

Thermovinification protocol for red grapes altered by *Botrytis cinerea* (I)

Example of a Cabernet Sauvignon in the Popular Premium range (3-5€/bottle)

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This protocol is a recommendation for one of our consulting client. They have applied this protocol for many years obtaining conforming results on their markets. Our good practices are based on experimentation experiences and consulting experiences in many different winemaking and vineyard-management contexts in many different countries.

For this protocol to yield the expected results, the grapes should contain no more than **15-20%** altered berries.



1. Before destemming and crushing

- Adjust the pH at 3,4
- Add 3-4 g/qt of SO₂ with an in-line dosing pump*
- Add 4g/qt of Genzyme Lallzyme EX-V*

* qt=100kg of fresh grapes

2. Destem and crush



Since the 1990's we have shown that a maximum temperature of 67-68°C and a continuous and complete action of enological enzymes is more interesting for the stability of the colour and aromas than heating to 75-85°C without enzymes. The result is finer and the final cost is lower.

3. Thermovinification or thermoflash system (max. 67-68°C) + press + clarification of the must.

Each winery has a different thermo equipment so this step represents all the operations of thermic treatment unique to your system.

Below we start from a thermo must, pressed and cleaned of its heavy lees, ready for alcoholic fermentation.

Working instructions on the alcoholic and malolactic fermentations

4. Always fill the tank in less than 24 hours. While the tank is filling up:

- Add 200 g/hL of French oak chips with toasting medium +. With this toasting, the oak helps in stabilising the colour and in limiting the aromas of earth, fungus and herbaceous. Even if the risks due to the laccase are gone with a well-managed thermo treatment, the negative aromas and flavours can survive the thermo. A non-toasted oak would go against our work objective since it amplifies herbaceous and earthy aromas and gives very drying tannins.

- Add yeast (25 g/hL) well rehydrated with GoFerm Protect (30 g/hL), 30 g/hL Booster Rouge (or OptiRed) and 30g/hL of O'Tropic nutrient to push the fruity-mineral aromas.

- When the tank is full do a remontage to homogenise.

5. 24 hours after the addition of the yeast, inoculate with ML Prime (co-inoculation) directly after its rehydration. Maintain the temperature at 20°C. One agitation of the must per day.

6. Add 6-8 mg/L of oxygen in 2 to 3 times per day.

7. Around density 1060, add 30g/hL of Nutrient Vit Nature.

- Each time you smell sulphur-like or pharmaceutical aromas during A.F., add 1 g/hL Reduleless during an agitation.

8. As soon as the sugars are consumed, check that ML Prime has consumed the malic acid, add 2 g/hL Reduleless, adjust the pH at 3,50 (tartaric acid or wine passed through ion-exchange resins, or both), add 5 g/hL SO₂, mix, Coll down to 10-12°C. Let sediment for 24 hours.

9. Rack, leaving behind the lees that have sedimented during those 24 hours. These lees and the particles of unstable colour imprison a lot of the stable colour. To eliminate this liability is to stabilise the colour.

10. Centrifugate the wine.

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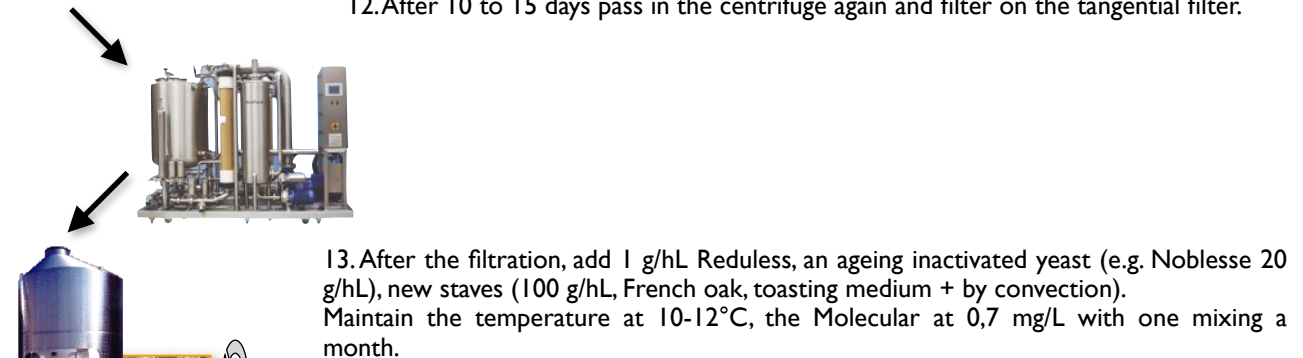
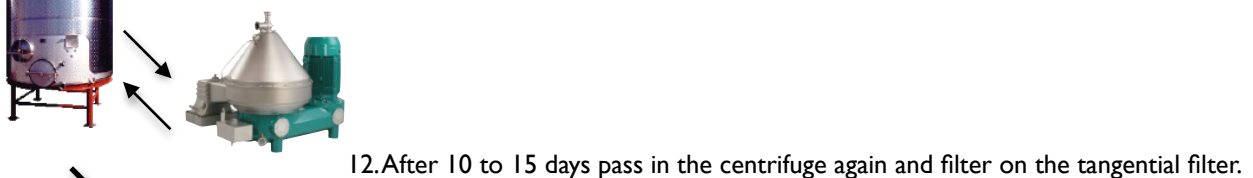
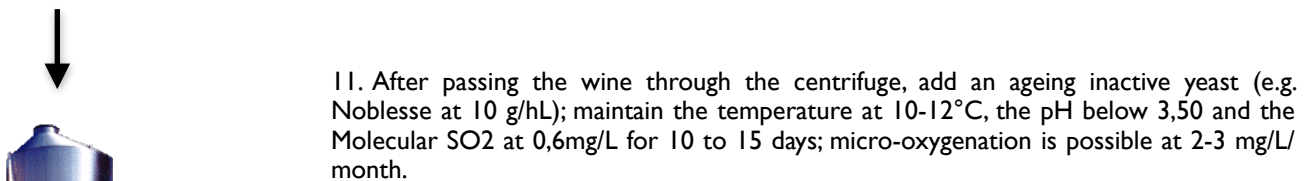
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Example of a Cabernet Sauvignon in the Popular Premium range (3-5€/bottle)

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With the first racking and the centrifugation, it is very important to eliminate very quickly the heavy lees that have formed during the fermentation. New lees are created continuously and they absorb a great amount of colour. This is true even if the must has been cleaned prior to the fermentation.

Before the centrifugation it is also very important to eliminate the vegetal lees with the first racking. Otherwise, the centrifuge can create new and smaller particles with a very negative impact for the aromas and for the stability of the colour.



From this point on the wine can be blended without problem with wines made from same grapes with thermo or classical maceration.

Clearly this protocol has relatively high but necessary input costs that are justified on international markets very demanding regarding the quality of the fruit and the longevity on the of Popular Premium range. (3-5€/bottle). With these altered grapes, the very low industrial costs of the thermo and liquid fermentation allow to make competitive wines when all the details of the action plan are respected.