

Safe Alcoholic Fermentation: Protecting the Yeast

▶ Why?

- Simply providing nitrogen and vitamins is not always enough for successful fermentation.
- Introducing unprotected yeasts into an aggressive must.
- Protecting the yeast increases the chances of survival while optimizing the sensory impact of fermentation.

Key Points

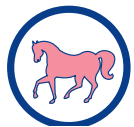
UNDER WHAT CIRCUMSTANCES SHOULD THE YEAST BE PROTECTED?



- ▶ **HIGH POTENTIAL ALCOHOL OR LOW TURBIDITY.** The protector will increase the yeast's survival rate.



- ▶ **RECURRENT CASES OF SULPHUR-LIKE OFF-ODOURS OR EXCESS VOLATILE ACIDITY.** Off-odours can be produced by yeast under stress. Protecting the yeast will reduce this stress.



- ▶ **RISK OF *BRETTANOMYCES*** or other contaminants. Protected yeast can better compete against indigenous organisms by reducing the yeast lag phase for a more rapid onset of fermentation, even after cold pre-fermentation maceration.

WHAT DOES A PROTECTOR DO?



- ▶ A protector is a 100% natural inactivated yeast product that releases survival factors into the yeast rehydration water.
- ▶ These compounds (specific sterols and micronutrients) are absorbed into the active yeast cells during rehydration and provide them with improved resistance.



Yeast Protection in 4 Steps

1 Recommendations for Use of a Yeast Protector during Rehydration:

		Potential Alcohol		
Turbidity		low <13% vol.	medium	high >14% vol.
high	>200 NTU	Protection is beneficial	Protection is recommended	Protection is necessary
medium		Protection is beneficial	Protection is recommended	Protection is necessary
low	<50 NTU	Protection is necessary	Protection is necessary	Protection is necessary

- Risk of spoilage organisms
- Infected harvest
- Pre-fermentation maceration
- Yeast with low alcohol resistance

Protection is recommended, or necessary if there is a combination of risks

- 2 • To implement yeast protection, Lallemand has developed GoFerm Protect® yeast protector.



- 3 • Add GoFerm Protect® to the yeast rehydration water prior to adding the yeast.
- Dosage: 30 g/hL of must to be inoculated with 25 g/hL of active dry yeast.
 - For temperature and volume, please refer to the Practical Guide to Vinification No. 1, "Good Rehydration Practices for Selected Yeasts."

- 4 • Provide good management for the alcoholic fermentation and the nitrogen nutrition of the yeast (Practical Guide to Vinification No. 3). A yeast protector is not a major source of nitrogen.