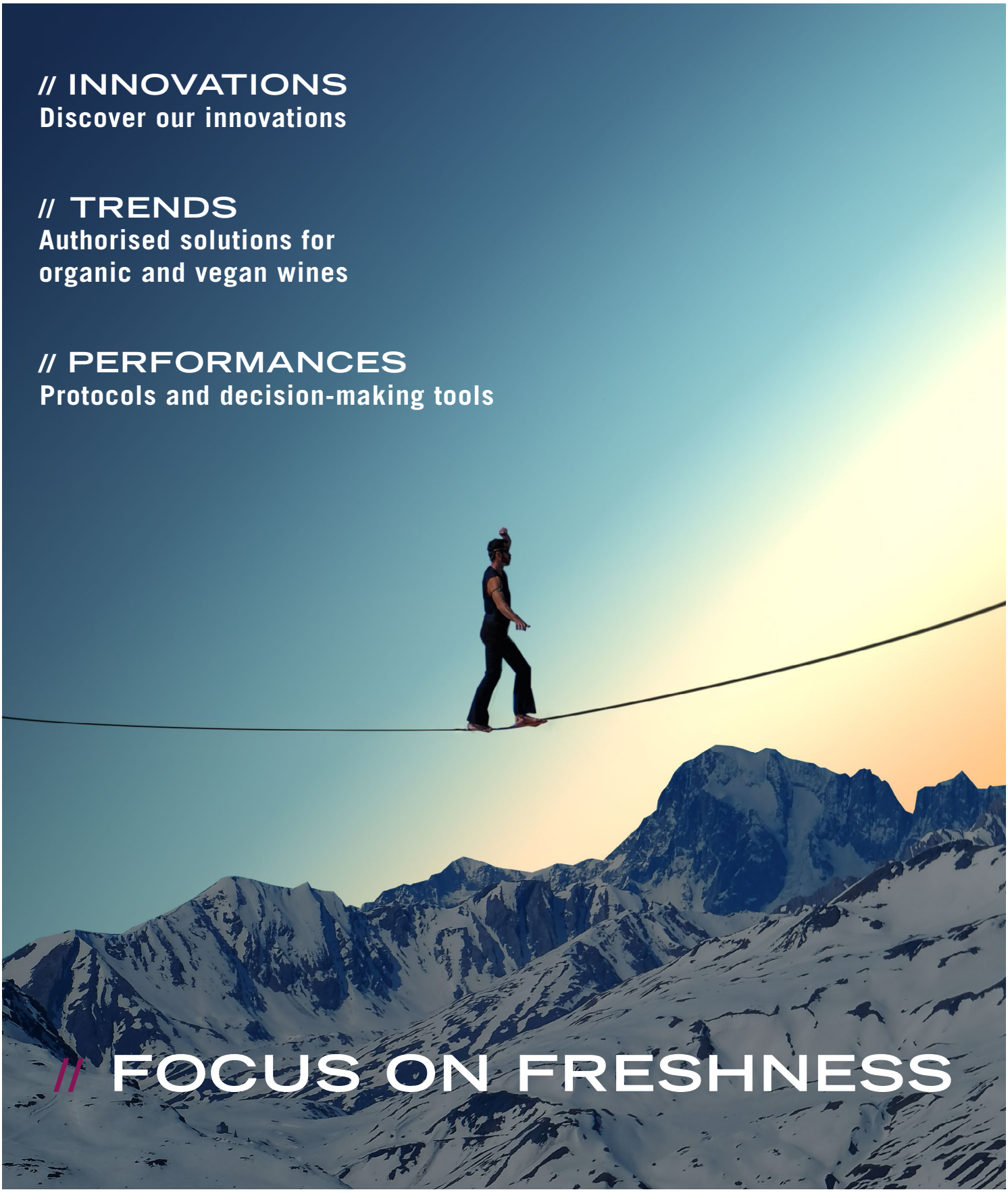
CATALOGUE - EDITION 2023

LAMOTHE-ABIET

Solutions for winemaking



// INNOVATIONS
Discover our innovations

// TRENDS
Authorised solutions for
organic and vegan wines

// PERFORMANCES
Protocols and decision-making tools

// FOCUS ON FRESHNESS

// Edito

“This year, the focus is on freshness and balance in your wines!

Global warming has significant consequences on wines' equilibrium. Rising temperatures, alcohol content and pH levels make it challenging to produce fresh and balanced wines.

However, these are the wine profiles consumers are nowadays seeking! Drawing on its vast expertise, Lamothe-Abiet has developed **new targeted solutions** to meet winemakers needs, for **fresher**, **softer** and **easier to drink** wines.

Innovation is part of Lamothe-Abiet's DNA. It is the result of our **involvement** in local markets, the **constant cooperation** with our customers and the **expertise** of our R&D department.

In this catalogue, you will find all of our enological solutions, as well as technical tools and protocols, always guided by respect for the wine.

Guillaume Martineau
General Manager

WE THINK GREEN

A message from Ambre, our Environmental Manager

Our actions for the environment in 2022:

- **4 TONS** of products recycled into bio-waste (methanization)
- **2,5 TONS** of recycled plastics
- **6 TONS** of recycled cardboard
- **260** planted trees in France (less than 250km away from Lamothe-Abiet)

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CATALOGUE

PROTOCOLS & DECISIONS MAKING TOOLS

YEASTS

The high standards of the Excellence® yeast range are now widely recognised

Our yeasts are very rigorously selected and developed at the Institut des Sciences de la Vigne et du Vin (ISVV) of Bordeaux by our R&D teams which have proven themselves, over time, to be the most talented in the field.

Excellence® FTH, TXL and **STR** are benchmark strains for the production of aromatic white and rosé wines. These yeasts' specific capacities and their resilience to fermentation result in clean wines with intense aromatic profiles.

EXCELLENCE®
FTH
Fresh Thiols

- Revelation of volatile thiols
- Citrus notes, fresh aromatic profile
- Lively mouthfeel

Volatile Thiols
Fermentary Esters
Aromatic Profile

EXCELLENCE®
TXL
Intense Thiols

- Revelation of volatile thiols
- Box-tree, citrus and tropical fruits
- Perfect balance: volume, complexity and aromatic finesse.

Volatile Thiols
Fermentary Esters
Aromatic Profile

EXCELLENCE®
STR
Esters

- Revelation of fermentary esters
- Stone fruit and tropical fruit notes
- Aromatic complexity

Volatile Thiols
Fermentary Esters
Aromatic Profile

Aromatic index (AI)
[thiols] [fermentary esters] / perception threshold
Sauvignon Blanc, 2016 • Pessac Léognan, Bordeaux • ABV: 13 % vol. • pH = 3,3

Excellence® XR, DS, SP and **FR** are specifically suited to the production of red wines. These yeasts can be used for various winemaking objectives, in order to obtain precise profiles whilst respecting varietal typicity and ensuring excellent fermentation dynamics.

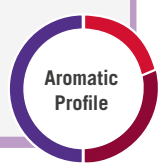
EXCELLENCE®

XR

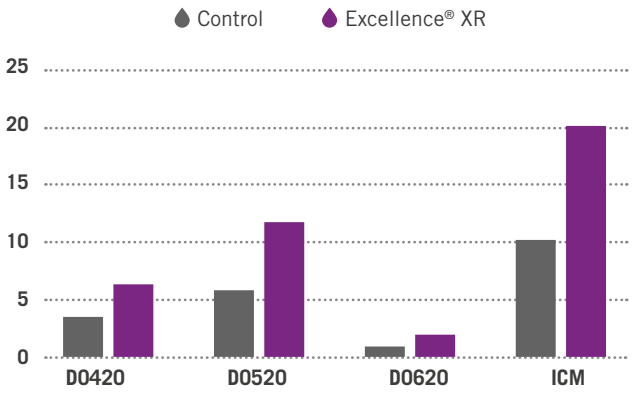
Grand rouge

- Powerful wines with structure and volume
- Ideal for carrying out MLF in co-inoculation
- High polysaccharide production: stabilisation of colour and volume increase
- Adapted to high potential alcohols, low production of volatile acidity

Structure, volume
Fresh red fruits
Ripe fruits, spices



Static color stabilisation - post MLF analysis
Harvest 2019 • Cabernet Sauvignon • Adelaide Hills, Australia



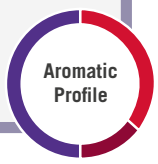
EXCELLENCE®

DS

Prestige

- Fleshy profile, fresh fruit aromas
- Traditional vinification / thermovinification
- Adapted to high ABV, low volatile acidity production

Structure, volume
Fresh red fruits
Ripe fruits, spices



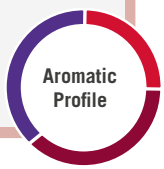
EXCELLENCE®

SP

Spicy

- Structured profile, spice aromas
- Very good fermentation dynamics
- Ideal for fast rotation wines or for medium-length bottle ageing

Structure, volume
Fresh red fruits
Ripe fruits, spices



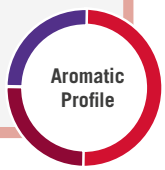
EXCELLENCE®

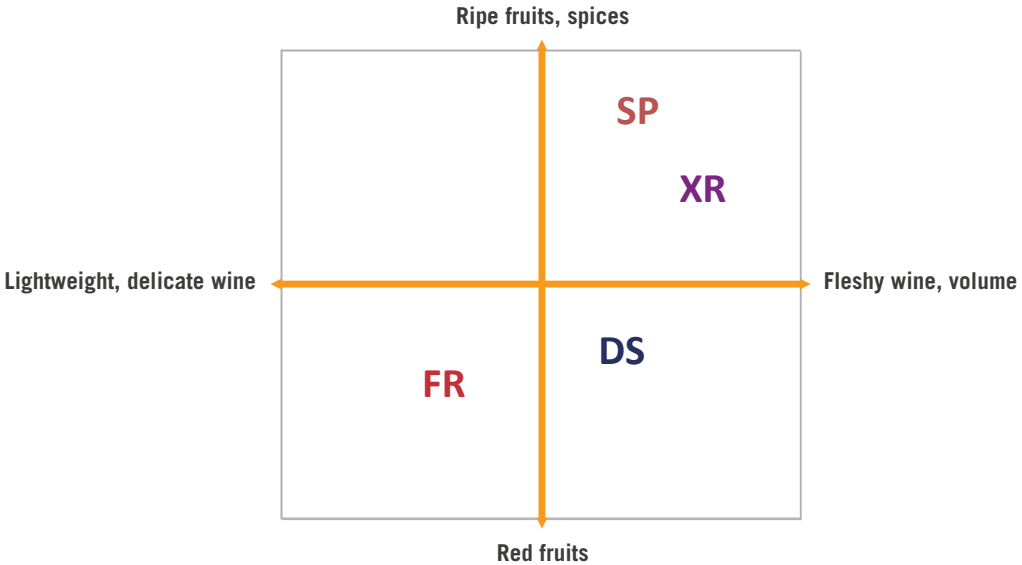
FR

Red fruits

- Easy-drinking profile, red fruit aromas
- Fresh and balanced wines
- Recommended for fermenting thermo-macerated grapes

