




BIO-REACTIVATOR FOR YEASTS FOR THE REHYDRATION OF ACTIVE DRY YEASTS INTENDED FOR ELABORATING EFFERVESCENT WINES

CHARACTERISTICS

The rehydration of selected active dry yeasts is a fundamental stage for a successful inoculation beyond ensuring good reactivation conditions (temperature of water: 37°C, duration of rehydration: 15 to 30 minutes...).

Indeed, during drying of yeasts, the dehydration causes a reduction of their intracellular volume leading to the destructuration of their plasma membrane. However, the membrane is an essential barrier protecting the yeasts from the stresses caused by the physiochemical parameters developing during alcoholic fermentation (low pH, high alcohol...).


Recently, scientific studies have shown the benefit of adding sterols during the rehydration phase of active dry yeasts (ADY). Indeed, these sterols are real micro-protectants and allow for a better restructuring of the yeast plasma membrane during rehydration. This greatly increases yeast resistance towards different stresses and thus, improves the course of the alcoholic fermentation. (1&2)

Consequently, in order to optimise reactivation of selected active dry yeasts, and to protect them against the stress of alcoholic fermentation, the **Station Oenotechnique de Champagne / Martin Vialatte Oenologie** Research and Development department has developed , an innovative bio-reactivator for selected yeasts, specifically for elaborating effervescent wines (traditional method, pressure tank, cremants).

PROPERTIES

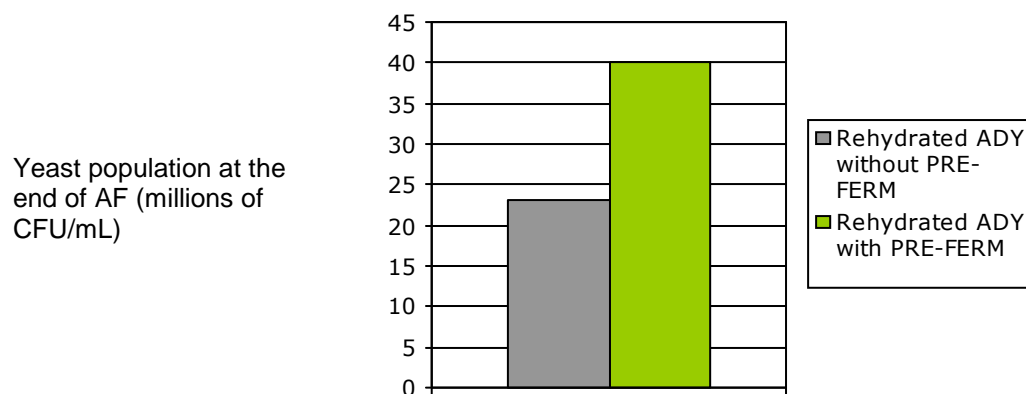
Thanks to its 100% natural formula,  supplies yeasts with the nutrients essential to their protection by:

- supplying phytoplasma components to facilitate the cell wall reconstruction during rehydration.
- a special composition adapted to the protection and reactivation requirements of the yeast during rehydration intended for bottle fermentation.
- facilitating the uptake of these compounds by the yeast during rehydration.

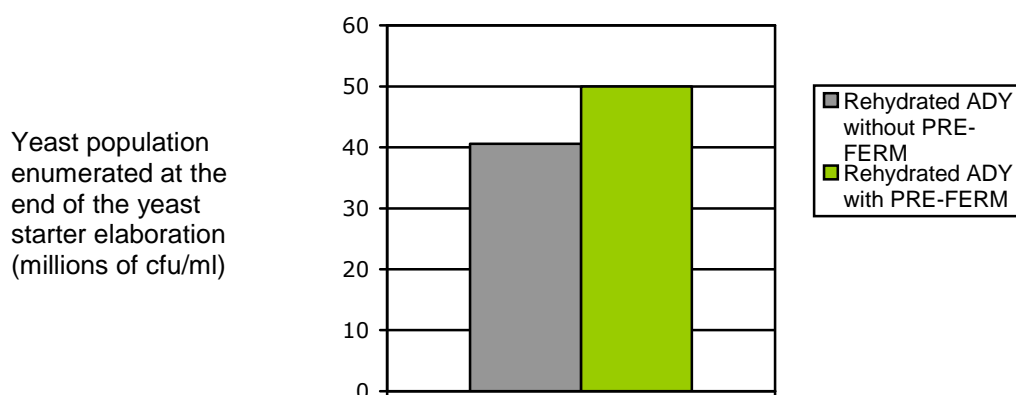
Numerous laboratory studies and diverse winery trials performed under real vinification conditions have demonstrated remarkable effects of  on the behaviour of the selected yeasts and the course of the alcoholic fermentations, such as:

- a better start of yeast activity,
- a better implantation and growth of the selected yeasts in the medium at the expense of the indigenous yeasts,
- a better yeast viability and activity until completion of the alcoholic fermentation (see graph n°1),
- a better preparation of the yeasts with regards to the elaboration of the yeast starter for the secondary fermentation (improved viability at the end of secondary growth) (see graph n°2) ;
- a faster and safer alcoholic fermentation,
- a better organoleptic quality of the wines produced (reduced production of volatile acidity by the yeast under difficult conditions).


➤ Graph n°1 : Viability of the yeast population at the end of the alcoholic fermentation




➤ Graph n°2 : Viability of the yeast population at the end of the secondary growth during the elaboration of a yeast starter preparation for bottle fermentation of a Champagne base wine (2005 Chardonnay).






APPLICATIONS

 is particularly recommended for difficult alcoholic fermentations linked to the quality of musts: strong clarification (turbidity <100 NTU), high maturity (potential alcohol >13% vol.), lack of essential nutrients.


 is essential for the rehydration of the yeasts used to prepare the pieds de cuve (starter) to restart a fermentation or for bottle fermentation (traditional or closed tank methods)

DOSAGE

- For alcoholic fermentations:
For an addition of 20 g/hL of selected yeasts, the optimal application rate of  is 30 g/hL.
- For the preparation of a yeast starter (pied de cuve):
 1. to restart a fermentation:
 application rate: 40 g/hL of total yeast starter to be prepared
 2. for bottle fermentation (traditional or closed tank methods):
1 kg of  per kg of yeasts used for the starter preparation.


INSTRUCTIONS FOR USE

- For alcoholic fermentations :

For a volume of must to be inoculated, dissolve  in 20 times its weight of water at 35 – 40°C. This solution will be used to rehydrate the selected yeasts. Once dissolved, add the required dose of active dry yeasts. Follow the standard rehydration recommendations as indicated on the yeast packaging.

For example: for 100 hl of must, dissolve 3 kg of PRE-FERM in 60 litres of water at 35 – 40°C. Then, rehydrate 2 kg of selected yeasts in this solution (dose of 20 g/hl for the tank to be inoculated). After 20 to 30 minutes, use this preparation to inoculate the must.

- For yeast starters (pieds de cuve):

For a given volume of yeast starter to prepare calculated on the base of 10% of the total volume to restart a fermentation, and 5% of the volume for bottle fermentation, dissolve  in 20 times its weight of water at 35-40°C. Rehydrate the yeasts for 20 to 30 minutes before proceeding with the yeast starter phase (for a specific development plan for your volumes, contact an oenologist from the Station Oenotechnique de Champagne).

REGULATIONS

- Maximum legal rate: 45 g/hL

PACKAGING

- Appearance: powder - 1kg bag - Box of 10 x 1 kg

STORAGE CONDITIONS

- Store full and unopened package away from light, in a dry and odourless area, at temperatures below 25°C.
- Open package: use rapidly
- Shelf life of unopened package: 3 years.

BIBLIOGRAPHY

1. Luparia, V., Soubeyrand, V., Berges, T., Julien, A., and Salmon, J.M. (2004). Assimilation of grape phytosterols by *Saccharomyces cerevisiae* and their impact on enological fermentations. *Applied Microbiology and Biotechnology* 65, 25-32
2. Soubeyrand, V., Luparia, V., Williams, P., Doco, T., Vernhet, A., Ortiz-Julien, A., and Salmon, J.-M. (2005). Formation of micella containing solubilized sterols during rehydration of active dry yeasts improves their fermenting capacity. *Journal of Agricultural and Food Chemistry* 53, 8025-8032.

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