Benefits of using ClearUp BIO under Powdery Mildew

Background

In growing seasons with high infection pressure of powdery mildew, the viticultural treatments in the vineyards must be considered by any winemaker. High infection levels and frequent sprays have a tremendous impact on the winemaking process and the overall sensory quality of the resulting wines. Apart from the powdery mildew fungal taint in the wine, the accumulation of sprays and for organic farms the accumulation of molecular sulphur have a further impact on the fermentation kinetics and final sensory.

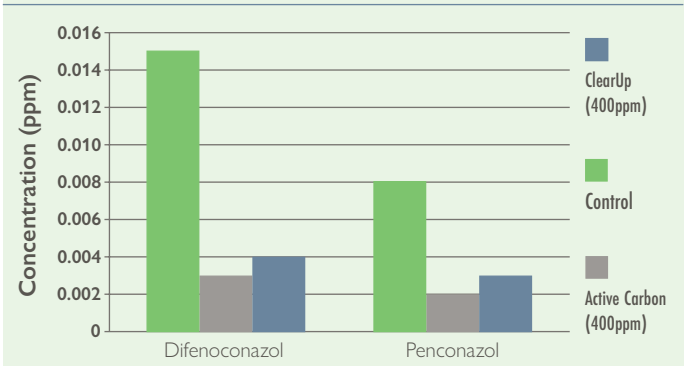
In vintages with high powdery mildew pressure, the plant cultivation measures have priority also during the final stages of grape ripening. After completing regular vine sprays and complying with recommended waiting times, there are limited ways to securely process powdery mildew affected grapes for clean winemaking.

Above a ratio of max. 5% affected grapes, the production of wines without any fungal taint becomes almost impossible. For grapes with lower infection levels (< 3-5%), specific measures are recommended, same as specific measures for any grapes with an accumulation of spray residues. The functional yeast cell wall product **ClearUp BIO** absorbs spray residues and mycotoxins. In contrast to active carbon, **ClearUp BIO** won't affect the native flavour profile of the grape varieties. See Graph 1.

Grape Reception and Processing

If possible, grapes with infection rates higher than 3-5% must be rejected. Depending on the infection level, the decision must be taken whether rosé or red wine preparation is done. At higher levels, rosé wine is preferable. For rosé winemaking, the same measures apply as described below for white wine. Due to the intensive skin contact, the migration of undesired spray residues and mycotoxins is significantly higher in red wine mash fermentation.

Graph 1: Depletion of spray residues for Powdery Mildew, source Kiwalis 2021



White wine processing	Red wine processing
• Fast and cool grape processing	• Fast and cool grape processing
• Preferably whole bunch press, avoiding harsh mechanical action	• Preferably low mechanical treatment, less pump overs or punch downs
• Addition of 50ppm SO_2 to crush	• Addition of 50ppm SO_2 to crush
• Addition of 200ppm **ClearUp BIO** to crush • Gentle and smooth press process with less mechanical action Separation of free run juice	• Addition of 200ppm **ClearUp BIO** to crush • Optional use of 80ppm **ViniTannin™ SR** to mask fungi characters
• Using a strong flavourful yeast, e.g **Esprit, Alba Fria or Vulcano**	• Using a strong flavourful yeast, e.g **Rubino Extra or Vulcano**
• Relatively fast fermentation at 18°C with complete nutrition by 2 x 200ppm **FermControl™**	• Relatively fast fermentation at 18°C with complete nutrition by 2 x 200ppm **FermControl™**
• Optional use of 30ppm of **ViniTannin™ W** to mask fungi characters	• Gently press and 2nd treatment of the wine with 200ppm **ClearUp BIO** at settling
• Addition of 200ppm **ClearUp BIO** at settling or clarification. Juice clarification to 50 NTU	• Racking after 48hr and sensory evaluation of results. If necessary, repeat treatment.

Conclusions

- Under powdery mildew conditions, minimal extraction and low phenolic charge conditions are the objective.
- Good experience exists in the use of **ClearUp BIO** with its natural, adsorbing lipid bonds. The outstanding selective properties with respect to reduction of mycotoxins, plant agent residues and phenolic influences can be mentioned here.
- Additionally, **ClearUp BIO** is an excellent natural alternative to active carbon, without its negative sensory effect on the wines.

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