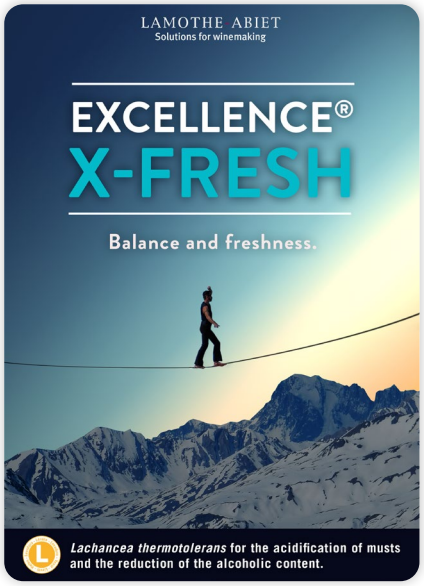
Structure, volume
Fresh red fruits
Ripe fruits, spices





Non-*saccharomyces* yeasts had been forgotten for a long time due to their weak fermentation abilities, but are now an **innovative** new solution. In fact, they have very interesting and diverse enological uses. From **bioprotection** to **natural acidification** of must, as well as **improving aromatic profiles**, these yeasts can be used to improve wines and add a modern touch to winemaking processes.

The **Excellence® X-FRESH** *(Lachancea thermotolerans)* and **Excellence® B-Nature®** (*Metschnikowia pulcherrima*) strains can be used just as well on white and rosé wines as on red wines. The unique characteristics of these yeasts can add real value to the produced wines.



EXCELLENCE® X-FRESH Balance and freshness

Strain of *Lachancea thermotolerans* (non-*saccharomyces* yeast).

This yeast has a unique metabolism which enables it to transform fermentable sugars into **lactic acid** during the fermentation.

BENEFITS

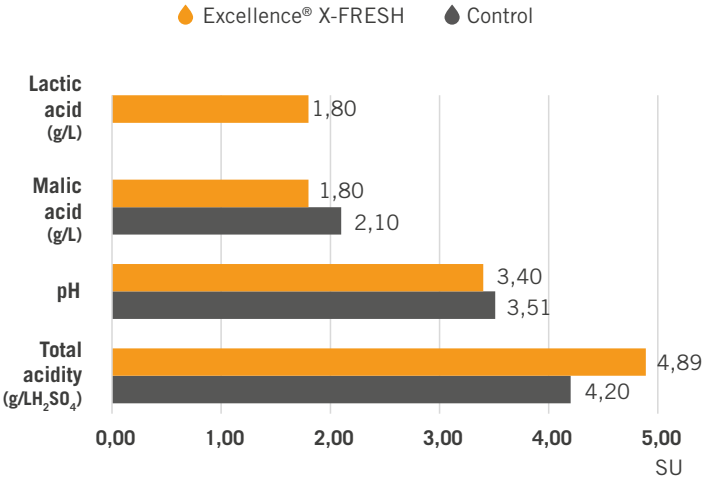
This lactic acid production is directly linked to the following variations:

- Increased total acidity
- Lower pH
- Small decrease in alcohol content

Used in association with *Saccharomyces cerevisiae*, it restores **balance** and **freshness** to wines.

Post AF Analysis

Montagne Saint-Emilion • Merlot 2021 • TAV 13,81% vol.



Lactic acid production kinetics during AF (TO = Excellence® X-FRESH inoculation)

Excellence® X-FRESH was inoculated as the tank was filled and produced 1.80 g/L of lactic acid during the following 72 hours. Inoculation of **Excellence® XR** after 72h stopped lactic acid production and allowed for a complete AF.

EXCELLENCE® B-NATURE

Bioprotection

Lamothe-Abiet, after extensive research, has selected Excellence® B-Nature, a strain of *Metschnikowia pulcherrima*

BENEFITS

- Control of the microbiological flora from the harvest
- Decrease of the dosage of SO_2 on the grapes
- Reduction of the compounds that combine SO_2
- Increased aromatic complexity of the wine
- Rapid consumption of dissolved oxygen in the must

Technical content / Protocol / SO_2 Control /

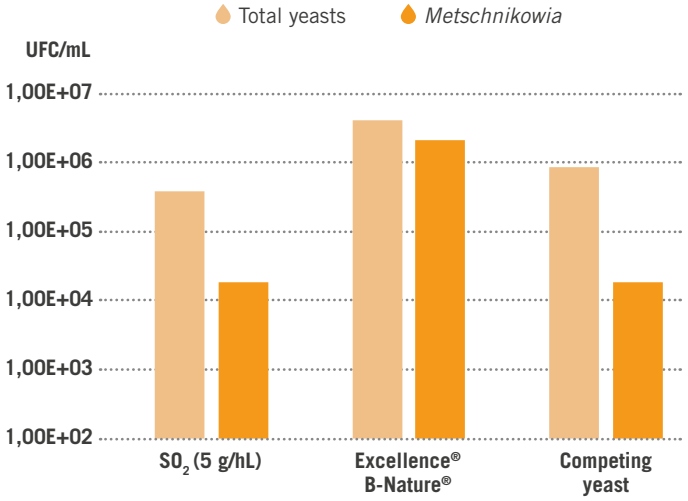
TO KNOW

Bioprotection involves operating an early control of the natural flora that is present on the grapes. After harvesting and before yeast addition, this environment is extremely sensitive and represents a very risky period for the development of microbial alterations (non-*Saccharomyces* yeasts such as *Brettanomyces*, as well as bacteria, which are often the source of deviations).

As opposed to adding sulphur, which destroys these microorganisms, biological control involves inoculating a slowfermenting yeast, which occupies the niche and thus naturally prevents the growth of undesirable microorganisms.

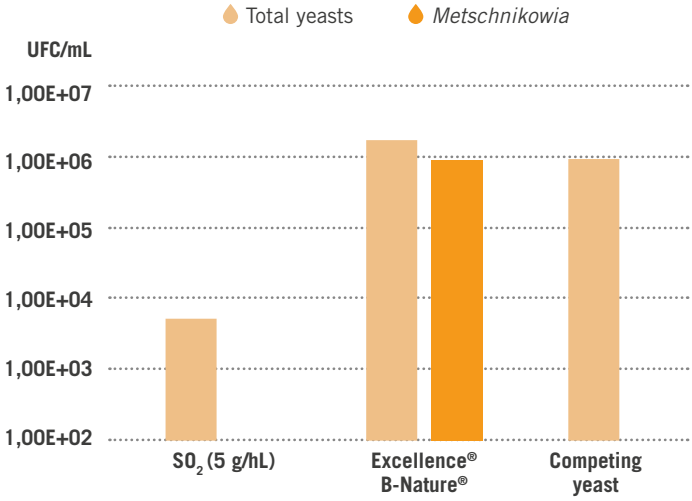
Microbial population on D+1 after treatment

Bordeaux • Cabernet Sauvignon • 2019



Microbial population on D+4 after treatment

Bordeaux • Cabernet Sauvignon • 2019



The use of SO_2 makes the yeast population decrease drastically and leaves a microbiological gap. This poses a risk for the development of spoilage microorganisms in the environment.

In the modality **B-Nature®**, the total yeast population is essentially made up of *Metschnikowia*, indicating a very good implantation of our yeast, and therefore effective bioprotection. The competing yeast was not implanted in the juice as it was not detected on D+4.

NEW

A new strain in the Excellence® range!

EXCELLENCE® CHD

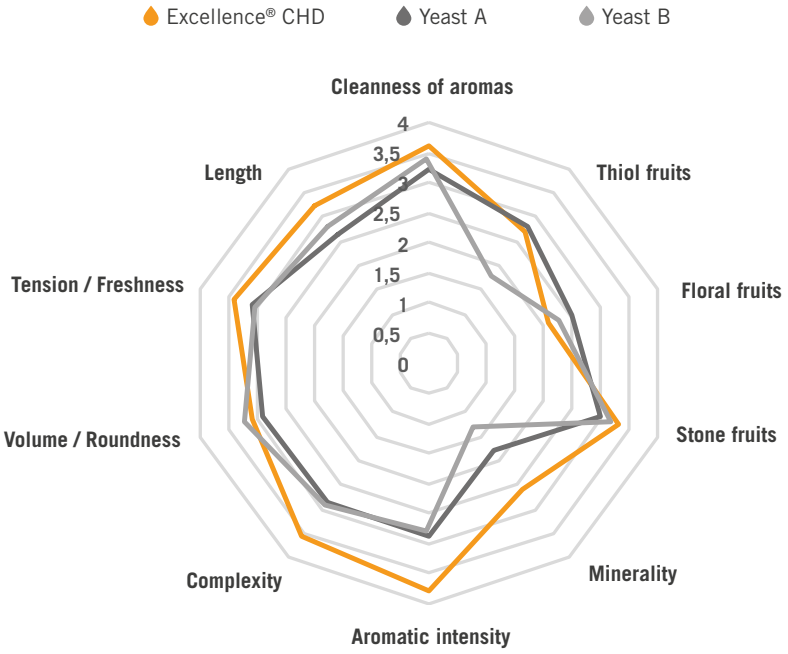
Strain of *Saccharomyces cerevisiae* selected in Burgundy in partnership with the IFV (Institut Français de la Vigne et du Vin).

Specifically adapted to the demands of Chardonnay winemaking, this strain helps to obtain wines which fully express the **varietal typicity** of this iconic grape.

Excellence® CHD helps to express an intense aromatic complexity, combining aromas of fresh fruits and stone fruits. The wines it produces have an interesting tension and notably increased volume, ensuring a balanced palate.

Tasting results, 10 persons

Chardonnay 2020 • Beaune, Burgundy • TAV: 13,70 % vol.• pH=3,36



" Constantly seeking diversity and complexity in the aromas of our Mâcon Chardonnays, the Cave de Lugny offered to be a trial site for Excellence® CHD in 2020.

There were no problems with fermentation, implantation nor kinetics. Tasting revealed a lovely ***aromatic complexity****, with fruity notes of peach and apricots, whilst maintaining freshness on the palate and a floral note.*

I therefore decided to use it again in 2021 to confirm its use. Despite the difficulties of the vintage, after fermentation I could observe an increased sucrosity on the palate and lovely aromas before the malolactic fermentation start."

