

MaloBacti™ PR2

THE STANDARD FOR MALOLACTIC FERMENTATION IN RED AND WHITE WINE

Freeze dried bacteria strain for malolactic fermentation at low pH high alcohol content red and white wine.

The solution for low pH or high alcohol wines and for the production of fruity wines.

PROPERTIES

MaloBacti™ PR2 has an outstanding performance to conduct fast malolactic fermentation in wine with high alcohol content or low pH, and it works equally well in both red and white wines. **MaloBacti™ PR2** is a strain of *Oenococcus oeni* and was isolated from a Pinot Noir wine.

A new adaptation method ensures an optimal adaptation of the MLF starter culture to the conditions the wine.

- Increase of the survival rate of the bacteria at inoculation for a faster malolactic fermentation
- Better adaptation to difficult condition in wine such as low pH or low temperature.

WINE-MAKING CHARACTERISTICS

MaloBacti™ PR2 allows:

- Very high tolerant to high alcohol conditions in wine, up to 16% vol.
- Very tolerant to low conditions, down to pH 3,0, temperature tolerant down to 14° C
- Outstanding fruity flavour profile.

OENOLOGICAL PROPERTIES

- pH tolerant from pH 3,0 to 4,2
- Ethanol tolerant up to 16 % vol.
- SO₂ tolerance at pH 3,3, < 40 ppm.
- Temperature range: 13-26°C.
- For red and white wine

The strain has unique physiological properties for fast and secure malolactic fermentation at high alcohol content and low temperatures and. **MaloBacti™ PR2** is appropriate for red and white wines and shows excellent sensory properties. The wines show a fruit driven varietal character. In addition to that by using **MaloBacti™ PR2** the wines lose their harsh and vegetal character. The high activity and the speed during the malolactic fermentation, inhibits the parallel growth of undesired spontaneous bacteria. This results in a quality assurance for the wines and a gain of time reduction.

PRACTICAL APPLICATION ADVICE:

1. Dissolve the freeze dried product of **MaloBacti™ PR2** for 600GAL in 1 litre and for 6 000GAL in 3 litres in non chlorinated water at 23-28°C. Stir for approx. 5 - 8 minutes until it's fully dissolved.
2. Keep the solution in a warm environment (23-28°C) for 8-12 hours. During the activation stir suspension twice
3. Within 12 hours the pH should drop to 3.8-3.6, the bacteria are completely activated. For an optimal result verify the pH with a pH meter. At inoculation please take care that the bacteria suspension is homogeneously distributed in the tank.
4. It's recommended to inoculate at the end of the primary ferment. **Maintain wine temperature between 13-20°C.**

CONFORMS TO THE INTERNATIONAL OENOLOGICAL CODEX

MaloBacti™ PR2 -Version US 112010

STORAGE

Min 2 years at -18°C, 4 weeks at 4°C

PACKING

Dose for 25 or 250 hL

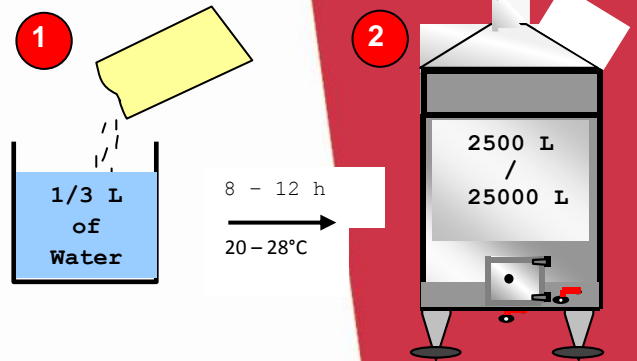


To make a success of the malolactic fermentation it is necessary to maintain the temperature and not to exceed 25°C.

Additional Information

After activation the suspension can be stored at **4-6°C for max. 5 days**. The temperature of the suspension has to be adjusted to the wine in order to avoid a temperature shock. Stir again well before inoculation

For a correct suspension it's important to use exactly **1 litre of water for a 600GAL and 3 litres for a 6 000GAL** pouch of **MaloBacti™ PR2**.



The addition of **PREFERM EC** is recommended, at the beginning of malolactic fermentation with 10 g/hL.

