

FOCUS // DIFFICULT CLARIFICATIONS



Under certain oenological conditions, depectinisation and clarification of white and rosés can be problematic (low temperatures <math><8^{\circ}\text{C}</math>), low pH, low maturity, grape varieties with highly branched pectins... These difficult conditions, often add up and can be aggravated by winery time constraints.

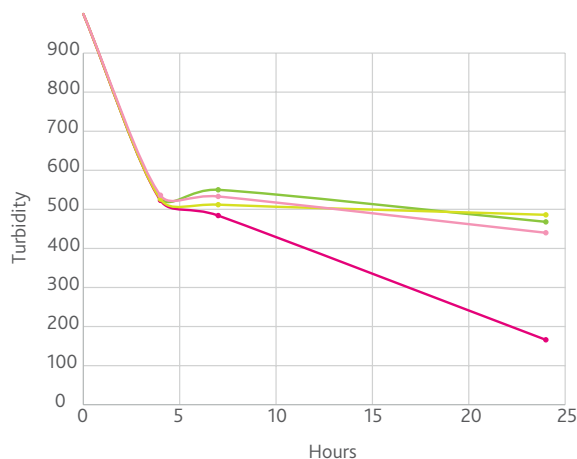
LAFFORT® PROPOSES 2 TECHNOLOGICAL APPROACH TO SOLVE CLARIFICATION PROBLEMS.

1 USING ROBUST ENZYMES – ENZYMES THAT WITHSTAND HARSH CONDITIONS:

Laboratory application tests have confirmed that our clarifying enzymes, in particular **LFAZYM® CL** and **LFAZYM® 600 XL^{ICE}** are the most robust* commercially available enzymes. They offer reliable performance within a wide range of physicochemical conditions.

WHAT IS A ROBUST ENZYME?

The robustness of an enzyme preparation is its resistance to disturbances in the conditions of the environment. This property is crucial for the preparation to maintain its performance under varying conditions of pH and temperature or alcohol levels.



— Extreme enzyme — LFAZYM® CL — Flotation enzyme — Cold enzyme

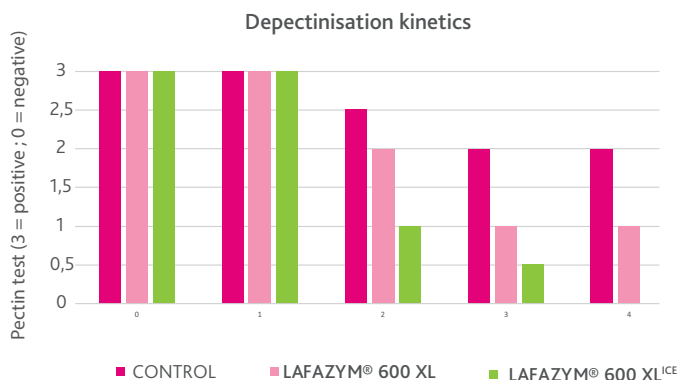
Turbidity comparison using different enzymatic formulations. Special case of a Ugni Blanc at 6°C, pH = 3.4.

Flotation Enzyme: liquid enzyme for the clarification of musts before flotation.

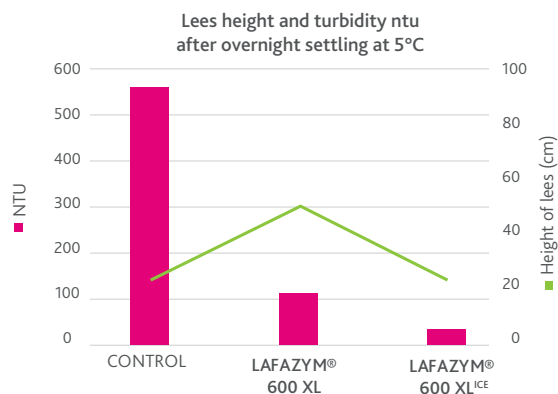
Cold Enzyme: enzyme for the clarification at low temperature.