Grégoire PISSOT, enologist and cellar master,
Cave de Lugny MÂCONNAIS, FRANCE

LAMOTHE-ABIET YEAST LIST

	STRAIN	THIOLS	ESTERS	VARIETAL	ROUNDNESS	SWEET	NITROGEN NEEDS	ALCOHOL TOLERANCE	VARIETALS	
EXCELLENCE® YEAST	NEW **CHD** Burgundy Selection	•	••	•••	•••		Medium	15 % vol.	chardonnay	-
	NEW **ROSÉ**	•	•••		•		Medium	14,5 % vol.	sémillon, viognier	grenache, shiraz, cinsault, mourvèdre, merlot, cabernet franc, cabernet sauvignon
	FTH Fresh thiols	•••	•	••		•	Medium	15 % vol.	sauvignon, riesling, gewurztraminer, vermentino	merlot, grenache, cinsault, cabernet franc, cabernet sauvignon, shiraz
	TXL Intense thiols	••	••	•••	•••	•••	Medium	15 % vol.	chardonnay, sauvignon, gewurztraminer, grenache blanc, chenin blanc, riesling, vermentino, viognier, pinot gris	mourvèdre, grenache, cinsault, cabernet franc, cabernet sauvignon
	STR Esters	•	•••		•		Medium	15 % vol.	chenin, chardonnay, muscadet, viognier, muscadelle	grenache, cinsault, cabernet franc, shiraz, merlot
	B2 Elegant white	•		•••	•••	••	Medium	14 % vol.	chardonnay, sauvignon, colombard, sémillon, chenin, muscat, mauzac	-
	FW Floral	••	••				High	14,5 % vol.	chardonnay, sauvignon, chenin, muscat	-
	E2F® Sparkling	Production of wines with great aromatic finesse thanks to its resistance to alcohol and its fructophilic characteristics. Recommended for the second fermentation.					Low	17 % vol.	chardonnay, chenin blanc, muscat, mauzac, ugni blanc, pinot gris	pinot noir, pinot meunier
L.A. YEAST	NEW **Spumante**	Highlights the aromatic floral (Terpens) and fruity (Esters) notes of the wine. Recommended for sparkling wines made from second fermentation in pressure tanks (Charmat method).					High	14,5 % vol.	ugni blanc, mauzac, muscat, airen, viura, palomino, parellada, prosecco, glera	-
	Arom	•	•••	••	••		Low	14 % vol.	chardonnay, sauvignon, chenin, sémillon, viognier, muscadelle	merlot, grenache, cinsault, cabernet franc, shiraz, cabernet sauvignon

	STRAIN	FRUITY ELEGANT	FRUITY INTENSE	STRUCTURED	RESTARTING AF	NITROGEN NEEDS	ALCOHOL TOLERANCE	VARIETALS
EXCELLENCE® YEAST	**XR** Grand rouge	••	•	•••		Medium	> 16 % vol.	cabernet sauvignon, merlot, grenache, shiraz, pinot noir, malbec
	DS Prestige	••	•••	••		High	16 % vol.	merlot, cabernet sauvignon, cabernet franc, shiraz, grenache, malbec
	SP Spicy	•	•••	•		Medium	15 % vol.	cabernet franc, shiraz, grenache, merlot, malbec, mourvèdre
	FR Red fruits	•••	•	•		Medium	15 % vol.	gamay, grenache, duras, carignan, carbonic maceration
L.A. YEAST	**High degree**	•	••	••		Low	18 % vol.	all
	BJL	•	•••			Low	14 % vol.	gamay, carbonic maceration
	L13	••	••	••		Medium	16 % vol.	all
	RB2	•••	•••	•		Medium	15 % vol.	pinot noir, merlot
	Cerevisiae	•	•	•		Low	14 % vol.	all
	Bayanus			•	•••	Low	> 16 % vol.	all

	STRAIN	ACTION	VARIETALS
EXCELLENCE SPECIFIC YEASTS	NEW **X-FRESH**	Non-*Saccharomyces* yeast for natural acidification of musts and reduction of alcohol content	all
	B-Nature®	Non-*Saccharomyces* strain for musts and grapes bioprotection.	all
	NEW **FINISHER**	A high fructophilic *Sacharomyces cerevisae* specifically selected for AF restart.	all

BACTERIA

True pioneer in the technique of co-inoculation 15 years ago, Lamothe-Abiet has developped a deep and unique expertise in this process. The strains that we offer are adapted to the current demands for the control of the MLF.

ŒNO 1®

A strain of *Œnococcus œni* selected for its resilience to harsh conditions.

BENEFITS

- High quality production
- Control of the MLF and prevention of faults
- Speedy implantation
- No production of biogenic amines

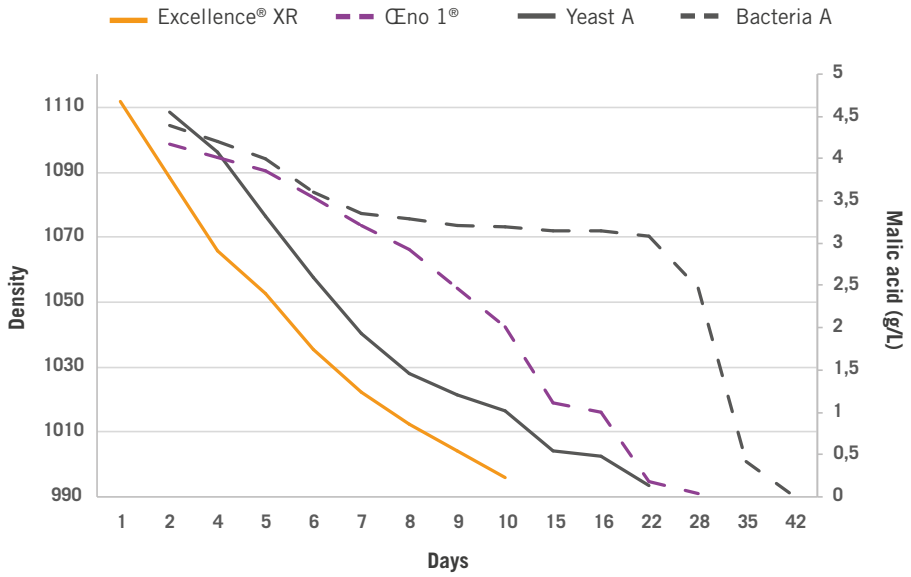
"It is clear that Excellence® XR and Œno 1® make a perfect couple, even under difficult conditions. *We recommend an early co-inoculation, which is very effective in cold regions which require a certain technical precision. In this way, we can obtain cleaner and more aromatic wines.*

The yeasts and bacteria work hand in hand, it is therefore essential to choose complementary strains. This approach improves the wine's quality, the effectiveness of the production and makes the winemaker's life easier - everyone is a winner !"

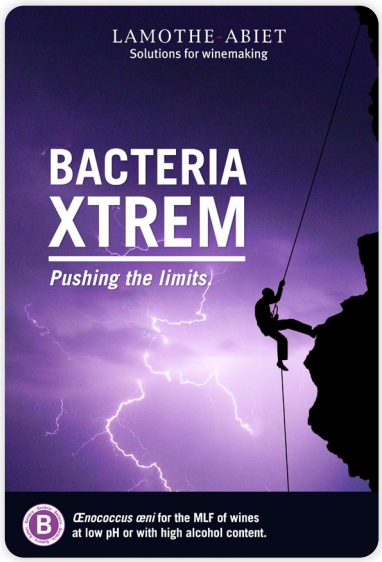
Paul BOWYER, PhD and Winemaker, Area Manager,
BHF Technologies, Victoria, AUSTRALIA

Monitoring of co-inoculations with Excellence® XR / Œno 1® and Yeast A / Bacteria A

Coonwara, Australia • Cabernet Sauvignon 2020 • TAVP 15,5% Vol.



For the pair **Excellence® XR / Œno 1®**,the AF and the MLF took place together. For the second yeast/bacteria pair, the MLF only really started after the AF had finished.



BACTERIA XTREM Pushing the limits

A strain of *Œnococcus œni* for MLF in difficult conditions.

Malolactic fermentation is a key stage in winemaking, **improving the organoleptic profile** by adding **softness** and **roundness** on the palate. It is a real solution to bring balance to wines that have high acidity.

Bacteria XTREM ensures and safeguards the beginning of the MLF, **thus avoiding the development of indigenous strains** which could lead to **organoleptic spoilages**.

BENEFITS

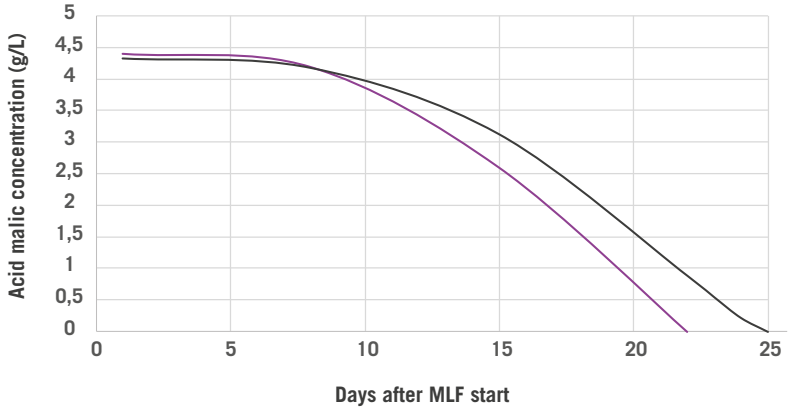
Bacteria XTREM can be added directly to the wine:
- Functions at very low pH (up to pH 3)
- Resists high alcohol contents (up to 16% abv.)
- Fast acid malic breakdown kinetics

Acid malic breakdown kinetics by the bacteria (g/L)

Spain, Albarino 2020 • TAV 12,88% vol.
pH 3,15 • Total acidity 5,87 g/L

Control Bacteria XTREM

Bacteria XTREM, used in direct inoculation, helps to quickly complete the MLF. It shows itself to be as effective as the control bacteria which benefited from a rehydration and acclimatisation protocol.



LAMOTHE-ABIET BACTERIA LIST

L.A SOLUTIONS

BACTERIA	EARLY CO-INOCULATION	LATE CO-INOCULATION	SEQUENTIAL INOCULATION	CURATIVE INOCULATION	PROTOCOL
Œno 1®	●●●	●●●	●●	●●	**For co-inoculation, add directly without rehydration.** In order to improve the distribution, rehydrate 15 minutes.
Œno 2	●	●●●	●●●	●●	12 hours (rehydration + acclimatization) with malolactic activator kit provided.
Bacteria XTREM		●	●●●	●●●	Add directly without rehydration. Add directly without rehydration. In difficult conditions (pH < 3,2 or ABV > 15%), add 30 g/hL of OptiML®.