Packet content

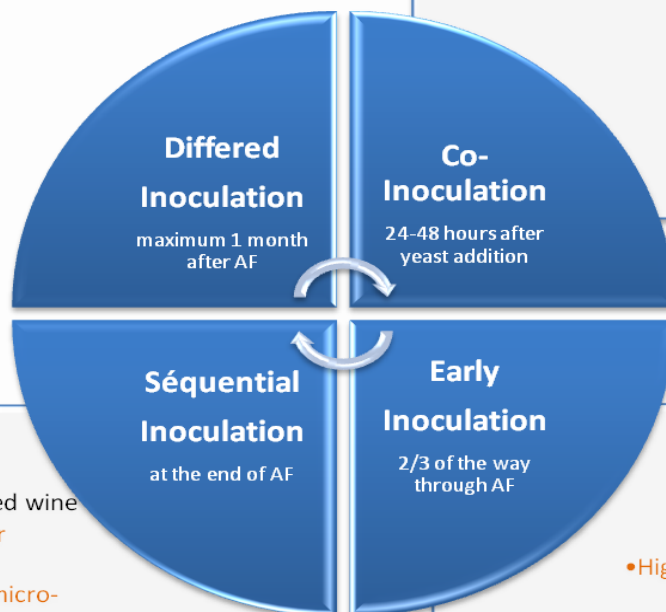
Contains freeze-dried *Oenococcus oeni* with a minimum cell count of $> 1 \times 10^{11}$ CFU/g. DSM 21224

Evaluating the timing of malolactic ferment inoculation:

A large number of parameters are involved in triggering malolactic fermentation (MLF). Choosing the right moment for inoculating one's wine with selected ferments is a factor for successful MLF.

Choosing the right moment for lactic bacteria inoculation enables MLF to be reasoned according to the type of wine one wishes to produce, and also to adapt to technical

- PRODUCT OBJECTIVE
- TECHNICALS CONSTRAINTS



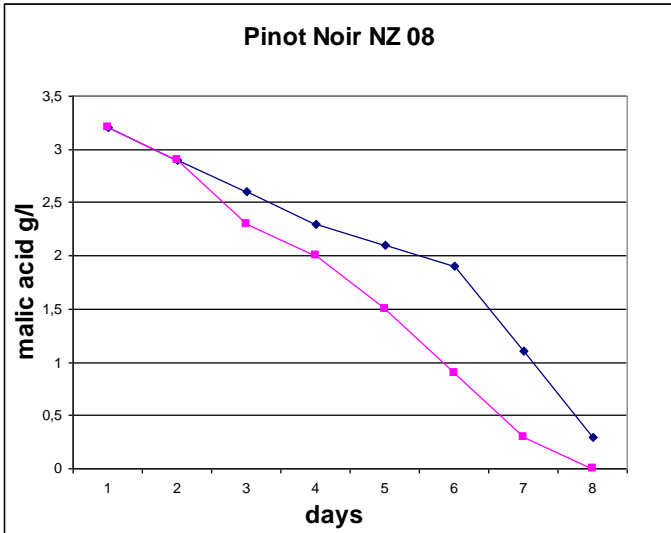
- Primer-type wine
- Varietal fruity white wine
- Fresh fruity red wine
- Short post-fermentation maceration
- Red musts with high pH
- Risk contamination by Brettanomyces

- Complex and structured red wine
- Low colour stability and/or extractability
- Willingness to work with micro-oxygenation

- Mature fruit red wine
- Fleshy white wine
- High-risk alcoholic fermentation
- Bad thermal control
- High potential alcohol degree

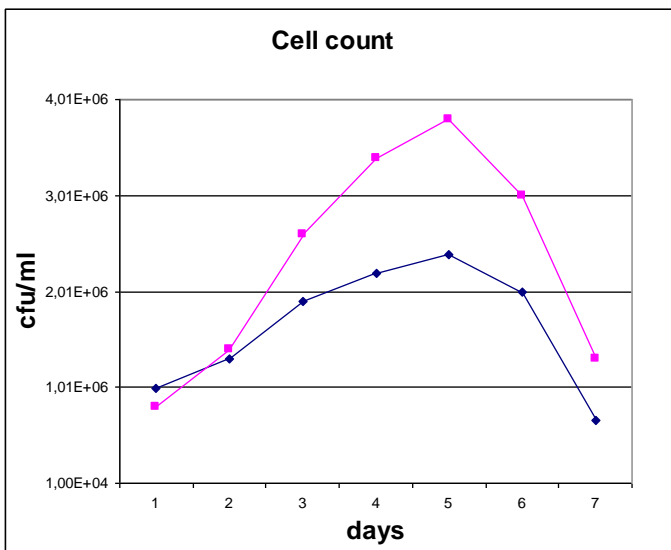
CONFORMS TO THE INTERNATIONAL OENOLOGICAL CODEX

Example: **MaloBacti™ PR2** Pinot Noir 2008
pH: 3,45; 13,8 vol% alc. 16 mg/l total SO₂ , temp.18°C



Graph 1: degradation of malic acid

Two identical wines were divided into separate tanks. One wine was inoculated with **MaloBacti™ PR2** (red curve) by using the new activation media where the other wine was inoculated with the standard activated reference culture (blue curve). The wine with **MaloBacti™ PR2** shows obviously a quicker malic acid reduction, as the activated reference strain.



Graph 2: development of the viable cell count

The graph shows parallel the development of the viable cell count of the two MLF strains. This graph shows obviously the higher activity and the faster growing of **MaloBacti™ PR2** with the new adaptation media in comparison to the standard activated reference strain.

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