the previous crop was a root crop. The use of nitrogenous inorganic fertilisers is prohibited. The total amount of slurry, purin, digestate, liquid sewage sludge, soft manure (< 15 per cent dry matter), poultry manure and poultry manure applied per hectare must not exceed 80 kg organic nitrogen per hectare during the period following the harvest of the previous crop. The use of total herbicides is prohibited after the previous crop has been harvested and before sowing the main crop. The sowing of temporary grassland shall be excluded from the aid.	to capture nitrates and limit their leaching and thus diffuse pollution. In areas at risk of high erosion, areas covered by catch crops or undersowing shall not be eligible for support 515 when setting up undersowing.

7 Range and amounts of support

Description

Variant 1: Catch crop with simple cover

(Before any arable spring cultivation)

In order to be effective (erosion control, nitrate trap) catch crops must in principle be installed before 1 September. In practice, we often try to combine the necessary tillage (cultivator) with sowing.

Thus, the cost of sowing (machinery) can be reduced to EUR 15/ha (Schneckenkornstreuer x2, MBR tariff). Seed costs are in the order of EUR 52/ha (source: standard gross margin). The grinding required in spring amounts to EUR 44/ha (MBR tariff). This results in total costs of around EUR 111/ha.

The expected transaction costs are EUR 9/ha.

Overall aid amount: EUR 120/ha.

Variant 2: Catch crop with mixed cover

(Before any arable spring crop, mix 3 species, online sowing)

Only compulsory sowing using an online sowing plant (EUR 80/ha, MBR tariff, already generates additional costs of EUR 65/ha compared to variant 1).

Overall aid amount: EUR 185/ha.

Variant 3: Under-sowing in maize

Undersowing maize crops leads to additional costs.

The costs for sowing and seed are EUR 32/ha respectively EUR 52/ha (source: standard gross margin). In addition, the costs of grinding and maintenance are EUR 54/ha (MBR tariff). This results in total costs of EUR 138/ha.

The expected transaction costs are EUR 12/ha.

Overall aid amount: EUR 150/ha.

8 Additional questions/information specific to the Type of Intervention

N/A

9 *WTO compliance*

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
1.02.515.01 - Rate per hectare No 1	Uniform		R.14; R.19; R.21; R.22	Yes
1.02.515.02 - Rate per hectare No 2	Uniform		R.14; R.19; R.21; R.22	Yes
1.02.515.03 - Rate per hectare No 3	Uniform		R.14; R.19; R.21; R.22	Yes

Explanation and Justification (including the flexibility)

1.02.515.01 - Rate per hectare No 1

Variant 1: Catch crop with single cover

(Before any spring arable crop)

In order to be effective (erosion control, nitrate trap), catch crops must in principle be installed before 1 September. In practice, we often try to combine the necessary tillage (cultivator) with sowing.

For example, the cost of sowing (machines) can be reduced to EUR 15/ha (Schneckenkornstreuer x2, MBR tariff). The costs for seeds are in the order of EUR 52/ha (source: standard gross margin). The grinding needed in spring amounts to EUR 44/ha (MBR tariff). This results in total costs in the order of EUR 111/ha.

The planned transaction costs amount to EUR 9/ha.

Total amount of aid: EUR 120/ha.

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

1.02.515.02 - Rate per hectare No 2

Variant 2: Catch crop with mixed cover

(Before any spring arable crop, mixture of 3 species, online sowing)

Compulsory sowing using online seeders alone (EUR 80/ha, MBR tariff already entails additional costs of EUR 65/ha compared to variant 1.

Total amount of aid: EUR 185/ha.

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit

amount in the absence of historical data.

1.02.515.03 - Rate per hectare No 3

Variant 3: Undersowing of maize

Undersowing maize leads to additional costs.

The costs for sowing and seeds are EUR 32/ha respectively EUR 52/ha (source: standard gross margin). In addition, the cost of grinding and maintenance of EUR 54/ha (MBR tariff) is added. This results in total roasting costs of EUR 138/ha.

The planned transaction costs amount to EUR 12/ha.

Total amount of aid: EUR 150/ha.

The maximum amount is given by the limit of the economic justification. The minimum value is given by an arbitrary value of -10 % in relation to the unit amount in the absence of historical data.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.515.01 - Rate per hectare No 1	Planned unit amount	120.00	120.00	120.00	120.00	120.00	
	Minimum Amount for the Planned unit amount	108.00	108.00	108.00	108.00	108.00	
	Maximum Amount for the Planned unit amount (EUR)	120.00	120.00	120.00	140.00	140.00	
	O.8 (unit: Hectares)	7,100.00	7,100.00	7,100.00	7,100.00	7,100.00	
	Planned output * Planned unit amount	852,000.00	852,000.00	852,000.00	852,000.00	852,000.00	4,260,000.00
1.02.515.02 - Rate per hectare No 2	Planned unit amount	185.00	185.00	185.00	185.00	185.00	
	Minimum Amount for the Planned unit amount	167.00	167.00	167.00	167.00	167.00	
	Maximum Amount for the Planned unit amount (EUR)	185.00	185.00	185.00	210.00	210.00	
	O.8 (unit: Hectares)	1,400.00	1,400.00	1,400.00	1,400.00	1,400.00	
	Planned output * Planned unit amount	259,000.00	259,000.00	259,000.00	259,000.00	259,000.00	1,295,000.00
1.02.515.03 - Rate per hectare No 3	Planned unit amount	150.00	150.00	150.00	150.00	150.00	

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
	Minimum Amount for the Planned unit amount	135.00	135.00	135.00	135.00	120.00	
	Maximum Amount for the Planned unit amount (EUR)	150.00	150.00	150.00	180.00	180.00	
	O.8 (unit: Hectares)	1,400.00	1,400.00	1,400.00	1,400.00	1,400.00	
	Planned output * Planned unit amount	210,000.00	210,000.00	210,000.00	210,000.00	210,000.00	1,050,000.00
TOTAL	O.8 (unit: Hectares)	9,900.00	9,900.00	9,900.00	9,900.00	9,900.00	Sum: 49,500.00 Max: 9,900.00
	Annual indicative financial allocation (Union Contribution in EUR)	1,321,000.00	1,321,000.00	1,321,000.00	1,321,000.00	1,321,000.00	6,605,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)	0.00	0.00	0.00	0.00	0.00	0.00

1.02.516 - Aid for the use of synthetic pheromones in viticulture

Intervention Code (MS)	1.02.516
Intervention Name	Aid for the use of synthetic pheromones in viticulture
Type of Intervention	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare / Art. 31(7)(b) - Compensatory payment
Common Output Indicator	O.8. Number of hectares or of livestock units benefitting from eco-schemes

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The system is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production on the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

CAP AREAS OF ACTION Code + Description

AOA-E protection of biodiversity, conservation or restoration of habitats or species, including maintenance and creation of landscape features or non-productive areas

AOA-F actions for a sustainable and reduced use of pesticides, particularly pesticides that present a risk for human health or environment

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B5.3	Reduce the use of plant protection products and limit the risks and negative effects associated with	P2	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.24 Share of Utilised Agricultural Area (UAA) under supported specific commitments which lead to a sustainable use of pesticides in order to reduce risks and impacts of pesticides, such as pesticides leakage

R.31 Share of utilised agricultural area (UAA) under supported commitments for supporting biodiversity conservation or restoration including high-nature-value farming practices

5 Specific design, requirements and eligibility conditions of the intervention

Description

The objective of the **eco-scheme ‘Bio-control of the worms of the cluster’** is to combat worms of the bunch without the use of insecticides. The main effective components of female sex pheromones are technically produced and packaged in specially designed plastic dispensers. The worms of the male cluster cannot find the ‘trace of pheromone’ emitted by females ready to be fertilised within the pheromone cloud and are ‘disoriented’. As the process is much more expensive than using an insecticide, the additional costs are compensated by the premium.

For this programme, the following pherome-based plant protection products are currently authorised in Luxembourg to control these two species: **ISONET LE or RAK 1 + 2 M.**

This measure significantly reduces the amount of pesticides applied to almost all of the vineyard area and,

in particular, protects bees and other pollinating insects. The detailed requirements are described in the following section.

Description of commitments for eco-scheme

Specific design, requirements

1.1. Description of the method

Only methods based on sexual confusion are eligible for this measure. Sexual confusion occurs using synthetic pheromones, reproducing the hormonal perfume of female butterflies. In this way, a female pheromone sector will be harder for males to find females to mate. This limits the production of eggs and, therefore, of tracks. The female may lay between 50 and 80 eggs. Larvae or tracks consume flower buttons. They can also enter the berries to feed themselves and cause injuries to the berries, which will be risk factors for the development of *Botrytis Cinerea* which affects the quality and quantity of the harvest.

The capsules containing pheromones (also referred to as RAK by the trade name) are installed in the vines, usually in the form of small plastic containers (sprinklers) which are suspended from the wire along the vines. These capsules protect approximately 20 m², so it takes about 500 per hectare (10 000 m²). However, the presence of brownfield sites, tracks and roads increases the number of needed broadcasters whose actual density is often between 550 and 600 units per hectare of vines. However, the density of broadcasters varies according to the product used. Apart from exceptional cases, this technology replaces all the insecticidal treatments required in winegrowing. (Source: Institut Français de la Vigne et du Vin-France, Institut viti-vinicole-Luxembourg) The application of this technique is much more costly than that of insecticides, hence the need to subsidise its use.

1.2. Contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes

The control of the worm of the bunch must be carried out exclusively by dispensers of synthetic pheromones; the spreading of insecticides against this pest is prohibited. This measure makes it possible to substantially reduce the quantity of pesticides applied over almost the entire wine-growing area.

'In order to restore biodiversity in Europe and to promote agricultural production based on ecological services aimed at safeguarding biodiversity, such as biological control of harmful organisms, it is necessary throughout Europe to move to agriculture where the use of pesticides on large areas is limited.'

(Geiger, F. et al. Persistent negative effects of pesticides on biodiversity and biological control potential on European farmland. Basis and Applied Ecology (2010).

This includes the protection of bee populations and other pollinating insects. Indeed, the 2009 EFSA (European Food Safety Authority) project "Bee mortality and bee surveillance in Europe" shows that many factors explain the decline in the bee population. These included bee diseases and parasites, pesticide poisoning, the impact of genetically modified crops and stress due to changes in diet and climatic conditions.

The environmental risks associated with this method are very low compared to the application of insecticides.

1.3. Improve the response of EU agriculture to societal demands on food and health, including safe, nutritious and sustainable food, food waste, as well as animal welfare.

It is proposed to target the massive use of insecticides in viticulture. The measure introduces a 100 % reduction in insecticides used against the worm of the main vine pest. Replace insecticides used in winegrowing with the biological technique of sexual confusion. The fight against the worm of the bunch must be carried out exclusively by pheromone broadcasters; the spreading of insecticides against this pest is prohibited except in cases of extraordinary infestations. The measure results from the implementation of the action plan for plant protection products pursuant to Article 4 of Directive 2009/128/EC of the Parliament and the Council of 21 October 2009 establishing a framework for Community action to

achieve the sustainable use of pesticides.

The action plan provides in its national priorities for encouraging the use of alternative non-chemical methods and which stipulates, in point 6, integrated control of the worm in winegrowing, with the help of disruptive pheromone broadcasters.

1.4. Cross-cutting objective: innovation, knowledge transfer, advice

The technique of sexual confusion (Mating Disruption) is an innovative method of reducing the use of insecticides in viticulture.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

Eligibility conditions:

1. Active farmer
2. GSAA application
3. All permanent crops cultivated and planted with plants of the genus *Vitis* located in the territory of the Grand Duchy of Luxembourg are eligible. (Approximately 1 250 ha of eligible vineyard parcels declared in the Integrated Administration and Control System).
4. The aid scheme referred to involves the granting of annual aid per hectare for the areas on which biological control is applied with distributors of pheromones against the worm of the bunch (*Eupoecilia ambiguella*, *Lobesia botrana*).

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
SMR07	Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC: Article 55, first and second sentence
SMR08	Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: Article 5(2) and Article 8(1) to (5); Article 12 with regard to restrictions on the use of pesticides in protected areas defined on the basis of Directive 2000/60/EC and Natura 2000 legislation; Article 13(1) and (3) on handling and storage of pesticides and disposal of remnants

List of relevant mandatory national standards

The aid will only cover voluntary commitments that go beyond the established mandatory standards.

SMR 8

1. Law of 19 December 2014 on plant protection products

Article 7.

(1) Plant protection products must be used appropriately. Appropriate use shall include the application of the principles of good plant protection practice and compliance with the conditions laid down in the authorisation of plant protection products and indicated on the labelling.

2. Grand-Ducal Regulation of 25 November 2011 – cross-compliance.

The control of vine oidium and mildew is compulsory, except in vineyards with varieties resistant to these diseases. At least unploughed or uncouped of the mauvaisesherb by anet to be carried out in vineyards. This operation may be replaced by herbicide treatment in vineyards which are difficult to mechanise.

The cleaning and filling of sprayers must be carried out in such a way that direct or indirect pollution of surface water and groundwater is avoided. The application of plant protection products should be limited

to the areas under cultivation. Plant protection treatments should not be carried out if climatic conditions are inappropriate for their effectiveness.

Plant protection products must be used in such a way that the maximum levels and conditions of use are complied with.

The destruction by ploughing or total herbicides of herbaceous strips and slopes along rural roads is prohibited.

3. Grand-Ducal Regulation of 26 September 2017 on the sale, use and storage of products plant protection.

Article 7.

Unless the approval provides otherwise, those using products authorised for professional use shall wear appropriate personal protective equipment that is at least equivalent to the equipment recommended on the plant protection product's safety data sheet and label. Employers shall provide personal protective equipment to their employees.

SMR 7

1. Law of 19 December 2014 on plant protection products:

Article 5. Paragraph 2:

Professional users, distributors and advisers must hold a certificate issued by the Minister. Those certificates shall attest, as a minimum, to sufficient knowledge of the subjects listed in Annex I to this Law.

2. Law of 19 December 2014 on plant protection products

Article 8.

(1) Plant protection product application equipment used by professionals must be inspected at regular intervals. The interval between inspections shall not exceed three years.

3. Law of 19 December 2014 on plant protection products

Article 10. Specific measures to protect the aquatic environment and water intended for human consumption.

4. Grand-Ducal Regulation of 9 July 2013 on administrative measures in all protection zones for bodies of groundwater or parts of bodies of groundwater used as a resource for the production of water intended for human consumption,

Annex II

List of active substances whose use is prohibited or restricted in close and remote protection zones.

5. Grand-Ducal Regulation of 26 September 2017 on sale, use and stock

Chapter 2 – Storage of plant protection products authorised for professional use of plant protection products.

6. Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the related mitigation, destruction or deterioration measures.

Amendment, liming, fertilisation, use of biocides or pesticides within a radius of 10 metres around the water surface shall be prohibited.

Link between GAEC, SMR and national standards with the eco-scheme (explain how the eco-scheme goes beyond the baseline, notably for SMR and national standards)

Description of the extent to which commitments exceed the baseline

Entitlement to the annual aid shall be subject to the following conditions:

(a) Combating the worm of the bunch must be carried out exclusively by distributors of synthetic pheromones on the parcels chosen by the farmer.

(b) the spreading of insecticides is therefore in principle prohibited against that pest. However, insecticide treatment is possible if there is a risk of substantial harvest loss and if the populations of the targeted pests increase to render the technique of sexual confusion ineffective. A return to conventional products is necessary to avoid disproportionate economic losses.

However, the farmer must first consult an adviser specialising in wine production who justifies the

abandonment of the synthetic pheroma-based method. The advisor shall draw up a written opinion. The adviser's written opinion shall be kept on the holding.

(D) The application of this measure shall be compulsory for all vineyards in production as soon as grapes are present on the plants.

(e) wine-growing areas which have been replanted during the growing year of the application shall not be eligible.

(f) No aid under this measure may be granted for parcels covered by commitments relating to organic farming. However, the method is mandatory on these parcels.

1.02.516 – aid for the use of synthetic pheromones in viticulture

Objective

The objective of the eco-scheme 'Bio-control of the worms of the cluster' is to combat worms of the bunch without the use of insecticides. The main effective components of female sex pheromones are technically produced and packaged in specially designed plastic dispensers. The worms of the male cluster cannot find the 'trace of pheromone' emitted by females ready to be fertilised within the pheromone cloud and are 'disoriented'. As the process is much more expensive than using an insecticide, the additional costs are compensated by the premium.

Obligations to be complied with

Plant protection products must be used appropriately.

Appropriate use shall include the application of the principles of good plant protection practice and compliance with the conditions laid down in the authorisation of plant protection products and indicated on the labelling.

Food business operators producing or harvesting plant products must take adequate measures to ensure, where appropriate, the correct use of plant protection products and biocides, in accordance with the applicable legislation.

In particular, food business operators producing or harvesting plant products must keep records of any use of plant protection products and biocides (SMR 5).

Requirements and standards

SMR 7 + 8

Explanation of the link between the ecological scheme and cross-compliance

Article 7(1) sentences 1 and 2 of the Law of 19 December 2014 on plant protection products.

Annex I, Part A, II 5 to amended Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs.

The use of phyto-pharmaceutical products is not generally prohibited, but must be carried out in an appropriate manner, in accordance with the regulations. In particular the dose and treatment frequency for authorised crops. For certain products, the product authorisation provides for distances to be respected from watercourses.

General conditions for aid 516

The winegrower is classified as an 'active' farmer, i.e. he has his own farm number.

Applications for aid must be submitted within the time limit laid down by means of the wine census. The application shall be made annually.

The fight against the worms of the cluster must be carried out exclusively by pheromone distributors on the parcels selected by the farmer.

The spreading of insecticides is therefore in principle prohibited against this pest. Insecticide treatment is, however, possible if there is a risk of loss of harvest of more than 5 %, provided that the farmer first consults a wine-growing adviser from the Institute of Viticulture or the Chamber of Agriculture. The advisor shall draw up a written opinion. The adviser's written opinion must be kept on the holding.

The application of this measure is mandatory for all vines in production, as soon as bunches are present on the plants.

Wine-growing areas newly planted during the cultivation year of the application shall not be eligible.

No aid may be granted under this measure for parcels subject to organic farming obligations. However,

the method is mandatory on these parcels.

For the procedure to be effective, the surface treated must be a single surface.

Explanation of the link between the ecological scheme and cross-compliance

The fight against cluster worm using pheromone broadcasters is not a regulatory obligation. The scheme therefore goes beyond the regulatory requirements.

The aid is not compatible with aid for conversion to and maintenance of organic farming where the control of cluster worm with the aid of pheromone broadcasters is an obligation.

7 Range and amounts of support

Description

this is an allowance for additional work and costs inherent in this method compared to insecticide treatment. It must be recognised that the use of insecticides is **easy** and **cheap**. The **biotechnical control** method is **complicated**, **costly** and requires a **good knowledge of pest biology** and the implementation of this control method.

1.1. The amounts and rates of support:

		EUR/ha		
Measurement code	Diagram	Loss of revenue/Cost supp.	<i>Induced Costs</i>	Premium allocated
MAE- RAK	Biological control	EUR 327,69	0	328

1.2. Expertise of additional eligible costs

1.2.1. Reference data

(Sources: KTBL Weinbau und Kellerwirtschaft and current prices in the Grand Duchy of Luxembourg excluding taxes May 2021)

Labour cost	20	EUR/h
Average size of a wine-growing holding (2020)	4,59	ha

1.2.2. Cost of reference treatment (insecticide):

Reference products, treatment cost per ha (2021), strength at BBCH stage 77 (foliar surface area 1.8 m):

Average cost of insecticide treatment per ha		
Details:		
No AgrémentCommercial name	EUR 9,44	
Cost per ha		
L01217-080SUMI ALPHA EUR 12,20/ha		
L01997-062CYTHRINE MAX		EUR/ha (A)

EUR 3,53/ha		
L01515-041KARATE Zeon EUR 12,59/ha		

Note:

Insecticide is treated in combination with products against regular fungal diseases. These applications therefore take place anyway, irrespective of whether or not the vigneron applies an insecticide. Consequently, insecticide control creates an additional cost for the winegrower consisting solely of the purchase price of the plant protection product.

1.2.3. cost of combating biotechnical sex confusion

Calculation and monitoring of temperatures to determine the date of application (1 hour per holding)	4,36	EUR/ha (B)
Monitoring the effectiveness of the method by observing infestation in the first generation (1 hour/ha)	20,00	EUR/ha (C)
Cost of application and collection of broadcasters (see detail = (1) + (2) + (3))		
<i>Details:</i>		
Cost of a broadcaster "L02044-042 RAK I + 2 M"	0,38	EUR/broadcaster
Cost of a "L02045-148 ISONET LE" broadcaster	0,33	EUR/broadcaster
Average cost of a EUR broadcaster:	0,35	EUR/broadcaster
Dosage: 500 diffusers + 10 % treatment of edges (manufacturer's recommendation):	550,00	diff/ha
Cost of equipment	192,78	EUR/ha (I)

per ha: 550 light bulbs per ha:		
Time to apply the method on 1 ha of vines (hours)	3,00	Hours
Labour cost for the application (3 hours/ha):	60,00	EUR/ha(2)
Collection of broadcasters at the end of the season	3,00	Hours
Labour cost for collecting broadcasters (3 hours/ha):	60,00	EUR/ha (3)
	312,78	EUR/ha (D)

1.2.4. additional cost of biological control compared to insecticide reference:

(B) + (C) + (D) – (A) Additional cost	327,69	EUR/ha

8 Additional questions/information specific to the Type of Intervention

N/A

9 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, cf. point 11.
The amount of such payments shall not depend on or be established on the basis of the type or volume of production made by the producer in any year following the base period.
The amount of such payments is neither dependent on nor determined on the basis of domestic or international prices.
The amount of these payments is neither dependent on nor determined on the basis of the factors of production used.
Production is not compulsory in order to be eligible for such aid.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
1.02.516.01 - Measure 516 – Rate per hectare No 1	Uniform		R.24	No

Explanation and Justification (including the flexibility)

1.02.516.01 - Measure 516 – Rate per hectare No 1

This is an allowance for work and additional costs associated with this method compared to insecticide treatment. It must be recognised that the use of insecticides is easy and cheap. The biotechnical control method is complicated, costly and requires a good knowledge of the biology of the pest and the implementation of this control method.

1.1. Aid amounts and rates

EUR/ha				
Measurement code	Diagram	Revenue loss/Cost assumed	Costs incurred	Premium awarded
MAE- RAK	Biological control	EUR 327,69	0	328

1.2. Expertise on additional eligible costs

1.2.1. Reference data

(Source: KTBL Weinbau und Kellerwirtschaft and current prices in the Grand Duchy of Luxembourg excluding taxes May 2021)

Labour costs
EUR 20/ha
Average size of a wine-growing holding (2020)
4.59 ha

1.2.2. Cost of reference treatment (insecticide):

Average cost of insecticide treatment per ha

Details:

Approval and trade name Cost per ha

L01217-080SUMI ALPHA EUR 12,20/ha

L01997-062CYTHRINE MAX EUR 3,53/ha

L01515-041KARATE Zeon EUR 12,59/ha

Average: EUR 9,44/ha (A)

Note:

Insecticide is treated in combination with products against regular fungal diseases. These applications therefore take place anyway, irrespective of whether or not the vineyard applies an insecticide. As a result, insecticide control results in the additional cost for the winegrower consisting solely of the purchase price of the plant protection product.

1.2.3. Cost of the biotechnical control of sexual confusion

Temperature calculation and monitoring to determine the date of application (1 hour per operation): EUR 4,36/ha (B)

Monitoring the effectiveness of the method by observing infestation in the first generation (1 hour/ha): EUR 20/ha (C)

Cost of application and collection of broadcasters (see detail = (1) + (2) + (3))

Details:

Cost of a "L02044-042 RAK 1 + 2 M" broadcaster: EUR 0,38/broadcaster

Cost of a "L02045-148 ISONET LE" broadcaster: EUR 0,33/broadcaster

Average cost of a EUR broadcaster: EUR 0,35/broadcaster

Dosing: 500 nozzles + 10 % border treatment (manufacturer's recommendation): EUR 550/ha (1)

Cost of equipment per ha: 550 light bulbs per ha: EUR 192,78/ha (1)

Time to apply the method on 1 ha of vines (hours): 3 hours

Labour cost for the application (3 hours/ha): EUR 60/ha (2)

Collection of broadcasters at the end of the season: 3 hours

Cost of labour for collecting broadcasters (3 hours/ha): EUR 50/ha (3)

Total: EUR 312,78/ha (D)

1.2.4. Additional cost of biological control compared to insecticide reference:

Additional cost (B) + (C) + (D) – (A): EUR 327,69/ha

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.516.01 - Measure 516 – Rate per hectare No 1	Planned unit amount	328.00	328.00	0.00	0.00	0.00	
	Minimum Amount for the Planned unit amount	295.00	295.00	0.00	0.00	0.00	
	Maximum Amount for the Planned unit amount (EUR)	328.00	328.00	0.00	0.00	0.00	
	O.8 (unit: Hectares)	1,150.00	1,150.00	0.00	0.00	0.00	
	Planned output * Planned unit amount	377,200.00	377,200.00	0.00	0.00	0.00	754,400.00
TOTAL	O.8 (unit: Hectares)	1,150.00	1,150.00	0.00	0.00	0.00	Sum: 2,300.00 Max: 1,150.00
	Annual indicative financial allocation (Union Contribution in EUR)	377,200.00	377,200.00	0.00	0.00	0.00	754,400.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)	0.00	0.00	0.00	0.00	0.00	0.00

1.02.517 - Aid for the establishment of refuge areas on hay meadows

Intervention Code (MS)	1.02.517
Intervention Name	Aid for the establishment of refuge areas on hay meadows
Type of Intervention	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare / Art. 31(7)(b) - Compensatory payment
Common Output Indicator	O.8. Number of hectares or of livestock units benefitting from eco-schemes

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

CAP AREAS OF ACTION Code + Description

AOA-E protection of biodiversity, conservation or restoration of habitats or species, including maintenance and creation of landscape features or non-productive areas

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B6.7	Harmonise existing initiatives to protect biodiversity	P2	Partially

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.31 Share of utilised agricultural area (UAA) under supported commitments for supporting biodiversity conservation or restoration including high-nature-value farming practices

5 Specific design, requirements and eligibility conditions of the intervention

Description

The eco-scheme 'Creating refuge areas in hay meadows' consists of keeping 10 % of the mown area as a refuge area. During mowing, the farmer leaves the grass on 10 % of the area.

These areas are not disturbed by agricultural machinery or fertilised during the works. The creation of such a safe haven has many advantages:

- Plant species that grow later are left in place and provide nectar sources for pollinating insects and enrich the stock of natural seeds of grassland;
- Many insects and other small animals (e.g. mammals) can find refuge there and recolonise the rest of the mown meadow when the grass grows again.
- An unmown area contributes to the overall diversity of the landscape by providing a mosaic of habitats.
- Many insects and other arthropods spend winter inside the grasses, all the more so to reclaim

grassland the following year into larger biomass.

- A safe area may provide an undisturbed area for birds nesting on the ground (partridges, field alouettes, hupped vannees). The location of the refuge area should change from year to year in order to avoid a natural succession on this part of the mowing meadow.

The commitments are described in detail in the following section.

Description of commitments for eco-scheme

The measure consists of the conservation of 10 % of the mown area as a refuge area. During a mowing activity, the farmer leaves 10 % of the grass in place. These 10 % will not be disturbed by agricultural or fertilised machinery during their installation. The creation of such a safe haven has many advantages:

- (1) plant species that grow later are left in place, providing nectare sources for pollinating insects and enriching the stock of natural seeds in grassland;
- (2) many smaller insects and other animals (e.g. mammals) may take refuge in this area and recover the rest of the mown meadow as it grows again,
- (3) an unmown area contributes to the overall diversity of the landscape by providing a mosaic of habitats;
- (4) many insects and other arthropods hibernate inside grasses to better recover grassland into larger biomass next year,
- (5) a safe haven may provide a non-disturbance area for birds nesting on the ground (grey partridges, field alouette, hupped ring). The location of the refuge area may (must) vary from year to year to avoid natural succession on this part of the grassland.

Eligibility conditions:

Be active farmer.

Request in the context of the GSAA.

The measure is applicable on all native hay meadows.

At least 10 % of the surface shall not be cut during the mowing. This part of the plot may vary in location by mowing.

Parcels covered by an application for aid for non-productive strips or for aid for non-productive areas shall be excluded from this scheme.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

See above.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
SMR03	Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds: Article 3(1), Article 3(2), point (b), Article 4(1), (2) and (4)
SMR04	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna: Article 6(1) and (2)

List of relevant mandatory national standards

Basic elements concerning the protection of biodiversity

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the

conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora transposed into national legislation by the Law of 18 August 2018 on the protection of nature and natural resources and the Grand-Ducal Regulation of 1^{August} 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the measures for reduction, destruction or deterioration relating thereto (Annex II):

Structured forest selvages

- *The destruction of the herbaceous hurlet over a width of 2 metres from the shrub stratum, by ploughing or using biocides;*
- *Mowing the herbaceous hemlet before 15 June;*
- *The annual size of the shrub stratum or the annual pruning of the trees;*
- *Pruning of branches, except in the framework of a duly approved selvedge management plan;*
- *Ploughing or turning into the root system, or any other measure affecting the roots.*

Natural watercourses

- *Deepening the bottom of the river;*
- *Removal of meanders;*
- *Consolidation of banks with a view to preventing alluvial dynamics;*
- *Annual mowing, which is not suitable for maintaining the favourable conservation status of the banks and banks of the river, which has the effect of reducing the number, abundance or recovery rate of the characteristic species or of damaging the structure;*
- *Clearing of woody vegetation along rivers;*
- *The annual size of the woody vegetation;*
- *Stirring on more than a third of woody vegetation within three years;*
- *Repetition of the stitching of the same section in a rabbit of less than 10 years;*
- *Modification, liming, fertilisation, use of biocides or pesticides over 10 metres on either side of the river's banks;*
- *Ploughing, turning, filling and clearing over five metres from the banks of the river.*

Standing water

- *Any intervention at the level of the water body and its shores without ministerial authorisation or not provided for in a duly approved management plan;*
- *The modification, liming, fertilisation, use of biocides or pesticides within a radius of 10 metres around the water body;*
- *Ploughing, turning, filling and unpacking within a radius of 10 metres around the water body.*

Permanent rural roads, including herbaceous or wooded strips and slopes

- *Stepping up a permanent earth path;*
- *Covering an unsealed path with a macadam, asphalt, tar or concrete coating;*
- *Destruction of herbaceous strips or slopes along the tracks by ploughing or using biocides or pesticides;*
- *Mowing before 15 June of the lane, strip or slope;*
- *Removal of trees;*
- *Pruning branches to a height of more than four metres;*
- *The annual size of afforestation or hedge;*
- *A definitive reduction in the volume of afforestation or hedge by more than one third.*

Link between GAEC, SMR and national standards with the eco-scheme (explain how the eco-scheme goes beyond the baseline, notably for SMR and national standards)

SMR3 and 4: The measure goes beyond the baseline, as it provides for non-mowing on a part of at least 10 % of the area of the parcels.

1.02.517	Aid for the establishment of refuge areas on hay meadows		
Purpose:	The eco-scheme ‘creation of refuge areas in hay meadows’ consists of keeping 10 % of the area mown as a refuge area. During mowing, the farmer leaves the grass on 10 % of the area. These areas are not disturbed by agricultural machinery or fertilised during the works. The creation of such an area of refuge has many advantages: — Plant species that flower later are left in place and provide sources of nectar to pollinating insects and enrich the natural seed stock of meadows; — Many insects and other small animals (e.g. mammals) can find refuge there and recolonise the rest of the mown meadows when it spreads, — An unmown area contributes to the overall diversity of the landscape by providing a mosaic of habitats, — Many insects and other arthropods spend the winter inside the grass, all the more so to recolonise meadows the following year with larger biomass, — A safe haven can provide an undisturbed area for ground-nesting birds (partridges, field wipers, hopped vanner). The location of the refuge area should change year to year in order to avoid a natural succession to this part of the hay meadow.		
	Obligations to be complied with	Requirements and standards	Explanation of the link between the ecological scheme and cross-compliance
Basic conditions:	Structured forest selvages — The destruction of the herbaceous hurlet over a width of 2 metres from	SMR 3 + 4	For some biotopes, the frequency with which mowing intensity is regulated. These obligations apply to the entire biotope.

	the shrub stratum, by ploughing or using biocides; — Mowing the herbaceous hemlet before 15 June; — The annual size of the shrub stratum or the annual pruning of the trees; — Pruning of branches, except in the framework of a duly approved selvedge management plan; — Ploughing or turning into the root system, or any other measure impacting on roots. Natural watercourses — Deepening the bottom of the river; — Removal of meanders; — Consolidation of banks with a view to preventing alluvial dynamics; — Annual mowing, not suitable for maintaining the favourable conservation status of the banks and banks of the river that reduces the number, abundance or recovery rate of species characteristics or degradation of the structure; — Clearing of woody vegetation along rivers; — The annual size of the woody vegetation; — Stirring on more than a third of woody vegetation within three years; — Repetition of the stitching of the same section in a rabbit of less than 10 years; — Modification, liming, fertilisation,		The obligation not to mow 10 % of the area at each hay reduces the intervention area compared to the base line.

	use of biocides or pesticides over 10 metres and other banks of the river; — Ploughing, turning, backfilling and unlevelling over five metres on either side of the river banks.		
	Standing water — All interventions at the level of the water body and its shores without or without ministerial authorisation provided for in a duly approved management plan; — Amendment, liming, fertilisation, use of biocides or pesticides within a radius of 10 metres around the water body; — Ploughing, turning, filling and unlevelling within a 10-metre radius of the water body. Permanent rural roads, including herbaceous or wooded strips and slopes — The empieration of a permanent earth path; — Covering an unsealed path with a macadam, asphalt, tar coating or concrete; — Destruction of herbaceous strips or slopes along the tracks by ploughing or using biocides or pesticides; — Mowing before 15 June of the lane, strip or slope; Removal of trees; — Pruning branches to a height of		

	more than four metres; — The annual size of afforestation or hedge; — A definitive reduction in the volume of afforestation or hedge by more than one third.		
	Measures on protected biotopes and open environment habitats Overexploitation by mowing or grazing is prohibited. Depending on the protected biotopes, mowing is regulated as follows: European dry heaths Annual mowing, which is not suitable for maintaining the conservation status of the dry heath and has the effect of reducing the number, abundance or recovery rate of the characteristic species or of damaging the structure, with the exception of mechanical control of various competitive plants, such as saddle ferries or patches; Semi-natural dry grasslands and scrubbing facies on limestone (Festuco-Brometalia) (* if there are remarkable orchids) Early or repetitive mowing, which is not suitable for maintaining the favourable conservation status of the dry lawn and has the effect of reducing the number, abundance or recovery rate of the typical species or of damaging the structure; Lean grasslands on sandy and siliceous soils Early or repetitive mowing, several mowing runs per year, not suitable for maintaining the favourable		

	conservation status of the dry lawn and which has the effect of reducing the number, abundance or recovery rate of the typical species or of damaging the structure; Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) Early or overrepetitive mowing, exceeding two mowing passages per year, not suitable for maintaining the favourable conservation status of the lean hay meadow, which has the effect of reducing the rate of covering of characteristic species or of damaging the structure; Calthion wet meadows Early or overrepetitive mowing, exceeding two mowing passages per year, not suitable for maintaining the favourable conservation status of the wet meadows and which has the effect of reducing the recovery rate of the characteristic species or of damaging the structure; Magnocariçaias Annual mowing, which is not suitable for maintaining the favourable conservation status of the cariçay and has the effect of reducing the rate of recovery of characteristic species or of damaging the structure.		
	Magnocariçaias Annual mowing, which is not suitable for maintaining the favourable conservation status of the cariçay and has the effect of reducing the rate of recovery of characteristic species or of damaging the structure.		
General conditions for aid 517:	The farmer is classified as an 'active' farmer, i.e. he has his own holding number.	517	General condition for obtaining aid
	Aid applications must be submitted	517	General condition for obtaining aid

	within the time limits laid down using the area application/vineyard register. The request shall be made annually.		
	The measure applies to all indigenous hay meadows. The eligible crop codes are: Ryegrass – fodder (73) Forage legumes in pure sowing – for fodder (71) Field fodder – mixed with ≥ 55 % legumes, for fodder (174) Arable crops – other, for fodder (74) Ryegrass – energy (307) Forage legumes, pure sown – for energy (308) Arable crops – mixed with ≥ 55 % legumes, for energy (213) Fodder – other, for energy (203) Grassland (not grazed) (77) Mowing grazing (75) Pre-bedding (30 - < 100 B/ha) (375) Grassland/grazing (non-forage) (93) At least 10 % of the surface area shall not be mown during mowing. That unmown part of the parcel does not necessarily have to be of a single contiguous nature, but may be located in several parts of the parcel. The unmown part does not necessarily need to be at the same place on the parcel for each cut. Parcels for which aid for the establishment of non-productive strips or aid for the establishment of non-productive areas is requested	517	The regulatory obligations do not prohibit mowing. The voluntary commitment not to mow at least 10 % of the grassland therefore amounts to the baseline.

	shall be excluded from this scheme.		

7 Range and amounts of support

Description

In order to calculate the economic loss of a refuge area on a parcel of native hay meadows, we use the average of standard products of permanent grassland for the period 2015-2019^[1]. As a result of the farmer's restriction to mowing permanent grassland to a maximum of 90 %, a reduction in production by 10 % will lead to economic losses.

Economic losses = 0.1 * EUR 538/ha = EUR 53,8/ha

^[1] Grand-Ducal Regulation of 19 April 2018 fixing the amounts of standard products used to determine the economic size of an agricultural holding.

The areas declared for the years 2017 to 2021 are:

Codes	Area year 2017 (ha)	Area year 2018 (ha)	Area year 2019 (ha)	Area year 2020 (ha)	Area year 2020 (ha)	Average surface area (ha)
73	581,06	1 072,64	789,24	700,84	537,35	736,23
174	0,00	673,27	1 007,96	1 053,19	1 018,96	750,68
74	9 577,68	9 203,71	8 877,40	9 333,24	9 392,04	9 276,81
307	10,47	24,08	13,67	6,74	0,00	10,99
213	0,00	20,98	1,86	17,07	13,18	10,62
203	113,12	98,89	54,98	103,13	98,20	93,66
77	9 564,29	10 041,97	10 506,24	10 794,64	11 292,05	10 439,84
75	54 401,64	54 249,02	53 634,88	53 566,00	51 577,17	53 485,74
375	0,00	0,00	0,00	0,00	0,00	0,00
93	80,45	70,64	110,40	134,96	256,40	130,57
	74 328,71	75 455,20	74 996,63	75 709,81	74 185,35	74 935,14

Code 375 is new and will only be used as of 2022.

The total area of the crop codes considered has been growing steadily since 2017. The decrease in 2021 is due to the fact that from this year onwards a new crop code was introduced to also identify unmown permanent pasture (areas not eligible for this aid). The area declared in 2021 was 1 757.72 ha. This area was previously declared by the codes given in the table. The reference area to be taken into account is therefore set at 74.000 ha.

The rate per hectare of the aid shall be EUR 50/ha.

8 Additional questions/information specific to the Type of Intervention

N/A

9 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.02.517.01 - Rate per hectare No 1	Uniform		R.31

Explanation and Justification (including the flexibility)

1.02.517.01 - Rate per hectare No 1

In order to calculate the economic loss of a refuge area on a parcel of native hay meadows, we use the average standard permanent grassland products for the period 2015-2019. As a result of the restriction by the farmer to mowing permanent grassland to a maximum of 90 %, a 10 % reduction in production will lead to economic losses.

Economic losses = 0.1 * EUR 538/ha = EUR 53,8/ha

The rate per hectare is fixed at EUR 50/ha.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.517.01 - Rate per hectare No 1	Planned unit amount	50.00	50.00	50.00	50.00	50.00	
	Minimum Amount for the Planned unit amount	45.00	45.00	45.00	45.00	45.00	
	Maximum Amount for the Planned unit amount (EUR)	54.00	54.00	54.00	54.00	54.00	
	O.8 (unit: Hectares)	760.00	760.00	760.00	760.00	760.00	
	Planned output * Planned unit amount	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	190,000.00
TOTAL	O.8 (unit: Hectares)	760.00	760.00	760.00	760.00	760.00	Sum: 3,800.00 Max: 760.00
	Annual indicative financial allocation (Union Contribution in EUR)	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	190,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						

1.02.518 - Aid to encourage the incorporation of manure

Intervention Code (MS)	1.02.518
Intervention Name	Aid to encourage the incorporation of manure
Type of Intervention	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare / Art. 31(7)(b) - Compensatory payment
Common Output Indicator	O.8. Number of hectares or of livestock units benefitting from eco-schemes

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

CAP AREAS OF ACTION Code + Description

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B5.2	Reducing ammonia emissions from the agricultural sector	P1	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.20 Share of utilised agricultural area (UAA) under supported commitments to reduce ammonia emission

5 Specific design, requirements and eligibility conditions of the intervention

Description

The ‘manure incorporation’ eco-scheme aims to reduce ammonia emissions from the application of organic fertilisers on agricultural land by promoting a more environmentally friendly application method.

The relatively rapid incorporation of manure into the soil not only reduces the volatilisation of ammonia, but also favours the mineralisation of organic nitrogen through direct contact with soil fauna. From an economic point of view, more environmentally friendly manure application methods lead to cost savings for mineral fertilisers, as losses are reduced, but lead to additional costs in terms of machinery and labour. It is important to note that the costs of machinery and labour vary depending on the method used.

The detailed description of the commitments is set out in the following point.

Description of commitments for eco-scheme

To mitigate ammonia emissions from the application of organic fertilisers on agricultural land by promoting more environmentally friendly application treatment. The incorporation of relatively fast

manure into the soil not only reduces the volatilisation of ammonia, but also promotes the mineralisation of organic nitrogen through direct contact with soil fauna. From an economic point of view, more environmentally friendly manure application methods save mineral fertiliser costs as losses are reduced, but this creates additional costs in terms of machinery and labour. It is important to note that the costs of machinery and labour vary according to the method applied.

Eligibility conditions:

Be an active farmer.

Request assistance in the framework of the GSAA.

The measure is applicable to all indigenous arable land. It refers to the incorporation of manure in the autumn, following the harvest of the (main) crop in the current year; in spring, before the summer crop is sown.

The following shall be regarded as manure under this scheme:

- Solid fraction of slurry or digestate
- Poultry fientes
- Poultry manure
- Pig manure
- Soft bovine manure (< 14 % TS)
- Bovine manure (> 14 % TS)
- Horse, sheep, goat manure
- Rabbit manure
- Solid scrubbing sludge
- Compost

Manure from the farm applied to bare land must be incorporated into the soil within 4 hours of spreading. The premium is paid per hectare, on the basis of an application of 30 tonnes of manure per hectare.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

See above.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5

List of relevant mandatory national standards

The action plan provided for in Annex III to the NEC Directive is intended in the short term first to voluntary measures (period up to 2025), so it does not yet have any obligations in relation to the application of organic nitrogen fertilisers.

- Eco-conditionality: Luxembourg as a whole is regarded as a 'sensitive area' within the meaning of the Nitrates Directive, in addition (Law of 2012)
- Nitrogen fertilisation (N) is limited from 160 to 300 UN/ha/year depending on the crop with a maximum of 170 organic UN (i.e. 25-30 T of manure, or 45-50 m³ of bovine manure or 25-30 m³ of pig manure, or 2,35 LU/ha)
- No mandatory limitation on phosphate (P) or potash (K) inputs
- No mandatory soil analysis

Link between GAEC, SMR and national standards with the eco-scheme (explain how the eco-scheme goes beyond the baseline, notably for SMR and national standards)

Incorporation of manure

There are no regulations on the incorporation of manure. Only the spreading of liquid slurry, purin and sewage sludge is regulated with regard to time limits for incorporation into the soil.

Article 6 of the amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture:

The spreading of liquid slurry, purin and sewage sludge on sloping floors shall be carried out in such a way that there is no run-off outside the field of application, taking into account in particular:

- *the nature and tillage of the ground;*
- *The direction in which the vegetation cover is located;*
- *Climatic conditions corresponding to the possible periods of land application;*
- *The nature of the fertilising products.*

On land with an average slope of more than 8 % and not covered by vegetation, the spreading of mineral nitrogen fertilisers, slurry, purin and liquid sewage sludge shall be prohibited unless this is followed by incorporation no later than 48 hours after its application.

On land with an average slope of more than 15 % and less than 30 metres apart from a watercourse, the application of mineral nitrogen or organic fertilisers shall be prohibited, unless the land has a grassland strip at least 6 metres wide downstream of the land or is separated from the river by meadow or permanent pasture.

Manure storage:

The storage of manure on agricultural land shall be prohibited:

- *Less than 20 metres from premises inhabited or occupied by third parties and establishments receiving the public and 5 metres from neighbouring land unless agreed between the parties concerned;*
- *Less than 10 metres from the banks of a permanent or temporary watercourse and of a water body;*
- *Less than 50 metres from main ducts, wells, abstractions and water reservoirs for drinking water supply;*
- *In immediate or close protection zones;*
- *In health protection zones I and II of the Esch-sur-Sûre dam.*

The storage time on a non-consolidated area (storage on agricultural land) must not exceed 2 consecutive plant periods in the same location. Storage can only take place every 5 years at the same location. In remote protection zones, storage can only take place every 5 years in the same place. The maximum storage period is 9 months.

LA1.02.518	Aid to encourage the incorporation of manure		
Purpose:	The 'manure incorporation' eco-scheme aims to reduce ammonia emissions from the application of organic fertilisers on agricultural land, which aims to promote a more environmentally friendly application		

	method. The relatively rapid incorporation of manure into the soil not only reduces the volatilisation of ammonia, but also favours the mineralisation of organic nitrogen through direct contact with soil fauna.		
	Obligations to be complied with	Requirements and standards	Explanation of the link between the ecological scheme and cross-compliance
Basic conditions:	Incorporation of manure There are no regulations on the incorporation of manure. Only the spreading of liquid slurry, purin and sewage sludge is regulated with regard to time limits for incorporation into the soil. Article 6 of the amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture: The spreading of liquid slurry, purin and sewage sludge on sloping floors shall be carried out in such a way that there is no run-off outside the field of application, taking into account in particular: — the nature and tillage of the ground; — the direction in which the vegetation cover is located; — climatic conditions corresponding to the possible periods of land application; — the nature of the fertilising products. On land with an average slope of more than 8 % and not covered by vegetation, the spreading of mineral nitrogen fertilisers, slurry, purin and liquid sewage sludge is prohibited unless it is followed by incorporation no later	SMR 2	The obligations relating to Directive 91/676/EEC on nitrates and transposed by the amended Grand-Ducal Regulation of 24 November 2000 relate essentially to the loss of nitrates by leaching to surface and groundwater. The obligation to incorporate manure within 4 hours further reduces the risk of nitrate leaching. However, the main objective is to reduce ammonia emissions to the atmosphere through volatilisation.

	than 48 hours after its application. On land with an average slope of more than 15 % and less than 30 metres apart from a watercourse, the application of mineral nitrogen or organic fertilisers shall be prohibited, unless the land has a grassland strip at least 6 metres wide downstream of the land or is separated from the river by meadow or permanent pasture.		
	Manure storage: The storage of manure on agricultural land shall be prohibited: — less than 20 metres from premises inhabited or occupied by third parties and establishments receiving the public and 5 metres from neighbouring land unless agreed between the parties concerned; — less than 10 metres from the banks of a permanent or temporary watercourse and of a water body; — less than 50 metres from main ducts, wells, abstractions and water reservoirs for drinking water supply; — in immediate or close protection zones; — in health protection zones I and II of the Esch-sur-Sûre dam. The storage time on a non-consolidated area (storage on agricultural land) must not exceed 2 consecutive plant periods in the same location. Storage cannot be carried out do it only every 5 years at the same location. In remote protection zones, storage can only take place every 5 years in the same place. The maximum storage period is 9 months.		
General conditions for aid 518:	The farmer is classified as an 'active' farmer, i.e. he has his own holding number.	518	General condition for obtaining aid

	Applications for aid must be submitted within the time limits laid down in the area application. The request shall be made annually.	518	General condition for obtaining aid
	The measure is applicable to all indigenous arable land. It covers the burial of livestock manure, either in autumn, after the main crop is harvested in the current year, or in spring, before the summer crop is sown. Manure from the holding applied to bare land must be incorporated within 4 hours of spreading.	518	The 4-hour leak time is not an obligation at baseline level.

7 Range and amounts of support

Description

The economic justification is partly based on the MBR tariffs (2018) to determine the additional costs of a complementary shift for tillage. The premium for spreading slurry and manure application with immediate soil incorporation is based on mechanisation costs (1st passage) and labour costs, assuming a working time of two hours per hectare.

Costs = 2 h/ha * EUR 16/h injection + 2h * EUR 15 labour = EUR 62/ha.

The aid per hectare shall be EUR 60/ha.

8 Additional questions/information specific to the Type of Intervention

N/A

9 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.02.518.01 - Rate per hectare No 1	Uniform		R.20

Explanation and Justification (including the flexibility)

1.02.518.01 - Rate per hectare No 1

The economic justification is partly based on MBR's (2018) tariffs to determine the additional costs of an additional shift for tillage. The premium for spreading slurry and manure with immediate incorporation into the soil is based on mechanisation costs (1 passage) and labour costs, assuming a working time of two hours per hectare.

Costs = 2h/ha * EUR 16/h injection + 2h * EUR 15 labour = EUR 62/ha

The aid per hectare is fixed at EUR 60/ha.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.518.01 - Rate per hectare No 1	Planned unit amount	60.00	60.00	60.00	60.00	60.00	
	Minimum Amount for the Planned unit amount	54.00	54.00	54.00	54.00	54.00	
	Maximum Amount for the Planned unit amount (EUR)	62.00	62.00	62.00	72.00	72.00	
	O.8 (unit: Hectares)	5,198.98	5,198.98	5,198.98	5,198.98	5,198.98	
	Planned output * Planned unit amount	311,938.80	311,938.80	311,938.80	311,938.80	311,938.80	1,559,694.00
TOTAL	O.8 (unit: Hectares)	5,198.98	5,198.98	5,198.98	5,198.98	5,198.98	Sum: 25,994.90 Max: 5,198.98
	Annual indicative financial allocation (Union Contribution in EUR)	311,938.80	311,938.80	311,938.80	311,938.80	311,938.80	1,559,694.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						

1.02.519 - Aid for the use of arboriculture synthetic pheromone nozzles

Intervention Code (MS)	1.02.519
Intervention Name	Aid for the use of arboriculture synthetic pheromone nozzles
Type of Intervention	Eco-scheme(31) - Schemes for the climate, the environment and animal welfare / Art. 31(7)(b) - Compensatory payment
Common Output Indicator	O.8. Number of hectares or of livestock units benefitting from eco-schemes

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

CAP AREAS OF ACTION Code + Description

AOA-E protection of biodiversity, conservation or restoration of habitats or species, including maintenance and creation of landscape features or non-productive areas

AOA-F actions for a sustainable and reduced use of pesticides, particularly pesticides that present a risk for human health or environment

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B5.3	Reduce the use of plant protection products and limit the risks and negative effects associated with	P2	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.24 Share of Utilised Agricultural Area (UAA) under supported specific commitments which lead to a sustainable use of pesticides in order to reduce risks and impacts of pesticides, such as pesticides leakage

R.31 Share of utilised agricultural area (UAA) under supported commitments for supporting biodiversity conservation or restoration including high-nature-value farming practices

5 Specific design, requirements and eligibility conditions of the intervention

Description

The objective of the **ecological scheme “Organic control of pests in arboriculture”** is to control pests by abandoning insecticides.

Only methods based on sexual confusion are relevant for this measure. Sexual confusion is caused by the use of synthetic pheromones, the attractive effect of which is that of the natural pheromone emitted by females. Thus, an area is saturated with female pheromones, where it is more difficult for males to find

females for mating. The males are thus disoriented: they no longer find the females, which reduces mating and laying of eggs. The population of pests is therefore naturally decreasing.

This principle is used in arboriculture to control apple and pear carpocapsis (*Cydia pomonella*), apple carpocapsis (of the Tortricidae family) and Eastern peach scraper (*Grapholita molesta*), which also causes damage to the plantations of pear trees, apple trees, cognassiers, apricot trees and plums.

Pheromone capsules (also known as RAK) are usually suspended from trees in the form of small plastic containers (nozzles). These capsules protect about 20 m², which means that around 500 per hectare (10.000 m²) are needed. However, the presence of brownfield sites, roads and roads increases the number of broadcasters needed, so that the actual density is often between 550 and 600 units per hectare. This technology preserves populations of useful insects and, except in exceptional cases, replaces all necessary insecticide treatments. The application of this technique is much more costly than the application of insecticides, which is why its use must be subsidised.

This significantly reduces the amount of pesticides applied, including the protection of bees and other pollinating insects.

The detailed commitments are described in the following paragraph.

Description of commitments for eco-scheme

1. Description of the design/requirements of the intervention that ensure effective contribution to the Specific Objective (s)

1.2. Description of the methods

Only methods based on sexual confusion are eligible for this measure. Sexual confusion occurs by using synthetic pheromones, reproducing the hormonal fragrance of female butterflies. This saves a female pheromone sector, where it will be more difficult for males to find females to mate.

The aim is to disseminate a synthetic pheromone, the attractiveness of which is equivalent to that of the natural pheromone emitted by the female. Males are then disoriented: they no longer return to females, reducing mating and laying. This naturally reduces the pest population.

The principle is applied in tree farming to control apple and pear carpocapsis (*Cydia pomonella*), apple muddy (of the tortricidae family) and eastern fish muddy (*Grapholita molesta*), which is also used in plantations of pear trees, apple trees, cognassiers (quinces), apricotiers and pruners.

Capsules containing pheromones (also known as RAK by the trade name) are installed, usually in the form of small plastic containers (the sprinklers) which are suspended from the trees. These capsules protect about 20 m², so approximately 500 per hectare (10 000 m²) are needed. However, the presence of brownfields, tracks and roads increases the number of broadcasters needed, the actual density of which is often between 550 and 600 units per hectare. This technology preserves populations of auxiliary insects and, except in exceptional cases, replaces all necessary insecticidal treatments.

The use of this technique is much more costly than the use of insecticides, hence the need to subsidise its use.

2. Contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes

The control of apple and pear carpocapsis, apple and eastern fish must be carried out exclusively by synthetic pheromones; the application of insecticides against these pests is prohibited. This measure makes it possible to substantially reduce the amount of pesticides applied to almost the entire tree area.

“In order to restore biodiversity in Europe and to promote agricultural production based on ecological services aimed at safeguarding biodiversity, such as biological control of pests, we need to move across Europe to agriculture where the use of pesticides on large areas is limited.”

(Geiger, F. et al. Persistent negative effects of pesticides on biodiversity and biological control potential on European farmland. *Basis and Applied Ecology* (2010).

In particular, this measure protects populations of bees and other pollinating insects. Indeed, the 2009 EFSA (European Food Safety Authority) project entitled ‘Bee mortality and bee surveillance in Europe’ shows that many factors explain the decline of the bee population. These included bee diseases and pests, pesticide poisoning, the impact of genetically modified crops and stress linked to changes in food and climatic conditions.

The environmental risks associated with this method are very low compared to the application of insecticidal substances.

3. Improve the response of EU agriculture to societal demands on food and health, including safe, nutritious and sustainable food, food waste, as well as animal welfare.

It is proposed to target the massive use of insecticides in tree farming. The measure introduces a 100 % reduction in insecticides used against apple and pear carpocapsis, apple muddy and eastern shrub. Replace insecticides used in tree farming with the biological technique of sexual confusion. Pest control must be carried out exclusively by synthetic pheromones; the application of insecticides against the carpocapsis of apples and pears, the muddy of apples and the eastern dock of the fish is prohibited except in cases of extraordinary infestations.

The measure results from the implementation of the action plan on plant protection products pursuant to Article 4 of Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides. The action plan foresees in its national priorities the promotion of the use of alternative non-chemical methods, which stipulates in 5.6.1,1 the use of specific pheromones in the control of certain pests.

4. Cross-cutting objectives: innovation, knowledge transfer, advice

The technique of sex confusion (Mating Disruption) is an innovative method that reduces the use of insecticides in tree farming.

Eligibility

1. Active farmer
2. All tree parcels located on the territory of the Grand Duchy of Luxembourg are eligible.
3. The aid scheme in question includes the granting of annual aid per hectare for areas on which biological control is applied with pheromone broadcasters against, respectively, apple and pear carpocapsis (*Cydia pomonella*), apple litter (of the tortricidae family) and eastern fish muddock (*Grapholita molesta*).
4. The pest control referred to in point 3 must be carried out exclusively by synthetic pheromones on the parcels chosen by the operator. However, insecticide treatment is possible if there is a risk of substantial harvest loss and the populations of the target pests increase in order to render the technique of sexual confusion ineffective. A return to conventional products is necessary to avoid disproportionate economic losses. However, the farmer must first consult an advisor specialising in fruit production who justifies abandoning the synthetic pheromone method. The adviser shall draw up a written opinion. The adviser's written opinion must be kept on the holding.
6. The application of this measure is mandatory before the start of flights of the 1st generation of pests.
7. Parcels must have the minimum density of sprinklers per hectare as prescribed by the producer of the product. The density is increased by 10 % in the case of borders.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

See above.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description

SMR07	Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC: Article 55, first and second sentence
SMR08	Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: Article 5(2) and Article 8(1) to (5); Article 12 with regard to restrictions on the use of pesticides in protected areas defined on the basis of Directive 2000/60/EC and Natura 2000 legislation; Article 13(1) and (3) on handling and storage of pesticides and disposal of remnants

List of relevant mandatory national standards

The aid will only cover voluntary commitments that go beyond the established mandatory standards.

SMR 8

1. Law of 19 December 2014 on plant protection products

Article 7.

(1) Plant protection products shall be used properly. Appropriate use includes the application of the principles of good plant protection practice and compliance with the conditions laid down in the authorisation of plant protection products and mentioned on the labelling.

2. Grand-Ducal Regulation of 25 November 2011 – cross-compliance.

The control of oidium and mildiou of the vine is mandatory, except in vineyards with varieties resistant to these diseases. At least untillage or unecoupe of the mauvaises herbes per anet is to be carried out in vineyards, which may be replaced by herbicide treatment in vineyards which are difficult to mechanise.

The cleaning and filling of sprayers shall be carried out in such a way that direct or indirect pollution of surface water and groundwater is avoided.

The application of plant protection products should be limited to cultivated areas.

Plant protection treatments should not be carried out if climatic conditions are inappropriate for their efficacy.

Plant protection products must be used in such a way that maximum levels and conditions of use are respected.

Destruction by ploughing or total herbicides of herbaceous strips and slopes along rural roads is prohibited

3. Grand-Ducal Regulation of 26 September 2017 on the sale, use and storage of plant protection products.

Article 7.

Unless the approval provides otherwise, those using products authorised for professional use shall wear appropriate personal protective equipment that is at least equivalent to the equipment recommended on the plant protection product's safety data sheet and label. Employers shall provide personal protective equipment to their employees.

SMR 7

1. Law of 19 December 2014 on plant protection products:

Article 5. Paragraph 2:

Professional users, distributors and advisers must hold a certificate issued by the Minister. Those certificates shall, as a minimum, attest to sufficient knowledge of the subjects listed in Annex I to this Law.

2. Law of 19 December 2014 on plant protection products

Article 8.

(1) Equipment for the application of plant protection products used by professionals must be inspected at regular intervals. The interval between inspections shall not exceed three years.

3. Law of 19 December 2014 on plant protection products

Article 10. Specific measures for the protection of the aquatic environment and water intended for human consumption.

4. Grand-Ducal Regulation of 9 July 2013 on administrative measures in all protection zones for bodies of groundwater or parts of bodies of groundwater used as a resource for the production of water intended for human consumption,

Appendix II

List of active substances whose use is prohibited or restricted in close and remote protection zones.

5. Grand-Ducal Regulation of 26 September 2017 on the sale, use and stock

Chapter 2 – Storage of plant protection products authorised for professional use of plant protection products.

6. Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the related reduction, destruction or deterioration measures.

The amendment, liming, fertilisation, use of biocides or pesticides within a 10-metre radius around the water body is prohibited.

Link between GAEC, SMR and national standards with the eco-scheme (explain how the eco-scheme goes beyond the baseline, notably for SMR and national standards)

Description of the extent to which the commitments exceed the baseline

Entitlement to annual aid shall be subject to compliance with the following conditions:

(a) pest control must be carried out exclusively by synthetic pheromone broadcasters on the parcels chosen by the farmer.

(b) the spreading of insecticides is therefore in principle prohibited against this pest. However, insecticide treatment is possible if there is a risk of a substantial higher harvest loss provided that the farmer first consults an adviser from the Administration des Services Techniques de l'Agriculture (ASTA) or the Chamber of Agriculture. The adviser shall draw up a written opinion. The written opinion of the adviser shall be kept on the holding.

(D) The application of this measure is mandatory for all plantations in production as soon as fruit is present on the trees.

(e) Areas under tree cultivation which have been replanted during the crop year of the application shall not be eligible.

1.02.519	Aid for the use of arboriculture synthetic pheromone nozzles		
Purpose:	The objective of the ecological scheme “Organic pest control in arboriculture” is to control pests without using insecticides. Only methods based on sexual confusion are relevant for this measure. Sexual confusion is caused by the use of synthetic pheromones, the attractive effect of which is that of the natural pheromone emitted by females. Thus, an area is saturated with female pheromones, where it is more difficult for males to find females for mating. The males are thus disoriented: they no longer find the females, which reduces mating and laying of eggs. The population of pests is therefore naturally decreasing.		

	Obligations to be complied with	Requirements and standards	Explanation of the link between the ecological scheme and cross-compliance
Basic conditions:	Plant protection products shall be used properly. Appropriate use includes the application of the principles of good plant protection practice and compliance with the conditions laid down in the authorisation of plant protection products and mentioned on the labelling. Food business operators producing or harvesting plant products must take appropriate measures to ensure, where appropriate, the correct use of plant protection products and biocides, in accordance with the applicable legislation. In particular, food business operators producing or harvesting plant products must keep records of any use of plant protection products and biocides (SMR 5).	SMR 7 + 8	Article 7(1), sentences 1 and 2 of the Law of 19 December 2014 on plant protection products Annex I, Part A, II 5 to Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs, as amended The use of phyto-pharmaceutical products is not generally prohibited, but must be carried out in an appropriate manner, in accordance with the rules. This includes the dose and frequency of treatment for authorised crops. For certain products, product authorisation provides for distances to be respected from watercourses beyond the ban on the use of pesticides and biocides 10 metres away from the river.
General conditions for aid 519:	The tree farmer is classified as an “active” farmer, i.e. he has his own farm number.	516	General condition for obtaining aid
	Applications for aid must be submitted within the time limits laid down using the vineyard census. The request shall be made annually.	516	General condition for obtaining aid
	All parcels of fruit trees located in the territory of the Grand Duchy of Luxembourg are eligible according to the crop codes defined in the NSP. The aid scheme provides for an annual aid per hectare for areas on which biological control is carried out by pheromone sprinklers against apple and pear carpocapsis (<i>Cydia pomonella</i>), apple carpocapse (<i>Tortricidae</i> family) and Eastern	516	The control of insect pests by means of pheromone nozzles is not a regulatory obligation. The scheme therefore exceeds the regulatory requirements. The aid is compatible with aid for conversion to and maintenance of organic farming or control of insect pests using pheromone nozzles is not an obligation.

	peach scraper (<i>Grapholita molesta</i>). Pest control referred to in point 3 must be carried out exclusively by diffusers of synthetic pheromones on the parcels selected by the farmer. However, insecticide treatment is possible if there is a risk of loss of harvesting of more than 5 %, provided that the farmer consults a specialist in arboriculture in advance. The adviser shall draw up a written opinion. The written opinion of the adviser must be kept on the farm. The application of this measure is mandatory before the start of the first generation of pest flights. The parcels must have a minimum density of 500 broadcasters per hectare. This density is increased by 10 % in the case of peripheral strips.		

7 Range and amounts of support

Description

This is an allowance for work and additional costs inherent in this method **compared** to insecticide treatment. It has to be realised that the use of insecticides is **easy** and cheap. **The** method of biotechnical control is **complicated** and costly and requires a **good knowledge of the biology** of the pest and the implementation of this control method.

1.1. aid amounts and rates:

		EUR/ha		
Measurement code	Diagram	Loss of revenue/Cost supp.	<i>Costs incurred</i>	Premium allocated
MAE- RAK-ARB	Biological control	EUR 447,69	0	EUR 350

1.2. expert assessment of the additional eligible costs

1.2.1. reference data

(Sources: KTBL Obstbau Betriebswirtschaftliche und produktionstechnische Kalkulationen and current prices in the Grand Duchy of Luxembourg excluding taxes May 2021)

Labour costs	20	EUR/h
Average size of an arboriculture farm (2020)	3,78	ha

1.2.2. cost of reference treatment (insecticide):

Reference products, processing cost per ha (2021), 3 applications:

Average cost of insecticide treatment per ha		
Details:		
N°. Approval Commercial name Cost per ha		
L02083-083 Coragen EUR 41,51/ha	82,79	
L00689-017 Decis EC EUR 2.5 16,48/ha		
L01551-083 Steward EUR 24,80/ha		EUR/ha (A)

Remark:

Insecticide is treated in combination with products against regular fungal diseases. These applications therefore take place anyway, regardless of whether or not ‘arboricultor’ applies an insecticide. As a result, insecticide control generates an additional cost consisting solely of the purchase price of the plant protection product.

1.2.3. cost of combating sexual confusion biotechnics

Calculation and monitoring of temperatures in order to determine the date of application (1 hour per holding)	5,28	EUR/ha (B)
Control of the effectiveness of the method by observing infestation in the first generation (1 hour/ha)	20,00	EUR/ha (C)
Cost of application and collection of broadcasters (see detail = (1) + (2) + (3))		
Details:		
Cost of a broadcaster “RAK	0,59	EUR/broadcaster

3 + 4, BE: 9801p/B approved in accordance with Article 40 (2) of Regulation (EC) 1107”		
Determination of: 500 broadcasters + 10 % border treatment (manufacturer’s recommendation):	550,00	diff/ha
Cost of equipment per ha: 550 light bulbs per ha:	325,20	EUR/ha (1)
Time to apply the 1 ha orchard method (hours)	4,50	Hours
Labour cost for application (3 hours/ha):	90,00	EUR/ha (2)
Collection of broadcasters at the end of the season	4,500	Hours
Cost of labour for collecting broadcasters (3 hours/ha):	90,00	EUR/ha (3)
	505,20	EUR/ha (D)

1.2.4. additional cost of biological control compared to insecticide reference:

(B) + (C) + (D) – (A) Additional cost	447,69	EUR/ha

8 Additional questions/information specific to the Type of Intervention

N/A

9 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.02.519.01 - Rate per hectare No 1	Uniform		R.24

Explanation and Justification (including the flexibility)

1.02.519.01 - Rate per hectare No 1

This is an allowance for work and additional costs associated with this method **compared** to insecticide treatment. It must be recognised that the use of insecticides is **easy** and cheap. **The biotechnical control** method is **complicated**, **costly** and requires a **good knowledge of the biology** of the pest and the implementation of this control method.

1.1.aid amounts and rates:

		EUR/ha		
Measurement code	Diagram	Revenue loss/Cost assumed	<i>Costs incurred</i>	Premium awarded
MAE- RAK-ARB	Biological control	EUR 447,69	0	EUR 350

The maximum and minimum amounts were set arbitrarily in the absence of historical data. They represent respectively + 10 % and -10 % of the unit amount.

1.2.expertise on additional eligible costs

1.2.1. reference data

(Source: KTBL Obstbau Betriebswirtschaftliche und produktionstechnische Kalkulationen and current prices in the Grand Duchy of Luxembourg excluding taxes May 2021)

Labour costs	20	EUR/h
Average size of an tree farm (2020)	3,78	ha

1.2.2.cost of reference treatment (insecticide):

Referenceproducts, cost of treatment per ha (2021), 3 applications:

Average cost of insecticide treatment per ha		
Details:	82,79	
No. Marketing name Cost per ha		

L02083-083 Coragen EUR 41,51/ha		
L00689-017 Decis EC EUR 2.5 16,48/ha		
L01551-083 Steward EUR 24,80/ha		EUR/ha (A)

Note:

Insecticide is treated in combination with products against regular fungal diseases. These applications therefore take place anyway, irrespective of whether or not an insecticide is applied. As a result, insecticide control entails an additional cost consisting solely of the purchase price of the plant protection product.

1.2.3. cost of biotechnical control of sexual confusion

Temperature calculation and monitoring to determine the date of application (1 hour per operation)	5,28	EUR/ha (B)
Monitoring the effectiveness of the method by observing infestation in the first generation (1 hour/ha)	20,00	EUR/ha (C)
Cost of application and collection of broadcasters (see detail = (1) + (2) + (3))		

<i>Details:</i>		
<i>Cost of a broadcaster “RAK 3 + 4, BE: 9801p/B approved in accordance with Article 40 (2) of Regulation (EC) No 1107”</i>	<i>0,59</i>	<i>EUR/broadcaster</i>
<i>Dosing: 500 nozzles + 10 % border treatment (manufacturer’s recommendation):</i>	<i>550,00</i>	<i>diff/ha</i>
<i>Cost of equipment per ha: 550 light bulbs per ha:</i>	325,20	<i>EUR/ha (1)</i>
<i>Time to apply the method on 1 ha of orchard (hours)</i>	<i>4,50</i>	<i>Hours</i>
<i>Labour cost for the application (3 hours/ha):</i>	90,00	<i>EUR/ha (2)</i>
<i>Collection of broadcasters at the end of the season</i>	<i>4,500</i>	<i>Hours</i>
<i>Cost of labour for collecting broadcasters (3 hours/ha):</i>	90,00	<i>EUR/ha (3)</i>
	505,20	EUR/ha (D)

1.2.4. additional cost of biological control compared to insecticide reference:

(B) + (C) + (D) – (A) Additional cost	447,69	EUR/ha

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.519.01 - Rate per hectare No 1	Planned unit amount	350.00	350.00	350.00	350.00	350.00	
	Minimum Amount for the Planned unit amount	315.00	315.00	315.00	315.00	315.00	
	Maximum Amount for the Planned unit amount (EUR)	385.00	385.00	385.00	385.00	385.00	
	O.8 (unit: Hectares)	80.00	80.00	80.00	80.00	80.00	
	Planned output * Planned unit amount	28,000.00	28,000.00	28,000.00	28,000.00	28,000.00	140,000.00
TOTAL	O.8 (unit: Hectares)	80.00	80.00	80.00	80.00	80.00	Sum: 400.00 Max: 80.00
	Annual indicative financial allocation (Union Contribution in EUR)	28,000.00	28,000.00	28,000.00	28,000.00	28,000.00	140,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						

CIS(32) - Coupled income support

1.03.503 - Coupled aid for legumes

Intervention Code (MS)	1.03.503
Intervention Name	Coupled aid for legumes
Type of Intervention	CIS(32) - Coupled income support
Common Output Indicator	O.10. Number of hectares benefitting from coupled income support

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO2 Enhance market orientation and increase farm competitiveness, both in the short and long term, including greater focus on research, technology and digitalisation

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B2.1	Strengthen the market orientation of agricultural, wine and market gardening production.	P2	Partially
B4.6	Improving feed autonomy	P3	Partially
B5.4	Ensuring soil fertility and combating soil degradation	P2	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.8 Share of farms benefitting from coupled income support for improving competitiveness, sustainability or quality

5 Specific design, requirements and eligibility conditions of the intervention

Description

The introduction of fodder legumes contributes positively to sustainable agriculture, reduces dependence on imports of protein crops and could benefit the attenuation of climate change.

The production of plants with a high protein content makes it possible to limit the import of soya cakes on which Luxembourg is increasingly dependent. The environmental advantage here is to limit greenhouse gas (GHG) emissions from the agricultural sector by reducing transport distances, given that the vast majority of soya comes from the American continent.