INOCULATION TIMING	24 - 48 hours after the start of AF	1010 density	AF completed or running off	Contact us
TECHNICAL OBJECTIVES	Save time, avoid alterations	Save time, ensure the traditional process AF	MLF after AF - MLF in barrel	Sluggish MLF – restarting MLF

Optimal conditions for malolactic activity

BACTERIA	pH*	SO_2 TOTAL*	TEMPERATURE*	ALCOHOL TOLERANCE* (% vol.)
Œno 1®	≥ 3,3	< 50 mg/L	18- 24 °C	< 15
Œno 2		< 60 mg/L		
Bacteria XTREM	≥ 3	< 50 mg/L		< 16

***these factors are co-dependent**

Yeast nutrition and protection are key factors for a successful fermentation. Of course, this gives safe fermentation kinetics but also helps to optimise the production of aromas and to avoid organoleptic faults.

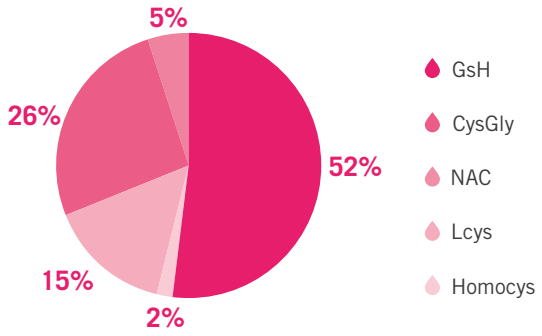
AROMA PROTECT®

Preparation of inactivated yeasts naturally rich in glutathione and its precursors.

BENEFITS

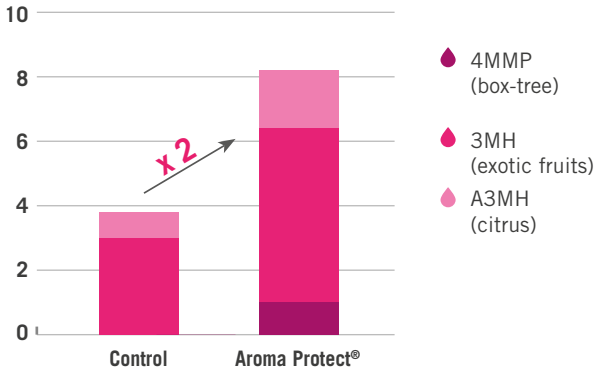
- Specific formulation for optimal protection of the aromas and freshness on white and rosé wines
- Instantly counters oxidative mechanisms thanks to its high glutathione (GSH) levels. This sulphur tripeptide is naturally formed by yeast and possesses a very strong reductive capacity

Aroma Protect®
Proportion of different reductive compounds in the formulation (%)



With over 50% glutathione, Aroma Protect® is the product of choice to preserve the aromatic potential during ageing.

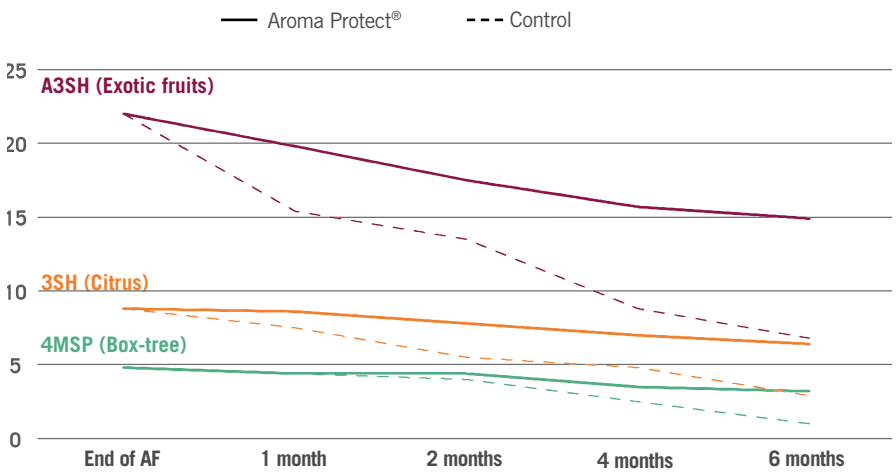
Aromatic Index (AI)
[volatile thiols] / perception threshold
Grenache rosé trial • South-East France • 2018
Analysis 1 month after AF



1 month after the end of the AF, the aromatic intensity is twice higher for the modality treated with Aroma Protect®.

The role of Aroma Protect® on thiols during aging

Sauvignon blanc • added at 30 g/hL at the end of AF (d ≈ 1.010)



Thanks to its expertise in the process of aromatic expression by yeast, Lamothe-Abiet has developed **specific solutions** to increase the **revelation of thiols and esters** during alcoholic fermentation. These products improve the aromatic profile of wines and extend their intensity.

OPTIESTERS®

Inactivated yeast naturally rich in amino acids and ergosterols, specific precursors of esters.

BENEFITS

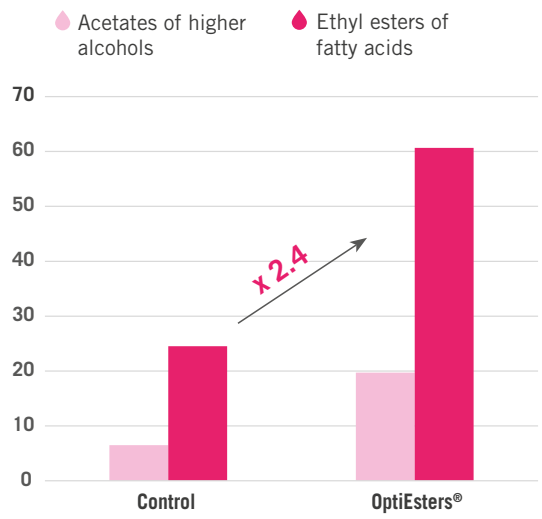
- An essential tool for maximising the ester potential of white, rosé and red wines
- Revealing fruity and floral aromas, especially on wines lacking varietal aromatic precursors
- Crucial role in both the quality and quantity of these aromatic esters

Advice: Use a strain that has a high yield in esters: Excellence® STR or LA Arom.

Ester formation is closely linked to the nitrogen and lipid metabolism of the yeast and can therefore be improved by adding yeast derivatives.

Aromatic index (AI)
[fermentary esters] / perception threshold

Cognac trial • 2016



OPTITHIOLS®

Inactivated yeasts naturally rich in reducing compounds.

BENEFITS

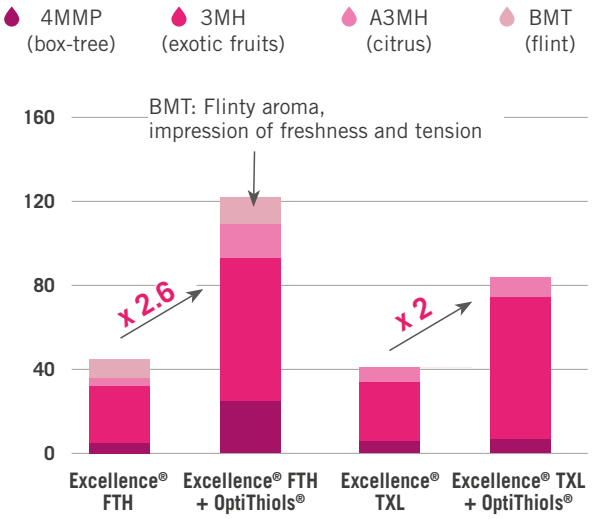
- Essential tool to optimise the thiol potential of white and rosé wines
- Double effect: antioxidant and significant aromatic increase of thiols (4MSP, 3SH, A3SH), from 30% to 120%
- Regularity and repeatability of the results on many different harvests (variety, terroir)

Advice: Favour the use of Excellence® FTH and Excellence® TXL strains for an even greater revelation of volatile thiols!

Appropriate fining of the musts before addition will ensure better efficiency.

Aromatic index (AI)
[volatile thiols] / perception threshold

Cortese trial • Italy • 2019



OPTIFLORE® O

Complex nutrient based on yeast autolysates, rich in organic nitrogen (amino acids, peptides), vitamins and minerals.

BENEFITS

- Ensures qualitative yeast nutrition
- Avoids the risks associated with mineral-only nutritio
- Based on yeast derivatives, it brings more complexity and a better efficiency on the fermentation kinetics

TO KNOW

Recent studies have shown that the organic nitrogen provided by a yeast derivative such as OptiFlore® O is 2,5 to 4 times more efficient than an equivalent addition of mineral nitrogen (DAP for instance).

MINERAL NITROGEN NUTRITION

- Used preferentially by the yeast
- Fast consumption
- Fast increase in yeast population

In case of excess:

- Induced deficiency
- H_2S production
- Sluggish and/or stuck AF
- Excessive heat production
- Stimulatory effect on nitrogen catabolic repression (NCR)

ORGANIC NITROGEN NUTRITION

- Progressive use
- Repression of H_2S production
- Nutrition for yeasts and malolactic bacteria
- Does not cause nitrogen catabolic repression
- Increases the aromatic complexity

" The Côtes de Gascogne IGP is characterised by a great diversity of varieties and pedoclimatic conditions.

Optiflore® O quickly took its place for us as a useful and polyvalent tool. When faced with nitrogen deficiencies, high alcohol and low pHs, Optiflore® O optimises the activity of yeasts in the Excellence range. Optiflore® O safeguards conventional and organic vinifications, and has allowed us to resolve several issues surrounding the aromatic expression of our dry and sweet white wines, and the structure of our red and rosé wines."

