

PROTOCOL NAME **ROT INFECTED FRUIT - RED WINE**

	PROBLEM
	Grapes affected by <i>Botrytis cinerea</i> (noble rot or grey rot) or general fruit rot often harbor unwanted fungal growth. These fungi can produce mycotoxins— toxic compounds that remain stable through winemaking and pose risks to wine quality and safety. The most concerning in wine is Ochratoxin A. Mostly, the primary challenge is oxidative damage driven by laccase enzymes. SOLUTION
	• Fermcontrol Clear UP BIO for detoxification and mycotoxin binding. • Fermcontrol ViniTannin Supreme for anti - oxidant protection and structural reinforcement due to laccase production which oxidizes polyphenols. PROTOCOL OBJECTIVES
	• To reduce impact by laccase enzyme by limiting oxidation through non - sacrificial oxidative buffering. • To adsorb oxidized phenolics and browning substrates, thereby reducing laccase substrate availability. • Reduce microbial load and clean up must from rot-affected grapes. • Minimize fermentation stress and off-character development. • Detoxifying must while enhancing oxidative resistance and rebuilding phenolic structure. TIMING OF APPLICATION
	• Apply at juice/must stage, ideally immediately after crushing rot infected fruit • Early intervention before fermentation offers the highest efficacy.

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PROTOCOL GUIDELINES

- Sort the fruit to the best that you can both in the vineyard and the cellar.
- Avoid excessive crushing / maceration of the berries. Slight berry perforation is ideal.
- Add 60 mg / L SO₂ at crush.
- Avoid cold soaking and where possible, saturate head space with CO₂.
- Dry ice can also be used during processing to limit oxygen uptake.
- The following morning, pre - inoculation, 5 g / hL **ViniTannin Supreme** can be included with a gentle homogenization of the must.
- Depending on the severity of the rot infected grapes, 30 - 50 g / hL **Clear UP BIO** must be included post the grape skin tannin addition.
- Thereafter, inoculate with a **Vitiferm Rubino** at 30 g / hL and ensure the temperature of fermentation is between 25 - 30 C
- Analyze YAN levels as this can be depleted due to the rot infection. If so, increase **FermControl BIO** addition to 3 separate additions.
- While still in the latent, beginning stages of fermentation, visually observe colour extraction and for the presence of colour degradation. At this point, add an extra 5 g / hL **ViniTannin Supreme** and homogenize during pumpover or punch down.
- Separate the fractions and rack of fermentation lees at least 24 hours post pressing.
- At this point, colour must be observed and adjusted if necessary pre MLF with **ViniTannin Multi - Extra**.
- A laccase activity test can be conducted on the wine pre MLF.
- If laccase is still present, a further fining of 25 g / HL **Clear UP BIO** must take place with a contact time of 24 - 48 hours.
- Post the racking, it is advised that the wine is inoculated with a pure culture of *Oenococcus Oeni* such as **MaloBacti AF3** to prevent or reduce further non beneficial bacteria load.

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APPLICATION INSTRUCTIONS

- Dissolve **ViniTannin W** separately and add to the vessel ensuring even distribution.
- Dissolve **Clear UP BIO** in 10x its weight of clean must, juice or water.
- Add slowly to the vessel with continuous mixing or pump over.



EXPECTED OUTCOME

- Reduced bitterness, greenness, and colour destabilizing elements.
- Cleaner, fresher must for fermentation.
- Improved colour and aromatic stability.
- Protection against laccase induced oxidation and enhanced wine longevity.



TECHNICAL NOTES

- SO₂ must only be added at pressing stage at 50 - 60 ppm.
- Waiting 8 - 12 hours allows sulphur to react and bind so that **Clear UP BIO** can perform efficiently.
- Suitable for both wild and inoculated fermentations