Protein crops make it possible, by virtue of their ability to capture nitrogen in the air (symbiotic nitrogen

fixation), to limit additional mineral or organic nitrogen to near zero. This makes it possible to reduce nitrogen inputs and thus reduce polluting discharges. In addition, this makes it possible to limit the consumption of fossil fuels, which are inexorably scarce. Finally, lower consumption of synthetic fertilisers reduces greenhouse gas emissions from the agricultural sector.

Furthermore, with the introduction of protein crops in cereal rotation, a non-host crop for cereal diseases is introduced. This reduces the susceptibility of rotation to diseases, which has the beneficial effect of reducing the use of harmful plant protection products.

Thus, the intervention contributes to the following objective:

* strengthen market orientation and increase the competitiveness of farms in the short and long term, including a stronger focus on research, technology and digitalisation.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

Coupled support for legumes shall be granted to farmers provided that the following conditions are met:

1. They are active farmers.
2. They shall apply for support.

The following crops are eligible for coupled support for legumes:

1. Pulses, pure or mixed with cereals

Soya cultivation is not eligible for aid.

In the case of a mixture of cereals and legumes, the legume (s) must represent at least 60 % by weight in the seed mixture.

2. Legumes mixed with grasses

In the case of a mixture of grasses and legumes, the legume (s) must represent at least 55 % by weight in the seed mixture.

It should be noted that leguminous crops harvested before the seeds mature as green vegetables (e.g. peas, green beans, etc.) are not included in the category of protein crops.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

N/A

7 Range and amounts of support

Description

The aid is aid per hectare for the areas committed.

The annual rate per hectare shall be expressed as the amount of support per hectare. The financial requirement is assessed annually on the basis of eligible areas. If the ceiling is exceeded, the rates referred to above shall be reduced proportionately.

The historical leguminous areas are as follows:

Years	Pure legumes or leguminous mixtures/cereals (ha)	Leguminous/grass mixtures (ha)
2017	1747,97	[No data]
2018	1533,02	694,25
2019	1468,61	1 009,82
2020	1518,87	1 070,26
2021	1484,90	1 032,14

Mean	1550,67	951,62

The maximum landmark reference area shall be $1\,500 + 1\,000 = 2\,500$ hectares.

The single rate is a weighted rate and takes into account the economic justification: $[(1\,500 \times 144) + (1000 \times 106)]/2500 = \text{EUR } 128,8/\text{ha}$

The annual rate per hectare shall be expressed as the amount of support per hectare. The financial requirement is assessed annually on the basis of eligible areas. If the ceiling is exceeded, the rates referred to above shall be reduced proportionately.

8 Additional questions/information specific to the Type of Intervention

Justification of the difficulty(ies) that the targeted sector(s)/production(s) or type(s) of farming therein undergo.

The economic point of view is the main obstacle to the maintenance of protein crop cultivation, which suffers from competition from more remunerative cereals and oilseeds.

What is the aim of the intervention with regard to the targeted sector(s)/production(s) or type(s) of farming therein?

☒ to improve competitiveness

☐ to improve quality

☒ to improve sustainability'

How will the intervention address the identified difficulty(ies) by this aim (i.e. explanation about the targeting)?

The aim of the premium is to stop the fall in the cultivation areas of pure and fodder legumes. For this reason, we propose a reference area of 1.500 hectares for pure legumes and 1.000 hectares for leguminous/grass mixtures.

What is (are) the sector(s) concerned?

Legumes

Justification of the importance of the targeted sector(s)/production(s) or type(s) of farming therein

The introduction of pure and fodder legumes contributes positively to sustainable agriculture, reduces dependence on imports of protein crops and could be beneficial to mitigate climate change. The production of plants with a high protein content makes it possible to limit the import of soya cakes on which Luxembourg is increasingly dependent. The environmental advantage here is to limit greenhouse gas (GHG) emissions from the agricultural sector by reducing transport distances, given that the vast majority of soya comes from the American continent. Protein crops make it possible, by virtue of their ability to capture nitrogen in the air (symbiotic nitrogen fixation), to imitate additional mineral or organic nitrogen to near zero. This makes it possible to reduce nitrogen inputs and thus reduce polluting discharges. This also makes it possible to limit the consumption of fossil fuels, which are inexorably scarce. Finally, lower consumption of synthetic fertilisers reduces greenhouse gas emissions from the agricultural sector. Furthermore, with the introduction of protein crops in cereal rotation, a non-host crop for cereal diseases is introduced. This reduces the susceptibility of rotation to diseases, which has the beneficial effect of reducing the use of plant protection products with known adverse effects.

Explanation how the intervention is consistent with the Water Framework Directive (i.e. 2000/60/EC).

In the context of water protection, the entire territory of Luxembourg is classified as a vulnerable zone and nitrogen fertilisation is limited accordingly.

Restriction of nitrogen fertilisation:

For the cultivation of legumes, fertilisation is limited:

Article 6 of the amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture:

The application of nitrogen fertilisers shall be permitted only to cover the physiological needs of plants, ensuring that nutrient losses are limited and taking into account the availability of nitrogen in the soil.

The amount of organic fertilisers applied per year and per hectare must not exceed 170 kg of total nitrogen, except for protein crops and pure leguminous crops for which the limit is 85 kg of total nitrogen. For the entire national territory, with the exception of water protection zones intended for human consumption, the amount of nitrogen fertilisers applied per year and per hectare must not exceed the maximum quantities of nitrogen manure as defined in the table in Annex I to the amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture, depending on the nature and yield of the crops and taking into account local specificities and agro-climatic conditions of the year. In protection zones for water intended for human consumption, the quantity of nitrogen fertilisers must not exceed the maximum amounts of nitrogen manure as defined in the table in Annex III to the amended Grand-Ducal Regulation of 9 July 2013 on administrative measures in all protection zones for bodies of groundwater or parts of bodies of groundwater used as a resource for the production of water intended for human consumption.

In the case of a combination of organic and mineral fertilisers, the maximum mineral nitrogen manure shall be reduced according to the amount of organic fertilising products applied taking into account the nature of the organic fertiliser, the method of application, the type of crop and the period of application as described in the Guide to Good Agricultural Practice.

The availability coefficients for organic nitrogen are fixed for the entire national territory, with the exception of water protection zones intended for human consumption, in Annex II to the amended Grand-Ducal Regulation of 24 November 2000. For land situated in protection zones for water intended for human consumption, the organic nitrogen availability coefficients are laid down in Annex IV to the amended Grand-Ducal Regulation of 9 July 2013 on administrative measures in all protection zones for bodies of groundwater or parts of bodies of groundwater used as a resource for the production of water intended for human consumption.

Annex I to the amended Grand-Ducal Regulation of 24 November 2000 – Maximum nitrogen manure quantities pursuant to Article 6

Culture	Estimated harvest (dt/ha)	Correction factor for yield kgN/δdt/ha	Maximum organic nitrogen manure (kg N/ha/year)	Maximum mineral nitrogen manure (kg N/ha/year) in case of absence of organic fertilisation
Cereals	50 DT/ha ²)	2.5	170	160
Rapeseed	30 DT/ha ²)	5.0	170	180
Protein crops	50 DT/ha ²)	—	85 ¹)	30 ¹)
Potatoes:	350 DT/ha ²)	4.0	170	170
Mangolds and fodder beet	900 DT/ha ²)	3.0	170	235
Maize	150 DT/ha ³)	1.4	170	190
Meadows and pastures	90 DT/ha ³)	2.7	170	260
Temporary grassland	110 DT/ha ³)	3.0	170	300

1) = crop start-up
 (2) = fresh material
 (3) = dry matter

Bovine manure, soft manure and liquid sewage sludge (% of total nitrogen)

	rapeseed, catch crops	winter cereals	summer crops	grasslands and grazing	other crop products
summer/Autumn	35	25	not applicable	35	35
spring	40	30	50	40	40

Pig manure, purin and digestate (% of total nitrogen)

	rapeseed, catch crops	winter cereals	summer crops	grasslands and grazing	other crop products
summer/Autumn	40	30	not applicable	40	40
spring	50	40	60	50	50

	rapeseed, catch crops	winter cereals	summer crops	grasslands and grazing	other crop products
summer/Autumn	40	30	not applicable	40	40
spring	50	40	60	50	50

Organic solid fertilisers (% of total nitrogen)

	maize	other crop products
manure other than soft manure, poultry manure and poultry manure	50	50
poultry manure	50	50
solid sewage sludge	50	30
compost	30	15
manure and poultry manure	50	50

Should the intervention be implemented based upon WTO blue box criteria (Chapter 5.1.10), please indicate the fixed number of hectares and yields, or the fixed number of animals (in heads). Please also indicate how these values were determined (e.g. reference year, calculation method, etc.).

Fixed number of hectares

N/A

Calculation method

Fixed number of hectares

N/A

Calculation method

Fixed number of animals (heads)

N/A

Calculation method

Is the intervention financed, partly or completely, from the protein crop top up (maximum 2% in total) in accordance with Art. 96(3) of SPR?

☐ Yes ☒ No

If the intervention targets a mix between legumes and grasses: please indicate the minimum percentage of legumes in the mix.

55 %

Coupled income support granted to silkworms is an animal based support, where the use of 'head' as the support's basic unit requires prior clarification of the followings:

please clarify the conversion rate between this unit and 'head' (i.e. how many of this unit corresponds to '1 head'?) for the purpose of e.g. indicators.

N/A

It is possible to give further clarification in comment (e.g. the weight of eggs that a box must contain)

9 WTO compliance

Blue Box

Explanation of whether and, if so, how the intervention respects relevant provisions of Article 6.5 or Annex 2 to the WTO Agreement on Agriculture (Blue Box)

The historical leguminous areas are as follows:

Years	Pure legumes or leguminous mixtures/cereals (ha)	Leguminous/grass mixtures (ha)
2017	1747,97	[No data]
2018	1533,02	694,25
2019	1468,61	1 009,82
2020	1518,87	1 070,26
2021	1484,90	1 032,14
Mean	1550,67	951,62

The maximum landmark reference area shall be $1\,500 + 1\,000 = 2\,500$ hectares.

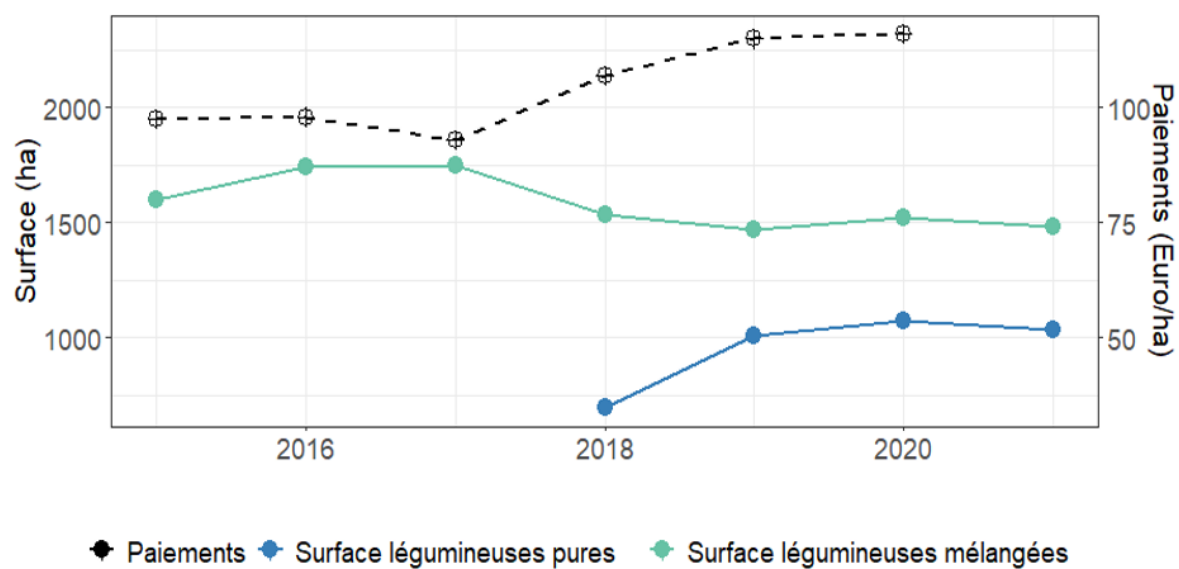
The single rate is a weighted rate and takes into account the economic justification: $[(1\,500 \times 144) + (1000 \times 106)]/2500 = \text{EUR } 128,8/\text{ha}$

The annual rate per hectare shall be expressed as the amount of support per hectare. The financial requirement is assessed annually on the basis of eligible areas. If the ceiling is exceeded, the rates referred to above shall be reduced proportionately.

Figure 1 shows the temporal trend of areas and actual payments of the premium between 2015 and 2020. The aim of the premium is to stop the fall in the growing areas of leguminous crops and bring it back to its known average level before 2018. For this reason, we propose a reference area of 1.500 and 1.000 hectares respectively for pure legumes and fodder.

Figure 1: Changes in area and payments of the premium coupled with legumes

Source: Division of direct payments (area applications)



Graphique 1: Evolution de la surface et paiements de la prime couplée aux légumineuses
 Source : Division des paiements directs (demandes surfaces)

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.03.503.01 - Coupled support for legumes - Unit amount	Uniform		R.8

Explanation and Justification (including the flexibility)

1.03.503.01 - Coupled support for legumes - Unit amount

The economic factor is the main obstacle to the maintenance of protein crop cultivation, which suffers from competition from more remunerative cereals and oilseeds.

The economic justification for this coupled aid was based on data from the Farm Accounts Information Network (1) for the period 2015 to 2019 (2). In order to highlight the assessment of the economic loss incurred by farmers due to legume production, we compare the total gross margin of cereals/oilseeds (3) and protein crops by applying an Olympic average (five year average excluding minimum, maximum and extreme cases). We distinguish between two types of legumes, pure (4) or mixed (5), in order to promote leguminous fodder which is an alternative to traditional food (e.g maize, cereals, oilseeds).

¹ Règlement (CE) 1217/2009 du Conseil du 30 novembre 2009 portant création d'un réseau d'information comptable agricole sur les revenus et l'économie des exploitations agricoles dans la Communauté européenne.

² L'échantillon est représentatif pour le secteur agricole et contient en moyenne 599 fermes pour la période de 2015 à 2019.

³ Blé d'hiver, épeautre, blé de printemps, blé dur, seigle, durum, orge d'hiver, orge de printemps, l'avoine, mélange de céréales d'été, mélange de céréales d'hiver, maïs grain, triticale, autres céréales, colza d'hiver et d'été.

⁴ Pois, féveroles et légumineuses à grain.

⁵ Légumineuses fourragères.

The total gross margin for the cultivation of cereals and protein crops consists of the turnover of gross production by deducting direct production costs, in particular seeds, mineral fertilisers and plant protection products. In the case of the cultivation of legumes and protein crops, the direct costs of production are seeds and plant protection products.

The total gross margins for both types of crops can be formulated as follows:

$\text{MBSCereals} = \text{Cereals} - \text{CSemences} - \text{CFétil} - \text{CPhyto}$ (1)

$\text{MBSLégu} = \text{PLégu} - \text{CSemences} - \text{CPhyto}$ (2)

The premium coupled to pure legumes or mixtures of cereals may be obtained by deducting equation (2) of (1):

$\text{PrimeLéguPure} = (\text{Cereals} - \text{CSemences} - \text{CFétil} - \text{CPhyto}) - (\text{PLégu} - \text{CSemences} - \text{CPhyto})$ (3)

$\text{PrimeLéguPure} = (\text{EUR } 703/\text{ha} - \text{EUR } 60.6/\text{ha} - \text{EUR } 98.7/\text{ha} - \text{EUR } 46.9/\text{ha}) - (\text{EUR } 478/\text{ha} - \text{EUR } 66/\text{ha} - \text{EUR } 60/\text{ha})$

$\text{PrimeLéguPure} = \text{EUR } 144/\text{ha}$

As regards fodder legumes, there is virtually no information available on yields and sales prices in the agricultural accounting data network. For this reason, we use an average gross production turnover according to the results of the 'Oekozenfer Pafendall' leguminous project, which is equal to EUR 480 per hectare (i.e. the crops included in the calculation are lupin, red clover, lucerne). Similarly, we calculate the loss of income for leguminous grass mixes:

$$\text{PrimeMélange} = (\text{EUR } 703/\text{ha} - \text{EUR } 56.2/\text{ha} - \text{EUR } 94.5/\text{ha} - \text{EUR } 73.5/\text{ha}) - (\text{EUR } 480/\text{ha} - \text{EUR } 54.2/\text{ha} - \text{EUR } 34.5/\text{ha})$$

PrimeMélange = EUR 105.5/ha

In detail, we apply the Olympic average (excluding min, max and extreme cases) for the period 2015-2019 for each variable in equation 3. For example, the average turnover of gross cereal production is EUR 703 per hectare, while the turnover for pure legumes is EUR 478 per hectare.

We get EUR 144/ha and EUR 106/ha respectively for pure legumes and fodder to compensate for income losses related to the maintenance of protein crops.

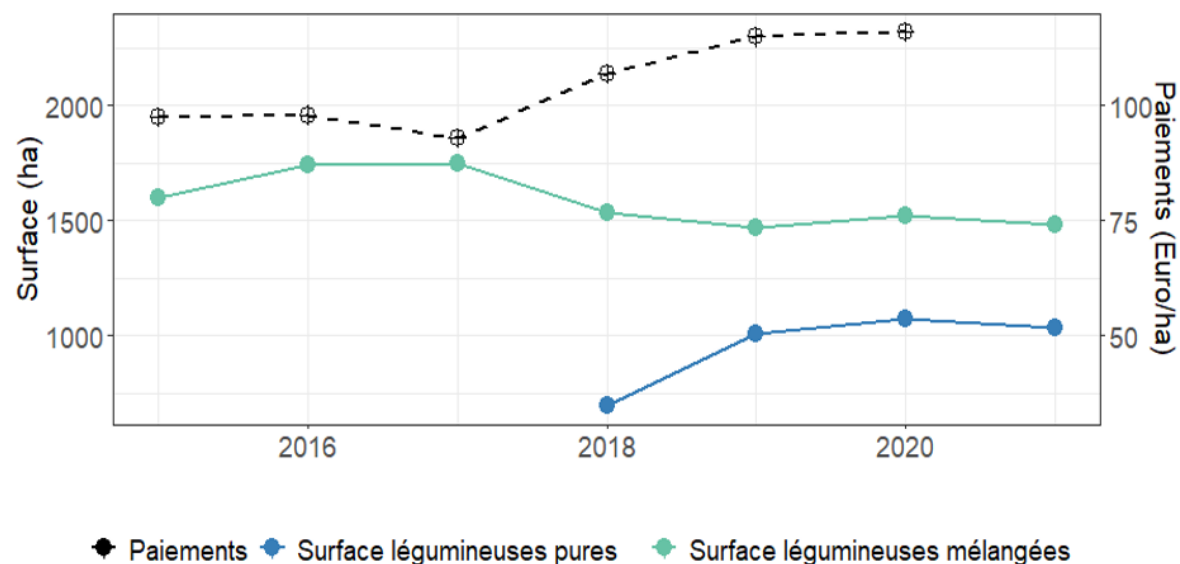
Estimated annual budget

Graph 1 shows the temporal trend of areas and actual payments of the premium between 2015 and 2020. The aim of the premium is to stop the fall of legume growing areas and to bring them back to their average known level before 2018. For this reason, we propose a reference area of 1.500 and 1.000 hectares, respectively for pure legumes and fodder. In order to estimate an annual budget of the coupled leguminous premium, a total annual area of 2.500 hectares is targeted, resulting in an annual budget of EUR 320 000 for a premium of EUR 128/ha.

The LU authorities propose a single weighted rate per hectare, despite two results in terms of economic justification. A single rate simplifies the understanding and management of aid.

Figure 1: Development of the area and payments of the premium coupled to legumes

Sources: Division of Direct Payments (Area Applications)



Graphique 1: Evolution de la surface et paiements de la prime couplée aux légumineuses
Source : Division des paiements directs (demandes surfaces)

Given the variability of eligible applications, depending on market prospects and climatic variations, the realised unit amount may vary up to 20 % more or less than the value of the planned unit amount.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.03.503.01 - Coupled support for legumes - Unit amount	Planned unit amount	128.00	128.00	128.00	128.00	128.00	
	Minimum Amount for the Planned unit amount	115.00	115.00	115.00	115.00	115.00	
	Maximum Amount for the Planned unit amount (EUR)	128.00	128.00	128.00	150.00	150.00	
	O.10 (unit: Hectares)	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	
	Planned output * Planned unit amount	320,000.00	320,000.00	320,000.00	320,000.00	320,000.00	1,600,000.00
TOTAL	O.10 (unit: Hectares)	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	Sum:

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
							12,500.00 Max: 2,500.00
	Annual indicative financial allocation (Union Contribution in EUR)	320,000.00	320,000.00	320,000.00	320,000.00	320,000.00	1,600,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)	0.00	0.00	0.00	0.00	0.00	0.00

1.03.505 - Coupled aid for suckler cows

Intervention Code (MS)	1.03.505
Intervention Name	Coupled aid for suckler cows
Type of Intervention	CIS(32) - Coupled income support
Common Output Indicator	O.11. Number of heads benefitting from coupled income support

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO2 Enhance market orientation and increase farm competitiveness, both in the short and long term, including greater focus on research, technology and digitalisation

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B2.1	Strengthen the market orientation of agricultural, wine and market gardening production.	P2	Partially

4 Result indicator(s)

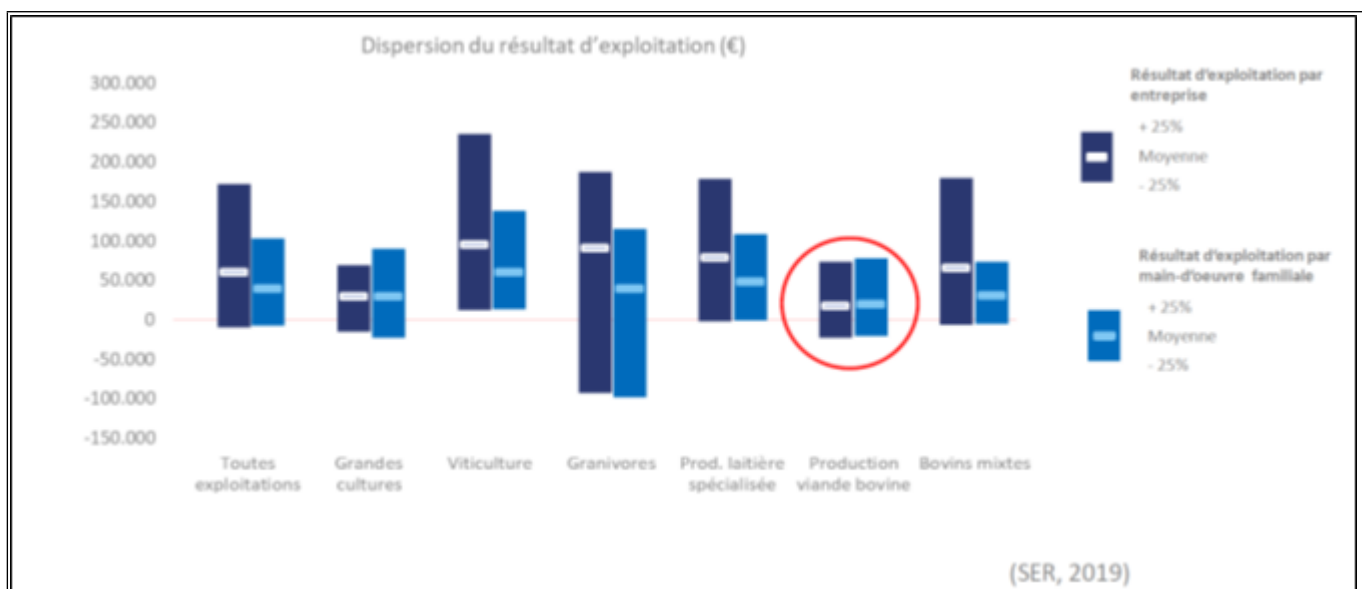
RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.8 Share of farms benefitting from coupled income support for improving competitiveness, sustainability or quality

5 Specific design, requirements and eligibility conditions of the intervention

Description

The current situation on the beef market does not ensure a fair income for producers specialising in quality beef. Aid should therefore be granted to those producers to ensure that their income is maintained at an adequate level.



With aid per suckler cow of EUR 150/ha, beef producers receive an additional income of EUR 3 889,51 on average.

In view of the suckler cow coupled support and beef until the decoupling of these aids, the single payment entitlements in 2005 and the basic payment entitlements in 2015 of farms specialising in suckler cow rearing were higher than those of other types of farming. Internal convergence towards a uniform basic payment value therefore leads to a loss of direct income support to these farms in a low-profitability sector.

The following tables show the impact of suckler cow coupled support on farmers' income situation:

Table: Impact of the reform with coupled aid on the various types of farming:

OTE- Libellé et code	NBR_EXPL	BISS_MONT_SUM	VCSVA_MONT_SUM	DPIR_MONT_SUM	DIFF_MONT	DIFF_MOY	DIFF_%
Production laitière (5)	527	7 478 328,56	399 150,00	13 471 795,10	-1 802 054,95	-3 419,46	-11,80
Élevage bovins (4)	734	6 788 619,33	2 556 750,00	14 407 191,65	886 471,44	1 207,73	6,56
- dont V.allait	357	3 794 201,43	2 276 250,00	9 039 519,36	1 388 554,25	3 889,51	18,15
Élevage porcs (51)	29	337 832,12	38 850,00	685 007,91	30 914,35	1 066,01	4,73
Élevage ovins/caprins (48)	28	108 099,58	12 000,00	210 258,08	-985,45	-35,19	-0,47
Élevage volailles (52)	3	6 091,61	0,00	11 736,49	-667,94	-222,65	-5,38
Grandes cultures (1)	173	980 328,68	49 500,00	1 916 213,76	61 853,75	357,54	3,34
Mixte végétal (6)	13	98 054,53	14 400,00	273 207,19	75 585,91	5 814,30	38,25
Viticulture (35)	162	144 289,14	0,00	477 960,55	92 086,29	568,43	23,86
Maraîchage (2)	8	11 365,96	0,00	65 267,34	43 140,41	5 392,55	194,97
Arboriculture (36)	9	17 489,47	1 800,00	105 908,76	76 587,80	8 509,76	261,20
Autres (9)	23	138 455,33	30 000,00	290 780,17	7 891,03	343,09	2,79
SUM	1709	16 108 954,31	3 102 450,00	31 915 327,00	-529 177,36	-309,64	-1,63

Table: Situation Gain/Loss of suckler cow farmers following the reform with coupled aid:

Gain / Perte	Nombre d'exploitations (Vaches allaitantes sans production de lait)
Total Perte	53
Perte > 50 000 €	0
Perte 20 000 - 50 000 €	2
Perte 10 000 - 20 000 €	3
Perte 5 000 - 10 000 €	8
Perte 2 500 - 5 000 €	5
Perte 1 000 - 2 500 €	14
Perte 500 - 1 000 €	13
Perte 0 - 500 €	8
Gain 0 - 500 €	9
Gain 500 - 1 000 €	18
Gain 1 000 - 2 500 €	53
Gain 2 500 - 5 000 €	90
Gain 5 000 - 10 000 €	103
Gain 10 000 - 20 000 €	29
Gain 20 000 - 50 000 €	29
Gain > 50 000 €	0
Total Gain	331

Table: Impact of the reform without coupled aid on the various types of farming:

OTE- Libellé et code	NBR_EXPL	BISS_MONT_SUM	VCSVA_MONT_SUM	DPIR_MONT_SUM	DIFF_MONT	DIFF_MOY	DIFF_%
Production laitière (5)	527	8 918 592,16	0,00	14 512 908,69	-760 941,36	-1 443,91	-4,98
Elevage bovins (4)	734	8 096 050,69	0,00	13 157 873,01	-362 847,20	-494,34	-2,68
- dont V.allait.	357	4 524 932,93	0,00	7 494 000,85	-156 964,26	-439,68	-2,05
Elevage porcs (51)	29	402 895,76	0,00	711 221,55	57 127,99	1 969,93	8,73
Elevage ovins/caprins (48)	28	128 918,66	0,00	219 077,15	7 833,62	279,77	3,71
Elevage volailles (52)	3	7 264,81	0,00	12 909,69	505,26	168,42	4,07
Grandes cultures (1)	173	1 169 131,79	0,00	2 055 516,87	201 156,86	1 162,76	10,85
Mixte végétal (6)	13	116 939,01	0,00	277 691,68	80 070,40	6 159,26	40,52
Viticulture (35)	162	172 078,02	0,00	505 749,44	119 875,18	739,97	31,07
Maraîchage (2)	8	13 554,95	0,00	67 456,33	45 329,40	5 666,18	204,86
Arboriculture (36)	9	20 857,80	0,00	107 477,09	78 156,13	8 684,01	266,55
Autres (9)	23	165 120,67	0,00	287 445,51	4 556,37	198,10	1,61
SUM	1709	19 211 404,31	0,00	31 915 327,00	-529 177,36	-309,64	-1,63

Without coupled aid, suckler cow farmers would have to collect a loss of EUR 439,68 on average, which would further weaken the sector. It should be noted, however, that the variability of gains and losses per holding is high.

Gain / Perte	Nombre d'exploitations (Vaches allaitantes sans production de lait)
Total Perte	160
Perte > 50 000 €	0
Perte 20 000 - 50 000 €	1
Perte 10 000 - 20 000 €	13
Perte 5 000 - 10 000 €	26
Perte 2 500 - 5 000 €	30
Perte 1 000 - 2 500 €	38
Perte 500 - 1 000 €	24
Perte 0 - 500 €	28
Gain 0 - 500 €	33
Gain 500 - 1 000 €	43
Gain 1 000 - 2 500 €	61
Gain 2 500 - 5 000 €	47
Gain 5 000 - 10 000 €	11
Gain 10 000 - 20 000 €	2
Gain 20 000 - 50 000 €	2
Gain > 50 000 €	0
Total Gain	199

Coupled support is not intended to create an incentive for production, but aims to maintain current levels of production.

The aid shall be calculated by multiplying the average annual number of suckler cows kept on the holding by the rate of aid. The average annual number of suckler cows is calculated on the basis of SANITEL (database for the identification and registration of bovine animals) over the period^{from} 1 January N to 31 December N for claim year N.

For the annual average calculation of suckler cows, account shall be taken of animals which comply with the legislation on the identification and registration of bovine animals (Regulation (EC) No 1760/2000 of the European Parliament and of the Council of 17 July 2000 establishing a system for the identification and registration of bovine animals and regarding the labelling of beef and beef products and repealing Council Regulation (EC) No 820/97 laying down provisions on the identification and registration of bovine animals and the labelling of beef).

Holdings keeping an average annual number of animals of less than 10 are excluded. The aid shall be granted for a maximum of 150 suckler cows per holding.

The livestock load on the holding must be less than or equal to 1,8 LU/ha.

For the calculation of LU, livestock shall be taken into account as follows:

(I) Bovins:	
bovine > 2 years	1,00 LU/head
bovine animals from 6 months to 2 years	0,60 LU/head
cattle < 6 months	0,00 LU/head
(II) Other herbivores/animals	
adult sheep	0,15 LU/head
goats	0,15 LU/head
horses > 6 months	1,00 LU/head
horses < 6 months, ponies, asses	0,60 LU/head

Where the load per hectare is greater than or equal to 1,8 LU/ha, the premium shall be reduced by 10 % per tranche of 0,01 LU/ha overrun.

Where the load per hectare is greater than or equal to 1,9 LU/ha, the applicant shall be excluded from the aid.

The maximum historical reference number of primable animals is set at 21.000 animals.

Table: Number of suckler cows declared in the area application:

Years	Number of ALs total	With criteria
2015	29 465	22 560
2016	28 944	22 538
2017	27 691	21 608
2018	26 913	21 281
2019	25 996	20 756
AVERAGE	27 802	21 749

The amount for financing the assistance shall be EUR 3 150 000 per year.

The annual rate of aid shall be expressed as an amount of support per animal. It is the ratio between the amount fixed for the financing of the intervention and the total number of animals eligible for support in the year in question.

The scheme thus contributes to the following objective:

- support viable farm income and resilience across the Union to enhance food security.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

- Be an active farmer.
- Hold suckler cows with a livestock load not exceeding 1,8 LU/ha and holding an average annual number of suckler cows greater than or equal to 10.
- The suckler cows kept on the holding between 1 November of the year preceding the claim year and 31 October of the claim year shall be taken into account.
- The definition of suckler cow corresponds to a female bovine animal which has calved at least once, bears code 2 (viane/“Fleischtyp”) or 3 (mixte/“Mischtyp”) at the level of the field “racial type/Rassetyp” in the Sanitel database (identification and registration of bovine animals) and which is not subject to milking (milk production).
- The aid shall be granted for a maximum of 150 suckler cows per holding.
- Make an application in the framework of the “Surfaces” application.

According to the declaration data for 2019, the thresholds in LU and minimum number of suckler cows exclude 147 of the 728 keepers of suckler cows (data 2019). These farmers hold a total of 696 suckler cows and 4.382 dairy cows. In terms of technical/economic orientation, these are:

OTE	Number of holdings	of which ancillary	No of Vaill.	No VL	Average surface area (ha)
Cattle rearing	86	49	402	177	35,55
Milk production	54	2	261	4.205	106,09
Arable crops	5	1	22	0	48,45
Mixed plant	1	0	4	0	43,29
Arboriculture	1	0	7	0	21,10

It is clear from these figures that the keepers in question are either engaged in other activities (and that the suckler cows kept are only part of it) or that they are holdings on an ancillary basis.

Support is covered by Article 33(l) of Regulation (EU) 2021/2115.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

N/A

7 Range and amounts of support

Description

The aid is based on an amount of EUR 150 per suckler cow held. The number of cows taken into account corresponds to the annual average number recorded in the database for the identification and registration of bovine animals.

Where the number of animals eligible for payment exceeds the reference quantity of 21 000 animals, the aid shall be reduced proportionately.

8 Additional questions/information specific to the Type of Intervention

Justification of the difficulty(ies) that the targeted sector(s)/production(s) or type(s) of farming therein undergo.

The result of on-farm holdings is significantly lower than the results of other farms on average. A very low turnover combined with structural problems means that the results of OTE 46 farms earn barely 30 % of the operating result of other types of farming.

What is the aim of the intervention with regard to the targeted sector(s)/production(s) or type(s) of farming therein?

☒ to improve competitiveness

☐ to improve quality

☒ to improve sustainability

How will the intervention address the identified difficulty(ies) by this aim (i.e. explanation about the targeting)?

The planned coupled aid per head of animal makes it possible to improve competitiveness and sufficiently reduce the difference in results with holdings of other types of farming in order to ensure the survival of the beef sector.

What is (are) the sector(s) concerned?

Beef and veal

Justification of the importance of the targeted sector(s)/production(s) or type(s) of farming therein

More than 50 % of the UAA is exploited on grassland and grazing which represent environmental benefits. Luxembourg's agriculture is therefore mainly geared towards the production of fodder. Maintaining a moderate livestock burden allows cattle production systems to be more aligned with environmental objectives and is an important lever for action on greenhouse gas emissions, while at the same time counteracting the trend towards the expansion of herds and the disappearance of smaller farms.

Explanation how the intervention is consistent with the Water Framework Directive (i.e. 2000/60/EC).

The majority of livestock farms in Luxembourg are extensive.

Table of livestock load classes for 2019

	2019			
	Nombre d'exploitations	%	Surface exploitée (SAU LU + ETR)	%
0 UGB/ha	351	20,54	8 566,32	6,61
0 < UGB/ha < 1,4	936	54,77	76 843,23	59,33
1,4 ≤ UGB/ha ≤ 1,8	286	16,73	31 599,01	24,4
1,8 < UGB/ha ≤ 2,35	117	6,85	11 337,31	8,75
UGB/ha > 2,35	19	1,11	1 176,12	0,91
Total	1709	100	129 521,99	100

If only holdings keeping suckler cows and potentially eligible for the suckler cow premium are considered, the rate of extensive holdings is even higher:

Table of livestock load classes for 2019 of holdings keeping suckler cows

	2019			
	Nombre d'exploitations	%	Surface exploitée (SAU LU + ETR)	%
0 < UGB/ha < 1,4	360	64,17	36 365,36	60,93
1,4 ≤ UGB/ha ≤ 1,8	135	24,06	16 366,73	27,42
1,8 < UGB/ha ≤ 2,35	62	11,05	6 519,15	10,92
UGB/ha > 2,35	4	0,72	434,83	0,73
Total	561	100	59 686,07	100

The coupled aid itself incorporates several security guards to avoid an increase in the scheme: the number of primary suckler cows (ALs) is limited to 21.000 heads, while the herd is close to 26.000 heads. If the number of eligible suckler cow increases, the compensation will decrease. Only a maximum of 150 suckler cows per holding is eligible. The livestock load of 1.8 LU/ha must not be exceeded on the holding. The intervention cannot be considered in isolation but must be seen in an overall context. A large proportion of VA holdings also hold dairy cows. From an economic point of view, it is more profitable to aumber the number of dairy cows than that of the ALs. Statistics confirm this trend. The gain per place at the stall is greater for a dairy cow than for a VA.

It should be noted that, in addition to coupled aid for suckler cows, the Luxembourg authorities provide for the NSP to introduce aid for reducing the livestock burden (in general) and aid for maintaining a low livestock burden under the State aid scheme in order to encourage extensive livestock holdings not to increase their livestock.

In addition, the entire territory of Luxembourg is considered to be a vulnerable zone. This also severely limits cattle farming, as organic nitrogen fertilisation is limited to 2 fertiliser units per hectare (170 kg/ha/year), which is equivalent to 2.35 LU/ha. The conditions of this measure are therefore well below the limitations introduced by the Nitrates Directive.

Currently, there is a limited scope for increasing livestock load. Livestock farms have only a limited margin to increase the number of animals kept without having to increase the number of hectares farmed at the same time. However, as explained in the summary of the SWOT analysis for Objective 1, agricultural land prices have experienced a particular surge in recent years and their availability is also decreasing in view of land consumption for urbanisation, which makes it more difficult to increase the utilised area.

In addition, it should be noted that the Luxembourg Government intends to regulate the development of livestock by means of an authorisation system. This national system is independent of the NSP but will have an influence on the NSP. It is expected that an increase in livestock would no longer be allowed for holdings with more than 5 AWU resulting from animal production. Farms with 2-5 AWU would only receive a permit for an increase in their livestock if the projected ammonia emission trajectory is respected

at national level and the submitted project would not have a net increase in ammonia emissions from the farm. If the abundance of agricultural activity continues at the current rate of around 2 % per year, the emission reduction targets should be achieved by also considering additional measures at national level.

The above argument leaves no room for doubt that this measure would result in an increase in the number of VA livestock in Luxembourg. However, the Managing Authority will closely monitor the evolution of the VA chpetel and reassess the measure if the VA herd is expected to grow and pose an increasing risk to water quality.

In addition, the managing authority recalls below the limitations laid down in the rules.

Limitation of livestock load

Grazing must be managed in such a way that overgrazing is avoided, i.e. the stocking density of grazing livestock is adapted to the yield potential of the vegetation of the pasture in order to avoid irreversible destruction of the pasture. Special attention should be paid to livestock grazing outside the growing season. The holding holding more than 2,35 LSU of ruminants per ha must document the grazing in a pasture book which includes at least the number and age of the livestock grazing, the grazing periods and a description of the pasture (location and area).

Restriction of nitrogen fertilisation:

Article 6 of the amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture:

The application of nitrogen fertilisers shall be permitted only to cover the physiological needs of plants, ensuring that nutrient losses are limited and taking into account the availability of nitrogen in the soil.

The amount of organic fertilisers applied per year and per hectare must not exceed 170 kg of total nitrogen, except for protein crops and pure leguminous crops for which the limit is 85 kg of total nitrogen.

If the farmer has, on average, more than 170 kg of total nitrogen from organic fertilisers per hectare per year, he is obliged to transfer the surplus to other farms with land suitable for application under the principles of good agricultural practice, any other applicable regulatory provisions and any extensification measures applicable under agri-environmental schemes. All farmers involved in these transfers are required to have them approved by the Administration des Services Techniques de l'Agriculture.

Should the intervention be implemented based upon WTO blue box criteria (Chapter 5.1.10), please indicate the fixed number of hectares and yields, or the fixed number of animals (in heads). Please also indicate how these values were determined (e.g. reference year, calculation method, etc.).

Fixed number of hectares

N/A

Calculation method

Fixed number of hectares

N/A

Calculation method

Fixed number of animals (heads)

N/A

Calculation method

Is the intervention financed, partly or completely, from the protein crop top up (maximum 2% in total) in accordance with Art. 96(3) of SPR?

☐ Yes ☒ No

If the intervention targets a mix between legumes and grasses: please indicate the minimum percentage of legumes in the mix.

N/A

Coupled income support granted to silkworms is an animal based support, where the use of 'head' as the support's basic unit requires prior clarification of the followings:

please clarify the conversion rate between this unit and 'head' (i.e. how many of this unit corresponds to '1 head'?) for the purpose of e.g. indicators.

N/A

It is possible to give further clarification in comment (e.g. the weight of eggs that a box must contain)

9 WTO compliance

Blue Box

Explanation of whether and, if so, how the intervention respects relevant provisions of Article 6.5 or Annex 2 to the WTO Agreement on Agriculture (Blue Box)

The maximum historical reference number of eligible animals is set at 21.000 animals, averaging 5 years (2015-2019) in relation to the number of suckler cows present on Luxembourg holdings, while excluding animals from holdings which do not meet the eligibility criteria for intervention.

Table. Number of suckler cows declared in the area application:

Years	Number of ALs total	With criteria
2015	29 465	22 560
2016	28 944	22 538
2017	27 691	21 608
2018	26 913	21 281
2019	25 996	20 756
MEAN	27 802	21 749

The amount for financing the intervention shall be EUR 3 150 000 per year.

The annual aid rate shall be expressed as the amount of support per animal. It shall correspond to the ratio between the amount fixed for financing the intervention and the total number of animals eligible for support in the year in question, without exceeding the unit amount. Where the number of animals eligible for payment exceeds the reference quantity of 21 000 animals, the aid shall be reduced proportionately.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.03.505.01 - Coupled support for suckler cows - Unit amount	Uniform		R.8

Explanation and Justification (including the flexibility)

1.03.505.01 - Coupled support for suckler cows - Unit amount

Incomes from agricultural activities are significantly lower than the average wages of the overall economy.

On average, one full-time employee in Luxembourg earned EUR 64 932 in 2019. This is an average of all employees and activities in Luxembourg.

The minimum monthly wage for a qualified worker over 18 is EUR 2 776 in 2022, resulting in an annual salary of EUR 33 313.

The agricultural income of all types of farming, concluded with direct payments, was EUR 44 085 per unpaid person when taking an average of the years 2018 to 2020 (FADN data).

The farm and farming income 46 (specialist cattle farms – livestock and meat), concluded direct payments, was EUR 18 712 per unremunerated person when taking an average of the years 2018 to 2020 (FADN data).

There is not only a gap between the agricultural sector and other activities in Luxembourg, but also between the different orientations in the agricultural sector.

When comparing the agricultural income of OTE 46 and the minimum wage for a skilled worker in Luxembourg, an annual difference of EUR 14 601 is received.

The current situation on the beef market therefore does not guarantee a fair income for producers specialising in high-quality beef. Such producers should therefore be granted aid to ensure that their income is maintained at a sufficient level.

On average, one holding (OTE 46) holds 42 suckler cows in Luxembourg for the years 2018 to 2020. Dividing the difference of EUR 14 601 by 42 suckler cows results in a difference of EUR 348 per suckler cow for an OTE 46 holding to receive an income that is at least at the level of the Luxembourg minimum wage.

An amount of EUR 150/suckler cow is therefore clearly justified.

Given the variability of eligible applications, depending on market prospects and climatic variations, the realised unit amount may vary up to 20 % more or

less than the value of the planned unit amount.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.03.505.01 - Coupled support for suckler cows - Unit amount	Planned unit amount	150.00	150.00	150.00	150.00	150.00	
	Minimum Amount for the Planned unit amount	135.00	135.00	135.00	135.00	135.00	
	Maximum Amount for the Planned unit amount (EUR)	165.00	165.00	165.00	170.00	170.00	
	O.11 (unit: Head)	21,000.00	21,000.00	21,000.00	21,000.00	21,000.00	
	Planned output * Planned unit amount	3,150,000.00	3,150,000.00	3,150,000.00	3,150,000.00	3,150,000.00	15,750,000.00
TOTAL	O.11 (unit: Head)	21,000.00	21,000.00	21,000.00	21,000.00	21,000.00	Sum: 105,000.00 Max: 21,000.00
	Annual indicative financial allocation (Union Contribution in EUR)	3,150,000.00	3,150,000.00	3,150,000.00	3,150,000.00	3,150,000.00	15,750,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)	0.00	0.00	0.00	0.00	0.00	0.00

1.03.506 - Coupled aid for market gardening and fruit crops

Intervention Code (MS)	1.03.506
Intervention Name	Coupled aid for market gardening and fruit crops
Type of Intervention	CIS(32) - Coupled income support
Common Output Indicator	O.10. Number of hectares benefitting from coupled income support

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO2 Enhance market orientation and increase farm competitiveness, both in the short and long term, including greater focus on research, technology and digitalisation

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B2.1	Strengthen the market orientation of agricultural, wine and market gardening production.	P2	Partially

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.8 Share of farms benefitting from coupled income support for improving competitiveness, sustainability or quality

5 Specific design, requirements and eligibility conditions of the intervention

Description

With production over 400 hectares (2021), only 0.3 % of utilised agricultural area in Luxembourg is occupied by fruit and vegetables. Currently, less than 5 % of vegetables sold in Luxembourg come from domestic production.

This shows that Luxembourg has a large deficit in this sector.

Although many measures have been undertaken at national level in recent years to stimulate the growth of fruit and vegetable production, and the fruit and vegetable market is growing as a result of changes in consumer behaviour, agricultural stakeholders are reluctant to do so.

The main barriers are poor development of the sector, lack of structures (such as access to suitable land for production), availability of water for irrigation, administrative procedures and lack of sales channels. Other barriers are of an economic nature, such as the cost of labour generated by the need for labour in the production of fruit and vegetables, high input costs due to the small size of the sector, difficult production conditions or a lack of technical knowledge.

As a result, the number of farms diversifying in this sector remains limited.

Fruit and vegetable production may be carried out as an activity complementary to existing agricultural

production or as a main activity.

The development of this sector contributes to the diversification of agricultural production, thus providing farmers with new sources of income and can also contribute to increasing biodiversity in the fields.

Thus, the intervention contributes to the following objectives:

- Support viable farm incomes by creating additional income for farms.
- Strengthen the position of the producer by making it more competitive on the market.
- Ensure the EU's food security and resilience.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary, the area and, when applicable, other relevant obligations

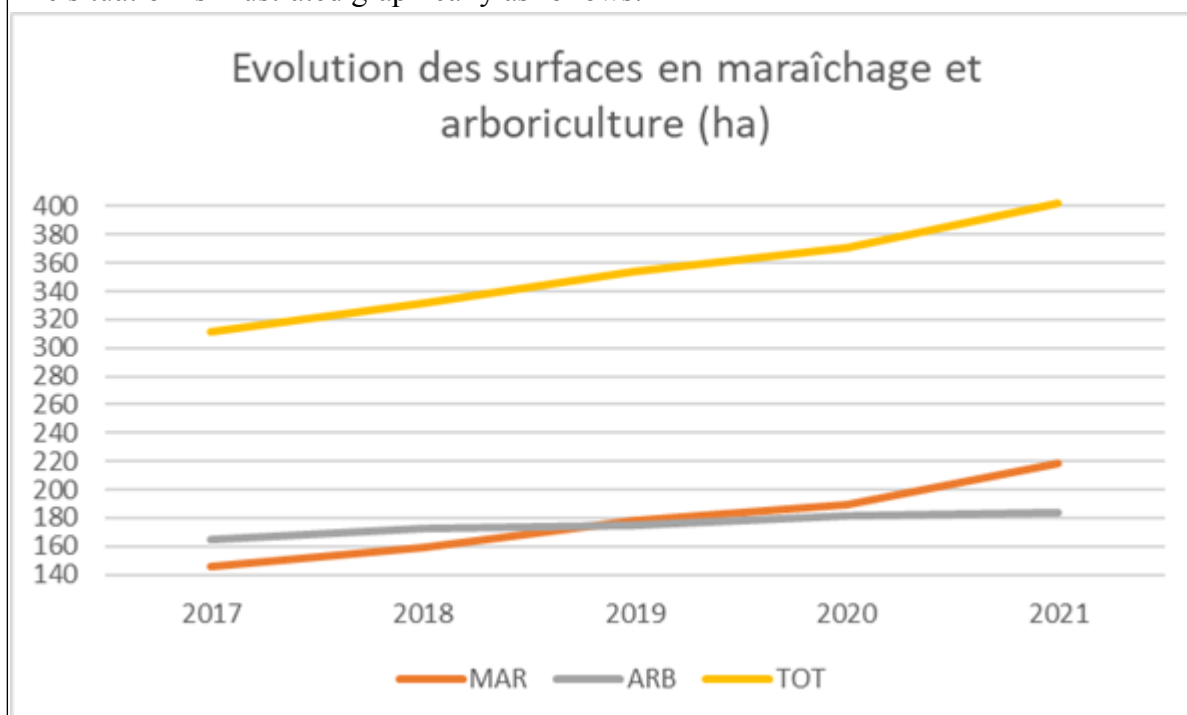
Coupled support for market garden and fruit crops shall be granted to farmers provided that the following conditions are met:

1. They are active farmers.
2. They shall apply for support.
3. They declare eligible areas in their single application
4. Aid shall be granted for fruit and market garden crops
5. potatoes for consumption shall not be eligible
6. The crops covered by the aid application are covered by Article 33 of Regulation (EU) 2021/2115

The historical areas of fruit and vegetables are as follows:

Years	Market garden crops (ha)	Fruit cultivation (ha)	Total (ha)
2017	146,11	159,41	305,52
2018	159,13	171,14	330,27
2019	178,28	172,08	350,36
2020	189,01	178,22	367,23
2021	218,61	177,96	396,57

The situation is illustrated graphically as follows:



Areas under market garden crops and tree farming are growing steadily, but by far insufficient to cover indigenous needs. The total area increased from 305.52 ha in 2017 to 396,57 in 2021. The reference area

is set at 400 hectares to ensure that the status quo is maintained.

The target rate of aid is EUR 1.000/ha.

The amount for financing the assistance is set at $400 \times 1000 = \text{EUR } 400\,000$ per year.

The annual rate per hectare shall be expressed as the amount of support per hectare. The financial need is assessed annually on the basis of eligible areas. If the ceiling is exceeded, the rate referred to above shall be reduced proportionately.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

N/A

7 Range and amounts of support

Description

The aid is aid per hectare for the areas committed. Following the economic justification, the aid rate is fixed at EUR 1,000/ha. If the number of eligible hectares increases, the aid rate will decrease.

The amount for financing the intervention is set at $400 \times 1000 = \text{EUR } 400\,000$ per year.

The annual rate per hectare shall be expressed as the amount of support per hectare. The financial requirement is assessed annually on the basis of eligible areas. If the ceiling is exceeded, the rate referred to above shall be reduced proportionately.

8 Additional questions/information specific to the Type of Intervention

Justification of the difficulty(ies) that the targeted sector(s)/production(s) or type(s) of farming therein undergo.

The main obstacle is the absence of structures such as irrigation systems, sales channels, etc. This is due to the historical lack of market and fruit activity.

What is the aim of the intervention with regard to the targeted sector(s)/production(s) or type(s) of farming therein?

☒ to improve competitiveness

☐ to improve quality

☒ to improve sustainability

How will the intervention address the identified difficulty(ies) by this aim (i.e. explanation about the targeting)?

The aim of the premium is to stimulate the development of the market gardening and fruit sector by encouraging farmers to invest in this sector.

What is (are) the sector(s) concerned?

Fruit and vegetables

Justification of the importance of the targeted sector(s)/production(s) or type(s) of farming therein

Growing fruit and vegetables makes it possible to diversify agricultural production, thus providing farmers with new sources of income.

Demand on the fruit and vegetable market is growing as a result of changes in consumer behaviour.

Supporting a production deficit in the country.

Ensuring food security in the EU.

Explanation how the intervention is consistent with the Water Framework Directive (i.e. 2000/60/EC).

In the context of water protection, the entire territory of Luxembourg is classified as a vulnerable zone and nitrogen fertilisation is limited accordingly.

Restriction of nitrogen fertilisation:

For the cultivation of legumes, fertilisation is limited:

Article 6 of the amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture:

The application of nitrogen fertilisers shall be permitted only to cover the physiological needs of plants, ensuring that nutrient losses are limited and taking into account the availability of nitrogen in the soil.

The amount of organic fertilisers applied per year and per hectare must not exceed 170 kg of total nitrogen, except for protein crops and pure leguminous crops for which the limit is 85 kg of total nitrogen. For the entire national territory, with the exception of water protection zones intended for human consumption, the amount of nitrogen fertilisers applied per year and per hectare must not exceed the maximum quantities of nitrogen manure as defined in the table in Annex I to the amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture, depending on the nature and yield of the crops and taking into account local specificities and agro-climatic conditions of the year. In protection zones for water intended for human consumption, the quantity of nitrogen fertilisers must not exceed the maximum amounts of nitrogen manure as defined in the table in Annex III to the amended Grand-Ducal Regulation of 9 July 2013 on administrative measures in all protection zones for bodies of groundwater or parts of bodies of groundwater used as a resource for the production of water intended for human consumption.

In the case of a combination of organic and mineral fertilisers, the maximum mineral nitrogen manure shall be reduced according to the amount of organic fertilising products applied taking into account the nature of the organic fertiliser, the method of application, the type of crop and the period of application as described in the Guide to Good Agricultural Practice.

The availability coefficients for organic nitrogen are fixed for the entire national territory, with the exception of water protection zones intended for human consumption, in Annex II to the amended Grand-Ducal Regulation of 24 November 2000. For land situated in protection zones for water intended for human consumption, the organic nitrogen availability coefficients are laid down in Annex IV to the amended Grand-Ducal Regulation of 9 July 2013 on administrative measures in all protection zones for bodies of groundwater or parts of bodies of groundwater used as a resource for the production of water intended for human consumption.

Annex I to the amended Grand-Ducal Regulation of 24 November 2000 – Maximum nitrogen manure quantities pursuant to Article 6

Culture	Estimated harvest (dt/ha)	Correction factor for yield kgN/δdt/ha	Maximum organic nitrogen manure (kg N/ha/year)	Maximum mineral nitrogen manure (kg N/ha/year) in case of absence of organic fertilisation
Cereals	50 DT/ha ²)	2.5	170	160
Rapeseed	30 DT/ha ²)	5.0	170	180
Protein crops	50 DT/ha ²)	—	85 ¹)	30 ¹)
Potatoes:	350 DT/ha ²)	4.0	170	170
Mangolds and fodder beet	900 DT/ha ²)	3.0	170	235
Maize	150 DT/ha ³)	1.4	170	190
Meadows and	90 DT/ha ³)	2.7	170	260

pastures				
Temporary grassland	110 DT/ha ³⁾	3.0	170	300

- 1) = crop start-up
(2) = fresh material
(3) = dry matter

Annex II to the amended Grand-Ducal Regulation of 24 November 2000 – nitrogen availability coefficients for organic fertilisers

Bovine manure, soft manure and liquid sewage sludge (% of total nitrogen)					
	rapeseed, catch crops	winter cereals	summer crops	grasslands and grazing	other crop products
summer/Autumn	35	25	not applicable	35	35
spring	40	30	50	40	40
Pig manure, purin and digestate (% of total nitrogen)					
	rapeseed, catch crops	winter cereals	summer crops	grasslands and grazing	other crop products
summer/Autumn	40	30	not applicable	40	40
spring	50	40	60	50	50

	rapeseed, catch crops	winter cereals	summer crops	grasslands and grazing	other crop products
summer/Autumn	40	30	not applicable	40	40
spring	50	40	60	50	50

Organic solid fertilisers (% of total nitrogen)		
	maize	other crop products
manure other than soft manure, poultry manure and poultry manure	50	50
poultry manure	50	50
solid sewage sludge	50	30
compost	30	15
manure and poultry manure	50	50

Is the intervention financed, partly or completely, from the protein crop top up (maximum 2% in total) in accordance with Art. 96(3) of SPR?

☐ Yes ☒ No

If the intervention targets a mix between legumes and grasses: please indicate the minimum percentage of legumes in the mix.

N/A

Coupled income support granted to silkworms is an animal based support, where the use of 'head' as the support's basic unit requires prior clarification of the followings:

please clarify the conversion rate between this unit and 'head' (i.e. how many of this unit corresponds to '1 head'?) for the purpose of e.g. indicators.

N/A

It is possible to give further clarification in comment (e.g. the weight of eggs that a box must contain)

9 WTO compliance

Amber Box

Explanation of whether and, if so, how the intervention respects relevant provisions of Article 6.5 or Annex 2 to the WTO Agreement on Agriculture (Blue Box)

Fruit crop production has grown slightly in recent years, reaching a threshold of around 400 ha in 2020.

11 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.03.506.01 - Coupled support for fruit and vegetables - Unit amount	Uniform		R.8

Explanation and Justification (including the flexibility)

1.03.506.01 - Coupled support for fruit and vegetables - Unit amount

The underdevelopment of the sector as well as the labour costs required due to the fact that many manual work cannot be mechanised are the main disincentives for producers to enter this market.

The economic justification is based, on the one hand, on the steps to be taken by the producer to open the market and, on the other hand, on the difference in the hourly cost of labour in Luxembourg compared with the EU27 average.

A. The calculation of the costs of the steps to be taken by the producer is calculated on the basis of the average size of the fruit and market garden areas per holding. The management of production generates operational costs which are calculated as follows:

Average size of vegetable and fruit areas per holding: 2.60 hectares

Need working hours for operational management for an area of 2.60 hectares: 199 hours

Operational management costs for an area of 2.60 hectares: 199 X EUR 20 = EUR 3980

I.e. EUR 3 980/2.60 = EUR 1530,77/ha

B. The calculation of the excess labour costs to be paid to Luxembourg in relation to the EU27 average is calculated on the basis of the hourly labour cost.

Hourly labour cost Luxembourg (2020): EUR 42,10

Hourly labour cost EU 27 (2020): EUR 28,50

Difference: EUR 13,60

Multiplying this value by the number of hours of work needed to grow 1 hectare of fruit and vegetables, 300 hours, gives an additional cost of: 300 X EUR 13,60 = EUR 4080

By adding A. and B. we obtain:

EUR 1530,77 + EUR 4080 = EUR 5610,77/ha

¹ KTBL: Gemüsebau Freiland und Gewächshaus, 2017, Arbeitszeit für die Betriebsführung page627

² https://ec.europa.eu/eurostat/databrowser/view/lc_lci_lev/default/table?lang=en

The rate of EUR 1.000/ha is considered sufficient to maintain production. A minimum unit amount of EUR 500/ha and a maximum unit amount of EUR 1.600/ha are defined. This variation is considered sufficient to maintain market and fruit crops in the event of changes in labour costs and market prices. It is estimated that the cultivated area does not fall below 250 ha and will not exceed 800 ha.

Given the variability of eligible applications, depending on market prospects and climatic variations, the realised unit amount may vary up to 20 % more or less than the value of the planned unit amount.

12 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.03.506.01 - Coupled support for fruit and vegetables - Unit amount	Planned unit amount	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
	Minimum Amount for the Planned unit amount	900.00	900.00	900.00	900.00	900.00	
	Maximum Amount for the Planned unit amount (EUR)	1,100.00	1,100.00	1,100.00	1,200.00	1,200.00	
	O.10 (unit: Hectares)	400.00	400.00	400.00	400.00	400.00	
	Planned output * Planned unit amount	400,000.00	400,000.00	400,000.00	400,000.00	400,000.00	2,000,000.00
TOTAL	O.10 (unit: Hectares)	400.00	400.00	400.00	400.00	400.00	Sum: 2,000.00 Max: 400.00
	Annual indicative financial allocation (Union Contribution in EUR)	400,000.00	400,000.00	400,000.00	400,000.00	400,000.00	2,000,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)	0.00	0.00	0.00	0.00	0.00	0.00

5.2 Sectoral Interventions

Apiculture products

ADVICEES(55(1)(a)) - - advisory services, technical assistance, training, information and exchange of best practices, including through networking, for beekeepers and beekeepers' organisations

1.09.582 - Transfer of knowledge

Intervention Code (MS)	1.09.582
Intervention Name	Transfer of knowledge
Type of Intervention	ADVICEES(55(1)(a)) - advisory services, technical assistance, training, information and exchange of best practices, including through networking, for beekeepers and beekeepers' organisations
Common Output Indicator	O.37. Number of actions or units for beekeeping preservation or improvement

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of beekeeping production across the territory make regional differentiation unnecessary

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SECTORAL OBJECTIVE Code + Description

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO2 Enhance market orientation and increase farm competitiveness, both in the short and long term, including greater focus on research, technology and digitalisation

SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

XCO Cross-cutting objective of modernising the sector by fostering and sharing of knowledge, innovation and digitalisation in agriculture and rural areas, and encouraging their uptake

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B.2.7.	Ensuring the competitiveness of the agricultural sector	P1	Yes
B6.2	Maintaining and enhancing landscape diversity	P1	Yes
BCC.2	Adapting training and farm advice	P1	No

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

5 Specific design, requirements and eligibility conditions of the intervention

Description

The aim of this intervention is to transfer information and technical beekeeping knowledge.

A high level of knowledge and know-how on all aspects of beekeeping enabling beekeepers to remain competitive and cope with bee diseases and parasites. Only beekeepers who succeed in successfully exploiting their beehives will continue to maintain beehives and thus contribute to biodiversity.

Different ways of transmitting knowledge are thus financed: publications on paper or via the internet, as well as practical training organised by beekeeping unions or groups of beekeepers. Individual beekeepers are not subsidised.

More specifically, this involves financing the monthly beekeeping journal of the beekeeping trade union, a website and practical and theoretical courses organised by beekeeping unions.

Eligible costs are staff and equipment costs, room hire, development of teaching materials, travel costs, publication costs and postal costs.

Training courses and means of transfer of technical information must be approved in advance by the national authority.

6 Form and rate of support/amounts/calculation methods

The maximum rate of aid is 100 % of eligible expenditure excluding VAT.

7 Additional information specific to the Type of Intervention

The aim of training and information transfer is to maintain a population of beekeepers who have the necessary know-how to maintain their beehives properly and thus contribute to the preservation of biodiversity.

8 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

The intervention is in accordance with paragraph 2 (c) and (d) of Annex 2 to the WTO Agreement on Agriculture ("Green Box").

9 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.09.582.UA1 - Knowledge transfer	Average		

Description

1.09.582.UA1 - Knowledge transfer

Knowledge-transfer actions subsidised on the basis of the recurrent eligible costs incurred.

The costs are based on:

- historical data of the apiculture programme
- a draft budget prepared by beekeepers.

10 Planned Unit Amounts - Financial table with output

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.09.582.UA1 - Knowledge transfer	Planned unit amount (Total Union expenditure in EUR)	7,989.10	10,144.26	11,544.84	11,544.84	11,544.84	
	O.37 (unit: Beekeepers)	1.00	1.00	1.00	1.00	1.00	Sum: 5.00
							Max: 1.00
	Annual indicative financial allocation (Total Union expenditure in EUR)	7,989.10	10,144.26	11,544.84	11,544.84	11,544.84	52,767.88
TOTAL	Annual indicative financial allocation (Total public Expenditure in EUR)	25,418.71	30,021.48	30,017.78	30,017.78	30,017.78	145,493.53
	Annual indicative financial allocation (Total Union expenditure in EUR)	7,989.10	10,144.26	11,544.84	11,544.84	11,544.84	52,767.88
	EU co-financing rate in %	31.43	33.79	38.46	38.46	38.46	

ACTLAB(55(1)(c)) - - actions to support laboratories for the analysis of apiculture products, bee losses or productivity drops, and substances potentially toxic to bees

1.09.581 - Supports analyses of the quality of beekeeping products

Intervention Code (MS)	1.09.581
Intervention Name	Supports analyses of the quality of beekeeping products
Type of Intervention	ACTLAB(55(1)(c)) - actions to support laboratories for the analysis of apiculture products, bee losses or productivity drops, and substances potentially toxic to bees
Common Output Indicator	O.37. Number of actions or units for beekeeping preservation or improvement

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of beekeeping production across the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SECTORAL OBJECTIVE Code + Description

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO2 Enhance market orientation and increase farm competitiveness, both in the short and long term, including greater focus on research, technology and digitalisation

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B2.1	Strengthen the market orientation of agricultural, wine and market gardening production.	P2	Partially
B2.4	Promoting diversification of agricultural production	P2	Partially

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

5 Specific design, requirements and eligibility conditions of the intervention

Description

Reimbursement of the costs of quality analyses of honeys.

The national authority shall lay down the quality criteria and the maximum costs per analysis which may be reimbursed.

Consumers want high-quality honeys. Honey analyses allow beekeepers to check that their measures to produce honeys of superior quality. The marketing of these honeys through producer groups strengthens the position of beekeepers in the value chain.

The maintenance of beehives, and thus also their pollination work, throughout the territory depends on the marketing of quality honeys.

The aid is reserved for producer groups marketing their honey by means of a recognised quality label.

The type of analysis to be carried out must be approved by the national authority. Laboratories must

demonstrate the necessary skills to carry out the analyses.

6 Form and rate of support/amounts/calculation methods

The maximum aid rate is 80 % of eligible VAT expenditure.

7 Additional information specific to the Type of Intervention

/

8 WTO compliance

Green Box

Paragraph 2 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

The intervention is in accordance with paragraph 2 (e) of Annex 2 to the WTO Agreement on Agriculture. ("green box").

9 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.09.581.UA1 - Analysis of honey	Average		

Description

1.09.581.UA1 - Analysis of honey

Analysis of the quality of the subsidised honey on the basis of the eligible costs actually incurred.

10 Planned Unit Amounts - Financial table with output

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.09.581.UA1 - Analysis of honey	Planned unit amount (Total Union expenditure in EUR)	8.80	9.50	10.80	10.80	10.80	
	O.37 (unit: Samples)	200.00	200.00	200.00	200.00	200.00	Sum: 1,000.00 Max: 200.00
	Annual indicative financial allocation (Total Union expenditure in EUR)	1,760.00	1,892.24	2,153.76	2,153.76	2,153.76	10,113.52
	TOTAL	5,599.75	5,600.00	5,600.00	5,600.00	5,600.00	27,999.75
	Annual indicative financial allocation (Total public Expenditure in EUR)	1,760.00	1,892.24	2,153.76	2,153.76	2,153.76	10,113.52
	Annual indicative financial allocation (Total Union expenditure in EUR)	1,760.00	1,892.24	2,153.76	2,153.76	2,153.76	10,113.52
	EU co-financing rate in %	31.43	33.79	38.46	38.46	38.46	

PRESBEEHIVES(55(1)(d)) - - actions to preserve or increase the existing number of beehives in the Union, including bee breeding

1.09.580 - Programmes for genetic improvement of bees

Intervention Code (MS)	1.09.580
Intervention Name	Programmes for genetic improvement of bees
Type of Intervention	PRESBEEHIVES(55(1)(d)) - actions to preserve or increase the existing number of beehives in the Union, including bee breeding
Common Output Indicator	O.37. Number of actions or units for beekeeping preservation or improvement

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of beekeeping production across the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SECTORAL OBJECTIVE Code + Description

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO2 Enhance market orientation and increase farm competitiveness, both in the short and long term, including greater focus on research, technology and digitalisation

SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B.2.7.	Ensuring the competitiveness of the agricultural sector	P1	Yes
B6.2	Maintaining and enhancing landscape diversity	P1	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

5 Specific design, requirements and eligibility conditions of the intervention

Description

The aid is used to finance genetic improvement programmes aimed at producing bee resistant or tolerant to bee diseases and parasites (in particular varroa), while maintaining good properties compared to other desired criteria (such as good honey yields).

Productive and resistant bees encourage beekeepers to keep beehives throughout the country. These hives contribute to the maintenance of the biodiversity of the wild flora.

Aid shall be reserved for beekeeping trade unions or producer groups which develop a genetic improvement programme approved by the national authority.

Eligible costs are the costs of services provided directly linked to the programmes (artificial insemination, organisation, management of databases, selection/evaluation of the bees obtained, travel or subsistence costs (foreign experts), costs of renting rooms, preparatory beekeeping work for cross-breeding and other

necessary equipment.

6 Form and rate of support/amounts/calculation methods

The maximum rate of aid is 100 % of eligible expenditure excluding VAT.

7 Additional information specific to the Type of Intervention

/

8 WTO compliance

Amber Box

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

The intervention is in line with the provisions of the “orange box” of the WTO Agreement on Agriculture.

9 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Planned Unit Amount	Region(s)	Result Indicator(s)
1.09.580.UA1 - VSH genetic programme	Average		
1.09.580.UA2 - Simple genetic programme	Average		

Description

1.09.580.UA1 - VSH genetic programme

Genetic improvement programme subsidised on the basis of eligible costs actually incurred.

The costs are based on:

- historical data and a project funded as a research programme in the past and the beekeeping programme.
- a draft budget prepared by beekeepers.

1.09.580.UA2 - Simple genetic programme

Genetic improvement programme subsidised on the basis of eligible costs actually incurred.

The costs are based on:

- historical data of the apiculture programme.
- a draft budget prepared by beekeepers.

10 Planned Unit Amounts - Financial table with output

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	Total 2023 - 2027
1.09.580.UA1 - VSH genetic programme	Planned unit amount (Total Union expenditure in EUR)	7,857.50	15,881.30	13,845.60	13,845.60	13,845.60	
	O.37 (unit: Queen bees and bees)	1.00	1.00	1.00	1.00	1.00	Sum: 5.00 Max: 1.00
	Annual indicative financial allocation (Total Union expenditure in EUR)	7,857.50	15,881.30	13,845.60	13,845.60	13,845.60	65,275.60
1.09.580.UA2 - Simple genetic programme	Planned unit amount (Total Union expenditure in EUR)	2,514.40	2,703.20	3,076.80	3,076.80	3,076.80	
	O.37 (unit: Queen bees and bees)	1.00	1.00	1.00	1.00	1.00	Sum: 5.00 Max: 1.00
	Annual indicative financial allocation (Total Union expenditure in EUR)	2,514.40	2,703.20	3,076.80	3,076.80	3,076.80	14,448.00

TOTAL	Annual indicative financial allocation (Total Union expenditure in EUR)	10,371.90	18,584.50	16,922.40	16,922.40	16,922.40	79,723.60
	EU co-financing rate in %	31.43	33.79	38.46	38.46	38.46	
	Annual indicative financial allocation (Total public Expenditure in EUR)	33,000.00	55,000.00	44,000.00	44,000.00	44,000.00	220,000.00

5.3 Rural Development Interventions

ENVCLIM(70) - Environmental, climate-related and other management commitments

2.02.540 - Premium for the establishment of sustainable and environmentally-friendly agriculture — Agriculture

Intervention Code (MS)	2.02.540
Intervention Name	Premium for the establishment of sustainable and environmentally-friendly agriculture — Agriculture
Type of Intervention	ENVCLIM(70) - Environmental, climate-related and other management commitments
Common Output Indicator	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: Yes ES rebate system: No LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly in the territory of the Grand Duchy of Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B4.2	Reducing GHG emissions	P1	Yes
B5.3	Reduce the use of plant protection products and limit the risks and negative effects associated with	P2	Yes
B5.4	Ensuring soil fertility and combating soil degradation	P2	Yes
B6.1	Developing environmentally-friendly and climate-friendly farming practices	P1	Yes
B6.2	Maintaining and enhancing landscape diversity	P1	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.14 Share of utilised agricultural area (UAA) under supported commitments to reduce emissions or to maintain or enhance carbon storage (including permanent grassland, permanent crops with permanent green cover, agricultural land in wetland and peatland)
R.19 Share of utilised agricultural area (UAA) under supported commitments beneficial for soil management to improve soil quality and biota (such as reducing tillage, soil cover with crops, crop rotation included with leguminous crops)
R.21 Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies
R.22 Share of utilised agricultural area (UAA) under supported commitments related to improved nutrient management
R.24 Share of Utilised Agricultural Area (UAA) under supported specific commitments which lead to a sustainable use of pesticides in order to reduce risks and impacts of pesticides, such as pesticides leakage

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

The premium for the introduction of sustainable and environmentally-friendly agriculture is part of the efforts made by the premium for the maintenance of the countryside and the countryside – the agricultural sector, which has already been deployed in the past.

