

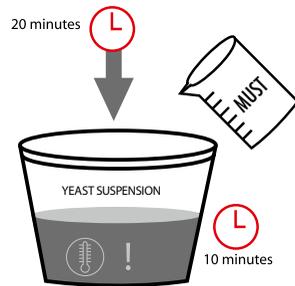
USE INSTRUCTIONS

Selected yeast
(inoculation between
20 and 30 g/hL of must).

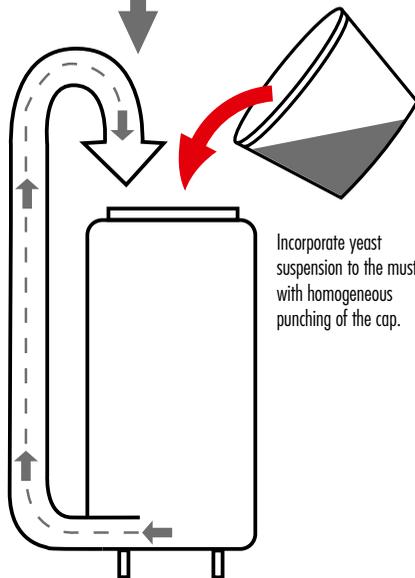


*Recommended
temperature of
rehydration water
between 35 ° and
40 °C.

Acclimate yeast suspension
to the temperature by
adding progressively some
must.
Goal : the gap between
yeast suspension
temperature and must
temperature should not
exceed 10 °C.



Total duration of rehydration
should not exceed 45
minutes.



Incorporate yeast
suspension to the must
with homogeneous
punching of the cap.

Same use instructions as for an ordinary yeast (between 20 and 30 g/hL)

- Same utilization.
- Same nutrition depending on nitrogen needs. Be careful : YSEO® doesn't replace a nutritional adapted program.
- Protector addition unchanged if needed.

5 point keys for the good yeast preparation

- **Adapt the dose** for the yeasting of the must; increase the dose if:
 - Spoiled harvest
 - Presence of *brettanomyces*
 - Potential alcoholic degree > 13% vol
 Minimal dosis: 20 g/hL
Maximal dosis: 40 g/hL
- **Don't use must** at the beginning of rehydration : dried yeasts are not able to face extreme conditions of the must (indigenous yeasts, SO₂ pH, temperature, sugar...); They have to wake up slowly in water.
- **Respect the temperature** of the yeast rehydration water. Yeasts are very sensitive to temperature variations. Thermometer must be used at each rehydration step.
- **Respect the time.** Optimal time is between 20 and 30 minutes. Do not exceed 45 minutes.
- **Use rehydration nutrient and a protector yeast** at the beginning of the rehydration to protect the selected yeast since the beginning to the end of the fermentation.



A UNIQUE YEAST PRODUCTION PROCESS



43®
71B®
BDX®
CLOS™
CROSS EVOLUTION®
CY 3079®
HPS®
ICV D254®
ICV D47®
QA23®
Rhone 2056®
Rhone 2226®



Nouveau Monde DDB Toulouse - Crédit photo: Ze - Retrauche, Thierry Delastre

Putting yeast producer expertise to work for Oenology



Since 1970, Lallemand has been focusing its expertise on developing the production of active dry yeasts for controlling alcoholic fermentation. Mindful of improving product quality at all times, a number of research projects have also targeted the preparation of yeasts under winemaking conditions.

These projects have principally focused on the influence of essential nutritive element contributions on yeast cell survival during alcoholic fermentation, and on the different production phases in order to ensure the best possible results under difficult winemaking conditions, helping to avoid the risks of stuck fermentations and sensory problems. YSEO® specialty yeasts combine Lallemand's know-how in selecting and characterizing yeast strains with our expertise as a yeast producer to take into account different grape varieties, viticulture and winemaking conditions. YSEO® yeasts are 100% natural and GMO-free; they are available under the brands Lalvin, Uvaferm, Enoferm, Vitilevure, Levuline & IOC.



YSEO®: a unique innovation with a research program conducted in collaboration with Washington State University.

