



Pinnacle™ MLF Extreme

product information

Type:

Pinnacle™ MLF Extreme is an *Oenococcus oeni* strain that was isolated in an extensive AWRI screening project for novel bacteria under stressful malolactic fermentation conditions. **Pinnacle™ MLF Extreme** was selected for its ability to tolerate low pH conditions and low temperature environments. **Pinnacle™ MLF Extreme** also produces clean fruit aromas with hints of spice and vanilla.

Characteristics:

Pinnacle™ MLF Extreme is a very concentrated, high cell count bacteria suited to malolactic fermentation in difficult conditions, especially low pH conditions. **Pinnacle™ MLF Extreme** is also suitable to use when cellars are starting to get colder. **Pinnacle™ MLF Extreme** is fast, SO₂ resistant and does not produce biogenic amines.

Application:

- **Pinnacle™ MLF Extreme** covers a wide spectrum of wine applications: from low pH white wines (pH~3.0) to low temperatures (~-15°C/59°F) ideal for cool climate wines and/or during early onset of winter.
- It produces clean fruit notes with hints of spice and vanilla.
- **Pinnacle™ MLF Extreme** is suitable for sequential or co-inoculation.

Formulation:

Pure concentrated active freeze-dried culture of *Oenococcus oeni*, maltodextrin as carrier.

Instructions for use:

Open the sachet, add directly to the wine, and mix gently without any oxygen. For more difficult wines (low pH, high alcohol), rehydration with non-chlorinated water is recommended to keep the maximum viability/vitality. To do this, dilute 1:10 for 15 min at room temperature. However, if non-chlorinated water is not available then direct pitch is recommended.

Dosage:

1 g/hL
This will bring a quantity of microorganisms sufficient to complete malolactic fermentation in all wines (even the most difficult) in a short time.

Storage conditions:

-18°C (-0.4°F).

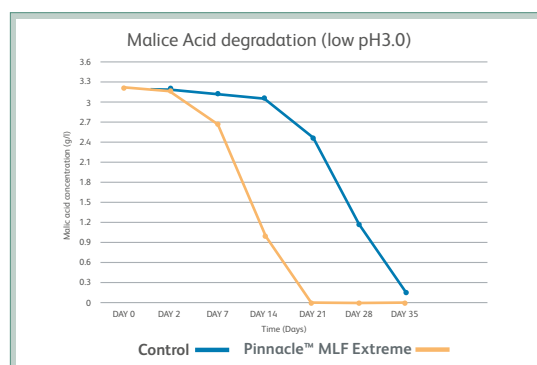
Shelf life:

Three years from date of manufacture when stored at -18°C (-0.4°F).

18 months from date of manufacture when stored at 4°C (39°F).

Packaging:

25g and 250g laminate sachets



Malic Acid Degradation Experiment Details:

Both the control and the **Pinnacle™ MLF Extreme** used sequential inoculation in a wine with low pH of 3.0. **Pinnacle™ MLF Extreme** completed the malolactic fermentation in 21 days while the control was only able to finish the malolactic fermentation in 35 days.

Pinnacle™ MLF Extreme

product information

CHARACTERISTICS	
Minimum - maximum temperature range	15-27°C (59-81°F)
pH tolerance	≥ 3.0
Maximum free SO ₂ resistance (mg/L)	< 18
Maximum total SO ₂ resistance (mg/L)	< 50
Alcohol resistance (%v/v)	≤ 14.5%
Fermentation rate (malic-to-lactic conversion speed)	Moderate
Fruity notes	Moderate red berries with good palate weight
Diacetyl notes	Using co-inoculation - Low; using sequential inoculation - Medium to High
Volatile acidity	Very Low
Biogenic Amines production	No
MICROBIOLOGICAL ANALYTICS	
Viable bacteria cells:	> 10 ¹¹ cells/g
Yeast:	< 10 ³ CFU/g
Moulds:	< 10 ³ CFU/g
Acetic acid bacteria:	< 10 ³ CFU/g
E. coli:	Absent in 1g
Salmonella:	Absent in 25g
Lead:	< 2 mg/Kg d.m
Mercury:	< 1 mg/Kg d.m
Arsenic:	< 3 mg/Kg d.m
Cadmium:	< 1 mg/Kg d.m

Physical properties: Colour: beige/cream. Form: fine powder. Solubility: water soluble.

Scientific background:

Malolactic fermentations are complete when a malic acid result of 'not detected' appears, which is usually < 0.05g/L by enzymatic analysis. However, a result of 0.1 g/L or less is low enough for the malolactic fermentation to be considered virtually complete and to minimise the risk of spoilage.

Product approved for oenological use, in accordance with the regulation (EC) n° 606/2009 and OIV codex.

The information presented is based on our research and commercial testing and provides a general assessment of product performance. Nothing contained herein is representative of a warranty or guarantee for which the manufacturer can be held legally responsible.

© 2024 AB MAURI / Date: November 2024 / www.pinnaclewineingredients.com