This measure aims at improving biodiversity and water quality and combating erosion throughout Luxembourg. Indeed, this programme is of particular importance as it aims to motivate the vast majority of farmers to put in place elements of landscape structure, to apply best agricultural practices and to promote extensive agriculture – a contribution to reducing emissions from the livestock sector.

This is **ahorizontal measure aimed at a high level of farmers' participation**.

The undertaking given by the farmer **relates to his entire holding** and not only to part of his parcels. He undertakes to comply with **all** the conditions (no choice method/option).

The measure consists of more than 20 conditions which can be grouped under the following categories:

- Training,
 1. Compulsory training of 10 hours in agroecology and environmental protection and 2 hours of awareness of nitrogen cycle and nitrogen surplus in the first 3 years.
- Documentation and reasoned management,
 1. Keeping a parcel book
 2. Establishment of an application plan for organic fertilisers if UF > 100
 3. Systematic analysis of all areas of the holding for the main nutrients (except nitrogen)
 4. Analysis of all organic fertilisers produced or used on the agricultural holding
- Landscapemaintenance,
 1. Ban on the cubic size of hedges
 2. Maintenance and cleanliness of agricultural buildings and infrastructure
 3. Ban on stationing agricultural machinery in the green zone
- Maximum livestockload,
 1. Maintenance of moderate livestock density, limit of 1,8 LU/ha
- Organic and mineral fertilisation,
 1. Extraction of sewage sludge prohibited on permanent grassland and horticultural areas
 2. Distribution of organic fertilisers over all land on the holding
 3. Organic fertilising products of non-agricultural origin authorised only if available -130 kg before use
 4. Bottom manure according to crop requirements (defined lower fertility classes)
 5. Incorporation of slurry, purin and liquid sewage sludge into soil as soon as possible (max. 24h)
 6. Establish a crop as soon as possible in the event of spreading (15 November limit)
 7. Prohibition of application of manure, compost or dried sewage sludge during the period from 15 November to 15 January on maize parcels
 8. Limit of 100kgN/ha for nitrogen leftovers after maize harvest

- Plant health;
 1. Ban on the use of rodenticide in Natura 2000 areas
 2. Ban on the use of total herbicides after harvest until 15 November without sowing a new crop or intermediate crop
- Protection of biodiversity;
 1. Prohibition of turning grassland and grazing in sensitive areas (Natura 2000 areas, protected areas of national interest and sensitive grassland outside Natura 2000) without prior authorisation
 2. Prohibition (except in exceptional cases) of oversowing on areas of biotopes C in Natura 2000 areas
 3. Ban on burning permanent grassland in Natura 2000 areas between 15 April and 1 July
 4. Minimum proportion of 5 % ecological focus area (structural elements and biotopes) on permanent grassland of the holding
- and Biodiversity + Programme.
 1. Minimum proportion of 10 % or more of ecologically valuable area on permanent grassland of the holding

Other specific conditions for horticultural and tree parcels are added to the following categories:

- organic and mineral fertilisation,
 1. Prohibition of application of pure or processed sewage sludge on market garden areas
 2. Soil analyses for mineral nitrogen (Horti.)
 3. Specific limits for each crop expressed in kg of available nitrogen per hectare of area per crop transition for organic and mineral nitrogen fertilisation (Horti.)
 4. Total available nitrogen from fixed organic and mineral fertilisers (arbori.)
 5. Fixed supply of nitrogen fertiliser (arbori.)
 6. Nitrogen fertiliser input limited to 40 kg of available nitrogen per hectare in case of land application
- and plant health.
 1. Compliance with the principle of mixed cultivation in the case of intensive cultivation of vegetables in the field (Horti.)
 2. For crops in production, soil cover in the form of perennial herbaceous vegetation must be present at least twice between rows. (arbori.)

From the 2025 crop year, the farmer has the additional optional option to waive the use of the active substance glyphosate. The farmer has the choice to participate in this option and will be compensated accordingly. Once the option is chosen, the farmer must participate until the expiry of his commitment. This option only targets arable land and will not be compatible with the aid for organic farming.

[The measure contributes to cross-cutting environmental objectives.](#)

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

[In order to qualify for the premium, the farmer must:](#)

cultivate land;

[operate on the territory of the Grand Duchy of Luxembourg the minimum areas defined](#) (minimum area of 3 hectares of agricultural land, 50 ares of nurseries, 30 ares of orchards, 25 ares of market garden land or 10 ares of vineyards);

[undertake to comply with the cross-compliance and minimum requirements on the entire area of his holding;](#)

[undertake to comply, for five consecutive years, with the conditions for the allocation of the premium on the whole of his agricultural holding and, in the case of conditions relating to the area, over the whole of](#)

its eligible area.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The support is linked to IACS.

O14 What area is eligible?

☒ Agricultural area defined for the CAP plan

☐ Agricultural land including and beyond agricultural area

☐ Non-agricultural land

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
GAEC05	Tillage management, reducing the risk of soil degradation and erosion, including consideration of the slope gradient
GAEC06	Minimum soil cover to avoid bare soil in periods that are most sensitive
GAEC08	Retention of landscape features. Ban on cutting hedges and trees during the bird breeding and rearing season. As an option, measures for avoiding invasive plant species
GAEC09	Ban on converting or ploughing permanent grassland designated as environmentally-sensitive permanent grasslands in Natura 2000 sites
SMR01	Directive 2000/60/EC of 23 October 2000 of the European Parliament and of the Council establishing a framework for Community action in the field of water policy: Article 11(3), point (e), and point (h), as regards mandatory requirements to control diffuse sources of pollution by phosphates
SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5
SMR03	Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds: Article 3(1), Article 3(2), point (b), Article 4(1), (2) and (4)
SMR04	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna: Article 6(1) and (2)
SMR08	Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: Article 5(2) and Article 8(1) to (5); Article 12 with regard to restrictions on the use of pesticides in protected areas defined on the basis of Directive 2000/60/EC and Natura 2000 legislation; Article 13(1) and (3) on handling and storage of pesticides and disposal of remnants

List of relevant mandatory national standards

Basic elements concerning water protection

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy transposed into national legislation by the amended Water Act of 19 December 2008.

Council Directive of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources, transposed into national legislation by the Grand-Ducal Regulation of

24 November 2000 concerning the use of nitrogen fertilisers in agriculture.

Basic elements concerning the protection of biodiversity

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora transposed into national legislation by the Law of 18 August 2018 on the protection of nature and natural resources and the Grand-Ducal Regulation of 1^{August} 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the measures for their reduction, destruction or deterioration.

The aid will only cover voluntary commitments that go beyond the established mandatory standards.

Basic elements concerning plant protection products

Directive 2009/128/EC of the European Parliament and of the Council of 21 October establishing a framework for Community action to achieve the sustainable use of pesticides

Law of 19 December 2014 on plant protection products

Grand Ducal Regulation of 26 September 2017 on the sale, use, and storage of plant protection products.

Grand Ducal Regulation of 26 September 2017 on the sale, use and stock

Chapter 2 – Storage of plant protection products authorised for professional use of plant protection products.

Link between GAEC, SMR and national standards with the intervention

This measure moves away from the baseline for the following requirements:

SMR1: limitation of fertilisation based on soil analyses, bottom manure is carried out according to crop needs on the basis of lower fertility classes compared to class C (optimal class).

SMR2: limiting livestock load to 1,8 LU/ha instead of 2,35 LU/ha

SMR3 and SMR4: ban on the cubic size of hedges, minimum percentage of grassland and permanent pasture area shall be an ecological focus area and/or a biotope area.

SMR8: ban on the use of rodenticide in Natura 2000 areas

GAEC9: the Natura 2000 area is fully classified as a sensitive area

1.02.540	Premium for sustainable and environmentally-friendly agriculture – Agriculture		
Objective:	The agri-environment-climate measure 'Prime for sustainable and environmentally-friendly agriculture' aims to improve biodiversity and water quality and to combat erosion throughout Luxembourg. Indeed, this programme is of particular importance as it aims to encourage the vast majority of farmers to put in place structural elements of the landscape, to adopt best agricultural practices and to promote extensive farming. It is a horizontal measure aimed at a broad participation of farmers.		

	Obligations to be complied with	Requirements and standards/Aid	Explanation of the link between AECM and cross compliance
Basic conditions:	see Chapter 3.10.3.1.	GAE C 5	Additional sensitive permanent grassland is defined. Ploughing is prohibited in these areas.
	.cf Chapter 3.10.3.1.	GAE C 6	Additional sensitive permanent grassland is defined. Ploughing is prohibited in these areas.
	see chapter 3.10.3.1.	GAE C 8	Similar obligations are laid down on permanent grassland.
	(1) Designated as permanent grassland that is environmentally sensitive in protected areas of national interest under Chapter 7 of the Law of 18 July 2018 (Natura areas (2000): 1. biotopes of permanent grassland deriving from Article 17 of the amended Law of 19 January 2004 on protecting nature and natural resources; 2. permanent grassland in flood zones established for extreme floods of average probability for a likely return period of more than 100 years stemming from Article 38 the amended Water Act of 19 December 2008. 3. sensitive grassland containing plants listed in Annex II Regulation of 11 September 2017 establishing a set of support schemes for safeguarding biodiversity by rural environment and accessible on an electronic site set up for this purpose. (2) Conversion and ploughing of sensitive permanent grassland and pasture	GAE C 9	Additional sensitive permanent grassland is defined.

	environmental as defined in point (1) is prohibited.		
	Grand Ducal Regulations lay down general requirements to control adverse effects on water status attributable to diffuse pressures or sources, including dispersed occasional pressures and discharges with a low individual effect, in accordance with the provisions of Article 27.	SMR 1	Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy transposed into national legislation by the amended Water Act of 19 December 2008. The aid will only concern voluntary commitments that go beyond the established mandatory standards.
	The amount of organic fertilising products applied per year per hectare shall not exceed 170 kg of total nitrogen, except for protein crops and pure leguminous crops for which the limit shall be 85 kg of total nitrogen. Pasture management must be such that overgrazing is avoided, i.e. the stocking density is adapted to the yield potential of the pasture vegetation in order to avoid irreversible destruction of the pasture. Particular attention is required in cases where livestock is pastured outside the growing season. The holding holding with more than 2,35 LU of ruminants per ha must document the grazing in a grazing book which shall include at least the number and age of the livestock pasture, the grazing periods and a description of the pasture (location and area). On land with an average slope of more than 8 % and not covered by vegetation, the application of mineral nitrogen fertilisers, slurry, slurry and liquid sewage sludge shall be prohibited unless it is followed by incorporation no later than 48 hours after its application.	SMR 2	Council Directive of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources transposed into national legislation by the Grand-Ducal Regulation of 24 November 2000 concerning the use of nitrogen fertilisers in agriculture. The aid will only concern voluntary commitments that go beyond the established mandatory standards.
	It shall be prohibited to reduce, destroy or deteriorate protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation	SMR 3	Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the

	status of the species has been assessed as not favourable. The size of lively hedges and scrub and the pruning of forest edges shall be prohibited during the period from 1 March to 1 October. An exception is the size of hedges used for the approval of dwellings or parks, as well as the size required by works carried out in forest stands. Any size resulting in the deterioration of hedges, scrub or forest selvages, in particular through the use of inappropriate tools and methods such as the scourge mower, shall be prohibited.		conservation of natural habitats and of wild fauna and flora transposed into national legislation by the Law of 18 August 2018 on the protection of nature and natural resources and the Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and the habitats of species of Community interest for which the conservation status has been assessed as non-favourable, and specifying the related reduction, destruction or deterioration measures. The aid will only concern voluntary commitments that go beyond the established mandatory standards.
	It shall be prohibited to reduce, destroy or deteriorate protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status of the species has been assessed as not favourable. The size of lively hedges and scrub and the pruning of forest edges shall be prohibited during the period from 1 March to 1 October. An exception is the size of hedges used for the approval of dwellings or parks, as well as the size required by works carried out in forest stands. Any size resulting in the deterioration of hedges, scrub or forest selvages, in particular through the use of inappropriate tools and methods such as the scourge mower, shall be prohibited.	SMR 4	Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora transposed into national legislation by the Law of 18 August 2018 on the protection of nature and natural resources and the Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and the habitats of species of Community interest for which the conservation status has been assessed as non-favourable, and specifying the related reduction, destruction or deterioration measures. The aid will only concern voluntary commitments that go beyond the established mandatory standards.
	Plant protection products shall be used properly. Appropriate use includes the application of the principles of good plant protection practice and compliance with the conditions laid down at the time of authorisation of plant protection products and indicated on the labelling.	SMR 8	Directive 2009/128/EC of the European Parliament and of the Council of 21 October establishing a framework for Community action to achieve the sustainable use of pesticides Law of 19 December 2014 on plant protection products Grand-Ducal Regulation of 26 September 2017 on the sale, use and

	Food business operators producing or harvesting plant products must take appropriate measures to ensure, where appropriate, the correct use of plant protection products and biocides, in accordance with the applicable legislation. In particular, food business operators producing or harvesting plant products must keep records of any use of plant protection products and biocides.		storage of plant protection products. Chapter 2 – Storage of plant protection products authorised for professional use of plant protection products. The aid will only concern voluntary commitments that go beyond the established mandatory standards.
Link with an ecoregime	512, 513, 517		Non-productive areas and bands on permanent grassland shall be counted towards reaching the percentage of ecological focus areas on permanent grassland to be respected. For parcels with refuge areas, only 10 % of the parcel will be taken into account.
General conditions of aid 540:	The farmer is classified as an ‘active’ farmer, i.e. he has his own farm number. The minimum duration of participation is 5 years. The request to participate must be submitted by 30 September before the beginning of the first year of participation. Participation is confirmed annually.	540	General condition for obtaining aid
Continuing training	Compulsory training of 10 hours in agroecology and environmental protection and 2 hours of awareness of nitrogen cycle and nitrogen surplus in the first 3 years.	540	This obligation goes beyond the baseline.
Documentation and reasoned management	The keeping of a parcel book is mandatory. This parcel book contains, for each parcel, information on the parcel	540	The aid will only concern voluntary commitments that go beyond the established mandatory standards.

	number, size, crop, expected yield, organic and mineral fertilisers applied (date, type/product, quantity) and plant protection products used (date, product, quantity). The parcel book must be kept on the holding for at least 5 year. Establishment of an application plan for organic fertilisers. Systematic analysis of all areas of the holding for the main nutrients except nitrogen. All organic fertilisers produced or used on the farm must be analysed for their main nutrients every 5 years if production exceeds 100 T/year or 200 m³/year. In the case of a new obligation or fertiliser that has not yet been analysed, the analysis must be carried out at the latest after 3 years. Undertakings operating a biogas plant must have biogas manure analysed every year.		
Landscape maintenance	The cubic size of hedges is prohibited. The maintenance and cleanliness of agricultural buildings and infrastructure, as well as the surroundings of the buildings, must be guaranteed. In the green zone, it is prohibited to permanently park or deposit agricultural machinery, tyres and tarpaulins, as well as construction waste on surfaces not intended for this purpose.	540	These obligations go beyond the baseline.
Maximum	Maintain a moderate livestock density	540	This obligation exceeds the baseline

livestock load	of up to 1,80 ruminant LU/ha (as an annual average).		(2,35 LU/ha).
Organic and mineral fertilisation: Agricultural parcels:	With the exception of parcels subject to an agri-environmental commitment or a biodiversity support scheme prohibiting fertilisation, as well as pastures which do not allow access by agricultural tractors for the purpose of mechanical application of fertilisers, organic fertilisers must be distributed equally and evenly over all land on the holding, including remote land. A farmer with a quantity of organic fertilisers of agricultural origin exceeding 130 kg nitrogen per hectare per year (corresponding to 1.5 unit of manure per hectare of farm area), excluding transfers of organic fertilisers, may not use organic fertilisers of non-agricultural origin, except in the case of co-fermentation of agricultural and non-agricultural organic matter in a biogas plant. For maize cultivation, the limit of 100 kgN/ha for surplus nitrogen after harvest must be respected. Basic fertilisation shall be carried out according to the needs of the crops, based on lower fertility classes compared to class C. Slurry, slurry and liquid sewage sludge shall be incorporated into the soil immediately (no later than 24 hours after spreading). In the case of application of organic fertilisers, a crop must be introduced as soon as possible after harvesting and no later than 15 November.	540	These obligations go beyond the baseline.

	The spreading of manure, compost or sewage sludge (whether or not dehydrated) after harvesting shall be prohibited during the period from 15 November to 1 January on parcels on which maize has been grown. The spreading of pure or processed sewage sludge, in particular by composting, even if it is de-hydrated and limed sludge, is prohibited on permanent grassland.		
Organic and mineral fertilisation: Horticultural parcels	It shall be prohibited to apply pure or processed sewage sludge on the surfaces of market garden crops, in particular by composting and even if the sludge is dehydrated and limed. Organic and mineral nitrogen fertilisation must not exceed the specific limits laid down for each crop, expressed in kg of available nitrogen per hectare of area and per crop passage. Soil analyses for mineral nitrogen.	540	These obligations go beyond the baseline.
Organic and mineral fertilisation: Tree plots	The total quantity of available nitrogen from organic and mineral fertilisers must not exceed 70 kg nitrogen per year per hectare of the entire orchard on the holding, except for soot crops, for which the amount of nitrogen available must not exceed 110 kg per hectare of crop per year. The total nitrogen fertiliser input available must not exceed 50 kg nitrogen per year per hectare of the total area under berry crops on the holding, with the exception of currants, for which this value must not exceed 70 kg per hectare of crop. Nitrogen fertiliser must not exceed 40 kg of available nitrogen per hectare	540	

	when applied.		
Plant health: Agricultural parcels	The use of rodenticides (rodent chemicals) in Natura 2000 areas without prior authorisation is prohibited. The use of total herbicides after harvest until 15 November without sowing a new crop or intermediate crop shall be prohibited.	540	These obligations go beyond the baseline.
Plant health: Horticultural parcels	In the case of intensive field cultivation of vegetables, the principle of mixed cultivation must be respected.	540	This obligation goes beyond the baseline.
Plant health: Tree plots	For crops in production, soil cover in the form of perennial herbaceous vegetation must be present at least twice between rows.	540	This obligation goes beyond the baseline.
Protection of biodiversity	Turning meadows and pastures into sensitive areas without prior authorisation (Natura 2000 areas, protected areas of national interest and sensitive grassland outside Natura 2000) is prohibited. Oversowing on areas of biotopes C in Natura 2000 areas (Except in exceptional cases) is prohibited. The drag of permanent grassland shall be prohibited between 15 April and 1 July in Natura 2000 areas. Minimum proportion of 5 % ecological focus area on permanent grassland of the holding.	540	These obligations go beyond the baseline.
Biodiversity + Programme:	A minimum proportion of 10 % or more of ecologically valuable area on the permanent grassland of the holding.	540	This obligation goes beyond the baseline.

7 Form and rate of support/amounts/calculation methods

☒ IACS

☐ Non-IACS

IACS section

Type of payment

☒ unit cost based on additional costs and income foregone

☐ transaction cost included

☐ one off payment

☐ lump sum

Range of support at beneficiary level

The minimum duration of participation is 5 years.

The request to participate must be submitted by 30 September before the beginning of the first year of participation.

Participation is confirmed annually. The operator undertakes to comply with **all** the conditions (no choice method/option).

The aid scheme is a fixed area payment.

Basic premium

Permanent grassland: EUR 120

Arable soil: EUR 60

Premium +: > 10 % ecological focus area (EFA)

Permanent grassland: EUR 160

Arable soil: EUR 60

Given that EFAs are the result of adequate maintenance of structural elements and extensive management of areas, we will compensate farmers with more than 10 % of EFA income losses. For those between 5 and 10 % and who therefore have fewer ecological focus areas, we will compensate a smaller proportion of the income foregone, thereby encouraging them to increase their EFA areas.

Provision is made for the unit amount of aid to be adjusted according to the size of the holding (as a result of the economy of scale). Aid rates are reduced by about 20 % above 90 ha.

As a result of this degressivity of the aid rate, an average amount per permanent grassland (PP) and an average amount per arable land (TA) is introduced.

Prime for the waiver of use of the active substance Glyles

Arable soil: EUR 30/h

Calculation method

The amounts per crop year and per hectare are: 1a. EUR 120 for permanent grassland and 2a. EUR 60 for Arab land. The amounts allocated for areas exceeding the first 90 hectares shall be: 1b per crop year and per hectare. EUR 95 for permanent grassland and 2b. EUR 50 for Arab land. The amounts for permanent grassland shall be paid as a priority. Where the percentage of permanent grassland constituting ecological focus area 'landscape maintenance' exceeds 10 per cent, a premium supplement shall be paid for permanent grassland. The supplement paid for permanent grassland shall be EUR 40 per crop year and per hectare shall be EUR (1a is equal to EUR 160 for permanent grassland). The supplement for permanent grassland exceeding the first 90 hectares shall be EUR 35 per growing year and per hectare shall be EUR (1b is equal to EUR 130 for permanent grassland).

Additional explanation

See section 12 for further information.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

What are the models of the commitment(s) in the intervention?

- ☒ result based (with possibility to pick and choose)
☐ management based (with possibility to pick and choose)
☐ hybrid (management and result based)

Please explain the obligations/possibilities for beneficiaries in relation to the commitments set out in the intervention

If the farmer terminates his commitment before the end of the five-year period, he must repay, except in

cases of force majeure and exceptional circumstances, the full amounts of the premium paid, unless he is in one of the following situations:

— he shall transfer all the areas of his holding to one or more other farmers who take over the commitment for the remaining period;

— he permanently ceases his agricultural activities after having completed at least three years of his commitment and a takeover of that activity by another farmer is not feasible.

What is the duration of contracts?

The minimum duration of the commitment is 5 years.

10 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.02.540.UA01 - Average rate per hectare Permanent Grassland	Grant	91(2)(d)-LU-20.00%	Average		R.14; R.19; R.21; R.22	No
2.02.540.UA02 - Average rate per hectare Arable Land	Grant	91(2)(d)-LU-20.00%	Average		R.14; R.19; R.21; R.22	No
2.02.540.UA03 - Measure 540 – old average rate contracts per ha PP and TA	Grant	91(2)(d)-LU-20.00%	Average		R.14; R.19; R.21; R.22	Yes
2.02.540.UA04 - renunciation of Glyphosate	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21; R.22; R.24	No

Explanation and justification related to the value of the unit amount

2.02.540.UA01 - Average rate per hectare Permanent Grassland

Eligible costs shall be justified by calculations of additional costs and income foregone resulting from the commitment made.

Justification of the additional costs of conditions on areas under permanent shells in the fields

- training,
- documentation and reasoned management,
- of the maximum livestock load
- and organic and mineral fertilisation.

This results in a sum of EUR 232,73/ha to be considered as loss of income.

The compensation amounts are lower than the estimated income gap, with the compensation being partial.

The type of planned unit amount is determined as an average, as a modulation of the unit amount of aid according to the size of the holding has been introduced. The amounts allocated for areas exceeding the first 90 hectares are reduced by 20 % above 90 hectares. The amounts for permanent grassland (PP) are paid as a matter of priority.

Additional explanations: This degressivity introduced justifies the choice of an average amount for areas under permanent grassland and an average amount for arable land. It is uncertain how the areas are subdivided between the two crop groups on a year-by-year farm and how farms will commit themselves. The degressivity threshold (90 ha) is not fixed to a crop group but applies over the entire area of the holding. The area under permanent grassland first fills the range up to 90 ha. This shift to an average unit amount has no impact on the accession to the measure.

2.02.540.UA02 - Average rate per hectare Arable Land

Eligible costs shall be justified by calculations of additional costs and income foregone resulting from the commitment made.

Justification of the additional costs of conditions on arable land in areas

- training,
- documentation and reasoned management,
- and organic and mineral fertilisation.

This results in a sum of EUR 80,23/ha to be considered as loss of income.

The compensation amounts are lower than the estimated income gap, with the compensation being partial.

The type of planned unit amount is determined as an average, as a modulation of the unit amount of aid according to the size of the holding has been introduced. The amounts allocated for areas exceeding the first 90 hectares are reduced by 20 % above 90 hectares. The amounts for permanent grassland (PP) are paid as a matter of priority.

Additional explanations: This degressivity introduced justifies the choice of an average amount for areas under permanent grassland and an average amount for arable land. It is uncertain how the areas are subdivided between the two crop groups on a year-by-year farm and how farms will commit themselves. The degressivity threshold (90 ha) is not fixed to a crop group but applies over the entire area of the holding. The area under permanent grassland first fills the range up to 90 ha. This shift to an average unit amount has no impact on adherence to the measure.

2.02.540.UA03 - Measure 540 – old average rate contracts per ha PP and TA

Eligible costs shall be justified by calculations of additional costs and income foregone resulting from the commitment made in the previous programming period.

Justification of the additional costs of conditions on arable land in areas

- training,
- documentation and reasoned management,
- and organic and mineral fertilisation.

The compensation amounts are lower than the estimated income gap, with the compensation being partial.

The type of planned unit amount is determined as an average, as a modulation of the unit amount of aid according to the size of the holding has been introduced. The amounts allocated for areas exceeding the first 90 hectares are reduced by 20 % above 90 hectares. The amounts for permanent grassland (PP) are paid as a matter of priority.

Additional explanations: This degressivity introduced justifies the choice of an average amount for areas under permanent grassland and an average amount for arable land. It is uncertain how the areas are subdivided between the two crop groups on a year-by-year farm and how farms will commit themselves. The degressivity threshold (90 ha) is not fixed to a crop group but applies over the entire area of the holding. The area under permanent grassland first fills the range up to 90 ha. This shift to an average unit amount has no impact on adherence to the measure.

For the contracts carried over, the determination of an average UM for all areas taken together (arable land and permanent grassland) also makes it possible to link payments and penalties for all old contracts to a budget code which will be linked to a single measure code (internal to national management) to monitor old contracts in compliance with the new performance framework and its management system.

2.02.540.UA04 - renunciation of Glyphosate

The economic study 'Die wirtschaftliche Bedeutung von Glyde at in Deutschland' carried out by Kleffmann Groupe (2017) determined the economic losses caused by the renunciation of Glyla. According to the main arable crops, losses are estimated at between EUR 76/ha and EUR 233/ha.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.540.UA01 - Average rate per hectare Permanent Grassland (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	138.00	138.00	138.00	138.00	138.00	138.00	138.00	
	Maximum planned average unit amount (where applicable) (EUR)	160.00	160.00	160.00	165.00	165.00	165.00	165.00	
	O.14 (unit: Hectares)	0.00	0.00	5,750.00	5,750.00	59,029.00	58,843.00	0.00	Sum: 129,372.00 Max: 59,029.00
2.02.540.UA02 - Average rate per hectare Arable Land (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	56.00	56.00	56.00	56.00	56.00	56.00	56.00	
	Maximum planned average unit amount (where applicable) (EUR)	60.00	60.00	60.00	65.00	65.00	65.00	65.00	
	O.14 (unit: Hectares)	0.00	0.00	4,000.00	4,000.00	28,500.00	28,500.00	0.00	Sum: 65,000.00 Max: 28,500.00

2.02.540.UA03 - Measure 540 – old average rate contracts per ha PP and TA (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	100.05	100.05	100.05	100.05	0.00	0.00	0.00	
	Maximum planned average unit amount (where applicable) (EUR)	107.00	107.00	107.00	160.00	0.00	0.00	0.00	
	O.14 (unit: Hectares)	0.00	111,670.80	101,373.00	78,565.82	0.00	0.00	0.00	Sum: 291,609.62 Max: 111,670.80
2.02.540.UA04 - renunciation of Glyphosate (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)				30.00	30.00	30.00	30.00	
	Maximum planned average unit amount (where applicable) (EUR)				35.00	35.00	35.00	35.00	
	O.14 (unit: Hectares)				23,000.00	23,000.00	23,000.00	23,000.00	Sum: 92,000.00 Max: 23,000.00
TOTAL	O.14 (unit: Hectares)	0.00	111,671.80	111,823.00	111,316.00	110,528.90	110,343.00	0.00	Sum: 555,682.70 Max: 111,823.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	11,183,376.00	11,169,870.00	11,179,161.00	11,029,988.00	11,004,334.00	0.00	55,566,729.00
	Annual indicative financial allocation (Union Contribution in EUR)	0.00	2,236,675.20	2,233,974.00	2,235,832.00	2,205,998.00	2,200,867.00	0.00	11,113,346.20
	Out of which carry-over (Total public Expenditure in EUR)	0.00	11,129,870.15	10,152,369.65	10,161,660.29	0.00	0.00	0.00	31,443,900.09
	Out of which carry-over (Union contribution in EUR)	0.00	2,225,974.03	2,030,473.93	2,032,332.06	0.00	0.00	0.00	6,288,780.02

	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.02.542 - Premium for sustainable and environmentally-friendly agriculture — Viticulture

Intervention Code (MS)	2.02.542
Intervention Name	Premium for sustainable and environmentally-friendly agriculture — Viticulture
Type of Intervention	ENVCLIM(70) - Environmental, climate-related and other management commitments
Common Output Indicator	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: Yes ES rebate system: No LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly in the territory of the Grand Duchy of Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B4.4	Promoting carbon sequestration in soils	P2	Yes
B5.3	Reduce the use of plant protection products and limit the risks and negative effects associated with	P2	Yes
B5.4	Ensuring soil fertility and combating soil degradation	P2	Yes
B6.1	Developing environmentally-friendly and climate-friendly farming practices	P1	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.14 Share of utilised agricultural area (UAA) under supported commitments to reduce emissions or to maintain or enhance carbon storage (including permanent grassland, permanent crops with permanent green cover, agricultural land in wetland and peatland)

R.19 Share of utilised agricultural area (UAA) under supported commitments beneficial for soil management to improve soil quality and biota (such as reducing tillage, soil cover with crops, crop rotation included with leguminous crops)

R.21 Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies

R.24 Share of Utilised Agricultural Area (UAA) under supported specific commitments which lead to a sustainable use of pesticides in order to reduce risks and impacts of pesticides, such as pesticides leakage

R.31 Share of utilised agricultural area (UAA) under supported commitments for supporting biodiversity conservation or restoration including high-nature-value farming practices

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

The measure aims to promote integrated vine production, in particular to reduce the impact of vine cultivation on water, the environment and the climate. This is a **modular approach** consisting of a horizontal measure aiming at a high participation of winegrowing (basic module BASIC) and highly targeted optional options. Particular attention is paid to vineyards with very steep slopes and terraces made of dry masonry.

The objective is to promote:

- Integrated production as a generic measure (Module referred to as “BASIC”). The conditions for this basic premium (BASIC) are set at a relatively low level in order to ensure maximum participation. BASIC applies to all parcels on the holding.
- Targeted agri-environment and/or climate measures (hereinafter referred to as ‘OPTIONS’). The farmer may choose at the level of each parcel, the HERB option and an additional option depending on the environmental, microclimate and soil constraints. These options are optional and constitute specific measures focusing on AEC services targeted at defined plots of land:
 - ERO: highly effective protection against erosion in sloping vineyards;
 - HERB: a 100 % reduction in herbicides;
 - BIODIV: an increase in pollinating insects and soil fertility through the implantation of melliferous mixtures with chicaceae in vineyards not treated with insecticides;
 - ORG: carbon sequestration by organic manure of plant origin in wine-growing soils with no organic matter.

In order to facilitate the administrative management of the measure, it is proposed that “BASIC” and “OPTIONS” actions be integrated into a single intervention. This approach reduces the number of interventions and ensures flexibility and coherence.

Maintaining vine cultivation in areas of high ecological, landscape and tourist value (cf. very steep slopes and terrace) is one of the main priorities of this intervention.

- For reasons of administrative simplification, it is included in the “BASIC” module. This area is eligible for the ‘HERB’ option in order to reward winegrowers who opt out of herbicides, given that grazing is managed manually with binettes or mowers.
- Steep slope and terrace vineyards are an important refuge for species

Generic measure – BASIC Module – conditions:

- Training,
 1. Compulsory training of 10 hours in agroecology and environmental protection and 2 hours of awareness of the nitrogen cycle and nitrogen surpluses in the first 3 years
- Documentation and reasoned management,
 1. Keeping a parcel book
 2. Establishment of an application plan for organic fertilisers if FU > 100
 3. Soil analyses: Obligation to systematically analyse all land on the farm on major nutrients

every 3 to 5 years (except nitrogen)

4. Nitrogen fumide reasoningsheet

- Landscapemaintenance,
 1. Prohibition of cubic pruning of hedges
 2. Maintenance and cleanliness of agricultural buildings and infrastructure
 3. Ban on parking agricultural machinery in the green zone
 4. Maintenance of vine cultivation on steep slopes and terraces
- Organic and mineral fertilisation,
 1. Prohibition of sewage sludge in vineyards
- Erosion control;
 1. Soil cover in at least each second interline must be provided with herbaceous vegetation
- Plant health;
 1. Prohibition of pre-emergence herbicides
- Protection of biodiversity;
 1. Soil cover in at least each second interline must be provided with herbaceous vegetation

Optional measures – ERO Module (anti-erosion/anti-erosion slope control) – conditions:

The soil must have permanent herbaceous vegetation in each line line. In the absence of herbaceous vegetation in each line, one line spacing in two must be covered by soil and the other must be herbaceous vegetation. The cover can be achieved using straw or a similar product. Grass cover may be renewed before 1 June of each year of the commitment.

Optional measures – HERB Module (herbicide ban) – conditions:

The use of herbicides is prohibited on parcels selected by the farmer.

This sub-measure encourages winegrowers to use alternative non-chemical methods (ploughing or waving under the rank...).

As herbicides are prohibited in this sub-measure, maintenance of the soil below the row may rest:

- on 100 % mechanical floor working to control weed development. Mechanical work makes it possible to combat compaction, promote the balanced development of the root system and bury organic soil improvers.
- on grass, which consists of maintaining and maintaining a green cover, whether natural or sown, under the rows.

Optional measures – Module biodiv (Biodiversity: Floor – beak) – conditions:

This sub-measure aims to promote the use of a grassland mixture in each second line at least which

- promotes the presence of diversified flowers and melliferous plants that benefit bees. This diversification of pollen and nectar sources makes it possible to enrich the food boil of pollinating insects and provide them with pollen (i.e. proteins) in sufficient quality and quantity. Poor nutrition can lead to the weakening of their natural defences.
- improves the fertility of the soil with mamaceae. The Manufacture is a nitrogen trap which is essential for plant growth and development: once buried in the soil, this nitrogen can be transmitted and assimilated by vines. Green fertilisers also have the advantage of maintaining soil cover, thus preventing nutrients from being leached by rainfall and thus maintaining a rich soil.

This soil cover in at least each second line shall be sown every 2 years.

Optional measures – Module ORG (organic manure) – conditions:

The aim of this action is to increase the organic matter content of low organic matter in wine-growing soils by promoting the application of organic matter in the form of compost. The use of compost of urban origin is not eligible.

The incorporation of stable organic matter into the soil instead of mineral nitrogen also constitutes CO₂ capture. The production of mineral nitrogen also requires large amounts of energy. In addition, NO_x, other greenhouse gases, also comes from a few industrial processes such as fertiliser manufacturing. Another N₂O source is nitrification/denitrification phenomena in cultivated soils due in particular to the use of mineral nitrogen fertilisers and the management of animal manure.

In order to ensure grass cover, it is essential to improve the content of organic matter in the wine-growing soils concerned.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

In order to qualify for the premium, the farmer must:

cultivate land;

exploit in the territory of the Grand Duchy of Luxembourg the minimum areas defined – wine-growing area of 10 ares;

undertake to comply with the cross-compliance and minimum requirements on the entire area of his holding;

undertake to comply, for five consecutive years, with the conditions for the allocation of the premium on the whole of his agricultural holding and, in the case of conditions relating to the area, over the whole of its eligible area.

The topographical situation of vineyard parcels (slope, terrace, mechanisation potential) is used as a major tool for targeting the measure. Vineyard parcels are classified in 5 areas.

- Zone I – Vignoble. Definition: vineyard parcel with an average gradient of less than 15 %;
- Zone II – sloping vineyard: Definition: any area planted with vines with an average gradient of 15 % or more but less than 30 %;
- Zone III – steep slope. Definition: vineyard parcel with an average gradient of 30 % or more;
- Zone IV – Vignoble on a very steep slope. Definition: vineyard parcel with an average gradient of 45 % or more and on which the maintenance work cannot be carried out on wine-growing tractors.
- Zone V – terraced gowns. Definition: vineyard plot consisting of soil enrichment maintained by a natural support structure or dry masonry and on which the maintenance work cannot be carried out on winegrowing tractors.

The tolerance for measuring slopes is set at 3 % gradient in favour of the applicant.

The following table shows the eligibility of vineyard parcels in different areas for optional measures: (The generic BASIC measure applies to all vineyard parcels.)

Option	Eligibility of the parcel located:
[ERO] “anti-erosion slope” OPTION	In zone III
[Herb] OPTION “Prohibition of herbicides”	In zones I, II, III, IV and V
[Biodiv] OPTION “Biodiversity Sol – Abeille”	In zones I, II, III Ban on insecticides protected against cluster worm with the technique of sexual confusion. (“Mating corruption”).
[ORG] OPTION Organic fumide of vegetable origin	In zones I, II, III With soil with an organic matter content of 2 %

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The support is linked to IACS.

O14 What area is eligible?

☒ Agricultural area defined for the CAP plan

☐ Agricultural land including and beyond agricultural area

☐ Non-agricultural land

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
GAEC05	Tillage management, reducing the risk of soil degradation and erosion, including consideration of the slope gradient
GAEC06	Minimum soil cover to avoid bare soil in periods that are most sensitive
SMR01	Directive 2000/60/EC of 23 October 2000 of the European Parliament and of the Council establishing a framework for Community action in the field of water policy: Article 11(3), point (e), and point (h), as regards mandatory requirements to control diffuse sources of pollution by phosphates
SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5
SMR07	Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC: Article 55, first and second sentence
SMR08	Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: Article 5(2) and Article 8(1) to (5); Article 12 with regard to restrictions on the use of pesticides in protected areas defined on the basis of Directive 2000/60/EC and Natura 2000 legislation; Article 13(1) and (3) on handling and storage of pesticides and disposal of remnants

List of relevant mandatory national standards

Basic elements concerning water protection

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy transposed into national legislation by the amended Water Act of 19 December 2008.

Council Directive of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources, transposed into national legislation by the Grand-Ducal Regulation of 24 November 2000 concerning the use of nitrogen fertilisers in agriculture.

Basic elements concerning the protection of biodiversity

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora transposed into national legislation by the Law of 18 August 2018 on the protection of nature and natural resources and the Grand-Ducal Regulation of 1^{August} 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the measures for their reduction, destruction or deterioration.

The aid will only cover voluntary commitments that go beyond the established mandatory standards.

Basic elements concerning plant protection products

Directive 2009/128/EC of the European Parliament and of the Council of 21 October establishing a framework for Community action to achieve the sustainable use of pesticides

Law of 19 December 2014 on plant protection products

Grand Ducal Regulation of 26 September 2017 on the sale, use, and storage of plant protection products.

Grand Ducal Regulation of 26 September 2017 on the sale, use and stock

Chapter 2 – Storage of plant protection products authorised for professional use of plant protection products.

Link between GAEC, SMR and national standards with the intervention

NO.	Sub-intervention	Basic elements
1	Training	None
2	Parcel booklet	None
3	Ban on the spreading of sewage sludge	SMR 1 1. Basic condition for this measure (no compensation) Phosphorus manure must comply with certain annual limit values resulting from soil analysis. For wine-growing and horticultural soils with an organic matter content not exceeding 2 % Corg over the surface horizon (0-30 cm), phosphate fertilisation by means of organic fertilisers of agricultural origin or by compost alone shall be limited to 170 kg of total nitrogen 2. Council Directive of 12 June 1986 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture: è Grand-Ducal Regulation of 23 December 2014 on sewage sludge. Article 3: The sludge may be used or delivered for use provided that: 1. concentrations of heavy metals or organic pollutants in such sludge shall not exceed the limit values laid down in Annexes IA and IB; 2. concentrations of heavy metals in soils for sludge use shall not exceed the limit values set out in

		Annex IIA. 3. Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the related reduction, destruction or deterioration measures. è Prohibition of destruction of biotopes and prohibition (Annex 2): — Any action at the level of the water body and its shores without ministerial authorisation; — The modification, liming, fertilisation, use of biocides or pesticides within a radius of 10 metres around the water body; — Ploughing, turning, filling and unpacking within a radius of 10 metres around the water body.
4	Soil analysis	None
5	Ground cover	GAEC 5 Existing retain terraces shall be maintained. Mechanical tillage of vineyards shall be prohibited between 1 October and 1 March, except in the following cases: — where organic matter is added, — in the case of replanting, — in the case of sub-soldering works for the purpose of deep ventilation of the soil without destroying the grass cover, — in the case of sowing of green cover

		GAEC 6 Spontaneous herbaceous vegetation in the interline must remain in place from 1 October to 1 March, except in the case of winter green cover.
6	Nitrogen fumide reasoning sheet	SMR 2 1.amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture. The application of mineral nitrogen fertilisers shall be prohibited during the period from 15 October to 15 February. The spreading of slurry, purin, digestate, liquid sewage sludge, soft manure, poultry manure and poultry manure is prohibited. · during the period from 15 October to 1 March on uncovered soils · during the period from 15 October to 15 February on covered soils other than grassland and pastures, · during the period from 15 November to 15 February on meadows and pastures. 2.Grand-Ducal Regulation of 25 November 2011 – cross-compliance. The amount of organic fertilisers applied per year per hectare shall not exceed 170 kg of total nitrogen 3.Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the related reduction, destruction or

		deterioration measures. Prohibition (Annex 2): — The modification, liming, fertilisation, use of biocides or pesticides within a radius of 10 metres around the water body; — Ploughing, turning, filling and unpacking within a radius of 10 metres around the water body. GAEC 4 Grand-Ducal Regulation of 25 November 2011 – cross-compliance. It is intended for the application of organic fertilisers to a distance of less than 10 metres from water courses and water bodies for organic fertilisers. The application of mineral nitrogen fertilisers must take place so as to ensure that the application is directed away from river banks. Any discharge of nitrogen fertilisers into water courses is prohibited. The spreading of mineral nitrogen fertilisers is prohibited over a 3 metre strip from the lakes of the banks of the rivers mentioned in the River Management Plan for the Rhine and Meuse River Basin Districts.
8	Prohibition of pre-emergence herbicides	SMR 7. 1. Law of 19 December 2014 on plant protection products Article 7. (1) Plant protection products shall be used properly. Appropriate use includes the application of the principles of good plant protection practice and compliance with the conditions laid down in the authorisation of plant protection products and mentioned on the

		labelling. 2. Grand-Ducal Regulation of 25 November 2011 – cross-compliance. The control of oidium and mildiou of the vine is mandatory, except in vineyards planted with varieties resistant to these diseases. At least one labourou one bad grass cut per year is to be carried out in vineyards. Cetteoperation can be replaced by herbicide treatment in vineyards which are difficult to mechanise The cleaning and filling of sprayers shall be carried out in such a way that direct or indirect pollution of surface water and groundwater is avoided. The application of plant protection products should be limited to cultivated areas. Plant protection treatments should not be carried out if climatic conditions are inappropriate for their efficacy. Plant protection products must be used in such a way that maximum levels and conditions of use are respected. Destruction by ploughing or total herbicides of herbaceous strips and slopes along rural roads is prohibited 1. Grand Ducal Regulation of 26 September 2017 on the sale, use, and storage of plant protection products. Article 7. Unless the approval provides otherwise, those using products authorised for professional use shall wear appropriate personal protective equipment that is at least equivalent to the equipment recommended on the plant

		protection product's safety data sheet and label. Employers shall provide personal protective equipment to their employees. SMR 8 1. Law of 19 December 2014 on plant protection products: Article 5. Paragraph 2: Professional users, distributors and advisers must hold a certificate issued by the Minister. Those certificates shall, as a minimum, attest to sufficient knowledge of the subjects listed in Annex I to this Law. 2. Law of 19 December 2014 on plant protection products Article 8. (1) Equipment for the application of plant protection products used by professionals must be inspected at regular intervals. The interval between inspections shall not exceed three years. 3. Law of 19 December 2014 on plant protection products Article 10. Specific measures for the protection of the aquatic environment and water intended for human consumption: 4. Grand-Ducal Regulation of 9 July 2013 on administrative measures in all protection zones for bodies of groundwater or parts of bodies of groundwater used as a resource for the production of water intended for human consumption, Appendix II List of active substances whose use is prohibited or restricted in close and remote protection zones. 5. Grand Ducal Regulation of

		26 September 2017 on the sale, use and stock Chapter 2 – Storage of plant protection products authorised for professional use of plant protection products. 6. Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the related reduction, destruction or deterioration measures. Amendment, liming, fertilisation, use of biocides or pesticides within a radius of 10 metres around the water body.
9	Maintenance of vine cultivation on very steep slopes and terraces	GAEC 5 Existing retain terraces shall be maintained. Mechanical tillage of vineyards shall be prohibited between 1 October and 1 March, except in the following cases: - in the case of input of organic matter, - in case of replanting - in the case of sub-soldering works for deep ventilation of the soil without destroying the grass cover - in case of winter green cover sowing GAEC 6:

		Spontaneous herbaceous vegetation in the interline must remain in place between 1 October and 1 March, except in the case of winter green cover. SMR 3 + 4 Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the related reduction, destruction or deterioration measures. Prohibition of destruction of biotopes
10	[ERO] “sloping anti-erosion” OPTION	GAEC 5 Existing retain terraces shall be maintained. Mechanical tillage of vineyards shall be prohibited between 1 October and 1 March, except in the following cases: in the case of input of organic matter, in case of replanting in the case of sub-soldering works for deep ventilation of the soil without destroying the grass cover in case of winter green cover sowing GAEC 6: The spontaneous herbaceous vegetation in the interlines must remain in place between 1 October

		and 1 March, except in the case of a winter green cover.
11	[Herb] herbicide ban OPTION	Idem Number 7
12	[Biodiv] OPTION “Biodiversity Sol – Bill”	GAEC 5 Mechanical tillage of vineyards shall be prohibited between 1 October and 1 March, except in the following cases: in the case of input of organic matter, in case of replanting in the case of sub-soldering works for deep ventilation of the soil without destroying the grass cover in case of winter green cover sowing SMR 3 + 4 Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the related reduction, destruction or deterioration measures. Prohibition of destruction of biotopes
13	[ORG] OPTION of organic manure of plant origin	SMR 2 1.amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture. The application of mineral nitrogen fertilisers shall be prohibited during the period from 15 October to 15 February. The spreading of slurry, purin, digestate, liquid sewage sludge,

		soft manure, poultry manure and poultry manure is prohibited. · during the period from 15 October to 1 March on uncovered soils · during the period from 15 October to 15 February on covered soils other than grassland and pastures, · during the period from 15 November to 15 February on meadows and pastures. 2. Grand-Ducal Regulation of 25 November 2011 – cross-compliance. The amount of organic fertilisers applied per year per hectare shall not exceed 170 kg of total nitrogen 3. Grand-Ducal Regulation of 1 August 2018 establishing protected biotopes, habitats of Community interest and habitats of species of Community interest for which the conservation status has been assessed as unfavourable, and specifying the related reduction, destruction or deterioration measures. Prohibition (Annex 2): — The modification, liming, fertilisation, use of biocides or pesticides within a radius of 10 metres around the water body; — Ploughing, turning, filling and unpacking within a radius of 10 metres around the water body. GAEC 4 Grand-Ducal Regulation of 25 November 2011 – cross-compliance. It is intended for the application of organic fertilisers to a distance of less than 10 metres from water courses and water bodies for

		organic fertilisers. The application of mineral nitrogen fertilisers must take place so as to ensure that the application is directed away from river banks. Any discharge of nitrogen fertilisers into water courses is prohibited. The spreading of mineral nitrogen fertilisers is prohibited over a 3 metre strip from the lakes of the banks of the rivers mentioned in the River Management Plan for the Rhine and Meuse River Basin Districts.

7 Form and rate of support/amounts/calculation methods

☒ IACS

☐ Non-IACS

IACS section

Type of payment

☒ unit cost based on additional costs and income foregone

☐ transaction cost included

☐ one off payment

☐ lump sum

Range of support at beneficiary level

The minimum duration of participation is 5 years.

The request to participate must be submitted by the deadline of 30 September preceding the start of the first year of participation.

Confirmation of participation shall be made annually. The farmer undertakes to comply with all the conditions on his entire holding and, as regards the conditions relating to the area, over his entire eligible area.

The aid scheme is a fixed area payment.

1. Conditions to be complied with on all the vineyard parcels on the holding and remuneration in accordance with the BASIC sub-measure code.
2. The possibility of opting for facultatlife measures (Submeasures: ERO, HERB, biodiv or ORG) for vineyard parcels.

IN THEPAST

The different measures shall apply on the same vineyard parcel throughout the period of the commitment.

The measures may not be cumulated for the same vineyard parcel except for the optional herbicide ban measure which can be cumulated with a maximum of one other optional measure (see table of compatibility).

Calculation method

Sub-measure code	Target area	Wording	Premium allocated

			EUR/ha
BASIC	I	Integrated production	400
	II		500
	III		700
	IV	Maintenance of vines with integrated production.	3500
	V		3500
ERO	III	Anti-erosion measures	1100
HERB	I	100 % reduction in herbicides	500
	II		600
	III		650
	IV		780
	V		780
BIODIV	I	Soil biodiversity – Abeille	200
	II		230
	III		260
ORG	I	Organic fumure of plant origin in soils with low organic matter	450
	II		500
	III		800

The basic premium shall be fixed per crop year and per hectare at:

1. EUR400 for vineyards with a slope of less than 15 %;
2. EUR500 for sloping vineyards;
3. EUR700 for steep sloping vineyards;
4. EUR 3,500 for steep sloping vineyards and terraced vineyards.

The amount of the premium for the optional anti-erosion measure is fixed per crop year and per hectare at EUR 1,100.

The amount of the premium for the optional measure relating to the ban on herbicides shall be fixed per crop year and per hectare at:

1. EUR500 for vineyards with a slope of less than 15 %;
2. EUR600 for sloping vineyards;
3. EUR650 for steep sloping vineyards;
4. EUR780 for steep sloping vineyards and terraced vineyards.

The amount of the premium for the optional measure to improve biodiversity shall be fixed per crop year and per hectare at:

1. EUR200 for vineyards with a slope of less than 15 %;
2. EUR230 for sloping vineyards;
3. EUR260 for steep sloping vineyards.

The amount of the premium for the optional measure relating to soil fertility shall be fixed per crop year and per hectare at:

1. EUR450 for vineyards with a slope of less than 15 %;
2. EUR500 for sloping vineyards;

3. EUR800 for steep sloping vineyards.

Additional explanation

A vineyard parcel which consists of soil enrichment maintained by a supporting structure and on which maintenance work can be carried out by means of direct traction machinery shall be considered as function of its average slope. A tolerance of a slope of 3 per cent is granted in favour of the citizen.

Table of compatibility between the various interventions in winegrowing:

	BASIC	Opt. ERO	Opt. HERB	Opt. BIODIV	Opt. ORG	Organic (1)	Mating disruption (2)
BASIC		X	X	X	X	X	X
Opt. ERO	X		X			X	X
Opt. HERB	X	X		X	X	CN	X
Opt. BIODIV	X		X			X	X
Opt. ORG	X		X			CN	X
Organic (1)	X	X	CN	X	CN		CN
Mating Disruption (2)	X	X	X	X	X	CN	

(1) 2.02.543 – support for the conversion and maintenance of agriculture

(2) 1.02.516 – aid for the use of synthetic pheromones in viticulture

NC = not compatible due to double funding

X = compatible

See also Part 12 for further explanations.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

What are the models of the commitment(s) in the intervention?

- ☒ result based (with possibility to pick and choose)
☐ management based (with possibility to pick and choose)
☐ hybrid (management and result based)

Please explain the obligations/possibilities for beneficiaries in relation to the commitments set out in the intervention

If the farmer terminates his commitment before the end of the five-year period, he must repay, except in cases of force majeure and exceptional circumstances, the full amounts of the premium paid, unless he is in one of the following situations:

- he shall transfer all the areas of his holding to one or more other farmers who take over the commitment for the remaining period;
- he permanently ceases his agricultural activities after having completed at least three years of his commitment and a takeover of that activity by another farmer is not feasible.

What is the duration of contracts?

The minimum duration of the commitment is 5 years.

10 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.02.542.UA01 - Measure 542 – Uniform rate per hectare BASIC_ZI	Grant	91(2)(d)-LU-20.00%	Uniform		R.19; R.31	No
2.02.542.UA02 - Measure 542 – Uniform rate per hectare BASIC_ZII	Grant	91(2)(d)-LU-20.00%	Uniform		R.19; R.31	No
2.02.542.UA03 - Measure 542 – Uniform rate per hectare BASIC_ZIII	Grant	91(2)(d)-LU-20.00%	Uniform		R.19; R.31	No
2.02.542.UA04 - Measure 542 – Uniform rate per hectare BASIC_ZIV and ZV	Grant	91(2)(d)-LU-20.00%	Uniform		R.19; R.31	No
2.02.542.UA05 - Measure 542 – Uniform rate per hectare ERO_ZIII	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.31	No
2.02.542.UA06 - Measure 542 – Uniform rate per hectare HERB_ZI	Grant	91(2)(d)-LU-20.00%	Uniform		R.19; R.21; R.24; R.31	No
2.02.542.UA07 - Measure 542 – Uniform rate per hectare HERB_ZII	Grant	91(2)(d)-LU-20.00%	Uniform		R.19; R.21; R.24; R.31	No
2.02.542.UA08 - Measure 542 – Uniform rate per hectare HERB_ZIII	Grant	91(2)(d)-LU-20.00%	Uniform		R.19; R.21; R.24; R.31	No
2.02.542.UA09 - Measure 542 – Uniform rate per hectare HERB_ZIV and ZV	Grant	91(2)(d)-LU-20.00%	Uniform		R.19; R.21; R.24; R.31	No
2.02.542.UA10 - Measure 542 – Uniform rate per hectare BIODIV_ZI	Grant	91(2)(d)-LU-20.00%	Uniform		R.19; R.21; R.24; R.31	No
2.02.542.UA11 - Measure 542 – Uniform rate per hectare BIODIV_ZII	Grant	91(2)(d)-LU-20.00%	Uniform		R.19; R.21; R.24; R.31	No
2.02.542.UA12 - Measure 542 – Uniform rate per hectare BIODIV_ZIII	Grant	91(2)(d)-LU-20.00%	Uniform		R.19; R.21; R.24; R.31	No
2.02.542.UA13 - Measure 542 – Uniform rate per hectare ORG_ZI	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.31	No
2.02.542.UA14 - Measure 542 – Uniform rate per hectare ORG_ZII	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.31	No
2.02.542.UA15 - Measure 542 – Uniform rate per hectare ORG_ZIII	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.31	No
2.02.542.UA16 - Measure 542 – Average old contracts	Grant	91(2)(d)-LU-20.00%	Average		R.14; R.19; R.21; R.24; R.31	Yes

Explanation and justification related to the value of the unit amount
2.02.542.UA01 - Measure 542 – Uniform rate per hectare BASIC_ZI

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA02 - Measure 542 – Uniform rate per hectare BASIC_ZII

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA03 - Measure 542 – Uniform rate per hectare BASIC_ZIII

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;

- opportunity costs.

2.02.542.UA04 - Measure 542 – Uniform rate per hectare BASIC_ZIV and ZV

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA05 - Measure 542 – Uniform rate per hectare ERO_ZIII

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA06 - Measure 542 – Uniform rate per hectare HERB_ZI

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA07 - Measure 542 – Uniform rate per hectare HERB_ZII

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA08 - Measure 542 – Uniform rate per hectare HERB_ZIII

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA09 - Measure 542 – Uniform rate per hectare HERB_ZIV and ZV

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);

- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA10 - Measure 542 – Uniform rate per hectare BIODIV_ZI

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA11 - Measure 542 – Uniform rate per hectare BIODIV_ZII

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA12 - Measure 542 – Uniform rate per hectare BIODIV_ZIII

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt

- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA13 - Measure 542 – Uniform rate per hectare ORG_ZI

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA14 - Measure 542 – Uniform rate per hectare ORG_ZII

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA15 - Measure 542 – Uniform rate per hectare ORG_ZIII

The amounts of aid shall be calculated on the basis of the following references:

- Wine-growing work units “KTBL Datensammlung Weinbau und Kellerwirtschaft” 2017 ISBN 978-3-945088-42-5 KTBL Bartningstr. 49 D-64289 Darmstadt
- Rentalprice for equipment and services established by Luxembourg mutual agricultural assistance company MBR (MBR Lëtzebuerg B.P. 19 L-7701 Colmar-Berg mail@mbr.lu);
- Current prices of 2020 excluding vine inputs.

Costs are always calculated in relation to the GAEC or ERMG baselines.

- additional labourcosts incurred compared to the reference;
- croplosses calculated in relation to the average production in the Luxembourg wine-growing region;
- opportunity costs.

2.02.542.UA16 - Measure 542 – Average old contracts

As regards the contracts carried over, the determination of an average UM for all the areas considered together also makes it possible to link the payments and penalties of all old contracts to a budget code which will be linked to a single measure code (internal to national management) to monitor old contracts in compliance with the new performance framework and its management system.

The average unit amount should take into account all existing contract types and compensation levels ranging from EUR 250/ha to EUR 1 400/ha. It remains difficult to determine the exact average amount as it is not foreseeable which of the 15 possible options will continue to exist and thus also the budget to be foreseen. The determination of the amount and the realisations therefore remain rather intuitive.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.542.UA01 - Measure 542 – Uniform rate per hectare BASIC_ZI (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	400.00	400.00	400.00	400.00	400.00	400.00	400.00	
	Maximum planned average unit amount (where applicable) (EUR)				480.00	480.00	480.00	480.00	
	O.14 (unit: Hectares)	0.00	192.00	202.00	208.00	242.00	242.00	0.00	Sum: 1,086.00 Max: 242.00
2.02.542.UA02 - Measure 542 – Uniform rate per hectare BASIC_ZII (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	500.00	500.00	500.00	500.00	500.00	500.00	500.00	

	Maximum planned average unit amount (where applicable) (EUR)				600.00	600.00	600.00	600.00	
	O.14 (unit: Hectares)		441.00	461.00	481.00	561.00	561.00	0.00	Sum: 2,505.00 Max: 561.00
2.02.542.UA03 - Measure 542 – Uniform rate per hectare BASIC_ZIII (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	700.00	700.00	700.00	700.00	700.00	700.00	700.00	
	Maximum planned average unit amount (where applicable) (EUR)				850.00	850.00	850.00	850.00	
	O.14 (unit: Hectares)		214.00	221.00	226.00	264.00	264.00	0.00	Sum: 1,189.00 Max: 264.00
2.02.542.UA04 - Measure 542 – Uniform rate per hectare BASIC_ZIV and ZV (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	
	Maximum planned average unit amount (where applicable) (EUR)				4,000.00	4,000.00	4,000.00	4,000.00	
	O.14 (unit: Hectares)	0.00	25.00	26.00	28.00	33.00	33.00	0.00	Sum: 145.00 Max: 33.00
2.02.542.UA05 - Measure 542 – Uniform rate per hectare ERO_ZIII (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	1,100.00	1,100.00	1,100.00	1,100.00	1,100.00	1,100.00	1,100.00	
	Maximum planned average unit amount (where applicable) (EUR)				1,300.00	1,300.00	1,300.00	1,300.00	

	O.14 (unit: Hectares)	0.00	128.00	132.00	138.00	148.00	148.00	0.00	Sum: 694.00 Max: 148.00
2.02.542.UA06 - Measure 542 – Uniform rate per hectare HERB_ZI (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	500.00	500.00	500.00	500.00	500.00	500.00	500.00	
	Maximum planned average unit amount (where applicable) (EUR)				600.00	600.00	600.00	600.00	
	O.14 (unit: Hectares)	0.00	106.00	109.00	112.00	132.00	132.00	0.00	Sum: 591.00 Max: 132.00
2.02.542.UA07 - Measure 542 – Uniform rate per hectare HERB_ZII (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	600.00	600.00	600.00	600.00	600.00	600.00	600.00	
	Maximum planned average unit amount (where applicable) (EUR)				700.00	700.00	700.00	700.00	
	O.14 (unit: Hectares)	0.00	246.00	257.00	261.00	306.00	306.00	0.00	Sum: 1,376.00 Max: 306.00
2.02.542.UA08 - Measure 542 – Uniform rate per hectare HERB_ZIII (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	650.00	650.00	650.00	650.00	650.00	650.00	650.00	
	Maximum planned average unit amount (where applicable) (EUR)				800.00	800.00	800.00	800.00	
	O.14 (unit: Hectares)	0.00	139.00	140.00	141.00	144.00	144.00	0.00	Sum: 708.00 Max: 144.00
2.02.542.UA09 - Measure 542 – Uniform rate per hectare HERB_ZIV and ZV (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	780.00	780.00	780.00	780.00	780.00	780.00	780.00	

	Maximum planned average unit amount (where applicable) (EUR)				950.00	950.00	950.00	950.00	
	O.14 (unit: Hectares)	0.00	15.00	16.00	16.00	18.00	18.00	0.00	Sum: 83.00 Max: 18.00
2.02.542.UA10 - Measure 542 – Uniform rate per hectare BIODIV_ZI (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	200.00	200.00	200.00	200.00	200.00	200.00	200.00	
	Maximum planned average unit amount (where applicable) (EUR)				240.00	240.00	240.00	240.00	
	O.14 (unit: Hectares)	0.00	36.00	37.00	39.00	45.00	45.00	0.00	Sum: 202.00 Max: 45.00
2.02.542.UA11 - Measure 542 – Uniform rate per hectare BIODIV_ZII (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	230.00	230.00	230.00	230.00	230.00	230.00	230.00	
	Maximum planned average unit amount (where applicable) (EUR)				280.00	280.00	280.00	280.00	
	O.14 (unit: Hectares)	0.00	85.00	87.00	90.00	105.00	105.00	0.00	Sum: 472.00 Max: 105.00
2.02.542.UA12 - Measure 542 – Uniform rate per hectare BIODIV_ZIII (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	260.00	260.00	260.00	260.00	260.00	260.00	260.00	
	Maximum planned average unit amount (where applicable) (EUR)				310.00	310.00	310.00	310.00	

	O.14 (unit: Hectares)	0.00	40.00	41.00	42.00	49.00	49.00	0.00	Sum: 221.00 Max: 49.00
2.02.542.UA13 - Measure 542 – Uniform rate per hectare ORG_ZI (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	450.00	450.00	450.00	450.00	450.00	450.00	450.00	
	Maximum planned average unit amount (where applicable) (EUR)				540.00	540.00	540.00	540.00	
	O.14 (unit: Hectares)	0.00	19.00	20.00	21.00	23.00	23.00	0.00	Sum: 106.00 Max: 23.00
2.02.542.UA14 - Measure 542 – Uniform rate per hectare ORG_ZII (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	500.00	500.00	500.00	500.00	500.00	50.00	500.00	
	Maximum planned average unit amount (where applicable) (EUR)				600.00	600.00	600.00	600.00	
	O.14 (unit: Hectares)	0.00	46.00	49.00	51.00	57.00	57.00	0.00	Sum: 260.00 Max: 57.00
2.02.542.UA15 - Measure 542 – Uniform rate per hectare ORG_ZIII (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	800.00	800.00	800.00	800.00	800.00	800.00	800.00	
	Maximum planned average unit amount (where applicable) (EUR)				950.00	950.00	950.00	950.00	
	O.14 (unit: Hectares)	0.00	15.00	16.00	17.00	20.00	20.00	0.00	Sum: 88.00 Max: 20.00
2.02.542.UA16 - Measure 542 – Average old contracts (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	0.00	800.00	800.00	800.00				

	Maximum planned average unit amount (where applicable) (EUR)				960.00				
	O.14 (unit: Hectares)		300.00	250.00	200.00	0.00	0.00	0.00	Sum: 750.00 Max: 300.00
TOTAL	O.14 (unit: Hectares)	0.00	2,047.00	2,064.00	2,073.00	2,147.00	2,147.00	0.00	Sum: 10,478.00 Max: 2,147.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	1,298,750.00	1,298,750.00	1,297,960.00	1,272,730.00	1,298,380.00	0.00	6,466,570.00
	Annual indicative financial allocation (Union Contribution in EUR)	0.00	259,750.00	259,750.00	259,592.00	254,546.00	259,676.00	0.00	1,293,314.00
	Out of which carry-over (Total public Expenditure in EUR)	0.00	240,000.00	200,000.00	160,000.00	0.00	0.00	0.00	600,000.00
	Out of which carry-over (Union contribution in EUR)	0.00	48,000.00	40,000.00	32,000.00	0.00	0.00	0.00	120,000.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.02.543 - Support for the conversion and maintenance of organic farming

Intervention Code (MS)	2.02.543
Intervention Name	Support for the conversion and maintenance of organic farming
Type of Intervention	ENVCLIM(70) - Environmental, climate-related and other management commitments
Common Output Indicator	O.17. Number of hectares or number of other units benefitting from support for organic farming
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: Yes ES rebate system: No LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

SO6 Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

SO9 Improve the response of Union agriculture to societal demands on food and health, including high quality, safe, and nutritious food produced in a sustainable way, the reduction of food waste, as well as improving animal welfare and combatting antimicrobial resistances

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B4.2	Reducing GHG emissions	P1	Yes
B4.5	Ensuring resilience to climate change	P2	Partially
B5.2	Reducing ammonia emissions from the agricultural sector	P1	Yes
B5.3	Reduce the use of plant protection products and limit the risks and negative effects associated with	P2	Yes
B6.1	Developing environmentally-friendly and climate-friendly farming practices	P1	Yes
B6.4	Limiting intensification and promoting extensification, especially in sensitive areas	P1	Yes
B9.3	Reducing the use of antibiotics and plant protection products in agriculture	P2	Partially
B9.5	Raising the standard of taking into account animal welfare on farms	P2	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold
R.14 Share of utilised agricultural area (UAA) under supported commitments to reduce emissions or to maintain or enhance carbon storage (including permanent grassland, permanent crops with permanent green cover, agricultural land in wetland and peatland)
R.19 Share of utilised agricultural area (UAA) under supported commitments beneficial for soil management to improve soil quality and biota (such as reducing tillage, soil cover with crops, crop rotation included with leguminous crops)
R.21 Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies
R.24 Share of Utilised Agricultural Area (UAA) under supported specific commitments which lead to a sustainable use of pesticides in order to reduce risks and impacts of pesticides, such as pesticides leakage
R.29 Share of utilised agricultural area (UAA) supported by the CAP for organic farming with a split between maintenance and conversion
R.31 Share of utilised agricultural area (UAA) under supported commitments for supporting biodiversity conservation or restoration including high-nature-value farming practices
R.43 Share of livestock units (LU) concerned by supported actions to limit the use of antimicrobials (prevention/reduction)
R.44 Share of livestock units (LU) covered by supported actions to improve animal welfare

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

The agri-environment-climate measure ‘Aid for organic farming’ aims to encourage and support organic farming.

This type of agriculture renounces the use of mineral fertilisers and synthetic plant protection products and includes restrictions on imports of feed and food. Organic production follows the principle of a closed-loop system. It makes it possible to reduce the environmental impact compared to the conventional production method, in particular by avoiding the use of synthetic plant protection products. On organic farms managed in accordance with the regulations, nutrient and energy balances (assessed per unit area) are among the best and their impact on biodiversity in Luxembourg is generally recognised as limited.

Ensuring the quality of groundwater and surface water is a major environmental issue in the national strategic plan. Thanks to its specification, organic farming is a production method that has less negative impact on water quality than conventional farming.

In organic farming, extensive rotations with long intermediate periods with protein crops or meadows and the input of organic matter contribute to good soil management. By increasing the level of organic matter in the soil, organic farming methods contribute to carbon sequestration.

This type of agriculture renounces the use of mineral fertilisers and synthetic plant protection products and imposes restrictions on imports of fodder and feed. Organic production follows the principle of a circular system. Environmental impacts can be reduced compared to conventional cultivation, in particular by renouncing synthetic plant protection products. Nutritional balances and energy balances (measured per unit of area) are among the best in organic farms run according to good practice and their impact on biodiversity in Luxembourg is generally recognised as limited.

Ensuring the quality of groundwater and surface water is a major environmental challenge for the Luxembourg NSP. According to its specification, organic farming is an agricultural production method which has a less negative impact on water quality than conventional farming.

In organic farming, extensive rotations with long intermediate periods with protein crops or grass sowing, as well as the input of organic matter contribute to good soil management. By increasing organic matter in soil, organic production methods contribute to carbon sequestration.

Continuous training and apprenticeships play a key role in achieving the above objectives. Thus, the beneficiaries of the aid are closely supervised by being able to benefit from information sessions, access to demonstration and testing fields, visits to a network of demonstration farms and documentation on cultivation practices. An advisory service specifically focused on organic farming is also provided to beneficiaries.

The intervention has two components:

A module aims to provide support during the conversion phase to organic farming. This 3-year phase is the most difficult phase with the highest yield losses, especially as the products cannot yet be sold under an organic label. Efforts to familiarise themselves with this method of production are the most intense during this period and more support is needed, not only from a financial point of view but also from an advisory and knowledge transfer point of view.

After the conversion period, the soil is considered to have regenerated sufficiently, yields are stabilising, although at a lower level than in conventional farming, the necessary expertise is established and the products can be sold under an organic farming label.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

Be identified as an active farmer within the administration.

Submit an annual application for assistance.

Crops are eligible for payments only if they are managed in accordance with the usual organic production and cultivation rules for this type of production.

Prohibition of ploughing permanent grassland within Special Protection Areas and Protected Areas of National Interest.

In winegrowing and fruit growing, the fight against cluster worm must be carried out using methods based on sexual confusion ('Mating Disruption').

Given the possible interactions with other interventions aimed at reducing inputs, certain measures are not compatible with this intervention or require a financial correction in case this incompatibility is only partial.

Temporary grazing, with a maximum duration of 4 months per year, with conventional animals on certified organic or in-conversion UAA is allowed. It should be noted that animal products remain conventional, while the areas are organically grown.

