

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!

MaloBacti™ HF2 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™ HF2 is a strain of *Oenococcus oeni* and was isolated from a Pinot Noir wine.

- **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.**

New A³ process !

The new A³ process accommodates an increased number of active cells in combination with a so far unreached fast activation and perfected adaption of the bacteria for the inoculation in wine or must.

- **For fruity red and white wines. No more diacetyl flavour and no more volatile acids!**
- **Increase of the survival rate of the bacteria at inoculation.**
- **Ideal adaptation to difficult conditions in wine already in 8-12 hours!**

Oenological properties

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

Practical application advice

1. Dissolve the freeze dried product of **MaloBacti™ HF2** for **25hl in 1 litre** or for **250hl in 10 litres** none chlorinated water at **23-28°C**. Stir for approx. **5-8 min.** until it's fully dissolved. After **8 hours stir well again** to avoid CO₂ production.
2. Inoculation of wine after **min. 8 to max. 12** hours, keeping the solution at **23-28°C**.
3. By reaching a pH of **3,8** the bacteria are **completely activated**. For an optimal result an inoculation between pH **3,6** and **3,7** is required, verify with a pH meter if necessary.
4. Inoculation at the end of the primary fermentation is required (10-20g residual sugar). **MaloBacti™ HF2** is also well suitable for a simultaneous inoculation, e.g. at low pH.

Shelf life

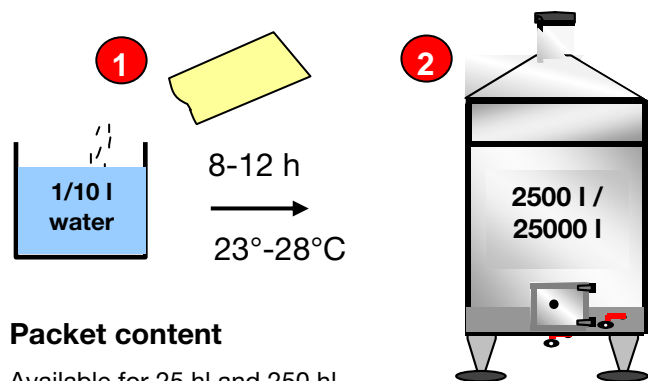
2 years at min. -18°C, 4 weeks at 4°C

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 25 hl and 10 litres for a 250 hl** pouch of **MaloBacti™ HF2**. The addition of SO₂ can be done right after the completion of the MLF in order to avoid the growth of other undesired microorganisms.

The addition of **Thiamine (Vit.B1)** or **FermControl™** to the primary fermentation is recommended to lower the SO₂ formation of yeast.

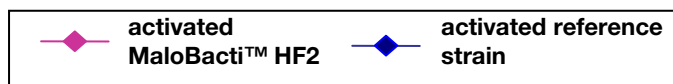


Packet content

Available for 25 hl and 250 hl wine or must. Freeze-dried MLF starter cultures *Oenococcus oeni* with a minimum cell count of > 2 x 10¹¹ CFU/g. Strain: 21224.

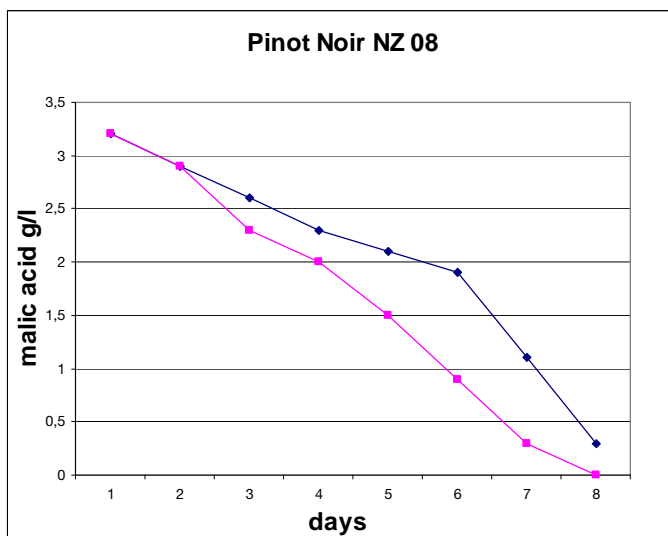
The Background of MaloBacti™ HF2

MaloBacti™ HF2 was isolated from a Pinot Noir with 15,4 vol% of alcohol. The strain has unique physiological properties for fast and secure malolactic fermentation at high alcohol content and low temperatures and. MaloBacti™ HF2 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™ HF2 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.



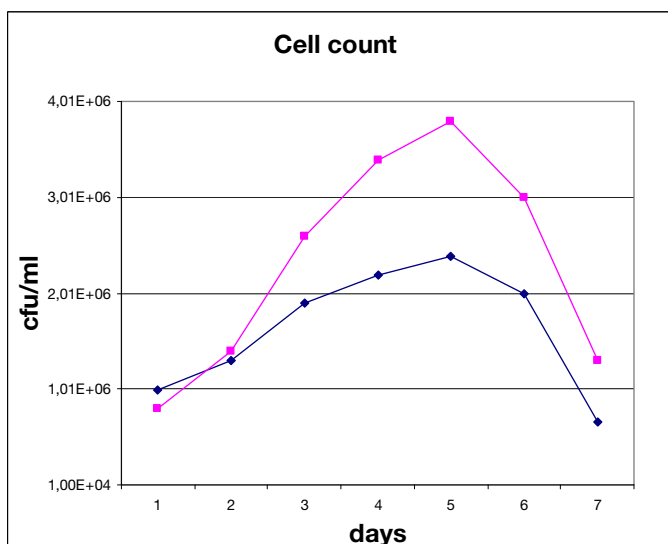
Example: MaloBacti™ HF2

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



Graphic 1:
degradation of malic acid

Two identical wines were divided into separate tanks. One wine was inoculated with MaloBacti™ HF2 (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™ HF2 shows obviously a quicker malic acid reduction, as the activated reference strain.



Graphic 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™ HF2 with the new adaptation media in comparison to the standard activated reference strain.