Benoit GISSON, Consultant winemaker,
ŒNOPOLE DE GASCOGNE, GERS, FRANCE

AROMATIC PROTECTION & BOOSTER		AROMATIC REVELATION	VARIETAL PROFILE	COMPLEX AND FRUITY PROFILE	AROMATIC PROTECTION	COLOUR FIXATION	ROUNDNESS	DOSAGE (g/hL)
Aroma Protect®	P	•			•••			10-40
Aroma T'N'T	S	••		••	•••			10-40
OptiEsters®	P	•••	•	•••			•	30 At the end of the first third of AF
OptiThiols®	P RA	•••	•••	•	•		•	30 At the beginning of AF
Natur'Soft®	P			•		•••	•••	20-100

COMPLEX NUTRIENTS		THIAMINE	AMMONICAL NITROGEN	ORGANIC NITROGEN	VITAMINS / MINERALS	DETOXIFICATION	STEROLS / UNSATURATED FATTY ACIDS	YAN INCREASE mg/L per 20 g/hL added	DOSAGE (g/hL)
OptiFlore® O	N/P			•••	••	•••	•	10 mg/L of YAN under organic form	20 - 40 Before end of AF
OptiFerm®	N/P	••	DAP •••	••	••	•		30	20 - 40
OptiML® (bacteria)	N/P			•	•••	••	•	0	20 - 40

SIMPLE NUTRIENTS	AMMONICAL NITROGEN	THIAMINE	YAN INCREASE mg/L per 20 g/hL added	DOSAGE
Ammonium Sulphate (AS)	•••		40	10 - 50 g/hL
Ammonium Phosphate (DAP)	•••		40	10 - 50 g/hL
Vitaferment®	AS •••	•••	40	10 - 50 g/hL
Vitaferment® PH	DAP •••	•••	40	10 - 50 g/hL
Thiamine		•••	0	30 - 60 mg/hL max. legal dosage in UE: 60 mg/hL

YEAST PROTECTION		CELLULOSE POWDER	DETOXIFICATION	VITAMINS / MINERALS	STEROLS / UNSATURATED FATTY ACIDS	ORGANIC NITROGEN	DOSAGE (g/hL)
Œnostim®	N/P		••	•••	•••		30
Actibiol	N/P	••	•	••	•	•	30 - 60
Granucel®	N/P	•••					30 - 60
Flor'Protect®	N/P		•••				20 - 40 max. legal dosage in UE: 40

N: nutrition P: protection S: support element RA: aromatic revelation

ENZYMES

Lamothe-Abiet and Novozymes®, a success that has lasted for more than 20 years. The combination of Lamothe-Abiet's expertise in œnology with this Scandinavian leader in Biotechnologies enables us to offer you the most complete and trusted enzymatic preparations on the market. Lamothe-Abiet and Novozymes® offer you the guarantee of enzymes that are certified by the latest FSSC 22000 quality standards.

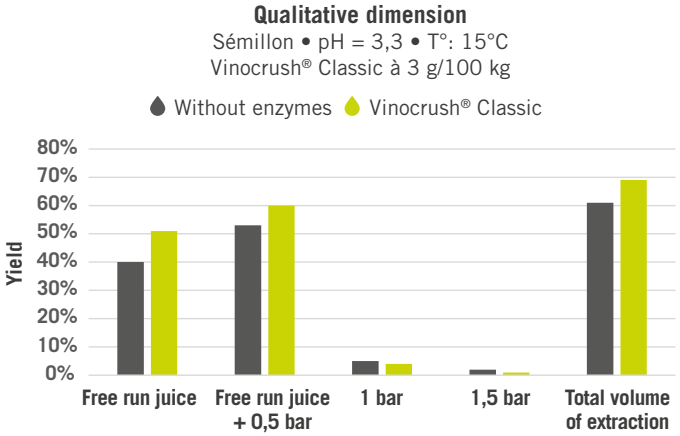
VINOCRUSH® CLASSIC

Extraction enzyme for improved maceration and extraction of red and white grapes.

For white grapes, used in the press, and for red grapes, used during maceration, this enzyme **increases the must/wine yield and plays a significant role in clarification.**

BENEFITS

- Easier extraction of juice
- Increased volumes of high quality juice
- Decreased pressing time (up to 30%)



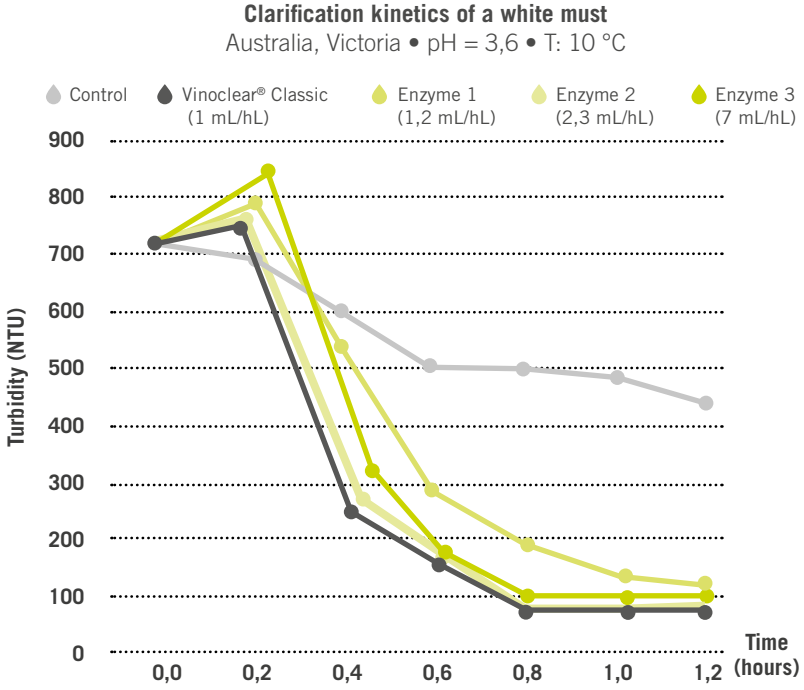
VINOCLEAR® CLASSIC

Liquid enzymatic formulation to accelerate the clarification of musts before alcoholic fermentation.

Its use also decreases the volume of grape lees, thus helping you to reduce your costs. The formulation is active at low (T° >from 5 °C) and high (to 68 °C) temperatures. It is therefore suitable for use for white must flotation as well as for red wine thermovinification.

BENEFITS

- Very fast depectinisation and floculation, reducing turbidity even at low dosages (T° > 5 °C)
- Yield in clear juice increased, even after a few hours of contact
- Flotation can be started early and yields increased by a better depectinisation and greater compaction of lees
- Rapid decrease in the viscosity of musts from heated grapes, for fresh and precise aromatic profiles and an early clarification of the wines



To achieve an equivalent performance such as Vinoclear® Classic, you have to use from 1,2 to 7,3 times more enzymes (from competition products tested).

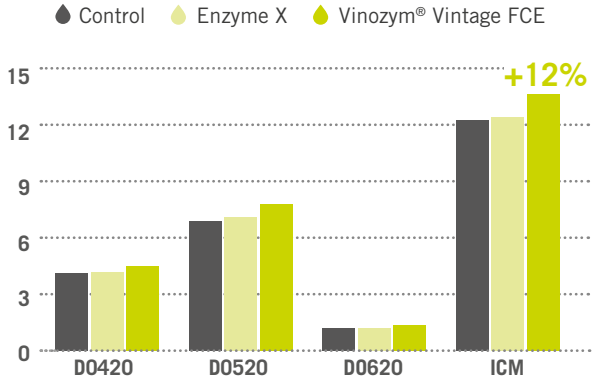
VINOZYM® VINTAGE FCE

Enzymatic preparation specifically formulated for an early and targeted degradation of the red grape skin cell walls.

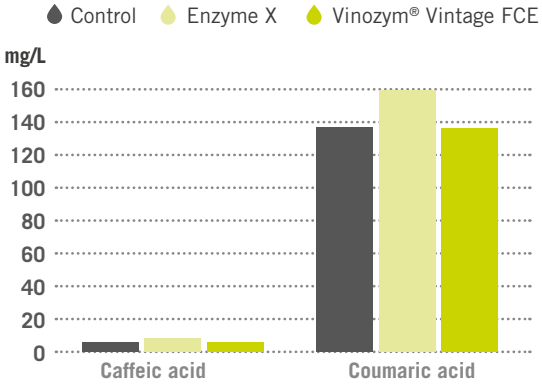
BENEFITS

- For the maceration and extraction of red grapes in traditional vinification
- Purification from Cinnamoyl Esterase activity (< 0,5 CINU / 1000 PGNU)
- **In order to liberate the beneficials phenolics components:**
  - skin tannins
  - anthocyanins with an increase in concentration (ICM) and a better stability over time
- **To manage the polysaccharides profiles:**
  - increase of small size polysaccharides (RGII) → decrease of astringency
  - decrease of intermediary size polysaccharides (PRAG) → improvement of the filterability
- **To increase yield of free-run wine and press wine**

Colorimetric analysis
Bordeaux • Cabernet Sauvignon • 2019



Amount of phenolic acids
Bordeaux • Cabernet Sauvignon • 2019



The use of Vinozym® Vintage FCE helped to increase the wine's colour (particularly the red colour, indicating better extraction of anthocyanins) without producing phenolic acids, a direct substrate of *Brettanomyces* in the production of volatile vinyl and ethyl phenols.

VINOTASTE® PRO

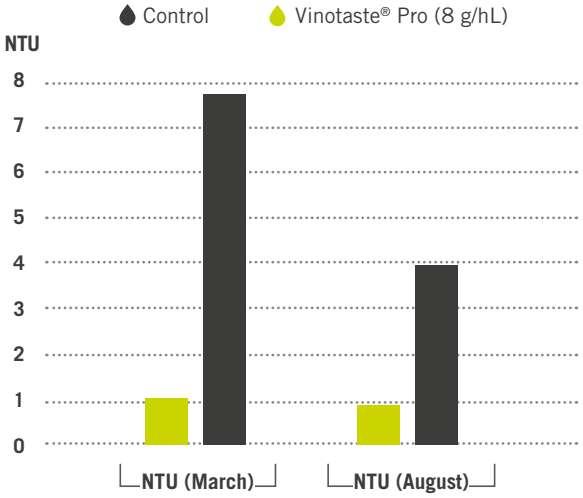
Enzymatic formulation that combines pectinase and betaglucanase (1-3 ; 1-6) activities for the hydrolysis of yeast polysaccharides, and/or botrytis polysaccharides in the case of curative usage (altered harvest).

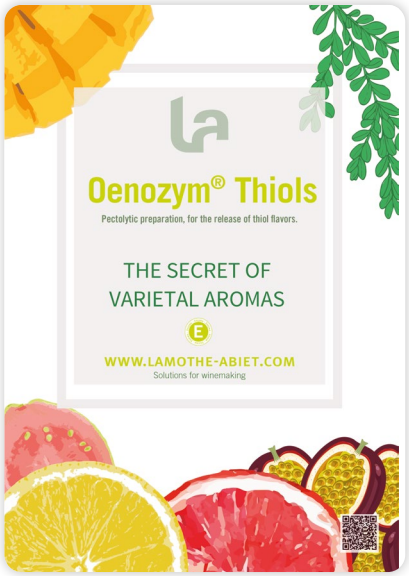
This enzyme can be used for a large number of applications: at the end of the maceration, at running-off, or during ageing. The dosage is determined according to the substrate to break down and the desired time of action.