Extreme Enzyme: enzyme that is effective under extreme temperature and maturity conditions.

The optimised formulation of **LFAZYM® 600 XL^{ICE}** optimises its robustness. This results in increased performance of the preparation at low temperatures as well as reduced time required for depectinisation (negative pectin test).



Enzyme trail depectinisation prior to flotation. Dose 1 mL/hL Chardonnay Unduraga, 5°C. The new formulation allowed to reach pectin negative in 4 hours.



Benchmark trial with LFAZYM® 600 XL^{ICE}. Static settling, enhanced lees compaction and juice clarification overnight at 5°C (Trial in 500 mL tubes).

2 USE OF A PECTINASE BOOSTER:

LAFASE® BOOST

LAFASE® BOOST offers a unique and innovative approach to work within modern winemaking constraints: complex pectin, limited time (case of flotation), less robust enzyme preparations (intolerance to low temperatures and pH variations) diluted or mono activity pectinases (low levels of essential secondary activities as it is the case for pectinases originating from self cloned or GM microorganisms)...

LAFASE® BOOST removes the side chains of the pectin molecule, thus optimising the hydrolysing power and performance of any common clarification pectinase.



OBJECTIVE AND RESULTS

Synergetic action of LAFASE® BOOST with common clarification pectinases:

- Complete depectinisation.
- Rapid depectinisation to allow to work with the winery pre-planned juice flow and tank occupation.
- Lowering turbidity when necessary with an increased proportion of clear juice after flotation.



Enhancing the usual pectinase performances by addition of LAFASE® BOOST. Chardonnay - Lodi, California 3 h after enzyme addition – winery temperature.

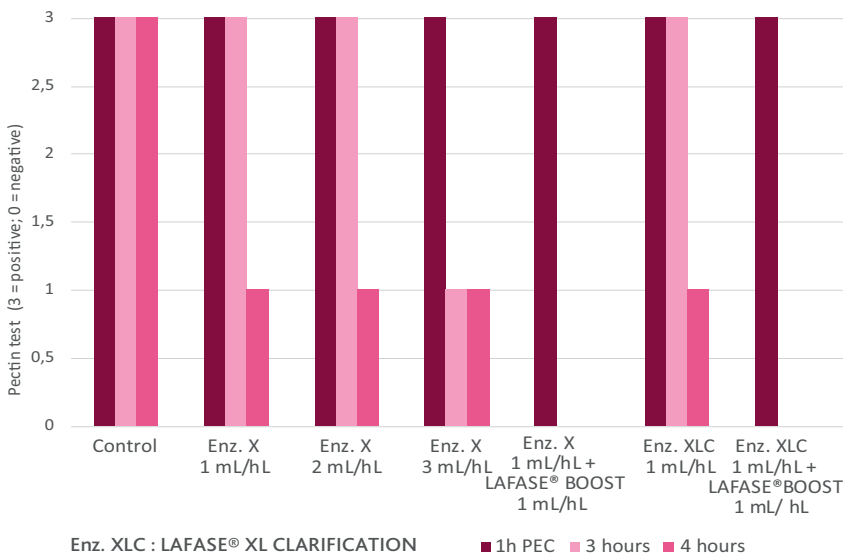
MODALITY A:

Usual pectinase - 2 mL/hL.

MODALITY B:

Usual pectinase - 2 mL/hL + LAFASE® BOOST 1 mL/hL.

Pectin test kinetics
(Sauvignon Blanc presses - 2017)



Improving depectinisation speed on Sauvignon Blanc - Stellenbosh, South Africa.

Only the LAFASE® BOOST treated modalities reached a negative pectin test in less than 3 hours. It is interesting to note that after 4 hours 1 mL/hL LAFASE® XL CLARIFICATION was as efficient as 3 mL/hL of the winery usual pectinase. On this complex Sauvignon must only supplementing with LAFASE® BOOST allowed to complete depectinisation in the timing constraint imposed by the winery for optimum juice flow and tank occupation.