The provisions of European and national organic farming regulations apply

- Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007)
- Implementing Regulation (EU) 2020/464 or;
- for products not covered by Regulation (EU) 2018/848 or a national regulation, comply with the specifications drawn up by a Luxembourg organic producer organisation and duly approved by the Minister for Agriculture.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The support is linked to IACS.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
GAEC07	Crop rotation in arable land, except for crops growing under water
SMR06	Council Directive 96/22/EC of 29 April 1996 concerning the prohibition on the use in stockfarming of certain substances having a hormonal or thyrostatic action and beta-agonists, and repealing Directives 81/602/EEC, 88/146/EEC and 88/299/EEC: Article 3, points (a), (b), (d) and (e), and Articles 4, 5 and 7

SMR07	Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC: Article 55, first and second sentence
SMR08	Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: Article 5(2) and Article 8(1) to (5); Article 12 with regard to restrictions on the use of pesticides in protected areas defined on the basis of Directive 2000/60/EC and Natura 2000 legislation; Article 13(1) and (3) on handling and storage of pesticides and disposal of remnants
SMR09	Council Directive 2008/119/EC of 18 December 2008 laying down minimum standards for the protection of calves: Articles 3 and 4
SMR10	Council Directive 2008/120/EC of 18 December 2008 laying down minimum standards for the protection of pigs: Articles 3 and 4
SMR11	Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes: Article 4

List of relevant mandatory national standards

Specific conditions	Administrative control	On-the-spot check (OTSC)	base level (conditionality, GAEC...)
Mineral fertilisers and synthetic PPPs are not allowed		FMC Parcellar log	fertilisation and the use of pesticides are authorised with approved products and in accordance with their intended instructions for use.
The maximum fertilisation standards are the same as those of the base level		FMC Parcellar log	At grassland and arable crops level, organic fertilisation is limited to 170 kg Norg, total fertilisation is limited according to the standards laid down in the National Legislation on the transposition of Directive 91/676/EEC
The standards for the load of livestock are the same as those for the base level.	Administrative check		Livestock load is limited to 2.35 LU/ha
Minimum activity control via AMS			

Link between GAEC, SMR and national standards with the intervention

1.02.543	Support for conversion to and		

	maintenance of organic farming		
Purpose:	The agri-environment-climate measure 'Aid for organic farming' aims to encourage and support organic farming.		
	Obligations to be complied with	Requirements and standards/Aid	Explanation of the link between AECM and conditionality
Basic conditions:	Each year, the farmer shall ensure that there is a crop change on a reasonable share of his arable land, for example on 40 % of arable land (instead of 100 %). In order to rule out the possibility that this flexibility leaves certain areas under monoculture, as an additional safeguard, provision is made in this case for: — After 3 years, all parcels of arable land are assumed to be rotated or, in other words, there must always be a change of main crop after 3 years (e.g. 1 parcel: maize, maize, maize = > change). — secondary or intermediate crops may be used to ensure the minimum annual rotation (1 parcel: maize + intermediate crop, maize + intermediate crop, maize + intermediate crop...	GAE C 7	In organic farming, soil fertility and organic activity shall be preserved and increased by multiannual crop rotation, including mandatory leguminous crops as main crops or cover crops for rotational crops and other green fertiliser crops, except in the case of pasture and perennial fodder.
	Prohibition on the use in stockfarming of certain substances having a hormonal or thyrostatic action and of beta-agonists	SMR 6	Grand-Ducal Regulation of 30 April 2009 prohibiting the use in stockfarming of certain substances having a hormonal or thyrostatic action and of beta-agonists In organic farming, no products with hormonal action or beta-agonists are accepted.
	The farmer must apply the principles of good plant protection practice, compliance with the labelling conditions and the general principles of integrated pest management. In AB the minimum dimensions per	SMR 7	Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing the Directives Council 79/117/EEC and 91/414/EEC,

	animal and housing conditions are stricter.		Art. 55, 1st and 2nd sentences. In organic farming, no synthetic plant protection products are accepted.
	The farmer must be aware of the provisions to be applied concerning the application of pesticides (material, methods, protected areas, disposal of residues, etc.).	SMR 8	Grand Ducal Regulation of 26 September 2017 on the sale, use and storage of plant protection products In organic farming, no synthetic plant protection products are accepted.
	The farmer must comply with the minimum standards for the protection of calves	SMR 9	The Directive was transposed into national legislation by the amended Grand-Ducal Regulation of 4 February 1994 laying down minimum standards for the protection of calves. In AB the minimum dimensions per animal and housing conditions are stricter.
	The farmer must comply with the minimum standards for the protection of pigs.	SMR 10	Grand-Ducal Regulation of 17 March 2003 laying down minimum standards for the protection of pigs In AB the minimum dimensions per animal and housing conditions are stricter.
	The farmer must respect the protection of animals on farms	SMR 11	The Directive was transposed into national legislation by the Grand-Ducal Regulation of 14 April 2000 on the protection of animals kept for farming purposes. In AB the minimum dimensions per animal and housing conditions are stricter.
Link with an ecoregion	The AECM is not compatible with the following eco-schemes: 512 513 514, variant herbicide reduction 514, alternative reduction of growth regulators 516, use of pheromones in viticulture		512: Non-productive areas are not eligible for MAEC 543. 513: Non-productive bands are not eligible for MAEC 543. 514: The use of herbicides and growth regulators is prohibited in organic farming 516: The use of pheromone dispensers is mandatory in organic farming.

General conditions for aid 543:	The provisions of European and national organic farming regulations shall apply to: — Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007 — Commission Implementing Regulation (EU) 2020/464 of 26 March 2020 laying down rules for the application of Regulation (EU) 2018/848 of the European Parliament and of the Council as regards the documents required for the retroactive recognition of conversion periods, the production of organic products and the information to be provided by Member States or; — for products not covered by Regulation (EU) 2018/848 or by a national regulation, which comply with specifications drawn up by a Luxembourg producer organisation and approved by the Minister for Agriculture	543	Organic farming conditions go beyond the baseline.

7 Form and rate of support/amounts/calculation methods

☒ IACS

☐ Non-IACS

IACS section

Type of payment

☒ unit cost based on additional costs and income foregone

☐ transaction cost included

☐ one off payment

☐ lump sum

Range of support at beneficiary level

This is a per hectare compensation paid annually to farmers who have an undertaking for this aid and who have declared agricultural parcels cultivated according to the modality of this aid scheme in their aid application.

In order to maintain the aid amounts per eligible ha shall be:

- EUR300/ha for grassland
- EUR300/ha for arable crops
- EUR 550/ha for potatoes
- EUR 1150/ha for field marshalling, fruiticulture and non-production winegrowing
- EUR 1500/ha for fruit and viticulture in production and vegetables under fixed cover

For conversion, the amounts of aid per eligible ha shall be:

- EUR400/ha for grassland
- EUR450/ha for arable crops
- EUR700/ha for potatoes
- EUR 2000/ha for field marshalling, fruiticulture and non-production winegrowing
- EUR 2500/ha for fruit and viticulture in production and vegetables under fixed cover

Calculation method

Comparison of production costs and yields of organic farming with conventional farming.

Additional explanation

None.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

What are the models of the commitment(s) in the intervention?

- ☒ result based (with possibility to pick and choose)
☐ management based (with possibility to pick and choose)
☐ hybrid (management and result based)

Please explain the obligations/possibilities for beneficiaries in relation to the commitments set out in the intervention

If the farmer terminates his commitment before the end of the five-year period, he must repay, except in cases of force majeure and exceptional circumstances, the full amounts of the premium paid, unless he is in one of the following situations:

- he shall transfer all the areas of his holding to one or more other farmers who take over the commitment for the remaining period;
- he permanently ceases his agricultural activities after having completed at least three years of his commitment and a takeover of that activity by another farmer is not feasible.

What is the duration of contracts?

5 years

10 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of

production employed.

There is no requirement to produce in order to qualify for such aid.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.02.543.UA01 - Measure 543 – Rate per hectare No 1 DBP	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21; R.24; R.29; R.31; R.43; R.44	Yes
2.02.543.UA02 - Measure 543 – Rate per hectare No 2 TAB	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21; R.24; R.29; R.31; R.43; R.44	Yes
2.02.543.UA03 - Measure 543 – Rate per hectare No 3 PDTB	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21; R.24; R.29; R.31; R.43; R.44	Yes
2.02.543.UA04 - Measure 543 – Rate per hectare No 4 MVSB	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21; R.24; R.29; R.31; R.43; R.44	Yes
2.02.543.UA05 - Measure 543 – Rate per hectare No 5 MVAB	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21; R.24; R.29; R.31; R.43; R.44	Yes
2.02.543.UA06 - Measure 543 – Rate per hectare No 6 CSF	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21; R.24; R.29; R.31; R.43; R.44	Yes
2.02.543.UA07 - Measure 543 – Rate per hectare No 7 TAC	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21; R.24; R.29; R.31; R.43; R.44	Yes
2.02.543.UA08 - Measure 543 – Rate per hectare No 8 PdTC	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21; R.24; R.29; R.31; R.43; R.44	Yes
2.02.543.UA09 - Measure 543 – Rate per hectare No 9 MVSC	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21; R.24; R.29; R.31; R.43; R.44	Yes
2.02.543.UA10 - Measure 543 – Rate per hectare No 10 MVAC	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21; R.24; R.29; R.31; R.43; R.44	Yes

Explanation and justification related to the value of the unit amount

2.02.543.UA01 - Measure 543 – Rate per hectare No 1 DBP

The calculation of the economic justification is based on additional costs and income foregone.

2.02.543.UA02 - Measure 543 – Rate per hectare No 2 TAB

The calculation of the economic justification is based on additional costs and income foregone.

2.02.543.UA03 - Measure 543 – Rate per hectare No 3 PDTB

The calculation of the economic justification is based on additional costs and income foregone.

2.02.543.UA04 - Measure 543 – Rate per hectare No 4 MVSB

The calculation of the economic justification is based on additional costs and income foregone.

2.02.543.UA05 - Measure 543 – Rate per hectare No 5 MVAB

The calculation of the economic justification is based on additional costs and income foregone.

2.02.543.UA06 - Measure 543 – Rate per hectare No 6 CSF

The calculation of the economic justification is based on additional costs and income foregone.

2.02.543.UA07 - Measure 543 – Rate per hectare No 7 TAC

The calculation of the economic justification is based on additional costs and income foregone.

2.02.543.UA08 - Measure 543 – Rate per hectare No 8 PdTC

The calculation of the economic justification is based on additional costs and income foregone.

2.02.543.UA09 - Measure 543 – Rate per hectare No 9 MVSC

The calculation of the economic justification is based on additional costs and income foregone.

2.02.543.UA10 - Measure 543 – Rate per hectare No 10 MVAC

The calculation of the economic justification is based on additional costs and income foregone.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.543.UA01 - Measure 543 – Rate per hectare No 1 DBP (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	300.00	300.00	300.00	300.00	300.00	300.00	300.00	
	Maximum planned average unit amount (where applicable) (EUR)				360.00	360.00	360.00	360.00	
	O.17 (unit: Hectares)	0.00	3,500.00	6,000.00	8,000.00	8,000.00	9,500.00	0.00	Sum: 35,000.00 Max: 9,500.00
2.02.543.UA02 - Measure 543 – Rate per hectare No 2 TAB (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	300.00	300.00	300.00	300.00	300.00	300.00	300.00	
	Maximum planned average unit amount (where applicable) (EUR)				360.00	360.00	360.00	360.00	
	O.17 (unit: Hectares)	0.00	3,500.00	6,000.00	8,000.00	8,000.00	9,500.00	0.00	Sum: 35,000.00 Max: 9,500.00

2.02.543.UA03 - Measure 543 – Rate per hectare No 3 PDTB (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	550.00	550.00	550.00	550.00	550.00	550.00	550.00	
	Maximum planned average unit amount (where applicable) (EUR)				650.00	650.00	650.00	650.00	
	O.17 (unit: Hectares)	0.00	30.00	40.00	50.00	50.00	50.00	0.00	Sum: 220.00 Max: 50.00
2.02.543.UA04 - Measure 543 – Rate per hectare No 4 MVSb (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	1,150.00	1,150.00	1,150.00	1,150.00	1,150.00	1,150.00	1,150.00	
	Maximum planned average unit amount (where applicable) (EUR)				1,380.00	1,380.00	1,380.00	1,380.00	
	O.17 (unit: Hectares)	0.00	50.00	60.00	70.00	80.00	80.00	0.00	Sum: 340.00 Max: 80.00
2.02.543.UA05 - Measure 543 – Rate per hectare No 5 MVAB (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	
	Maximum planned average unit amount (where applicable) (EUR)				1,800.00	1,800.00	1,800.00	1,800.00	
	O.17 (unit: Hectares)	0.00	90.00	110.00	150.00	200.00	200.00	0.00	Sum: 750.00 Max: 200.00
2.02.543.UA06 - Measure 543 – Rate per hectare No 6 CSF (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	400.00	400.00	400.00	400.00	400.00	400.00	400.00	
	Maximum planned average unit amount (where applicable) (EUR)				500.00	500.00	500.00	500.00	

	O.17 (unit: Hectares)	0.00	1,000.00	2,500.00	4,000.00	4,000.00	2,500.00	0.00	Sum: 14,000.00 Max: 4,000.00
2.02.543.UA07 - Measure 543 – Rate per hectare No 7 TAC (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	450.00	450.00	450.00	450.00	450.00	450.00	450.00	
	Maximum planned average unit amount (where applicable) (EUR)				540.00	540.00	540.00	540.00	
	O.17 (unit: Hectares)	0.00	1,000.00	2,500.00	4,000.00	4,000.00	2,500.00	0.00	Sum: 14,000.00 Max: 4,000.00
2.02.543.UA08 - Measure 543 – Rate per hectare No 8 PdTC (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	700.00	700.00	700.00	700.00	700.00	700.00	700.00	
	Maximum planned average unit amount (where applicable) (EUR)				850.00	850.00	850.00	850.00	
	O.17 (unit: Hectares)	0.00	10.00	20.00	30.00	20.00	20.00	0.00	Sum: 100.00 Max: 30.00
2.02.543.UA09 - Measure 543 – Rate per hectare No 9 MVSC (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	
	Maximum planned average unit amount (where applicable) (EUR)				2,400.00	2,400.00	2,400.00	2,400.00	
	O.17 (unit: Hectares)	0.00	10.00	20.00	20.00	20.00	10.00	0.00	Sum: 80.00 Max: 20.00
2.02.543.UA10 - Measure 543 – Rate per hectare No 10 MVAC (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	

	Maximum planned average unit amount (where applicable) (EUR)				3,000.00	3,000.00	3,000.00	3,000.00	
	O.17 (unit: Hectares)	0.00	20.00	40.00	50.00	40.00	30.00	0.00	Sum: 180.00 Max: 50.00
TOTAL	O.17 (unit: Hectares)	0.00	9,210.00	17,290.00	24,370.00	24,410.00	24,390.00	0.00	Sum: 99,670.00 Max: 24,410.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	3,236,000.00	6,135,000.00	8,719,000.00	8,773,500.00	8,353,500.00	0.00	35,217,000.00
	Annual indicative financial allocation (Union Contribution in EUR)	0.00	647,200.00	1,227,000.00	1,743,800.00	1,754,700.00	1,670,700.00	0.00	7,043,400.00
	Out of which carry-over (Total public Expenditure in EUR)	0.00	2,000,000.00	1,236,000.00	0.00	0.00	0.00	0.00	3,236,000.00
	Out of which carry-over (Union contribution in EUR)	0.00	400,000.00	247,200.00	0.00	0.00	0.00	0.00	647,200.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.02.544 - Support for slurry injection and manure composting

Intervention Code (MS)	2.02.544
Intervention Name	Support for slurry injection and manure composting
Type of Intervention	ENVCLIM(70) - Environmental, climate-related and other management commitments
Common Output Indicator	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: Yes ES rebate system: No LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B4.2	Reducing GHG emissions	P1	Yes
B5.2	Reducing ammonia emissions from the agricultural sector	P1	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.14 Share of utilised agricultural area (UAA) under supported commitments to reduce emissions or to maintain or enhance carbon storage (including permanent grassland, permanent crops with permanent green cover, agricultural land in wetland and peatland)

R.20 Share of utilised agricultural area (UAA) under supported commitments to reduce ammonia emission

R.21 Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

Through the application of innovative techniques, this measure allows for considerable improvements in ammoniacal and nitracal losses and in the overall recovery of organic matter as a result of the use of special expensive equipment such as skating or injector ramp spreaders. Through direct burial with special equipment or pre-composting respectively, the actions contribute significantly to reducing NO₂ and NH₃ emissions. As regards slurry application, this measure contributes significantly to the reduction of ammonia emissions to air under the National Air Pollution Control Programme (NEC-2019) and to surface discharge to unwanted sites outside the application areas (waters, biotopes, etc.). In addition, these

techniques contribute to a better use of organic nitrogen by the plant. As a result, there will be fewer vertical transfers of nitrogen compounds to soil. In the short term, this measure aims to raise farmers' awareness of making greater use of these techniques. The operation also aims to improve the recovery of manure by composting with a self-propelled Andean Turner. The technique of composting manure represents various environmental benefits. The first advantage is to clean up manure. The rise in temperature caused the destruction of pathogenic germs and the inactivation of weed seeds. This makes it possible to reduce herbicide products when crops are dried up. A second advantage is the removal of bad odours, which allows application to pastures. These aspects are of particular interest in drinking water protection areas. The mineralisation process is indeed problematic in championships, especially maize, or the mineralisation process does not follow the growth stages of the plants. The process generally reduces nitrogen losses to the environment. Urea and ammoniacal nitrogen contained in manure is reinserted into the microbial mass, repeated tests have shown no significant loss of nitrogen by liquid route. Losses of land application are virtually zero because nitrogen from compositions is almost entirely present in organic, non-volatile form. This measure contributes to the cross-cutting objectives of environment, innovation and climate. The CULTAN options are also beneficial for water quality, as plants better assimilate nitrogen and there are fewer nitrate losses that are likely to pollute the water.

This measure covers the spreading and incorporation of liquid manure and composting of soft manure. The incorporation of manure after spreading is covered by measure ER 1.02.518 and not by this agri-environmental measure. There is therefore a clear distinction between these two measures and there is no risk of double funding.

The improvement of low ammonia emission storage conditions is covered by investment measures.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

Be identified as an active farmer within the administration.

Submit an annual application for assistance.

The measure is applicable to all indigenous land.

Work carried out using the following agricultural machinery is eligible:

- Online filing: skating ramp
- Injection into the soil, including Strip-Till injectors;
- Injection into soil including Strip-Till injectors according to the CULTAN principle in combination with an injection pump for mineral nitrogen fertilisers as part of the Controlled Uptake Long Term Ammonium Nutrition process
- Mineral injectors per wheel according to the CULTAN principle
- Self-propelled Andean Turner.

Option 1: Drop online

Obligation to spread slurry, purin and liquid digestate used annually on farm areas using a skating ramp spreader. If the farmer is not in possession of the application technique referred to above, the obligation consists of the annual application of slurry and slurry to the areas operated by an agricultural undertaking. The quantity of manure, purin and liquid digestate referred to above and eligible for payment shall be calculated on a flat-rate basis, on the basis of standards laid down by the competent authority, on the basis of the livestock on the holding and taking into account any imports and/or exports of slurry and purins to other holdings or users.

Obligation to bury slurry, purin and liquid digestate as soon as possible and at the latest within 4 hours of spreading if the land is applied on bare soil and using skating ramp application;

Option 2: Injection into soil

Obligation to spread purin and liquid digestate used annually on the areas of the holding using an injector capable of burying slurry/slurry into the soil on grassland and arable land. If the farmer is not in

possession of the aforementioned spreading technique, the obligation consists of the annual application of slurry and purine to the areas used by the agricultural undertaking. The quantity of manure, purin and liquid digestate referred to above and eligible for payment shall be calculated on a flat-rate basis, on the basis of standards laid down by the competent authority, on the basis of the herd held on the farm and taking into account any imports and/or exports of slurry and purins to other holdings or users;

Option 3: Injection into soil according to the CULTAN principle including Strip-Till

The use of the CULTAN measure consists of mixing the manure from the farm with a liquid ammonium fertiliser in very precise proportions and injecting this mixture into the soil. The CULTAN method makes it possible to obtain a reduction of nitrates in the soil. In order to achieve this mixing, it is necessary to use injecting ammoniacal mineral nitrogen pumps handled with a labour force formed during the process of filling the slurry barrels. This mixture must be applied by injection into soil. Option 3 for the injection of organic fertiliser into the soil through the slot and Strip-Till techniques can be implemented with options 1 and 2, however, in order to avoid overlapping aid sources for the same eligible costs, the amounts of options 1 and 2 are not paid for the parcels contracted under option 3.

The option is linked to a consultancy service that will establish an annual land application plan per farm. For control reasons, the farmer is required to provide invoices and proof of transfer showing that the land application in question has been carried out, including a copy of the specific spreading plan referred to above. The time limit for receipt of the above documents after the end of the crop year will be set by the competent authority.

Option 4: mineral injectors per wheel according to the CULTAN principle

The advantages of the CULTAN methods are explicitly described under option 3. The application of stretch-cutting ramp also avoids overlaps and limits spreading exactly over the working width. This will allow the spreading of adjacent edges or watercourses.

When fertilisation by wheel alone, liquid ammonium is used. It is not mixed with slurry. Fertilisation per wheel is also compatible with options 1, 2 and 3 within the limits of the fertilisation ceilings per crop.

The option subsidises part of the costs between the price for the use of a conventional fertiliser and the price for this machine.

The option is linked to a consultancy service that will establish an annual land application plan per farm. For control reasons, the farmer is required to provide invoices and proof of transfer showing that the land application in question has been carried out, including a copy of the specific spreading plan referred to above. The time limit for receipt of the above documents after the end of the crop year will be set by the competent authority.

Option 5: Composting

Obligation to compost manure annually. For control reasons, the farmer is required to provide invoices proving that the compost in question has been turned, unless he himself has a self-propelled Andean inverter. The time limit for receipt of invoices after the end of the crop year will be set by the competent authority.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The support is linked to IACS.

O14 What area is eligible?

- ☒ Agricultural area defined for the CAP plan
- ☐ Agricultural land including and beyond agricultural area
- ☐ Non-agricultural land

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
SMR01	Directive 2000/60/EC of 23 October 2000 of the European Parliament and of the Council establishing a framework for Community action in the field of water policy: Article 11(3), point (e), and point (h), as regards mandatory requirements to control diffuse sources of pollution by phosphates
SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5

List of relevant mandatory national standards

Baseline: There is no obligation to bury or spread liquid organic fertilisers with a skid or injector ramp in the Nitrates Action Programme. There is no obligation to compost manure. The action plan provided for in Annex III to the NEC Directive is intended in the short term first to voluntary measures, since it does not yet have any obligations in relation to the application of organic nitrogen fertilisers.

In addition to the specific conditions	Administrative check	On-the-spot check (OTSC)	base level (cross-compliance, GAEC...)
Spreading with skating ramp	Checking of evidence of spreading,	Field control and machinery	
Sealing with injector	Checking of evidence of spreading,	Field control and machinery	
CULTAN mixing slurry and mineral fertilisers	Checking of evidence of spreading,	Field control and machinery	
Sulphurising of mineral fertilisers	Checking of evidence of spreading,	Field control and machinery	
Composting of manure	Checking of evidence of spreading,	Field control and machinery	

Link between GAEC, SMR and national standards with the intervention

1.02.544	Aid for manure injection and composting		
Purpose:	The 'manure incorporation' eco-scheme aims to reduce ammonia emissions from the application of organic fertilisers on agricultural land, which aims to promote a more environmentally friendly application method. The relatively rapid incorporation of manure into the soil not only reduces the volatilisation of ammonia, but also favours the mineralisation of organic nitrogen through direct contact with soil fauna.		
	Obligations to be complied with	Requirements and standards	Explanation of the link between AECM and conditionality

		ards	
Basic conditions:	Incorporation of manure There are no regulations on the incorporation of manure. Only the spreading of liquid slurry, purin and sewage sludge is regulated with regard to time limits for incorporation into the soil. Article 6 of the amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture: The spreading of liquid slurry, purin and sewage sludge on sloping floors shall be carried out in such a way that there is no run-off outside the field of application, taking into account in particular: — the nature and tillage of the ground; — the direction in which the vegetation cover is located; — climatic conditions corresponding to the possible periods of land application; — the nature of the fertilising products. On land with an average slope of more than 8 % and not covered by vegetation, the spreading of mineral nitrogen fertilisers, slurry, purin and liquid sewage sludge is prohibited unless it is followed by incorporation no later than 48 hours after its application. On land with an average slope of more than 15 % and less than 30 metres apart from a watercourse, the application of mineral nitrogen or organic fertilisers shall be prohibited, unless the land has a grassland strip at least 6 metres wide downstream of the land or is separated from the river by meadow or permanent pasture.	SMR 2	The obligations relating to Directive 91/676/EEC on nitrates and transposed by the amended Grand-Ducal Regulation of 24 November 2000 relate essentially to the loss of nitrates by leaching to surface and groundwater. The obligation to incorporate manure within 4 hours further reduces the risk of nitrate leaching. However, the main objective is to reduce ammonia emissions to the atmosphere through volatilisation.

	Manure storage: The storage of manure on agricultural land shall be prohibited: — less than 20 metres from premises inhabited or occupied by third parties and establishments receiving the public and 5 metres from neighbouring land unless agreed between the parties concerned; — less than 10 metres from the banks of a permanent or temporary watercourse and of a water body; — less than 50 metres from main ducts, wells, abstractions and water reservoirs for drinking water supply; — in immediate or close protection zones; — in health protection zones I and II of the Esch-sur-Sûre dam. The storage time on a non-consolidated area (storage on agricultural land) must not exceed 2 consecutive plant periods in the same location. Storage cannot be carried out do it only every 5 years at the same location. In remote protection zones, storage can only take place every 5 years in the same place. The maximum storage period is 9 months.		
General conditions for aid 518:	The farmer is classified as an ‘active’ farmer, i.e. he has his own holding number.	518	General condition for obtaining aid
Link with a possible ecoregion			
Link with eco-scheme 518:	Applications for aid must be submitted within the time limits laid down in the area application. The request shall be made annually.	518	General condition for obtaining aid
Link with eco-scheme 518:	The measure is applicable to all indigenous arable land. It covers the burial of livestock manure, either in autumn, after the main crop is harvested in the current year, or in	518	The 4-hour leak time is not an obligation at baseline level.

	spring, before the summer crop is sown. Manure from the holding applied to bare land must be incorporated within 4 hours of spreading.		
General conditions for aid 544:	The farmer is classified as an ‘active’ farmer, i.e. he has his own holding number. The minimum duration of participation is 5 years. The request to participate must be submitted by the deadline of 30 September preceding the start of the first year of participation. Confirmation of participation shall be made annually.	544	General condition for obtaining aid
Option 1: Online filing: skating boom spreaders	Slurry and slurry produced on the farm must be applied using the skating ramp technique. Farms which do not have a skating ramp spreader are obliged to apply slurry and slurry to areas operated by an agricultural undertaking. The quantity of manure, purin and liquid digestate for which payment may be made shall be calculated on a flat-rate basis on the basis of standards laid down by the competent authority, on the basis of the number of animals present on the holding and taking into account any imports and/or exports of slurry and purins to other holdings or users. Slurry and purin applied with the skating ramp must be incorporated within four hours if the parcel is not sown at the time of spreading.	544	From 2024, the baseline prohibits spreading with a nozzle and the system of tracked tyeals is standart. The 4-hour leak time is not an obligation at baseline level. Option 1 of the aid relates to the spreading of slurry and slurry, while aid 518 is aimed at burial of manure.

Option 2: Injection into the soil (including Strip-Till)	Obligation to apply manure and liquid digestate used annually on the areas of the holding located on grassland and arable land with an injector capable of incorporating slurry/slurry into the soil. For farms which do not have adequate equipment, the obligation is to apply slurry and slurry to land used by an agricultural undertaking. The quantity of manure, purin and liquid digestate for which payment may be made shall be calculated on a flat-rate basis on the basis of standards laid down by the competent authority, on the basis of the number of animals present on the holding and taking into account any imports and/or exports of slurry and purins to other holdings or users.	544	From 2024, the baseline prohibits spreading with a nozzle and the system of tracked tyeals is standart. Option 2 of the aid targets the injection of slurry and liquid digestate into the soil, while aid 518 is aimed at burial of manure.
Option 3: Injection Multiange CULTAN slurry with mineral fertiliser	Mixing of slurry and mineral liquid fertiliser by slot or strip till using the CULTAN method. Participation in a board is mandatory. The land application plan drawn up and invoices and supporting documents relating to the land application must be submitted to the RES before 1 January following the previous crop year.	544	From 2024, the baseline prohibits spreading with a nozzle and the system of tracked tyeals is standart. Option 3 of the aid relates to the injection of slurry and liquid mineral fertilisers into the soil, while aid 518 is aimed at burial of manure.
Option 4: Mineral injectors per CULTAN wheel	One operation per hectare per year may be subsidised. Participation in a board is mandatory. The land application plan drawn up and invoices and supporting documents relating to the land application must be submitted to the RES before 1 January following the previous crop year. The area eligible for the premium shall be determined on the basis of the distribution plan and invoices and supporting documents.	544	Baseline does not prescribe any spreading technique Option 4 of the aid relates to the injection of mineral fertilisers per CULTAN wheel, whereas aid 518 concerns the burial of manure.
Option 5:	Obligation to compost manure	544	Baseline does not prescribe any spreading

Composting of manure	annually		technique Option 5 of the aid relates to the composting of manure, whereas aid 518 concerns the burial of manure.

7 Form and rate of support/amounts/calculation methods

☒ IACS

☐ Non-IACS

IACS section

Type of payment

☒ unit cost based on additional costs and income foregone

☐ transaction cost included

☐ one off payment

☐ lump sum

Range of support at beneficiary level

This is a per hectare compensation paid annually to farmers who have an undertaking for this aid and who have declared quantities applied according to the modality of this aid scheme in their aid application.

The amounts of aid per eligible ha shall be:

- Option 1 Unit amount EUR 24/ha (EUR 0,6/m³ with land application of 40 m³/ha)
- Option 2 Unit amount EUR 40/ha (1, EUR/m³ with land application of 40 m³/ha)
- Option 3 Unit amount EUR 48/ha (EUR 1,2/m³ with land application of 40 m³/ha)
- Option 4 Unit amount EUR 20/ha
- Option 5 Unit amount EUR 12/ha (EUR 0,40/t with land application of 30 t/ha)

Calculation method

Comparison of the costs of spreading according to the spreading techniques described above with those of land application with train tubing

Additional explanation

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8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

What are the models of the commitment(s) in the intervention?

☒ result based (with possibility to pick and choose)

☐ management based (with possibility to pick and choose)

☐ hybrid (management and result based)

Please explain the obligations/possibilities for beneficiaries in relation to the commitments set out in the intervention

If the farmer terminates his commitment before the end of the five-year period, he must repay, except in cases of force majeure and exceptional circumstances, the full amounts of the premium paid, unless he is in one of the following situations:

- he shall transfer all the areas of his holding to one or more other farmers who take over the commitment for the remaining period;
- he permanently ceases his agricultural activities after having completed at least three years of his

commitment and a takeover of that activity by another farmer is not feasible.

What is the duration of contracts?

5 years

10 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

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The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

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The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.02.544.UA1 - Rate per hectare No 1	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.20; R.21	No
2.02.544.UA2 - Rate per hectare No 2	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.20; R.21	No
2.02.544.UA3 - Rate per hectare No 3	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.20; R.21	No
2.02.544.UA4 - Rate per hectare No 4	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.20; R.21	No
2.02.544.UA5 - Rate per hectare No 5	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.20; R.21	No
2.02.544.UA6 - Measure 544 – Rate per hectare n 6 old contract	Grant	91(2)(d)-LU-20.00%	Average		R.14; R.20; R.21	Yes

Explanation and justification related to the value of the unit amount

2.02.544.UA1 - Rate per hectare No 1

The calculation of the economic justification is based on additional costs and income foregone.

2.02.544.UA2 - Rate per hectare No 2

The calculation of the economic justification is based on additional costs and income foregone.

2.02.544.UA3 - Rate per hectare No 3

The calculation of the economic justification is based on additional costs and income foregone.

2.02.544.UA4 - Rate per hectare No 4

The calculation of the economic justification is based on additional costs and income foregone.

2.02.544.UA5 - Rate per hectare No 5

The calculation of the economic justification is based on additional costs and income foregone.

2.02.544.UA6 - Measure 544 – Rate per hectare n 6 old contract

The calculation of the economic justification is based on additional costs and income foregone.

As regards the contracts carried over, the determination of an average UM also makes it possible to link the payments and sanctions of all old contracts to a budget code which will be linked to a single measure code (internal to national management) to monitor old contracts in accordance with the new performance framework and its management system.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.544.UA1 - Rate per hectare No 1 (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	24.00	24.00	24.00	24.00	24.00	24.00	24.00	
	Maximum planned average unit amount (where applicable) (EUR)				30.00	30.00	30.00	30.00	
	O.14 (unit: Hectares)	0.00	4,800.00	4,800.00	27,000.00	30,000.00	25,200.00	0.00	Sum: 91,800.00 Max: 30,000.00
2.02.544.UA2 - Rate per hectare No 2 (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	40.00	40.00	40.00	40.00	40.00	40.00	40.00	
	Maximum planned average unit amount (where applicable) (EUR)				50.00	50.00	50.00	50.00	
	O.14 (unit: Hectares)	0.00	4,848.50	4,848.50	27,000.00	30,000.00	25,152.00	0.00	Sum: 91,849.00 Max: 30,000.00
2.02.544.UA3 - Rate per hectare No 3 (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	48.00	48.00	48.00	48.00	48.00	48.00	48.00	
	Maximum planned average unit amount (where applicable) (EUR)				60.00	60.00	60.00	60.00	
	O.14 (unit: Hectares)	0.00	80.00	80.00	450.00	500.00	420.00	0.00	Sum: 1,530.00 Max: 500.00
2.02.544.UA4 - Rate per hectare No 4 (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	20.00	20.00	20.00	20.00	20.00	20.00	20.00	

	Maximum planned average unit amount (where applicable) (EUR)				25.00	25.00	25.00	25.00	
	O.14 (unit: Hectares)	0.00	160.00	160.00	900.00	1,000.00	840.00	0.00	Sum: 3,060.00 Max: 1,000.00
2.02.544.UA5 - Rate per hectare No 5 (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
	Maximum planned average unit amount (where applicable) (EUR)				15.00	15.00	15.00	15.00	
	O.14 (unit: Hectares)	0.00	80.00	80.00	450.00	500.00	420.00	0.00	Sum: 1,530.00 Max: 500.00
2.02.544.UA6 - Measure 544 – Rate per hectare n 6 old contract (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	65.00	65.00	65.00	0.00	0.00	0.00	0.00	
	Maximum planned average unit amount (where applicable) (EUR)	65.00	65.00	65.00					
	O.14 (unit: Hectares)	0.00	39,640.60	39,580.00	0.00	0.00	0.00	0.00	Sum: 79,220.60 Max: 39,640.60
TOTAL	O.14 (unit: Hectares)	0.00	49,609.00	49,549.00	55,800.00	62,000.00	52,032.00	0.00	Sum: 268,990.00 Max: 62,000.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	2,893,779.00	2,889,820.00	1,773,000.00	1,970,000.00	1,652,880.00	0.00	11,179,479.00

	Annual indicative financial allocation (Union Contribution in EUR)	0.00	578,755.80	577,964.00	354,600.00	394,000.00	330,576.00	0.00	2,235,895.80
	Out of which carry-over (Total public Expenditure in EUR)		2,576,640.00	2,572,700.00	0.00	0.00	0.00	0.00	5,149,340.00
	Out of which carry-over (Union contribution in EUR)		515,328.00	514,540.00	0.00	0.00	0.00	0.00	1,029,868.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.02.546 - Aid to promote the planting of bovine animals to grass

Intervention Code (MS)	2.02.546
Intervention Name	Aid to promote the planting of bovine animals to grass
Type of Intervention	ENVCLIM(70) - Environmental, climate-related and other management commitments
Common Output Indicator	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: Yes ES rebate system: No LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO9 Improve the response of Union agriculture to societal demands on food and health, including high quality, safe, and nutritious food produced in a sustainable way, the reduction of food waste, as well as improving animal welfare and combatting antimicrobial resistances

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B9.5	Raising the standard of taking into account animal welfare on farms	P2	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.44 Share of livestock units (LU) covered by supported actions to improve animal welfare

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

The objective of the **agri-environment-climate measure “Aid for the grass of bovine animals”** is to increase the level of requirements for taking into account animal welfare on farms.

The welfare of animals intended for food production is largely influenced by the conditions under which they are reared. Regular access to grazing helps to improve the welfare of cattle, meets consumer requirements and helps to improve the image of Luxembourg’s agriculture.

In addition to promoting animal welfare, grazing also combines many co-benefits, such as maintaining cultural landscapes favourable to nature conservation and wild animal and plant species, as well as carbon sequestration (promoting the maintenance and use of permanent grassland as carbon sinks).

The welfare of food-producing animals is significantly influenced by the conditions under which they are kept. Regular access to grazing helps to improve the welfare of cattle, meets consumer requirements and helps to improve the image of Luxembourg's agriculture.

The abandonment of the milk quota system in 2015 resulted in a net increase in the size of dairy herds – to the detriment of more extensive forms of rearing, including the keeping of suckler cows (suckler cattle breeds), with the consequent decline in the practice of grazing cows. This specialisation in milk production has been accompanied by a clear trend towards permanent housing, with cows matured on the farm throughout the year – a trend which is all the more accelerated as a result of the expansion of robotic milking, which is widespread in dairy farms in Luxembourg. The effect observed is, on the one hand, the partial abandonment of grazing cows at the expense of an increase in the time spent in rearing buildings, including during the summer period, and, on the other hand, the abandonment of suckler cows' livestock and the cessation of fattening of cattle from breeds specialising in meat, to the detriment of purely dairy orientation on holdings which were still operating in mixed farming before 2015 (i.e. the operation of herds composed of both dairy and suckler cattle). All these developments take place against the background of more than 50 % of grassland and pastures among the utilised agricultural areas, thus pre-allocating Luxembourg for the high use of grass by ruminants as an efficient protein source which it is important to maintain. It may also be noted that the abandonment of grazing is often done for economic reasons and because of the increased labour needs associated with grazing (management of herds – exit, grazing, control of fences and drinking troughs, maintenance of pastures (hedges and brushes, mowing of refusals and rescues in the event of damage, swelling, etc.).

As well as promoting animal welfare, grazing also combines many co-benefits, such as the conservation of cultural landscapes conducive to the protection of nature and species of wild fauna and flora, and in terms of carbon sequestration (promoting the maintenance and exploitation of permanent grassland as a carbon sink).

An additional condition for participating in this measure is to comply with the maximum load of 2 LU/ha whereas the baseline cross-compliance is 2,3 LU/ha.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

Be identified as an active farmer within the administration.

1. Submit an annual application for assistance.
2. The categories of animals eligible under this intervention are only bovine animals.
3. Agricultural holdings holding more than 2 LU per hectare of utilised agricultural area (basic cross-compliance is 2,3 LU/ha) are not eligible for this intervention.
4. Aid may be applied for the following categories of animals:

- Dairy cows
- Suckler cows
- Female bovine animals over 2 years of age until calving
- Female bovine animals aged 1 to 2 years
- Male bovine animals over 2 years of age
- Male bovine animals aged 1 to 2 years

At the time of engagement, the applicant shall apply for the measure for one or more categories of animals mentioned above. In order to be able to access this intervention, grass of the category of at least one type of cows is mandatory, whereas that of other categories of bovine animals is optional.

1. It is an aid paid for the area that is grazed. For each parcel engaged, grazing must last at least 3 months, between 15 March and 15 November. Grazing shall be adjustable within the above period, taking into account weather conditions and grass availability. This flexibility takes into account the

negative effects of the climate on agriculture: Luxembourg is and will be confronted with more extreme and frequent weather events such as heavy rainfall, heatwaves and droughts, as well as a higher incidence of animal and parasitic diseases, which means that farmers need more flexibility in grazing practices.

2. The animals taken into account in calculating and verifying the conditions of this intervention are those kept on grazing areas situated in the territory of the Grand Duchy of Luxembourg (no account being taken of bovine animals sent for grazing abroad).
3. The parcels covered by the commitment shall be declared annually by the farmer.
4. The interventions shall apply to permanent grassland, temporary grassland and pasture areas covered with green fodder.
5. The animals must have access to areas of shadow and weather protection (preferably natural: isolated trees, hedges, rows of trees, bosquets, ponds and forest edges, movable or fixed shelters) and at clean drinking points (controlled by the presence of 0.5 % structural elements, including movable or fixed shelters).
6. For categories of animals engaged, daily grazing for at least 5 months of at least 6 hours per day must be guaranteed. Grazing should apply to all categories as originally declared. Individual animals may be kept on the farm for physiological reasons (e.g. calving) or health reasons, for the purpose of final fattening on the farm for a limited period of time. The animals must graze on the parcels used for grazing. Animals may be moved from one parcel to another depending on vegetation, but each parcel engaged must be grazed for at least 3 months per year.
7. This aid is subject to the condition that the participating holdings comply for all their livestock kept with the rules laid down in the Grand-Ducal Regulation concerning the establishment of a system for the monitoring and control of infectious bovine rhinotracheitis.
8. The cattle load is between 1 and 7 LU per hectare of grazing area declared. (number of animals engaged for grazing in relation to areas used for grazing)
9. The applicant shall document the grazing by means of the parcel passport (allocation of animal categories to declared parcels).
10. Mowing and grinding before or after the grazing period of the declared parcels is allowed.
11. The applicant shall apply for aid for one or more of the above categories of animals. The categories of bovine animals may be requested only with the respective categories of dairy cows or suckler cows. Cattle of 'dairy' breeds may only be declared if the dairy cows have also been declared. Cattle of "suckler" breeds may only be declared if the suckler cows have also been declared.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The support is linked to IACS.

O14 What area is eligible?

- ☒ Agricultural area defined for the CAP plan
- ☐ Agricultural land including and beyond agricultural area
- ☐ Non-agricultural land

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
GAEC01	Maintenance of permanent grassland based on a ratio of permanent grassland in relation to agricultural area at national, regional, sub-regional, group-of-holdings or holding level in comparison to the reference year 2018. Maximum decrease of 5% compared to the reference year.
GAEC09	Ban on converting or ploughing permanent grassland designated as environmentally-sensitive permanent grasslands

	in Natural 2000 sites
SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5
SMR09	Council Directive 2008/119/EC of 18 December 2008 laying down minimum standards for the protection of calves: Articles 3 and 4
SMR11	Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes: Article 4

List of relevant mandatory national standards

There is no obligation to grazing outdoors, laid down in the Law of 27 June 2018 on the protection of animals, and the European rules on animal welfare. The legal requirements are limited to ensuring sufficient space for the animal to express the physiological and ethological needs specific to the species.

Specific conditions	Administrative control	On-the-spot check (OTSC)	Base level (cross-compliance, GAEC...)
Maximum holding of 2 LU per hectare of utilised agricultural area	Based on data from the agricultural area application and the SANITEL system		Maximum holding of 2,3 LU per hectare of utilised agricultural area
Maximum cattle load less than or equal to 7 LU per hectare of parcel area declared	Annual determination of the minimum area on the basis of Sanitrace entries (deduction to be applied for animals kept in grazing abroad) in relation to the area of the parcels declared		
Grazing period of at least 5 months between 15 March and 15 November	Verification of the total number of grazing days on the basis of the electronic parcel passport maintained as a 'grazing schedule'	Annual control of a number of holdings: checking of entries in the electronic parcel passport and visual inspection of the parcels submitted (presence of grazing cattle, cow balls, refusal, stoning, etc., direct access from the farm to the parcel contracted for dairy cows) Verification of the presence of cattle in pasture, on the farm	
Presence of grey areas and sufficient protection) Status of watering points		Checked by the presence of 0.5 % structural elements, also on the edge, including movable or fixed shelters. Check the cleanliness of watering points, water flow	

Grazing for at least 3 months on each parcel.		PESCO	

Link between GAEC, SMR and national standards with the intervention

The livestock requirements laid down in this intervention go beyond the minimum legal requirements (e.g. a maximum of 2 LU/ha instead of 2,3 LU/ha) and therefore involve a considerable additional effort, particularly in terms of labour needs linked to grazing (management of herds – exit, grazing, control of fences and drinking troughs, maintenance of pastures (hedges and brushes, mowing of refusals and rescues in the event of damage, swimming, etc.), as well as reductions in the level of performance according to the quality of the grass available, adverse weather conditions, increased energy requirements for maintenance.

1.02.546	Aid for the feeding of bovine animals on grass		
Purpose:	The objective of the agri-environment-climate measure “Aid for the grass of bovine animals” is to increase the level of requirements for taking into account animal welfare on farms.		
	Obligations to be complied with	Requirements and standards/Aid	Explanation of the link between AECM and conditionality
Basic conditions:	Grand Ducal Regulations lay down general requirements to control adverse effects on water status attributable to diffuse pressures or sources, including one-off dispersed pressures and discharges with a low individual effect, in accordance with the provisions of Article 27.	SMR 1	Grand Ducal Regulations provide for the restriction or prohibition of substances necessary for the achievement of environmental objectives in bodies of water affected or likely to be affected. The Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture (Article 6) transposes these obligations. The obligation to limit the livestock load to 2 LU/ha on the farm and 7 LU/ha on the parcel further reduces the risk of nitrate leaching.
	The livestock load in basic cross-compliance is limited to 2,35 LU/ha. To this extent, the load is limited to 2 LU/ha.	SMR 2	The Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture (Article 6) transposes these obligations.

			The obligation to limit the livestock load to 2 LU/ha on the farm further reduces the risk of nitrate leaching.
	Council Directive 2008/119/EC of 18 December 2008 laying down minimum standards for the protection of calves lays down minimum standards for the protection of confined calves for breeding and fattening. These minimum standards provide for obligations with regard to the housing and housing of the calves, which do not apply to the grass of calves.	SMR 9	The Directive was transposed into national legislation by the amended Grand-Ducal Regulation of 4 February 1994 laying down minimum standards for the protection of calves. The transposition of the Directive does not include any obligations as regards the feeding of calves on grass.
	Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes The conditions under which bovine animals are reared or kept must be adapted to their species and degree of development and to their physiological and ethological needs. All animals kept in husbandry systems in which their welfare depends on frequent human attention shall be inspected at least once a day. Animals in other systems shall be inspected at intervals sufficient to avoid any suffering.	SMR 11	The Directive was transposed into national legislation by the Grand-Ducal Regulation of 14 April 2000 on the protection of animals kept for farming purposes. The transposition of the Directive does not lay down any obligations as regards the placing of cattle on grass.
Link with an ecoregion	No link to an ecoregion		
General conditions for aid 546:	The farmer is classified as an 'active' farmer, i.e. he has his own holding number. The minimum duration of participation is 5 years.	546	General condition for obtaining aid

	The request to participate must be submitted by the deadline of 30 September preceding the start of the first year of participation. Confirmation of participation shall be made annually.		
	Only bovine animals are eligible as categories of animals under this intervention. Agricultural holdings with more than 2 LU per hectare of utilised agricultural area shall be excluded from participation in this intervention. Support may be requested for the following categories of animals: — Dairy cows — Suckler cows — Female bovine animals over 2 years of age until calving — Female bovine animals aged 1 to 2 years — Male bovine animals aged 1 to 2 years — Male bovine animals over 2 years of age At the time of engagement, the applicant shall apply for the measure for one or more categories of animals mentioned above. In order to be able to access this intervention, grass of the category of at least one type of cows is mandatory, whereas that of other categories of bovine animals is optional. This is an aid paid for the area that is grazed. The measure applies to permanent grassland, fodder and	546	The conditions of the aid exceed the baseline, as the baseline does not contain any obligations as to the grazing conditions.

	other grazing areas covered with fodder. For each parcel declared, the grazing period must be at least three months between 15 March and 15 November. The grazing period is flexible within the above period, taking into account climatic conditions and the availability of grass, but the grazing period must be at least seven consecutive days. This flexibility takes into account the negative effects of the climate on agriculture: Luxembourg is and will be confronted with more extreme and frequent climatic events, such as heavy rainfall, heatwaves and droughts, as well as a higher incidence of animal diseases and pest infestations, which requires more flexibility on the part of farmers in how to manage pastures. The parcels covered by the obligation shall be declared annually by the farmer. The animals taken into account for the calculation and verification of the conditions of this measure are those reared on pastures in Luxembourg. Bovine animals sent abroad for grazing shall not be taken into account.		
	Animals must have access to shaded and weather-protected areas (preferably natural: isolated trees, hedges, rows of trees, bosquets, ponds and forest edges or movable or fixed shelters) and at clean drinking points (controlled by the presence of 0.5 % structural elements, including on the edges, including movable or fixed shelters). For the categories of animals indicated, daily grazing of at least 6 hours per day for at least 5 months must be ensured. Grazing should apply to all categories as originally declared. Some animals may be kept indoors for physiological reasons (e.g. calving) or for health reasons or		

	for final fattening for a limited period. This aid is subject to compliance by the participating holdings, for all their livestock holdings, with the detailed rules laid down in the Grand-Ducal Regulation on the establishment of a system for the monitoring and control of infectious bovine rhinotracheitis. The cattle load must not exceed 7 LU per hectare of grazing declared. The applicant shall document the grazing using the parcel passport (allocation of animal categories to declared parcels). Mowing and grinding before or after the grazing period of the declared parcels shall be permitted.		

7 Form and rate of support/amounts/calculation methods

☒ IACS

☐ Non-IACS

IACS section

Type of payment

☒ unit cost based on additional costs and income foregone

☐ transaction cost included

☐ one off payment

☐ lump sum

Range of support at beneficiary level

This is a per hectare compensation paid annually to farmers who have an undertaking for this aid and who have declared agricultural parcels cultivated according to the modality of this aid scheme in their aid application.

The amounts of aid per eligible ha shall be:

- EUR250/ha

For the purpose of calculating the aid:

1. the number of eligible cows shall be taken into account;

2. in addition, offspring is limited to the number of eligible cows, the number of bovine animals being composed primarily of bovine animals over two years of age and then of bovine animals between one and two years old;

3. The number of animals eligible under points 1 and 2 shall be converted into livestock units in accordance with the following conversion table and the categories of animals converted shall be added together;

dairy cows 1,00 LU/head

suckler cows 1,00 LU/head

bovine animals over two years 0,50 LU/head

bovine animals between one and 2 years 0,30 LU/head

4. The result in livestock units calculated in accordance with point 3 shall be converted into pasture area, with one livestock unit corresponding to one hectare;

5. the eligible area shall be limited to the declared pasture area.

Calculation method

Comparison of the costs and workload of cattle which are pasture with those of cattle kept in the farm.

Additional explanation

none.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

What are the models of the commitment(s) in the intervention?

- ☒ result based (with possibility to pick and choose)
☐ management based (with possibility to pick and choose)
☐ hybrid (management and result based)

Please explain the obligations/possibilities for beneficiaries in relation to the commitments set out in the intervention

If the farmer terminates his commitment before the end of the five-year period, he must repay, except in cases of force majeure and exceptional circumstances, the full amounts of the premium paid, unless he is in one of the following situations:

— he shall transfer all the areas of his holding to one or more other farmers who take over the commitment for the remaining period;

— he permanently ceases his agricultural activities after having completed at least three years of his commitment and a takeover of that activity by another farmer is not feasible.

What is the duration of contracts?

5 years

10 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.02.546.UA1 - Rate per hectare No 1	Grant	91(2)(d)-LU-20.00%	Uniform		R.44	No

Explanation and justification related to the value of the unit amount

2.02.546.UA1 - Rate per hectare No 1

The calculation of the economic justification is based on additional costs and income foregone.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.546.UA1 - Rate per hectare No 1 (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	250.00	250.00	250.00	250.00	250.00	250.00	250.00	
	Maximum planned average unit amount (where applicable) (EUR)				280.00	280.00	280.00	280.00	
	O.14 (unit: Hectares)	0.00	5,400.00	6,375.00	7,500.00	7,500.00	7,500.00	0.00	Sum: 34,275.00 Max: 7,500.00
TOTAL	O.14 (unit: Hectares)	0.00	5,400.00	6,375.00	7,500.00	7,500.00	7,500.00	0.00	Sum: 34,275.00 Max: 7,500.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	1,350,000.00	1,593,750.00	1,875,000.00	1,875,000.00	1,875,000.00	0.00	8,568,750.00
	Annual indicative financial allocation (Union Contribution in EUR)	0.00	270,000.00	318,750.00	375,000.00	375,000.00	375,000.00	0.00	1,713,750.00

	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.02.549 - Support for reduced tillage

Intervention Code (MS)	2.02.549
Intervention Name	Support for reduced tillage
Type of Intervention	ENVCLIM(70) - Environmental, climate-related and other management commitments
Common Output Indicator	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: Yes ES rebate system: No LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B4.4	Promoting carbon sequestration in soils	P2	Yes
B5.4	Ensuring soil fertility and combating soil degradation	P2	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.14 Share of utilised agricultural area (UAA) under supported commitments to reduce emissions or to maintain or enhance carbon storage (including permanent grassland, permanent crops with permanent green cover, agricultural land in wetland and peatland)

R.19 Share of utilised agricultural area (UAA) under supported commitments beneficial for soil management to improve soil quality and biota (such as reducing tillage, soil cover with crops, crop rotation included with leguminous crops)

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

The intervention aims to support direct sowing or reduced tillage in order to positively influence soil structure, erosion prevention and soil biological fertility. As these practices are also more energy-efficient than other tillage practices, they also contribute to reducing CO₂ emissions.

As Luxembourg plans to reduce the use of Glyphosate on a voluntary basis, the risk of additional herbicides being used is reduced. In addition, this measure can be combined with measure ER 1.02.514, which encourages the reduction of the use of herbicides.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

Be identified as an active farmer within the administration.

Submit an aid application on an annual basis.

The crop shall be sown directly, sown in a mulch of dead plants, sown in a mulch without prior ploughing. The measure shall apply for the sowing of all arable crops including temporary grassland.

Parcels can be exchanged each year during the area application to take account of crop rotation, the commitment in question does not apply to fixed parcels. The farmer undertakes to declare annually arable land (at least 1 ha each year) on which he uses the reduced tillage technique.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The support is linked to IACS.

O14 What area is eligible?

☒ Agricultural area defined for the CAP plan

☐ Agricultural land including and beyond agricultural area

☐ Non-agricultural land

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
GAEC05	Tillage management, reducing the risk of soil degradation and erosion, including consideration of the slope gradient
SMR01	Directive 2000/60/EC of 23 October 2000 of the European Parliament and of the Council establishing a framework for Community action in the field of water policy: Article 11(3), point (e), and point (h), as regards mandatory requirements to control diffuse sources of pollution by phosphates
SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5

List of relevant mandatory national standards

There are no restrictions on tillage. Ploughing is not prohibited, so the requirements of this measure go to national standards.

Specific conditions	Administrative check	On-the-spot check (OTSC)	base level (cross-compliance, GAEC...)
Sowing without tillage		Visual inspection of the fields	No restriction

Link between GAEC, SMR and national standards with the intervention

1.02.549	Aid for reduced tillage		
Objective:	The agri-environment-climate measure 'Aid for reduced tillage' aims to support direct sowing or reduced tillage in order to positively influence soil structure, erosion prevention and soil biological		

	fertility. Moreover, as these practices are more energy efficient than other tillage practices, they also contribute to the reduction of CO2 emissions.		
	Obligations to be complied with	Requirements and standards/Aid	Explanation of the link between AECM and cross compliance
Basic conditions:	see Chapter 3.10.3.1.	GAE C 5	The obligations are aimed at preventing erosion.
	Grand Ducal Regulations lay down general requirements to control adverse effects on water status attributable to diffuse pressures or sources, including dispersed occasional pressures and discharges with a low individual effect, in accordance with the provisions of Article 27.	SMR 1	Grand-Ducal Regulations provide for the restriction or prohibition of substances necessary to achieve environmental objectives in the bodies of water affected or likely to be affected. Reduced tillage prevents erosion and nutrient leaching.
	The spreading of liquid slurry, slurry and sewage sludge on sloping soils shall be carried out in such a way that there is no run-off outside the field of application, taking into account in particular: — the nature and working of the soil; — the layout of the vegetation cover; — climatic conditions corresponding to the possible spreading periods; — the nature of the fertilising products. On land with an average slope of more than 8 % and not covered by vegetation, the application of mineral nitrogen fertilisers, slurry, slurry and liquid sewage sludge shall be prohibited unless it is followed by incorporation no later than 48 hours after its application. On land with an average slope of	SMR 2	The Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture transposes these obligations. Working reduces soil erosion and the risk of nitrate leaching.

	more than 15 % and less than 30 metres away from a watercourse, the application of mineral nitrogen or organic fertilisers shall be prohibited, unless the land includes a grass strip of at least 6 metres wide or separated from the river by permanent grassland or pasture.		
Link with an ecoregime	No link to an ecoregime		
General conditions of aid 549:	The farmer is classified as an ‘active’ farmer, i.e. he has his own farm number. The minimum duration of participation is 5 years. The request to participate must be submitted by 30 September before the beginning of the first year of participation. Participation is confirmed annually.	549	General condition for obtaining aid.
	Direct seeding, sowing without tilling and sowing under mulch, sowing in a mulch of dead plants or in mulch without prior tillage, or direct seeding using the strip-till method (strip-sowing) are encouraged. The measure is applicable to sowing all arable crops, including fodder. Parcels may be exchanged each year when applying for area in order to take account of crop rotation. The obligation in question therefore does not apply to fixed parcels. The farmer shall undertake to declare each year the parcels of arable land on which he applies the reduced tillage technique.	549	Specific conditions of the aid. These conditions go beyond the line-line base for combating erosion.

7 Form and rate of support/amounts/calculation methods

☒ IACS

☐ Non-IACS

IACS section

Type of payment

☒ unit cost based on additional costs and income foregone

☐ transaction cost included

☐ one off payment

☐ lump sum

Range of support at beneficiary level

This is a per hectare allowance paid annually to farmers who have a commitment for this aid and who have declared agricultural parcels grown in accordance with the arrangements of this aid scheme in their aid application.

The amounts of aid per hectare eligible shall be:

- EUR 100/ha for 0-50 ha
- EUR 85/ha for 50-100 ha
- EUR 70/ha for areas > 100 ha

In Luxembourg, most larger farms have their own de-chaumage and direct seeding machines and therefore use this common technique, whereas smaller farms generally use a ploughing. In addition, fixed production costs generate economies of scale, the greater the size of the holding. For all these reasons, the premium for direct sowing or reduced tillage will be degressive.

The degressivity of the rate will not affect participation in the measure as it takes into account a certain economy of scale.

A second average unit amount of EUR 70/ha is defined to finance the carry-over of old RDP contracts (Carry over). The establishment of this amount is explained in section 12 of this intervention.

Calculation method

Comparison of production costs and yields of agricultural land cultivated using the reduced tillage technique with those of agricultural land cultivated using the conventional ploughing technique.

Additional explanation

None.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

What are the models of the commitment(s) in the intervention?

☒ result based (with possibility to pick and choose)

☐ management based (with possibility to pick and choose)

☐ hybrid (management and result based)

Please explain the obligations/possibilities for beneficiaries in relation to the commitments set out in the intervention

If the farmer terminates his commitment before the end of the five-year period, he must repay, except in cases of force majeure and exceptional circumstances, the full amounts of the premium paid, unless he is in one of the following situations:

— he shall transfer all the areas of his holding to one or more other farmers who take over the commitment for the remaining period;

— he permanently ceases his agricultural activities after having completed at least three years of his commitment and a takeover of that activity by another farmer is not feasible.

What is the duration of contracts?

5 years

10 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.02.549.UA1 - Rate per hectare No 1	Grant	91(2)(d)-LU-20.00%	Average		R.14; R.19	No
2.02.549.UA2 - Rate per hectare No 1 - carry over	Grant	91(2)(d)-LU-20.00%	Average		R.14; R.19	Yes

Explanation and justification related to the value of the unit amount

2.02.549.UA1 - Rate per hectare No 1

The unit amount is calculated on the basis of an average because the amounts are degressive.

EUR 100 for areas contracted for less than 50 ha

EUR 85 for the share of areas between 50 and 100 ha

EUR 70 for the share of areas over 100 ha

The calculation of the economic justification is based on additional costs and income foregone.

The degressivity of the rate will not affect participation in the measure as it only takes into account a certain economy of scale.

2.02.549.UA2 - Rate per hectare No 1 - carry over

The unit amount is calculated on the basis of an average as there are allowances of different values and for option 2.1. the amounts foreseen in the RSP 2014-2022 are degressive:

- Option 1.1: EUR 100/ha **Variant 1 (0462 ZF-CD)**
- where the following crop is a main spring crop: undersowing maize or sowing catch crops as soon as possible after harvesting, with the aim of achieving an efficient and homogeneous vegetation cover in the afterseason.
- leave the ground cover in place for as long as possible to allow maximum prevention against erosion and leaching of nutrients, and at least until 1 January of the following year;
- a ban on the use of mineral nitrogen fertilisers for catch cultivation. In the case of organic nitrogen fertilisation, the total amount of manure, slurry, digestate, liquid sewage sludge, soft manure (< 15 % MS), poultry manure and poultry deposits applied per hectare shall not exceed 80 kg in the period following the harvest of the previous crop. For solid fertilisers (manure > 14 % MS, compost, dry matter of separate slurry, solid sewage sludge) there are no restrictions except compliance with the upper limit of 170 Norg/ha.
- Prohibition of application of total herbicides prior to sowing of the main crop;
- prohibition of grazing of vegetation cover, possibility of harvesting vegetation cover;
- the designation of the parcels contracted must be notified to the court after the winter sowing on a date to be determined by the Minister;
- the Minister may issue additional instructions on the realisation of the land cover to ensure or improve the effectiveness of the measure.

Option 1.2: EUR 140/ha **Variant 2 (0462 ZF-SL)**

- same conditions as option 1.1.
- seed of a mixture of catch crops consisting of at least 3 varieties using an online seedler
- the possibility of applying full weed control before sowing of the main crop to take account of the fact that certain species in mixtures are resistant to obstruction;

Option 2.1: Semi direct and without prior tillage using stripp Tillage stripp stripping technique

EUR 75 for areas contracted for less than 50 ha

EUR 60 for the share of areas between 50 and 100 ha

EUR 45 for the share of areas over 100 ha

The calculation of the economic justification is based on additional costs and income foregone.

The degressivity of the rate will not affect participation in the measure as it only takes into account a certain economy of scale.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.549.UA1 - Rate per hectare No 1 (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	85.00	85.00	85.00	85.00	85.00	85.00	85.00	
	Maximum planned average unit amount (where applicable) (EUR)	85.00	85.00	85.00	100.00	100.00	100.00	100.00	
	O.14 (unit: Hectares)	0.00	1,500.00	10,200.00	11,000.00	11,292.00	10,500.00	0.00	Sum: 44,492.00 Max: 11,292.00
2.02.549.UA2 - Rate per hectare No 1 - carry over (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	70.00	70.00	70.00	130.00	130.00	130.00	130.00	
	Maximum planned average unit amount (where applicable) (EUR)	70.00	70.00	70.00	150.00	150.00	150.00	150.00	

	O.14 (unit: Hectares)	0.00	8,670.00	0.00	0.00	0.00	0.00	0.00	Sum: 8,670.00 Max: 8,670.00
TOTAL	O.14 (unit: Hectares)	0.00	10,170.00	10,200.00	11,000.00	11,292.00	10,500.00	0.00	Sum: 53,162.00 Max: 11,292.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	734,400.00	867,000.00	935,000.00	959,820.00	892,500.00	0.00	4,388,720.00
	Annual indicative financial allocation (Union Contribution in EUR)	0.00	146,880.00	173,400.00	187,000.00	191,964.00	178,500.00	0.00	877,744.00
	Out of which carry-over (Total public Expenditure in EUR)		606,900.00	0.00	0.00	0.00	0.00	0.00	606,900.00
	Out of which carry-over (Union contribution in EUR)		121,380.00	0.00	0.00	0.00	0.00	0.00	121,380.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.02.550 - Aid to reduce cattle stocking rates

Intervention Code (MS)	2.02.550
Intervention Name	Aid to reduce cattle stocking rates
Type of Intervention	ENVCLIM(70) - Environmental, climate-related and other management commitments
Common Output Indicator	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: Yes ES rebate system: No LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO9 Improve the response of Union agriculture to societal demands on food and health, including high quality, safe, and nutritious food produced in a sustainable way, the reduction of food waste, as well as improving animal welfare and combatting antimicrobial resistances

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B4.2	Reducing GHG emissions	P1	Yes
B4.6	Improving feed autonomy	P3	Partially
B9.5	Raising the standard of taking into account animal welfare on farms	P2	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.14 Share of utilised agricultural area (UAA) under supported commitments to reduce emissions or to maintain or enhance carbon storage (including permanent grassland, permanent crops with permanent green cover, agricultural land in wetland and peatland)

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

This intervention encourages a reduction in the cattle population on the holding and contributes to improving the fodder autonomy of the holding.

The intervention focuses on the following elements:

1. It requires a reduction in the cattle population of at least 15 % in terms of bovine LU compared to the average size of the bovine herd on the holding during a reference period. This is aid paid to the number of LU which has been reduced compared to the reference number. A maximum ceiling of 50 bovine LU is

introduced when the aid is paid.

2. It imposes limitations on the burden of grazing livestock per hectare of forage area: it must not exceed 1,8 LU/ha forage area or less than 0,5 LU/ha.

A more grass and forage cattle production system improves the fodder autonomy of farms and contributes to a significant reduction in the distribution of concentrated feed and the area to be cultivated with maize. It should be noted that maize areas are not accounted for as 0.1 ha per LU of bovine animals. The reduction of the cattle population and the presence of moderate grazing livestock stock make it possible to bring cattle production systems more closely into line with environmental objectives and are an important lever for action on greenhouse gas emissions. In order to encourage farmers to remove part of their cattle stock and to convert to more sustainable production systems based more on grass and moderate livestock forage crops, the efforts and income losses incurred by farmers should be compensated by the payment of an appropriate amount of aid.

The intervention is directed towards the nominal reduction of LU to reduce both ammonia and methane emissions. At the same time, if the livestock load decreases, the fodder stock can improve. The measure is therefore not to be seen only in the context of climate change mitigation.

This measure encourages a reduction in the number of LU on the holding. This is a premium calculated by the number of LSU reduced and paid per ha of the UAA available on the holding in the current year. This aid does not compensate cattle grazing, so there is no risk of double financing with aid 546 Beef grass.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

Be identified as an active farmer within the administration.

Submit an aid application on an annual basis.

In order to be eligible for this assistance, operators must undertake to comply with the following conditions on their entire holding:

1. The size of the bovine herd must be reduced by at least 15 % expressed in terms of bovine LU in relation to the size of the bovine livestock determined for a reference period consisting of the growing years 2019/2020, 2020/2021, 2021/2022 ('reference period').

A reduction in grazing livestock by at least 15 % must be achieved by the 3th year of commitment^{at} the latest.

2. Grazing livestock must be between **0,5 and 1,8 grazing livestock units per hectare of forage area (indigenous and abroad)** and per year during each year of the commitment. If the holding is above 1,8 grassland LU per ha, must be below 1,8 at the latest in the 3th^{year} of commitment. If the livestock load falls below the lower limit of 0,5 LU/ha, it would be forbidden to pass through a corresponding reduction in forage area by converting permanent grassland into arable land.

Forage areas abroad can be checked and recorded in the area declarations made by farmers to the respective authorities of the Member States concerned. An exchange between national authorities is ensured and the necessary procedures in place.

The calculation of herbivore LSU shall take into account all ruminants (cattle, sheep, goats) as well as equidae kept by the holding. The number of LU shall be determined using the following calculation coefficients:

Cattle		
bovine animals > 2 years	1,00 LU/head	
bovine animals from 6 months to 2 years	0,60 LU/head	
cattle < 6 months	0,00 LU/head	

Other grazing livestock/animals		
adult sheep	0,15 LU/head	
goats	0,15 LU/head	
horses > 6 months	1,00 LU/head	
horses < 6 months, ponies, asses	0,60 LU/head	

The area used for maize areas is limited to 0.1 ha per LU.

All forage areas on the holding must be regularly farmed. In order to ensure proper ecological and agricultural maintenance, the farmer undertakes to maintain a minimum load of 0,5 LU/ha.

The 12-month period from 1 November N to 31 October N + 1 shall be taken into account for the purpose of calculating the reduction in bovine livestock compared to the reference number and the livestock load per hectare of forage area.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The support is linked to IACS.

O14 What area is eligible?

- ☐ Agricultural area defined for the CAP plan
- ☐ Agricultural land including and beyond agricultural area
- ☐ Non-agricultural land

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5
SMR09	Council Directive 2008/119/EC of 18 December 2008 laying down minimum standards for the protection of calves: Articles 3 and 4
SMR11	Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes: Article 4

List of relevant mandatory national standards

Minimum livestock stocking requirements include compliance with codes of good practice introduced under Directive 91/676/EEC for farms outside nitrate vulnerable zones (SMR 2) implemented by the amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture (Article 5) and the amended Grand-Ducal Regulation of 30 July 2015 applying common rules for direct payments to farmers under support schemes within the framework of the common agricultural policy and support for rural development in the Grand Duchy of Luxembourg (Annex II, point 2).

Specific conditions	Administrative control	On-the-spot check (OTSC)	Base level (cross-compliance, GAEC...)
Reduction of bovine animals by at least 15 % compared to the reference period	100 % check on the basis of the data provided: · area demand for forage areas · average daily bovine	Field checks on compliance with eligibility criteria for declared forage areas and livestock held	

Maintenance of a livestock load per hectare of forage area between 0,5 and 1,8 LU/ha	data (converted to LU) as reported at identification and registration system level (Sanitrace) · the number of ovine and caprine animals in the flock register indicated at the level of the area application · equidae filled in at the level of surface application		

Link between GAEC, SMR and national standards with the intervention

1.02.550	Aid to reduce the burden of cattle		
Target:	The agri-environment-climate measure “Support to reduce the burden of cattle” aims at reducing cattle numbers and at further directing cattle systems towards environmental objectives and is an important lever for measures to reduce greenhouse gas emissions.		
	Obligations to be complied with	Requirements and standards/ Aid	Explanation of the link between AECM and cross compliance
Basic conditions:	Grand Ducal Regulations lay down general requirements to control adverse effects on water status attributable to diffuse pressures or sources, including dispersed occasional pressures and discharges with a low individual effect, in accordance with the provisions of Article 27.	SMR 1	Grand-Ducal Regulations provide for the restriction or prohibition of substances necessary to achieve environmental objectives in the bodies of water affected or likely to be affected. The Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture (Article 6) transposes these obligations. The obligation to reduce livestock load reduces the risk of nitrate leaching.
	Livestock load is limited to 2,35 LU/ha	SMR 2	The Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture (Article 6) transposes these obligations. The obligation to reduce the livestock load on the farm further reduces the risk of nitrate leaching.

	Council Directive 2008/119/EC of 18 December 2008 laying down minimum standards for the protection of calves lays down minimum standards for the protection of confined calves for rearing and fattening. These minimum standards lay down obligations at the level of lairage and nurses do not concern the grass of calves.	SMR 9	The Directive was transposed into national legislation by the amended Grand-Ducal Regulation of 4 February 1994 laying down minimum standards for the protection of calves. The transposition of the Directive does not impose obligations on the maximum burden of bovine animals. However, a reduced load has a positive impact on animal welfare, as animals have more space.
	Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes The conditions under which bovine animals are reared or kept must be adapted to their species and degree of development and to their physiological and ethological needs. All animals kept in farming systems, whose welfare depends on frequent human attention, shall be inspected at least once a day. Animals reared or kept in other systems shall be inspected at intervals sufficient to avoid suffering.	SMR 11	The Directive was transposed into national legislation by the Grand-Ducal Regulation of 14 April 2000 concerning the protection of animals kept for farming purposes. The transposition of the Directive does not impose obligations on the maximum burden of bovine animals. However, a reduced load has a positive impact on animal welfare, as animals have more space.
Link with an ecoregime	No link to an ecoregime		
General conditions of aid 550:	The farmer is classified as an 'active' farmer, i.e. he has his own farm number. The minimum duration of participation is 5 years. The request to participate must be submitted by 30 September before the beginning of the first year of	550	General condition for obtaining aid

	participation. Participation is confirmed annually.		
	In order to receive the aid, the farmer must also undertake to comply with the following conditions on his holding as a whole: The size of the bovine herd must be reduced by at least 15 %, expressed in bovine LU, in relation to the size of the bovine herd in the reference period for the 2020/2021, 2019/2020 and 2021/2022 agricultural years. A reduction of at least 15 % of the bovine herd must be achieved at the latest in the 3th year of commitment. The livestock load on the pastures must be between 0,5 and 1,8 grazing livestock LU per hectare of forage area (native and abroad) and per year for each year of commitment. However, where the livestock load is below the lower limit of 0,5 LU/ha, it is prohibited to respect the lower limit of 0,5 LU/ha by reducing the forage area by converting permanent grassland into arable land. All forage areas on the holding must be managed regularly. In order to ensure good ecological and agronomic maintenance, the farmer undertakes to maintain a minimum load of 0,5 LU/ha.	550	Specific conditions of the aid. These conditions go beyond the baseline.

7 Form and rate of support/amounts/calculation methods

☒ IACS

☐ Non-IACS

IACS section

Type of payment

☒ unit cost based on additional costs and income foregone

- ☐ transaction cost included
- ☐ one off payment
- ☐ lump sum

Range of support at beneficiary level

The payment is based on the reduction of cattle LSU for each year compared to the initial reference. In the third year, the holding will have to achieve a reduction of at least 15 % in terms of cattle LSU compared to the reference period.

Amount of EUR 400/LU with a ceiling of EUR 20.000 per year (a maximum ceiling of 50 LSU of reduction is imposed)

Calculation method

Loss of income calculated using the gross margin due to a reduction in livestock numbers.

Additional explanation

The rate of aid is a compensation per hectare. The compensation due as a result of the reduction in the number of livestock shall be divided by the forage area of the holding concerned and declared in the area declaration for the year in question.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

- ☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

What are the models of the commitment(s) in the intervention?