BENEFITS

- Increases the freshness of aromas and the roundness of wines thanks to the release of peptides
- Cleaning up of wines and increasing the yield of finished wines, less lees
- Rapid clarification of press wines
- Widely acknowledged for the increasing filterability of wines during stantard ageing
- Elimination of botrytis glucans in the case of altered harvests

Turbidity (NTU)
Inter-Rhône Trial, Shiraz
Vinotaste® Pro added under the marc at the end of AF





ŒNOZYM® THIOLS

The secret of varietal aromas

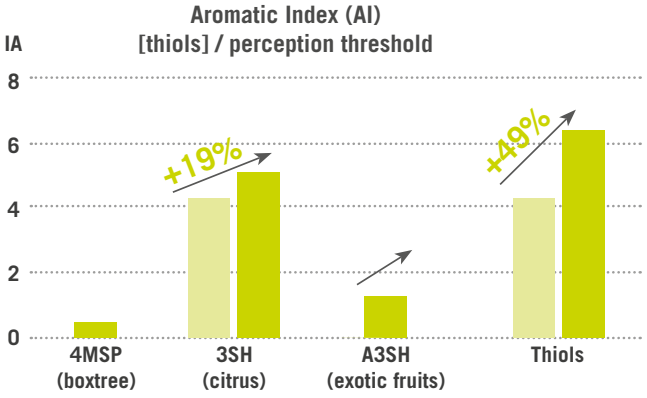
Pectolytic enzyme preparation from *Aspergillus niger*, rich in secondary activities and to increase the aromatic expression of white and rosé wines.

Depending on the moment of application, it can **modulate the aromatic profile** of wines:

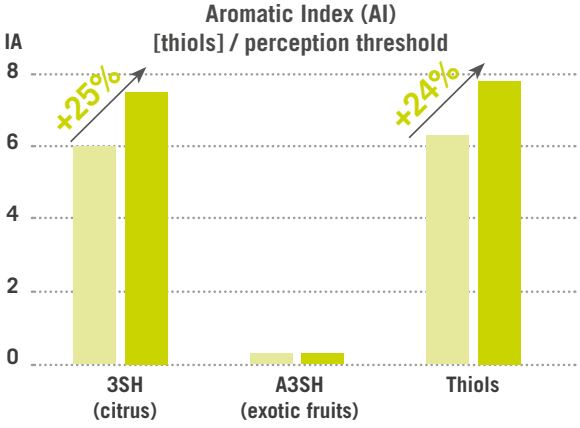
BENEFITS

- *Used during alcoholic fermentation:* enhances the liberation of thiol aroma precursors such as 4MSP (box-tree) and 3SH (citrus fruit) and thus indirectly increases conversion by the yeast to A-3SH (tropical fruits).
- *Added during maturation or a few weeks before bottling:* will help to free thiol precursors (4MSP and 3SH) already present in the wine (which, when in precursor state linked to cysteine or glutathione, are non-oxidizable compounds). The conversion to A3SH by the yeast is impossible in this case.

Œnozym® Thiols added during AF
White wine Pecorino variety • 2016 • Italy
ABV: 13,15% vol • pH = 3,37 • TA: 4,3 g/L H_2SO_4
Control Œnozym® Thiols



Œnozym® Thiols added during maturation
White wine Pecorino variety • 2016 • Italy
ABV: 12,65% vol • pH = 3,3 • TA: 4,4 g/L H_2SO_4
Control Œnozym® Thiols



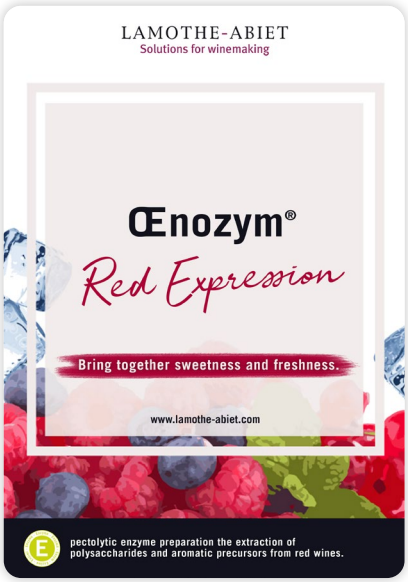
To know

- **Œnozym® Thiols** helps to increase the thiol aromatic intensity of a wine to **increase the lifespan of the aromas.**
- **Œnozym® Thiols** can also be added to wines just before bottling, thus **decreasing the risks of losses through oxidation**.

"We carried out trials with Œnozym® Thiols in fermentation and during ageing on our wines, in several wineries and with different varieties, for the optimisation of thiol expression.

The results showed Œnozym® Thiols' capacity to enhance the grapes' potential in thiols. The treated modalities were prefered for their more intense and delicate aromas. The treated wines were found to be more complex and harmonious compared to the control wines."

Dino MELCHIORRE,
Dr. in Natural Sciences, Roseto Degli Abruzzi - ITALY



ŒNOZYM® RED EXPRESSION

Bring together sweetness and freshness

A new pectolytic enzyme preparation extracted from *Aspergillus niger*, rich in secondary activities and very specific for the aromatic expression of red grapes.

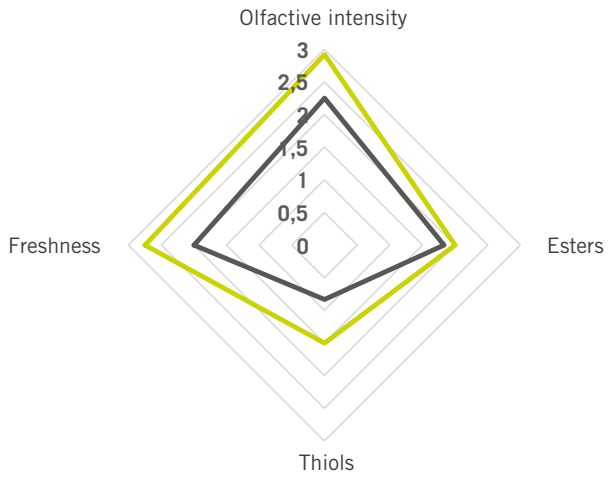
Drawing on our expertise in thiol varietal aroma revelation, Lamothe-Abiet has developed Œnozym® Red Expression. When used during fermentation, this enzyme:

BENEFITS

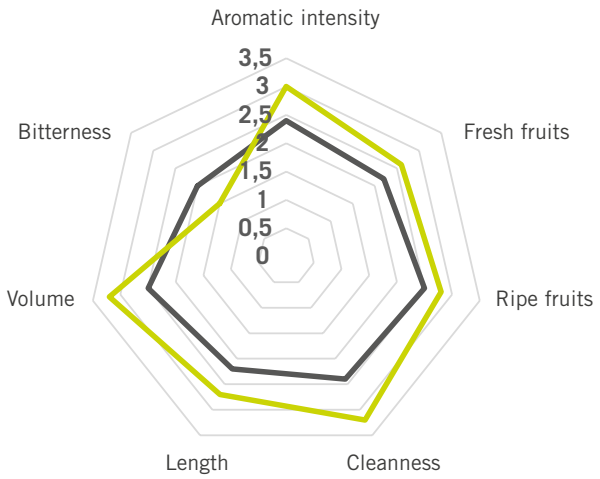
- Helps to extract polysaccharides and aroma precursors, thus revealing the intensity of "fresh fruit" characteristics
- Brings softness and sucrosity to red wines

Blind tasting by 12 professionals
Pinot noir, 2020 • Beaujolais • addition of 5mL/hL during AF

Notes on the nose



Sensations on the palate



To know

Recent studies highlight the role of volatile thiols in the fruity perception of red wines. Indeed, wines supplemented with 3MH (citrus notes) and A3MH (tropical fruits) are described as having a more intense freshness with blackcurrant and redcurrant aromas.

" I tested Œnozym® Red Expression on 500 hL of very ripe Pinot noir. *During hot vintages, our Pinot noirs tend to express notes of black fruits, whereas we prefer red fruit expression. We carried out the trial against a 500hL control tank of Pinot noir without enzyme addition but with the same neutral yeast, not specifically selected for volatile thiol liberation on red wines.*

We obtained the objective we were aiming for: the tank in which enzymes were used had more fresh red fruit aromas, such as blackcurrant or redcurrent, after the fermentations."

Jérémy RASTOURS, Cellar master,
CAVES coopératives des vignerons de buxy, Saône-et-Loire, FRANCE

NEW

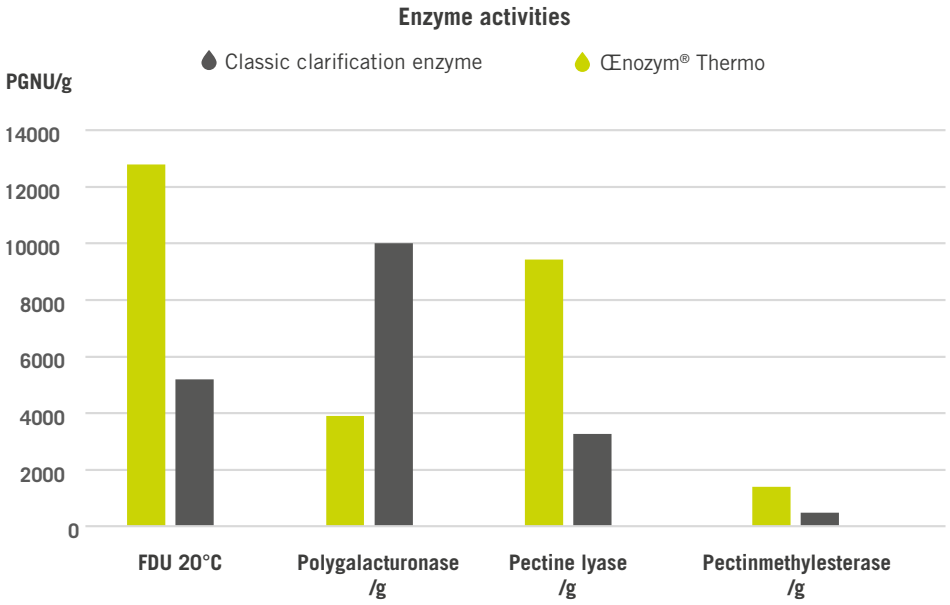
A new enzyme in the Œnozym® range!

