



ProMalic®

LALLEMAND

ENCAPSULATED *SCHIZOSACCHAROMYCES POMBE* YEAST for the consumption of malic acid in juice or must

What is *Schizosaccharomyces pombe*?

Schizosaccharomyces pombe is a yeast that metabolizes malic acid into alcohol. This yeast is a good alternative to malolactic fermentation or chemical deacidification. It is usually considered a contaminant, because if left too long in the wine after malo-ethanol fermentation, it may produce off-characters. New encapsulating technology allows monitoring and swift removal of all *Schizosaccharomyces pombe* cells so developing off-characters is no longer a problem.

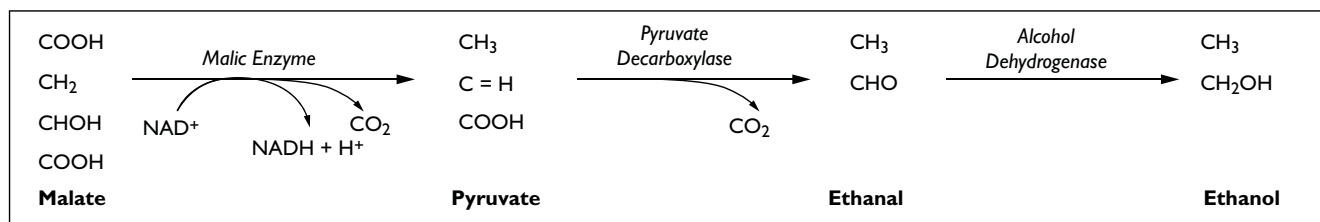
SAFE AND EFFECTIVE in the cellar

The company Proenol has successfully encapsulated *Schizosaccharomyces pombe* in double-layered alginate beads. The product, Pro-Malic, is added to the juice at the beginning of alcoholic fermentation and removed once the desired malic level is achieved. The safe use of *Schizosaccharomyces pombe* opens the door for winemakers who want an alternative to acid reduction without producing lactic acid or chemical deacidification.

ADVANTAGES of ProMalic®

- The double layer of calcium alginate prevents cell leakage.
- Precise control of the malic acid drop without risk of off-taints, through the easy removal of the encapsulated yeast once the desired malic acid level is achieved.
- Greater decrease in acidity than with malolactic fermentation as ProMalic produces no lactic acid.
- Less invasive than double salt method, resulting in higher final wine quality.
- Reduced need for blending to lower acidity level.

Malo-Ethanol Fermentation



2.33 g/L malic acid



0.1% ethanol

HOW TO USE PROMALIC

Dose:

150 g of beads per hL of juice or must

Application Requirements:

Free SO₂ < 15 mg/L

Rehydration:

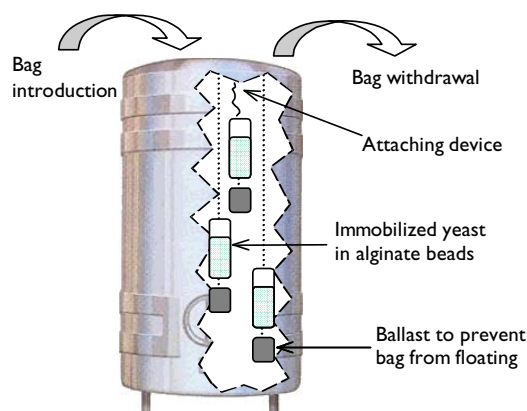
- Remove the encapsulated yeast beads from the recommended 4°C storage temperature and allow them to adjust to room temperature before adding to the rehydrating sugar solution. This is to avoid thermal shock to the encapsulated yeast.
- Place the beads in the nylon bags before rehydrating. Distribute the beads evenly throughout the bags to ensure good contact with the juice or must.
- Add the beads to a volume of water 5 times the weight of the beads. The optimum rehydration temperature is 28°-30°C. Add 40 g of sugar per liter of rehydration water before adding yeast beads. Note: Do not add the sugar solution to the juice or must as it is required to help awaken yeast.
- Wait 4-5 hours before inoculation.
- The temperature difference between the encapsulated yeast beads and the juice or must should be less than 10°C, as ProMalic is sensitive to thermal shock.

Directions for Use:

After rehydration, introduce the nylon bags containing the beads into the tank of juice or must. If several bags are added to the same tank, they must be placed at different heights for better distribution throughout the entire tank. Hang weight (ballast) under the bags to prevent them from floating. Bags should be gently shaken several times a day to release the CO₂ accumulated around the beads and to help circulate the tank. Leave the beads in the juice or must until the desired malic acid decrease is achieved. Avoid filling nylon bags with more than 5 kg of ProMalic. Treating 100 hL (2,642 gallons) requires 3 bags with 5 kg in each bag.

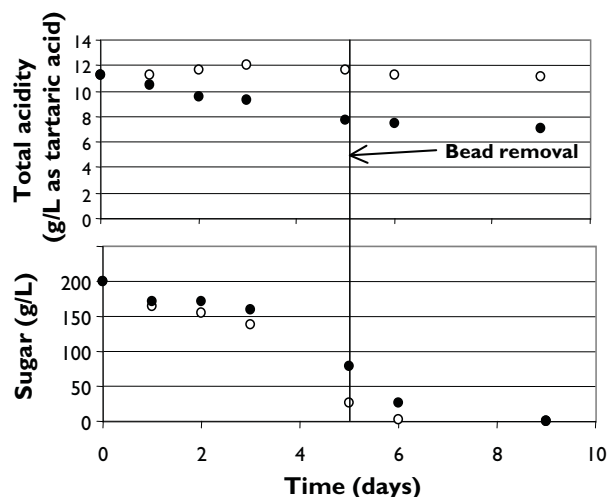
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Revised: 01-10



ProMalic Trial:

Total acidity and residual sugar during vinification of Azal white wine using ProMalic and *Saccharomyces cerevisiae* (black circles) and a control with only *S. cerevisiae* (open circles). Initial R.S. 200 g/L, pH 3.12, fermentation at 16°C and 50 ppm SO₂ added to the must.



PACKAGING AND STORAGE

ProMalic is available in 1 kg packages. **The product must be stored at 4° ± 2°C (~39°F).** Once opened, it must be used as soon as possible. Refrigeration is recommended to retain optimum activity. **DO NOT FREEZE.** Unopened refrigerated ProMalic remains active for 6 months. The nylon mesh bags for product application are supplied with ProMalic.

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