Practical Guide to Vinification

No. 4

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.

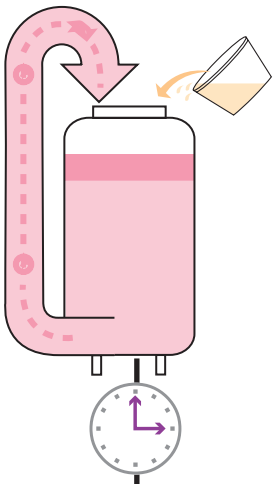
THERMAL CONTROL. Excessively high fermentation temperatures are detrimental to both yeasts and malolactic bacteria.

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

AVOID EXCESSIVE SULPHITING. The SO_2 rapidly kills malolactic bacteria. Yeast/malolactic bacteria co-inoculation should not be implemented if the harvest is contaminated.

Co-inoculation for Red Wines

1

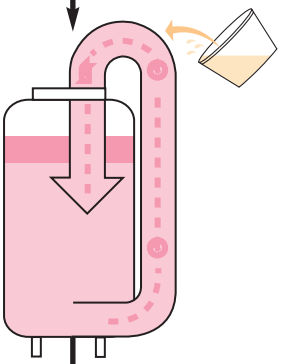


- Selected, rehydrated and protected yeast.*
- Choose a yeast with low nitrogen requirements adapted to the style of wine desired.

<50 ppm of SO_2 added: wait 24 hours
50 to 80 ppm of SO_2 added:: wait 48 hours
>80 ppm of SO_2 added: wait 72 hours

2

Must >16°C



- Selected rehydrated MBR malolactic bacteria (1 g/hL of must).
- Choose a strain adapted to the conditions (pH, SO_2 and alcohol) and to the style of wine desired.
- Avoiding excessive air, stir bacteria into must until evenly mixed, based on the SO_2/bacteria addition timing chart above.

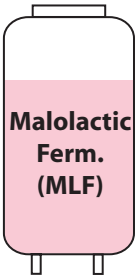
3

Normally at the start of AF,
between 16° and 25°C
Once the alcohol is >10% vol.:
<25°C

- 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.

4

Optimum
when wine
is between
18° and 22°C



- When MLF finishes during AF, monitor volatile acidity. If there is a 0.1 g/L increase per day, add 20 ppm SO_2 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.