ŒNOZYM® THERMO

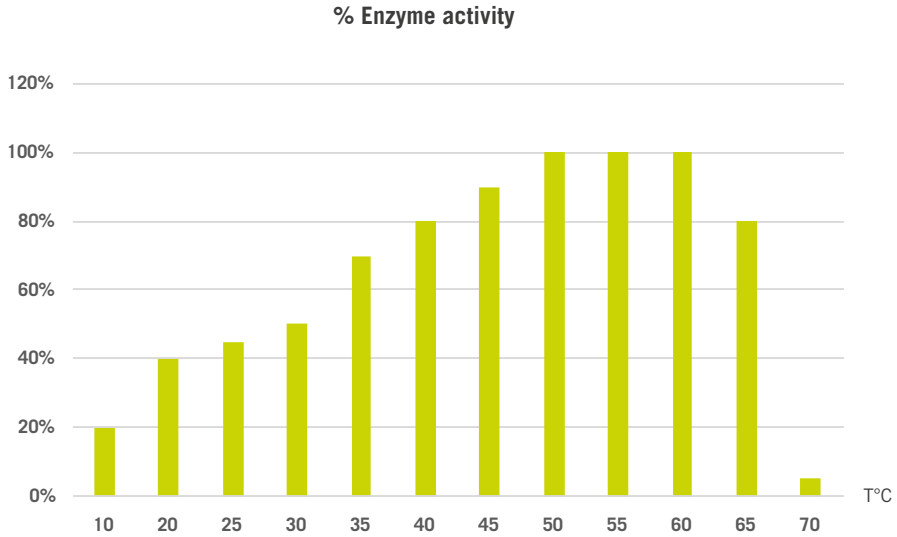
New formulation of liquid enzymes to speed up must clarification of thermovinified grapes.

Heating musts at temperatures over 70°C causes the enzymes naturally found in the grapes to denature.
It is therefore necessary to add a specific enzyme to hydrolyse the pectins, thus improving the clarification of musts.

Œnozym® Thermo's resistance to **high temperatures** (up to 68°C) and its high level of pectin lyase activity make it an enzyme particularly well adapted to depectinising thermovinified musts.



FDU 20°C (Ferment Depectinisation Unit): an enzyme's capacity to degrade pectin.
Thanks to its strong pectin lyase concentration, Œnozym® Thermo effectively hydrolyses pectin chains.



LAMOTHE-ABIET ENZYME LIST

CLARIFICATION ENZYMES		TYPE DE WINE	DOSAGE	RECOMMENDATIONS
Vinoclear® Classic	L		1-3 mL/hL	Particularly suitable for flotation. After use of Vinocrush®, apply a half dosage on press fraction > 1 bar only.
Novoclair® Speed*	G		0,5-2 g/hL	After use of enzyme on grapes, use a half dosage on the press fraction > 1 bar only.
NEW **Œnozym® Thermo**	L		2-4 mL/hL	Recommended for the clarification of heat treated musts. Stable at high temperatures.

MACERATION ENZYMES		TYPE OF WINE	DOSAGE	RECOMMENDATIONS
Vinozym® FCE G*	G		2-4 g/100 kg	Increase the dosage to 5 g/100 kg for berries of small size or lacking maturity.
Vinocrush® Classic	L		2-4 mL/100 kg	Increase the dosage to 5 g/100 kg for small sized seeds or lacking maturity.

MIXED ENZYMES		MACERATION	CLARIFICATION	TYPE OF WINE	DOSAGE	RECOMMENDATIONS
Vinozym® Ultra FCE*	L	●●●	●●●		Maceration: 2-4 mL/100 kg Clarification: 1-2 mL/hL	Maceration: Increase the dosage to 5 g/100 kg for berries of small size or lacking maturity. Clarification: After use of enzyme on grapes, use a half dosage on the press fraction > 1 bar only.
Vinozym® Process*	G	●●●	●		3-4 g/100 kg	Increase the dosage to 5 g/100 kg for berries of small size or lacking maturity.
Vinozym® Vintage FCE*	G	●●●	●●		3-4 g/100 kg	Increase the dosage to 5 g/100 kg for berries of small size or lacking maturity.

SPECIFIC ENZYMES		CLARIFICATION	FERMENTATION	MATURATION	FILTRATION	TYPE OF WINE	DOSAGE	RECOMMENDATIONS
NEW **Œnoflow Max**	L	-	-	●●●	●●●		**5-10** mL/hL	Adjust the dose according to the length of time before filtration.
Œnozym® Red Expression		-	●●● Freshness and sweetness	●● Freshness and sweetness	-		4-6 mL/hL	Add after the start of AF to benefit from natural inerting. When used in combination with an extracting enzyme, we recommend to slightly reduce its dose.
Œnozym® Thiols		-	●●● Revelation of thiol aromas	●●● Revelation of thiol aromas	-		4-6 mL/hL	Add after the start of AF to benefit from natural inerting. - During AF: revealing 3MH, 4MMP and 3MH thanks to the synergy with yeasts. - During ageing: revealing 3MH and 4MMP.
Œnozym® Fruity Wine (FW)		-	-	●●● Revelation of terpenes	-		Dry wine: 3-6 g/hL Sweet wine: 6 g/hL	Check the level of SO_2, stop the enzymatic activity with 20 g/hL of bentonite
Vinotaste® Pro*	P	●	-	●●● + Roundness	●●●		4-10 g/hL	Active at all pHs Increase the dosage by 30 % if Temp. < 12 °C

Small packaging products:

- **Œnozym® Ultra FCE (250 g):** for maceration and clarification of white and rosés musts.
- **Œnozym® Crush (1 kg):** for maceration of white, rosé and red musts.
- **Œnozym® Clear (1 kg):** for clarification of white, rosé and red musts.

L: liquid G: granulated P: powder

** Level of purification FCE < 0,5 CINU/1000 PGNU certified by the latest standard FSSC 22000*

TANINS

The result of a fast-moving research, our tannins are created in our specialised production unit. The quality of the products and their effectiveness are guaranteed by rigorous selection of the raw materials, and by our knowledge and control of the production process.

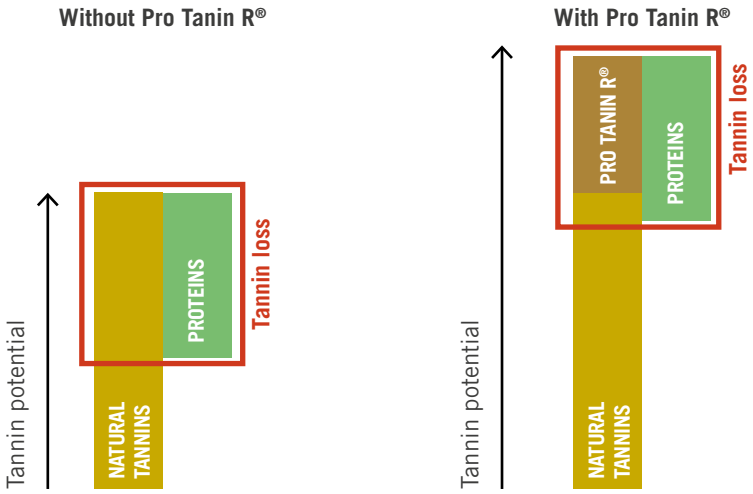
The specific micro-granulated (MG) and granulated (G) formulation of our tannins, with instant solubility, allows direct addition to must or wine. Homogeneous dispersion by stirring or pumping over guarantees immediate and effective action of the tannin.

PRO TANIN R®

Preparation of instantly soluble proanthocyanidic tannins.

BENEFITS

- Binds the must proteins that cause an early loss of desirable phenolic compounds.
- Inhibits laccase, an enzyme that causes drastic and irreversible oxidation in botrytised musts and wines.



//1: Preserving the tannin potential
The tannin potential of a must is preserved thanks to the buffer effect of Pro Tanin R®.

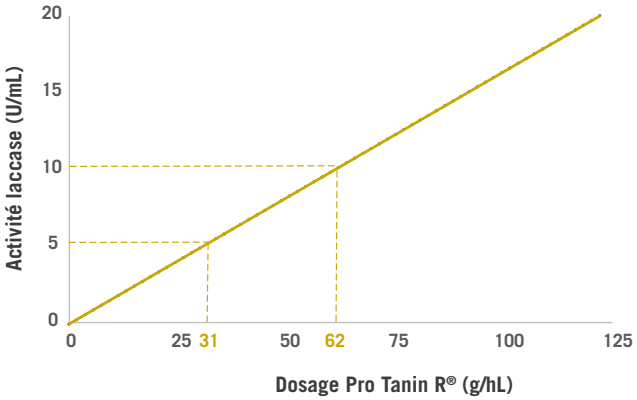
//2: Inhibition of laccase activity
A small laccase activity in the must considerably diminishes the visual quality of the future wine.
The use of **Pro Tanin R®** suppresses this laccase activity and maintains the colour potential of the future wine.

Trials conditions:
Cabernet Sauvignon, Graves, 2016 • ABV: 11,5% vol, pH = 3,52

	Laccase activity on must (U/ml)
Control	4
½ dosage Pro Tanin R®*	1
1 dosage Pro Tanin R®*	0

**Dosage recommended by Botrytest*

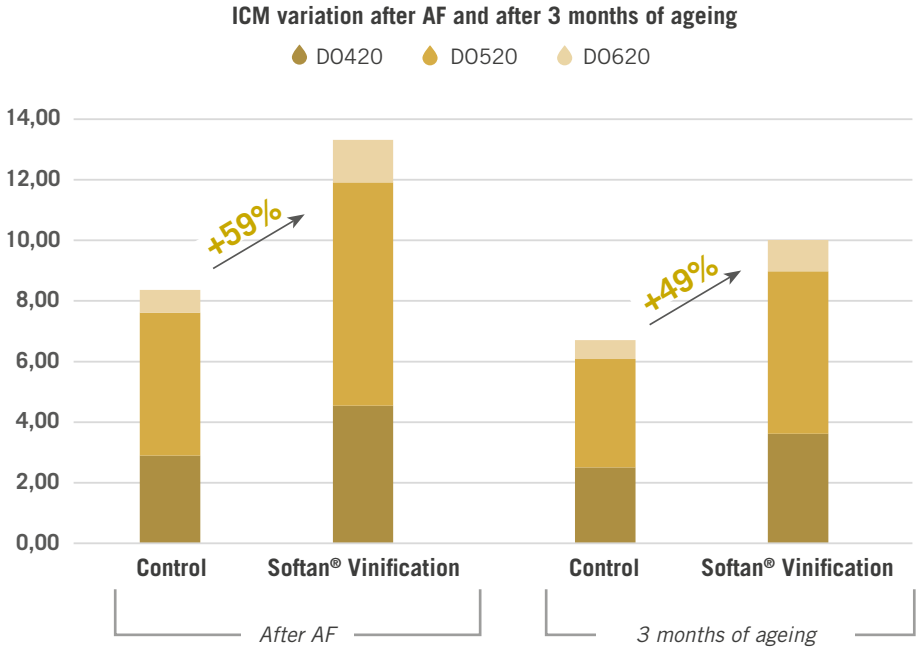
Amount of Pro Tanin R® to inhibit laccase activity



SOFTAN® Structure and softness

The **Softan®** range is based on a technology that is exclusive to Lamothe-Abiet. It offers solutions for each step of wine production thanks to its formulations of specic tannins combined with **natural polysaccharides of plant origin**. This technology is based on a phenomenon which naturally takes place in wines wherein the tannins combine with polysaccharides.

