NEW CONCEPT HIGH VITALITY

ML Prime™

PATENTED

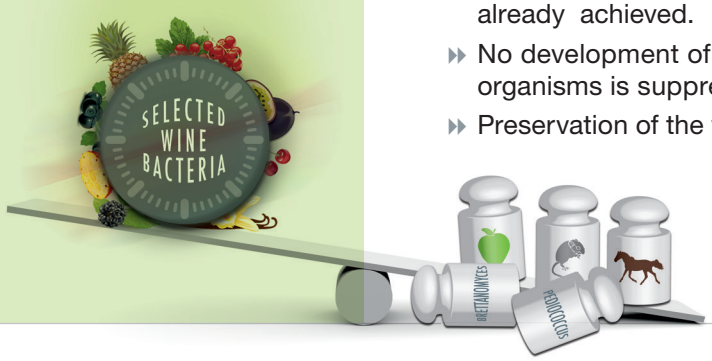
Lactobacillus Plantarum
for co-inoculation
Red wines with pH ≥ 3.4

Apply the Bio-control

- *to reduce the risk of VA increase*
- *to preserve your wine quality*

4 PRIME reasons to use ML Prime™

1. Implement a very active starter culture against indigenous and undesirable bacteria contamination.
2. Complete MLF during the AF without any risk of volatile actidity production.
3. Very early stabilization of wine to stop the risk of contamination by spoilage microorganisms.
4. Stop the risk of «off-flavors» and volatile acidity production by indigenous flora contamination.



APPLICATION

micro-organisms

ML Prime™ is a new concept of freeze-dried starter culture with a powerful *Lactobacillus plantarum* with very high malolactic activity and no risk of volatile acidity (VA) production.

ML Prime™ is produced with an optimized process that allows a very high activity of the bacteria as soon as they are added into the fermenting must. Its high malolactic enzyme activity strongly shortens the lag phase and allows a quick degradation of the malic acid up to 3 g/L.

ML Prime™ is the perfect tool for winemakers for red vinification with low natural acidity and pH ≥ 3.4.

ML Prime™ is able to achieve a very fast malolactic fermentation before the growth of indigenous bacteria, often responsible for the VA increase or other wine defects in high pH conditions.

ML Prime™ is a *Lactobacillus plantarum* wine bacteria selected by Università Cattolica del Sacro Cuore - Piacenza Campus in Italy, with interesting microbiological and oenological properties for high pH red wines.

Properly used in co-inoculation respecting its window of application, ML Prime™ is perfectly suited to conduct MLF in the classical red winemaking process (short and medium maceration or vinification in the liquid phase).
Addition of press wine with residual malic acid into the same tank previously inoculated with ML prime is not recommended.

BENEFITS

- Properly used in co-inoculation, ML Prime™ guarantees:
  - Very quick comsumption of malic acid (between 3 and 10 days depending on grapes and musts matrix).
  - No risk of production of volatile acidity due its facultative heterofermentative metabolism (does not produce acetic acid out of glucose and fructose)
  - Very early stabilization of wines after alcoholic fermentation because MLF is already achieved.
  - No development of wine defaults because growth of indigenous spoilage micro-organisms is suppressed.
  - Preservation of the wine quality.

LALLEMAND
LALLEMAND OENOLOGY

PATENTED

Patent application EP1631657

Alcohol-tolerant malolactic strains for the maturation of wines with average or high pH.

OENOLOGICAL AND MICROBIOLOGICAL PROPERTIES

- To be used only in co-inoculation in the fermenting mash/must 24 hours after yeast addition)
- pH: ≥ 3.4
- Malic acid content: ≤ 3 g/L
- Temperature range tolerance: from 20°C/68°F to 26°C/80°F
- Potential alcohol content: up to 15.5 % v/v (equivalent to 260 g/L of sugar content into the must)
- Total SO_2 tolerance max: 5 g/hL (total addition at crush before addition of ML Prime™)
- Very short lag phase and very fast MLF kinetics
- No volatile acidity production: does not produce acetic acid from glucose and fructose (facultative hetero-fermentative strain)
- No production of biogenic amines
- Bacteria cinnamoyl esterase negative: cannot produce precursors for ethylphenol production by *Brettanomyces*
- Very late degradation of citric acid: very low to no diacetyl production
- Good impact on the colour intensity of wine

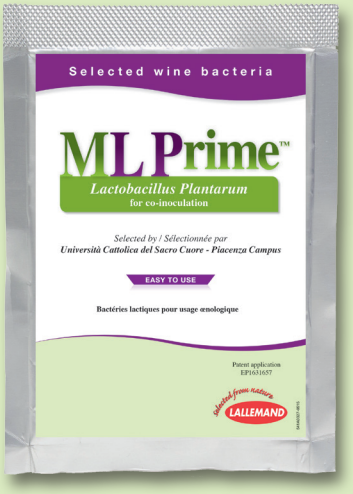
Being applied in co-inoculation, ML Prime™ contributes to produce red wines with good structure and positive spicy notes.

INSTRUCTIONS FOR USE

EXCLUSIVELY IN CO-INOCULATION

ML Prime™ behaves very different from *Oenococcus oeni*:

- it does not have the capacity to grow (multiply in wine)
- respect the right dose rate : 250g per 25 Hl or 1kg per 100Hl to assure a successful MLF.
- respect the window of applications according to its oenological properties described above.



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

SO_2 addition at crush up to 5 g/hL (< 50ppm SO_2 added): wait for 24 hours after yeast addition before adding bacteria. Avoid SO_2 addition > 5 g/hL

- Open the sachet of wine bacteria:
  - Either add it directly into the must at temperature between 20°C/68°F and 26°C/80°F.
  - Or for better distribution, quickly rehydrate the bacteria in a mix of must and drinking water (50/50) and add the suspension to the fermenting must.
- Carefully monitor the temperature, between 20°C/68°F and 26°C/80°F during alcoholic and malolactic fermentation. Avoid a temperature below 20°C/68°F and > 26°C/80°F.
- Apply a regular remontage (every day) in case of traditional vinification.
- Monitor malic acid degradation every 2 days. The speed of degration of malic acid can be very fast after inoculation with ML Prime™.

PACKAGING AND STORAGE

- Available for 25 hL (660 US gal.) and for 100 hL (2640 US gal.)
- Once opened, wine 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/O°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

March 2016

The information herein is true and accurate to the best of our knowledge however this data sheet is not to be considered as a guarantee expressed or implied or as a condition of sale of this product. It is offered without guarantees since the application conditions are out of our control. It does not release the user from abiding by the current legislation and applicable health and safety standards.

Lallemand SAS | BP 59 | 31702 Blagnac Cedex | France | Tel: + 33(0)5 62 74 55 55 | Fax: + 33(0)5 62 74 55 00
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