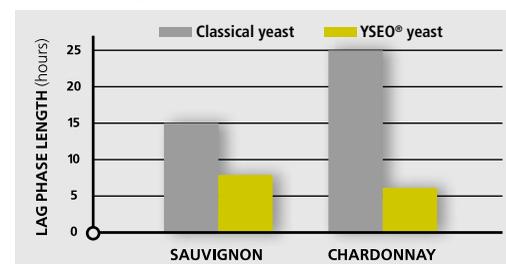
"Our role in the YSEO® yeast project has been validation. In the first years, maybe two years, we did a number of research trials in our laboratory looking at YSEO® under various conditions and what we found overall was that the YSEO® process seemed to improve the quality of the yeast performance during fermentation, very specifically we saw overall enhancements in fermentation rate but also in such key parameters as H₂S production. Yeasts prepared using the YSEO® process yielded less H₂S

as compared to the same strain processed by conventional means. The winemakers did like the quality of the wines produced by the YSEO® process. Overall we did see a reduction in the fermentation time to complete fermentation but in addition the winemakers did note that in the standard yeast preparations, they would occasionally smell hydrogen sulphide whereas this was an observation never made with the YSEO® process."

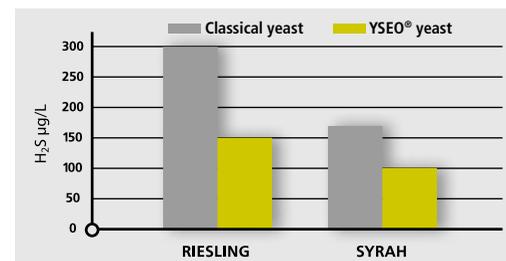
YSEO® Process: An optimized process of yeasts production, better adapted to winemaking practices.

Impact of YSEO process on fermentation kinetics

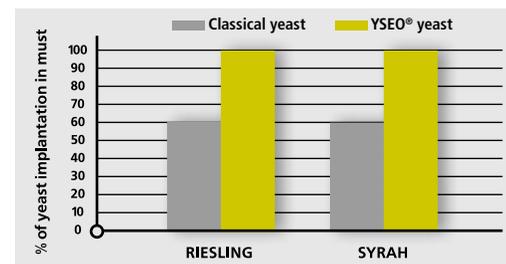
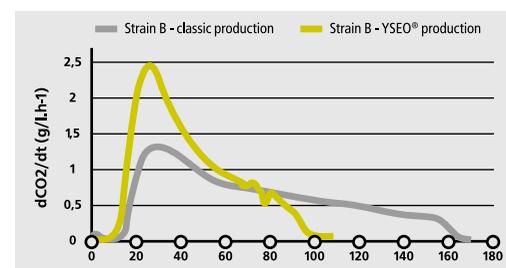
With YSEO® yeasts, winemakers observe shorter lag phases, limited H₂S, volatile acidity production, better implantation in the majority of grape musts and more generally, improved fermentation reliability.



Impact of YSEO® process on lag phase

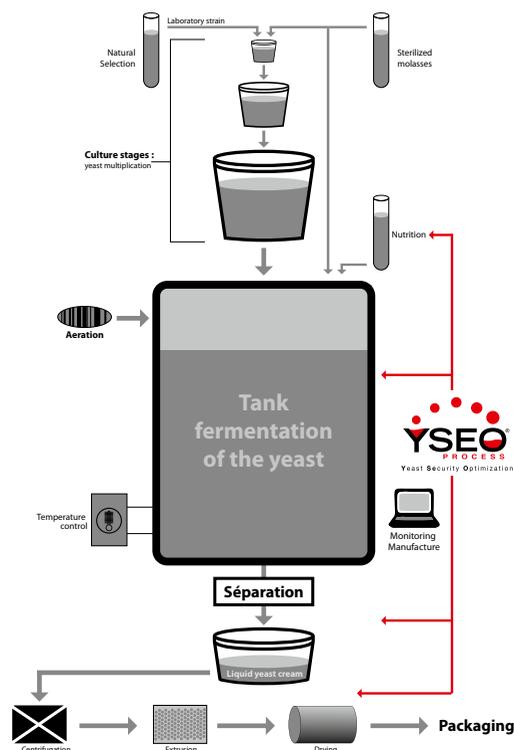


Impact of YSEO® process on H₂S production



Impact of YSEO® process on yeast implantation

Production process



YSEO® is a Lallemand production process, used to its full potential right from the yeast multiplication phase through to the drying phase, with particular focus on nutrition.

This technological innovation is recognized throughout the world and is specifically tailored to meet the needs of modern winemaking, where high levels of sulphur compounds and volatile acidity, generally the result of secondary fermentation metabolites under stressful conditions, are no longer tolerated.

With this new process, a large number of winemakers throughout the world have observed a clear improvement in their fermentations with the use of YSEO® yeasts.

With YSEO® yeasts, winemakers observe shorter lag phases, limited H₂S and volatile acidity production, better implantation in the majority of grape musts and more generally, improved fermentation reliability.