SUITABLE FOR CO-INOCULATION TO ENHANCE FRUIT

Lactic acid bacteria selected from nature

ENOFERM BETA™

Oenoccocus oeni

MBR™ process direct inoculation

MBR™ process direct inoculation

The MBR™ form of lactic acid bacteria represents a Lallemand acclimatization 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 that survive are robust and possess the ability to conduct reliable malolactic fermentation (MLF).

APPLICATION

ENOFERM BETA™, selected by the European Craft Malolactic bacteria selection project, is a vigorous bacteria able to grow quickly and to achieve reliable MLF under most winemaking conditions.

ENOFERM BETA™ is a powerfull starter culture for co-inoculation that increases fruit flavor expression, best suited for :

- Red wines with high tannin structure: to enhance the level of red berry fruit characters, which contribute to red fruit notes and mouth sensations.
- White wines : to preserve and develop the fruity expression.
- Co-inoculation : to preserve the varietal fruit and increases some fruit esters.

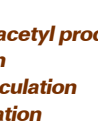
OENOLOGICAL AND MICROBIOLOGICAL PROPERTIES

- **pH tolerance > 3.2**
- **Alcohol tolerance : up to 15 % vol.**
- **SO_2 tolerance : up to 60 mg/L total SO_2 (pay attention to molecular SO_2 at low pH)**
- **T° tolerance : > 14°C**
- **High nutrition demand**
- **Good implantation**
- **MLF Kinetic : Fast**
- **Low volatile acidity production**
- **No production of biogenic amines**
- **Highly recommended for co-inoculation**
- **Bacteria cinnamoyl esterase negative: cannot produce precursors for ethylphenol production by *Brettanomyces***

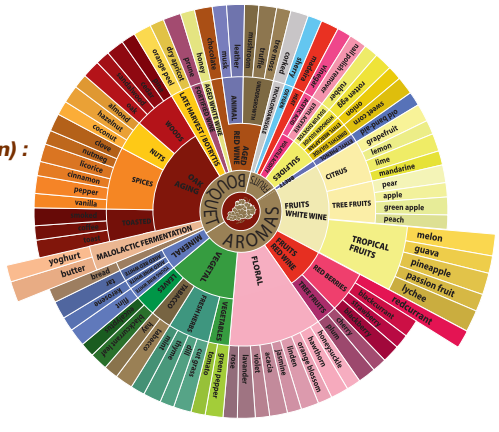
ORGANOLEPTICAL PROPERTIES

Beyond bio-deacidification, ENOFERM BETA™ is a true winemaking agent, which contributes to the sensory complexity and the quality of wine as follows :

Buttery impact (Diacetyl production) :
- ***Moderate to high in Sequential inoculation***
- ***Low in Co-inoculation***



High in butandiol = increase volume and softness



Enhance fruity aromas

This sensory contribution can be further supported by the combination with an appropriate selected yeast strain and timing of ML bacteria inoculation.

LALLEMAND

LALLEMAND OENOLOGY

INSTRUCTIONS FOR USE

SEQUENTIAL INOCULATION (POST-ALCOHOLIC FERMENTATION)

Bacteria inoculation : two options

- **Direct inoculation without rehydration :** Open the sachet and add the bacteria directly into the wine after the end of alcoholic fermentation at the top of the tank or while emptying the tank.
- **Direct inoculation with rehydration step :** For best distribution, you can rehydrate the packet of freeze-dried seleted 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.

- Stir gently to evenly distribute the selected wine bacteria and minimize the oxygen pickup.
- Under more difficult conditions, add a specific bacteria nutrient.
- Check malolactic fermentation activity (malic acid degradation) every 2 to 4 days.
- Stabilize wine once malolactic fermentation (MLF) is finished.

Recommended temperature range :

- White wine / rosé wine : from 16 to 20°C.
- Red wine: from 17 to 25°C.

If limiting conditions (high alcohol > 14.5 vol, or low pH < 3.1, or high SO_2 > 45 ppm) : from 18 to 22°C.

CO-INOCULATION (SIMULTANEOUS ALCOHOLIC FERMENTATION)

1/ Yeast addition

Rehydrate the selected dry yeast according to the instructions. Preferably in presence of a rehydration nutrient and inoculate the must.

2/ Bacteria addition

Depending on the SO_2 addition at crush:

- Sulfitage < 5 g/hL : wait for 24 hours
- Sulfitage 5-8 g/hL : wait for 48 hours

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

- 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 nutrients addition at 1/3rd of alcoholic fermentation is recommended.
- Monitor malic acid and volatile acidity.
- If MLF takes place during AF and an unusual increase in volatile acidity is observed add Lysozyme™ (150-200 mg/L).
- Top the wine after alcoholic fermentation (AF)
- Otherwise rack and stabilize after MLF

PACKAGING AND STORAGE

- Available in different dosages for 2.5 hL (66 US gal.) — for 25 hL (660 US gal.) — for 250 hL (6,600 US gal.)
- Once opened, lactic acid bacteria sachet must be used immediately.
- This product can be stored for 18 months at 4°C/40°F or 36 months at -18°C/0°F in original sealed packaging.
- Sealed packets can be delivered and stored for 3 weeks at ambient temperature (<25°C/77°F) without significant loss of viability.

DISTRIBUTOR

January 2017