- ☒ result based (with possibility to pick and choose)
☐ management based (with possibility to pick and choose)
☐ hybrid (management and result based)

Please explain the obligations/possibilities for beneficiaries in relation to the commitments set out in the intervention

If the farmer terminates his commitment before the end of the five-year period, he must repay, except in cases of force majeure and exceptional circumstances, the full amounts of the premium paid, unless he is in one of the following situations:

- he shall transfer all the areas of his holding to one or more other farmers who take over the commitment for the remaining period;
- he permanently ceases his agricultural activities after having completed at least three years of his commitment and a takeover of that activity by another farmer is not feasible.

What is the duration of contracts?

5 years

10 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.02.550.UA1 - Rate per hectare	Grant	91(2)(d)-LU-20.00%	Average		R.14	No

Explanation and justification related to the value of the unit amount

2.02.550.UA1 - Rate per hectare

Initially, the aid provides for a reduced compensation of EUR 400/LU. The calculation of the economic justification is based on additional costs and income foregone.

On the basis of this amount per LU, the total amount of eligible aid will then be determined on the basis of the contract selected with the beneficiary.

The entire eligible sum will be divided by the entire forage area (SF) of the holding, declared by the holding in its area declaration in order to determine a payment per hectare.

Given that each holding has a specific SF and reduced livestock units also specific to the holding, payments per hectare vary from one holding to another. It is therefore appropriate to determine an average unit amount for the intervention in question.

Below some relevant averages of holdings identified as eligible for this intervention

Average:	
UAA (ha)	76.77
Forage area (ha)	54.92
LU	71.10
LU/UAA	0.93
UGB/surf. Fodder	1.22

assuming an average reduction of 25 % per holding (minimum 15 %), corresponding to 17,7 LU and a compensation of EUR 7 110 per farm. The average payment per ha is thus $7110/54,92 = \text{EUR } 129,49/\text{ha}$.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.550.UA1 - Rate per hectare (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	93.00	93.00	93.00	130.00	130.00	130.00	130.00	

	Maximum planned average unit amount (where applicable) (EUR)	100.00	100.00	100.00	150.00	150.00	150.00	150.00	
	O.14 (unit: Hectares)	0.00	12,903.00	10,762.00	11,532.00	11,532.00	11,532.00	0.00	Sum: 58,261.00 Max: 12,903.00
TOTAL	O.14 (unit: Hectares)	0.00	12,903.00	10,762.00	11,532.00	11,532.00	11,532.00	0.00	Sum: 58,261.00 Max: 12,903.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	1,200,000.00	1,400,000.00	1,500,000.00	1,500,000.00	1,540,000.00	0.00	7,140,000.00
	Annual indicative financial allocation (Union Contribution in EUR)	0.00	240,000.00	280,000.00	300,000.00	300,000.00	308,000.00	0.00	1,428,000.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.02.551 - Aid for the conversion of arable land into permanent grassland

Intervention Code (MS)	2.02.551
Intervention Name	Aid for the conversion of arable land into permanent grassland
Type of Intervention	ENVCLIM(70) - Environmental, climate-related and other management commitments
Common Output Indicator	O.14. Number of hectares (excluding forestry) or number of other units covered by environmental or climate-related commitments going beyond mandatory requirements
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: Yes ES rebate system: No LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg. The small size of the country and the homogeneity of the distribution of agricultural production within the territory make regional differentiation unnecessary.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B4.4	Promoting carbon sequestration in soils	P2	Yes
B5.1	Ensuring the protection of groundwater and surface water (Water Framework Directive)	P1	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.14 Share of utilised agricultural area (UAA) under supported commitments to reduce emissions or to maintain or enhance carbon storage (including permanent grassland, permanent crops with permanent green cover, agricultural land in wetland and peatland)

R.19 Share of utilised agricultural area (UAA) under supported commitments beneficial for soil management to improve soil quality and biota (such as reducing tillage, soil cover with crops, crop rotation included with leguminous crops)

R.21 Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

The **agri-environment-climate measure ‘Support for the transformation of arable land into permanent grassland’** aims to maintain or introduce less intensive agricultural practices for the benefit of animal and plant biodiversity or the quality of ground and surface water.

The primary effect of the conversion of arable land into permanent grassland is to prevent nitrate erosion

and leaching as much as possible, thereby protecting surface and groundwater. A side-effect of the planned measures is the reduction of greenhouse gas emissions (NO_x, CO₂). In addition, this measure promotes carbon sequestration in soils.

This measure contributes to the overall environmental and climate objectives.

This measure encourages the transformation of arable land into permanent grassland. These actions aim at maintaining or introducing less intensive management practices for faunique and floristic biodiversity, respectively for groundwater and surface water quality.

The primary effect of these actions is to avoid at least nitrate leaching to protect surface and groundwater. A side-effect of the planned measures is the reduction of greenhouse gas emissions (NO_x, CO₂). All the more, this measure promotes carbon sequestration in the soil.

This measure contributes to the cross-cutting environmental and climate objectives.

This is an area premium with two options:

Option 1: Sowing a mixture of seeds of grass species intended for a more intensive farm and including others radigrass

Option 2: Sowing a mixture of seeds of grass species intended for a more extensive exploitation consisting of a mixture of extensive plant species and excluding radigrass

For this measure, the areas committed remain in production (grass may be used as fodder, for example), unlike the ER1.02.512 for which the areas leave production. This clearly differentiates these two measures and excludes double financing.

Option 2 is slightly less productive than Option 1 due to the mixture of green-free seeds. Fertilisation may still be the same, for this reason the aid amount of Option 2 is slightly higher than that of Option 1.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

Be identified as an active farmer within the administration.

Submit an annual application for assistance.

1. These measures shall always apply on the same parcel throughout the commitment period. The measure is applicable throughout the country.

2. Change of use of arable land to grassland and pastures, provided that such land has been ploughed and farmed as arable land sown with arable crops other than temporary grassland for at least 3 years during the last 5 years preceding the start of the commitment, except for parcels which were already under a change of use contract in the previous period. They are also eligible for this measure.

3. Ploughing and destroying the vegetation cover of these parcels shall be prohibited during the commitment period, unless prior authorisation is given.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The support is linked to IACS.

O14 What area is eligible?

☒ Agricultural area defined for the CAP plan

☐ Agricultural land including and beyond agricultural area

☐ Non-agricultural land

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
GAEC01	Maintenance of permanent grassland based on a ratio of

	permanent grassland in relation to agricultural area at national, regional, sub-regional, group-of-holdings or holding level in comparison to the reference year 2018. Maximum decrease of 5% compared to the reference year.
GAEC06	Minimum soil cover to avoid bare soil in periods that are most sensitive
SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5

List of relevant mandatory national standards

Specific conditions	Administrative check	On-the-spot check (OTSC)	base level (cross-compliance, GAEC...)
Change of use of arable land to grassland	Control via the crop code declared at the time of the surface application, AMS	PESCO, control of the crop sown	
Sowing of an extensive mixture without radigrass	Control of seed invoice	On site inspections	

Link between GAEC, SMR and national standards with the intervention

1.02.551	Aid for the conversion of arable land into permanent grassland		
Objective:	The agri-environment-climate measure “Aid for the transformation of arable land into permanent grassland” aims to maintain or introduce less intensive agricultural practices to the benefit of animal and plant biodiversity or groundwater and surface water quality. The primary effect of converting arable land into permanent grassland is to prevent as much as possible the erosion and leaching of nitrates, thereby protecting groundwater and surface water. A secondary effect of the planned measures is the reduction of greenhouse gas emissions (NO_x, CO₂). In addition, this measure promotes carbon sequestration in soils.		
	Obligations to be complied with	Requirements and standards/Aid	Explanation of the link between AECM and cross compliance
Basic conditions:	The ratio of areas under permanent grassland to the total agricultural area declared by farmers shall not decrease by more than 5 % compared to the	GAE C 1	The conversion of arable land into permanent grassland increases the area of permanent grassland and increases the ratio.

	reference ratio of the year 2018 by dividing the areas of permanent grassland by the agricultural area. This obligation applies at national level.		
	see Chapter 3.10.3.1.	GAE C 6	When arable land is converted into permanent grassland, the soil is covered throughout the year. This reduces erosion.
	Grand Ducal Regulations lay down general requirements to control adverse effects on water status attributable to diffuse pressures or sources, including dispersed occasional pressures and discharges with a low individual effect, in accordance with the provisions of Article 27.	SMR 1	Grand-Ducal Regulations provide for the restriction or prohibition of substances necessary to achieve environmental objectives in the bodies of water affected or likely to be affected. The Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture (Article 6) transposes these obligations. The conversion of arable land into permanent grassland reduces the risk of nutrient leaching.
	The spreading of liquid slurry, slurry and sewage sludge on sloping soils shall be carried out in such a way that there is no run-off outside the field of application, taking into account in particular: — the nature and working of the soil; — the layout of the vegetation cover; — climatic conditions corresponding to the possible spreading periods; — the nature of the fertilising products. It shall be prohibited to apply slurry, purin, digestate, liquid sewage sludge, soft manure, poultry manure and poultry fients: — during the period from 15 October	SMR 2	The Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture (Article 6) transposes these obligations. The conversion of arable land into permanent grassland reduces the risk of nitrate leaching.

	to 15 February on covered soils other than grassland and pasture, — during the period from 15 November to 15 February on grassland and pasture. Grassland and pasture which has been applied with organic fertilisers during the period from 15 October to 15 February may not be ploughed before 15 February.		
Link with an ecoregime	No link to an ecoregime		Link with ecosystem512: Aid 551 is paid for the conversion of arable land into permanent grassland. It does not lay down any conditions on how to operate after this permanent grassland. Intervention 512 requires the installation of non-productive surfaces.
General conditions of aid 551:	The farmer is classified as an ‘active’ farmer, i.e. he has his own farm number. The minimum duration of participation is 5 years. The request to participate must be submitted by 30 September before the beginning of the first year of participation. Participation is confirmed annually.	551	General condition for obtaining aid
	The measures always apply to a single parcel throughout the commitment period. The measure is applicable throughout the country. The change of use of arable land into permanent grassland shall only be possible if that land has been ploughed and used as arable land sown with other arable crops as fodder for at least three years during	551	The conditions exceed the baseline. Temporary grassland aged 3 years or more shall be excluded from the aid.

	the five years preceding the start of the commitment. Parcels which were already subject to a change of use contract during the previous period are also eligible under this measure. Ploughing and the destruction of the vegetation cover on these parcels shall be prohibited during the period, unless prior authorisation is given.		
Option 1: mixture of grass species for a more intensive farm, including ryegrass.	The plot is sown with an authorised mixture. Seeding mixtures, the proportion of legumes and the proportion of intensive species are defined in a regulation.	551	The conditions exceed the baseline. No herbal mixture is recommended in the latter.
Option 2: mixture of grass species for a more extensive holding, consisting of a mixture of extensive plant species, excluding ryegrass.	The plot is sown with an authorised mixture. Seeding mixtures, the proportion of legumes and the proportion of intensive species are defined in a regulation.	551	The conditions exceed the baseline. No herbal mixture is recommended in the latter.

7 Form and rate of support/amounts/calculation methods

☒ IACS

☐ Non-IACS

IACS section

Type of payment

☒ unit cost based on additional costs and income foregone

☐ transaction cost included

☐ one off payment

☐ lump sum

Range of support at beneficiary level

This is a per hectare compensation paid annually to farmers who have an undertaking for this aid and who have declared agricultural parcels cultivated according to the modality of this aid scheme in their aid application.

The amounts of aid per eligible ha shall be:

- Option 1 Unit amount EUR 400/ha

- Option 2 Unit amount EUR 450/ha

Calculation method

Comparison of standard gross margins of arble crops with that of prairies. For option 2, sowing with a more extensive and non-fat seed mix involves additional costs of EUR 50/ha.

Additional explanation

None.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

What are the models of the commitment(s) in the intervention?

- ☒ result based (with possibility to pick and choose)
☐ management based (with possibility to pick and choose)
☐ hybrid (management and result based)

Please explain the obligations/possibilities for beneficiaries in relation to the commitments set out in the intervention

If the farmer terminates his commitment before the end of the five-year period, he must repay, except in cases of force majeure and exceptional circumstances, the full amounts of the premium paid, unless he is in one of the following situations:

- he shall transfer all the areas of his holding to one or more other farmers who take over the commitment for the remaining period;
- he permanently ceases his agricultural activities after having completed at least three years of his commitment and a takeover of that activity by another farmer is not feasible.

What is the duration of contracts?

5 years

10 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.02.551.UA1 - Rate per hectare No 1	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21	No
2.02.551.UA2 - Rate per hectare No 2	Grant	91(2)(d)-LU-20.00%	Uniform		R.14; R.19; R.21	No

Explanation and justification related to the value of the unit amount

2.02.551.UA1 - Rate per hectare No 1

The calculation of the economic justification is based on additional costs and income foregone.

2.02.551.UA2 - Rate per hectare No 2

The calculation of the economic justification is based on additional costs and income foregone.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.551.UA1 - Rate per hectare No 1 (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	400.00	400.00	400.00	400.00	400.00	400.00	400.00	
	Maximum planned average unit amount (where applicable) (EUR)				480.00	480.00	480.00	480.00	
	O.14 (unit: Hectares)	0.00	280.00	340.00	360.00	380.00	400.00	0.00	Sum: 1,760.00 Max: 400.00
2.02.551.UA2 - Rate per hectare No 2 (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	450.00	450.00	450.00	450.00	450.00	450.00	450.00	
	Maximum planned average unit amount (where applicable) (EUR)				550.00	550.00	550.00	550.00	
	O.14 (unit: Hectares)	0.00	50.00	80.00	100.00	100.00	100.00	0.00	Sum: 430.00 Max: 100.00

TOTAL	O.14 (unit: Hectares)	0.00	330.00	420.00	460.00	480.00	500.00	0.00	Sum: 2,190.00 Max: 500.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	134,500.00	172,000.00	189,000.00	197,000.00	205,000.00	0.00	897,500.00
	Annual indicative financial allocation (Union Contribution in EUR)	0.00	26,900.00	34,400.00	37,800.00	39,400.00	41,000.00	0.00	179,500.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ANC(71) - Natural or other area-specific constraints

2.01.532 - Payments to areas facing natural or specific constraints

Intervention Code (MS)	2.01.532
Intervention Name	Payments to areas facing natural or specific constraints
Type of Intervention	ANC(71) - Natural or other area-specific constraints
Common Output Indicator	O.12. Number of hectares benefitting from support for areas facing natural or specific constraints, including a breakdown per type of areas
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: Yes ES rebate system: No LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

Areas facing natural constraints and areas facing other specific constraints shall cover the entire territory of the Grand Duchy of Luxembourg.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO1 Support viable farm income and resilience of the agricultural sector across the Union in order to enhance long-term food security and agricultural diversity as well as to ensure the economic sustainability of agricultural production in the Union

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B1.1	Ensuring a viable, fair and just basic income for farmers	P1	Yes
B1.3	Maintaining a diverse fabric of family-type farms	P2	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.4 Share of utilised agricultural area (UAA) covered by income support and subject to conditionality

R.7 Percentage of additional support per hectare in areas with higher needs (compared to average)

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

This intervention makes it possible to compensate part of the income differential caused by natural or specific constraints affecting agricultural holdings in areas with difficult farming conditions.

The measure helps to avoid intensification of agricultural land. Experience with the old programmes has shown that, when the conditions for granting compensation payments change, there is an impact on farms: farm closures are to be reported, especially small family farms. The areas released are in most cases taken over by larger farms, which are often characterised by more intensive cultivation methods. This intensification has a negative impact on the environment and biodiversity. It is therefore important to maintain smaller family farms in order to promote a more environmentally-friendly farming method and to avoid intensification of production on these areas. Avoiding intensification of agriculture also has a positive impact in the fight against climate change. An intensification of agriculture may lead to an

increase in inputs (manure and plant protection products), livestock density and, where appropriate, a shift in grassland. These trends also have an effect on greenhouse gas emissions and possibly impacts on water quality.

In general, this measure contributes to restoring, preserving and enhancing ecosystems dependent on agriculture and maintaining agricultural activity throughout the territory, as well as to the cross-cutting objectives of the environment and climate.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

In order to qualify for the allowance, the farmer must:

- be an active farmer;
- be identified with the Administration under the Integrated Administration and Control System (SIGEC);
- carry out an agricultural activity in areas with natural constraints;
- submit an application for annual support;

The agricultural land which is the subject of support must be situated in areas of the Grand Duchy of Luxembourg characterised as areas facing natural constraints.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The support is linked to IACS.

O12 What area is eligible?

☐ Mountain areas (pursuant to Article 32 (1)(a) of Regulation (EU) No 1305/2013)

☒ Areas facing natural constraints, other than mountains (pursuant to Article 32, (1)(b) of Regulation (EU) No 1305/2013)

Following a revision of the demarcation of zones with constraints from 2019 onwards, the entire territory of the Grand Duchy of Luxembourg is classified as: an area facing natural constraints (NCA) in accordance with Article 32 (1) (b) of Regulation (EU) No 1305/2013 and an area facing specific constraints (SCZ) in accordance with Article 32 (1) (c) of that Regulation.

Description of the NZs

Luxembourg is divided into 105 municipalities. 83 of these municipalities are identified as areas facing significant natural constraints in accordance with Article 32 (1) (b) of the Regulation.

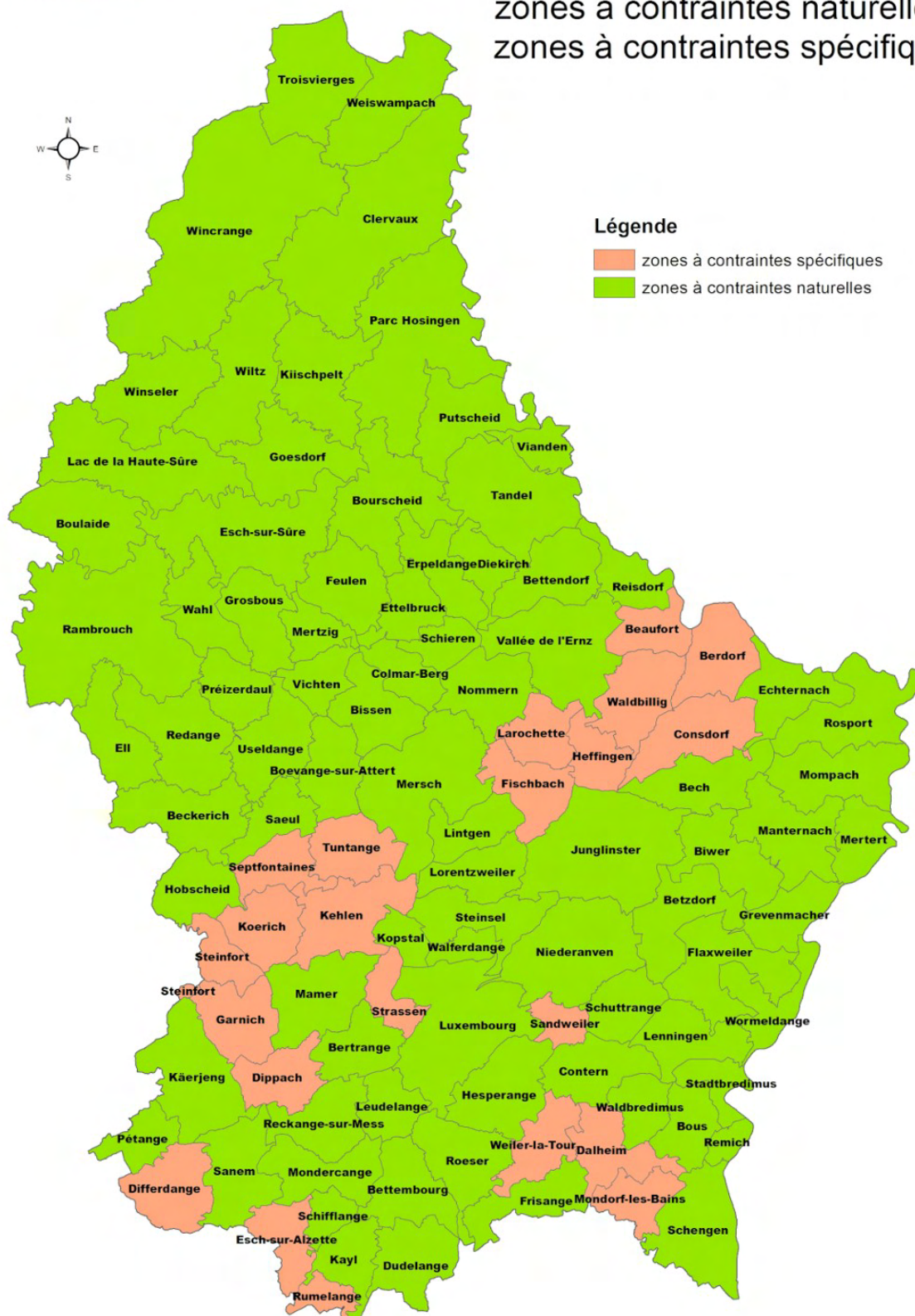
(EU) NO 1305/2013. These are the following municipalities: BECH, Beckerich, Bertrange, Bettembourg, Bettendorf, Betzdorf, Georgien, Biwer, Boevange-sur-Attert, Boulaide, Bourscheid, Bous, Clervaux, Colmar-Berg, Contern, Diekirch,

Dudelange, Echternach, Ell, Erpeldange, Esch-sur-Sûre, Ettelbruck, Feulen, Flaxweiler, Frisange, Goesdorf, Grevenmacher, Grosbous, Hesperange, Hobscheid, Junglinster, Käerjeng, Kayl, Kiischpelt, Kopstal, Lac de la Haute-Sûre, Lenningen, Leudelage, Lintgen, Lorentzweiler, Luxembourg, Mamer, Manternach, Mersch, Merttert, Mertzig, Mompach, Mondercange, Niederaanven, Nommern, Parc Hosingen, Petange, Préizerdaul, Putscheid, Rambrouch, Reckange-sur-Mess, Redange, Reisdorf, Remich, Roeser, Rosport, Saeul, Sanem, Schengen, Schieren, Schiffange, Schuttrange, Stadtbredimus, Steinsel, Tandel, Troisvierges, Useldange, Ernzy Valley, Vianden, Vichten, Wahl, Waldbredimus, Walferdange, Weiswampach, Wiltz, Wincrange, Winseler, Wormeldange.

On the map, the municipalities in question are identified in green.



Délimitation zones à contraintes naturelles - zones à contraintes spécifiques



☑ Areas affected by other area- specific constraints (pursuant to Article 32(1)(c) of Regulation (EU) No 1305/2013)

Following a revision of the demarcation of zones with constraints from 2019 onwards, the entire territory of the Grand Duchy of Luxembourg is classified as: an area facing natural constraints (NCA) in accordance with Article 32 (1) (b) of Regulation (EU) No 1305/2013 and an area facing specific constraints (SCZ) in accordance with Article 32 (1) (c) of that Regulation.

22 municipalities are considered to belong to an area with specific constraints. These are the following municipalities: Beaufort, Berdorf, Consdorf, Dalheim, Differdange, Dippach, Kehlen, Fischbach, Garnich, Heffingen, Mondorf-les-Bains, Weiler-la-Tour, Larochette, Esch-sur-Alzette, Rumelange, Koerich, Septfontaines, Sandweiler, Steinfort, Tuntange, Waldbillig, Strassen.

On the map above, the municipalities in question are identified in pink.

☐ All areas with natural or other specific constraints

☐ Other

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

N/A

7 Form and rate of support/amounts/calculation methods

Type of payment

☒ unit cost based on additional costs and income foregone

☐ transaction cost included

☐ one off payment

☐ lump sum

Range of support at beneficiary level

This is a per hectare compensation paid annually to farmers who have agricultural parcels located either in areas with natural constraints or in areas with specific constraints.

The aid amounts per eligible ha are:

• EUR 165/ha for the first 90 ha

• EUR 90/ha for subsequent ha

The threshold of 90 ha is common to areas with natural constraints and areas with specific constraints. It shall be determined taking into account the eligible area in areas with natural constraints and the eligible area in areas with specific constraints.

Areas under wine-growing, fruit and horticultural production shall not receive the allowance. These operating systems do not suffer income losses in constrained areas.

Calculation method

The premium is an area aid paid per ha per year compensating for the costs incurred and income foregone resulting from natural and/or specific constraints. A degressivity threshold of payments is set at 90 ha. • EUR 165/ha for the first 90 ha • EUR 90/ha for the following ha. No capping of eligible areas is foreseen, as only partial compensation for loss of income and additional costs is foreseen. In addition, it must be borne in mind that every hectare is subject to constraints, which requires compensation.

Additional explanation

See section 12 for further information.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

N/A

10 WTO compliance

Green Box

Paragraph 13 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

The aid shall be limited to producers in less-favoured areas. The eligible geographical area shall be clearly specified by a single contiguous area with a defined economic and administrative identity, considered to be disadvantaged on the basis of neutral and objective criteria clearly set out in the national legislation. The difficulties of the region are attributable to non-transitory circumstances:

- Limited Soil Drainage
- Unfavourable Texture and Stoniness
- Shallow rooting depths
- Steep slope

The amount of these payments is neither dependent on nor established on the basis of the type or volume of production (including livestock units) carried out by the producer.

The amount of these payments will not be dependent on, nor established on the basis of, domestic or international prices.

Payments will only be available to producers in eligible regions and are available to all producers in these regions

Payments shall be limited to income losses resulting from agricultural production in the specified region.

A degressivity threshold for payments is set at 90 ha.

- EUR 165/ha for the first 90 ha
- EUR 90/ha for subsequent ha

No ceiling on eligible areas is foreseen, as only partial compensation for income foregone and additional costs is foreseen. In addition, it must be assumed that each ha is subject to constraints, which requires compensation.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.01.532.UA01 - Average rate per hectare - areas with natural constraints	Grant	91(2)(d)-LU-20.00%	Average		R.4; R.7	No
2.01.532.UA02 - Average rate per hectare - areas with specific constraints	Grant	91(2)(d)-LU-20.00%	Average		R.4; R.7	No

Explanation and justification related to the value of the unit amount

2.01.532.UA01 - Average rate per hectare - areas with natural constraints

The calculation of the economic justification is based on additional costs and income foregone. They shall be calculated in relation to areas that are not affected by natural or other specific constraints. In other words, the payments are intended to cover the financial difference between carrying out an agricultural activity in those areas and those which are not subject to those constraints:

— > Comparison of Luxembourg's gross margin, fully classified as constrained areas, to the value of gross margin for non-constrained areas of Wallonia.

This results in a difference of EUR 420/ha to be considered as loss of income.

This is due to the lower productivity of fodder crops in areas with natural and specific constraints.

A single amount of aid has been introduced for areas with natural and specific constraints.

The compensation amounts are lower than the estimated income gap, with the compensation being partial.

The type of planned unit amount is determined as an average, since a modulation of the unit amount of the aid according to the size of the holding has been introduced.

2.01.532.UA02 - Average rate per hectare - areas with specific constraints

The calculation of the economic justification is based on additional costs and income foregone. They shall be calculated in relation to areas that are not affected by natural or other specific constraints. In other words, the payments are intended to cover the financial difference between carrying out an agricultural activity in those areas and those which are not subject to those constraints:

— > Comparison of Luxembourg's gross margin, fully classified as constrained areas, to the value of gross margin for non-constrained areas of Wallonia.

This results in a difference of EUR 420/ha to be considered as loss of income.

This is due to the lower productivity of fodder crops in areas with natural and specific constraints.

A single amount of aid has been introduced for areas with natural and specific constraints.

The compensation amounts are lower than the estimated income gap, with the compensation being partial.

The type of planned unit amount is determined as an average, since a modulation of the unit amount of the aid according to the size of the holding has been introduced.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.01.532.UA01 - Average rate per hectare - areas with natural constraints (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	147.00	147.00	147.00	147.00	147.00	147.00	147.00	
	Maximum planned average unit amount (where applicable) (EUR)	165.00	165.00	165.00	165.00	165.00	165.00	165.00	
	O.12 (unit: Hectares)	0.00	101,400.00	101,400.00	101,400.00	101,400.00	101,400.00	0.00	Sum: 507,000.00 Max: 101,400.00
2.01.532.UA02 - Average rate per hectare - areas with specific constraints (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	147.00	147.00	147.00	147.00	147.00	147.00	147.00	
	Maximum planned average unit amount (where applicable) (EUR)	165.00	165.00	165.00	165.00	165.00	165.00	165.00	
	O.12 (unit: Hectares)	0.00	17,000.00	17,000.00	17,000.00	17,000.00	17,000.00	0.00	Sum: 85,000.00 Max: 17,000.00
TOTAL	O.12 (unit: Hectares)	0.00	118,400.00	118,400.00	118,400.00	118,400.00	118,400.00	0.00	Sum: 592,000.00 Max: 118,400.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	17,404,800.00	17,404,800.00	17,404,800.00	17,404,800.00	17,404,800.00	0.00	87,024,000.00

	Annual indicative financial allocation (Union Contribution in EUR)	0.00	3,480,960.00	3,480,960.00	3,480,960.00	3,480,960.00	3,480,960.00	0.00	17,404,800.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								

ASD(72) - Area-specific disadvantages resulting from certain mandatory requirements

2.01.530 - PAYMENTS UNDER THE WATER FRAMEWORK DIRECTIVE

Intervention Code (MS)	2.01.530
Intervention Name	PAYMENTS UNDER THE WATER FRAMEWORK DIRECTIVE
Type of Intervention	ASD(72) - Area-specific disadvantages resulting from certain mandatory requirements
Common Output Indicator	O.13. Number of hectares benefitting from support under Natura 2000 or Directive 2000/60/EC
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: Yes ES rebate system: No LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

Agricultural land situated in areas of the Grand Duchy of Luxembourg characterised as water protection areas. Zones for the protection of waters are designated individually by Grand-Ducal Regulation.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO1 Support viable farm income and resilience of the agricultural sector across the Union in order to enhance long-term food security and agricultural diversity as well as to ensure the economic sustainability of agricultural production in the Union

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B5.1	Ensuring the protection of groundwater and surface water (Water Framework Directive)	P1	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.4 Share of utilised agricultural area (UAA) covered by income support and subject to conditionality

R.7 Percentage of additional support per hectare in areas with higher needs (compared to average)

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

In order to compensate farmers for additional costs and income foregone which may result from the implementation of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy transposed into national legislation by the Law of 19 December 2008 on water (Article 26), aid is granted in drinking water protection areas. The Grand-Ducal Regulation of 9 July 2013 on administrative measures in all protection

zones for bodies of groundwater or parts of bodies of groundwater used as a resource for the production of water intended for human consumption as well as an individual specific regulation for any abstraction area or body of surface and groundwater water used as a resource for the production of drinking water define the restrictions and obligations of practitioners.

This measure is applicable only in the water protection zones individually designated by Grand-Ducal Regulation establishing protection zones including the catchment area of the Lac de la Haute-Sûre. On the basis of the restrictions laid down in national legislation and on the basis of the official delimitations of the catchment areas, compensation is authorised through this measure.

The measure is intended to compensate annually for the various compulsory extensive agricultural practices such as reduction of manure, renunciation of certain plant protection treatments, restrictions on the management of parcels (periods of land application, grazing), obligations in terms of soil cover and prohibitions (defence of reversal of grassland, leguminous crops).

The main aim of this measure is to ensure good quality drinking water by avoiding and/or limiting diffuse and punctual pollution in these areas.

As indicated in sub-chapter 6, the restrictions imposed on this intervention go beyond the minimum cross-compliance requirements and vary greatly from one type of area to another depending on the pressures and threats. These are not commitments. Water protection zones are formally defined by Grand-Ducal Regulation by the Ministry responsible for water management (Ministry of the Environment, Climate and Sustainable Development). Payments under the Water Framework Directive retain these areas as eligible areas.

Each published area is subject to its own regulations and restrictions, prohibitions or obligations. The conditions may vary from one area to another and may well go beyond the areas of agriculture.

The compensation set up by the Ministry of Agriculture, Viticulture and Consumer Protection includes from the range of conditions that have been able to meet in the following areas:

- documentation:
- groundcover
- restriction (or even ban) in terms of organic fertilisation
- pureleguminous crop
- protection of permanent grassland
- protection of temporary grassland
- restrictedgrazing
- restriction (or even prohibition) in terms of the use of plant protection products.

The protection zones are demarcated around each water abstraction and are composed/staggered according to the restrictions and obligations applicable to:

- immediate protectionarea (directly around abstraction, no agricultural area),
- close protectionzone,
- close protectionarea with high vulnerability
- and remote protection zone.

It should be noted that the closer the area is to capture or is classified as a (very) highly vulnerable area, the more restrictive the restrictions are.

Concrete examples:

Fertilisation with organic secondary nitrogen fertilisers shall be prohibited in close protection areas with high vulnerability. In close and remote protection zones the requirements shall be laid down.

Pure legume cultivation is prohibited in close protection areas with high vulnerability. In close and remote protection zones, pure leguminous crops may only be sown once every five years.

In close protection areas with high vulnerability grazing is prohibited. In close protection areas, grazing is subject to prescribed restrictions.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

In order to qualify for the allowance, the farmer must:
 be identified with the Administration under the Integrated Administration and Control System (SIGEC);
 be an active farmer;
 carry out an agricultural activity in water protection areas;
 submit an application for annual support;
 The agricultural land which is the subject of support must be situated in the areas of the Grand Duchy of Luxembourg characterised as water protection areas.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The support is linked to IACS.

O13 What area is eligible?

☐ Natura 2000 agricultural area

☐ Natura 2000 forest area

☐ Other delimited nature protection areas with environmental restrictions applicable to farming or forests which contribute to the implementation of Article 10 of Directive 92/43/EEC

☒ Agricultural areas included in river basin management plans (Water Framework Directive)

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

List of relevant GAEC and SMR

Code	Description
SMR02	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5
SMR07	Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC: Article 55, first and second sentence
SMR08	Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: Article 5(2) and Article 8(1) to (5); Article 12 with regard to restrictions on the use of pesticides in protected areas defined on the basis of Directive 2000/60/EC and Natura 2000 legislation; Article 13(1) and (3) on handling and storage of pesticides and disposal of remnants

List of relevant mandatory national standards

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy transposed into national legislation by the amended Water Act of 19 December 2008, and in particular Articles 44 and 45 thereof.

Article 44. — Protection zones

Article 45. — Water reserves of national interest

Council Directive of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources, transposed into national legislation by the Grand-Ducal Regulation of 24 November 2000 concerning the use of nitrogen fertilisers in agriculture.

Amended Grand-Ducal Regulation of 9 July 2013 on administrative measures in all protection zones for bodies of groundwater or parts of bodies of groundwater used as a resource for the production of water

intended for human consumption, and area-specific regulations.

Link between GAEC, SMR and national standards with the intervention

This measure goes beyond the baseline for the following requirements:

SMR2: fertilisation reduction

SMR7: limitation of phyto-pharmaceutical products

SMR8: limitation of phyto-pharmaceutical products

The restrictions go beyond the minimum requirements of cross-compliance and vary greatly from one type of area to another depending on the pressures and threats. The basic restrictions of the amended Grand-Ducal Regulation of 9 July 2013 continue to apply, followed by additional restrictions laid down in Grand-Ducal Regulations specific to protection zones.

02.01.530	Payments under the Water Framework Directive		
Purpose:			
	Obligations to be complied with	Requirements and standards/Aid	Explanation of the link between payment and cross-compliance
Basic conditions:	The amount of organic fertilisers applied per year per hectare shall not exceed 170 kg of total nitrogen, except for protein crops and pure leguminous crops for which the limit is 85 kg of total nitrogen.	SMR 2	In water protection zones, maximum fertilisation limits are reduced. The aid will only concern additional obligations defined in water protection areas which go beyond the basic mandatory standards.
	Plant protection products shall be used properly. Appropriate use includes the application of the principles of good plant protection practice and compliance with the conditions laid down in the authorisation of plant protection products and mentioned on the labelling. Food business operators producing or harvesting plant products must take appropriate measures to ensure, where appropriate, the correct use of plant protection products and biocides, in accordance with the applicable legislation.	SMR 7 + 8	The use of certain plant protection products is prohibited, in particular bentazone, terbuthylazine, S-metolachlor and diuron... Where necessary due to vulnerability to pollution and water quality, additional restrictions or complete bans may be applied.

	In particular, food business operators producing or harvesting plant products must keep records of any use of plant protection products and biocides.		
General conditions for aid 530:	The amount of organic fertilisers applied per year per hectare shall not exceed 130 kg of total nitrogen, except for protein crops and pure leguminous crops starting with crops where the limit is 85 kg of total nitrogen.	530	These conditions are stricter than the baseline
	The use of active substances listed in Annex II to the Grand-Ducal Regulation of 9 July 2013 on administrative measures in all protection zones for bodies of groundwater or parts of bodies of groundwater used as a resource for the production of water intended for human consumption and amending the amended Grand-Ducal Regulation of 24 November 2000 on the use of nitrogen fertilisers in agriculture shall be prohibited. Where necessary due to the vulnerability to pollution and water quality of the abstraction or group of abstraction of groundwater intended for human consumption covered by the Grand-Ducal Regulation, additional restrictions or complete prohibitions may be applied.	530	These conditions are stricter than the baseline

7 Form and rate of support/amounts/calculation methods

Type of payment

- ☒ unit cost based on additional costs and income foregone
- ☐ transaction cost included
- ☐ one off payment
- ☐ lump sum

Range of support at beneficiary level

This is a per hectare compensation paid annually to farmers with eligible areas located in water protection zones.

The amounts of compensation differ according to the restrictions, which differ according to the protection area and the agricultural status of the parcels.

Calculation method

This is a per hectare allowance paid annually to farmers with eligible areas located in water protection areas.

- (1) In close and remote protection areas, the aid shall be EUR 140 per crop year and per hectare for arable land with the exception of temporary grassland.
- (2) In close and remote protection areas, the aid shall be EUR 90 per crop year and per hectare for permanent and temporary grassland.
- (3) In close protection areas with high vulnerability and close protection areas with very high vulnerability, support shall be EUR 340 per crop year and per hectare for arable land and permanent grassland.

Additional explanation

The budget is being evaluated increasingly. The future designation of new protection areas defined by Grand-Ducal Regulation has been taken into account. This is to ensure that the financial resources are available. See also section 12 for additional information.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

N/A

10 WTO compliance

Green Box

Paragraph 12 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Payments are determined on the basis of additional costs and income foregone, see point 11.

The amount of such payments shall not depend on or be established on the basis of the type or volume of production carried out by the producer in any year following the base period.

The amount of such payments shall not be dependent on, nor established on the basis of, domestic or international prices.

The amount of these payments is neither dependent on, nor established on the basis of the factors of production employed.

There is no requirement to produce in order to qualify for such aid.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.01.530.UA01 - Rate per hectare Arable land excluding Temporary grasslands ZII (C) and ZIII	Grant	91(2)(d)-LU-20.00%	Uniform		R.4; R.7	No
2.01.530.UA02 - Rate per hectare Permanent and Temporary grassland ZII (C) and ZIII	Grant	91(2)(d)-LU-20.00%	Uniform		R.4; R.7	No
2.01.530.UA03 - Rate per hectare areas ZII(A)/(B)/(-V1)	Grant	91(2)(d)-LU-20.00%	Uniform		R.4; R.7	No

Explanation and justification related to the value of the unit amount

2.01.530.UA01 - Rate per hectare Arable land excluding Temporary grasslands ZII (C) and ZIII

The calculation of the economic justification is based on additional costs and income foregone.

Justification for the compensation of **EUR 120/ha for arable areas**:

The restrictions on zones IIC and III are still valid but are increased by additional restrictions and obligations. It should be noted that the justification for additional costs and income losses for grass areas has not yet taken into account a reduction in smoking. The additional loss of income to justify compensation of EUR 140/ha on arable land is therefore based on a loss of income due to mineral smoking costs and crop income losses.

The justification is based on the constraints associated with the protection zone around the Lac de la Haute-Sûre, as this area is by far the most important both in terms of surface area and the volume of water intended to serve more than 2/3 of the population with drinking water.

In order to ensure that M12 allowances do not overlap with EAWs commitments and therefore to avoid double funding, care has been taken in the economic justification not to take into account obligations, which may be covered by EAW measures, in particular in terms of fertilisation.

2.01.530.UA02 - Rate per hectare Permanent and Temporary grassland ZII (C) and ZIII

The calculation of the economic justification is based on additional costs and income foregone.

In order to justify the **amount of EUR 9/ha of grassland** in closed-protection zones (CIIs) and remote protection areas (III), specific restrictions and their justification must be taken into account in the following areas:

- restricted grazing
- ban on sewage sludge
- mandatory rotation of eating and mobile sleeves
- and the prohibition of organic fertilisation in specific cases.

The justification is based on the constraints associated with the protection zone around the Lac de la Haute-Sûre, as this area is by far the most important both in terms of surface area and the volume of water intended to serve more than 2/3 of the population with drinking water.

In order to ensure that M12 allowances do not overlap with EAWs commitments and therefore to avoid double funding, care has been taken in the economic justification not to take into account obligations, which may be covered by EAW measures, in particular in terms of fertilisation.

2.01.530.UA03 - Rate per hectare areas ZII(A)/(B)/(-V1)

The calculation of the economic justification is based on additional costs and income foregone.

The allowance in zones IIA and IIB will no longer be differentiated on the basis of permanent arable and grassland areas.

The restrictions of zones IIC and III remain valid and will be supplemented by others. The justification for the EUR 340 allowance is therefore based on the previous justification supplemented by other elements in the following areas:

- reduction of smoking in root crops (partial loss remaining),
- restricted grazing
- and a ban on organic fertilisation.

The justification is based on the constraints associated with the protection zone around the Lac de la Haute-Sûre, as this area is by far the most important both in terms of surface area and the volume of water intended to serve more than 2/3 of the population with drinking water.

In order to ensure that M12 allowances do not overlap with EAWs commitments and therefore to avoid double funding, care has been taken in the economic justification not to take into account obligations, which may be covered by EAW measures, in particular in terms of fertilisation.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.01.530.UA01 - Rate per hectare Arable land excluding Temporary grasslands ZII (C) and ZIII (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	120.00	120.00	120.00	140.00	140.00	140.00	140.00	
	Maximum planned average unit amount (where applicable) (EUR)				160.00	160.00	160.00	160.00	
	O.13 (unit: Hectares)		5,400.00	5,500.00	5,500.00	5,600.00	5,600.00	0.00	Sum: 27,600.00 Max: 5,600.00

2.01.530.UA02 - Rate per hectare Permanent and Temporary grassland ZII (C) and ZIII (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	80.00	80.00	80.00	90.00	90.00	90.00	90.00	
	Maximum planned average unit amount (where applicable) (EUR)				100.00	100.00	100.00	100.00	
	O.13 (unit: Hectares)		7,810.00	7,950.00	7,950.00	8,080.00	8,080.00	0.00	Sum: 39,870.00 Max: 8,080.00
2.01.530.UA03 - Rate per hectare areas ZII(A)/(B)/(-V1) (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	275.00	275.00	275.00	340.00	340.00	340.00	340.00	
	Maximum planned average unit amount (where applicable) (EUR)				360.00	360.00	360.00	360.00	
	O.13 (unit: Hectares)	0.00	290.00	300.00	300.00	320.00	320.00	0.00	Sum: 1,530.00 Max: 320.00
TOTAL	O.13 (unit: Hectares)	0.00	13,500.00	13,750.00	13,750.00	14,000.00	14,000.00	0.00	Sum: 69,000.00 Max: 14,000.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	1,352,550.00	1,378,500.00	1,378,500.00	1,406,400.00	1,406,400.00	0.00	6,922,350.00
	Annual indicative financial allocation (Union Contribution in EUR)	0.00	270,510.00	275,700.00	275,700.00	281,280.00	281,280.00	0.00	1,384,470.00

	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								

INVEST(73-74) - Investments, including investments in irrigation

2.04.712 - Aid for agricultural investments

Intervention Code (MS)	2.04.712
Intervention Name	Aid for agricultural investments
Type of Intervention	INVEST(73-74) - Investments, including investments in irrigation
Common Output Indicator	O.20. Number of supported on-farm productive investment operations or units
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: No ES rebate system: LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO2 Enhance market orientation and increase farm competitiveness, both in the short and long term, including greater focus on research, technology and digitalisation

SO3 Improve the farmer' position in the value chain

SO7 Attract and sustain young farmers and other new farmers and facilitate sustainable business development in rural areas

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B2.1	Strengthen the market orientation of agricultural, wine and market gardening production.	P2	Partially

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.9 Share of farmers receiving investment support to restructure and modernise, including to improve resource efficiency

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

The objective of the measure is to promote multifunctional, sustainable and competitive agriculture. Eligible investments are aimed at modernising farms with the aim of fostering competitiveness and productivity. Improvement of working conditions and safety at work are also among the objectives.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

Eligibility conditions

Farmers shall receive investment aid (including processing/marketing) provided that they:

— pursues an economically viable agricultural activity and is not in receipt of an old-age pension. The economic viability of an agricultural holding shall be ensured where the economic size corresponds to a total standard output of at least EUR 25,000;

- present an evaluation/analysis of the project on the basis of objectively verifiable criteria and in direct relation to the objectives pursued and the responses to those objectives obtained or expected;
- presents the authorisations necessary for the implementation of the projects;
- submits, prior to its completion, the application for aid together with the investment project advisory file;
- For all investments in immovable property in excess of EUR 300,000, a consultancy file must be submitted containing a holistic analysis of the investment project (technical, agricultural, environmental, authorisation, financing). The holistic council should take place before project planning;
- **Investment projects relating to processing and marketing are eligible for aid only if products listed in Annex I to the TFEU are processed into products listed in Annex I to the TFEU and if the products listed in Annex I to the TFEU are marketed**

Investments are eligible up to an investment ceiling calculated per farm on the basis of the AWUs available on the farm.

Eligible beneficiaries

A beneficiary shall be considered an active farmer if he manages a holding of at least 3 hectares of agricultural land, 50 ares of nurseries, 30 ares of orchards, 25 ares of market gardening or 10 ares of vineyards.

In addition, a beneficiary is eligible, provided that the following conditions are met:

- he is not more than 65 years of age;
- who is not in receipt of an old-age pension;

In the case of legal persons, the condition that the persons responsible for managing the agricultural holding comply with the above eligibility criteria and that they jointly contribute at least 40 per cent of the share capital shall apply.

Selection procedure

The selection procedure for investment projects will be based on periodic calls for applications, with files being ranked. Projects not selected may be represented in a forthcoming call for applications.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The planned aid shall be reimbursed where, before the expiry of a period of 10 years for investments in immovable property, from the date of the decision to pay the aid.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

N/A

7 Form and rate of support/amounts/calculation methods

Form of support

☒ **Grant**

☐ **Financial instrument**

Type of payment

☒ reimbursement of eligible costs actually incurred by a beneficiary

☐ unit costs

☐ lump sums

☐ flat-rate financing

Range of support at beneficiary level

General rules:

- Individual ceilings calculated on the basis of AWU (Maximum 5 AWU)
- The individual ceiling is calculated by adding up the tranches of ceilings as follows:
0 to 0,5 AWU: fixed ceiling of EUR 300,000
> 0,5 to 1 AWU: EUR 300.000 + 600.000 X (AWU – 0,5)
> 1-2 AWU: EUR 600.000 + 0,8 X 600.000 x (AWU – 1)
> 2 to 4 AWU: EUR 1.080.000 + 0,6 X 600.000 x (AWU – 2)
> 4 to 5 AWU: EUR 1.800.000 + 0,4 X 600.000 x (AWU – 4)
AWUs beyond 5 are not considered. The maximum ceiling is 2.000.000. This ceiling shall be increased by 50 % for investments in immovable property relating to processing and marketing.
- Basic aid rate (40 %) building investment
- Increased rate of aid (+ 15 % young farmers – linked to setting up, business plan),

Principle of unit prices:

The aid rate shall be applied to the actual costs within the limit of the unit prices while respecting the individual ceilings per holding.

Eligible cost for calculating the aid = lowest cost of: actual cost retained for the investment – maximum cost according to unit prices – authorised cost

- Differentiation between co-financed aid and State aid
- Non-productive investments are financed by national aid.

Additional explanation

Only investment projects in immovable property above EUR 300.000 are co-financed by the EAFRD. Investment in furniture and investments in buildings EUR 300,000 will be financed through statuses. See also Part 12 for further information.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

What is not eligible for support?

The following investments are not eligible (including investments not eligible under EC rules):

- repair of immovable and movable property
- the construction, renovation and fitting-out of residential units or buildings;
- the construction and development of dwellings operated in the context of rural tourism;
- horse stables and racks, as well as related constructions and equipment;
- the purchase of second-hand immovable and movable property;
- acquisition of payment entitlements
- the purchase of land;
- the purchase of livestock; purchase and planting of annual plants for purposes other than restoring agricultural or forestry potential as a result of natural disasters
- interest owed;
- investments in large-scale infrastructure
- reforestation investments.

Does the investment contain irrigation?

☐ Yes ☒ No

Investments in the improvement of existing irrigation installations, what is the potential water saving(s) required (expressed in %)

N/A

Details on different potential water savings according to the type of installation or infrastructure (where applicable)

Investments in the improvement of existing irrigation installations (affecting water bodies whose status is less than good) what is/are the requirement(s) for an effective reduction in water use - expressed in %

N/A

Regional breakdown

10 WTO compliance

Green Box

Paragraph 11 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Eligibility for such payments is defined in this public programme on the basis of defined clearances. The assistance is intended to assist the financial or material restructuring of agricultural activities in response to structural disadvantages.

The amount of the payments will not be dependent on or established on the basis of the type or volume of production (including livestock units) r

The amount of the payments will not be dependent on, nor established on the basis of, domestic or international prices.

The payments shall be given only for the period of time necessary for the realisation of the investment in respect of which they are provided.

Payments shall not contain any obligation or indication of any kind as to the agricultural products to be produced by the beneficiaries.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.04.712.UA1 - Base rate 40 %	Grant	91(2)(d)-LU-20.00%	Average		R.9	No
2.04.712.UA2 - Additional support rate for young farmers 15%	Grant	91(2)(d)-LU-20.00%	Average		R.9	No

Explanation and justification related to the value of the unit amount

2.04.712.UA1 - Base rate 40 %

The unit amount is based on an estimate of the average value of the investments made taking into account that only projects above EUR 300.000 are co-financed by the NSP as well as the experiences of the past programming period and the support rate.

2.04.712.UA2 - Additional support rate for young farmers 15%

The unit amount is based on an estimate of the average value of the investments made taking into account that only projects above EUR 300.000 are co-financed by the NSP as well as the experiences of the past programming period and the support rate.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.04.712.UA1 - Base rate 40 % (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	
	Maximum planned average unit amount (where applicable) (EUR)	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	
	O.20 (unit: Operations)	0.00	5.00	5.00	5.00	5.00	5.00	0.00	Sum: 25.00 Max: 5.00
2.04.712.UA2 - Additional support rate for young farmers 15% (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	
	Maximum planned average unit amount (where applicable) (EUR)	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	

	O.20 (unit: Operations)	0.00	2.00	2.00	2.00	2.00	2.00	0.00	Sum: 10.00 Max: 2.00
TOTAL	O.20 (unit: Operations)	0.00	7.00	7.00	7.00	7.00	7.00	0.00	Sum: 35.00 Max: 7.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	1,860,000.00	1,860,000.00	1,860,000.00	1,860,000.00	1,860,000.00	0.00	9,300,000.00
	Annual indicative financial allocation (Union Contribution in EUR)	0.00	372,000.00	372,000.00	372,000.00	372,000.00	372,000.00	0.00	1,860,000.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	0.00							0.00

2.04.714 - Aid for environmental investments

Intervention Code (MS)	2.04.714
Intervention Name	Aid for environmental investments
Type of Intervention	INVEST(73-74) - Investments, including investments in irrigation
Common Output Indicator	O.20. Number of supported on-farm productive investment operations or units
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: Yes ES rebate system: No LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO2 Enhance market orientation and increase farm competitiveness, both in the short and long term, including greater focus on research, technology and digitalisation

SO3 Improve the farmer's position in the value chain

SO4 Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as promote sustainable energy

SO5 Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency

SO7 Attract and sustain young farmers and other new farmers and facilitate sustainable business development in rural areas

SO9 Improve the response of Union agriculture to societal demands on food and health, including high quality, safe, and nutritious food produced in a sustainable way, the reduction of food waste, as well as improving animal welfare and combatting antimicrobial resistances

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B2.1	Strengthen the market orientation of agricultural, wine and market gardening production.	P2	Partially
B2.5	Managing investments taking into account environmental and animal welfare issues	P1	Yes
B5.2	Reducing ammonia emissions from the agricultural sector	P1	Yes
B9.5	Raising the standard of taking into account animal welfare on farms	P2	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.16 Share of farms benefitting from CAP investment support contributing to climate change mitigation and adaptation, and to the production of renewable energy or biomaterials

R.26 Share of farms benefitting from CAP productive and non-productive investment support related to care for the natural resource

R.44 Share of livestock units (LU) covered by supported actions to improve animal welfare

R.9 Share of farmers receiving investment support to restructure and modernise, including to improve resource efficiency

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

The objective of the measure is to promote multifunctional, sustainable and competitive agriculture, taking into account animal welfare, environmental and climate protection, with a focus on innovation, in line with integrated development of rural areas.

The intervention is thus directly linked to Objective 9 on animal welfare.

Specific targeting: The investments are directly linked to an improvement in production conditions for the climate and the environment, which go beyond the basic standards and requirements set out in intervention 2.04.712:

Investments in livestock buildings must comply with the following specific conditions:

1° construction standards applicable to organic production; and

2° install best available techniques, adapted to minimise greenhouse gas and ammonia emissions.

3° lay down provisions for subsequent connection to renewable energy production by biogas production or photovoltaic panels.

These additional conditions for animal production, one to improve animal welfare and the other to mitigate climate change, are new compared to the 2014-2022 programming period. The first relates to the conditions under which farmed animals are kept. The second condition is aimed at reducing ammonia emissions by various techniques in the field of design, construction and operation, defined by reference to best available techniques. The third condition relates to the technical preparation of livestock buildings for the production of renewable energy.

The conditions listed above clearly go beyond the conditions of intervention 2.04.712 and thus only investments that go beyond the basic standards can be supported under this intervention.

The support rate shall be 40 per cent with an increase of 20 percentage points for the following outputs:

-1. The installation of leak detection devices for slurry and purin tanks, silos, and storage areas with reservoirs;

This condition is aimed at a more general objective of environmental protection (securing the supply of drinking water).

-2. The construction of cover devices for slurry and purin tanks;

The coverage equipment for open-cast manure storage facilities reduces greenhouse gas emissions. The financial aid shall be granted only for the cover of slurry or purin tanks, but shall be granted for both existing and new tanks.

— 3. The production of a washing area for sprayers for plant protection products;

This measure concerns the development of a washing platform, consisting of a watertight area and a washing water treatment process, to prevent residues of plant protection products from entering the soil. There are different types of processes, which can work with a combination of evaporation, filtration, dehydration or degradation.

-4. The creation of a storage area for watertight manure with recovery of juices;

This measure concerns the installation of a manure storage platform equipped with a liquid collection system that flows from manure. The collection of silage juice is the key element of the investment in preventing its infiltration into groundwater.

-5. Construction of buildings used for the production, storage and packaging of horticultural products;

The aim of this measure is to encourage investment in the horticulture sector, which is a largely loss-making sector, with most products to be imported. Horticulture is the branch of agriculture that includes fruit, vegetables and ornamental plants.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

Eligibility conditions

The active farmer shall receive aid for environmental investments provided that he:

- pursues an economically viable agricultural activity and is not in receipt of an old-age pension. The economic viability of an agricultural holding shall be ensured where the economic size corresponds to a total standard output of at least EUR 25,000;
- present an evaluation/analysis of the project on the basis of objectively verifiable criteria and in direct relation to the objectives pursued and the responses to those objectives obtained or expected;
- presents the authorisations necessary for the implementation of the projects;
- submits, prior to its completion, the application for aid accompanied by an advisory file relating to the investment project;
- For all investments in immovable property in excess of EUR 300,000, a consultancy file must be submitted containing a holistic analysis of the investment project (technical, agricultural, environmental, authorisation, financing). The holistic council should take place before project planning;
- Each project to invest in livestock production meets either the objectives of (4) climate or (9) animal welfare.
- Livestock buildings and equipment are eligible for aid only by using the best available techniques adapted to minimise ammonia emissions.
- Investments in new livestock buildings and equipment are eligible for aid only if they comply with the minimum conditions laid down for housing animals of the different species and according to the types of production by applying the rules on organic production of agricultural products. However, existing plants can be improved without complying with all these conditions if eligible investments are planned to improve animal welfare or to contribute to climate and environmental objectives.
- **Investment projects relating to processing and marketing are eligible for aid only if products listed in Annex I to the TFEU are processed into products listed in Annex I to the TFEU and if the products listed in Annex I to the TFEU are marketed.**

Investments are eligible up to an investment ceiling calculated per farm on the basis of the AWUs available on the farm.

Eligible beneficiaries

A beneficiary shall be considered an active farmer if he manages a holding of at least 3 hectares of agricultural land, 50 ares of nurseries, 30 ares of orchards, 25 ares of market gardening or 10 ares of vineyards.

In addition, a beneficiary is eligible, provided that the following conditions are met:

- he is not more than 65 years of age;
- who is not in receipt of an old-age pension;
- that he or she has sufficient professional knowledge and competence;

In the case of legal persons, the condition that the persons responsible for managing the agricultural holding comply with the above eligibility criteria and that they jointly contribute at least 40 per cent of the share capital shall apply.

Selection procedure

The selection procedure for investment projects will be based on periodic calls for applications, with files being ranked. An exclusion threshold consisting of a minimum number of points to be achieved will be defined. Projects not selected may be represented in a forthcoming call for applications.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

The planned aid shall be reimbursed where, before the expiry of a period of 10 years for investments in immovable property, from the date of the decision to pay the aid.

The managing authority takes as an example proposals for the design of livestock buildings. These standards are still at the drafting stage and are likely to be adapted at a later stage in the light of developments in knowledge and experience and technical improvements.

Minimum animal welfare requirements for livestock buildings:

All new projected livestock buildings or intended extension of an existing livestock building or the conversion of a building into a livestock building must meet the criteria set out below.

Any fitting-out of an existing livestock building must respect that at least half of the minimum surface area of the interior areas defined below is constructed in hard standing, i.e. it may not consist of gratings or grilles.

Criteria for livestock buildings for the different species:

1. Bovine, sheep, Caprins:

Bovine	Indoor space (net area available to animals)		Outdoor area (exercise area, excluding pastures)
	Minimum live weight (kg)	m ² /head	m ² /head
	Up to 100	1,5	1,1
	Up to 200	2,5	1,9
	Up to 350	4	3
	Over 350	5 with a minimum of EUR 1,m ² /100 kg	3,7 with a minimum of EUR 0,75,m ² /100 kg
Dairy cows		6	4,5
Bulls for breeding purposes		10	30

Sheep Goats	Indoor space (net area available to animals)	Outdoor area (exercise area, excluding pastures)
	m ² /head	m ² /head
Sheep	1,5	2,5
Lambs	0,35	0,5
Goats	1,5	2,5
Kids	0,35	0,5

Where the animals have access to grazing during the grazing period and the rearing buildings allow the animals to move freely, the obligation to give access to open air areas during winter months is waived.

This derogation applies to all animals for which summer grazing is common practice, in particular suckler cow herds, young dairy and viantwo cattle, and non-dairy and non-dairy sheep.

Outdoor areas may be covered on a maximum of 50 % of the surface if at least half of the perimeter is open.

Outdoor areas may be integrated into the volume of the inner space if at least half of the perimeter of the whole farm building is open.

At least half of the minimum surface area of the defined interior spaces shall be constructed in hard standing, i.e. it shall not consist of gratings or gratings.

2.Porcins

Pigs		Indoor space (net area available to animals)	Exterior space
	Minimum live weight (kg)	m²/head	m²/head
Lactating sows with piglets until weaning		7,5 per sow	2,5
Swine for fattening weaned piglets, production pigs, gilts, wild boar production	Less than or equal to 35 kg	0,6	0,4
	More than 35 kg but not more than 50 kg	0,8	0,6
	More than 50 kg but not more than 85 kg	1,1	0,8
	More than 85 kg but not more than 110 kg	1,3	1
	More than 110 kg	1,5	1,2
Breeding animals of the species dried pregnant sows		2,5	1,9
Breeding animals of the porcine species Sanglier		6 10 if parks are used for natural installation	8

Outdoor areas may be covered on a maximum of 50 % of the surface. If the building houses piglets < 35 kg or lactating sows, the outer space may be covered up to 75 % of the surface.

At least half of the minimum surface area of the defined interior and exterior spaces shall be constructed in hard standing, i.e. it shall not consist of gratings or gratings.

3.Volumes

Poultry		
Laying hens including dual flesh and laying breeds:	Stocking density and minimum indoor area	6
	Maximum number of birds per m ² of usable area of the interior of the poultry building	
Poultry for fattening Gallus gallus:	Stocking density and minimum indoor area	21 kg liveweight/m ²
	Stocking density per m ² of usable	

	area of the interior of the poultry building	
Poultry houses must be fitted with exit/inlet hatches allowing access to an open air area. Hatches shall have a combined length of at least 4 metres per 100 m² of the minimum usable area of the interior of the poultry building. Verandas are not considered as open-air spaces. At least one third of the floor area shall be constructed in hard standing, i.e. it shall not consist of slatted or gratings and shall be covered with litter such as straw, wood shavings, sand or peat. Storey systems shall comprise no more than two levels of surfaces usable above ground level. For poultry craft subdivided into separate compartments allowing several stripes to be housed: — The total number of laying hens per poultry housing compartment shall not exceed 3 000 individuals. — The total number of fattening poultry per poultry housing compartment shall not exceed 4.800 individuals. — The total usable area of poultry houses intended for fattening poultry in any production unit shall not exceed 1 600 m². Minimum conditions for best available techniques adapted to minimise GHG and ammonia emissions: 1.Livestock buildings All new projected livestock buildings or intended extension of an existing livestock building or the conversion of a building into a livestock building must comply with the best available and suitable techniques to minimise GHG and ammonia emissions, including the following measures or equivalent. 1.1.bovine animals 1.1.1. allbovine animals Openings towards an underlying slurry tank in livestock buildings must be reduced by means of sealing valves or by means of a floor with reduced slots. Floors with reduced slots must have a cross-sectional slope of at least 2.5 % towards the slots with a fraction of slots which may not exceed 10 % of the surface of the ground. The interior space of the new buildings must be equipped with thermal insulation of the roof or a green roof. 1.1.2. Additional criteria for dairy cows in production With the exception of passages, waiting areas, external exercise areas and areas adjacent to a milking robot, the traffic area must be equipped with an automatic scraping system adapted to the ground. The appropriate systems are: — Scraping with drive. — Scraping machines. Non-perforated circulation areas shall have a transverse gradient of at least 2.5 % which allows a rapid removal of the urine towards a collection rigole, longitudinal grooves or a slurry tank. The scraping system must be suitable for scraping the grooves and the collection rigole. 1.2. Pigs Perforated traffic areas must be adapted to reduce the formation of GHG and ammonia. The appropriate systems are:		

— Scraping with urine separation from grating excrements.

— Slurry channels under slatted slurry which are suitable for reducing the emission surface.

The compartments for post-weaning farms must be organised in different functional areas in order to separate the feeding, resting and dropping areas.

The interior space of the new buildings must be equipped with thermal insulation of the roof or a green roof.

The feeding of new porcheries is carried out by means of a system of feeding in phases adapted to meet the nutritional needs of animals of the different age and weight categories in order to reduce the load of discharges of polluting nutrients.

2.Fosses

Any new purin or slurry pit outside a stall must be covered by a rigid (concrete, frame) or flexible cover (textile, PVC sheet).

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

N/A

7 Form and rate of support/amounts/calculation methods

Form of support

☒ **Grant**

☐ **Financial instrument**

Type of payment

☒ reimbursement of eligible costs actually incurred by a beneficiary

☐ unit costs

☐ lump sums

☐ flat-rate financing

Range of support at beneficiary level

General rules:

— Individual ceilings calculated on the basis of AWU (Maximum 5 AWU)

— The individual ceiling is calculated by adding up the tranches of ceilings as follows:

0 to 0,5 AWU: fixed ceiling of EUR 300,000

> 0,5 to 1 AWU: EUR 300.000 + 600.000 X (AWU – 0,5)

> 1-2 AWU: EUR 600.000 + 0,8 X 600.000 x (AWU – 1)

> 2 to 4 AWU: EUR 1.080.000 + 0,6 X 600.000 x (AWU – 2)

> 4 to 5 AWU: EUR 1.800.000 + 0,4 X 600.000 x (AWU – 4)

AWUs beyond 5 are not considered. The maximum ceiling is 2.000.000.

— Basic aid rate (40 %) building investment

— Increased rate of aid (+ 15 % young farmers – linked to setting up, business plan),

— Increase + 20 % – targets in particular equipment to cover open-cast manure storage facilities that reduce greenhouse gas emissions, manure storage areas and washing areas. Other priority investments are to be identified: investments in fruit and vegetable production (including greenhouses)

Condition: the farmer must be bound by a premium commitment for the maintenance of the landscape and the countryside and the promotion of environmentally-friendly agriculture at the time of submission of the aid application.

— Max EC 2021-2027 cumulation: 75 %

Principle of unit prices:

The aid rate shall be applied to the actual costs within the limit of the unit prices while respecting the individual ceilings per holding.

Eligible cost for calculating the aid = lowest cost of: actual cost retained for the investment – maximum cost according to unit prices – authorised cost

— Differentiation between co-financed aid and State aid

— Non-productive investments are financed by national aid.

— Limitation to the level of livestock increase: where the number of annual work units relating to the livestock production of the holding exceeds five or where the effect of the operation is to increase the number of annual work units relating to the livestock production of the holding to more than five.

I.e.: 5 AWU (11000 hours)

milk sector: 220 dairy cows, 50 HT per cow

beef and veal sector: 550 suckler cows, 20 HT per cow

pig sector: 4782 pigs for fattening, 2,3 HT per pig -500 farmed sows, 22 HT per sow

poultry sector: 11.000 hens, 1 HV per hen

Additional explanation

Only investment projects in immovable property above EUR 300.000 are co-financed by the EAFRD. Investment in furniture and investments in buildings EUR 300,000 will be financed through statuses. See also Part 12 for further information.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

What is not eligible for support?

The following investments are not eligible (including investments not eligible under EC rules):

- repair of immovable and movable property;
- the construction, renovation and fitting-out of residential units or buildings;
- the construction and development of dwellings operated in the context of rural tourism;
- horse stables and racks, as well as related constructions and equipment;
- the purchase of second-hand immovable and movable property;
- acquisition of payment entitlements
- the purchase of land;
- the purchase of livestock; purchase and planting of annual plants for purposes other than restoring agricultural or forestry potential as a result of natural disasters
- interest owed;
- investments in large-scale infrastructure
- reforestation investments.

Does the investment contain irrigation?

☐ Yes ☒ No

Investments in the improvement of existing irrigation installations, what is the potential water saving(s) required (expressed in %)

N/A

Details on different potential water savings according to the type of installation or infrastructure (where applicable)

Investments in the improvement of existing irrigation installations (affecting water bodies whose status is less than good) what is/are the requirement(s) for an effective reduction in water use - expressed in %)

N/A

Regional breakdown

10 WTO compliance

Green Box

Paragraph 11 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Eligibility for such payments is defined in this public programme on the basis of defined clearances. The assistance is intended to assist the financial or material restructuring of agricultural activities in response to structural disadvantages.

The amount of the payments will not be dependent on or established on the basis of the type or volume of production (including livestock units) r

The amount of the payments will not be dependent on, nor established on the basis of, domestic or international prices.

The payments shall be given only for the period of time necessary for the realisation of the investment in respect of which they are provided.

Payments shall not contain any obligation or indication of any kind as to the agricultural products to be produced by the beneficiaries.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.04.714.UA1 - Base rate 40 %	Grant	91(2)(d)-LU-20.00%	Average		R.16; R.26; R.44; R.9	No
2.04.714.UA2 - Additional support rate for young farmers 15%	Grant	91(2)(d)-LU-20.00%	Average		R.16; R.26; R.44; R.9	No
2.04.714.UA3 - Additional support rate 20%	Grant	91(2)(d)-LU-20.00%	Average		R.16; R.26; R.44; R.9	No

Explanation and justification related to the value of the unit amount

2.04.714.UA1 - Base rate 40 %

The unit amount is based on an estimate of the average value of the investments made taking into account that only projects above EUR 300.000 are co-financed by the NSP as well as the experiences of the past programming period and the support rate.

2.04.714.UA2 - Additional support rate for young farmers 15%

The unit amount is based on an estimate of the average value of the investments made taking into account that only projects above EUR 300.000 are co-financed by the NSP as well as the experiences of the past programming period and the support rate.

2.04.714.UA3 - Additional support rate 20%

The unit amount is based on an estimate of the average value of the investments made taking into account that only projects above EUR 300.000 are co-financed by the NSP as well as the experiences of the past programming period and the support rate.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.04.714.UA1 - Base rate 40 % (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	
	Maximum planned average unit amount (where applicable) (EUR)	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	
	O.20 (unit: Operations)	0.00	23.00	23.00	25.00	25.00	25.00	0.00	Sum: 121.00 Max: 25.00
2.04.714.UA2 - Additional support rate for young farmers 15% (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	

	Maximum planned average unit amount (where applicable) (EUR)	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	
	O.20 (unit: Operations)	0.00	7.00	7.00	8.00	8.00	8.00	0.00	Sum: 38.00 Max: 8.00
2.04.714.UA3 - Additional support rate 20% (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	70,000.00	70,000.00	70,000.00	70,000.00	70,000.00	70,000.00	70,000.00	
	Maximum planned average unit amount (where applicable) (EUR)	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	
	O.20 (unit: Operations)	0.00	12.00	12.00	13.00	13.00	13.00	0.00	Sum: 63.00 Max: 13.00
TOTAL	O.20 (unit: Operations)	0.00	42.00	42.00	46.00	46.00	46.00	0.00	Sum: 222.00 Max: 46.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	9,275,000.00	9,275,000.00	9,750,000.00	9,750,000.00	9,750,000.00	0.00	47,800,000.00
	Annual indicative financial allocation (Union Contribution in EUR)	0.00	1,855,000.00	1,855,000.00	1,950,000.00	1,950,000.00	1,950,000.00	0.00	9,560,000.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

INSTAL(75) - Setting up of young farmers and new farmers and rural business start-up

2.09.711 - Support for setting-up of young farmers

Intervention Code (MS)	2.09.711
Intervention Name	Support for setting-up of young farmers
Type of Intervention	INSTAL(75) - Setting up of young farmers and new farmers and rural business start-up
Common Output Indicator	O.25. Number of young farmers receiving setting-up support
Contributing to ringfencing requirement for/on	Generational Renewal: Yes Environment: No ES rebate system: LEADER: No

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

The scheme is applied uniformly throughout Luxembourg.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO7 Attract and sustain young farmers and other new farmers and facilitate sustainable business development in rural areas

SO8 Promote employment, growth, gender equality, including the participation of women in farming, social inclusion and local development in rural areas, including the circular bio-economy and sustainable forestry

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B7.2	Maintain a system of support and advice for young people to take back	P2	Partially
B7.3	Encourage non-family or atypical take-overs and the entry of new producers	P2	Partially
B7.4	Create a general framework encouraging the setting up of young farmers	P1	Partially
B7.5	Maintain and improve support and advice to the JAs in connection with the installation	P1	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.36 Number of young farmers benefitting from setting up with support from the CAP, including a gender breakdown

R.37 New jobs supported in CAP projects

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

The objective of the measure is to encourage young farmers to set up in the agricultural sector and to ensure the continuity of farms and the transition from one generation to another. The measure also targets the competitiveness and viability of the agricultural sector.

