



Rendering alcoholic fermentation safe: protecting yeasts

► Why?

- Simply providing nitrogen and vitamins is not always sufficient for successful fermentation.
- Introducing unprotected yeasts into an aggressive must and consequently running the risk of seeing them perish represents a qualitative and economic loss.
- Protecting the yeasts increases their chances of survival while optimising the sensorial impact of fermentation.

Key points

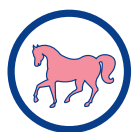
UNDER WHAT CIRCUMSTANCES SHOULD THE YEASTS BE PROTECTED?



- **HIGH POTENTIAL ALCOHOL DEGREE OR LOW TURBIDITY:** the protection will give the yeast a higher rate of survival, especially at the end of fermentation.



- **RECURRENT CASES OF SULPHUROUS ODOURS OR EXCESS VOLATILE ACIDITY:** these odours can be produced by yeasts under stress. Protecting the yeasts will reduce this stress at the end of fermentation.



- **RISK OF BRETTANOMYCES** and other contaminations: protected yeasts will be more proficient at competing against indigenous microbial flora, by triggering fermentation more rapidly, including after a cold pre-fermentative maceration.

HOW DOES A PROTECTOR ACT?



- A protector is a 100% natural product that releases specific survival factors into the yeast rehydration water.
- These compounds (specific sterols, micro-nutrients) integrate into the active yeasts and provide them with improved resistance against the aggressive medium.



Protection in 4 steps

- 1 Determine whether the must to be inoculated requires yeast protection:

		Alcohol potential		
		low < 13 % vol	medium	high > 14 % vol
Turbidity	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

- Risks of *Brettanomyces*
 - Infected harvest
 - Prefermentative maceration
 - Yeast with low resistance to alcohol
- } Protection is recommended, or even necessary if there is a combination of unfavourable factors.

- 2 To implement yeast protection, Lallemand has developed the NATSTEP® procedure, which has been integrated into different protectors available on the market (GO FERM PROTECT® for example).



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 - NATSTEP® yeast protector is added to the yeast rehydration water prior to addition of the yeasts.
 - Single dosage: 30 g par hL of must to be inoculated.
 - For temperature and volume implementation, please refer to practical guide n°1 "Good rehydration practices for selected yeasts".

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 - Good management of alcoholic fermentation and nitrogen nutrition of the yeast (practical guide n°3). A protector is not a nitrogenous nutrient.

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