pronutiva®
Crop Protection + BioSolutions

BENEFITS PROVEN IN ITALIAN GRAPE TRIALS

The agrochemistry world is at a turning point.
For several years, there has been a sociopolitical environment that favors pesticide reduction and sustainable agriculture. Most consumers are worried about the presence and impact of pesticides in their daily diet. To address those concerns, food chain stakeholders demand high quality products with residue levels well below the current Maximum Residue Limits (MRLs) -indeed, close to zero.

Reducing residues under authorized MRLs and achieving zero residues where possible, is now central to our agribusiness agenda. The results achieved through ProNutiva® integrated crop health solutions allow farmers to meet food chain and consumer expectations and achieve **Responsible Agroperformance®**.

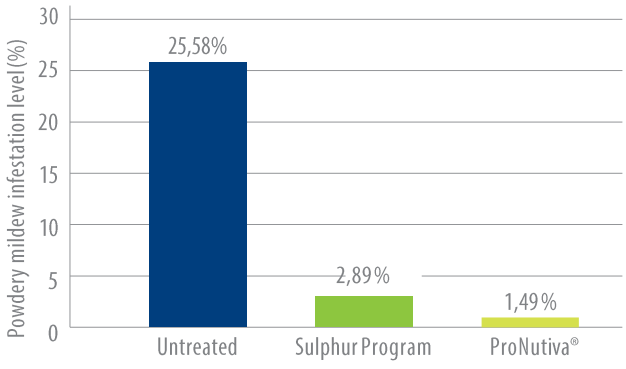
In 2016 and 2017, we established three ProNutiva® grape trials in Piemonte, Italy. The results highlight the very good performance of ProNutiva® in the control of powdery mildew, one of the predominant grape fungal diseases in Europe. Vacciplant, the program's main biosolution product, is composed of Laminarin, a natural ingredient extracted from the brown seaweed Laminaria (*Laminaria Digitata*), which stimulates the plant's natural defenses by acting like a vaccine and leaving no residue.

The critical period of sensitivity to powdery mildew in grapes is the flowering stage, which can be protected by our Spirox fungicide, based on spiroxamine. Vacciplant can then be applied at the end of the season as a substitute for sulfur, which leaves high residues and creates a problem for grapes used in winemaking. To reduce sulfur residues, oenologists typically mix the original must with less-sulfured wine must, or aerate and pour the wine to eliminate the excess hydrogen sulfur. In case of strong sulfur excess, wine makers will mix some copper into the must to chelate the sulfur. All these procedures damage the aroma and taste of the wine.

ProNutiva® offers good protection for grapes while decreasing the amount of sulfur applied at the end of the season, which results in better wine and allowing farmers to produce grapes that meet the standards of the most demanding food chain companies.

In 2018, four new tests on grape will be implemented in Sicilia and Puglia to demonstrate ProNutiva®'s efficiency and low residue results.

INFESTATION LEVEL OF POWDERY MILDEW ON GRAPE BUNCHES* (%)



For the Sulphur program, grapes were sprayed (9-10 times) with 4 l/ha of Tiogel 80 WG (sulphur).
For the ProNutiva® program, grapes were sprayed (3 times) with 1.3 l/ha our Fungicide Spirox at the beginning of the cultural season (flowering stage) and then with 2 l/ha of Vacciplant (6-7 times) until the end of cultural season.

** variety Moscato bianco in Italian in vineyard (Piemonte) in 2016 and 2017.*