This intervention helps to ensure the continuity of Luxembourg's agriculture.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

Eligibility conditions

Young farmers shall receive start-up aid on an agricultural holding provided that:

- they are under 40 years of age.
- the total standard output of the holding is EUR 75.000. A young farmer setting up on a holding which achieves only a total standard production of at least EUR 25.000 can demonstrate through the business plan that the holding will reach the minimum standard product threshold of EUR 75.000. The minimum economic size of the operation must be attained at the end of the business plan after 5 years.
- they have sufficient professional knowledge and skills (optional internship abroad; may be honoured in addition).
- they undergo training in business management within three years from the date of establishment;
- they are setting up for the first time as a main farmer on a holding which, at the time of setting up, meets the minimum environmental, hygiene and animal welfare standards and the condition of economic viability;

they submit and implement a business plan for the operation which is the subject of the installation. The business plan defines the development of the business, based on objectively verifiable criteria (economic calculation, land use, livestock production). The business plan is to be drawn up and assessed in consideration and with due regard for the environment and natural resources (water, area, protection areas, biotopes, climate). Relevant information on the environment and energy, as well as on social parameters, shall be explicitly analysed in the business plan.

- they set up either, in the case of installation on a non-member holding as sole or non-exclusive manager, or, in the case of installation on a holding managed as a member, as an exclusive or non-exclusive partner;
- effective and sustainable control of the holding being set up, as regards management decisions, benefits and financial risks, is exercised by one or more young farmers, exclusively or not exclusively.

Eligible beneficiaries

In Luxembourg, a beneficiary is considered an active farmer if he manages a holding of at least 3 hectares of agricultural land, 50 ares of nurseries, 30 ares of orchards, 25 ares of market gardening or 10 ares of vineyards.

An eligible beneficiary shall be considered to be a farmer primarily if the following conditions are met:

- the beneficiary has not reached the age of 40;
- the proportion of working time devoted to activities outside the agricultural holding is less than half of the farmer's total working time, while not exceeding 20 hours per week. —Supervision at the level of affiliation to the Joint Social Security Centre
- the beneficiary possesses sufficient professional knowledge and skills;
- effective control of the holding, as regards management decisions, benefits and financial risks, is exercised by one or more young farmers.

For legal persons, the condition is that each beneficiary contributes at least 20 per cent of the share capital and that the persons responsible for managing the agricultural holding comply with the above eligibility criteria and jointly contribute at least 40 per cent of the share capital.

Selection procedure

The selection procedure for the installations will be based on periodic calls for applications, with files being filed. Projects not selected may be represented in a forthcoming call for applications.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

non-IACS support

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

N/A

7 Form and rate of support/amounts/calculation methods

Form of support

☒ **Grant**

☐ **Financial instrument**

Type of payment

☐ reimbursement of eligible costs actually incurred by a beneficiary

☐ unit costs

☐ lump sums

☐ flat-rate financing

Range of support at beneficiary level

Business start-up aid for young farmers will consist of the following elements:

— A basic amount varying according to the level of study to be applied by the beneficiary. This amount is EUR 60,000 for the holder of a diploma in practical competence (DAP). It shall be increased by EUR 5 000 for holders of a technical diploma of EUR 10,000 respectively for holders of a university degree.

— A flat-rate amount of EUR 30,000, linked to the completion of an agricultural practice (traineeship) of at least six months on an agricultural holding abroad. Agricultural traineeships abroad as part of their vocational training are considered eligible.

The minimum level of training requires a diploma of practical competence (DAP) with 1 year's professional experience in case the candidate has a recognised agricultural training. In the absence of this agricultural training, the required professional experience is increased to 2 years (regardless of the initial level of training).

Installation premium:

Basic premium	Increase in level of study	Internship abroad
60.000	5.000 technician 10.000 academic	30.000

Additional explanation

The installation premium will be paid in two instalments. (1) The first instalment will be paid after approval of the installation premium. (2) The second instalment of EUR 30,000 is paid upon submission of a request for payment. The allocation of the second instalment is subject to compliance with the implementation and completion of the business plan. It should be noted that an additional aid rate of 15 percentage points for agricultural investment aid will be granted during the first 5 years following their setting up provided that they comply with the conditions of young farmers. The total aid rate may not exceed 75 %. See also Part 12 for additional information.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

N/A

10 WTO compliance

Amber Box

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

Excluded from Annex 2 of the WTO Agreement on Agriculture.

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(2)(d) - Other regions	20.00%	20.00%	43.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.09.711.UA1 - Support for setting up of young farmers	Grant	91(2)(d)-LU-20.00%	Uniform		R.36; R.37	No

Explanation and justification related to the value of the unit amount

2.09.711.UA1 - Support for setting up of young farmers

The maximum amount of EUR 100.000 of the premium is targeted as it is important to ensure a generational renewal (see chapter 2 analysis of the situation). More than 40 % of holdings have farm managers aged over 54. On just over 20 % of holdings, succession seems to be ensured. There is therefore a serious lack of takeovers to ensure the replacement of retiring operators.

Taking over a farm is very expensive, the work of a farmer can be very difficult and laborious, farm income is far lower than the average income per hectare. An interesting incentive is needed to facilitate the decision to take over an agricultural holding.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.09.711.UA1 - Support for setting up of young farmers (Grant - Uniform)	Planned unit amount (Total Public Expenditure in EUR)	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	
	Maximum planned average unit amount (where applicable) (EUR)				120,000.00	120,000.00	120,000.00	120.00	
	O.25 (unit: Beneficiaries)	16.00	16.00	16.00	16.00	16.00	0.00	0.00	Sum: 80.00 Max: 16.00
TOTAL	O.25 (unit: Beneficiaries)	16.00	16.00	16.00	16.00	16.00	0.00	0.00	Sum: 80.00 Max: 16.00
	Annual indicative financial allocation (Total public expenditure in EUR)	1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00	0.00	0.00	8,000,000.00

	Annual indicative financial allocation (Union Contribution in EUR)	320,000.00	320,000.00	320,000.00	320,000.00	320,000.00	0.00	0.00	1,600,000.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	1,412,175.00	1,412,175.00	1,412,175.00	1,412,175.00	1,412,175.00	0.00	0.00	7,060,875.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	282,435.00	282,435.00	282,435.00	282,435.00	282,435.00	0.00	0.00	1,412,175.00

COOP(77) - Cooperation

2.05.570 - Local LEADER development

Intervention Code (MS)	2.05.570
Intervention Name	Local LEADER development
Type of Intervention	COOP(77) - Cooperation
Common Output Indicator	O.31. Number of supported local development strategies (LEADER) or preparatory actions
Contributing to ringfencing requirement for/on	Generational Renewal: No Environment: No ES rebate system: LEADER: Yes

1 Territorial scope and, if relevant, regional dimension

Territorial scope: **National**

Code	Description
LU	Luxembourg

Description of the Territorial Scope

Proposed demarcation of the LEADER area 2023-2029: the area eligible for LEADER is limited to rural municipalities, with the exception of the municipality of Mamer, which, despite being an urban municipality, has been a member of a local action group since 2007. The LEADER area thus comprises 82 of the 102 municipalities. The 20 urban municipalities to be excluded are: Luxembourg, Hesperange, Sandweiler, Walferdange, Strassen, Kopstal, Bertrange, Diekirch, Ettelbruck, Kärjeng, Petange, Differdange, Sanem, Mondercange, Schiffflange, Esch-sur-Alzette, Kayl, Rumelange, Bettembourg and Dudelange.

2 Related Specific Objectives, Cross-Cutting Objective and relevant Sectoral Objectives

CAP SPECIFIC OBJECTIVE Code + Description Recommended CAP Specific Objectives for this Type of Intervention are displayed in bold

SO8 Promote employment, growth, gender equality, including the participation of women in farming, social inclusion and local development in rural areas, including the circular bio-economy and sustainable forestry

3 Need(s) addressed by the intervention

Code	Description	Prioritisation at the level of the CAP Strategic Plan	Addressed in CSP
B8.1	Social inclusion and intergenerational relations	P1	Yes
B8.2	Housing and land management/valorisation	P2	Yes
B8.3	Employment and business development other than agriculture	P2	Yes
B8.4	Sustainable Mobility.	P3	Yes
B8.5	Services to the population	P1	Yes
B8.6	Development of tourism, culture and recreation	P2	Yes
B8.8	Strengthening the governance of rural areas	P1	Yes

4 Result indicator(s)

RESULT INDICATORS Code + Description Recommended result indicators for the selected CAP Specific Objectives of this intervention are displayed in bold

R.37 New jobs supported in CAP projects

R.38 Share of rural population covered by local development strategies

5 Specific design, requirements and eligibility conditions of the intervention

Describe what are the specific objectives and content of the intervention including specific targeting, principles of selection, links with relevant legislation, complementarity with other interventions/sets of operations in both pillars and other relevant information.

Rural regions wishing to participate in the new LEADER programming period 2023-2029 must develop an integrated, multi-sectoral and sustainable local development strategy based on local potential and needs (in accordance with Articles 31, 32 and 33 of Regulation (EU) 2021/1060). These strategies must therefore take account of the economic, social and ecological dimensions of the regions concerned.

Development of local development strategies

A LEADER local development strategy 2023-2029 must contain at least the following elements:

- Identification of the geographical area and population covered by the strategy
- Description of the process of involving local actors in the development of the strategy
- Regional analysis of development needs and potential (including analysis of strengths, weaknesses, opportunities and threats)
- Description of the strategy and its objectives with measurable targets for results
- Action plan showing how the objectives are translated into projects with a description of the core projects and other examples of projects likely to be carried out (regional projects as well as inter-territorial and transnational cooperation projects). The description of the projects must take into account at least the following points: Title, description, baseline, objectives, target audience, project owner and possible partners.
- Description of management, monitoring and evaluation arrangements, demonstrating the LAG's capacity to implement the strategy
- Composition and organisational structure of the LAG
- Estimated financing plan for the strategy

The population of each region must be between 10.000 and 100.000 inhabitants.

LAGs may take into account, where appropriate, approved local development strategies for the period 2014-2022 by updating them.

In order not to undermine LEADER's innovative spirit and bottom-up approach, the choice of themes to be addressed in a local development strategy is to be determined by local LAG actors.

Neighbouring municipalities which are not partners of a LAG may participate in defined projects if the LAG agrees. However, these municipalities have to bear the related costs themselves.

Selection of local development strategies

A public call will be launched by the Managing Authority to invite all interested groups to propose a multi-sectoral local development strategy for their region developed on the basis of the bottom-up approach. This public call will take the form of an official notice. It will set a deadline for the submission of applications and contain a list with the elements required in the strategies.

At the same time, the managing authority will set up a committee comprising representatives of the ministries concerned with the themes and objectives of the LEADER approach in order to select LAGs' local development strategies. This committee will evaluate the strategies established by the LAGs on the basis of a catalogue of selection criteria defined by the managing authority. An external expert will assist the Committee in this evaluation work.

The selection and approval of local development strategies will take place within the timeframe laid down in EU rules.

Tasks of the managing authority and LAGs

The MAVDR is the competent authority for the verification of the selection of projects following a non-discriminatory and transparent selection procedure on the basis of the selection criteria developed by the LAGs as well as for the final approval and monitoring of projects under the LEADER approach. The competent authority will monitor the implementation of the projects, monitor and carry out administrative checks, and carry out on-the-spot checks on a sample basis. The MAVDR as paying agency is responsible

for the payment of the aid and for accounting for the Community contribution.

The tasks of the LAGs are:

- strengthening the capacity of local actors to develop and implement operations
- development of a transparent and non-discriminatory selection procedure and criteria that avoid conflicts of interest and ensure that no particular interest group controls selection decisions
- preparation of a procedure for the submission of continuous operations
- selection of operations, determination of the amount of support and submission of proposals to the body responsible for the final verification of their eligibility before approval
- monitoring progress towards the objectives of the strategy
- administrative and technical monitoring and control of projects
- evaluation of the implementation of the strategy

An agreement between the MAVDR and the LAGs formalises the roles and responsibilities between the competent authority and the LAGs.

Selection criteria for projects in general and for sub-projects under umbrella projects will be developed by LAGs following a transparent and non-discriminatory selection procedure that avoids conflicts of interest and ensures that at least 50 % of the votes to be cast in the vote on selection decisions come from partners that are not public authorities and allow selection by written procedure.

Support for local development strategies shall include (in accordance with Article 34 of Regulation (EU) 2021/1060):

- implementation of projects of a local or even regional nature and cooperation projects
- covering the running costs (management, monitoring, evaluation of the strategy), skills acquisition and animation of LAGs. Support for such costs shall not exceed 25 % of the total public expenditure under a community-led local development strategy. The objective of this measure is to build professional capacity for management, skills acquisition, animation and evaluation for each LAG.

Finally, it should be pointed out that LEADER is not disconnected from the rest of the NSP. All actors in the agricultural, wine and horticultural sectors are concerned by the local development strategies of future LAGs and have the possibility to participate in LEADER with projects.

Define eligible beneficiaries and specific eligibility criteria where relevant related to the beneficiary and area

Eligibility conditions:

Eligible beneficiaries are Local Action Groups (LAGs) which formulate local development strategies for their territory and are responsible for their implementation.

LEADER projects may include:

- LAGs
- Municipalities and other bodies governed by public law (e.g. natural parks)

Natural and legal persons governed by private law

The eligibility condition for running costs, skills acquisition and animation costs is:

- LAG selected by the Managing Authority

The **general eligibility conditions for co-financed local/regional projects** are:

- Be carried out in a region covered by a public-private partnership in the form of a LAG: a local development strategy by area makes it possible to adapt actions to the real needs of the defined region and directly involves the local actors concerned following the bottom-up approach.
- Be consistent with the Union's objectives for rural development and contribute to the achievement of the objectives set out in the local development strategy
- Application assessed and approved by the LAG Committee
- Complete file for the aid application

The additional eligibility conditions for **cooperation projects** are:

- Involve at least two LAGs
- Consider carrying out a concrete project
- Transnational cooperation: the managing authority may give its consent to the application of the eligibility conditions of the Member State of the LAG lead the project.

Maximum budget for cooperation preparation project: EUR 5.000

Umbrella projects may be implemented under the following conditions:

- The project is carried out under a unifying theme, indicating objectives and types of sub-projects
- The LAG must be the promoter of the project
- The selection committee for sub-projects consists mainly of members of the LAG committee.
- An agreement must be concluded between the LAG and the organisation responsible for the implementation of the sub-project; this agreement sets out the procedures to be followed, the financial management arrangements and the roles and responsibilities of the LAG and the organisation responsible for the implementation of the sub-project.
- The maximum budget for a sub-project is EUR 4.000 and EUR 80.000 for each LAG for umbrella projects

Projects such as “village strategy” and “smart village” may be implemented under the following conditions:

- The project is carried out for a specific village
- The municipality to which the village belongs must be the project promoter
- The budget per project is between EUR 20.000 and EUR 50.000

Smart villages are communities in rural areas that use innovative solutions to improve their resilience, building on local strengths and opportunities. They rely on a participatory approach to develop and implement their strategy to improve their economic, social and/or environmental conditions, including by mobilising solutions offered by digital technologies.

Define eligible type of support (non-IACS) or commitments (IACS) and other obligations

Support for LEADER projects = non-IACS

The support consists of a grant paid to the LAGs, who, where appropriate, transfer it to the ultimate beneficiaries. This mainly concerns the reimbursement of eligible costs, but simplified costs will be defined for certain types of costs.

Simplified costs will be clarified when the plan is first amended in accordance with the provisions laid down in Article 83 (2) of Regulation (EC) No 2021/2115 and where the required data are available.

1. Implementation of projects of a local or even regional nature and cooperation projects

Only expenditure related to the project and its management and/or linked to the reference period is eligible. In the selection of projects, priority will be given to investments in movable or intangible property. Contributions in-kind are not eligible.

Among the cooperation projects, a distinction must be made between:

A. Preparation of cooperation projects

For example, the following are financed: travel and translation costs, initial technical assistance for the development of the concept of cooperation and initial concrete achievements.

B. Implementation of cooperation projects

- inter-territorial cooperation (cooperation between LAGs of the Grand Duchy of Luxembourg)
- transnational cooperation (cooperation between LAGs from several Member States of the European Union)

The following are financed:

- the action and the common structure

- local actions directly linked to the project
- expenditure upstream of the project

2. Covering the running, skills and animation costs of LAGs

The following are eligible:

- operating, personnel and training costs
- equipment costs
- public relations costs
- financial costs
- costs related to monitoring and evaluation of the strategy
- the costs of organising the local development strategy

Contributions in-kind are not eligible.

6 Identification of relevant baseline elements

(relevant GAEC, statutory management requirements (SMR) and other mandatory requirements established by national and Union law), where applicable, description of the specific relevant obligations under the SMR, and explanation as to how the commitment goes beyond the mandatory requirements (as referred to in Art. 28 (5) and Art. 70 (3) and in Art. 72 (5))

N/A

7 Form and rate of support/amounts/calculation methods

Form of support

☒ **Grant**

☐ **Financial instrument**

Type of payment

☒ reimbursement of eligible costs actually incurred by a beneficiary

☐ unit costs

☒ lump sums

☐ flat-rate financing

Basis for the establishment

Lump sums shall be used for the following costs:

“Umbrella” projects

The sum of EUR 4.000 for a sub-project is awarded as a lump sum on the basis of an estimated budget approved by the LAG Committee when selecting the project.

Costs of stay

Within the country:

A maximum daily allowance of EUR 14, of which EUR 7 for lunch and EUR 7 for dinner is granted as a lump sum (allowances in force in accordance with the Government’s Rules of Procedure of 15 December 2021).

Abroad:

A maximum daily allowance of EUR 60 is granted as a lump sum for travelling abroad.

Fair, equitable and verifiable calculation method:

Average of the three neighbouring countries (allowances in force in accordance with the Government Regulation of 15 December 2021), i.e. EUR 57, rounded up to EUR 60:

Belgium: EUR 50

From Germany: EUR 60

France: EUR 60

Projects to prepare for cooperation (Article 83 (2) (b) of Regulation (EU) 2021/2115)

The sum of EUR 5.000 for a cooperation preparation project is granted as a lump sum on the basis of a provisional budget approved by the LAG Committee when selecting the project.

The actions carried out and documented in the final project report correspond to the estimated approved budget.

Travel costs within the country for LEADER office staff (Article 83 (2) (a) (ii) of Regulation (EU) 2021/2115)

A flat-rate amount of EUR 1.500 is granted annually on request for travel costs within the country, including parking costs for LEADER office staff.

Fair, equitable and verifiable calculation method:

Average of the years 2018, 2019 and 2022 (years of the pandemic 2020-2021 were discarded as not representative), i.e. EUR 1.473,14, rounded to EUR 1.500

Flat rate for indirect costs for LEADER projects (Article 83(2)c of Regulation 2021/2115)

A flat rate of between 0 and 15 % of eligible direct staff costs is granted to LEADER project promoters for indirect costs. The exact flat rate is to be communicated on the prior request of a project.

The following shall be considered as indirect costs: rental and cleaning costs, overheads (electricity, water, heating, refuse collection, insurance, taxes and telecommunications), office supplies, office machinery, IT equipment, as well as road and parking costs within the country.

Range of support at beneficiary level

The maximum rate of public aid for LEADER is 100 % in accordance with Articles 77 and 73 of Regulation (EU) 2021/2115.

Additional explanation

Preparatory support for the development of local development strategies 2023-2029 is financed under the RDP 2014-2022.

8 Information regarding State aid assessment

The intervention falls outside the scope of Article 42 TFEU and is subject to state aid assessment:

☐ Yes ☒ No ☐ Mixed

9 Additional questions/information specific to the Type of Intervention

What is the added value of the LEADER approach for Rural Development aimed?

In general, LEADER is expected to continue its role as an ideas lab or as a rural think tank in order to provide a framework for new rural development practices and ideas. In the selection of projects, priority will be given to investments in movable or intangible property. There will be a permanent application system so that projects can be submitted continuously by interested project promoters. In addition, the aim will be to provide local stakeholders with flexibility in the organisation of projects, so that in the event of unforeseen events leading to changes, the necessary adjustments can be taken into account. In this way, the **quality of the projects** will be improved.

With regard to **strengthening social capital**, it is planned, in particular, to encourage the establishment of education systems and networks run by LAGs and to encourage the involvement of local actors in civil society and public bodies, thereby enabling the development of the social capital of LEADER regions. With LEADER, exchanges in all its forms are fostered and enable collective solutions to be found with stakeholders from different sectors for the specific challenges of their rural areas. LEADER therefore supports “regionality” and cooperation.

The development of social capital goes hand in hand with improving **local governance**. It is LEADER that fosters regional leadership capacity with LAGs as local actors and the genesis of new projects beyond the LEADER “sphere”. In addition, LEADER is a catalyst and a new form of governance that encourages,

inter alia, the following effects:

- Better visibility of the entities (administrations, associations, etc.) involved in a project
- Greater public acceptability
- Better communication between municipalities
- A wide and dynamic network
- Increased professionalisation of private actors (e.g. project management experience)

With cooperation projects, LEADER finally enables rural areas to broaden their horizons, exchange experience and know-how and acquire new knowledge.

Describe how the basic requirements and principles related to the LEADER approach will be ensured through the delivery model

The bottom-up approach is implemented from the start of LAGs' activities in their **rural areas** through calls for ideas preceding the development of the strategy. During this strategy development phase, the arrangements put in place (project working groups, workshops, etc.) are open to all interested local actors. Local development strategies automatically have an **integrated and multi-sectoral** basis. The ideas and projects contained in the local strategies come from different actors and sectors in the region concerned and therefore form a coherent whole.

LAGs must constitute a balanced and representative set of partners from the different socio-economic sectors of the region concerned. Within these **local public-private partnerships**, decision-making does not belong to any particular interest group, i.e. neither the public authorities nor an interest group represents more than 49 % of the voting rights.

Each LAG shall set up a LEADER office with at least two employees, one manager and one technical assistant. Thus, there is a direct contact point in the regions for local actors to ensure the animation and management of LAGs. The LEADER offices involve local stakeholders around joint project ideas, advise and accompany them. They thus ensure **networking**, exchanges, sharing of experience and know-how, spin-offs of good practices and the involvement of different sectors and the search for partners in the implementation of **cooperation projects**. The possibility of implementing umbrella projects is more conducive to the involvement of small voluntary associations, while the development of village and smart village strategies involves more the local level.

Innovation is essential in the implementation of local development strategies. It is defined at the level of the region, i.e. all selected projects must be innovative for the region concerned. This innovation can be reflected in different ways. This may include the implementation of a new product, a new good or service, a new or significantly improved process, a new marketing method or a new organisational method in rural development practices. Innovation is encouraged by giving LAGs a high degree of flexibility in the choice of topics to be addressed and in the decision-making of the projects to be supported. Projects developed on the basis of the bottom-up approach generally promote innovation.

Is support from more than one EU fund planned?

☐ Yes ☒ No

Would the lead fund option be applied?

☐ Yes ☒ No

10 WTO compliance

Green Box

Paragraph 2 of Annex 2 WTO

Explanation of how the intervention respects the relevant provisions of Annex 2 to the WTO Agreement on Agriculture as specified in Article 10 of this Regulation and in Annex II to this Regulation (Green Box)

The support is provided through a publicly funded public programme that does not involve a transfer from consumers.

The support in question does not have the effect of providing price support to producers

Aid may be awarded only for the implementation of an operation

11 Contribution rate(s) applicable to this intervention

Region	Article	Applicable rate	Min Rate	Max Rate
LU - Luxembourg	91(3)(b) - 77(1)(b) - LEADER under Article 77(1), point(b)	25.00%	20.00%	80.00%

12 Planned Unit Amounts - Definition

Planned Unit Amount	Type of Support	Contribution rate(s)	Type of Planned Unit Amount	Region(s)	Result Indicator(s)	Is the unit amount based on carried over expenditure?
2.05.570.UA - LEADER	Grant	91(3)(b) - 77(1)(b)-LU-25.00%	Average		R.37; R.38	No

Explanation and justification related to the value of the unit amount

2.05.570.UA - LEADER

The total budget allocated to LEADER local development is divided by the estimated number of LAGs. The unit amount thus corresponds to the average budget allocated to each LAG.

13 Planned Unit Amounts - Financial table with outputs

Planned Unit Amount	Financial Year	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.05.570.UA - LEADER (Grant - Average)	Planned unit amount (Total Public Expenditure in EUR)	0.00	2,540,000.00	2,540,000.00	2,540,000.00	2,540,000.00	2,540,000.00	2,540,000.00	
	Maximum planned average unit amount (where applicable) (EUR)	0.00	0.00	0.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	
	O.31 (unit: Strategies)	0.00	5.00	0.00	0.00	0.00	0.00	0.00	Sum: 5.00 Max: 5.00
TOTAL	O.31 (unit: Strategies)	0.00	5.00	0.00	0.00	0.00	0.00	0.00	Sum: 5.00 Max: 5.00
	Annual indicative financial allocation (Total public expenditure in EUR)	0.00	1,000,000.00	1,500,000.00	2,000,000.00	2,750,000.00	3,200,000.00	2,250,000.00	12,700,000.00
	Annual indicative financial allocation (Union Contribution in EUR)	0.00	250,000.00	375,000.00	500,000.00	687,500.00	800,000.00	562,500.00	3,175,000.00

	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	0.00	0.00	0.00	0.00	0.00	0.00		0.00

6 Financial plan

6.1 Overview table

	Financial Year	2023	2024	2025	2026	2027	2028	Total
	Direct Payments (CY N=FY N+1) under Regulation (EU) 2021/2115	2022	2023	2024	2025	2026	2027	
1	Initial Direct Payments allocations (initial Annex V)	N/A	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	163,739,135.00
2	Cotton (Annex VIII)	N/A						
3	Initial Direct Payments allocations excluding cotton (initial Annex IX)	N/A	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	163,739,135.00
4	Coupled income support (Article 96)	N/A	3,870,000.00	3,870,000.00	3,870,000.00	3,870,000.00	3,870,000.00	19,350,000.00
5	Transfer to EAFRD total amount (flexibility and reduction) Resulting amount	N/A					N/A	
6	Total flexibility — Article 103(1), point (a) — amount	N/A					N/A	
7	If above 25%: of which for the environmental and climate-related objectives (Article 103(2), point (a)) — amount	N/A					N/A	
8	If above 25%: of which for the installation of young farmers (Article 103(2), point (b)) — amount	N/A					N/A	
9	Total flexibility %	N/A					N/A	
10	Transfer to EAFRD of the estimated product of reduction, if applicable (Article 17(5))	N/A					N/A	
11	Transfer to types of interventions in other sectors (Article 88(6)) — amount	N/A						
12	Transfer to types of interventions in other sectors (Article 88(6)) — percentage	N/A						
13	Transferred from EAFRD: amount (Article 103(1), point (b))	N/A					N/A	
16	Adjusted Direct Payments allocation (Annex V)	N/A	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	163,739,135.00
17	Adjusted Direct Payments allocations excluding cotton before reduction transfer (Annex IX)	N/A	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	163,739,135.00

	EAGF sectorial under Regulation (EU) 2021/2115	2023	2024	2025	2026	2027	2028	Total
18	Wine (Annex VII)						N/A	
19	Apiculture (Annex X)	20,121.00	30,621.00	30,621.00	30,621.00	30,621.00	N/A	142,605.00
22	Types of interventions in other sectors (Article 42 point (f)) from Direct Payments	N/A						
	EAFRD under Regulation (EU) 2021/2115	2023	2024	2025	2026	2027	2028	Total
23	Initial EAFRD Member State's allocation (Annex XI)	12,310,644.00	12,310,644.00	12,310,644.00	12,310,644.00	12,310,644.00	N/A	61,553,220.00
24	Flexibility transfer to direct payments (Article 103(1), point (b) and (2), point (b)) — amount	684,000.00					N/A	684,000.00
25	Percentage	5.56					N/A	1.11
26	Transferred from Direct Payments (flexibility and reduction estimate) (Articles 17 and 103)						N/A	
27	Allocated to InvestEU (Article 81)						N/A	
28	Allocated to LIFE (Article 99) - amount						N/A	
28a	Allocated to Erasmus (Article 99) - amount						N/A	
28b	Early retirement carry-over amounts (Article 155(2) point (a)) (Article 23 of Regulation (EC) No 1698/2005) - amount						N/A	
30	Adjusted EAFRD Member State's allocations (Annex XI)	11,626,644.00	12,310,644.00	12,310,644.00	12,310,644.00	12,310,644.00	N/A	60,869,220.00
	Financial Year, minimum spending requirements under Regulation (EU) 2021/2115	2023	2024	2025	2026	2027	2028	Total
31	Reserved for LEADER (Article 92(1)) — minimum 5% over the period resulting percentage	1.29	3.45	4.87	7.92	8.33	N/A	5.22
32	Reserved for LEADER — amount	150,000.00	425,000.00	600,000.00	975,000.00	1,025,000.00	N/A	3,175,000.00
33	Reserved for environmental and climate-related objectives under EAFRD (Article 93) (min 35%) — Outermost regions excluded resulting percentage	77.78	73.50	74.27	74.32	74.32	N/A	74.80
34	Reserved for environmental and climate-related objectives under EAFRD — amount	9,042,980.00	9,048,170.00	9,143,170.00	9,148,750.00	9,148,750.00	N/A	45,531,820.00
35	- Out of which for Article 70	5,176,990.00	5,176,990.00	5,176,990.00	5,176,990.00	5,176,990.00	N/A	25,884,950.00
36	- Out of which for Article 71 (50%)	1,740,480.00	1,740,480.00	1,740,480.00	1,740,480.00	1,740,480.00	N/A	8,702,400.00
37	- Out of which for Article 72	270,510.00	275,700.00	275,700.00	281,280.00	281,280.00	N/A	1,384,470.00
38	- Out of which for Article 73 linked to specific objectives in Article 6(1), points (d), (e) and (f) and, as regards animal welfare, in Article 6(1), point (i)	1,855,000.00	1,855,000.00	1,950,000.00	1,950,000.00	1,950,000.00	N/A	9,560,000.00
38a	- Out of which for Article 74 linked to specific objectives in Article 6(1), points (d), (e) and (f)						N/A	
39	Difference as compared to minimum amount	N/A	N/A	N/A	N/A	N/A	N/A	24,227,593.00
39a	To be reserved for young farmers (Annex XII) - (Article 95) (if only Direct Payments: annual amounts to be respected)	N/A	982,435.00	982,435.00	982,435.00	982,435.00	982,435.00	4,912,175.00
39b	Reserved for young farmers	320,000.00	1,052,600.00	1,052,600.00	1,052,600.00	1,052,600.00	732,600.00	5,263,000.00
40	Reserved for young farmers - needed to reach minimum requirements	282,435.00	982,435.00	982,435.00	982,435.00	982,435.00	700,000.00	4,912,175.00
41	- through Complementary income support for young farmers (under	N/A	732,600.00	732,600.00	732,600.00	732,600.00	732,600.00	3,663,000.00

	Direct Payments)							
42	"of which needed to reach minimum requirement" - basis for reverse ceiling	N/A	700,000.00	700,000.00	700,000.00	700,000.00	700,000.00	3,500,000.00
43	- through investments by young farmers (weighted at 50%) (under Rural Development)						N/A	
44	"of which needed to reach minimum requirement" - basis for reverse ceiling						N/A	
45	- setting up of young farmers (under Rural Development)	320,000.00	320,000.00	320,000.00	320,000.00	320,000.00	N/A	1,600,000.00
46	"of which needed to reach minimum requirement" - basis for reverse ceiling	282,435.00	282,435.00	282,435.00	282,435.00	282,435.00	N/A	1,412,175.00
47	Minimum amount to be reserved for eco-schemes (Article 97)	N/A	8,186,956.75	8,186,956.75	8,186,956.75	8,186,956.75	8,186,956.75	40,934,783.75
48	Rebate (where relevant - optional for Member States)	N/A						
49	Annual amounts reserved for eco-schemes under Direct Payments	N/A	8,189,638.80	8,189,638.80	8,189,638.80	8,189,638.80	8,189,638.80	40,948,194.00
50	Out of which, amounts compensating for under-execution in previous year(s)	N/A	N/A					
51	Total amount for eco-schemes, including rebate	N/A	8,189,638.80	8,189,638.80	8,189,638.80	8,189,638.80	8,189,638.80	40,948,194.00
52	Amounts in rural development compensating for the under execution of eco-schemes (Articles 97(6)(b), 97(7)(b) and 97(9)(b))	N/A	N/A	N/A	N/A	N/A	N/A	
52a	Out of which for Article 70 compensating for the under execution of eco-schemes (Articles 97(6)(b), 97(7)(b) and 97(9)(b))	N/A	N/A	N/A	N/A	N/A	N/A	
53	Amount reserved for redistributive payment (Article 29) - minimum 10% annually applied on row 17, unless derogation applies	N/A	3,896,230.00	3,896,230.00	3,896,230.00	3,896,230.00	3,896,230.00	19,481,150.00

6.2 Detailed financial information and breakdown per intervention and planning of output

6.2.1 Direct Payments

	Financial Year	2024	2025	2026	2027	2028	Total 2024 - 2028
	Calendar year N = Financial year N-1	2023	2024	2025	2026	2027	Total 2023 - 2027
	Adjusted Direct Payments allocation (Annex V)	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	163,739,135.00
	Cotton (Annex VIII)						
	Adjusted Direct Payments allocations excluding cotton before reduction transfer (Annex IX)	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	32,747,827.00	163,739,135.00
	Transfer to EAFRD of the estimated product of reduction, if applicable (Article 17(5))					N/A	
	Maximum of indicative financial allocations (article 87(3))	16,059,358.08	16,059,358.08	16,059,358.08	16,059,358.08	16,059,358.08	
	Decoupled interventions (article 16(2))						
BISS (21)	Basic income support for sustainability						
1.01.501	Basic income support for sustainability	2023	2024	2025	2026	2027	Total 2023 - 2027
1.01.501.UA1 - Basic income support Unit Amount (Average)	Planned unit amount	132.48	132.48	132.48	132.48	132.48	
	Minimum Amount for the Planned unit amount	120.03	123.14	126.25	125.00	125.00	
	Maximum Amount for the Planned unit amount (EUR)	149.34	145.12	140.90	145.00	145.00	
	O.4 (unit: Hectares)	121,221.00	121,221.00	121,221.00	121,221.00	121,221.00	
	Planned output * Planned unit amount	16,059,358.08	16,059,358.08	16,059,358.08	16,059,358.08	16,059,358.08	80,296,790.40
TOTAL	O.4 (unit: Hectares)	121,221.00	121,221.00	121,221.00	121,221.00	121,221.00	606,105.00

	Annual indicative financial allocation (Union Contribution in EUR)	16,059,358.08	16,059,358.08	16,059,358.08	16,059,358.08	16,059,358.08	80,296,790.40
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
	Out of which needed carried over - expenditure (applicable only to eco-scheme and only with type of payment "compensatory" (article 31(7)(b)) if the intervention contains carry over)						
CRISS (29)	Complementary redistributive income support for sustainability						
1.01.504	Complementary redistributive income support for sustainability	2023	2024	2025	2026	2027	Total 2023 - 2027
1.01.504.01 - Complementary redistributive income support for sustainability Unit Amount No 1 (Uniform)	Planned unit amount	30.00	30.00	30.00	30.00	30.00	
	Minimum Amount for the Planned unit amount	27.00	27.00	27.00	27.00	27.00	
	Maximum Amount for the Planned unit amount (EUR)	33.00	33.00	33.00	33.00	33.00	
	O.7 (unit: Hectares)	40,678.00	40,678.00	40,678.00	40,678.00	40,678.00	
	Planned output * Planned unit amount	1,220,340.00	1,220,340.00	1,220,340.00	1,220,340.00	1,220,340.00	6,101,700.00
1.01.504.02 - Complementary redistributive income support for sustainability Unit amount No 2 (Uniform)	Planned unit amount	70.00	70.00	70.00	70.00	70.00	
	Minimum Amount for the Planned unit amount	63.00	63.00	63.00	63.00	63.00	
	Maximum Amount for the Planned unit amount (EUR)	77.00	77.00	77.00	77.00	77.00	
	O.7 (unit: Hectares)	38,227.00	38,227.00	38,227.00	38,227.00	38,227.00	
	Planned output * Planned unit amount	2,675,890.00	2,675,890.00	2,675,890.00	2,675,890.00	2,675,890.00	13,379,450.00
TOTAL	O.7 (unit: Hectares)	78,905.00	78,905.00	78,905.00	78,905.00	78,905.00	394,525.00
	Annual indicative financial allocation (Union Contribution in EUR)	3,896,230.00	3,896,230.00	3,896,230.00	3,896,230.00	3,896,230.00	19,481,150.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
	Out of which needed carried over - expenditure (applicable only to eco-scheme and only with type of payment "compensatory" (article 31(7)(b)) if the intervention contains carry over)						
CIS-YF (30)	Complementary income support for young farmers						
1.01.502	Complementary income support for young farmers	2023	2024	2025	2026	2027	Total 2023 - 2027
1.01.502.01 - Complementary income support for young farmers Unit Amount (Uniform)	Planned unit amount	6,660.00	6,660.00	6,660.00	6,660.00	6,660.00	
	Minimum Amount for the Planned unit amount	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	
	Maximum Amount for the Planned unit amount (EUR)	6,660.00	6,660.00	6,660.00	7,000.00	7,000.00	
	O.6 (unit: Beneficiaries)	110.00	110.00	110.00	110.00	110.00	
	Planned output * Planned unit amount	732,600.00	732,600.00	732,600.00	732,600.00	732,600.00	3,663,000.00
TOTAL	O.6 (unit: Beneficiaries)	110.00	110.00	110.00	110.00	110.00	550.00
	Annual indicative financial allocation (Union Contribution in EUR)	732,600.00	732,600.00	732,600.00	732,600.00	732,600.00	3,663,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)	700,000.00	700,000.00	700,000.00	700,000.00	700,000.00	3,500,000.00
	Out of which needed carried over - expenditure (applicable only to eco-scheme and only with type of payment "compensatory" (article 31(7)(b)) if the intervention contains carry over)						
Eco-scheme (31)	Schemes for the climate, the environment and animal welfare						
1.02.512	Aid for the installation of non-productive areas	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.512.01 - Rate per hectare No 1 (Uniform)	Planned unit amount	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	
	Minimum Amount for the Planned unit amount	1,080.00	1,080.00	1,080.00	1,080.00	1,080.00	
	Maximum Amount for the Planned unit amount (EUR)	1,200.00	1,200.00	1,200.00	1,300.00	1,300.00	
	O.8 (unit: Hectares)	280.00	280.00	280.00	280.00	280.00	
	Planned output * Planned unit amount	336,000.00	336,000.00	336,000.00	336,000.00	336,000.00	1,680,000.00
1.02.512.02 - Rate per hectare No 2 (Uniform)	Planned unit amount	700.00	700.00	700.00	700.00	700.00	
	Minimum Amount for the Planned unit amount	630.00	630.00	630.00	630.00	630.00	
	Maximum Amount for the Planned unit amount (EUR)	704.00	704.00	704.00	850.00	850.00	

	O.8 (unit: Hectares)	1,290.00	1,290.00	1,290.00	1,290.00	1,290.00	
	Planned output * Planned unit amount	903,000.00	903,000.00	903,000.00	903,000.00	903,000.00	4,515,000.00
1.02.512.03 - Rate per hectare No 3 (Uniform)	Planned unit amount	880.00	880.00	880.00	880.00	880.00	
	Minimum Amount for the Planned unit amount	792.00	792.00	792.00	792.00	792.00	
	Maximum Amount for the Planned unit amount (EUR)	888.00	888.00	888.00	1,000.00	1,000.00	
	O.8 (unit: Hectares)	1,290.00	1,290.00	1,290.00	1,290.00	1,290.00	
	Planned output * Planned unit amount	1,135,200.00	1,135,200.00	1,135,200.00	1,135,200.00	1,135,200.00	5,676,000.00
TOTAL	O.8 (unit: Hectares)	2,860.00	2,860.00	2,860.00	2,860.00	2,860.00	14,300.00
	Annual indicative financial allocation (Union Contribution in EUR)	2,374,200.00	2,374,200.00	2,374,200.00	2,374,200.00	2,374,200.00	11,871,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
Eco-scheme (31)	Schemes for the climate, the environment and animal welfare						
1.02.513	Aid for the installation of non-productive strips	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.513.01 - Rate per hectare No 1 (Uniform)	Planned unit amount	800.00	800.00	800.00	800.00	800.00	
	Minimum Amount for the Planned unit amount	720.00	720.00	720.00	720.00	720.00	
	Maximum Amount for the Planned unit amount (EUR)	803.00	803.00	803.00	950.00	950.00	
	O.8 (unit: Hectares)	410.00	410.00	410.00	410.00	410.00	
	Planned output * Planned unit amount	328,000.00	328,000.00	328,000.00	328,000.00	328,000.00	1,640,000.00
1.02.513.02 - Rate per hectare No 2 (Uniform)	Planned unit amount	590.00	590.00	590.00	590.00	590.00	
	Minimum Amount for the Planned unit amount	531.00	531.00	531.00	531.00	531.00	
	Maximum Amount for the Planned unit amount (EUR)	592.00	592.00	592.00	720.00	720.00	
	O.8 (unit: Hectares)	200.00	200.00	200.00	200.00	200.00	
	Planned output * Planned unit amount	118,000.00	118,000.00	118,000.00	118,000.00	118,000.00	590,000.00
1.02.513.03 - Rate per hectare No 3 (Uniform)	Planned unit amount	1,230.00	1,230.00	1,230.00	1,230.00	1,230.00	
	Minimum Amount for the Planned unit amount	1,107.00	1,107.00	1,107.00	1,107.00	1,107.00	
	Maximum Amount for the Planned unit amount (EUR)	1,230.00	1,230.00	1,230.00	1,500.00	1,500.00	
	O.8 (unit: Hectares)	200.00	200.00	200.00	200.00	200.00	
	Planned output * Planned unit amount	246,000.00	246,000.00	246,000.00	246,000.00	246,000.00	1,230,000.00
1.02.513.04 - Rate per hectare No 4 (Uniform)	Planned unit amount	670.00	670.00	670.00	670.00	670.00	
	Minimum Amount for the Planned unit amount	603.00	603.00	603.00	603.00	603.00	
	Maximum Amount for the Planned unit amount (EUR)	674.00	674.00	674.00	800.00	800.00	
	O.8 (unit: Hectares)	390.00	390.00	390.00	390.00	390.00	
	Planned output * Planned unit amount	261,300.00	261,300.00	261,300.00	261,300.00	261,300.00	1,306,500.00
1.02.513.05 - Rate per hectare No 5 (Uniform)	Planned unit amount	850.00	850.00	850.00	850.00	850.00	
	Minimum Amount for the Planned unit amount	765.00	765.00	765.00	765.00	765.00	
	Maximum Amount for the Planned unit amount (EUR)	858.00	858.00	858.00	1,000.00	1,000.00	
	O.8 (unit: Hectares)	280.00	280.00	280.00	280.00	280.00	
	Planned output * Planned unit amount	238,000.00	238,000.00	238,000.00	238,000.00	238,000.00	1,190,000.00
1.02.513.06 - Rate per hectare No 6 (Uniform)	Planned unit amount	1,300.00	1,300.00	1,300.00	1,300.00	1,300.00	
	Minimum Amount for the Planned unit amount	1,170.00	1,170.00	1,170.00	1,170.00	1,170.00	
	Maximum Amount for the Planned unit amount (EUR)	1,423.00	1,423.00	1,423.00	1,500.00	1,500.00	
	O.8 (unit: Hectares)	390.00	390.00	390.00	390.00	390.00	
	Planned output * Planned unit amount	507,000.00	507,000.00	507,000.00	507,000.00	507,000.00	2,535,000.00
1.02.513.07 - Rate per hectare No 7 (Uniform)	Planned unit amount	1,400.00	1,400.00	1,400.00	1,400.00	1,400.00	
	Minimum Amount for the Planned unit amount	1,260.00	1,260.00	1,260.00	1,260.00	1,260.00	
	Maximum Amount for the Planned unit amount (EUR)	1,497.00	1,497.00	1,497.00	1,600.00	1,600.00	
	O.8 (unit: Hectares)	280.00	280.00	280.00	280.00	280.00	
	Planned output * Planned unit amount	392,000.00	392,000.00	392,000.00	392,000.00	392,000.00	1,960,000.00
TOTAL	O.8 (unit: Hectares)	2,150.00	2,150.00	2,150.00	2,150.00	2,150.00	10,750.00
	Annual indicative financial allocation (Union Contribution in EUR)	2,090,300.00	2,090,300.00	2,090,300.00	2,090,300.00	2,090,300.00	10,451,500.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						

	Out of which needed carried over - expenditure (applicable only to eco-scheme and only with type of payment "compensatory" (article 31(7)(b)) if the intervention contains carry over)						
Eco-scheme (31)	Schemes for the climate, the environment and animal welfare						
1.02.514	Aid for renunciation of plant protection products	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.514.01 - Rate per hectare No 1 - Option 1a: Non-weeded crops (Uniform)	Planned unit amount	150.00	150.00	150.00	150.00	150.00	
	Minimum Amount for the Planned unit amount	135.00	135.00	135.00	135.00	135.00	
	Maximum Amount for the Planned unit amount (EUR)	154.00	154.00	154.00	154.00	154.00	
	O.8 (unit: Hectares)	1,800.00	1,800.00	2,600.00	2,600.00	2,600.00	
	Planned output * Planned unit amount	270,000.00	270,000.00	390,000.00	390,000.00	390,000.00	1,710,000.00
1.02.514.02 - Rate per hectare No 2 - Option 1a: Weeded crops (Uniform)	Planned unit amount	250.00	250.00	250.00	250.00	250.00	
	Minimum Amount for the Planned unit amount	225.00	225.00	225.00	225.00	225.00	
	Maximum Amount for the Planned unit amount (EUR)	251.00	251.00	251.00	251.00	251.00	
	O.8 (unit: Hectares)	440.00	440.00	440.00	440.00	440.00	
	Planned output * Planned unit amount	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	550,000.00
1.02.514.03 - Rate per hectare No 3 - Option 1a: Fruits and vegetables (Uniform)	Planned unit amount	750.00	750.00	750.00	750.00	750.00	
	Minimum Amount for the Planned unit amount	675.00	675.00	675.00	675.00	675.00	
	Maximum Amount for the Planned unit amount (EUR)	825.00	825.00	825.00	825.00	825.00	
	O.8 (unit: Hectares)	40.00	40.00	40.00	40.00	40.00	
	Planned output * Planned unit amount	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	150,000.00
1.02.514.04 - Rate per hectare No 4 - Option 1b: Non-weeded crops (Uniform)	Planned unit amount	200.00	200.00	200.00	200.00	200.00	
	Minimum Amount for the Planned unit amount	180.00	180.00	180.00	180.00	180.00	
	Maximum Amount for the Planned unit amount (EUR)	204.00	204.00	204.00	204.00	204.00	
	O.8 (unit: Hectares)	440.00	440.00	440.00	440.00	440.00	
	Planned output * Planned unit amount	88,000.00	88,000.00	88,000.00	88,000.00	88,000.00	440,000.00
1.02.514.05 - Rate per hectare No 5 - Option 1c: Winter cereal (Uniform)	Planned unit amount	120.00	120.00	120.00	120.00	120.00	
	Minimum Amount for the Planned unit amount	108.00	108.00	108.00	108.00	108.00	
	Maximum Amount for the Planned unit amount (EUR)	123.00	123.00	123.00	123.00	123.00	
	O.8 (unit: Hectares)	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
	Planned output * Planned unit amount	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	600,000.00
1.02.514.06 - Rate per hectare No 6 - Option 2 and 3 (Non-weeded crops) + option 4 (Uniform)	Planned unit amount	110.00	110.00	110.00	110.00	110.00	
	Minimum Amount for the Planned unit amount	99.00	99.00	99.00	99.00	99.00	
	Maximum Amount for the Planned unit amount (EUR)	113.00	113.00	113.00	113.00	113.00	
	O.8 (unit: Hectares)	5,000.00	5,000.00	6,800.00	6,800.00	6,800.00	
	Planned output * Planned unit amount	550,000.00	550,000.00	748,000.00	748,000.00	748,000.00	3,344,000.00
1.02.514.07 - Rate per hectare No 7 - Option 2 and 3: Weeded crops (Uniform)	Planned unit amount	170.00	170.00	170.00	170.00	170.00	
	Minimum Amount for the Planned unit amount	153.00	153.00	153.00	153.00	153.00	
	Maximum Amount for the Planned unit amount (EUR)	173.00	173.00	173.00	173.00	173.00	
	O.8 (unit: Hectares)	300.00	300.00	300.00	300.00	300.00	
	Planned output * Planned unit amount	51,000.00	51,000.00	51,000.00	51,000.00	51,000.00	255,000.00
1.02.514.08 - Rate per hectare No 8 - Option 2 and 3: Fruits and vegetables (Uniform)	Planned unit amount	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
	Minimum Amount for the Planned unit amount	900.00	900.00	900.00	900.00	900.00	
	Maximum Amount for the Planned unit amount (EUR)	1,100.00	1,100.00	1,100.00	1,100.00	1,100.00	
	O.8 (unit: Hectares)	80.00	80.00	80.00	80.00	80.00	
	Planned output * Planned unit amount	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	400,000.00
1.02.514.09 - Rate per hectare No 9 - Big movers (Uniform)	Planned unit amount	70.00	70.00	70.00	70.00	70.00	
	Minimum Amount for the Planned unit amount	63.00	63.00	63.00	63.00	63.00	
	Maximum Amount for the Planned unit amount (EUR)	77.00	77.00	77.00	77.00	77.00	
	O.8 (unit: Hectares)	5,000.00	5,000.00	5,848.00	5,848.00	5,848.00	
	Planned output * Planned unit amount	350,000.00	350,000.00	409,360.00	409,360.00	409,360.00	1,928,080.00
TOTAL	O.8 (unit: Hectares)	14,100.00	14,100.00	17,546.00	17,546.00	17,546.00	80,838.00
	Annual indicative financial allocation (Union Contribution in EUR)	1,649,000.00	1,649,000.00	2,026,200.00	2,026,200.00	2,026,200.00	9,376,600.00

	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
	Out of which needed carried over - expenditure (applicable only to eco-scheme and only with type of payment "compensatory" (article 31(7)(b)) if the intervention contains carry over)						
Eco-scheme (31)	Schemes for the climate, the environment and animal welfare						
1.02.515	Aid for setting up catch crops and undersowing on arable land	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.515.01 - Rate per hectare No 1 (Uniform)	Planned unit amount	120.00	120.00	120.00	120.00	120.00	
	Minimum Amount for the Planned unit amount	108.00	108.00	108.00	108.00	108.00	
	Maximum Amount for the Planned unit amount (EUR)	120.00	120.00	120.00	140.00	140.00	
	O.8 (unit: Hectares)	7,100.00	7,100.00	7,100.00	7,100.00	7,100.00	
	Planned output * Planned unit amount	852,000.00	852,000.00	852,000.00	852,000.00	852,000.00	4,260,000.00
1.02.515.02 - Rate per hectare No 2 (Uniform)	Planned unit amount	185.00	185.00	185.00	185.00	185.00	
	Minimum Amount for the Planned unit amount	167.00	167.00	167.00	167.00	167.00	
	Maximum Amount for the Planned unit amount (EUR)	185.00	185.00	185.00	210.00	210.00	
	O.8 (unit: Hectares)	1,400.00	1,400.00	1,400.00	1,400.00	1,400.00	
	Planned output * Planned unit amount	259,000.00	259,000.00	259,000.00	259,000.00	259,000.00	1,295,000.00
1.02.515.03 - Rate per hectare No 3 (Uniform)	Planned unit amount	150.00	150.00	150.00	150.00	150.00	
	Minimum Amount for the Planned unit amount	135.00	135.00	135.00	135.00	120.00	
	Maximum Amount for the Planned unit amount (EUR)	150.00	150.00	150.00	180.00	180.00	
	O.8 (unit: Hectares)	1,400.00	1,400.00	1,400.00	1,400.00	1,400.00	
	Planned output * Planned unit amount	210,000.00	210,000.00	210,000.00	210,000.00	210,000.00	1,050,000.00
TOTAL	O.8 (unit: Hectares)	9,900.00	9,900.00	9,900.00	9,900.00	9,900.00	49,500.00
	Annual indicative financial allocation (Union Contribution in EUR)	1,321,000.00	1,321,000.00	1,321,000.00	1,321,000.00	1,321,000.00	6,605,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
	Out of which needed carried over - expenditure (applicable only to eco-scheme and only with type of payment "compensatory" (article 31(7)(b)) if the intervention contains carry over)						
Eco-scheme (31)	Schemes for the climate, the environment and animal welfare						
1.02.516	Aid for the use of synthetic pheromones in viticulture	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.516.01 - Measure 516 – Rate per hectare No 1 (Uniform)	Planned unit amount	328.00	328.00				
	Minimum Amount for the Planned unit amount	295.00	295.00				
	Maximum Amount for the Planned unit amount (EUR)	328.00	328.00				
	O.8 (unit: Hectares)	1,150.00	1,150.00				
	Planned output * Planned unit amount	377,200.00	377,200.00				754,400.00
TOTAL	O.8 (unit: Hectares)	1,150.00	1,150.00				2,300.00
	Annual indicative financial allocation (Union Contribution in EUR)	377,200.00	377,200.00				754,400.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
	Out of which needed carried over - expenditure (applicable only to eco-scheme and only with type of payment "compensatory" (article 31(7)(b)) if the intervention contains carry over)						
Eco-scheme (31)	Schemes for the climate, the environment and animal welfare						
1.02.517	Aid for the establishment of refuge areas on hay meadows	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.517.01 - Rate per hectare No 1 (Uniform)	Planned unit amount	50.00	50.00	50.00	50.00	50.00	
	Minimum Amount for the Planned unit amount	45.00	45.00	45.00	45.00	45.00	
	Maximum Amount for the Planned unit amount (EUR)	54.00	54.00	54.00	54.00	54.00	
	O.8 (unit: Hectares)	760.00	760.00	760.00	760.00	760.00	
	Planned output * Planned unit amount	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	190,000.00
TOTAL	O.8 (unit: Hectares)	760.00	760.00	760.00	760.00	760.00	3,800.00
	Annual indicative financial allocation (Union Contribution in EUR)	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	190,000.00

	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
Eco-scheme (31)	Schemes for the climate, the environment and animal welfare						
1.02.518	Aid to encourage the incorporation of manure	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.518.01 - Rate per hectare No 1 (Uniform)	Planned unit amount	60.00	60.00	60.00	60.00	60.00	
	Minimum Amount for the Planned unit amount	54.00	54.00	54.00	54.00	54.00	
	Maximum Amount for the Planned unit amount (EUR)	62.00	62.00	62.00	72.00	72.00	
	O.8 (unit: Hectares)	5,198.98	5,198.98	5,198.98	5,198.98	5,198.98	
	Planned output * Planned unit amount	311,938.80	311,938.80	311,938.80	311,938.80	311,938.80	1,559,694.00
TOTAL	O.8 (unit: Hectares)	5,198.98	5,198.98	5,198.98	5,198.98	5,198.98	25,994.90
	Annual indicative financial allocation (Union Contribution in EUR)	311,938.80	311,938.80	311,938.80	311,938.80	311,938.80	1,559,694.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
Eco-scheme (31)	Schemes for the climate, the environment and animal welfare						
1.02.519	Aid for the use of arboriculture synthetic pheromone nozzles	2023	2024	2025	2026	2027	Total 2023 - 2027
1.02.519.01 - Rate per hectare No 1 (Uniform)	Planned unit amount	350.00	350.00	350.00	350.00	350.00	
	Minimum Amount for the Planned unit amount	315.00	315.00	315.00	315.00	315.00	
	Maximum Amount for the Planned unit amount (EUR)	385.00	385.00	385.00	385.00	385.00	
	O.8 (unit: Hectares)	80.00	80.00	80.00	80.00	80.00	
	Planned output * Planned unit amount	28,000.00	28,000.00	28,000.00	28,000.00	28,000.00	140,000.00
TOTAL	O.8 (unit: Hectares)	80.00	80.00	80.00	80.00	80.00	400.00
	Annual indicative financial allocation (Union Contribution in EUR)	28,000.00	28,000.00	28,000.00	28,000.00	28,000.00	140,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
	Sum of indicative allocations for decoupled interventions	28,877,826.88	28,877,826.88	28,877,826.88	28,877,826.88	28,877,826.88	144,389,134.40
	Coupled income support (16(3)(a)) — amount — binding ceiling						
CIS (32)	Coupled income support						
1.03.503	Coupled aid for legumes	2023	2024	2025	2026	2027	Total 2023 - 2027
1.03.503.01 - Coupled support for legumes - Unit amount (Uniform)	Planned unit amount	128.00	128.00	128.00	128.00	128.00	
	Minimum Amount for the Planned unit amount	115.00	115.00	115.00	115.00	115.00	
	Maximum Amount for the Planned unit amount (EUR)	128.00	128.00	128.00	150.00	150.00	
	O.10 (unit: Hectares)	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	
	Planned output * Planned unit amount	320,000.00	320,000.00	320,000.00	320,000.00	320,000.00	1,600,000.00
TOTAL	O.10 (unit: Hectares)	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	12,500.00
	Annual indicative financial allocation (Union Contribution in EUR)	320,000.00	320,000.00	320,000.00	320,000.00	320,000.00	1,600,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
	Out of which needed carried over - expenditure (applicable only to eco-scheme and only with type of payment "compensatory" (article 31(7)(b)) if the intervention contains carry over)						
CIS (32)	Coupled income support						
1.03.505	Coupled aid for suckler cows	2023	2024	2025	2026	2027	Total 2023 - 2027
1.03.505.01 - Coupled support for suckler cows - Unit amount (Uniform)	Planned unit amount	150.00	150.00	150.00	150.00	150.00	
	Minimum Amount for the Planned unit amount	135.00	135.00	135.00	135.00	135.00	
	Maximum Amount for the Planned unit amount (EUR)	165.00	165.00	165.00	170.00	170.00	
	O.11 (unit: Head)	21,000.00	21,000.00	21,000.00	21,000.00	21,000.00	
	Planned output * Planned unit amount	3,150,000.00	3,150,000.00	3,150,000.00	3,150,000.00	3,150,000.00	15,750,000.00
TOTAL	O.11 (unit: Head)	21,000.00	21,000.00	21,000.00	21,000.00	21,000.00	105,000.00
	Annual indicative financial allocation (Union Contribution in EUR)	3,150,000.00	3,150,000.00	3,150,000.00	3,150,000.00	3,150,000.00	15,750,000.00

	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
	Out of which needed carried over - expenditure (applicable only to eco-scheme and only with type of payment "compensatory" (article 31(7)(b)) if the intervention contains carry over)						
CIS (32)	Coupled income support						
1.03.506	Coupled aid for market gardening and fruit crops	2023	2024	2025	2026	2027	Total 2023 - 2027
1.03.506.01 - Coupled support for fruit and vegetables - Unit amount (Uniform)	Planned unit amount	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
	Minimum Amount for the Planned unit amount	900.00	900.00	900.00	900.00	900.00	
	Maximum Amount for the Planned unit amount (EUR)	1,100.00	1,100.00	1,100.00	1,200.00	1,200.00	
	O.10 (unit: Hectares)	400.00	400.00	400.00	400.00	400.00	
	Planned output * Planned unit amount	400,000.00	400,000.00	400,000.00	400,000.00	400,000.00	2,000,000.00
TOTAL	O.10 (unit: Hectares)	400.00	400.00	400.00	400.00	400.00	2,000.00
	Annual indicative financial allocation (Union Contribution in EUR)	400,000.00	400,000.00	400,000.00	400,000.00	400,000.00	2,000,000.00
	Out of which needed to reach the minimum ringfencing requirement (Annex XII) (only under article 30) (Union contribution)						
	Out of which needed carried over - expenditure (applicable only to eco-scheme and only with type of payment "compensatory" (article 31(7)(b)) if the intervention contains carry over)						
	Sum of indicative allocations for coupled interventions	3,870,000.00	3,870,000.00	3,870,000.00	3,870,000.00	3,870,000.00	19,350,000.00
	Sum of all indicative direct payments allocations	32,747,826.88	32,747,826.88	32,747,826.88	32,747,826.88	32,747,826.88	163,739,134.40

6.2.2 Sectoral

Financial Year		2023	2024	2025	2026	2027	2028	Total financial allocation
Apiculture products								
ADVICEES (55(1)(a)) - advisory services, technical assistance, training, information and exchange of best practices, including through networking, for beekeepers and beekeepers' organisations								
1.09.582 - Transfer of knowledge		2023	2024	2025	2026	2027	2028	Total
1.09.582.UA1 - Knowledge transfer (Average)	O.37 (unit: Beekeepers)	1.00	1.00	1.00	1.00	1.00		5.00
	Annual indicative financial allocation (Total Union expenditure in EUR)	7,989.10	10,144.26	11,544.84	11,544.84	11,544.84		52,767.88
TOTAL	Annual indicative financial allocation (Total public Expenditure in EUR)	25,418.71	30,021.48	30,017.78	30,017.78	30,017.78		145,493.53
	Annual indicative financial allocation (Total Union expenditure in EUR)	7,989.10	10,144.26	11,544.84	11,544.84	11,544.84		52,767.88
	EU co-financing rate in %	31.43	33.79	38.46	38.46	38.46		
ACTLAB (55(1)(c)) - actions to support laboratories for the analysis of apiculture products, bee losses or productivity drops, and substances potentially toxic to bees								
1.09.581 - Supports analyses of the quality of beekeeping products		2023	2024	2025	2026	2027	2028	Total
1.09.581.UA1 - Analysis of honey (Average)	O.37 (unit: Samples)	200.00	200.00	200.00	200.00	200.00		1,000.00
	Annual indicative financial allocation (Total Union expenditure in EUR)	1,760.00	1,892.24	2,153.76	2,153.76	2,153.76		10,113.52
TOTAL	Annual indicative financial allocation (Total public Expenditure in EUR)	5,599.75	5,600.00	5,600.00	5,600.00	5,600.00		27,999.75
	Annual indicative financial allocation (Total Union expenditure in EUR)	1,760.00	1,892.24	2,153.76	2,153.76	2,153.76		10,113.52
	EU co-financing rate in %	31.43	33.79	38.46	38.46	38.46		

Financial Year		2023	2024	2025	2026	2027	2028	Total financial allocation
PRESBEEHIVES (55(1)(d)) - actions to preserve or increase the existing number of beehives in the Union, including bee breeding								
1.09.580 - Programmes for genetic improvement of bees		2023	2024	2025	2026	2027	2028	Total
1.09.580.UA1 - VSH genetic programme (Average)	O.37 (unit: Queen bees and bees)	1.00	1.00	1.00	1.00	1.00		5.00
	Annual indicative financial allocation (Total Union expenditure in EUR)	7,857.50	15,881.30	13,845.60	13,845.60	13,845.60		65,275.60
1.09.580.UA2 - Simple genetic programme (Average)	O.37 (unit: Queen bees and bees)	1.00	1.00	1.00	1.00	1.00		5.00
	Annual indicative financial allocation (Total Union expenditure in EUR)	2,514.40	2,703.20	3,076.80	3,076.80	3,076.80		14,448.00
TOTAL	Annual indicative financial allocation (Total public Expenditure in EUR)	33,000.00	55,000.00	44,000.00	44,000.00	44,000.00		220,000.00
	Annual indicative financial allocation (Total Union expenditure in EUR)	10,371.90	18,584.50	16,922.40	16,922.40	16,922.40		79,723.60
	EU co-financing rate in %	31.43	33.79	38.46	38.46	38.46		
Sum of indicative allocations and outputs for interventions for apiculture products		20,121.00	30,621.00	30,621.00	30,621.00	30,621.00		142,605.00

6.2.3 Rural Development

	Financial Year	2023	2024	2025	2026	2027	2028	2029 (including payments of Q4 2029)	Total 2023 - 2029
ENVCLIM (70)	Environmental, climate-related and other management commitments								
2.02.540	Premium for the establishment of sustainable and environmentally-friendly agriculture — Agriculture	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.540.UA01 - Average rate per hectare Permanent Grassland (Grant - Average) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	138.00	138.00	138.00	138.00	138.00	138.00	138.00	
	Maximum planned average unit amount (where applicable) (EUR)	160.00	160.00	160.00	165.00	165.00	165.00	165.00	
	O.14 (unit: Hectares)			5,750.00	5,750.00	59,029.00	58,843.00		129,372.00
2.02.540.UA02 - Average rate per hectare Arable Land (Grant - Average) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	56.00	56.00	56.00	56.00	56.00	56.00	56.00	
	Maximum planned average unit amount (where applicable) (EUR)	60.00	60.00	60.00	65.00	65.00	65.00	65.00	
	O.14 (unit: Hectares)			4,000.00	4,000.00	28,500.00	28,500.00		65,000.00
2.02.540.UA03 - Measure 540 – old average rate contracts per ha PP and TA (Grant - Average) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	100.05	100.05	100.05	100.05				
	Maximum planned average unit amount (where applicable) (EUR)	107.00	107.00	107.00	160.00				
	O.14 (unit: Hectares)		111,670.80	101,373.00	78,565.82				291,609.62

2.02.540.UA04 - renunciation of Glyphosate (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)				30.00	30.00	30.00	30.00	
	Maximum planned average unit amount (where applicable) (EUR)				35.00	35.00	35.00	35.00	
	O.14 (unit: Hectares)				23,000.00	23,000.00	23,000.00	23,000.00	92,000.00
TOTAL	O.14 (unit: Hectares)		111,671.80	111,823.00	111,316.00	110,528.90	110,343.00		555,682.70
	Annual indicative financial allocation (Total public expenditure in EUR)		11,183,376.00	11,169,870.00	11,179,161.00	11,029,988.00	11,004,334.00		55,566,729.00
	Annual indicative financial allocation (Union Contribution in EUR)		2,236,675.20	2,233,974.00	2,235,832.00	2,205,998.00	2,200,867.00		11,113,346.20
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)		11,129,870.15	10,152,369.65	10,161,660.29				31,443,900.09
	Out of which carry-over (Union contribution in EUR)		2,225,974.03	2,030,473.93	2,032,332.06				6,288,780.02
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								
ENVCLIM (70)	Environmental, climate- related and other management commitments								
2.02.542	Premium for sustainable and environmentally-friendly agriculture — Viticulture	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.542.UA01 - Measure 542 – Uniform rate per hectare BASIC_ZI (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	400.00	400.00	400.00	400.00	400.00	400.00	400.00	
	Maximum planned average unit amount (where applicable) (EUR)				480.00	480.00	480.00	480.00	
	O.14 (unit: Hectares)		192.00	202.00	208.00	242.00	242.00		1,086.00
2.02.542.UA02 - Measure 542 – Uniform rate per hectare BASIC_ZII (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	500.00	500.00	500.00	500.00	500.00	500.00	500.00	
	Maximum planned average unit amount (where applicable) (EUR)				600.00	600.00	600.00	600.00	
	O.14 (unit: Hectares)		441.00	461.00	481.00	561.00	561.00		2,505.00

2.02.542.UA03 - Measure 542 – Uniform rate per hectare BASIC_ZIII (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	700.00	700.00	700.00	700.00	700.00	700.00	700.00	
	Maximum planned average unit amount (where applicable) (EUR)				850.00	850.00	850.00	850.00	
	O.14 (unit: Hectares)		214.00	221.00	226.00	264.00	264.00		1,189.00
2.02.542.UA04 - Measure 542 – Uniform rate per hectare BASIC_ZIV and ZV (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	
	Maximum planned average unit amount (where applicable) (EUR)				4,000.00	4,000.00	4,000.00	4,000.00	
	O.14 (unit: Hectares)		25.00	26.00	28.00	33.00	33.00		145.00
2.02.542.UA05 - Measure 542 – Uniform rate per hectare ERO_ZIII (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	1,100.00	1,100.00	1,100.00	1,100.00	1,100.00	1,100.00	1,100.00	
	Maximum planned average unit amount (where applicable) (EUR)				1,300.00	1,300.00	1,300.00	1,300.00	
	O.14 (unit: Hectares)		128.00	132.00	138.00	148.00	148.00		694.00
2.02.542.UA06 - Measure 542 – Uniform rate per hectare HERB_ZI (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	500.00	500.00	500.00	500.00	500.00	500.00	500.00	
	Maximum planned average unit amount (where applicable) (EUR)				600.00	600.00	600.00	600.00	
	O.14 (unit: Hectares)		106.00	109.00	112.00	132.00	132.00		591.00
2.02.542.UA07 - Measure 542 – Uniform rate per hectare HERB_ZII (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	600.00	600.00	600.00	600.00	600.00	600.00	600.00	
	Maximum planned average unit amount (where applicable) (EUR)				700.00	700.00	700.00	700.00	
	O.14 (unit: Hectares)		246.00	257.00	261.00	306.00	306.00		1,376.00
2.02.542.UA08 - Measure 542 – Uniform rate per hectare HERB_ZIII (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	650.00	650.00	650.00	650.00	650.00	650.00	650.00	
	Maximum planned average unit amount (where applicable) (EUR)				800.00	800.00	800.00	800.00	
	O.14 (unit: Hectares)		139.00	140.00	141.00	144.00	144.00		708.00
2.02.542.UA09 - Measure 542 – Uniform rate per hectare HERB_ZIV and ZV (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	780.00	780.00	780.00	780.00	780.00	780.00	780.00	
	Maximum planned average unit amount (where applicable) (EUR)				950.00	950.00	950.00	950.00	
	O.14 (unit: Hectares)		15.00	16.00	16.00	18.00	18.00		83.00
2.02.542.UA10 - Measure 542 – Uniform rate per hectare BIODIV_ZI	Planned unit amount (Total Public Expenditure in EUR)	200.00	200.00	200.00	200.00	200.00	200.00	200.00	
	Maximum planned average unit amount (where applicable) (EUR)				240.00	240.00	240.00	240.00	

(Grant - Uniform) 91(2)(d)-LU-20.00%	O.14 (unit: Hectares)		36.00	37.00	39.00	45.00	45.00		202.00
2.02.542.UA11 - Measure 542 – Uniform rate per hectare BIODIV_ZII (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	230.00	230.00	230.00	230.00	230.00	230.00	230.00	
	Maximum planned average unit amount (where applicable) (EUR)				280.00	280.00	280.00	280.00	
	O.14 (unit: Hectares)		85.00	87.00	90.00	105.00	105.00		472.00
2.02.542.UA12 - Measure 542 – Uniform rate per hectare BIODIV_ZIII (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	260.00	260.00	260.00	260.00	260.00	260.00	260.00	
	Maximum planned average unit amount (where applicable) (EUR)				310.00	310.00	310.00	310.00	
	O.14 (unit: Hectares)		40.00	41.00	42.00	49.00	49.00		221.00
2.02.542.UA13 - Measure 542 – Uniform rate per hectare ORG_ZI (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	450.00	450.00	450.00	450.00	450.00	450.00	450.00	
	Maximum planned average unit amount (where applicable) (EUR)				540.00	540.00	540.00	540.00	
	O.14 (unit: Hectares)		19.00	20.00	21.00	23.00	23.00		106.00
2.02.542.UA14 - Measure 542 – Uniform rate per hectare ORG_ZII (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	500.00	500.00	500.00	500.00	500.00	50.00	500.00	
	Maximum planned average unit amount (where applicable) (EUR)				600.00	600.00	600.00	600.00	
	O.14 (unit: Hectares)		46.00	49.00	51.00	57.00	57.00		260.00
2.02.542.UA15 - Measure 542 – Uniform rate per hectare ORG_ ZIII (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	800.00	800.00	800.00	800.00	800.00	800.00	800.00	
	Maximum planned average unit amount (where applicable) (EUR)				950.00	950.00	950.00	950.00	
	O.14 (unit: Hectares)		15.00	16.00	17.00	20.00	20.00		88.00
2.02.542.UA16 - Measure 542 – Average old contracts (Grant - Average) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)		800.00	800.00	800.00				
	Maximum planned average unit amount (where applicable) (EUR)				960.00				
	O.14 (unit: Hectares)		300.00	250.00	200.00				750.00
TOTAL	O.14 (unit: Hectares)		2,047.00	2,064.00	2,073.00	2,147.00	2,147.00		10,478.00
	Annual indicative financial allocation (Total public expenditure in EUR)		1,298,750.00	1,298,750.00	1,297,960.00	1,272,730.00	1,298,380.00		6,466,570.00
	Annual indicative financial allocation (Union Contribution in EUR)		259,750.00	259,750.00	259,592.00	254,546.00	259,676.00		1,293,314.00
	Out of which for financial instrument (Total public Expenditure in EUR)								

