

Successful Yeast and Malolactic Bacteria Co-inoculation: Red Wine Vinification

► Why?

- Co-inoculating a must with yeast and malolactic bacteria accelerates the onset of malolactic fermentation (MLF) and makes it possible in difficult cases.
- This time savings can be decisive not only for fermenting quick turnover wines, but for limiting the risk of developing *Brettanomyces* and indigenous spoilage bacteria.

Key Points



► ON WHICH MUSTS?

- Musts intended for early release red wines
- Musts with high risk factors: These wines are sensitive to microbial spoilage; the early presence of selected bacteria will reduce the risks of deviation
- Recurring cases of *Brettanomyces* contamination.



- #### ► GOOD MANAGEMENT OF YEAST DEVELOPMENT.
- Yeast protection and complex nutrition must be implemented to avoid stuck alcoholic fermentation (AF) and to promote MLF.



- #### ► THERMAL CONTROL.
- Excessively high fermentation temperatures are detrimental to both yeasts and malolactic bacteria.

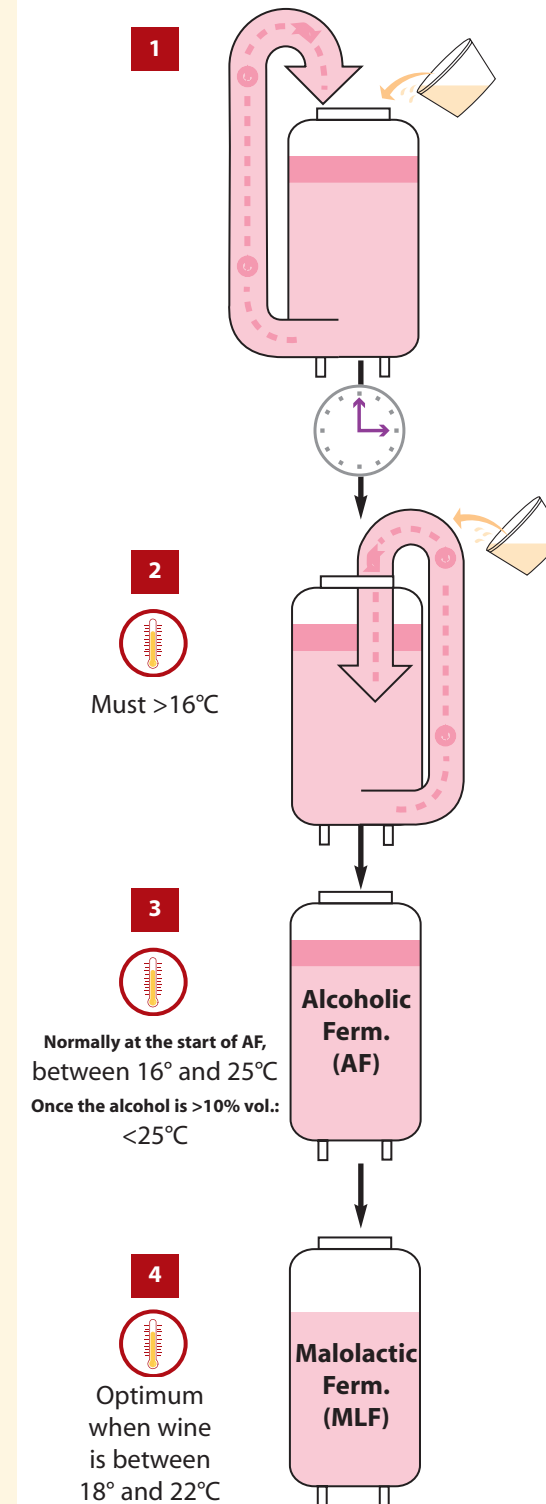


- #### ► AVOID EXCESSIVELY HIGH LEVELS OF POTENTIAL ALCOHOL (>14%).
- Such wines present a greater risk of problematic AF completion.



- #### ► AVOID EXCESSIVE SULPHITING.
- The SO₂ rapidly kills malolactic bacteria. Yeast/malolactic bacteria co-inoculation should not be implemented if the harvest is contaminated.

Co-inoculation for Red Wines



- Selected, rehydrated and protected yeast.*
- Choose a yeast with low nitrogen requirements adapted to the style of wine desired.

<50 ppm of SO₂ added: wait 24 hours
50 to 80 ppm of SO₂ added: wait 48 hours
>80 ppm of SO₂ added: wait 72 hours

- Selected rehydrated MBR malolactic bacteria (1 g/hL of must).
- Choose a strain adapted to the conditions (pH, SO₂ and alcohol) and to the style of wine desired.
- Avoiding excessive air, stir bacteria into must until evenly mixed, based on the SO₂/bacteria addition timing chart above.

- Complex yeast nutrition one third of the way through AF (see the Practical Guide to Vinification No. 3).
- Regular monitoring of temperature, malic acid and volatile acidity.
- Top off tank after AF.

- When MLF finishes during AF, monitor volatile acidity. If there is a 0.1 g/L increase per day, add 20 ppm SO₂ or use lysozyme.
- When MLF finishes after AF, rack and stabilize the wine after MLF.

* For yeast rehydration and protection, please refer to the Practical Guides to Vinification No. 1 and No 2.