

Cultivar name: SOLARIS

Parents: Merzling x Geisenheim 6493

Breeder: Norbert Becker

Resistance genes:

versus powdery mildew- Ren3, Ren9

versus downy mildew- Rpv3.3, Rpv10

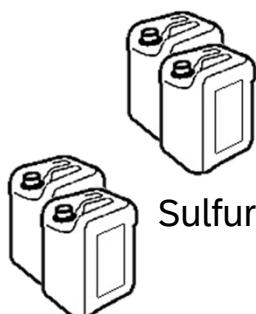
Planting year at the Institut Viti- vinicole: 2016

Powdery mildew and downy mildew are the two most destructive fungal diseases in viticulture. The cultivation of traditional grape varieties therefore requires extensive crop protection measures. Newly bred grape varieties, so-called PIWIs (fungus-resistant, abbreviation of the German term pilzwiderstandsfähig), exhibit greater resistance to the pathogens. As part of the [PIWI³](#) project funded by the Ministry of Agriculture, Food and Viticulture, the PIWI cultivars planted on the experimental plots of the Institute Viti-vinicole are examined in three dimensions: (1) agronomic, (2) economic, and (3) concerning their environmental impact. The well-known traditional varieties Pinot noir (for red varieties) and Rivaner (for white varieties) serve as comparisons.



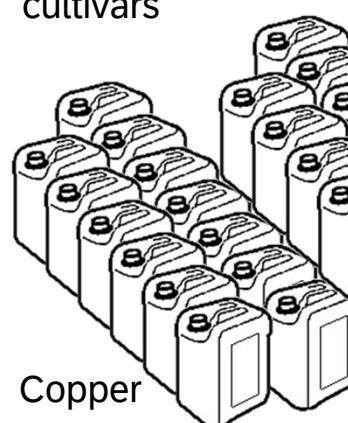
Expenses for crop protection (2023-2025, average)

PIWIs



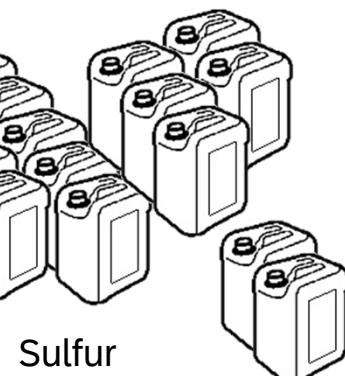
Copper

Traditional
cultivars



Difference \approx 720€ per ha and season

Phosphonate

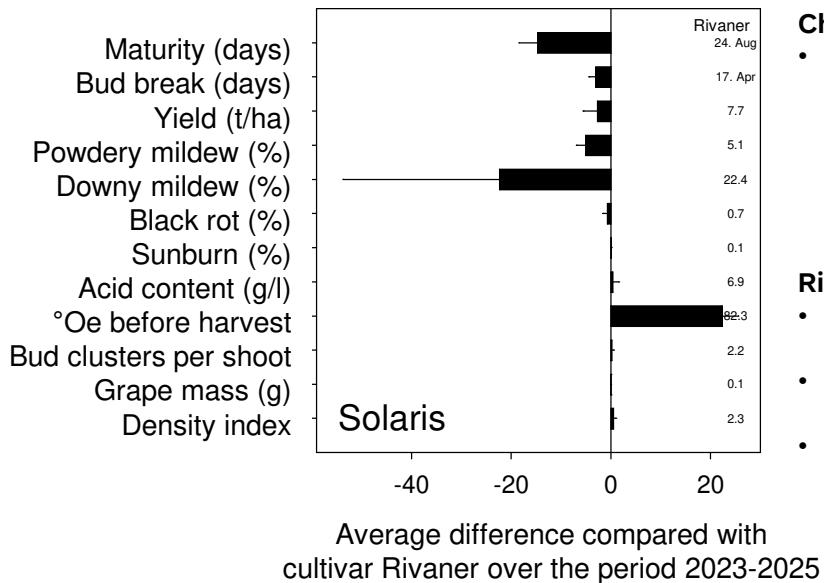


Sulfur

Hydrogen-
carbonate



Agronomic comparison with traditional cultivar Rivaner (2023-25)



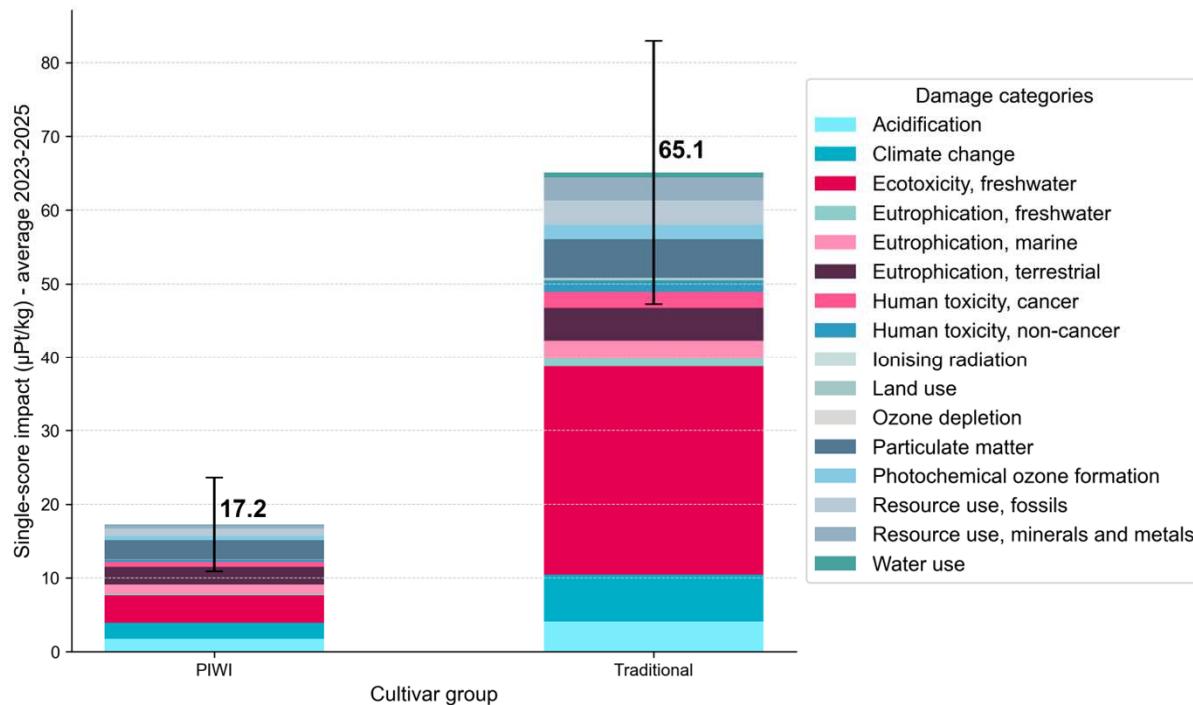
Chances:

- Very low susceptibility towards
 - Downy mildew
 - Powdery mildew and
 - Black rot
- allows significant savings in crop protection

Risks:

- Early budbreak increases risk of losses due to late frost
- Very high sugar contents !
- Early maturity

Environmental impacts (2023-25)



Where can I taste wines made from PIWIs? → info@ivv.public.lu

This fact sheet was compiled within the project "Crop protection requirements, costs, and performance of fungus-resistant (PIWI) grape varieties under the growing conditions of Luxembourg (PIWI³)."³ The project was funded by the Ministry of Agriculture, Food and Viticulture.