	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)		240,000.00	200,000.00	160,000.00				600,000.00
	Out of which carry-over (Union contribution in EUR)		48,000.00	40,000.00	32,000.00				120,000.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								
ENVCLIM (70)	Environmental, climate-related and other management commitments								
2.02.543	Support for the conversion and maintenance of organic farming	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.543.UA01 - Measure 543 – Rate per hectare No 1 DBP (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	300.00	300.00	300.00	300.00	300.00	300.00	300.00	
	Maximum planned average unit amount (where applicable) (EUR)				360.00	360.00	360.00	360.00	
	O.17 (unit: Hectares)		3,500.00	6,000.00	8,000.00	8,000.00	9,500.00		35,000.00
2.02.543.UA02 - Measure 543 – Rate per hectare No 2 TAB (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	300.00	300.00	300.00	300.00	300.00	300.00	300.00	
	Maximum planned average unit amount (where applicable) (EUR)				360.00	360.00	360.00	360.00	
	O.17 (unit: Hectares)		3,500.00	6,000.00	8,000.00	8,000.00	9,500.00		35,000.00
2.02.543.UA03 - Measure 543 – Rate per hectare No 3 PDTB (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	550.00	550.00	550.00	550.00	550.00	550.00	550.00	
	Maximum planned average unit amount (where applicable) (EUR)				650.00	650.00	650.00	650.00	
	O.17 (unit: Hectares)		30.00	40.00	50.00	50.00	50.00		220.00
2.02.543.UA04 - Measure 543 – Rate per hectare No 4 MVSB (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	1,150.00	1,150.00	1,150.00	1,150.00	1,150.00	1,150.00	1,150.00	
	Maximum planned average unit amount (where applicable) (EUR)				1,380.00	1,380.00	1,380.00	1,380.00	
	O.17 (unit: Hectares)		50.00	60.00	70.00	80.00	80.00		340.00
2.02.543.UA05 - Measure 543 – Rate per hectare No 5 MVAB (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	
	Maximum planned average unit amount (where applicable) (EUR)				1,800.00	1,800.00	1,800.00	1,800.00	
	O.17 (unit: Hectares)		90.00	110.00	150.00	200.00	200.00		750.00
2.02.543.UA06 - Measure 543 – Rate per	Planned unit amount (Total Public Expenditure in EUR)	400.00	400.00	400.00	400.00	400.00	400.00	400.00	

hectare No 6 CSF (Grant - Uniform) 91(2)(d)-LU-20.00%	Maximum planned average unit amount (where applicable) (EUR)				500.00	500.00	500.00	500.00	
	O.17 (unit: Hectares)		1,000.00	2,500.00	4,000.00	4,000.00	2,500.00		14,000.00
2.02.543.UA07 - Measure 543 – Rate per hectare No 7 TAC (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	450.00	450.00	450.00	450.00	450.00	450.00	450.00	
	Maximum planned average unit amount (where applicable) (EUR)				540.00	540.00	540.00	540.00	
	O.17 (unit: Hectares)		1,000.00	2,500.00	4,000.00	4,000.00	2,500.00		14,000.00
2.02.543.UA08 - Measure 543 – Rate per hectare No 8 PdTC (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	700.00	700.00	700.00	700.00	700.00	700.00	700.00	
	Maximum planned average unit amount (where applicable) (EUR)				850.00	850.00	850.00	850.00	
	O.17 (unit: Hectares)		10.00	20.00	30.00	20.00	20.00		100.00
2.02.543.UA09 - Measure 543 – Rate per hectare No 9 MVSC (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	
	Maximum planned average unit amount (where applicable) (EUR)				2,400.00	2,400.00	2,400.00	2,400.00	
	O.17 (unit: Hectares)		10.00	20.00	20.00	20.00	10.00		80.00
2.02.543.UA10 - Measure 543 – Rate per hectare No 10 MVAC (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	
	Maximum planned average unit amount (where applicable) (EUR)				3,000.00	3,000.00	3,000.00	3,000.00	
	O.17 (unit: Hectares)		20.00	40.00	50.00	40.00	30.00		180.00
TOTAL	O.17 (unit: Hectares)		9,210.00	17,290.00	24,370.00	24,410.00	24,390.00		99,670.00
	Annual indicative financial allocation (Total public expenditure in EUR)		3,236,000.00	6,135,000.00	8,719,000.00	8,773,500.00	8,353,500.00		35,217,000.00
	Annual indicative financial allocation (Union Contribution in EUR)		647,200.00	1,227,000.00	1,743,800.00	1,754,700.00	1,670,700.00		7,043,400.00
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)		2,000,000.00	1,236,000.00					3,236,000.00
	Out of which carry-over (Union contribution in EUR)		400,000.00	247,200.00					647,200.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								

ENVCLIM (70)	Environmental, climate-related and other management commitments								
2.02.544	Support for slurry injection and manure composting	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.544.UA1 - Rate per hectare No 1 (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	24.00	24.00	24.00	24.00	24.00	24.00	24.00	
	Maximum planned average unit amount (where applicable) (EUR)				30.00	30.00	30.00	30.00	
	O.14 (unit: Hectares)		4,800.00	4,800.00	27,000.00	30,000.00	25,200.00		91,800.00
2.02.544.UA2 - Rate per hectare No 2 (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	40.00	40.00	40.00	40.00	40.00	40.00	40.00	
	Maximum planned average unit amount (where applicable) (EUR)				50.00	50.00	50.00	50.00	
	O.14 (unit: Hectares)		4,848.50	4,848.50	27,000.00	30,000.00	25,152.00		91,849.00
2.02.544.UA3 - Rate per hectare No 3 (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	48.00	48.00	48.00	48.00	48.00	48.00	48.00	
	Maximum planned average unit amount (where applicable) (EUR)				60.00	60.00	60.00	60.00	
	O.14 (unit: Hectares)		80.00	80.00	450.00	500.00	420.00		1,530.00
2.02.544.UA4 - Rate per hectare No 4 (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	20.00	20.00	20.00	20.00	20.00	20.00	20.00	
	Maximum planned average unit amount (where applicable) (EUR)				25.00	25.00	25.00	25.00	
	O.14 (unit: Hectares)		160.00	160.00	900.00	1,000.00	840.00		3,060.00
2.02.544.UA5 - Rate per hectare No 5 (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
	Maximum planned average unit amount (where applicable) (EUR)				15.00	15.00	15.00	15.00	
	O.14 (unit: Hectares)		80.00	80.00	450.00	500.00	420.00		1,530.00
2.02.544.UA6 - Measure 544 – Rate per hectare n 6 old contract (Grant - Average) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	65.00	65.00	65.00					
	Maximum planned average unit amount (where applicable) (EUR)	65.00	65.00	65.00					
	O.14 (unit: Hectares)		39,640.60	39,580.00					79,220.60
TOTAL	O.14 (unit: Hectares)		49,609.00	49,549.00	55,800.00	62,000.00	52,032.00		268,990.00
	Annual indicative financial allocation (Total public expenditure in EUR)		2,893,779.00	2,889,820.00	1,773,000.00	1,970,000.00	1,652,880.00		11,179,479.00
	Annual indicative financial allocation (Union Contribution in EUR)		578,755.80	577,964.00	354,600.00	394,000.00	330,576.00		2,235,895.80
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)		2,576,640.00	2,572,700.00					5,149,340.00
	Out of which carry-over (Union contribution in EUR)		515,328.00	514,540.00					1,029,868.00

	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								
ENVCLIM (70)	Environmental, climate-related and other management commitments								
2.02.546	Aid to promote the planting of bovine animals to grass	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.546.UA1 - Rate per hectare No 1 (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	250.00	250.00	250.00	250.00	250.00	250.00	250.00	
	Maximum planned average unit amount (where applicable) (EUR)				280.00	280.00	280.00	280.00	
	O.14 (unit: Hectares)		5,400.00	6,375.00	7,500.00	7,500.00	7,500.00		34,275.00
	O.14 (unit: Hectares)		5,400.00	6,375.00	7,500.00	7,500.00	7,500.00		34,275.00
	Annual indicative financial allocation (Total public expenditure in EUR)		1,350,000.00	1,593,750.00	1,875,000.00	1,875,000.00	1,875,000.00		8,568,750.00
	Annual indicative financial allocation (Union Contribution in EUR)		270,000.00	318,750.00	375,000.00	375,000.00	375,000.00		1,713,750.00
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)								
	Out of which carry-over (Union contribution in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								
ENVCLIM (70)	Environmental, climate-related and other management commitments								
2.02.549	Support for reduced tillage	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.549.UA1 - Rate per hectare No 1	Planned unit amount (Total Public Expenditure in EUR)	85.00	85.00	85.00	85.00	85.00	85.00	85.00	

(Grant - Average) 91(2)(d)-LU-20.00%	Maximum planned average unit amount (where applicable) (EUR)	85.00	85.00	85.00	100.00	100.00	100.00	100.00	
	O.14 (unit: Hectares)		1,500.00	10,200.00	11,000.00	11,292.00	10,500.00		44,492.00
2.02.549.UA2 - Rate per hectare No 1 - carry over	Planned unit amount (Total Public Expenditure in EUR)	70.00	70.00	70.00	130.00	130.00	130.00	130.00	
(Grant - Average) 91(2)(d)-LU-20.00%	Maximum planned average unit amount (where applicable) (EUR)	70.00	70.00	70.00	150.00	150.00	150.00	150.00	
	O.14 (unit: Hectares)		8,670.00						8,670.00
	O.14 (unit: Hectares)		10,170.00	10,200.00	11,000.00	11,292.00	10,500.00		53,162.00
TOTAL	Annual indicative financial allocation (Total public expenditure in EUR)		734,400.00	867,000.00	935,000.00	959,820.00	892,500.00		4,388,720.00
	Annual indicative financial allocation (Union Contribution in EUR)		146,880.00	173,400.00	187,000.00	191,964.00	178,500.00		877,744.00
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)		606,900.00						606,900.00
	Out of which carry-over (Union contribution in EUR)		121,380.00						121,380.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								
ENVCLIM (70)	Environmental, climate-related and other management commitments								
2.02.550	Aid to reduce cattle stocking rates	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.550.UA1 - Rate per hectare	Planned unit amount (Total Public Expenditure in EUR)	93.00	93.00	93.00	130.00	130.00	130.00	130.00	
(Grant - Average) 91(2)(d)-LU-20.00%	Maximum planned average unit amount (where applicable) (EUR)	100.00	100.00	100.00	150.00	150.00	150.00	150.00	
	O.14 (unit: Hectares)		12,903.00	10,762.00	11,532.00	11,532.00	11,532.00		58,261.00
	O.14 (unit: Hectares)		12,903.00	10,762.00	11,532.00	11,532.00	11,532.00		58,261.00
TOTAL	Annual indicative financial allocation (Total public expenditure in EUR)		1,200,000.00	1,400,000.00	1,500,000.00	1,500,000.00	1,540,000.00		7,140,000.00
	Annual indicative financial allocation (Union Contribution in EUR)		240,000.00	280,000.00	300,000.00	300,000.00	308,000.00		1,428,000.00

	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)								
	Out of which carry-over (Union contribution in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								
ENVCLIM (70)	Environmental, climate-related and other management commitments								
2.02.551	Aid for the conversion of arable land into permanent grassland	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.02.551.UA1 - Rate per hectare No 1 (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	400.00	400.00	400.00	400.00	400.00	400.00	400.00	
	Maximum planned average unit amount (where applicable) (EUR)				480.00	480.00	480.00	480.00	
	O.14 (unit: Hectares)		280.00	340.00	360.00	380.00	400.00		1,760.00
2.02.551.UA2 - Rate per hectare No 2 (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	450.00	450.00	450.00	450.00	450.00	450.00	450.00	
	Maximum planned average unit amount (where applicable) (EUR)				550.00	550.00	550.00	550.00	
	O.14 (unit: Hectares)		50.00	80.00	100.00	100.00	100.00		430.00
TOTAL	O.14 (unit: Hectares)		330.00	420.00	460.00	480.00	500.00		2,190.00
	Annual indicative financial allocation (Total public expenditure in EUR)		134,500.00	172,000.00	189,000.00	197,000.00	205,000.00		897,500.00
	Annual indicative financial allocation (Union Contribution in EUR)		26,900.00	34,400.00	37,800.00	39,400.00	41,000.00		179,500.00
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)								
	Out of which carry-over (Union contribution in EUR)								

	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								
ANC (71)	Natural or other area-specific constraints								
2.01.532	Payments to areas facing natural or specific constraints	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.01.532.UA01 - Average rate per hectare - areas with natural constraints (Grant - Average) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	147.00	147.00	147.00	147.00	147.00	147.00	147.00	
	Maximum planned average unit amount (where applicable) (EUR)	165.00	165.00	165.00	165.00	165.00	165.00	165.00	
	O.12 (unit: Hectares)		101,400.00	101,400.00	101,400.00	101,400.00	101,400.00		507,000.00
2.01.532.UA02 - Average rate per hectare - areas with specific constraints (Grant - Average) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	147.00	147.00	147.00	147.00	147.00	147.00	147.00	
	Maximum planned average unit amount (where applicable) (EUR)	165.00	165.00	165.00	165.00	165.00	165.00	165.00	
	O.12 (unit: Hectares)		17,000.00	17,000.00	17,000.00	17,000.00	17,000.00		85,000.00
TOTAL	O.12 (unit: Hectares)		118,400.00	118,400.00	118,400.00	118,400.00	118,400.00		592,000.00
	Annual indicative financial allocation (Total public expenditure in EUR)		17,404,800.00	17,404,800.00	17,404,800.00	17,404,800.00	17,404,800.00		87,024,000.00
	Annual indicative financial allocation (Union Contribution in EUR)		3,480,960.00	3,480,960.00	3,480,960.00	3,480,960.00	3,480,960.00		17,404,800.00
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)								
	Out of which carry-over (Union contribution in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								

	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								
ASD (72)	Area-specific disadvantages resulting from certain mandatory requirements								
2.01.530	PAYMENTS UNDER THE WATER FRAMEWORK DIRECTIVE	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.01.530.UA01 - Rate per hectare Arable land excluding Temporary grasslands ZII (C) and ZIII (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	120.00	120.00	120.00	140.00	140.00	140.00	140.00	
	Maximum planned average unit amount (where applicable) (EUR)				160.00	160.00	160.00	160.00	
	O.13 (unit: Hectares)		5,400.00	5,500.00	5,500.00	5,600.00	5,600.00		27,600.00
2.01.530.UA02 - Rate per hectare Permanent and Temporary grassland ZII (C) and ZIII (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	80.00	80.00	80.00	90.00	90.00	90.00	90.00	
	Maximum planned average unit amount (where applicable) (EUR)				100.00	100.00	100.00	100.00	
	O.13 (unit: Hectares)		7,810.00	7,950.00	7,950.00	8,080.00	8,080.00		39,870.00
2.01.530.UA03 - Rate per hectare areas ZII(A)/(B)/(-V1) (Grant - Uniform) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	275.00	275.00	275.00	340.00	340.00	340.00	340.00	
	Maximum planned average unit amount (where applicable) (EUR)				360.00	360.00	360.00	360.00	
	O.13 (unit: Hectares)		290.00	300.00	300.00	320.00	320.00		1,530.00
TOTAL	O.13 (unit: Hectares)		13,500.00	13,750.00	13,750.00	14,000.00	14,000.00		69,000.00
	Annual indicative financial allocation (Total public expenditure in EUR)		1,352,550.00	1,378,500.00	1,378,500.00	1,406,400.00	1,406,400.00		6,922,350.00
	Annual indicative financial allocation (Union Contribution in EUR)		270,510.00	275,700.00	275,700.00	281,280.00	281,280.00		1,384,470.00
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)								
	Out of which carry-over (Union contribution in EUR)								

	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								
INVEST (73-74)	Investments, including investments in irrigation								
2.04.712	Aid for agricultural investments	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.04.712.UA1 - Base rate 40 %	Planned unit amount (Total Public Expenditure in EUR)	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	
(Grant - Average)	Maximum planned average unit amount (where applicable) (EUR)	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	
91(2)(d)-LU-20.00%	O.20 (unit: Operations)		5.00	5.00	5.00	5.00	5.00		25.00
2.04.712.UA2 - Additional support rate for young farmers 15%	Planned unit amount (Total Public Expenditure in EUR)	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	
(Grant - Average)	Maximum planned average unit amount (where applicable) (EUR)	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	
91(2)(d)-LU-20.00%	O.20 (unit: Operations)		2.00	2.00	2.00	2.00	2.00		10.00
TOTAL	O.20 (unit: Operations)		7.00	7.00	7.00	7.00	7.00		35.00
	Annual indicative financial allocation (Total public expenditure in EUR)		1,860,000.00	1,860,000.00	1,860,000.00	1,860,000.00	1,860,000.00		9,300,000.00
	Annual indicative financial allocation (Union Contribution in EUR)		372,000.00	372,000.00	372,000.00	372,000.00	372,000.00		1,860,000.00
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)								
	Out of which carry-over (Union contribution in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								
INVEST (73-74)	Investments, including investments in irrigation								

2.04.714	Aid for environmental investments	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.04.714.UA1 - Base rate 40 % (Grant - Average) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	
	Maximum planned average unit amount (where applicable) (EUR)	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	450,000.00	
	O.20 (unit: Operations)		23.00	23.00	25.00	25.00	25.00		121.00
2.04.714.UA2 - Additional support rate for young farmers 15% (Grant - Average) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	55,000.00	
	Maximum planned average unit amount (where applicable) (EUR)	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00	
	O.20 (unit: Operations)		7.00	7.00	8.00	8.00	8.00		38.00
2.04.714.UA3 - Additional support rate 20% (Grant - Average) 91(2)(d)-LU-20.00%	Planned unit amount (Total Public Expenditure in EUR)	70,000.00	70,000.00	70,000.00	70,000.00	70,000.00	70,000.00	70,000.00	
	Maximum planned average unit amount (where applicable) (EUR)	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	
	O.20 (unit: Operations)		12.00	12.00	13.00	13.00	13.00		63.00
TOTAL	O.20 (unit: Operations)		42.00	42.00	46.00	46.00	46.00		222.00
	Annual indicative financial allocation (Total public expenditure in EUR)		9,275,000.00	9,275,000.00	9,750,000.00	9,750,000.00	9,750,000.00		47,800,000.00
	Annual indicative financial allocation (Union Contribution in EUR)		1,855,000.00	1,855,000.00	1,950,000.00	1,950,000.00	1,950,000.00		9,560,000.00
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)								
	Out of which carry-over (Union contribution in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								
INSTAL (75)	Setting up of young farmers and new farmers and rural business start-up								
2.09.711	Support for setting-up of young farmers	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.09.711.UA1 - Support for setting up of young	Planned unit amount (Total Public Expenditure in EUR)	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	

farmers (Grant - Uniform) 91(2)(d)-LU-20.00%	Maximum planned average unit amount (where applicable) (EUR)				120,000.00	120,000.00	120,000.00	120.00	
	O.25 (unit: Beneficiaries)	16.00	16.00	16.00	16.00	16.00			80.00
TOTAL	O.25 (unit: Beneficiaries)	16.00	16.00	16.00	16.00	16.00			80.00
	Annual indicative financial allocation (Total public expenditure in EUR)	1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00			8,000,000.00
	Annual indicative financial allocation (Union Contribution in EUR)	320,000.00	320,000.00	320,000.00	320,000.00	320,000.00			1,600,000.00
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)								
	Out of which carry-over (Union contribution in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)	1,412,175.00	1,412,175.00	1,412,175.00	1,412,175.00	1,412,175.00			7,060,875.00
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)	282,435.00	282,435.00	282,435.00	282,435.00	282,435.00			1,412,175.00
COOP (77)	Cooperation								
2.05.570	Local LEADER development	2023	2024	2025	2026	2027	2028	2029	Total 2023 - 2029
2.05.570.UA - LEADER (Grant - Average) 91(3)(b) - 77(1)(b)-LU- 25.00%	Planned unit amount (Total Public Expenditure in EUR)		2,540,000.00	2,540,000.00	2,540,000.00	2,540,000.00	2,540,000.00	2,540,000.00	
	Maximum planned average unit amount (where applicable) (EUR)				3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	
	O.31 (unit: Strategies)		5.00						5.00
TOTAL	O.31 (unit: Strategies)		5.00						5.00
	Annual indicative financial allocation (Total public expenditure in EUR)		1,000,000.00	1,500,000.00	2,000,000.00	2,750,000.00	3,200,000.00	2,250,000.00	12,700,000.00
	Annual indicative financial allocation (Union Contribution in EUR)		250,000.00	375,000.00	500,000.00	687,500.00	800,000.00	562,500.00	3,175,000.00
	Out of which for financial instrument (Total public Expenditure in EUR)								
	Out of which for financial instrument (Union Contribution in EUR)								
	Out of which carry-over (Total public Expenditure in EUR)								

	Out of which carry-over (Union contribution in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (applicable to article 95(1) under article 73 and 75) (Total public expenditure in EUR)								
	Out of which needed to reach the minimum financial allocation set out in Annex XII (Union Contribution in EUR)								

7 Governance and Coordination system

7.1 Identification of governance and coordination bodies + control bodies

Authority type	Institution name	EAGF	EAFRD	Responsible name	Address	Email
Managing authority	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Y	Y	Monsieur Jeff DONDELINGER	1, rue de la Congrégation L-1352 Luxembourg	jeff.dondelinger@ma.etat.lu
Competent Authority	Inspection Générale des Finances – IGF ; Ministères des Finances	Y	Y	Monsieur Gilles RECKERT	2, rue de la Congrégation L-1352 Luxembourg	gilles.reckert@igf.etat.lu
Paying Agency	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Y	Y	Monsieur Jean-Paul MULLER	1, rue de la Congrégation L-1352 Luxembourg	jean-paul.muller@ma.etat.lu
Certification Body	KPMG Luxembourg, Société coopérative	Y	Y	Monsieur Yves THORN	39, Avenue John F. Kennedy L-1855 Luxembourg	yves.thorn@kpmg.lu
Control Body	Administration des services techniques de l'agriculture (SMR5)	Y	Y	François KRAUS / Frank SCHAUL	16, route d'Esch, 1470 Luxembourg	francois.kraus@asta.etat.lu
Control Body	Administration des services vétérinaires (SMR5, 6, 9, 10, 11)	Y	Y	Felix Wildschutz	7B, rue Thomas Edison, 1445 Strassen	Felix.Wildschutz@asv.etat.lu
Control Body	Unité de contrôle	Y	Y	Fabienne WENGLER	3, route d'Arlon, L - 8009 STRASSEN	fabienne.wengler@unico.etat.lu

Brief description of the set up and organisation of the Competent Authority

The General Inspectorate of Finance (IGF) was established by the Law of 10 March 1969. The Inspectorate is under the authority of the Minister with the budget (currently the Ministry of Finance) and works under the direction of the Director of the Inspectorate.

The IGF's tasks consist principally in preparing the preliminary draft law on the budget for State revenue and expenditure, issuing opinions on projects and proposals the implementation of which may have an impact on the State's finances, and examining any other matter which the Government in Council or a member of the Government considers appropriate to submit to it.

The IGF is also empowered to make proposals for coordination with a view to drawing up plans for the programming of State investment to be adopted by the government council and supervising the implementation of the programmes adopted, but also to make any suggestions likely to make savings, improve the organisation of State services and ensure their rational operation.

In addition, the Inspectorate-General of Finance is also responsible for auditing many EU funds. In the context of the CAP, and more specifically for the audit of expenditure under the European agricultural funds EAGF and EAFRD, the IGF mandated the cooperative society KPMG Luxembourg. In addition, the IGF carries out checks as part of the accreditation procedure of the paying agency.

Finally, the IGF is also represented on the internal audit committee of the European Agricultural Funds Paying Agency. This committee consists of the co-ordinating official of the Ministry of Agriculture, the head of the paying agency and a representative of the Inspectorate General of Finance. It also approves the multiannual audit plan by mutual agreement on the basis of a proposal from the Internal Audit Service. The Audit Committee also supervises and

monitors the work of the Internal Audit Service.

7.2 Description of the monitoring and reporting structure

Organisation

In the Grand Duchy of Luxembourg, there is only one paying agency, namely the Ministry of Agriculture, Viticulture and Rural Development.

The Paying Agency (PO) is responsible for all NSP aid measures. The paying agency shall be responsible for organising the monitoring and analysis of the work carried out by the administrations referred to below. The PA is also responsible for the efficient functioning of the administrative and physical management and control system of the administrations. In addition, it shall ensure the coordination of the work in the context of the preparation of the performance report. It shall establish the monitoring and reporting systems in place to record, maintain, manage and report the information necessary for the assessment of the performance of the CAP Strategic Plan, including the reporting system for the purposes of the annual performance report.

The control activities concerning the authorisation of payments and the administrative checks provided for in point 2 of Annex I to Delegated Regulation (EU) 2022/127. (A) are essentially carried out by the administrations (which, as intervention bodies under the supervision of the Ministry of Agriculture). The administrations concerned include:

- The Rurale Economy Service (SER);
- The Agricultural Technical Services Administration (ASTA);
- The Veterinary Services Administration.

As regards the Leader programme and certain measuresⁱⁿ the 2th pillar (such as technical assistance), control activities concerning the authorisation of payments and administrative checks are carried out by the Ministry of Agriculture, Viticulture and Rural Development.

The administrations listed above, thus under the direct authority of the paying agency, cover in particular the following tasks:

- management of aid applications from farmers;
- calculation of the amount of premiums;
- administrative and physical checks on the accuracy of files;
- the determination of the sample of files subject to on-the-spot checks;
- calculation of penalties applied.

The SER is the administration concerned by the measures of the Integrated Aid Management and Control System (IACS). It shall carry out the following administrative checks:

- receipt of aid applications from farmers;
- seizure of applications, sorting and allocation of applications per member of staff;
- eligibility check (of producers and areas;
- monitoring the status of the beneficiary through membership of the sickness and agricultural pension fund;
- mail to producers;
- calculation of the amount of premiums;
- calculation and application of reductions and penalties;
- use of a checklist of checks to be carried out.

ASTA and, on a smaller scale, RES are the administrations concerned by non-IACS measures. These administrations cover in particular the following tasks:

- submission of applications for authorisation to benefit from the aid scheme;
- the timely receipt and seizure of requests for assistance;
- eligibility check (of producers and areas);
- approval of suppliers if applicable;
- administrative and physical checks on the accuracy of files;
- calculation of the amount of premiums;
- calculation and application of reductions and penalties;
- preparation of the aid payment file.

The ASV, for its part, is responsible for checks on the identification and registration of animals and for checks on Conditionality concerning animal welfare and health and food safety.

Organisation of IT

The main IT systems used to manage the premiums relating to the EAGF and EAFRD funds are hosted by the Centre des Technologies de l'Information de l'Etat (CTIE), which manages the majority of the IT systems of the Luxembourg authorities and departments. It shall also be responsible for the retention and security of the computer data necessary for the preparation of the annual performance report.

The PO's IT system consists of several software. Reference data on areas and animals are managed in MALIS and SANILUX respectively. The area applications for aid are made using the MAGSA electronic approach (or on paper). Area applications are examined in MAGIS and MAPAE. A number of checks and the calculation of premiums are carried out in MACAA and MAWEB. Accounting and payment are made in the MAFEA and SAP systems.

On-the-spot controls

The majority of on-the-spot checks are carried out by the control unit (UNICO). The mission of UNICO is to verify on the spot, on the basis of samples determined by the administrations, whether the public funds are being used in accordance with the conditions governing Community aid.

UNICO enjoys functional independence within the Integrated Aid Management and Control System. The head of the UNICO is responsible for the 'control' function of the head of management of the paying agency, whereas, from an administrative point of view, his immediate superior is the director of the SER. UNICO does not receive orders or mission orders from the SER. It is only administratively attached to the SER but is operationally dependent on the head of management of the Paying Agency.

The Control Unit (UNICO) is responsible for carrying out on-the-spot and ex-post checks for most aid measures.

For all IACS measures (Integrated Administration and Control System) administrative checks are carried out by the premium managers, but on-the-spot checks are usually carried out by the Control Unit (UNICO).

For non-IACS measures (e.g. market measures), administrative checks and acceptance checks are carried out by the department managing the premiums. These checks are supplemented by on-the-spot checks and ex-post checks carried out by UNICO on the basis of a representative sample.

The results of the on-the-spot checks are entered and fed directly by UNICO into IACS.

Internal audit service

The mission of the internal audit function of the Ministry of Agriculture as an approved paying agency for the expenditure of Community funds EAGF and EAFRD is set out in the Internal Audit Charter. The Internal Audit Service (IAS) is directly attached to the Paying Agency's Directorate.

The IAS is independent of the departments and functional administrations of the paying agency. It shall verify that the procedures adopted by the body are sufficient to monitor compliance with Union rules and to ensure that the accounts are accurate, complete and timely.

The work of the Internal Audit Service shall be carried out in accordance with internationally accepted standards.

The competent authority

The competent authority in Luxembourg is the Inspectorate Générale des Finances (IGF). The IGF is under the authority of the Minister responsible for the budget (currently the Ministry of Finance) and works under the direction of the Director of the Inspectorate.

The Certification Body

In the context of the CAP and more specifically for the audit of expenditure under the European agricultural funds EAGF and EAFRD, the IGF instructed KPMG Luxembourg S.A. In addition, the IGF carries out checks as part of the Paying Agency's approval procedure.

Delegated bodies

- The Customs and Excise Administration (D & A) is responsible for managing export refund authorisation operations (EAGF non-IACS). The delegation of this task was formalised by the Grand-Ducal Regulation of 14 December 2018 implementing the Law of 27 June 2018 on export controls and amending the Grand-Ducal Regulation of 2 April 1993 on the implementation of acts of the competent institutions of the European Communities concerning agricultural matters. However, for at least 15 years there has been no application for an export refund premium.

- EFTAS is the delegated body for remote sensing control which covers both the control of compliance with the crop diversification obligation (in the context of greening) and the control of areas for three areas defined pursuant to Article 24 of Regulation (EU) 2021/2116.

Description of the monitoring and reporting system

The managing authority shall include a Monitoring and Evaluation Service (MAP) responsible for the implementation of the NSP monitoring and the evaluation of interventions at national level. This service is integrated into the [Agricultural Statistics, External Relations and Agricultural Markets Division](#) of the RES Rural Economy Service which manages most of the support schemes in the agricultural sector.

The ESS will work closely with the managers of the different support schemes, especially as regards the transfer of data, indicators and experiences as well as any relevant information for monitoring and evaluation.

The evaluation and monitoring of the NSP is based on context, output, result and impact indicators defined by the European framework. Additional national indicators will be defined as necessary to match the specificities of the national targets.

All the information needed to establish the output and result indicators will be managed in a database closely linked to the IACS system.

Responsibility for data collection will be shared between the managers of the different support measures on the one hand and the ESS on the other. The latter will ensure the request for information not available at managing authority level to the responsible bodies.

The Paying Agency is in close cooperation with the NSP Managing Authority. It will make available payment data and other data essential for monitoring the implementation of the NSP.

The performance report will be prepared by the ESS in collaboration with the measure managers and the managing authority. It will be sent to the paying agency for approval, which will finally forward it to the European Commission.

The monitoring committee provided for in Article 124 of Regulation (EU) 2021/2115 shall be established and shall assume its responsibilities for monitoring and evaluation as defined in that Article and shall review the progress of the implementation of the evaluation plan. It shall also be consulted in order to define the objectives of the evaluations and the communication of their results. The Monitoring Committee is invited to give its opinion on the performance report and the evaluation plan. A representative of the Ministry of Equality between Women and Men will be invited to participate in the monitoring committee in order to ensure that equality between men and women is respected within the NSP.

The monitoring committee and the national CAP network will be closely linked to form a fully merged structure, which facilitates permanent exchanges and continuous stimulation. This close interrelationship should encourage a positive development of trade.

7.3 Information on the control system and penalties

7.3.1 IACS - Integrated Administration and Control System

Is IACS used to manage and control interventions in the wine sector as laid down in Title III of Regulation (EU) ... [CAP Strategic Plan Regulation]? : **Yes**

Is IACS used to manage and control conditionality? : **Yes**

Article 65(4)(d) of the HZR gives the possibility to MS to define the "agricultural parcel". Please provide the definition of "agricultural parcel" in your Member State.

A portion of land continuously cultivated by a farmer with a single crop.

7.3.1.1 All elements of the IACS as set out in the Regulation [HZR] are established and operating as from 1 January 2023

All elements of the IACS as set out in the Regulation [HZR] are established and operating as from 1 January 2023 : **Yes**

7.3.1.1.1 Identification system for agricultural parcels (LPIS)

Luxembourg's Land Parcel Identification System (LPIS) is based on the digitalisation of objectively visible agricultural parcel boundaries based on aerial orthoimagery and is continuously updated using various sources of information:

(a) Systemic update on the basis of orthophotos updated annually

ad hoc update on the basis of requests for amendments submitted by operators, on the basis of findings made in the context of on-the-spot checks and on the initiative of the competent authority.

The annual systematic update is based on a photo-interpretation of orthophotos with a resolution of 10 to 25 cm according to detailed specifications and is followed by a procedure for validation by operators of any surface whose geometry or eligibility has been changed. The systematic update concerns half of the country per year.

For the ad hoc update through the application procedure, farmers shall communicate the changes to their parcels to the competent authority. Applications are processed either by judgement on the basis of a photo-interpretation of the most recent orthophoto or by GPS measurement of plot boundaries on the ground. Any request for the creation of a reference parcel shall be accompanied by proof of the right of enjoyment.

The identification system shall include active and declarable reference parcels and inactive and non-declarable parcels. Inactive parcels are parcels that have been deactivated due to the fact that they have not

been declared for 3 consecutive years. Reactivation is only possible upon request by the operator, proof of enjoyment right and on-site measurement by the competent authority.

Since the reform of the CAP in 2015 and the introduction of greening, the LPIS also contains stable ecological interest areas. The following EFA types are managed as parcels or reference lines at LPIS level: hedges, tree rows, bosquets, ponds and forest edges. The reference layers of the EFA are updated continuously on the basis of new orthophotos, together with the updating of the parcels. At the same time, ad hoc updates are made following requests made by farmers and on the basis of findings made as part of on-the-spot checks.

The LPIS data is managed in a GIS database that allows for the annual integration of data into the Integrated Administration and Control System to serve as a basis for reporting in the context of the geo-spatial application.

7.3.1.1.2 Geo-spatial (GSA) and an animal-based application system (GSA)

The Luxembourg State's online services are accessible via the MyGuichet.lu. interface.

The MAGSA application is a MyGuais assistant with a specific map component which allows farmers and winegrowers or their authorised representative to make their annual declaration using the 'Declaration of agricultural areas and vineyard census' approach.

This approach, which is open to beneficiaries from March to May each year, includes, inter alia, the application for or annual confirmation of agricultural and wine premiums, the declaration of agricultural and wine-growing areas in Luxembourg and abroad, the declaration of livestock and an overview of various premiums.

Following notifications under the AMS, operators may correct their declarations in accordance with the provisions of Community legislation.

7.3.1.1.3 Are you applying an automatic claim system (in the meaning of Article 65(4)(f) of the HZR?)

For area-based interventions? : **No**

For animal-based interventions? : **Yes**

7.3.1.1.4 Area monitoring system (AMS)

The area monitoring system is based on the results of the LEO4CAP pilot project carried out by the Ministry of Agriculture and Rural Development with the Earth and Life Institute of the Catholic University of Leuven in the years 2019-2021.

The LEO4CAP project is itself based on the Sen4CAP project, the algorithms of which are taken up and adapted to Luxembourg's situation.

Under the LEO4CAP project, the following use cases were analysed:

1. Crop diversification
2. Turning of permanent grassland
3. Detection of catch crops
4. Detection of heterogeneous parcels
5. Determination of compliance with the minimum agricultural activity

On the basis of the results of the LEO4CAP project and in accordance with the regulatory requirements, the monitoring system will be set up gradually. For example, in 2023 the use of the detection of

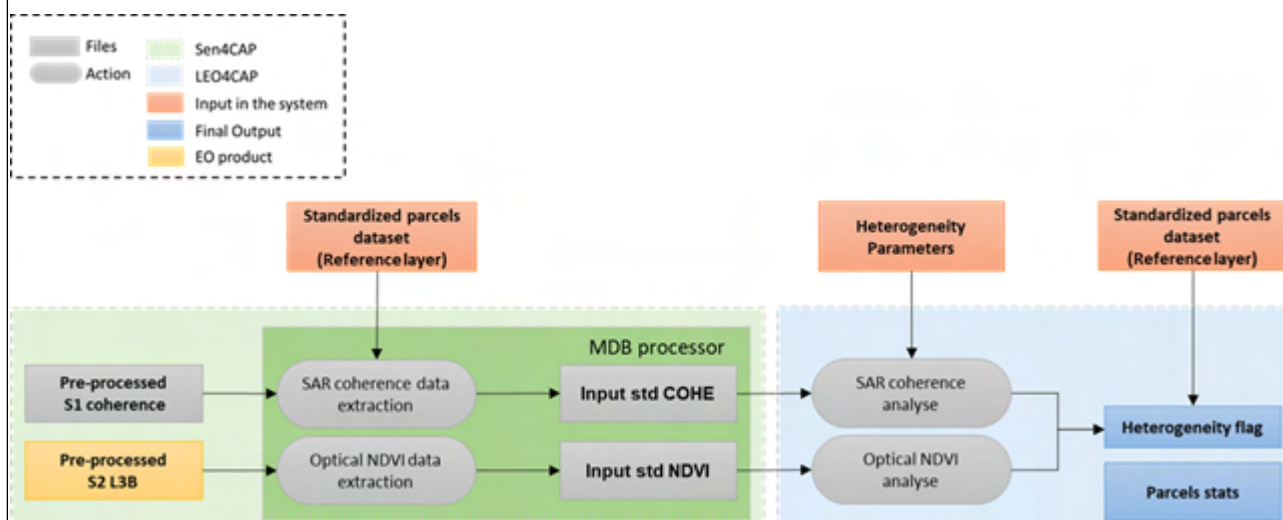
heterogeneous parcels and the determination of compliance with the minimum agricultural activity will be operational. Other use cases will follow later.

As the area monitoring system is an integral part of the integrated administration and control system, area monitoring is integrated into the processing of applications.

	Année N-1			Année N												Année N+1		
Traitement des demandes	Oct	Nov	Déc	Janv	Févr	Mars	Avr	Mai	Juin	Juill	Août	Sept	Oct	Nov	Déc	Janv	Févr	Mars
Période de soumission des demandes																		
Consolidation des données dans MAGS																		
Instruction des demandes																		
Paiement																		
Echantillonnage CSP																		
CSP																		
AMS - contrôle des critères d'éligibilité																		
Contrôle des "Phénomènes de base" (Heterogeneity Check)	Calcul 2						Calcul 1					Calcul 2						
Détermination des cultures (Crop type mapping)	Calcul 7				Travaux Pré-Calcul		Calcul 1	Calcul 2	Calcul 3	Calcul 4	Calcul 5	Calcul 6	Calcul 7				Pré-Calcul	
Contrôle de l'activité minimale (Eligibility control BPS + LFA)	Calcul 6							Calcul 1	Calcul 2	Calcul 3	Calcul 4	Calcul 5	Calcul 6					
Contrôle des cultures dérobées (Catch crop detection)					Calcul 1												Calcul 1	
AMS QA																		
Echantillon QA																		
Rapid Field Visits QA																		
CbM - contrôle des obligations à respecter																		
Contrôle du retournement des prairies : BCAE 1, BCAE 2, BCAE 9 (Grassland ploughing)	Calcul 2								Calcul 1				Calcul 2					
Contrôle diversification / rotation : BCAE 7													Calcul 1					
Contrôle couverture minimale du sol : BCAE 6						Calcul 1											Calcul 1	
Communication avec les agriculteurs																		
Communication aux agriculteurs pour adapter la délimitation des parcelles après le 1er calcul							Au début de l'instruction											
Communication aux agriculteurs pour adapter la culture déclarée ou rapid field visits?																		
Communication aux agriculteurs pour rappeler les dates à respecter																		
Communication des rapports de contrôle CSP																		
Procédure administrative non-contentieuse																		

Detection of heterogeneous parcels

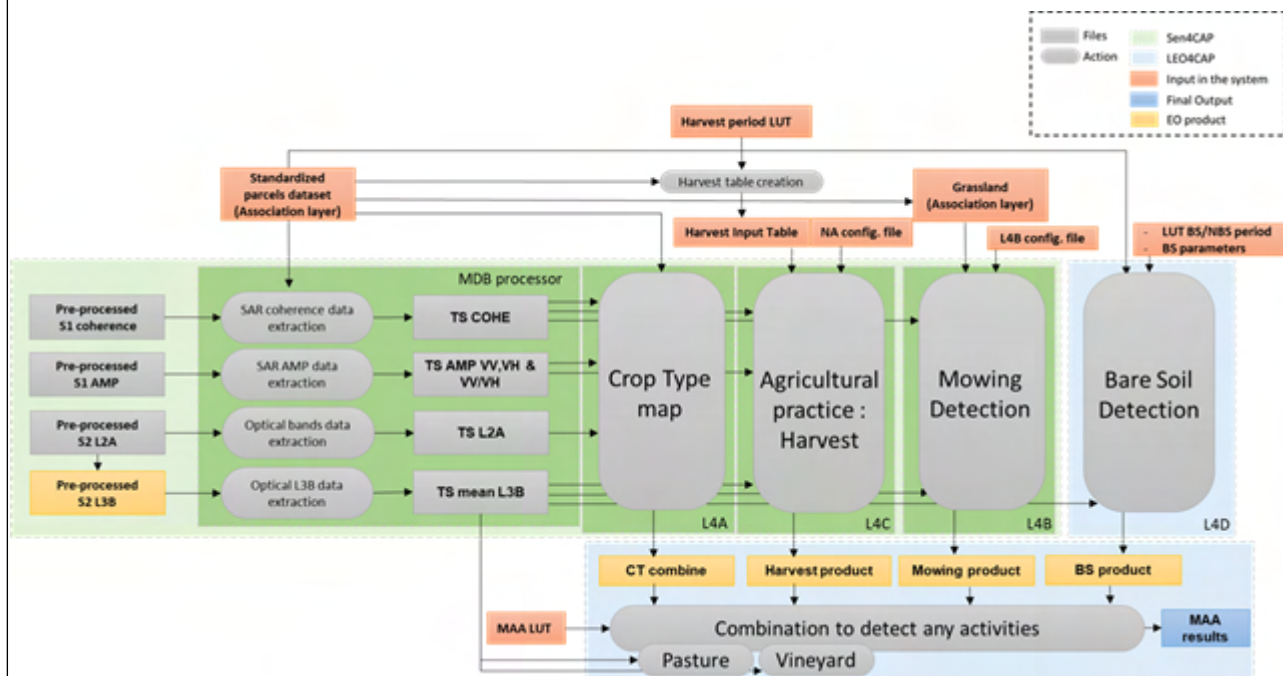
The detection of heterogeneous parcels is based on a temporal analysis of the vegetation indices and the inferences derived from SENTINEL 1 and 2 images. The workflow for processing information from SENTINEL images can be represented as follows:



Sources: Earth Life Institute – UCL – LEO4CAP project

Determination of compliance with minimum activity

Compliance with the minimum agricultural activity is determined on the basis of the detection of a characteristic activity depending on the type of crop over a monitoring period defined on the basis of SENTINEL 1 and 2 images. The detection of harvesting, mowing or bare soil respectively. Grazing is detected by a gradual decrease of the ILL. The workflow for processing information from SENTINEL images can be represented as follows:



Sources: Earth Life Institute – UCL – LEO4CAP project

These two use cases will allow area monitoring without the need for additional on-the-spot checks of the following aids:

- Basic income support for sustainability
- Complementary redistributive income support for sustainability
- Payment for areas facing natural or specific constraints

These use cases may also be used for area monitoring of a number of other aids for which on-the-spot checks will be necessary to verify the eligibility conditions and specific obligations that cannot be checked with SENTINEL images. On the basis of a preliminary analysis, the following aid measures are concerned:

- Complementary income support for young farmers
- Payments under the Water Framework Directive
- Support for organic farming

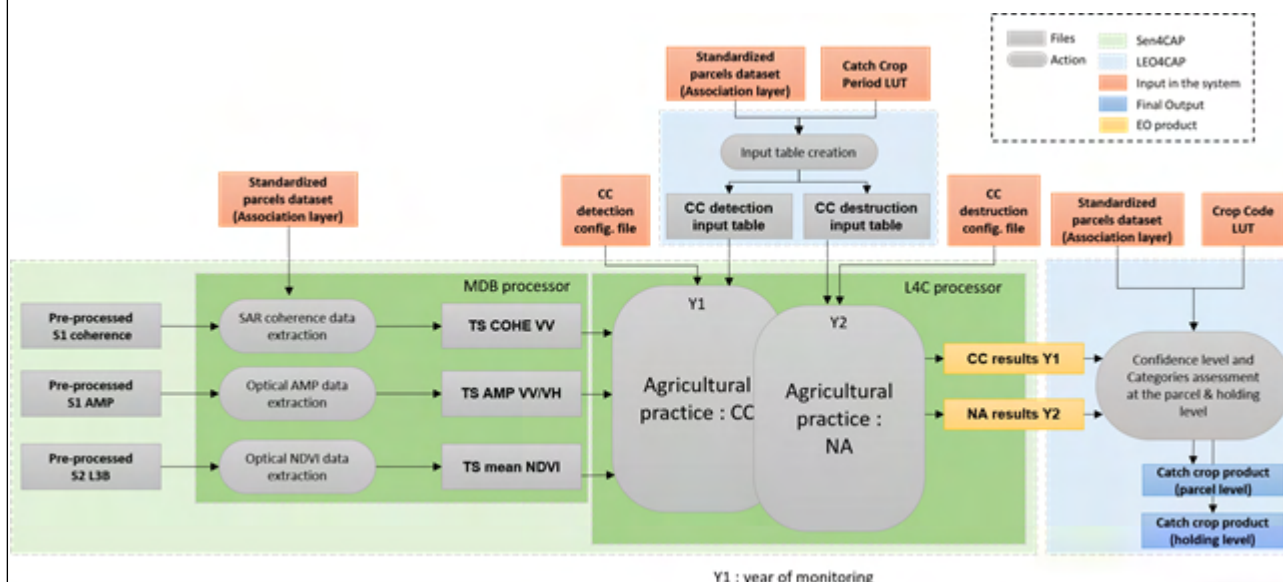
Crop type map

For area coupled support, the Sen4CAP Crop type map marker, which was tested in the case of “crop diversification” use of the LEO4CAP pilot project, may be used to detect a number of, but not all, eligible crops. On-the-spot checks will still be necessary.

Detection of catch crops

This use case will be used to monitor the areas of the eco-scheme “Support for the installation of catch crops”. The catch crop detection algorithm is organised in two stages, which are, first, the detection of a catch crop in winter of year N, based on the Sen4CAP crop detection processor, followed by a monitoring of the destruction of that crop during the first months of year N + 1.

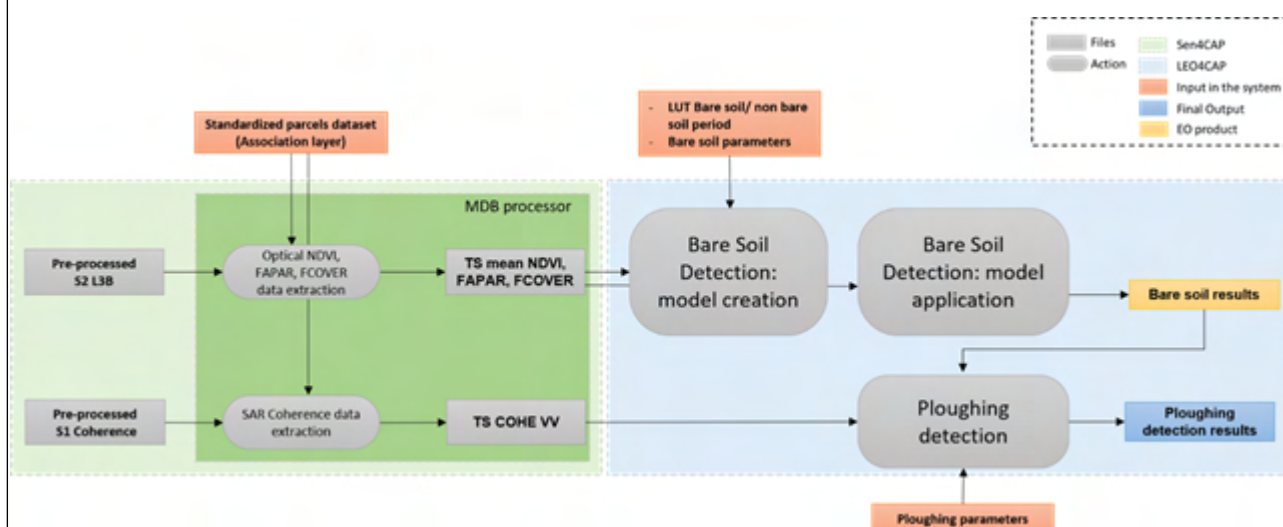
This scenario will only be operational in 2024.



Sources: Earth Life Institute – UCL – LEO4CAP project

Other use cases

The use case ‘Turn-over of permanent grassland’ may, when sufficiently refined, be used in monitoring checks on the maintenance of permanent grassland under cross-compliance (GAEC 1, 2 and 9) and a number of Pillar 2^{support}. This use case is based on the creation and application of a bare soil model in the first instance and analysis of the noise on the basis of S1 to detect a roll-over, which will ultimately be confirmed using the detection of bare soil over the same period.



Sources: Earth Life Institute – UCL – LEO4CAP project

In the coming years, additional use cases will need to be developed and integrated into the area monitoring system in order to be able to cover all support schemes in 2024. To this end, ongoing pilot projects at

European level (NIVA, DIONE, etc.) should be closely monitored.

Summary table of aid 2023-2027

	Contrôle AMS	CSP nécessaire	Année de mise en oeuvre
Paie ment de base	Minimum activity	Non	2023
Paie ment redistributif	Minimum activity	Non	2023
Aide couplée aux vaches allaitantes			
Paie ment aux jeunes agriculteurs	Minimum activity	Oui	2024
Aide couplée aux cultures maraîchères et à l'arboriculture	Crop type	?	2024
Aide couplée aux légumineuses	Crop type	partiellement	2024
Aide à l'installation de surfaces non productives sur terres agricoles	?	Oui	2024
Aide à l'installation de bandes non-productives sur terres agricoles	?	Oui	2024
Aide à la renonciation aux produits phytopharmaceutiques	Partiellement, en fonction de la culture	Oui	2024
Aide à l'installation de cultures dérobées et sous-semis	Partiellement, en fonction de la culture dérobée	Oui	2024
Aide à l'utilisation de diffuseurs de phéromones synthétiques en viticulture	Culture	Oui	2024
Aide à l'utilisation de diffuseurs de phéromones synthétiques en arboriculture	Culture	Oui	2024
Aide à l'installation de zones de refuge sur prairies de fauche	?	Oui	2024
Aide favorisant l'incorporation de fumier	Partiellement, en fonction de la culture	Oui	2024
Paie ments au titre de la directive cadre sur l'eau	Minimum activity	Oui	2024
Paie ment en faveur des zones soumises à des contraintes naturelles ou spécifiques	Minimum activity	Non	2023
Aide pour l'instauration d'une agriculture durable et respectueuse de l'environnement - Agriculture	Minimum activity	Oui	2024
Aide pour l'instauration d'une agriculture durable et respectueuse de l'environnement - Viticulture	Minimum activity	Oui	2024
Aide en faveur de l'agriculture biologique	Minimum activity	Oui	2024
Aide favorisant l'injection de lisier et compostage de fumier	?	Oui	2024
Aide favorisant la réduction la fertilisation azotée	?	?	2024
Aide à la mise à l'herbe de bovins	?	Oui	2024
Aide favorisant la rotation et la diversification des cultures sur terres arables	Crop type	?	2024
Aide favorisant le travail du sol réduit	?	Oui	2024
Aide favorisant la transformation d'une terre arable en prairie permanente	Crop type	partiellement	2024
Aide favorisant la réduction de la charge de bétail bovine			
Aide favorisant la conservation et la promotion des races menacées			

Additional and additional sources of information in the context of area monitoring

The area monitoring system cannot be based solely on SENTINEL 1 and 2 image processing. In order to clarify doubtful cases for which SENTINEL images cannot be pronounced unambiguously (yellow cases), additional sources of information should be used to clarify such cases and thus be able to continuously improve the algorithms used.

Similarly, for cases where SENTINEL images detect non-eligibility (red cases), it should be ensured that the result provided by the area monitoring system is correct. This is important to underpin and ensure the credibility of the area monitoring system among beneficiaries.

This verification of very high resolution satellite images is absolutely necessary.

Similarly, rapid field visits by the officials of the control unit will be required as part of the area monitoring system alongside the traditional on-the-spot checks. In order to make efficient use of the limited resources, the two types of controls will have to be combined as best as possible.

Exchange with aid applicants

The first results of the use case “Detection of heterogeneous parcels” will be available in May. Farmers will be informed of the results and will be able to adapt their aid application accordingly.

The results of the use case “determination of compliance with the minimum agricultural activity” will only be refined during the cultivation year according to the timing of the agricultural activities to be detected. Thus, mowing events can already be detected during the spring, and harvest events will run from June to October.

It is therefore a question of finding the best time to exchange with the operator:

- The information of the monitoring system must be sufficiently stable and correct.
- Verification and collection of evidence in the field by the control unit or operator must still be possible.
- Requests for information from farms must be grouped as much as possible and must disrupt them in their daily work as a minimum.

However, multiple exchanges with operators cannot be avoided.

As a first step, the use of geo-tagged photos will be limited to the paying agency’s staff. The taking of geotagged photos by operators can only be introduced gradually, once the administration’s capacity to process these photos is ensured.

Once the files have been examined, the ineligible parcels remaining in the aid application will be the subject of a non-contentious administrative procedure.

Adjustment of aid applications

On the basis of notifications, farmers may correct their declarations in accordance with the provisions of Community legislation.

The area monitoring system and force majeure

The area monitoring system may, where appropriate, help to assess the scale of a case of force majeure and exceptional circumstances. Article 3 of Regulation (EU) 2021/2116 provides for the following cases of force majeure or exceptional circumstances:

(a) A serious natural disaster or weather event. In this case, the area monitoring system can help to delimit the affected area. Geo-referenced photos can help to document the condition of parcels in the event of dress or flooding.

(b) accidental destruction of farm buildings intended for livestock farming. High-resolution satellite photos may confirm other supporting documents such as insurance company reports.

(C) An epizootic outbreak of a plant disease or the presence of a plant pest affecting all or part of the beneficiary’s herd or plant capital. In the case of a plant disease, markers such as the evolution of NDVI or ILL may give an indication of the health status of the crops. Geo-referenced photos can help to assess the extent of damage to affected plots.

(D) expropriation of all or a large part of the holding, provided that such expropriation could not have been anticipated on the date on which the application was made. In this case, the area monitoring system does not add value. At most, if the expropriation took place due to construction works, SENTINEL satellite images or high-resolution images help to delineate the eligible areas and update the reference parcel. However, this area monitoring work is in any event provided for as part of the checks on the

homogeneity of the parcels declared.

(e) the death of the beneficiary. In this case, the area monitoring system is not applicable.

(f) long-term professional incapacity of the beneficiary. In this case, the area monitoring system is not applicable.

7.3.1.1.5 Control and penalties system

Are requirements set out in Article 72 of the HZR fulfilled? : **Yes**

7.3.1.1.5.1 Description of the control and penalty system(s) for IACS interventions

See attached document(s)

7.3.1.1.6 System for the identification and registration of payment entitlements, where applicable

Are requirements set out in Article 71 of the HZR fulfilled? : **Yes**

7.3.1.1.7 System for the identification and registration of animals in the meaning of article 65(4)(c) [Article 66(1)(g) HZR]

Do you have a system for the identification and registration of animals referred to in Article 66(1)(g) of HZR? : **Yes**

system for the identification and registration of bovine animals laid down by Regulation (EC) No 1760/2000 of the European Parliament and of the Council : **Yes**

system for the identification and registration of ovine and caprine animals laid down by Council Regulation (EC) No 21/2004 : **Yes**

system for the identification and registration of pigs laid down by Council Directive 2008/71/EC : **Yes**

7.3.2 Non-IACS

7.3.2.1 Brief description on the penalty system for non-IACS interventions in line with the principles of effectiveness, proportionality and dissuasiveness

Non-IACS EAGF

Not applicable

Non-IACS EAFRD

Invest (73-74) – Investments, including investments in irrigation

Administrative control

Establishment of the actual cost of the investment

Establishment of the maximum cost based on unit prices

Eligible cost for the calculation of the aid = lowest cost of:

retained actual cost of the investment
maximum cost based on unit prices
authorised cost

On-the-spot checks

Applications subject to an on-the-spot check shall be paid only after the on-the-spot check has been completed and compliance established.

Ex-post control

Process of recoveries

Instal (75) – Setting up of young farmers and new farmers and rural business start-up

On-the-spot checks

Applications subject to an on-the-spot check shall be paid only after the on-the-spot check has been completed and compliance established.

7.3.2.2 Brief description of the control system for non-IACS (control methods, cross-checks, durability of investments and related ex-post checks, etc)

Non-IACS EAGF

Not applicable

Non-IACS EAFRD

Invest (73-74) – Investments, including investments in irrigation

On-the-spot checks

On the basis of the total amount of aid to be paid from a payment file, a sample of holdings subject to on-the-spot checks shall be determined. This sample covers 1 % of the expenditure declared, which is eligible for payment.

Ex-post control

A sample shall be fixed for each calendar year (N). Investments in buildings made in years N-10 to N-1 (10 years) and for which the final payment is made are considered. The investments selected shall cover annually at least 1 % of the expenditure financed.

Instal (75) – Setting up of young farmers and new farmers and rural business start-up

On-the-spot checks

On the basis of the total amount of aid paid in year N, a sample of holdings subject to on-the-spot checks shall be determined. This sample covers 1 % of the expenditure declared, which is eligible for payment. The on-the-spot check shall be carried out before the second instalment of the premium is paid.

7.3.2.3 Public procurement rules?

Brief description how the compliance with public procurement rules is fulfilled.

The State cannot be a beneficiary of NSP aid.

The rules on public procurement are set out in the Public Procurement Act of 8 April 2018.

7.4 Conditionality

7.4.1 Control system for conditionality

7.4.1.1 Description of the control system for conditionality

The functioning of the control system and administrative penalties for cross-compliance remains essentially the same. The adaptations made are those resulting from the amendment of the European

regulatory provisions.

1. General principle:

Where a beneficiary does not comply with the cross-compliance rules, an administrative penalty shall be imposed on him or her.

The administrative penalty applies only where the non-compliance is the result of an act or omission directly attributable to the beneficiary concerned, and where one or both of the following additional conditions are met:

- (a) the non-compliance is linked to the agricultural activity of the beneficiary;
- (b) the area of the beneficiary's holding is concerned.

The following definitions shall apply:

- (a) 'holding' means all production units and areas managed by the beneficiary situated within the territory of the same Member State;
- (b) 'requirement' means any individual management regulatory requirement of a given act referred to in Annex III to Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013.

2. Definitions

For the purposes of the technical specifications needed for the implementation of the control system and administrative penalties in relation to cross-compliance, the following definitions shall apply:

- (a) 'specialised control bodies' means the national competent control authorities which are responsible for ensuring compliance with cross-compliance rules;
- (b) 'act' means any directive and regulation listed in Annex III to Regulation (EU) of Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013.
- (c) 'year of the finding' means the calendar year in which the administrative or on-the-spot check was carried out.
- (d) 'Serious infringement' means: infringement likely to have significant consequences in view of the objectives of the requirement or standard concerned.

3. Rules on cross-compliance

The rules on cross-compliance shall be the statutory management requirements under Union law and the

standards for good agricultural and environmental condition of land, established at national level and listed in Annex III to Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013, as regards the following areas:

- (a) climate and environment;
- (b) public health, animal and plant health;
- (c) animal welfare.

The legal acts referred to in Annex III to Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013 as regards statutory management requirements shall apply in the version in force and, in the case of Directives, in the version implemented in Luxembourg.

4. Control system for conditionality

A system shall be put in place to ensure effective control of compliance with cross-compliance. That system shall, in particular provide for:

- (a) where the competent control authority is not the paying agency, the provision of the necessary information on beneficiaries from the paying agency to the specialised control bodies;
- (b) the methods to be used for the selection of control samples;
- (c) information on the type and extent of the checks to be carried out;
- (d) control reports indicating in particular any non-compliance detected and an assessment of its severity, extent, persistence and repetition;
- (e) where the competent control authority is not the paying agency, the transmission of the control reports of the specialised control bodies to the paying agency;
- (f) the application of the system of reductions and exclusions by the paying agency.

5. Responsibility of the competent control authority

The responsibilities of the competent control authorities shall be as follows:

- (a) the specialised control bodies shall be responsible for carrying out the checks and verifications relating to compliance with the requirements and standards concerned;
- (b) the paying agency shall be responsible for determining and applying administrative penalties.

6. Competent authorities for control

The Rural Economy Service is the competent authority for the management and administrative control of cross-compliance.

The Control Unit is the competent authority:

1. for the on-the-spot check of cross-compliance;
2. for the coordination of on-the-spot checks.

The administrations responsible for implementing the provisions of Annex III to Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013 shall assist the Control Unit in carrying out checks on compliance with cross-compliance obligations.

7. On-the-spot controls

7.1 minimum control rate

The competent control authority shall carry out on-the-spot checks for the requirements and standards for which it is responsible, covering at least 1 % of the total number of beneficiaries and for which that control authority is responsible.

The minimum control rate referred to in the first subparagraph may be reached at the level of each competent control authority or at the level of each act or standard or group of acts or standards. Where the checks are not carried out by the paying agency, this minimum control rate may however be reached at the level of each paying agency.

Where the legislation applicable to the act and standards already fixes a minimum control rate, that rate shall be applied instead of the minimum rate referred to in the first subparagraph.

Any non-compliance detected during an on-the-spot check carried out pursuant to the legislation applicable to acts and standards outside the sample referred to in the first subparagraph shall be reported to the competent control authority for the act or standard concerned for follow-up.

As regards cross-compliance obligations under Council Directive 96/22/EC, the application of a specific sampling level for monitoring plans shall be considered to fulfil the minimum rate requirement laid down in the first subparagraph.

In order to achieve the minimum control rate at the level of each act or standard, or set of acts or standards, are:

- (a) use the results of on-the-spot checks carried out in accordance with the legislation applicable to those acts and standards for the selected beneficiaries; or
- (b) replace the beneficiaries selected by beneficiaries subject to an on-the-spot check carried out in

accordance with the legislation applicable to those acts and standards, provided that those beneficiaries.

In such cases the on-the-spot checks shall cover all aspects of the relevant acts or standards as defined under cross-compliance. Furthermore, such on-the-spot checks must be at least as effective as those carried out by the competent control authorities.

If on-the-spot checks reveal a significant level of non-compliance with a given act or standard, the number of on-the-spot checks to be carried out for that act or standard in the following scrutiny period shall be increased pursuant to Commission Working Document DS/2010/29REV. Within a specific act the competent control authority may decide to limit the scope of those further on-the-spot checks to the most frequently infringed requirements.

The following table serves as a basis for defining the rate of on-the-spot checks to be carried out for a given act or standard on the basis of the rate of non-compliance found with that act or standard:

Percentage of farmers checked on-the-spot with one or more non-compliances with a requirement or standard	Percentage of reduction to be applied to the total amount of direct aid following the finding of this non-compliance only (cases of negligence and gross negligence)			Intentional non-compliance
	1 %	3 %	5 %	
> 5 % – 10 %	Control rate.	Control rate.	Control rate.	Control rate. X 2,5
> 10 % – 25 %	Control rate. X 1,25	Control rate. X 1,5	Control rate. X 2,5	Control rate. X 5
> 25 % – 50 %	Control rate. X 1,5	Control rate. X 3	Control rate. X 5	Control rate. X 10
> 50 %	Control rate. X 3	Control rate. X 6	Control rate. X 10	Control rate. X 20

7.2 selection of the control sample

The selection of the sample of holdings to be checked shall be based, where appropriate, on a risk analysis in accordance with the applicable legislation or on a risk analysis appropriate to the requirements or standards concerned. That risk analysis may be based on the level of an individual farm or on the level of categories of farms or geographical zones.

To ensure that the sample is representative, between 20 and 25 % of the minimum number of beneficiaries to be subject to on-the-spot checks shall be selected randomly. However, if the number of beneficiaries to be subject to on-the-spot checks exceeds that minimum number, the percentage of randomly selected beneficiaries in the additional sample shall not exceed 25 %.

A partial selection of the control sample may, where appropriate, be carried out before the end of the

relevant application period, on the basis of the information available. The provisional sample shall be completed when all relevant applications are available.

The sample of beneficiaries to be checked may be selected from the samples of beneficiaries already selected as part of the checks on the eligibility of area and animal aid and to which the relevant requirements or standards apply.

7.3 determination of compliance with requirements and standards

Compliance with the requirements and standards shall be verified by the means provided for in the legislation applicable to the requirements or standards concerned.

The verification shall be carried out by any appropriate means adopted by the competent supervisory authority and capable of ensuring accuracy at least equivalent to that required for official checks carried out in accordance with national rules.

Where appropriate, on-the-spot checks may be carried out using remote sensing techniques or SENTINEL satellite data or other data of at least equivalent value.

7.4 announcement of on-the-spot checks

On-the-spot checks may be announced provided that it does not interfere with their purpose or effectiveness. Any announcement shall be strictly limited to the minimum time period necessary and shall not exceed 14 days.

Where the legislation applicable to acts and standards affecting cross-compliance requires on-the-spot checks to be carried out unannounced, those rules shall also apply to on-the-spot checks on cross-compliance.

7.5 elements of on-the-spot checks

When carrying out the checks on the sample, the competent control authority shall ensure that all selected beneficiaries are checked for compliance with the requirements and standards for which it is responsible.

Notwithstanding the first subparagraph, where the minimum control rate is reached at the level of each act or standard, or set of acts or standards, the selected beneficiaries shall be subject to checks to verify their conformity with the act, standard or set of acts or standards concerned.

In general, each beneficiary selected for an on-the-spot check shall be checked at a time when most requirements and standards for which he was selected may be checked. However, the paying agency shall ensure that all requirements and standards are checked at an appropriate level during the year.

All agricultural land of the holding shall be subject, where appropriate, to on-the-spot checks. Nevertheless, the actual inspection in the field as part of an on-the-spot check may be limited to a sample of at least half of the agricultural parcels concerned by the requirement or standard on the holding, provided that such sample guarantees a reliable and representative level of control in respect of requirements and standards.

If the check on the sample referred to in the previous subparagraph reveals non-compliances, the sample of agricultural parcels actually inspected shall be extended.

Furthermore, where the legislation applicable to the act or standards so provides, the actual inspection of the compliance with the requirements and standards as part of an on-the-spot check may be limited to a representative sample of the objects to check. However, the paying agency shall ensure that checks are carried out on all standards and requirements with which compliance can be checked at the time of the visit.

Checks must, as a general rule, be carried out as part of a visit. They shall consist of a verification of the requirements and standards the compliance with which may be checked at the time of that visit. The aim of those checks shall be to detect any possible non-compliance with those requirements and standards and, in addition, to identify cases to be submitted for further checks.

On-the-spot checks at farm level may be replaced by administrative checks, provided that it is ensured that administrative checks are at least as effective as on-the-spot checks.

On-the-spot checks on the sample of this Regulation shall be carried out during the calendar year in which aid applications and/or payment claims are submitted.

7.6 control report

Every on-the-spot check carried out under this Title shall be the subject of a control report to be established by the competent control authority or under its responsibility.

The report shall be divided into the following parts:

(a) a general part indicating in particular:

(I) the identity of the beneficiary selected for the on-the-spot check;

(II) persons present;

(III) whether the beneficiary was notified of the visit and, if so, what the notice period was;

(b) a section describing, separately, the checks carried out in relation to each act and standard and specifying in particular:

(I) the requirements and standards covered by the on-the-spot check;

(II) the nature and extent of the checks carried out;

(III) findings;

(IV) the acts and standards in respect of which non-compliances have been identified;

(C) an assessment of the significance of the non-compliance in relation to each of the acts and/or standards, based on the criteria of severity, extent, persistence and repetition, together with an indication of the factors likely to lead to an increase or decrease in the reduction to be applied.

If the provisions relating to the requirement or standard in question provide for a tolerance under which the non-compliance found may not be acted upon, this shall be indicated in the report.

Where the competent control authority is not the paying agency, the control report and, when requested, the relevant supporting documents shall be sent or made accessible to the paying agency or the coordinating authority within a month after its finalisation.

7.7 evaluation of control systems

Pursuant to Article 83 (4) of Regulation (EU) 2021/2116, an annual review of the control systems is carried out in the light of the results achieved. Where necessary, the control systems shall be adapted.

7.4.1.2 Types of checks

SMR / GAEC	Types of checks
GAEC01 - Maintenance of permanent grassland based on a ratio of permanent grassland in relation to agricultural area at national, regional, sub-regional, group-of-holdings or holding level in comparison to the reference year 2018. Maximum decrease of 5% compared to the reference year.	On-the-spot control
GAEC02 - Protection of wetland and peatland	On-the-spot control
GAEC03 - Ban on burning arable stubble, except for plant health reasons	On-the-spot control
GAEC04 - Establishment of buffer strips along water courses	On-the-spot control
GAEC05 - Tillage management, reducing the risk of soil degradation and erosion, including consideration of the slope gradient	On-the-spot control
GAEC06 - Minimum soil cover to avoid bare soil in periods that are most sensitive	On-the-spot control
GAEC07 - Crop rotation in arable land, except for crops growing under water	On-the-spot control, Administrative checks
GAEC08 - Retention of landscape features. Ban on cutting hedges and trees during the bird breeding and rearing season. As an option, measures for avoiding invasive plant species	On-the-spot control, Administrative checks
GAEC09 - Ban on converting or ploughing permanent grassland designated as environmentally-sensitive permanent grasslands in Natural 2000 sites	On-the-spot control
SMR01 - Directive 2000/60/EC of 23 October 2000 of the European Parliament and of the Council establishing a framework for Community action in the field of water policy: Article 11(3), point (e), and point (h), as regards mandatory requirements to control diffuse sources of pollution by phosphates	On-the-spot control
SMR02 - Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources: Articles 4 and 5	Administrative checks, On-the-spot control
SMR03 - Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds: Article 3(1), Article 3(2), point (b), Article 4(1), (2) and (4)	On-the-spot control
SMR04 - Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna: Article 6(1) and (2)	On-the-spot control
SMR05 - Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, laying down procedures in matters of food safety: Articles 14 and 15, Article 17(1) and Articles 18, 19 and 20	On-the-spot control
SMR06 - Council Directive 96/22/EC of 29 April 1996 concerning the prohibition on the use in stockfarming of certain substances having a hormonal or thyrostatic action and beta-agonists, and repealing Directives 81/602/EEC, 88/146/EEC and 88/299/EEC: Article 3, points (a), (b), (d) and (e), and Articles 4, 5 and 7	On-the-spot control
SMR07 - Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC: Article 55, first and second sentence	On-the-spot control
SMR08 - Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: Article 5(2) and Article 8(1) to (5); Article 12 with regard to restrictions on the use of pesticides in protected areas defined on the basis of Directive 2000/60/EC and Natura 2000 legislation; Article 13(1) and (3) on handling and storage of pesticides and disposal of remnants	On-the-spot control
SMR09 - Council Directive 2008/119/EC of 18 December 2008 laying down minimum standards for the protection of calves: Articles 3 and 4	On-the-spot control
SMR10 - Council Directive 2008/120/EC of 18 December 2008 laying down minimum standards for the protection of pigs: Articles 3 and 4	On-the-spot control
SMR11 - Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes: Article 4	On-the-spot control

7.4.2 Penalty system for conditionality

7.4.2.1 Description on the penalty system for conditionality

The functioning of the control system and administrative penalties for cross-compliance remains largely the same. The adjustments made are those resulting from the amendment of the European regulatory provisions.

1. Administrative penalties for cross-compliance

The administrative penalty shall be applied where the cross-compliance rules are not complied with at any time in a given calendar year ('the calendar year concerned'), and the non-compliance is directly attributable to the beneficiary who submitted the aid application or payment claim in the calendar year concerned.

