

WHITE AND ROSÉ WINES

Compromised Fruit: Botrytis Bunch Rot

VARIETY	TYPE OF WINE
White and Rosé Varieties	Incidence of 5% or more of <i>Botrytis cinerea</i> and associated secondary infections.
CHALLENGES	OBJECTIVE
<ul style="list-style-type: none"> • Oxidation • Off-aromas and flavors • Stuck fermentation • Organic acid depletion • Depletion of SO₂ • Secondary Infection • Filterability • Biogenic amine • Mycotoxins 	Mitigate the detrimental wine matrix alterations from fruit compromised by Botrytis bunch rot.

KEY WINEMAKING STEPS WHEN DEALING WITH BOTRYTIS AFFECTED GRAPES:

1. **Hand harvest** and **sort** contaminated grapes in the vineyard.
2. Use antioxidant and antioxidantase protection to limit browning, color loss and aroma oxidation.
3. Limit skin contact to reduce extraction of off-flavors; whole cluster press and separate out press fractions (the first ten gallons is full of negative fungus metabolites).
4. **Control** any spoilage microbes as early as possible.
5. Utilize **Pectinase** and **Beta-glucanase** enzyme activity to improve clarification and settling
6. Supplement must with amino acids and ammonia to ensure complete healthy fermentation.
7. Select robust, low nutrient requiring yeast.
8. Press early and select yeast with low nitrogen requirements and fast, complete fermentation kinetics.
9. Utilize cellulose (**Celferm**) to remove off-flavors and aromas.
10. Balance wine mouthfeel with mannoproteins and fermentation tannins.
11. Late application of certain fungicides can increase elemental sulfur and metal content (Cu), analyze for metals and use **Claril HM** to remove excess heavy metals.

The above is achieved to the best of our knowledge and experience.
 The industrial application of the advice provided does not imply any responsibility on the part of our company.

WINEMAKING STAGE	OBJECTIVE	ENARTIS RECOMMENDATIONS	DOSAGE
Harvest	Antioxidant	AST: Potassium metabisulfite 50% L-ascorbic acid 30% Gallic tannin 20%. 10 g/hL (0.8 lb/1000 gal) of AST provides around 28 mg/L of SO ₂ and 30 mg/L of ascorbic acid. (At reception)	25 g/ton
Processing and Settling	Antioxidant	EnartisTan Antibotrytis: Gallic, di-gallic, ellagic and condensed tannins.	100-200 g/ton
	Enzyme	EnartisZym EZ Filter: Pectinase and beta-glucanase enzyme for rapid settling and improved filterability.	3 mL/hL
	Juice Fining	Claril SP: Bentonite 50%, PVPP 20%, caseinate 15%, and silica 15%. Remove oxidized compounds and off-flavors.	40 g/hL
	Antimicrobial	EnartisStab Micro M: Pre-activated chitosan from <i>Aspergillus niger</i> with purified yeast hulls. Removes spoilage microbes from the juice.	80 g/ton
Inoculation	Organic nitrogen, yeast survival factors	Nutriferm Energy: Contains amino acids, organic nitrogen, micronutrients, vitamins, mineral salts and survival factors which are immediately available to meet these requirements. <i>Add at inoculum rehydration.</i>	20 g/hL
	Yeast	EnartisFerm ES181: Boosts aromatic complexity and produces high quality white wines.	20 g/hL
Fermentation	Polysaccharides	EnartisPro Bianco: Inactivated yeast with sulfur containing peptides. Improves mouthfeel, promotes varietal aroma.	20-40 g/hL
1/3 Fermentation	Inorganic Nitrogen, Yeast Nutrients	Nutriferm Advance: DAP, inactivated yeast and cellulose.	20-40 g/hL
Malolactic Fermentation	Malolactic Bacteria	EnartisML Silver: <i>Oenococcus oeni</i> that ensures ML fermentation under difficult conditions due to high alcohol and polyphenol content.	Volume dependent
	Nutrients	Nutriferm ML: Amino acids, vitamins, polysaccharides, cellulose and co-factors.	20-30 g/hL
Maturation	Antioxidant Antimicrobial	Winy: Potassium metabisulfite.	0.5 ppm Molecular SO ₂
	Antimicrobial	EnartisStab Micro: Pre-activated chitosan from <i>Aspergillus niger</i> . Removes unwanted spoilage bacteria and yeast from the wine.	10 g/hL
	Antioxidant / antimicrobial	Hideki: Tannin blend which has exceptional antioxidant and antimicrobial properties with less sensory impact.	3 g/hL

For more information about how to treat Botrytis infected grapes and wine, please contact the Enartis Technical line at (707) 838-6312 ext. 2