

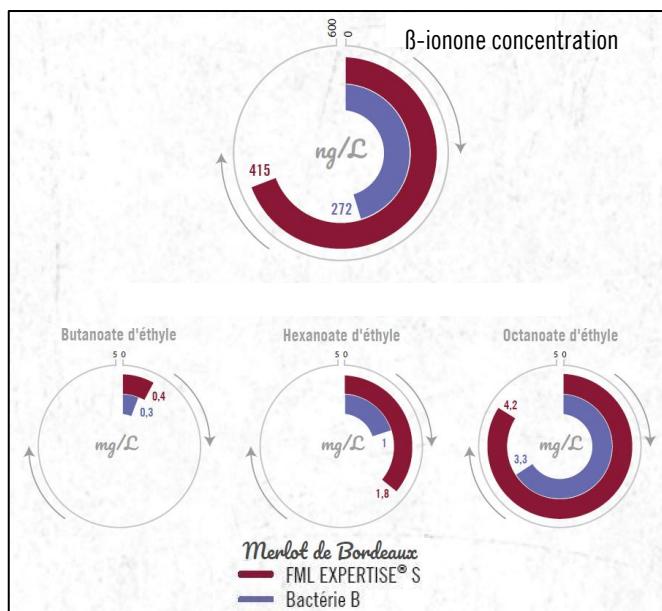
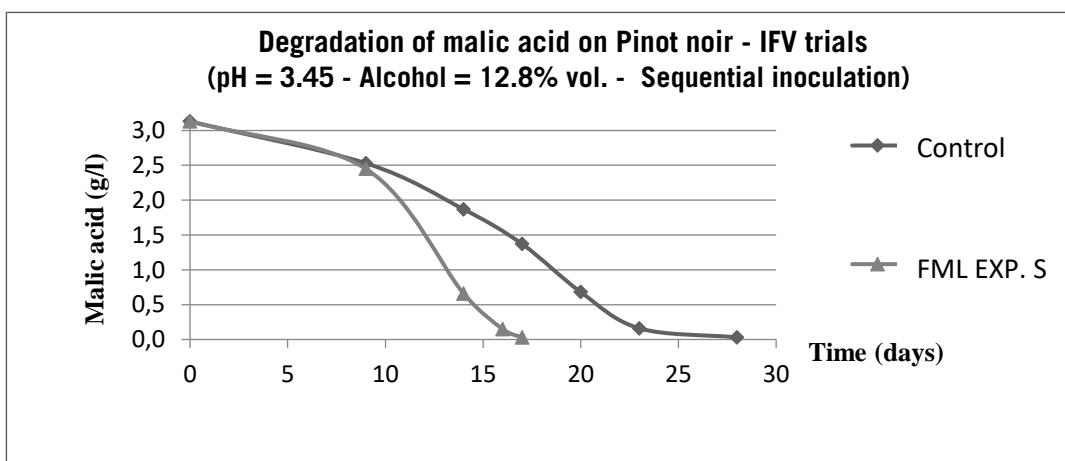
Direct inoculation bacteria *Oenococcus oeni* selected by the Institut Français de la Vigne et du Vin (IFV), unité de Beaune.

The MBR™ form of lactic acid bacteria represents a Lallemand specific process that subjects the lactic acid bacteria cells to various biophysical stresses, making them better able to withstand the rigors of direct addition to wine. The conditioned MBR™ lactic acid bacteria are robust and possess the ability to conduct reliable malolactic fermentation (MLF).



## MICROBIOLOGICAL AND OENOLOGICAL PROPERTIES

- pH tolerance  $\geq 3.3$
- Alcohol tolerance: up to 14.5% vol.
- SO<sub>2</sub> tolerance : up to 50 mg/L (pay attention to molecular SO<sub>2</sub> at low pH)
- Temperature tolerance:  $\geq 14^{\circ}\text{C}$
- Sensory contribution:
  - Production of diacetyl: moderate in sequential inoculation and low in co-inoculation
  - Enhance the « red fruit » expression, without any dominant lactic notes
- No production of biogenic amines
- Bacteria cinnamoyl esterase negative: cannot produce precursors for ethylphenol production by *Brettanomyces*
- Low volatile acidity production
- Suitable for co-inoculation and sequential inoculation



# INSTRUCTION FOR USE



Use one sachet for right quantity of hL indicated on label.

Lowering the dosage or doing cross seeding or pitching methods will reduce the bacteria performance.

## Sequential inoculation (post alcoholic fermentation)

- **Direct inoculation without rehydration:** open the sachet and add the bacteria directly into the tank from the top of the tank and homogenize.
- **OR direct inoculation with rehydration step:** for best distribution, you can rehydrate the packet of freeze-dried selected wine bacteria in 20 times its weight of clean chlorine free water at 20°C for a maximum 15 minutes. Add this suspension directly to the wine towards the end of the alcoholic fermentation.

For these two options:

- Recommended temperature: from 17 to 25°C for red wines - from 18 to 22°C in limiting conditions (high alcohol > 14.5% vol. or low pH < 3.1 or high SO<sub>2</sub> > 45 mg/L).
- Check malolactic fermentation activity (malic acid degradation) every 2 to 4 days.
- Stabilize wine once malolactic fermentation (MLF) is finished.
- In limiting conditions (overclarified wines, low pH, high SO<sub>2</sub> and alcohol level, etc.): rehydrate bacteria with **ATOUT MALO™ NATIVE** (20 g/hL) and before the bacteria inoculation, add **ATOUT MALO™ ROUGE** (20 g/hL).

## Co-inoculation (inoculation of bacteria 24 to 48 hours after addition of yeast)

**1/ Yeast addition:** rehydrate and inoculate the selected dry yeast according to the instructions, preferably in presence of a rehydration nutrient.

**2/ Bacteria inoculation depending on sulphite addition to the grapes:** if sulfite < 5 g/hL, wait for 24 hours; if sulfite = 5 - 8 g/hL, wait for 48 hours.

- **Direct inoculation without rehydration:** open the sachet and add the bacteria directly to the must/wine from the top of the tank or during a pumping-over.
- **OR direct inoculation with rehydration step:** for best distribution, you can rehydrate the packet of freeze-dried selected wine bacteria in 20 times its weight of clean chlorine free water at 20°C for a maximum 15 minutes. Add this suspension directly to the must/wine to be fermented.

For these two options:

- Assure a good distribution.
- Carefully monitor must temperature, which must be below 30°C at lactic acid bacteria inoculation (alcohol < 5% vol) and below 27°C when the level of 10% of alcohol is reached.
- Complex or organic nutrients addition at 1/3<sup>rd</sup> of alcoholic fermentation is recommended.
- Monitor malic acid and volatile acidity. If MLF takes place during alcoholic fermentation and an unusual increase in volatile acidity is observed add lysozyme (150-200 mg/L) or a chitin derivative or SO<sub>2</sub>.
- Stabilize wine once malolactic fermentation is finished.

## PACKAGING AND STORAGE

- Dose for 2.5 hL, 25 hL or 250 hL.
- Store unopened original sealed packaging: 18 months at 4°C or 36 months at -18°C.
- Once opened, use rapidly.
- Sealed packets can be delivered and stored for 3 weeks at ambient temperature (< 25°C) without significant loss of viability.

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