Non-compliances deemed to be 'detected' shall be those established as a result of any checks carried out or which have been brought to the attention of the competent control authority or, where applicable, the paying agency, in any other way.

In cases in which the land is transferred during the calendar year concerned or the years concerned, paragraph 1 shall also apply where the non-compliance in question is the result of an act or omission directly attributable to the person to whom or from whom the agricultural land was transferred. By way of derogation from the first sentence, where the person to whom the act or omission is directly attributable has submitted an application for aid or payment in the calendar year or years concerned, the administrative penalty shall be applied on the basis of the total amount of payments made or to be made to that person.

"Transfer" means any type of transaction by which the agricultural land ceases to be at the disposal of the transferee.

Pursuant to Article 84 (2) (c) of Regulation (EU) 2021/2116, the cases provided for in Article 3 of Regulation (EU) 2021/2116 shall be regarded as force majeure.

2. Calculation of the administrative penalty

The administrative penalty shall be applied by reducing or excluding the total amount of annual payments and premiums granted or to be granted to the beneficiary concerned in respect of aid applications he has submitted or will submit during the calendar year of the finding.

For the calculation of those reductions and exclusions, account shall be taken of the severity, extent, permanence or reoccurrence of the non-compliance determined.

The 'extent' of a non-compliance shall be determined taking account, in particular, of whether the non-compliance has a far-reaching impact or whether it is limited to the farm itself.

The 'severity' of a non-compliance shall depend, in particular, on the importance of the consequences of the non-compliance taking account of the aims of the requirement or standard concerned.

Whether a non-compliance is of 'permanence' shall depend, in particular, on the length of time for which the effect lasts or the potential for terminating those effects by reasonable means.

2.1 unintentional infringements

The percentages of reduction to be applied to the different non-compliances related to cross-compliance shall be determined as follows:

The table below gives each finding of non-compliance a number of points according to severity, extent and persistence.

Number of points	Category	Reduction applied	1 st repetition	2 ^e repetition	More than 2 repetitions
$0 \leq P < 10$	negligible	0 %	0 %	0 %	0 %
$10 \leq P < 30$	lightweight	1 %	5 %	20 %	100 %
$30 \leq P < 50$	average	3 %	10 %	20 %	100 %
$50 \leq P < 100$	serious	5 %	10 %	20 %	100 %
$P \geq 100$	very serious	10 %	20 %	20 %	100 %

Pursuant to Article 85 (3) of Regulation (EU) 2021/2116, where the non-compliance has no or only negligible impact on the achievement of the objective of the standard or requirement concerned, no administrative penalty shall be applied.

The non-compliance found shall be recorded in the control report. In an information letter, the farmer is alerted to the non-compliance found and to any corrective measures to be taken. Where appropriate, the farmer may be redirected to an advisor who is part of the farm advisory system.

Pursuant to Article 85 (3) of Regulation (EU) 2021/2116, the reduction in the case of serious infringements is, as a general rule, 5 %. The percentage may be increased up to 10 % pursuant to Article 9 (2) of Regulation (EU) 2022/1172.

Where the check is carried out by monitoring (CBM), the reductions to be applied are the same as in the case of a standard administrative or on-the-spot check.

When the area monitoring system works well, monitoring checks (CBM) could be envisaged:

GAEC 1 Maintenance of permanent grassland

GAEC 2 Protection of wetlands and peatlands

GAEC 6 Minimum soil cover

GAEC 9 Prohibition on converting or returning sensitive permanent grassland.

2.2 intentional infringements

All cases of non-compliance due to intentional action are subject to a reduction of at least 15 % under EU rules.

Intentional infringement means any offence committed with knowledge of the facts. After a second repetition, unintentional infringements shall be regarded as intentional. In addition, breaches of known presumed obligations with serious consequences are regarded as intentional infringements. They are defined by Grand-Ducal Regulation.

2.3 repeated infringements

The 'reoccurrence' of a non-compliance means the non-compliance with the same requirement or standard determined more than once within a consecutive period of three calendar years, provided that the beneficiary has been informed of a previous non-compliance and, as the case may be, has had the

possibility to take the necessary measures to terminate that previous non-compliance.

Where an identified case of unintentional non-compliance with the same requirement or standard persists during a period of three consecutive calendar years, Articles 85,6 of Regulation (EU) 2021/2116 and Article 9, 3. Regulation (EU) 2022/1172 shall apply.

2.4 calculation of the penalty to be applied

The penalty to be applied shall be calculated in accordance with the European calculation method.

In the event of repeated intentional infringements, the penalty rate to be applied shall be multiplied by three.

3. Continuity of administrative sanctions independent of the reform

For the purpose of determining the repetition of a non-compliance, non-compliances established in accordance with the regulatory provisions in force until 31 December 2022 shall be taken into account.

4. Calculation and application of administrative penalties

Administrative penalties shall be calculated and applied in accordance with Community rules.

Where cross-compliance checks cannot be completed prior to the payment to the beneficiary of the annual payments and premiums, the amount to be paid by the beneficiary following an administrative penalty shall be recovered either by reimbursement in accordance with the EU rules in force or by offsetting.

5. Informing the beneficiary of the results and the consequences of non-compliances found

Any non-compliance found shall be brought to the attention of the beneficiary within three months of the check.

The administrative penalty applied shall be brought to the attention of the beneficiary in the non-contentious administrative procedure.

Under this procedure, the farmer shall be informed by letter of intent of the applicable administrative penalty. The farmer then has a right of reply of at least two weeks to take a position.

Next, on the basis of the evidence put forward by the farmer, the paying agency takes a decision which is brought to the farmer's attention by letter of decision.

An appeal to the Administrative Court against the administrative decision is possible within three months.

7.4.2.2 Definition and application of 'reoccurrence' (calculation and time span covered):

The 'reoccurrence' of a non-compliance means the non-compliance with the same requirement or standard determined more than once within a consecutive period of three calendar years, provided that the beneficiary has been informed of a previous non-compliance and, as the case may be, has had the possibility to take the necessary measures to terminate that previous non-compliance.

7.4.2.3 Definition and application of ‘intentionality’

Infringement committed in full knowledge of the facts. After a second repetition, infringements are considered intentional. In addition, infringements of suspected known obligations with serious consequences are considered intentional infringements. They are defined by Grand-Ducal Regulation.

7.4.3 Indication of the application of a simplified control system for small farmers

The small farmers payment scheme is not implemented in Luxembourg. Luxembourg therefore does not apply a simplified control system for small farmers.

7.4.4 Competent control bodies responsible for the checks of conditionality practices, statutory management requirements

Responsibility of the competent control authority

The responsibilities of the competent control authorities shall be as follows:

- (a) the specialised control bodies shall be responsible for carrying out the checks and verifications relating to compliance with the requirements and standards concerned;
- (b) the paying agency shall be responsible for determining and applying administrative penalties.

Competent authorities for control

The Rural Economy Service is the competent authority for the management and administrative control of cross-compliance.

The Control Unit is the competent authority:

- 1. for the on-the-spot check of cross-compliance;
- 2. for the coordination of on-the-spot checks.

The administrations responsible for implementing the provisions of Annex III to Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013 shall assist the Control Unit in carrying out checks on compliance with cross-compliance obligations.

The list of administrations is given in point 7.1 and in the list below.

SMR / GAEC	Paying Agency Name	Name of the Control body	Name of the responsible for the check	Address	Email
GAEC01	Ministère de l'Agriculture, de la	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009	fabienne.wengler@unico.etat.lu

	Viticulture et du Développement rural			Strassen	
GAEC02	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
GAEC03	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
GAEC04	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
GAEC05	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
GAEC06	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
GAEC07	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
GAEC08	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
GAEC09	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon	fabienne.wengler@unico.etat.lu
SMR01	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
SMR02	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
SMR03	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
SMR04	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
SMR05	Ministère de l'Agriculture, de la	Administration des services	Dr Jean Brasseur (jean.brasseur@asv.etat.lu) ;	7B, rue Thomas Edison ; 72,	

	Viticulture et du Développement rural	techniques de l'agriculture (SMR5) Administration des services vétérinaires (SMR5, 6, 9, 10, 11)	Frank Schaul (frank.schaul@asta.etat.lu)	avenue Salentiny L-9080 Ettelbruck	
SMR06	Ministère de l'Agriculture, de la Viticulture et du Développement rural		Dr Jean Brasseur	7B, rue Thomas Edison L-1445 Strassen	jean.brasseur@asv.etat.lu
SMR07	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
SMR08	Ministère de l'Agriculture, de la Viticulture et du Développement rural	Unité de contrôle	Fabienne Wengler	3, route d'Arlon L-8009 Strassen	fabienne.wengler@unico.etat.lu
SMR09	Ministère de l'Agriculture, de la Viticulture et du Développement rural		Dr Carlo Dahm	7B, rue Thomas Edison L-1445 Strassen	carlo.dahm@asv.etat.lu
SMR10	Ministère de l'Agriculture, de la Viticulture et du Développement rural		Dr Carlo Dahm	7B, rue Thomas Edison L-1445 Strassen	carlo.dahm@asv.etat.lu
SMR11	Ministère de l'Agriculture, de la Viticulture et du Développement rural		Dr Carlo Dahm	7B, rue Thomas Edison L-1445 Strassen	carlo.dahm@asv.etat.lu

7.5 Social conditionality

7.5.1 Description of the control system for social conditionality

The functioning of the control system and administrative penalties for social conditionality follows the same rules for the calculation of administrative penalties as the system of control and administrative penalties for cross-compliance. This is in the interests of administrative simplification.

1. General principle:

Where a beneficiary does not comply with the cross-compliance rules, an administrative penalty shall be imposed on him or her.

The administrative penalty shall apply only where the non-compliance results from an act or omission directly attributable to the beneficiary concerned and where the non-compliance is linked to the agricultural activity of the beneficiary.

The following definitions shall apply:

(a) 'holding' means all production units and areas managed by the beneficiary situated within the territory of the same Member State;

(b) 'requirement' means any individual management regulatory requirement of a given act referred to in Annex IV to Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013.

2. Definitions

For the purposes of the technical specifications necessary for the implementation of the control system and administrative penalties for social conditionality, the following definitions shall apply:

(a) 'specialised control bodies' means the competent national control authorities which are responsible for ensuring compliance with the rules of social conditionality;

(b) 'act' means any of the Directives listed in Annex IV to Regulation (EU) of Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013.

(c) 'year of the finding' means the calendar year in which the administrative or on-the-spot check was carried out.

3. Rules on social conditionality

The rules on social conditionality shall be the statutory management requirements under Union law established at national level and listed in Annex IV to Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013, as regards the following areas:

(a) employment;

(b) health and safety;

The legal acts referred to in Annex IV to Regulation (EU) 2021/2115 of the European Parliament and of

the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013 as regards statutory management requirements shall apply in the version implemented in Luxembourg.

4. Control system for social conditionality

A system shall be put in place to ensure effective control of compliance with social conditionality. That system shall, in particular provide for:

- (a) the provision of the necessary information on the beneficiaries of the paying agency to the specialised control bodies;
- (b) control reports indicating in particular any non-compliance detected and an assessment of its severity, extent, persistence and repetition;
- (c) the transmission of the control reports of the specialised control bodies to the paying agency;
- (d) the application of the system of reductions and exclusions by the paying agency.

5. Responsibility of the competent control authority

The responsibilities of the authorities or bodies responsible for enforcing applicable social and labour legislation and labour standards and the responsibilities of the paying agency, whose role is to execute payments and apply sanctions under the social conditionality mechanism, are the following:

- (a) the specialised control bodies shall be responsible for carrying out checks and verifications relating to compliance with the requirements concerned, use their control and enforcement systems in the field of social and labour legislation and applicable labour standards to ensure that beneficiaries of aid referred to in Article 14 of Regulation (EU) 2021/2115, Chapter IV of Regulation (EU) No 228/2013 or Chapter IV of Regulation (EU) No 229/2013 comply with the obligations set out in Annex IV to Regulation (EU) 2021/2115;
- (b) the paying agency shall be responsible for determining and applying administrative penalties.

6. Competent authorities for control

The Rural Economy Service is the competent authority for the management and administrative control of social conditionality.

The administrations responsible for implementing the provisions of Annex IV to Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013 shall be the competent authority for carrying out checks on compliance with social conditionality obligations and shall inform the Rural Economy Service in the event of a finding of non-compliance by submitting all the reports and documents necessary for the Rural Economy Service to apply the checks on compliance with social conditionality obligations.

7 first year of implementation: 2023

7.5.2 Description on the penalty system for social conditionality

The functioning of the control system and administrative penalties for social conditionality follows the same rules for the calculation of administrative penalties as the system of control and administrative penalties for cross-compliance. This is in the interests of administrative simplification.

1. Administrative penalties for social conditionality

The administrative penalty shall be applied where the rules of social conditionality are not complied with

at any time in a given calendar year ('the calendar year concerned'), and the non-compliance is directly attributable to the beneficiary who submitted the aid application or payment claim in the calendar year concerned.

Non-compliances deemed to be 'found' shall be those established as a result of any checks carried out or brought to the attention of the competent control authority or, where appropriate, the paying agency, in some other way.

2. Calculation of the administrative penalty

The administrative penalty shall be applied by reducing or excluding the total amount of annual payments and premiums granted or to be granted to the beneficiary concerned in respect of aid applications he has submitted or will submit in the course of the calendar year of the finding.

For the calculation of those reductions and exclusions, account shall be taken of the severity, extent, permanence or reoccurrence of the non-compliance determined.

The 'extent' of a non-compliance shall be determined taking account, in particular, of whether the non-compliance has a far-reaching impact or whether it is limited to the farm itself.

The 'severity' of a non-compliance shall depend, in particular, on the importance of the consequences of the non-compliance taking account of the aims of the requirement or standard concerned.

Whether a non-compliance is of 'permanence' shall depend, in particular, on the length of time for which the effect lasts or the potential for terminating those effects by reasonable means.

3.1 unintentional infringements

The percentages of reduction to be applied to the different non-compliances related to cross-compliance are determined as follows:

The table below assigns a number of points to each finding of non-compliance according to severity, extent and persistence.

Number of points	Category	Reduction applied
$10 \leq P < 30$	lightweight	1 %
$30 \leq P < 100$	average	3 %
$P \geq 100$	serious	5 %

3.2 intentional infringements

All cases of non-compliance due to an intentional act are subject to a reduction of at least 15 % under EU cross-compliance rules.

An intentional offence shall mean any offence committed in full knowledge of the facts. After a second repetition, infringements are considered intentional. In addition, infringements of suspected known obligations with serious consequences are considered intentional infringements. They are defined by Grand-Ducal Regulation.

3.3 repeated infringements

The 'reoccurrence' of a non-compliance means the non-compliance with the same requirement or standard determined more than once within a consecutive period of three calendar years, provided that the beneficiary has been informed of a previous non-compliance and, as the case may be, has had the possibility to take the necessary measures to terminate that previous non-compliance.

3.4 calculation of the penalty to be applied

The penalty to be applied shall be calculated in accordance with the European method of calculating penalties relating to cross-compliance.

In the case of repeated intentional infringements, the penalty rate to be applied shall be multiplied by three.

4. Informing the beneficiary of the results and consequences of the non-compliances found

Any non-compliance found shall be brought to the attention of the beneficiary within three months of the check.

The administrative penalty applied shall be brought to the attention of the beneficiary in the non-contentious administrative procedure. Under this procedure, the farmer is informed by letter of intent of the applicable administrative penalty. The farmer then has a right of reply of at least two weeks to take a position.

Then, on the basis of the evidence put forward by the farmer, the paying agency takes a decision which is brought to the attention of the farmer by letter of decision.

An appeal to the administrative court against the administrative decision is possible within three months.

8 Modernisation: AKIS and digitalisation

8.1 AKIS

8.1 Overall envisaged organisational set-up of the improved AKIS

Luxembourg, thanks to its small size and small number of farmers, has an AKIS system with few well connected actors. The latter currently has nine agricultural advisory bodies accredited to the Ministry of Agriculture, three public research centres (LIST, LIH and LISER) and the University of Luxembourg, one agricultural vocational education institution, its processing sector and agricultural unions. In addition, IBLA ('Institut fir Biologesch Landwirtschaft an Agrarkultur Luxemburg') asbl supports organic farming through research, advice and knowledge transfer and also benefits from the National Research Fund following approval with the Ministry of Higher Education and Research.

The SWOT analysis revealed that this includes strengthening the AKIS system to meet the needs of farms to adapt to environmental constraints, improving the knowledge base on the development of the agricultural and agri-food sectors and developing innovation in the sectors in Luxembourg. Three main needs have been identified to enhance the flow of information between actors of the Luxembourg AKIS system with the aim of accelerating the integration of knowledge with each actor in the system and innovation on farms:

- the creation of an interface between key AKIS actors in order to increase trade flows between them and, in particular, between farm council bodies;
- the transition from the top-down linear model of knowledge transfer to an interactive model of co-construction of needs and knowledge integrating all AKIS actors;
- adaptation of the constraints associated with the modular advisory system (see Chapter 2: cross-cutting objective).

The SWOT analysis for the cross-cutting objective recommended the evolution of the current AKIS system in order to better take into account farmers' experiences and needs. This is to ensure that farmers are better anchored in the AKIS system and therefore that knowledge and innovations on the ground are transposed more quickly. A new **national strategy for innovation and knowledge transfer** in the sector will be developed through an interactive approach to co-construction with all actors in the agricultural sector and its food chain. Through regular workshops and events, all AKIS actors, members of the national CAP network and the relevant public authorities will jointly define the objectives, priorities and concrete actions for the implementation of this new strategy. The Ministry of Agriculture will ensure that this strategy is implemented, while maintaining an exchange with AKIS operators in order to ensure that the system is constantly evolving.

The main mission of **the new Innovation Hub** will be to provide a platform facilitating and accelerating networking between different actors from the agricultural and agri-food sector, but also from other sectors, with different perspectives. This will enable innovative solutions to be developed jointly in accordance with a model of co-building of knowledge in the context of projects or workshops and seminars. It is also the ideal tool to support the co-construction of the national strategy for innovation and knowledge transfer for agriculture of the future, the Landwirtschaft +, and to gather innovative ideas, especially from citizens, that will enable the sector to evolve. The Innovation Hub will maintain an **AKIS website**, dedicated to the national AKIS system, acting as an information portal on the many funding instruments to support innovation and knowledge transfer. The Innovation Hub will provide an **innovation support service to** assist AKIS actors in the development and implementation of projects.

Better integration of farmers in **operational groups at national level** will be done through independent calls for projects promoting innovation on farms. The integration of the actors in the processing chain into the Operational Groups will speed up the producer's adaptation to consumer demands. The flow of

information and, above all, cooperation between the various national players in the agricultural council and research sector, in Luxembourg and across borders, will be strengthened by setting up thematic networks, led by innovation facilitators. In order to ensure optimal collaboration between innovation facilitators, based in the Knowledge Hub, a dedicated back office for the farm council, and the Innovation Hub, both entities will operate through a single platform. Coordination with neighbouring countries through operational groups and joint innovation projects aims at better cross-border collaboration within AKIS and EIP systems.

The farm advisory service, offered in the form of defined services through advisory operations (modules), was set up in the period 2016-2017. The proposed aid and benefits aim at optimising the economic and environmental performance of farms and, where appropriate, the investments made by them, while reducing their effects on the climate and the environment. The number of authorised advisers currently stands at 35 in total. Although networking between different farm advisors is easy due to the limited number of national actors and geographical proximity, it is important to strengthen the exchange of information between farm advisory bodies. The small number of national actors may prove to be an asset when it comes to networking all AKIS actors, in particular in the development and implementation of projects. On the other hand, the history of interactions between the few experts in the country sometimes makes collaboration very difficult and requires mechanisms to encourage collaboration.

It is in water protection zones that AKIS micro models work in exemplary ways, where constant exchanges of information, field experience and agricultural data exist between farmers of agricultural cooperation located in the water catchment area, various national farm advisors, researchers, abstraction facilitators and water producers. These examples of dynamic “AKIS” micro could in the future serve as living labs to test new models of cooperation between different farm council actors.

The skills of farm advisers will evolve through new continuous training, which will be organised in accordance with a coherent and coordinated system (see Chapter 2: cross-cutting objective).

Currently, research actors at national level can only intervene on isolated topics, but cannot cover all the needs of the sector in terms of new knowledge, in particular in the field of animal production. The connection of AKIS with networks of foreign researchers is essential to improve innovation in the agricultural sector and to meet the needs of targeted knowledge which cannot be covered by local expertise. A partnership with the **National Scientific Research Fund** will make it possible to attract new national research players and develop new skills in the various fields affecting agriculture. Strengthening collaboration with **Luxinnovation**, the Horizon Europe National Contact Point, will create new opportunities for national actors to participate in **Horizon Europe calls**, aiming to also involve National Operational Groups. The Ministry of Agriculture and other actors in the Luxembourg AKIS system are part of the consortium which submitted the project “Modernisation of Agriculture through more efficient and effective Agricultural Knowledge and Information” in October 2021.

Systems ‘(AKIS modern) following the call for projects under Horizon Europe:

[//ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2021-data-01-08](https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2021-data-01-08). The project aims to improve the functioning of AKIS systems in the Member States by creating a European network of key AKIS actors and best practice experiences on how support for innovation can be improved and faster integrated into AKIS.

The entire future AKIS system will be funded through national means, thus encompassing new initiatives such as the Innovation Hub, the Knowledge Hub and research and knowledge transfer initiatives, such as IPCs or thematic networks.

Chapter 8 of the NSP and the cross-cutting objective are closely interlinked and need to be considered together. The assurance from the European Commission that it will be able to benefit from certain operations at European level that are related to AKIS, PIEs and Operational Groups is appreciated. Thus, Luxembourg confirms its desire to disseminate its national projects related to Operational Groups on the European EIP Platform, to participate in all actions related to the EIP AGRI and to participate, where

appropriate, in Horizon Europe multi-stakeholder projects. Consultation with neighbouring countries to develop avenues for cross-border collaboration is presumed to consolidate the AKIS national system and the related operations.

8.2 Description of how advisory services, research and CAP networks will work together within the framework of the AKIS (Art.114)(a)(ii))

Collaboration and exchange of information between farm councils and research actors will be supported through three different types of actions: (1) the creation of an Innovation Hub as a new platform for exchange and information to accelerate innovation in the sector, (2) the development and implementation of projects where researchers and farm advisors will co-build knowledge as equal partners, and (3) the collaboration of research and farm advisory actors to develop specialised databases and new specialised advisory tools for the sector.

The new **Innovation Hub** will aim at networking between innovation actors and the agricultural and agri-food sector, building links with other state (e.g. Ministry of Economy and Luxinnovation) and European actors, as well as diversifying the agricultural sector by supporting emerging innovative ideas in the agricultural and agri-food sector. The Innovation Hub will be equipped with an innovation support service that will organise **thematic events and workshops** to facilitate and stimulate exchange between the various AKIS actors.

The Innovation Hub will maintain a dedicated **website** dedicated to the Luxembourgish AKIS system, which will act as an information portal for all **funding instruments** foreseen to support research and knowledge transfer initiatives in the agricultural and agri-food sector. The entire future AKIS system will be financed through national means and will include specific funding for research and knowledge transfer initiatives such as: (1) classical research projects (partnership with the **National Research Fund**), (2) **EIP projects** (projects developing innovative ideas such as Bottom-up, implemented by Operational Groups), (3) the new instrument of **thematic networks** (led by Operational Groups aimed at networking with abroad to accelerate knowledge transfer), and (4) agricultural trials and other knowledge transfer activities (some in collaboration with the catchments of drinking water production areas or biological stations).

A **Knowledge Hub** will support the farm council by providing technical and scientific information. Specialised advisors will maintain databases with all specialised results, data and advisory tools from projects funded under the activities of the National AKIS System and the National CAP Network (notably LEADER projects), made publicly available via the “AKIS” website. During the funding period (2014-2022), agricultural researchers and advisors developed multiple decision support and specialised advisory tools and also set up various databases via EIP and other research projects (description of projects under the Digitalisation Strategy section). Such initiatives will continue to be supported to strengthen these emerging collaborations. The Knowledge Hub will also support a virtual exchange platform for farm council actors to facilitate and accelerate the exchange of information between farm advisors. Ad hoc specialised training events, including by foreign experts, will be organised by the Knowledge Hub.

Among other things, the Knowledge Hub, incorporating a **Data Warehouse**, as advocated in the coalition agreement, will allow for more comprehensive monitoring and aggregation of data to provide farm advisors with an effective advisory tool to share the latest knowledge and innovations with farmers. The current farm advisory offer will be analysed taking into account the needs of the new CAP and the national strategy in order to ensure an integrated, neutral and efficient advisory system. Close cooperation with other actors is desirable in order to build capacity in the different areas, notably related to the green architecture of the CAP.

With this accurate and comprehensive information at their disposal, the skills of farm advisers will evolve through continuous training organised according to a coherent and coordinated system.

The advisory modules and accredited advisory bodies are listed at:

[le//agriculture.public.lu/de/publications/beihilfen/beratungsmodule.html](http://agriculture.public.lu/de/publications/beihilfen/beratungsmodule.html) (in German).

As part of the setting up of the national CAP network, **close collaboration with the national LEADER network** will be developed in order to link AKIS objectives with rural development objectives. Thus, the AKIS network will be able to benefit from the well-established networking structure between LEADER Local Action Groups (LAGs) and the latter will have the opportunity to broaden their contacts with AKIS actors, including farmers, farm advisors and researchers. The European and national CAP networks will be established in accordance with Article 123 of Regulation (EU) 2021/2115. Care will be taken to ensure that the two networks are closely linked in order to ensure maximum exchange of knowledge.

Given the small number of actors in the farm council in Luxembourg, and the lack of agronomic faculty or agricultural research institute, it will be difficult to set up a “scientific cell” that could cover all the needs of the sector in terms of new knowledge. Currently, research and farm advisory actors at national level can only intervene on isolated issues. Exchanges and cooperation with international partners will therefore be all the more important to boost the sector and provide effective solutions by combining the scientific approach with field experience. The Knowledge Hub specialist advisers will have the task of establishing **collaborations with foreign competence centres** to access specialised skills not present in Luxembourg. These collaborations will be supported by the participation of foreign experts in the Luxembourg Operational Groups but also through other research initiatives under Horizon Europe or cross-border thematic networks.

In order to facilitate this cross-border collaboration, the costs of foreign partners in national research, EIP or knowledge transfer projects may be fully covered by national funding.

In 2021, the first **joint call for projects between the National Research Fund** and the Ministry of Agriculture aims to promote innovation for more sustainable agriculture. Scientists are invited to submit projects to create sustainable and resilient agriculture and food systems. The call for projects aims to develop new skills in the research community that could play a role as new actors in the national AKIS system. Specific conditions for participation have been defined for this call for projects aimed at stimulating the development of collaborations between national and foreign research institutes, as well as collaboration between researchers and farm advisors. The call for projects focuses on 3 thematic priorities:

- Adaptation of Luxembourg’s agriculture to climate change
- Adaptation of local farming practices to mitigate impacts on water resources
- Adaptation of local farming practices to mitigate impacts on biodiversity and ecosystem services in agro-ecosystems.

The second call is currently ongoing (-ps-//agriculture.public.lu/de/agenda/2022/projektaufruf-fnr-mavdr.html)

8.3 Description of the organisation of all farm advisors according to the requirements referred to in Articles 15(2), 15(3) and 15(4)

The farm advice shall be available to the agricultural sector to improve the economic and environmental performance of farms, their investments and the reduction of their climate and environmental effects.

To this end, a new system of advisory services was put in place during the period 2016-2017. The aid system and the provision of advice are defined by means of the advisory operations (modules) selected by the Ministry of Agriculture, together with all the stakeholders concerned, using a bottom-up approach. Nine organisations or providers of advisory services are accredited with the current number of accredited advisors of 35.

Some conclusions can be drawn from the analysis of the current farm advisory system:

- The vast majority of advisory services aim to promote sustainable development and efficient

management of resources to protect the environment. The need for advice on “water protection” is expected to further increase significantly with the final creation of many water protection zones. According to estimates by managers of the Water Management Administration (AGE), the volume could thus double or even triple.

An evaluation of the advisory system for farms affected by a water protection zone is ongoing.

84 % of the main farms have already benefited from nutrient management advice (Modules 1 and 2). See details below.

— In view of the Government’s efforts to promote organic farming, the number of advice provided on this subject is on the rise.

- There is no specific module on advice on plant protection products. The vast majority of ‘plant protection products’ advice is provided by ‘commercial’ advisers.

— The modules ‘permanent grassland’, ‘legume cultivation’ and ‘cross-compliance’ are rarely used.

In addition to this system of advisory services, there are other structures or organisations which employ advisors active in the agricultural sector. It includes:

— The Rural Economy Service (management advice and economic analysis) of the Ministry of Agriculture

— The grouping of biological stations (advice under the biodiversity programme)

— Private advisers or consultants working on behalf of the Ministry of Environment, Climate and Sustainable Development (management boards and economic analysis, integrated councils).

Their services are offered free of charge to farmers.

As regards the subject of plant protection products, the following training and advice tools are currently available:

— Compulsory training linked to the premium for sustainable and environmentally-friendly agriculture (agriculture and winegrowing), which targets a large majority of wine growers and plant protection products;

— The ‘organic farming’ farm advisory module (state aid) is also available to traditional farmers, who thus benefit from advice on PPPs authorised in organic farming;

— The farm advisory module “PPP in fruit crops” (state aid) is part of a cross-border collaboration with Rhineland-Palatinate;

— The agricultural advisory module ‘PPP – potato cultivation’ (state aid) addresses one of the most demanding crops in terms of the use of plant protection products.

Since 2021, the application of plant protection products by professional users in the agricultural sector (including agricultural distributors and advisers) has been subject to the obligation to hold a certificate (Sprétzpass), issued by the Minister of Agriculture, which may be obtained through agricultural training, an equivalent foreign certificate or participation in specific training (Grand-Ducal Regulation of 26 September 2017 on the sale, use and storage of plant protection products).

With a view to the implementation of the eco-scheme ‘Aid for the renunciation of plant protection products’, the Ministry will analyse the need for the introduction of a specific module for this eco-scheme, which, if necessary, will then report on a possible future amendment of the NSP.

As regards farm advice on employment conditions and employer obligations and occupational health and safety and social assistance in farming communities, several services are available to the agricultural sector:

- a farm council module covers the elements of cross-compliance which also includes an on-the-spot check component that verifies adherence to the national legislation in force for employees.
- A specific advisory service for occasional and seasonal workers in viticulture, horticulture or agriculture is provided by the responsible State bodies (IVV, ASTA). National regulations provide for occupational health examination, social security cover (compulsory for seasonal workers:

health and pension; accident insurance for casual and seasonal employees).

- The Labour and Mines Inspectorate (ITM) is the body responsible for working conditions encompassing occupational safety and health and provides specific information for the agricultural sector on the applicable social provisions.

Since 2018, continuous training has been organised by the association MBR Lëtzebuerg, together with the Association d'Assurance Accident, on safety at work and the designated worker. Detailed information for the agricultural sector is also available on Accident Insurance websites.

Steps have recently been taken to develop social security software for the agricultural sector.

As part of the **sustainable management of nutrients**, in 2020 MAVDR subsidised 909 nutrient management advice, representing 84 % of the main farms (RES source). The 'smoking plan' advice aims to optimise the farm's organic and mineral smoke on the basis of soil analyses with a view to increasing efficiency and reducing nutrient losses.

The MAVDR is planning to approve the software used by the two organisations responsible for smoking advice, based on the existing one. The API-Fast project, launched in November 2021, aims to make available to all farmers and advisory bodies the agricultural and environmental data linked to sustainable crop management in a simple, open and standardised way. All data will be displayed as standardised REST services via the Gateway API. This will contribute to a significant simplification of the provision of advice and may be adapted to future needs and/or legal provisions.

This approach to ensure sustainable nutrient management will thus support the intervention to be financed by national aid to reduce nitrogen fertilisation.

8.4 Description of how innovation support is provided as referred to in Article 114(a)(ii)

See also Chapter 2 Transversal objective XCO on this subject.

The Innovation Hub will provide an **innovation support service to** assist actors across the food chain in the development and implementation of **bottom-up projects**. A broker innovation will be tasked with monitoring the emerging needs and new ideas of the agricultural sector in terms of innovation. This will be done through the organisation of thematic events and workshops to network and stimulate exchange between the various actors in the AKIS system. Farm innovation will be facilitated through calls for projects for Operational Groups targeting project ideas coming directly from the sector. The integration of the actors in the processing chain into the Operational Groups will speed up the adaptation of producers to consumer demands. In the medium term, European Innovation Partnership projects (or transnational projects such as thematic networks) will open up new avenues for innovative solutions for Operational Groups by involving research and innovation actors (Luxinnovation).

An **Knowledge Hub** will focus through their specialised advisors and innovation facilitators on the development, setting up and running of **thematic networks** with the aim of speeding up information flows between the different national actors in the Farm and Research Council, as well as across borders. The creation of this new funding instrument, 'thematic networks', will provide the ideal framework for stimulating the development of new ideas and objectives so as to change the model of knowledge transfer around specific themes. The advantage of this new approach will be to leave more room for manoeuvre to AKIS actors in planning and implementing activities within a longer time frame and a more flexible administrative framework than EIP projects. A call for projects for the training of thematic networks will be launched at the very beginning of the new funding period. In this context, existing **networks of pilot farms** will be strengthened and expanded in order to stimulate peer-to-peer learning. One of the main priorities of the Knowledge Hub will be the organisation of collaborations with foreign competence centres. This will be done by networking national operational groups with foreign thematic networks, e.g. operational groups of the **European EIP-AGRI network**, or by directly integrating foreign specialists

into national research projects or thematic networks.

The Knowledge Hub will be in charge of maintaining **databases** with all **specialised results, data and advisory tools** from projects funded under the activities of the National AKIS System and the National CAP Network, made publicly available via the AKIS website.

Several innovation-related initiatives have recently emerged at national level whose possible links and synergies will be analysed by the Ministry when implementing the NSP and national actions. The Research and Innovation Smart Specialisation Strategy (RIS3) of the Ministry of the Economy, the National Research and Innovation Strategy of the Ministry of Higher Education and Research and the Luxembourg Strategy of the Ministry of the Economy.

8.5 Digitalisation strategy (Art.114)(b))

Luxembourg has a strong role in promoting digitalisation and the development of IT support. Broadband internet access in rural areas is excellent (92 %) and many initiatives are underway to further develop digitalisation in the agricultural sector.

According to the European Commission, digitalisation in rural areas could, among other things, lead to the adoption of precision farming and modern methods to reduce the use of fertilisers and plant protection products, as well as to increase the use of drones and robots.

Luxembourg supports the digital transition on farms and in the agri-food sector, while developing a technological and institutional infrastructure to produce and exchange data across the board.

It should be noted that developments linked to the digitalisation of the agricultural sector are mostly financed by national financial means by the Ministry of Agriculture.

A distinction will have to be made between the different aspects of digitalisation according to their purpose. Firstly, there is the digitalisation of relations between the administrative authorities and the farmer, with procedures which are well established in Luxembourg and which are widely used by the agricultural sector. The majority of the forms made available to beneficiaries of agricultural aid must be made available in digital format, with the digital declaration of agricultural areas and the wine census on the 'MyGuichet.lu' portal (see details under 7.3.1.1.2) and the livestock census in the SANITEL database. The digital approach thus facilitates rapid payment of aid and provides the basis for monitoring and evaluation which is part of the new PAC. The latter component is currently being defined and implemented together with the State Information Technology Centre.

Then, a more evolving aspect of digitalisation concerns digitalisation on farms. A distinction will be made here between digital tools to manage farm generated data and new technologies that help exploitation develop and/or modernise. Here too, the uptake of the agricultural sector is not lacking and the financial means for technological investments are substantial. National funding from the Ministry of Agriculture has thus enabled the development of a digital application for nutrient and plant protection product management ('CONVIS App') which is under discussion to provide the basis for a single application to be made available to the entire agricultural sector. Such a unique tool would allow for more in-depth analyses of the agricultural sector as well as for evidence-based and comprehensive policies. It is estimated that around 80 % of farms in Luxembourg are already using digital tools for nutrient management on their farms. It is also under discussion to extend the functionalities of the application to the whole agri-food chain by including dairies in particular in order to be able to provide consumers with transparent and comprehensive information, for example on the carbon balance of dairy products marketed in Luxembourg. In the same vein, it is also planned to grant additional investment support to agri-food companies which adhere to such a transparent approach in a sector to reduce CO2 emissions.

At farmlevel, Luxembourg has witnessed rapid development of digitalisation, but there are certain

weaknesses, such as a lack of data networking. Investment media, whether for infrastructure or for machinery, have a strong digital element, e.g. tractors controlled by GPS or turn-robots.

The **digitalisation of establishments** was well advanced in Luxembourg and in the period 2015-2020, 71 projects for this purpose, with a financial envelope of 23 million. Of which the majority of the funds allocated for milking robots and herd management. National investments are used for the modernisation of machinery such as tractors controlled by GPS.

Luxembourg's **national geoportal** is an internet platform for the exchange of geodata, maps and related products, services and information and offers a dedicated thematic map "Agriculture". Thus, important and necessary data and information for farmers and winegrowers are available as well as other services such as animal disease monitoring. Geodata on water, environment, soil or climate allow farmers and winegrowers to be informed of the various factors affecting their land.

Digitalisation in agriculture covers many aspects of business management, herds, crops and also marketing. The digital parcel book and precision farming are two aspects of these applications. In the future, other digital applications will emerge, such as sensors, drones and robots that will network data from agricultural machinery, meteorology, seed databases, soil, plant health application and harvest results. Digitalisation therefore helps to have a holistic view of the farm and requires a robust organisation and regulatory framework to ensure safe use in agriculture.

Improved data management, including processing and monitoring, is crucial for developing relevant evidence-based policies and strategies. In order to achieve this, data from different sources must be put together. A trusted third party approach could enable data from different sources to be collected and hosted in a secure way.

In order to achieve future agriculture, economically viable, socially fair and ecologically viable, better data management will have to be used to adapt current methods to determine more relevant indicators, including at micro- and macroeconomic levels, in order to allow for monitoring and better evaluation of interventions.

An approach to modelling the different parameters, applied in the national territory, could thus provide robust and relevant data sets on the basis of which evidence-based policies can be designed to guide agricultural policy.

An EIP project is planned to start in autumn 2021 **to use** RFID ear tags in pigs from birth to slaughter. The collection and analysis of information on the genetics and rearing of individual pigs will improve breeding methods and the valorisation of products along the production chain.

The objective of the **Mei Weed** project is to optimise grazing by adapting management to the current situation of Luxembourg farms. This will develop tools for grazing systems that are efficient in terms of natural resource use, workload and production costs. At the same time, environmental requirements, animal welfare and societal expectations are taken into account. The project will develop a grass growth model for Luxembourg based on weekly measurements of grass growth in five pilot farms and according to different soil and climate parameters. Thanks to the results achieved, tools for efficient and practical management of pastures can be developed. The tools proposed are directly accessible to all farmers and are used in agricultural extension.

The portal "**equisonline**" is established in accordance with the requirements of the EU equin passport regulation and, depending on the status (horse owner, veterinarian, official body, slaughterhouse, etc.), allows access to certain types of information. The owner may consult its own data and make appropriate notifications such as changes of owner, consultation of pedigree and performance information, and updating basic data such as address.

CONVIS, the Luxembourgish Cooperative for Livestock and Livestock Consultancy established an application "**CONVIS App**" which allows to replace the file of smoke plans on the ground and to give a better overview of the farm. The application, which incorporates the requirements of Luxembourg legislation, allows:

- keeping up to date information on parcels, lists of fertilisers and plant protection products;
- integrated fertilisation planning;
- direct recording of the measures;
- rapid reporting;

- paperless: all data are available digitally;
- a quick and precise interpretation by the agricultural adviser.

In the **MONESCA** project ‘Towards high-resolution surgical follow-up of apoplexia including the ESCA complex’, drones offer new prospects for winegrowing. By aiming to ensure a comprehensive inventory of the ESCA fungal complex in Luxembourg vineyards. New monitoring methods based on high spatial resolution remote sensing analysis will be developed. MONESCA aims to carry out a semi-automatic annual monitoring of the symptoms caused by ESCA. Based on the winegrowers’ experience with ESCA, different management strategies will be implemented and monitored in commercial vineyards as well as in experimental vineyards of the Institute of Wine (IVV).

In the **Bio-VIM** project ‘Pest monitoring and development of environmentally friendly protection strategies in winegrowing’, the monitoring of the most serious pests in viticulture is carried out through classical visual assessments and innovative remote sensing approaches. Disease outbreaks and their evolution are identified and serve as a prerequisite for localised application of modulated pesticides. The results of the project should pave the way for precision techniques in viticulture, where epidemics are treated at an early stage of their development and only in the area where they have settled. The project contributes to the reduction of pesticide use in integrated viticulture and to the risk assessment of pests in organic viticulture.

Greater transparency for consumers of Luxembourg agricultural products is covered by the **law on the approval of a quality or certification system for agricultural products** which is currently being prepared. This law will lay down the minimum requirements for obtaining approval, the conditions for using the approval logo and establish a control system applicable at all stages of production. It is foreseen that the consumer can consult the product specification related to the approval via a QR code affixed to the agricultural product.

Its size offers the advantage of not facing a digital divide between the different regions in Luxembourg. In view of the encouraging results, the approach recommended for the digitalisation of the sector in the previous NSP will continue for the next NRP.

Since 2021, declarations **of agricultural areas and the wine census have been carried out only digitally** via the national portal, Guéx.lu (guichet.public.lu/fr.html), the reference portal for all administrative matters, respectively, for exchanges with the State and with administrations, whether for a private individual, a professional or a business. This digital approach will make administrative procedures simpler, faster and efficient and enable links to other portals or platforms, such as the national geoportal (www.geoportail.lu).

All procedures as well as relevant information on agriculture are available for each citizen on the Landwirtschaftsportal.

Other state initiatives are either already being implemented or under development.

The summary is as follows:

- Decision making database (Datawarehouse) to facilitate interactions between research and the agricultural sector and foster innovation:

- 1.

-

- Link agricultural databases in a Datawarehouse to facilitate the production of statistics and new knowledge for research and to facilitate political decision-making.

- Networking of all production information (origin, emissions, quality) to improve transparency and consumer information (Blockchain)

- Food and consumers:

- 1.

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- Ongoing project aimed at transparency and traceability, including feedback to producers: ‘Monitoring of the food chain’ under the direction of the Ministry of Consumer Protection, which aims to facilitate collaboration between all the agencies concerned (mainly the Ministry of Agriculture and the Ministry of

Health).

- Model of ‘Sentinelle’ prognosis of pests and diseases
- Monitoring by satellites and drones to analyse vegetation, state of maturity, soil condition, diseases, parasites
- 3G, 4G, 5G coverage in rural areas
 1.
 - - As 4G coverage is quite complete, a study is ongoing on the need for 5G coverage.
- Making administrative procedures simpler, faster and efficient
 1.
 - - Declaration of electronic area
 - Electronic Customer File
 - Electronic “Spretzpass” (plant protection products) approach
 - Electronic Ruches approach
 - Electronic animal movement approach
 - Notification of the supply of medicinal products to electronic flocks
 - Multi-functional geographical approach (PPP, fertilisation, etc.)
 - Agriculture and Geoportal.

On-farm **digitalisation** (see also above) will continue to be supported by national support at different levels:

- Internet of things, robotics, sensors, autonomous systems
- Networking of systems (computer, machinery, soil, plants, weather, weather forecasts, humidity, precipitation, seeds, seed optimisation)
- Precision lifting
 - Trayer equipment, milking robots
 - Livestock movement, food and activity sensors
 - Body temperature measurement, heat detection, food systems, calculation of food quantity, health and driving monitoring
 - Performance control to optimise livestock management and health
 - Sensors already provide identity, feed reception, animal status, activity, milk-related data, physiological parameters
 - Automatic sorting of animals via electric necklace, which can be programmed via smartphone
 - Calving detection: podometer, tail position electric sensor, intravaginal thermometer
 - Automation of power supply by automatically programmable smartphone life.
- Precision farming
 - Offline method: soil quality map used for ploughing, sowing, fertilisation and plant protection
 - Online method: Tractor equipped with sensors to analyse vegetation to monitor fertilisation and spraying in real time taking into account soil condition, plant growth, presence of bad grass, nutritional requirements
 - Combination of online and offline methods
 - Identification of data with drones for fertilisation and spraying
 - Spreading of plant protection products by drone.
- Logistics
 - Satellite guidance for agricultural tractors and other GPS-equipped machinery
 - Parallel guidance system for tractors and other machinery

- Determination of yield and ingredients by harvesters
- Optimisation of machinery roads
- Internet exchange platform to communicate and pool machines and labour
- Digitalisation of various documents as an administration and supply document (DAF), documents indicating the use of medicines on the farm.

Reliable information on the current use of the different tools by beneficiaries is not yet available.

As examples of measures aimed at simplification **for users**, it should be noted that the approach advocated by the Ministry is to finance above all additional costs or income foregone by co-financed interventions, whereas pilot projects are generally financed by State aid or other national financial resources. Digitalisation with a view to simplification for users, in this case the farmer, is the subject of a series of EIP projects. The most relevant are the following.

Digital Pilot Farms (<http://www.list.lu/fr/recherche/environnement/projet/digital-pilot-farms/>) aims at precision farming with the establishment of a network of pilot farms for the demonstration, evaluation and implementation of innovative techniques and decision support in the field of plant protection. The research actor thus aims to develop a software-based expert system to reduce the use of herbicides. The information is linked to the different areas linked to the protection of biodiversity (e.g. Natura 2000) and thus the protection of waters so as to enable the farmer to link it with the various programmes (ecological scheme, MFA, etc.) in order to enable him to make the right choices as regards the agricultural activities permitted, e.g. in terms of the use of plant protection products. It is envisaged that in the future these data will be complemented by climate data that can further improve the efficiency of the information for the farmer.

On the same theme of the reduction of plant protection products, ‘Sentinelle’ ,already in^{its} 4th iteration, is a platform for warning and advising on major cryptogamic diseases and large crop pests. Thus, crop protection strategies and technologies are developed and communicated to farmers, teachers and advisors with a view to limiting the use of plant protection products to the minimum required while preserving the yield and quality of the crops produced in Luxembourg.

The draft RFID ear tags for pigs, detailed above, also have a simplification vision for the farmer.

See all innovation projects on the following website: [http:// agriculture.public.lu/de/beihilfen/innovation-forschung.html](http://agriculture.public.lu/de/beihilfen/innovation-forschung.html) (in German only).

Annexes

Annex I on the ex-ante evaluation and the strategic environmental assessment (SEA) referred to in Directive 2001/42/EC

1. Summary of ex-ante evaluation process and results

Ex-ante evaluation of the National Strategic Plan (PAC-post 2020) of the Grand Duchy of Luxembourg for the period 2023-2027

Summary

I. Introduction

The ex-ante evaluation concerns the Luxembourg National Strategic Plan (NSP) for the period 2023-2027 under the Common Agricultural Policy (CAP). The ex-ante evaluation has followed the process of drawing up the Strategic Plan since the SWOT. Its objective is to improve its design. It also incorporates the requirements of the Strategic Environmental Assessment (SEA) which was the subject of a specific report submitted for public consultation on 18 October 2021, the summary of which is set out in Chapter 6 of this report.

With a view to enhancing its coherence, the NSP now covers the whole CAP, both the first and the second pillar. The NSP is structured around the 9 European Specific Objectives (SOs) of the new CAP, as well as a cross-cutting objective related to knowledge transfer and innovation.

The main difficulties encountered relate to delays and uncertainties in the adoption of the CAP Strategic Plans Regulation and Implementing Regulations. The evaluator was forced to carry out his initial analyses on strategy papers that were still very partial and not stabilised. This report is based mainly on the version of 18 October 2021 subject to public consultation and the results and budget quantification files submitted on 6 October 2021. There may therefore be a gap between this version and the latest version of the NRP. Some of the recommendations made may have been taken into account in the latest version of the NWP. .

The report is structured around the analysis of the main steps in the preparation of the NSP and the mission:

- Assessment of needs, including SWOT analysis (see Chapter 2)
- Assessment of the coherence of the intervention strategy (see Chapter 3)
- Assessment of the financial plan, choice of indicators and targets (see Chapter 4)
- Measures to reduce the administrative burden for beneficiaries (see Chapter 5)
- Summary of the Strategic Environmental Assessment (Chapter 6)
- Conclusions and recommendations (Chapter 7)

II. SWOT analysis and needs analysis

The preparation of the NSP is based on a lengthy process initiated from 2019 with stakeholders, starting from an in-depth analysis of the situation in the agricultural sector by the Ministry of Agriculture. The process was based on the organisation of a series of participatory workshops involving stakeholders and civil society representatives around SWOT. These workshops were an important step forward. They made it possible to enrich the substantive work carried out by the MAVDR by highlighting the various points of view. They also generated expectations from participants.

In particular, the workshops highlighted (1) the importance of strengthening the Agricultural Knowledge and Innovation System (AKIS) which underpins agricultural production, its development and

development; (2) adopt a cross-cutting view of the NSP in order to avoid risks of contradiction between objectives or interventions; (3) consider the economic, environmental and generational risks associated with an increasingly specialised and intensive sector, notably in the dairy sector, and (4) adopt a longer-term forward-looking vision to anticipate the transition and seize the opportunities associated with new consumption trends.

The needs have been defined at the level of each of the nine specific objectives (SO) and the cross-cutting objective and have been prioritised at NSP level in line with European requirements. They can generally be considered as Luxembourgish sub-targets for European AOS. They derive and are generally based on the situation analysis and the SWOT analysis as a whole. However, the formulation of some needs is sometimes still quite generic. The links with the summary of the SWOT analysis and what exactly they cover could be more explicit in the description of the SWOT analysis. Some are formulated as a way to achieve an objective^[1], not as an objective or problem to be addressed. The needs do not provide a complete and clear vision of the future and the trajectories expected at the end of the programming period.

It should be stressed that AOS can be highly interdependent. Some needs are common to several AOS. The same intervention may contribute to more than one AOS. It is therefore important to take a cross-cutting view of needs and strategy.

The method for prioritising needs follows an explicit rule and criteria, but does not always make it possible to visualise priority needs at the level of the Strategic Plan. Section 1 – NSP *Strategic Statement* provides an overview of the interventions that will be mobilised without, however, providing a clear vision on the strong policy options, the main expected impacts of the implementation or the overall coherence of the strategy.

III. The response strategy

The NSP intervention strategy 2023-2027 (co-financed measures) is broadly a continuation of the 2014-2020 RDP by integrating first pillar measures and strengthening its environment and climate dimension. The Luxembourg authorities have focused the measures co-financed on the environment, climate and animal welfare, as well as significant financial or stakeholder interventions, namely: income support, investment in buildings, young farmers and LEADER. More than 70 % of the budget focuses on 5 flagship measures (basic income support, payment for areas with natural constraints, investment support, Prime for sustainable and environmentally friendly agriculture, organic farming).

Other complementary measures will also be implemented, but financed exclusively from national resources, covering mainly risk management themes, value chain, quality systems, local development, AKIS (the Agricultural Knowledge and Innovation System) and environmental aspects (in particular biodiversity). This approach stems in particular from the lessons learned from previous periods as regards the complexity of managing and monitoring small measures in financial terms and/or actors.

IV. Coherence of the strategy and causal links

The NSP presents for each specific objective (SO) an intervention strategy clearly identifying the interventions that should contribute to them, generally taking into account the identified needs.

In order to have an overall view of Luxembourg's intervention strategy for the period 2023-2027, it is nevertheless necessary to take into account also the actions carried out by the GDL, without co-financing, in particular those relating to risk management (PO1), competitiveness (PO2), the organisation of the value chain (SO2, 3, 9), local development measures (PO8) and knowledge transfer and innovation (OT10).

The intervention strategies under each AOS justify the mobilisation of each of the interventions linked to it, but do not always provide a perfect understanding of the intervention logic. The expected effects or changes of the implementation of the NSP (beyond the result indicators of the common framework), how

interventions combine in a coherent way to contribute to these effects (including conditionality) and the causal chain from interventions to direct and expected impacts should be clarified. This clear vision of the expected effects of the implementation of the NSP (*“is a success if...”*) is needed for NSP evaluations, be it in descriptive form, complementary indicators or intended trajectory.

In this respect, the result indicators proposed by the EC do not appear to be sufficient. They focus on monitoring the implementation of the NSP (number of beneficiaries, share of area covered, etc.). It remains an intermediate step in moving from these “results” to the expected effects of the implementation of the plan or the contribution of the NSP to the evolution of context/impact indicators. Common indicators do not necessarily cover specific national objectives, needs or challenges.

The ex-ante evaluation highlights a number of interesting developments proposed by the NSP, in particular:

- Increased and valuable efforts to respond to new climate and environmental challenges
- The various interventions and provisions to limit GHG emissions from agriculture and in particular from livestock farming on a voluntary basis, even if there is not yet a quantified target for the share of the NSP contribution to national targets.
- All new coherent measures taken to facilitate the setting up or taking over of farms by new entrants, outside the family context or on atypical projects
- New initiatives and increased support (mainly from national funding) aimed at creating added value and increasing the involvement of producers in the value chain (diversification, processing, marketing, marshalling, etc.) and meeting the needs of Luxembourg consumers and neighbouring markets (PO2, PO3)
- The need to strengthen AKIS.

It also raises a number of points of attention in terms of coherence or intervention strategy, including:

- The issue of overall coherence of the strategy, which remains a central issue
- Opportunities to further improve the NWP in terms of environmental and climate impact, given the high level of ambition of the targets, including the reduction of GHG and ammonia emissions
- Addressing climate change adaptation challenges beyond insurance
- The need to clarify the nature of the investments supported and to take account of lessons learned from previous periods, in particular in terms of income optimisation and GHG impacts
- The objective of maintaining a dense and diversified fabric of family-type farms
- The possibility of promoting organic farming also under the intervention strategies relating to the economic component (PO1, SO2, PO3 and PO7)
- The introduction of a pro-active promotion, animation and coaching approach with a view to implementing and ensuring the success of the proposed new guidelines
- Where relevant, include provisions to ensure that the positive effects of interventions will continue beyond the programming period (sustainability of effects).

The success of intervention strategies will also depend on the Agricultural Knowledge and Innovation System (AKIS), which should be strengthened and play a leading role in achieving the objectives of the NSP through:

- Clarification of the concept of AKIS in Luxembourg
- Increased information flows, in particular between AKIS actors
- Co-construction of knowledge and innovation with farmers/winegrowers at the centre (training of advisors)
- An explanation of the specific knowledge/innovation needs of the AOS and a cross-cutting aspect of the advice to the POs ‘competitiveness income’ and ‘climate and environment’ POs
- Autonomous and independent animation of the knowledge-hub that listens to the needs of the

ground.

V. Evaluation of the financing plan, choice of indicators

At the level of the financing plan, we note that EU funding focuses on three main themes: Support for sustainable and fair income at farm level (38 %), support for environmental and climate interventions (43 %), modernisation of farms (14 %). The distribution of aid between AOS appears broadly consistent with the needs identified, the regulatory requirements and the taking into account of national funding. Climate objectives (methane emissions in particular) and rapid development of organic farming are challenges whose achievement is uncertain and will require sustained attention.

As far as the choice of indicators is concerned, the proposed monitoring system at this stage is based exclusively on the indicators of the new European Performance Monitoring and Evaluation Framework (SEP or PMEF). It should be complemented by specific result indicators to reflect and monitor the main impacts and changes expected by the Luxembourg strategy in relation to its needs and/or inform the causal chain between outputs and impacts, as well as setting targets (outside the performance framework) and/or a description of the expected trajectories.

The values set for each result indicator of the European performance framework are generally realistic, albeit with some reservations and observations made in the report.

VI. Main recommendations of the EES and the EAS

The main recommendations of the EAS are:

- Be more precise/specific in the formulation or description of certain needs and ensure that the description makes an explicit link to the summary of the SWOT analysis
- Be more precise on the expected effects or changes of the implementation of the NSP, how interventions combine to contribute to them
- Develop monitoring beyond European indicators and provide a clear picture of the expected effects of the implementation of the strategy, be it in descriptive form, complementary indicators or intended trajectory, taking into account the interaction between interventions and external factors (including climate). These elements will be necessary for NSP evaluations.
- Complement the monitoring of quantitative indicators with qualitative and analytical monitoring of changes occurring on the ground (farms), with a view to knowing them and understanding their determinants and effects with a view to learning from the various stakeholders and co-constructing the adjustment proposals.
- Continue the discussions on the forward-looking vision for the expected medium and long term future
- Clarify this concept of AKIS and provide for autonomous animation (cell/structure), independent to meet the various needs for strengthening and adapting AKIS identified for TB10.

The EES was the subject of a specific report subject to public consultation on 18 October 2021, the main recommendations of which were:

- a general principle of support for sustainable agricultural practices and extensification,
- more targeting of interventions (at least for certain aspects of the environment), in particular in terms of adaptation to the specific vulnerabilities of the environment and synergies to be developed on a landscape scale;
- a monitoring system focusing in particular on the implementation of new interventions and their impact;
- a holistic advisory system (AKIS) covering environmental interventions, and a series of provisions specific to the various types of interventions.

[1] examples: B5.5 Building a holistic AKIS approach that takes into account the needs of OS5; B6.6

Improving the monitoring, evaluation and control system for biodiversity-related interventions; B6.7 Harmonisation of existing initiatives for the protection of biodiversity. B7.2 Maintaining a system of support and advice for a young person's recovery. (P2); B10.1 Creation of a knowledge hub: Create an interface between researchers, farm advisors and farmers and help improve the quality and efficiency of advice.

2. Recommendations of the ex-ante evaluation and SEA and how they have been addressed

Title / Reference	Category of recommendation	Date	SO1	SO2	SO3	SO4	SO5	SO6	SO7	SO8	SO9	XCO
AKIS	Other	09-12-2021										X
Organic farming	Intervention logic/contribution to objectives	08-12-2021	X	X	X							
Suckler cow coupled Aide	Other	09-12-2021	X									
Targeting of interventions	Other	09-12-2021										X
Consistency between interventions and objectives in discrepancy	Intervention logic/contribution to objectives	08-12-2021	X	X		X	X	X				
Conditionality	Other	09-12-2021										X
Livestock trends	Outputs, results and establishment of milestones and targets	08-12-2021				X						
Agricultural investment	Other	09-12-2021	X									X
Orientation of aid for agricultural investment	Intervention logic/contribution to objectives	09-12-2021	X	X	X							
Specify specific needs	Intervention logic/contribution to objectives	08-12-2021										X
Environmental assessment re-initiations	SEA specific recommendations	09-12-2021										X
Strategic statement	Intervention logic/contribution to objectives	08-12-2021	X	X	X	X	X	X	X	X	X	X
Monitoring of impacts	Other	08-12-2021										X
Diverse fabric of family-type farms	Intervention logic/contribution to objectives	09-12-2021	X									
description of the intervention strategy	Intervention logic/contribution to objectives	08-12-2021										X
investissements	Other	09-12-2021	X									
logic of intervention	Intervention logic/contribution to objectives	08-12-2021	X									X
intervention logic OS1	Intervention logic/contribution to objectives	09-12-2021	X									
maintenance of medium type operations	Intervention logic/contribution to objectives	09-12-2021	X						X			

AKIS - Description

Clarify AKIS concept
Strengthen the flow of information within the AKIS of the GDL
Specify generic needs and link them to specific objectives

AKIS - Justification

The Managing Authority strives to clarify the national aspects of the AKIS concept

Organic farming - Description

Include a reference to support for organic farming in the intervention strategy OS1, SO2, SO3

Organic farming - Justification

The proposal will be considered

Suckler cow coupled Aidde - Description

Refocus the justification for suckler cow aid on persistent low incomes in this sector and the need for extensive aid

Suckler cow coupled Aidde - Justification

Coupled aid for suckler cow is an income support for beef producers. All producers encounter problems apart from those benefiting from a high economy of scale. For this reason, the authorities defined an eligibility ceiling of 1,8 LU per ha and limited the support to a maximum of 150 cows.

Targeting of interventions - Description

Provide for targeting/zoning or modulations according to specific territorial challenges and synergies to be developed on a landscape scale (see details in section 6.5).

Targeting of interventions - Justification

Certain objectives such as combating climate change or protecting natural resources are horizontal objectives and require horizontal measures. The same applies to “economic” objectives. However, it should be noted that more focused actions are needed and planned. Thus, the NSP provides for a specific measure for the protection of drinking water, eligible only in water protection zones. The protection of local breeds of domestic animals is also addressed by a very targeted measure on 3 species of domestical. The protection of biodiversity is mainly provided for by a highly targeted national scheme. Support for sustainable and environmentally-friendly agriculture appears at first sight to be quite horizontal, but there are, however, very specific accents such as the reduction of livestock load, the interest in maintaining it and the creation of structural elements and the maintenance of permanent grassland.

Ecoschemes are targeted at reducing plant protection products and creating structural elements using non-productive strips and areas or shelters.

It should not be forgotten that conditionality, a basic element for all interventions, also provides for well-targeted actions such as: creation of anti-erosion strips, protection of wetlands, and many others

Consistency between interventions and objectives in discrepancy - Description

Ensure overall consistency of interventions with a view to limiting the intensification of practices and the growth of dairy herds. In particular, specify the details of the investment measure in order to prevent public aid from further supporting plans to increase milk production.

Consistency between interventions and objectives in discrepancy - Justification

NSP interventions have been chosen in order to meet identified needs including extensification of farming practices and reduction of bovine livestock

Agricultural investment interventions are limited to an economic size of 5 AWU for the orientation of milk production and suckler cow production or any other orientation category. The NSP may limit support to investments. However, farmers remain free to develop their farms outside the NSP. A definitive

limitation of production will only be possible through building permits.
It should be noted that the NSP clearly provides for a reduction target for bovine livestock.
The NSP must also strike a balance between the objectives set to ensure farmers' income, give perspectives for generational renewal and different environmental needs

Conditionality - Description

Identify the main developments in conditionality compared to the requirements of the current period

Conditionality - Justification

The description of the intervention logic responds to this remark.

Livestock trends - Description

Specify clearly the objectives of the NSP with regard to the development of livestock, particularly dairy farming, which remains a key issue.

Livestock trends - Justification

The Managing Authority is of the opinion that the evolution of the livestock is sufficiently described at several levels of the NSP: Strategic statement (not yet available at the time of evaluation), in the intervention logic linked to Objective 4 and at the level of the intervention target for livestock burden reduction

Agricultural investment - Description

Take into account the lessons learned from previous investment support periods and adapt the advice and AKIS accordingly.

Agricultural investment - Justification

the Managing Authority has planned to take into account the experiences made and to reorganise the mandatory integrated advice for agricultural investments above a certain economic size.

Orientation of aid for agricultural investment - Description

Rebalance towards investments that create economic (downstream) and environmental added values rather than those aimed at intensification and size (milk). Revise the ceiling of 5 AWU in this context.

Orientation of aid for agricultural investment - Justification

Investment aid, including national aid, shall also aim at on-farm processing. The intervention strategy of POs 2 and 3 explains that the creation of added value is clearly targeted by the interventions.
Investment aid is not aimed at intensifying and having a significant effect. It introduces a size limitation to production units of 5 AWU, which corresponds to a farm that can be managed by two families (e.g. father and son with a possible carer). It should be noted that job creation is part of PO8 and the size is not linked to an intensification of production.

Assuming that the reduction in the number of holdings will continue in the future (given the age structure of the agricultural sector), it is not contradictory to foresee a moderate extension of existing holdings while aiming at an overall reduction in national livestock.

Specify specific needs - Description

Specify the specific needs for each of the objectives and how the strategy intends to address them, even if AKIS will be financed on a national basis.

Specify specific needs - Justification

The requirements are specified with a description limited to 500 characters.

Environmental assessment re-initiations - Description

Incorporate the recommendations of the SEA report, submitted on 18 October 2021 (see section 6.5), including a general principle of support for sustainable agricultural practices and extensification, and a series of recommendations specific to various types of interventions.

Environmental assessment re-initiations - Justification

The authorities have analysed the recommendations and are necessary to take them into account at the level of the different measures

Strategic statement - Description

Presented under section 1. *Strategic statement* the cross-cutting vision of the strong policy options and the effects and impacts sought, rather than listing the interventions that will be mobilised.

Strategic statement - Justification

The strategic statement section is now completed

Monitoring of impacts - Description

Beyond the Community result indicators, be more explicit on the main effects, impacts or trajectories sought under each AOS and the causal chain between interventions and impacts.

Monitoring of impacts - Justification

The managing authorities are well aware that the monitoring of the various measures needs to be improved and fine-tuned to the specific needs of the Luxembourg NSP. However, they do not see the need to define additional targets but recognises the importance of verifying trends in the different desired impacts.

The monitoring system will be refined during the preparation and execution of this NSP.

Diverse fabric of family-type farms - Description

Refer to PO2 and PO3 to justify taking into account need B1.3 (Maintain a diverse fabric of family-type farms)

Diverse fabric of family-type farms - Justification

The need “Maintain a diverse fabric of family-type farms” is linked to PO1, the managing authority foresees the link to Objectives 2 and 3.

description of the intervention strategy - Description

Complete the still missing elements on the description of the intervention strategy and the interventions and ensure overall coherence

description of the intervention strategy - Justification

The descriptive part on the intervention logic has been completed in the meantime. Further refinements can be made following negotiations with the European Commission.

investissements - Description

Specify the nature of the investments targeted/eligible under the measure “agricultural investments”

investissements - Justification

There are no plans to make a positive list of eligible investments in order to remain flexible for projects that meet the objectives of the CAP. Diversification should not be limited to a positive list of eligible investments. The agriole investment intervention nevertheless provides for a negative list which corresponds to that proposed by Regulation (EU) 2021/2115.

logic of intervention - Description

The key elements for understanding the intervention logic should be included more explicitly in the sections on intervention strategies

logic of intervention - Justification

The descriptive part on the intervention logic has been completed in the meantime. Further refinements can be made following negotiations with the European Commission and their recommendations

intervention logic OS1 - Description

Reproduce the text in order to provide a summary but complete picture of the intervention logic OS1. The description of the intervention logic presented above by the evaluator can be a useful source of inspiration.

intervention logic OS1 - Justification

The managing authority will rework the formulation of the strategy for the intervention, after receiving formal feedback from the European Commission.

maintenance of medium type operations - Description

Check the overall consistency of the aid with the objective of maintaining a dense and diverse fabric of average family-type farms, including consideration of stricter capping or degressivity

maintenance of medium type operations - Justification

The Luxembourg authorities are of the opinion that consistency between interventions for support for medium-sized family-type farms is ensured, whether at the level of income support, in particular the complementary redistributive income support or at the level of investment aid and at the level of support for young farmers' installations.

3. Ex-ante evaluation report

See attached document(s)

4. Strategic environmental assessment report

See attached document(s)

Annex II on the SWOT analysis

No document attached

Annex III on the consultation of the partners

See attached document(s)

Annex IV on the crop-specific payment for cotton (where relevant)

Annex V on the additional national financing provided within the scope of the CAP Strategic Plan

Basis	Intervention	Budget	higher number of beneficiaries	a higher aid intensity	providing financing to a certain operation within the intervention	Additional information
Law of 2 August 2023 on support for the sustainable development of rural areas, Article 62	ENVCLIM(70) - 2.02.540 Premium for the establishment of sustainable and environmentally-friendly agriculture — Agriculture	3,000,000.00			X	The budget is used to finance the option of renouncing the Glyla over the whole farm.

National financial assistance in the fruits and vegetables sector under Regulation (EU) 2021/2115

	Calendar year 2023	Calendar year 2024	Calendar year 2025	Calendar year 2026	Calendar year 2027	Total 2023-2027
Estimated amount of national financial assistance (in EUR) (Article 53)	0.00	0.00	0.00	0.00	0.00	0.00

The annual estimated amount of national financial assistance in the Fruits & Vegetables sector per region concerned and the total for the Member State

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Annex VI on transitional national aid (where relevant)

a) the annual sector-specific financial envelope for each sector for which transitional national aid is granted

Sector	The sector-specific financial envelope, EUR				
	2023	2024	2025	2026	2027

b) where relevant, the maximum unit rate of support for each year of the period

Sector	Maximum unit rate of support, in %				
	2023	2024	2025	2026	2027

c) where relevant, information as regards the reference period modified in accordance with the Article 147(2) second subparagraph

Sector	informations as regards the reference period modified

d) a brief description of the complementarity of the transitional national aid with CAP Strategic Plan interventions

Other annex: Consistency with and contribution to the Union targets for 2030

National contribution to the EU 2030 target of 50% reduction of nutrient losses, while ensuring no deterioration in soil fertility

Reference is made to section 3 – coherence of the strategy and complementarities. if additional information becomes available, it will be included in this section.

National contribution to the EU 2030 target of 10% of agricultural area under high-diversity landscape features.

This NSP aims to create 9 % of the UAA covered by landscape features.

for further information, reference is made to section 3 – coherence of the strategy and complementarities. if additional information becomes available, it will be included in this section.

National contribution to the EU 2030 target of 25% of the EU's agricultural land under organic farming

Reference is made to section 3 – coherence of the strategy and complementarities. if additional information becomes available, it will be included in this section.

National contribution to the EU 2030 targets of 50% reduction of the overall use and risk of chemical pesticides, and use of more hazardous pesticides

Reference is made to section 3 – coherence of the strategy and complementarities.
if additional information becomes available, it will be included in this section.

National contribution to the EU 2030 target of 50% reduction of sales of antimicrobials for farmed animals and in aquaculture

Reference is made to section 3 – coherence of the strategy and complementarities.
if additional information becomes available, it will be included in this section.

National contribution to the EU 2025 target to roll-out of fast broadband internet in rural areas to achieve the objective of 100% access

Broadband internet coverage in rural areas currently exceeds 90 %. The Present NSP did not provide for a contribution to increase this coverage.

DOCUMENTS

Document title	Document type	Document date	Local reference	Commission reference	Files	Sent date	Sent by
Evaluation environnementale stratégique du plan stratégique national	Annex I: Ex-ante evaluation and Strategic Environmental Assessment (SEA) referred to in Directive 2001/42/EC	30 Aug 2022		Ares(2025)6996024	Evaluation environnementale stratégique du plan stratégique national	29 Aug 2025	Dondelinger, Jeff
Système de contrôle et de sanction – Régimes d’aides soumises au IACS	Annex Chapter 7: Governance and Coordination system	30 Aug 2022		Ares(2025)6996024	Système de contrôle et de sanction – Régimes d’aides soumises au IACS	29 Aug 2025	Dondelinger, Jeff
Cadre général de la justification économique	Other Member State document	4 Oct 2023	-	Ares(2025)6994536	Cadre général de la justification économique	29 Aug 2025	Dondelinger, Jeff
Certificat adéquation des calculs	Other Member State document	4 Oct 2023	-	Ares(2025)6994402	Certificat adéquation des calculs	29 Aug 2025	Dondelinger, Jeff
Compatibilité et cumul des différentes variantes	Other Member State document	4 Oct 2023	-	Ares(2025)6994470	Compatibilité et cumul des différentes variantes	29 Aug 2025	Dondelinger, Jeff
Description succincte de la consultation des partenaires	Annex III: Consultation of the partners	4 Oct 2023		Ares(2025)6996024	Description succincte de la consultation des partenaires	29 Aug 2025	Dondelinger, Jeff
Résumé du PSN	Other Member State document	4 Oct 2023		Ares(2025)6994365	Résumé du PSN	29 Aug 2025	Dondelinger, Jeff
Compte rendu de la cinquième réunion du comité de suivi et de coordination du réseau national de la politique agricole commune (PAC) du Plan stratégique national (PSN) 2023-2027	Annex Chapter 7: Governance and Coordination system	1 Jul 2025		Ares(2025)6996024	Rapport_Comité_Suivi_PSN_19_juin_2025_PROV.pdf	29 Aug 2025	Dondelinger, Jeff
Programme snapshot 2023LU06AFSP001 4.2	Snapshot of data before send	29 Aug 2025		Ares(2025)6996024	Programme snapshot 2023LU06AFSP001 4.2 Programme snapshot 2023LU06AFSP001 4.2	29 Aug 2025	Dondelinger, Jeff