

ENARTIS NEWS

DEALING WITH *BOTRYTIS*: PROVEN TOOLS TO SAFEGUARD QUALITY

The Challenge

Rain and high humidity across North American vineyards have triggered increased pressure from *Botrytis cinerea* and other molds. Without rapid intervention, these infections can undermine grape integrity and compromise the quality of the resulting wine. Early, fast, and accurate diagnosis is critical to adapt the winemaking process and reduce risk.

Impact of *Botrytis Cinerea* on Grape and Wine Quality

The presence of *Botrytis* leads to major enological concerns:

- **Oxidation risk:** Elevated laccase activity accelerates enzymatic oxidation.
- **Loss of balance:** Reduced sugar, acid, and polyphenols compromise grape maturity and structure.
- **Problematic fermentations:** Higher risk of sluggish or stuck alcoholic fermentation.
- **Microbial spoilage:** Increased levels of undesirable microbes.
- **Wine defects:** Infected grapes can cause multiple issues during vinification and ageing, including:
 - **Moldy or earthy off-flavors** that mask fruit expression and diminish varietal character.
 - **Elevated SO₂ binding**, requiring higher additions while still leaving wines vulnerable to oxidation and microbial spoilage.
 - **Color instability**, as anthocyanins and tannins are degraded or fail to form stable polymeric pigments.



Inspiring innovation.

- **Clarification challenges**, due to polysaccharides and colloids that resist settling and fining.
- **Filtration difficulties**, with clogged filter media, slower flow rates, and higher processing costs.
- **Reduced shelf life and stability**, with premature browning, turbidity, and oxidative notes.

Understanding these risks highlights the importance of timely assessment and decisive winemaking adjustments.

Tools to Reduce *Botrytis* Impact on Quality

The laccase enzyme produced by *Botrytis cinerea* can cause significant oxidation of grape phenolics, leading to color loss, aroma deterioration, and reduced wine stability. Traditional sulfite additions, while helpful, provide only limited control of laccase activity at standard winemaking doses.

Research has shown that specific tannins are more effective at limiting laccase activity. **EnartisTan ANTIBOTRYTIS** is a proven tool to significantly reduce the oxidative effects of *Botrytis* from the early winemaking stages.

For broader protection, and especially for infected machine-harvested fruit, Enartis developed **AST**, a synergistic blend of ascorbic acid, potassium metabisulfite, and gallic tannin. AST not only suppresses laccase activity but also provides antioxidant defense and microbial control, more effectively than SO₂ alone.

The activity of laccase has also been shown to persist after fermentation, late into the ageing process. To further limit oxidative and microbial challenges, **EnartisStab MICRO M** has been shown to reduce laccase activity in both juice and wine, ensuring cleaner fermentations and more stable finished wines.



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How to Adjust the Winemaking Process: Keys Steps

- Hand harvest and sort carefully to eliminate infected clusters in the vineyard.
- Utilize protective tannins such as **EnartisTan ANTIBOTRYTIS** to limit laccase activity or blends such as **AST** in machine harvested and crushed fruit. Using them together will provide even more powerful protection.
- Limit skin contact to reduce extraction of spoilage compounds and off-flavors.
- Remove spoilage microbes while limiting laccase activity with targeted additions of **EnartisStab MICRO M**.
- In white and rosé wines, promote fast clarification to reduce off-flavors and toxins that can alter fermentation.
- Use β -glucanase enzymes, such as **EnartisZym EZFILTER**, to break down glucans that hinder clarification and filtration, improving processing efficiency.

Support and Resources

Enartis offers detailed protocols for managing *Botrytis* in white, rosé, and red winemaking. These are available directly through your Enartis Technical Sales Representative.

The Enartis laboratory is also available to assist with assessing the level of infection in juice or wine, recommending tailored treatment strategies, and for in-house product trials to validate effectiveness.

By combining proven products, practical protocols, and expert support, Enartis provides winemakers with the tools and guidance needed to safeguard wine quality during challenging vintages.

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