



LOW VOLUMES MANAGEMENT

Loss of yield due to poor climatic conditions often has several consequences. Beyond the direct impacts of adverse weather (hail damage, poor fruit set due to rain during flowering), high levels of fungal disease often lead to secondary losses of yield, due to the vine's physiological response (hen and chicken, etc.) or errors in phytosanitary treatments.

Despite customer demand, producers may be faced with low volumes that they must make the most of using an optimal production process.



With low yields the following objectives should guide winemakers:

- ◆ Optimise the amount of juice extracted
- ◆ Make the most of each press fraction (including last press)
- ◆ Limit any loss of wine during production
- ◆ Improve the wine's overall quality



LOW YIELD: KEY STEPS IN WINEMAKING

WINE	PROBLEM	METHOD	LA-NOVOZYME SOLUTIONS
	Optimise extraction of juice	Early enzyme addition	Gamme Vinozym® (FCE) or Vinocrush® Classic
	Limit mechanical extraction operations (low juice/solids ratio; seed tannins)		
	Treat the press fractions	Must fining	GreenFine®Must or Polymix®/Polymix®Natur'
	Optimise must clarification	Enzyme addition	Novoclair Speed® or Vinoclear® classic
	Fermentation conditions often difficult	Effective ADY + protection / nutrition	Gamme Excellence® + Oenostim®
	Low maturity in a late vintage	Polysaccharides	Natur'Soft®
	Fast commercialisation of the wines	Maturation enzymes	Vinotaste® Pro



WHITE AND ROSÉ WINES PRODUCTION PROCESS

1) OPTIMISE JUICE EXTRACTION

Goal: improve the yield in juice and reduce overall cost of extraction



L.A SOLUTIONS

Generally speaking, early use of enzymes :

During on-skin maceration

- ◆ Reduces maceration time by 30%

During pressing

- ◆ Optimises all the press parameters (yield, quality, cost)
- ◆ Increase the press yield **by up to 15%**
- ◆ Increases the **aromatic potential**: fast liberation of aroma precursors
- ◆ Makes **clarification easier** at all stages of production

1. **Vinocrush® Classic** - 2 to 4 mL/100 kg

2. **Vinozym® FCE** - 2 to 4 g/100 kg or **Vinozym® Ultra FCE** - 2 to 4 mL/100 kg

Winemakers who wish to increase juice yield whilst decreasing the risk of off-tastes should use enzymes that are free of cinnamoyl esterase (FCE).

EXTRACTION

2) OPTIMISE MUST CLARIFICATION:

Goal: quickly and effectively clarify musts



L.A SOLUTION

Novoclair® Speed (granules) - 0,5 to 2 g/hL

- ◆ Improves the yield of **clarification** up to **60%**
- ◆ Reduces **lees volume** by up to **50%**

If an extraction enzyme has been used, dosage can be decreased by 50 to 100%.

Novoclair® Speed (liquid) - 1 to 3 mL/hL

- ◆ Specific hydrolysis of pectic chains
- ◆ Facilitates clarification by flotation of musts

CLARIFICATION

3) MAKE THE MOST OF PRESS JUICE:

Goal: increase yield and quality of press musts



L.A SOLUTION

Greenfine® / Polymix / Polymix Natur products - 10 to 80 g/hL

- ◆ Decrease press must's turbidity
- ◆ Better lees compaction
- ◆ Remove some oxidised and oxidisable polyphenols
- ◆ Cleaner aromas

PRESSES

4) FAST AND COMPLETE FERMENTATIONS :

FERMENTATION

Goal: along with appropriate nitrogen nutrition, the difficult conditions for AF can be mitigated using a yeast preparation production and an effective ADY



L.A SOLUTIONS

1. **Starter:** **Oenostim**[®] - 30 g/hL + **LSA : Excellence**[®] range - 20 g/hL

2. **organic nitrogen:** **Optiflore**[®] 0* - 30 g/hL

- ◆ Complex organic nutrition that facilitates the end of the AF
- ◆ Reinforces cell viability by detoxifying the medium

*Consult our *Enosolutions* application to ensure proper nitrogen nutrition

5) QUICK COMMERCIALISATION :

MATURATION

Goal: optimise maturation by reducing its time for quicker bottling



L.A SOLUTION

VinoTaste[®] Pro - 4 to 10 g/hL

- ◆ Fast clarification: **maturation time** reduced by 20%
- ◆ Increases **complexity of aromas** and increases **roundness**



RED WINES PRODUCTION PROCESS

1) OPTIMISE JUICE EXTRACTION:

EXTRACTION

Mechanical extraction

Goal: increase yield and quality (colour, aromas) of juice



L.A SOLUTION

Vinozym[®] Vintage FCE - 3 à 4 g/hL

- ◆ Improves **colour extraction** and **stabilisation** by up to 20%
- ◆ Improves the overall **aromatic profile**
- ◆ Optimises the extraction of **good quality grape skin tannins and polysaccharides**
- ◆ Increases the yield of free run wine by up to 10% when running off after AF
- ◆ Decreases maceration time by up to 30%

Mechanical extraction

Goal: improve extraction processes of wines with short maturation



L.A SOLUTION

Vinocrush® Classic - 3 to 4 mL/100 kg

- ◆ Complete extraction, improves press yields
- ◆ Makes pressing and clarification easier

2) SECURE THE FERMENTATION PHASE:

Goal: along with appropriate nitrogen nutrition, the difficult conditions for AF can be mitigated using a yeast preparation production and an effective ADY



L.A SOLUTIONS

1. **Starter:** **Oenostim®** - 30 g/hL + **LSA : gamme Excellence®** - 20 g/hL

To guarantee a **success AF**, the yeast require an optimal environment: **rehydration using Oenostim®** guarantees ideal conditions for **good fermentation kinetics**.

2. **organic nitrogen:** **Optiflore® O*** - 30 g/hL

- ◆ Complex organic nitrogen that **facilitates the end of AF**
- ◆ Improves **cell viability by detoxifying the medium**
- ◆ Adds **essential amino acids** for malolactic bacteria



**Consult our Oenolutions application to ensure optimal nitrogen nutrition*

Secure the MLF with inoculation of a **selected malolactic bacteria**. This will ensure a **quick start to MLF**.

3. **bacteria:** **Oeno 1** or **Oeno 2** or **Bactery XTREM**



3) MAKE MOST OF PRESS WINES:

Goal: optimise press fractions for clarification, microbiological stability and taste



L.A SOLUTION

VinoTaste® Pro - 8 to 10 g/hL

- ◆ Clean wine with **quick clarification**
- ◆ Increase **aromatic complexity** and increase **roundness**

Greenfine® X-PRESS - 20 to 80 g/hL

- ◆ Decrease **turbidity**
- ◆ Improve **colour stability**
- ◆ Decrease **yeast and bacteria populations**
- ◆ Decrease **green and bitter notes**

Oeno Bois® - see range

- ◆ **Fast and steady diffusion** of volatile compounds
- ◆ Decrease **green notes**
- ◆ Add **volume, roundness** and **sucrosity**