



RED WINE

# Compromised Fruit: Botrytis Bunch Rot

VARIETY	TYPE OF WINE
Red Varieties	Incidence of 5% or more of <i>Botrytis cinerea</i> and associated secondary infections.
CHALLENGES	OBJECTIVE
<ul style="list-style-type: none"> <li>• Oxidation</li> <li>• Off-aromas and flavors</li> <li>• Stuck fermentation</li> <li>• Organic acid depletion</li> <li>• Depletion of SO<sub>2</sub></li> <li>• Secondary Infection</li> <li>• Filterability</li> <li>• Biogenic amine</li> <li>• Mycotoxins</li> </ul>	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 adequate **antioxidant** and **antioxidase** protection to limit browning, color loss and aromas oxidation
3. **Limit skin contact** to reduce extraction of off-aromas: avoid extended maceration and cold soak, press early and fast fermentation
4. Remove any spoilage microbes as soon as possible
5. Select a resistant, aromatic and dominant yeast strain with low nitrogen needs
6. Proper yeast nutrition strategy:
  - o **Nutrifer Arom Plus** provides essential nutrients for proper yeast development and aromatic precursors at inoculation
  - o **Nutrifer Advance** to help yeast with stress resistance and reduce production of H<sub>2</sub>S at 1/3 sugar depletion
  - o **Nutrifer No Stop** improves yeast cell membrane fluidity, yeast fermentation activity and resistance to stress and ensure a complete fermentation at 1/2 of fermentation.
7. Improve color intensity and stability by promoting condensation and co-pigmentation reactions
8. Balance wine mouthfeel with mannoproteins and fermentation tannins
9. Use **Zym EZ Filter to improve wine filterability**. Wines made from Botrytis affected fruit often have glucans, which can dramatically decrease wine filterability.
10. Use **Hideki** to prevent oxidation and microbial spoilage during aging and pre-bottling

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	ENOLOGICAL PRODUCT	ENARTIS RECOMMENDATIONS	DOSAGE
Harvest/ Vineyard	Antioxidant	<b>Effergran:</b> Effervescent, granulated potassium metabisulfite. 1g of Effergran = 0.40 g of SO <sub>2</sub> .	
		<b>EnartisTan_Antibotrytis:</b> Blend of highly reactive tannins with strong antioxidant and antioxidasic effects. It blocks oxidases and protects polyphenols from oxidation.	50-100 g/ton
	Antimicrobial	<b>EnartisStab Micro M</b> is a preparation of pre-activated chitosan and purified yeast cell walls. Provides wide spectrum antimicrobial protection. Removes unwanted spoilage microorganisms, phenols and off-flavors.	80 g/ton
<i>Limit skin contact: no cold soak, no extended maceration</i>			
Inoculation	Yeast Nutrients	<b>Nutriform Ultra</b> provides essential nutrients for proper yeast development: amino acids, vitamins and mineral salts. Highly soluble and easy to use with direct addition to the must.	40 g/hL
	Yeast	<b>EnartisFerm WS:</b> <i>S.cerevisiae</i> increases varietal aroma expression, promotes a very reliable and robust fermentation.	20 g/hL
	Polysaccharides	<b>EnartisPro Tinto</b> is a blend of yeast cell wall polysaccharides, grape seed tannins and ellagic tannins. Improves mouthfeel, promotes color stability and intensity.	20-40 g/hL
At 1/3 Fermentation	Yeast Nutrients	<b>Nutriform Advance:</b> Inorganic nitrogen, cellulose and yeast cell walls rich in sterols and fatty acids. Helps yeast with stress resistance, detoxifies wine, ensures complete fermentation and reduces production of H <sub>2</sub> S.	30-50 g/hL
At 1/2 Fermentation	Yeast Nutrient	<b>Nutriform No Stop:</b> Yeast cell walls rich in fatty acids and sterols to improve yeast cell membrane fluidity, yeast resistance and fermentation activity.	20-30 g/hL
<i>Recommended analysis: Alcohol, Residual Sugar, pH, TA, Malic Acid, Microscan, Glucan Test Press early and rack from heavy fermentation lees toward the end of the fermentation.</i>			
Malolactic Fermentation	ML Nutrient	<b>Osmobacti:</b> Regulator of osmotic pressure and activator of ML fermentation. Increases survival rate of ML bacteria and adapt to difficult conditions.	2 g/hL
	ML Bacteria	<b>EnartisML Silver:</b> <i>Oenococcus oeni</i> that insures the ML fermentation under difficult conditions due to high alcohol and polyphenol content.	
	Polysaccharides	<b>Surli One:</b> Contributes to protein, tartrate and polyphenols stability. Enhances volumes and aromatic complexity.	10-20 g/hL
<i>Recommended analysis: Alcohol, Residual Sugar, pH, TA, Malic Acid, Microscan, <b>Glucans, Filterability</b> Rack from lees + add 5 g/hL <b>EnartisStab Micro + SO<sub>2</sub></b>.</i>			
Post ML	Antioxidant / Antimicrobial Tannin	<b>Hideki:</b> Blend of Ellagic, 5D-Gallic, and condensed tannins for additional antioxidant and antimicrobial protection of the wine during aging.	4 g/hL
	Filterability Improving enzyme	<b>Zym EZ Filter:</b> A blend of pectinase and beta glucanase activities which dramatically improve filterability of wines resulting from botrytis affected fruit.	2 mL/hL

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