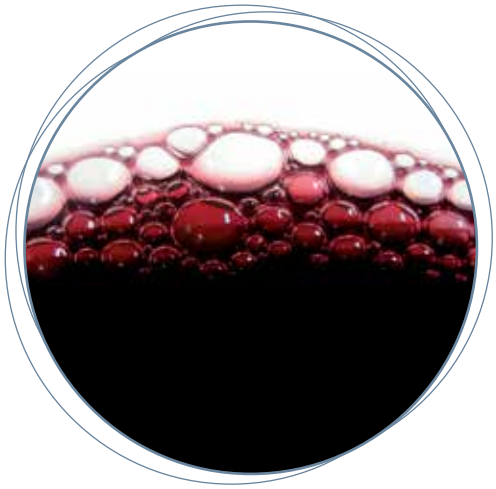


MaloBacti HF2 Direct Inoculation

Freeze dried bacteria strain for low pH and high alcohol for MLF in red and white wine

The Solution for Low pH or High Alcohol. MaloBacti HF2 Direct Inoculation 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.

MaloBacti HF2 DI was isolated from a Pinot Noir with 15.4%vol. of alcohol. Among all commercially available MLF starter cultures, MaloBacti HF2 DI is the one with the lowest ß-glucosidases activity. Therefore, it is very suitable for colour sensitive red wines but also white wines, and shows excellent sensory properties. The wines lose their harsh and vegetal character without any additional flavour modification.

MLF strain	ß-glucosidase (nmoles 4 MU /min/g biomass	ß-glucosidase (nmoles 4 MU min/g proteine
MaloBacti HF2 DI	15.3	60
Competitive 1	16.3	66.6
Competitive 2	22.3	81
Competitive 3	25.2	94.1

Table 1: Comparison of the ß-glucosidaseactivity of 4 different *O.oeni* Strains and 4-methylumbelliferyl ß-glucopyranoside (4 MU ß-G) University of Tarragona 2002

MaloBacti HF2 DI is therefore a perfect partner for the MLF in Pinot Noir, Sangiovese, Tempranillo and all aromatic white wines, including sparkling base wine.

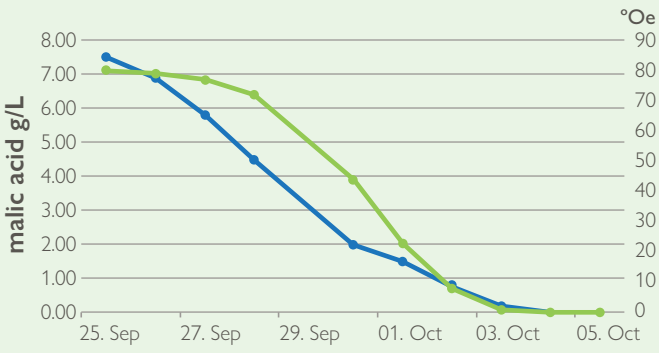
Technical Advice

- Perfectly suitable for simultaneous and sequential inoculation.
  - » Simultaneous: 24-48hrs after yeasting, up to max. pH 3.5.
  - » If the pH is >3.5, sequential inoculation is recommended.
  - » Late simultaneous: at 8-9° Brix.
- Recommended wine temperature 18-20°C.
- For excellent sensory properties and accentuation of varietal characters
- Take out the bacteria package out of the freezer 30 min. before use
- Add directly into the tank. Mix it without oxygen intake (as far as possible)
- Keep temperature around 18-20°C while entire MLF in difficult conditions (slow fermentation, high total SO_2, low nutrient content, high alc.) and use MaloControl BIO additionally

The example shown here in Graph 1 is a Crémant base wine was inoculated at the end of the fermentation to use the residual temperature. The wine with MaloBacti HF2 DI shows a very quick malic acid depletion in between 8 days. Therefore MaloBacti HF2 DI is a perfect fit for all simultaneous, meaning co-inoculations.

- Tolerant to high alcohol conditions, up to 16% Vol. Alc.
- Very tolerant to low conditions, down to pH 3.0.
- Temperature tolerant down to 13°C.
- Colour protective by lowest ß-glucosidases activity (see table 1).
- Outstanding fruity flavour profile, highlighting the varietal characters.
- Low active flavour impact by limited release of primary characters.

GRAPH 1: Alchol & MLF Co-Fermentation



Graph 1: simultaneous MLF in 2021 Crémant base wines. MLF finished parallelly to the primary fermentation.

Properties

- pH range from 3.0 to 4.2.
- Ethanol tolerant to 16 % vol. alc.
- SO_2 tolerance at pH 3.3 ≤ 40ppm.

Package Content

Freeze-dried MLF starter cultures; *Oenococcus oeni* with a minimum cell count of > 2 x 10^{11} CFU/g. DSZM 21224. Min 2 years at -18°C, 4 weeks at +5°C, 5 days at 4 - 6°C. Always use the whole package at once.

Kauri Winemaking Innovation

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