



BIO-REACTIVATOR FOR YEASTS FOR THE REHYDRATION OF ACTIVE DRY YEASTS

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 destructure 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 restructure 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)

Therefore, in order to optimize the reactivation of selected active dry yeasts, and to protect them from the stresses inherent to alcoholic fermentations, **Martin Vialatte Oenologie** has developed **PRE-FERM**, an innovative bio-reactivator for selected yeasts.

PROPERTIES

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

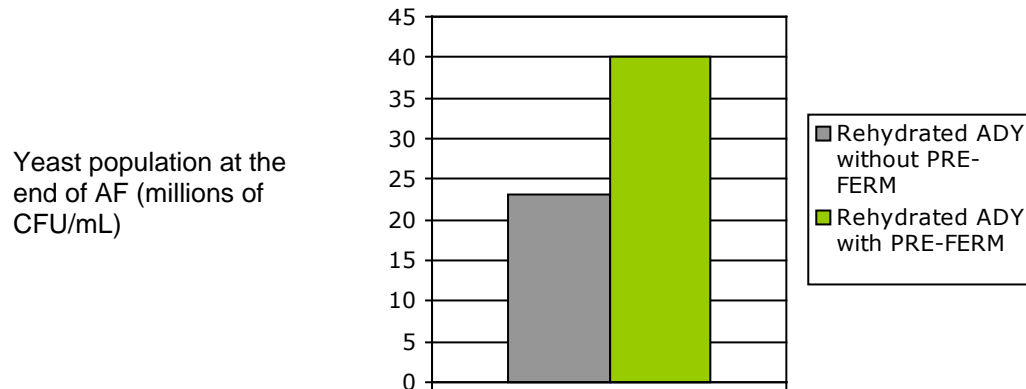
- offering an optimal level of micro-protectants (sterols and specific poly-unsaturated fatty acids) as well as micro-nutrients (vitamins and specific minerals) produced with the NATSTEP™ technology.
- providing a special composition adapted to the protection and reactivation requirements of the yeast during rehydration
- 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 **PRE-FERM** on the behaviour of the selected yeasts and the course of the alcoholic fermentations, such as:

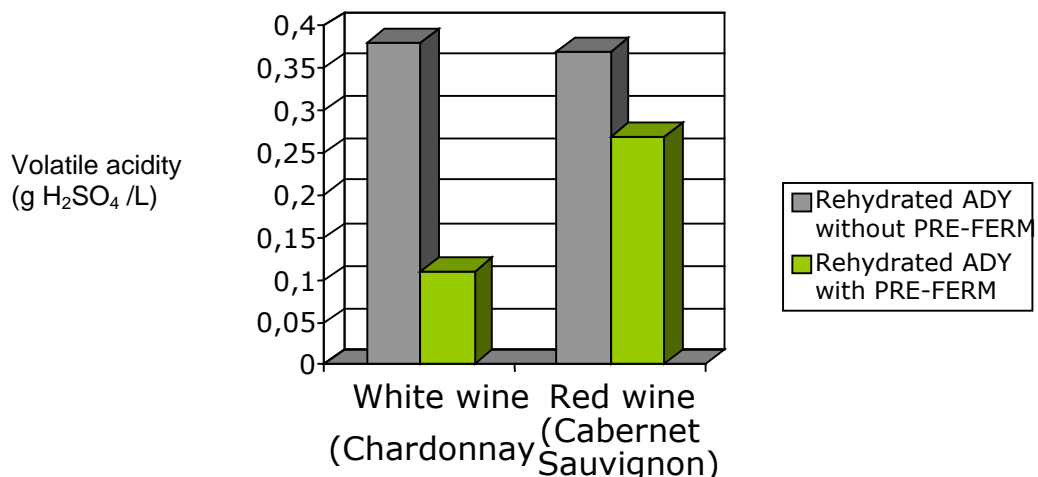
- a better start of yeast activity,

- 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 faster and safer alcoholic fermentation,
- a better organoleptic quality of the wines produced (reduced production of volatile acidity by the yeast under difficult conditions), see graph n°2 .

➤ Graph n°1: Trial with Melon de Bourgogne (Muscadet) must
 Viability of the yeast population at the end of the alcoholic fermentation.



➤ Graph n°2: Trials with difficult musts – Chardonnay must (low initial turbidity) and Cabernet Sauvignon must (potential alcohol >14% vol.) – Volatile acidity levels in wines at the end of alcoholic fermentation.



APPLICATIONS

PRE-FERM 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.

PRE-FERM is also recommended to restart stuck fermentations and to prepare yeast starters for secondary fermentations in the production of sparkling wines, considering the particularly difficult fermentation conditions associated with these situations.

APPLICATION RATES AND DIRECTIONS

- Recommended application rate: 30 g/hl of must to be fermented.

For a volume of must to be inoculated, dissolve **PRE-FERM** 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.

REGULATIONS

- Maximum legal rate: 50 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.