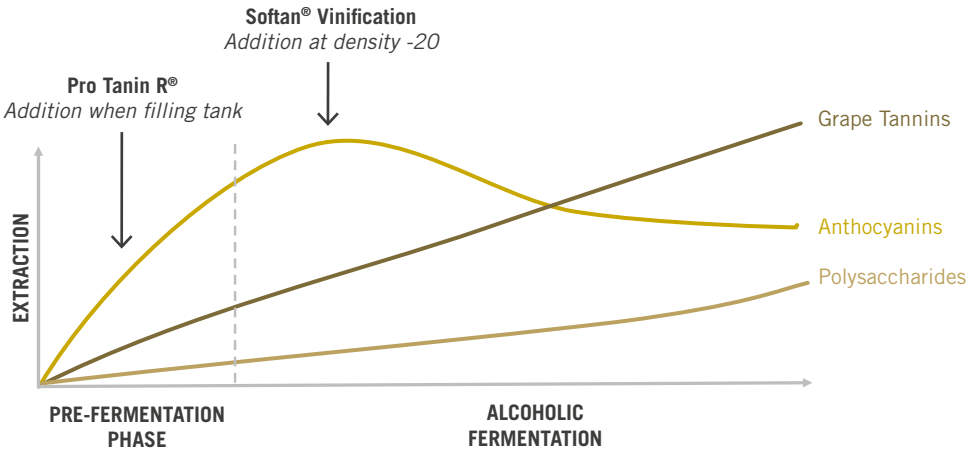
Softan® products signicantly increase the **volume** and **length** on the palate **without adding dryness or astringency**.



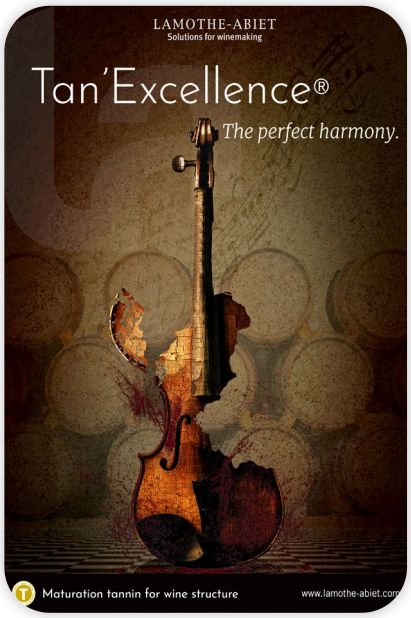
Softan® Vinification Trial:

- Thermovinified Merlot, Bordeaux
- TAV: 14,1% vol, pH = 3,45
- 30 g/hL Softan® Vinification added at D+1

Optimisation of colour stabilisation during alcoholic fermentation



The synergistic action of Pro Tanin R® and Softan® Vinification, when added at the right moment, is effective in preserving the tannin potential and stabilising the colour.



TAN'EXCELLENCE® The perfect harmony

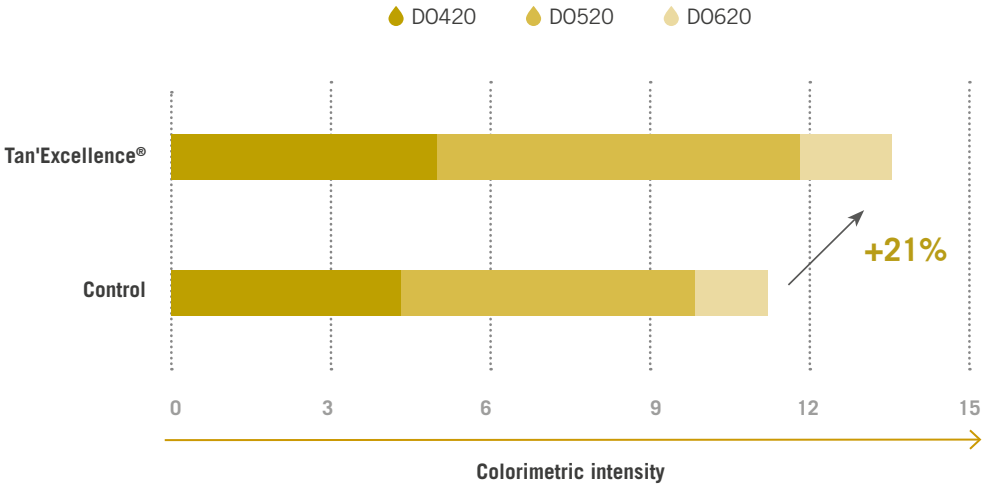
Maturation tannin resulting from a rigorous selection of oak tannins, grape tannins and proanthocyanidic tannins.

Its directly soluble formulation makes this tannin easy to use.

BENEFITS

- Durable colour stabilisation
- Protection against wine oxidation
- Improves the structure and provides a harmonious balance to great red wines

Colorimetric analysis
Cabernet Sauvignon • 2019 • Lamothe-Abiet Experimental Center
Tan'Excellence® at 10 g/hL - Analysis 1 month after bottling

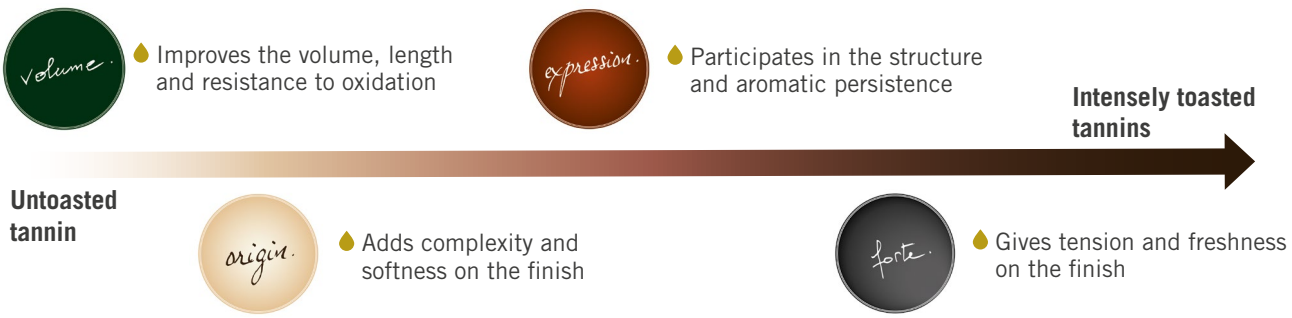


TAN&SENSE® The final touch

High quality oak and grape tannins for ageing.

When added during ageing or before bottling, Tan&Sense® tannins help to **protect wines against oxidation**, whilst respecting the wine's **balance** and **fruitiness**.

Thanks to a unique extraction process, and a gradual toasting, the tannins from the Tan&Sense® range express a great potential to give harmonious wines that meet winemakers' objectives.



LAMOTHE-ABIET TANNIN LIST

	VINIFICATION TANNINS	COMPONENTS	INHIBITION OF LACCASE ACTIVITY	ANTIOXYDANT ROLE	REACTIVITY WITH PROTEINS, EASE OF FINING	COLOR STABILISATION	ROUNDNESS	ADDITON TIME	TYPE OF WINE	DOSAGE g/hL
MUST AND WINE	**Pro Tanin R®**	*Proanthocyanidic tannins*	●●●	●●	●●●	●●		tank filling	🍷	Healthy harvest: 10 - 30 Affected harvest: 30 - 80
	Softan® Vinification	*Catechic tannins bound to vegetal polysaccharides*	●	●	●●	●●●	●●●	Δ-30 or D+1 post tank filling	🍷	10 - 40
	Tanin gallique à l'alcool	*Gallic tannins*	●●●	●●●	●●●			Spoiled mechanical harvest, Pre-fermentation maceration, pressing, fining	🍷🥂	3 - 15

	MATURATION TANNINS	COMPONENTS	COLOR STABILISATION	CONTROL OF REDOX POTENTIAL	STRUCTURE	ROUNDNESS	PROFILE HARMONISATION	TYPE OF WINE	DOSAGE g/hL
START OF BREEDING	**Tan'Excellence®**	*Grape tannins, oak tannins and catechic tannins*	●●●	●●●	●●	●●	●	🍷	3 - 30
	Softan® Power	*Proanthocyanidic and ellagic tannins bound to vegetal polysaccharides*	●●●	●●	●●	●●●	●	🍷	10 - 40
DURING THE BREEDING PROCESS	**Vinitan® Advance**	*Grape tannins*	●●●	●	●●●	●	●	🍷	1 - 10
	Tan&Sense® Volume	*Pure oak tannins*	●	●●●	●●	●	●	🍷🥂🥂	🍷 1 - 10 🥂 0,5 - 3
	Softan® Sweetness	*Proanthocyanidic and ellagic tannins (from fresh and toasted oak) bound to vegetal polysaccharides*	●●	●	●●	●●●	●●	🍷🥂🥂	🍷 10 - 40 🥂 1 - 3
END OF BREEDING PROCESS	**Tan&Sense® Origin**	*Pure tannins of toasted oak of stave quality*	●	●●	●●	●●●	●●●	🍷🥂🥂	🍷 1 - 10 🥂 0,5 - 3
	Tan&Sense® Expression	*Medium toasted oak tannins*	●●	●●	●●●	●	●●●	🍷🥂🥂	🍷 1 - 10 🥂 0,5 - 3
	Tan&Sense® Forte	*Intensely toasted oak tannins*	●●	●●	●●●	●	●●●	🍷🥂🥂	🍷 1 - 10 🥂 0,5 - 3
	Softan® Finition	*Toasted oak tannins bound to vegetal polysaccharides*	●	●	●●	●●●	●●●	🍷🥂🥂	🍷 10 - 40 🥂 1 - 3

** Guidelines only: carry out trials to determine the optimal dosage for each type of wine.*

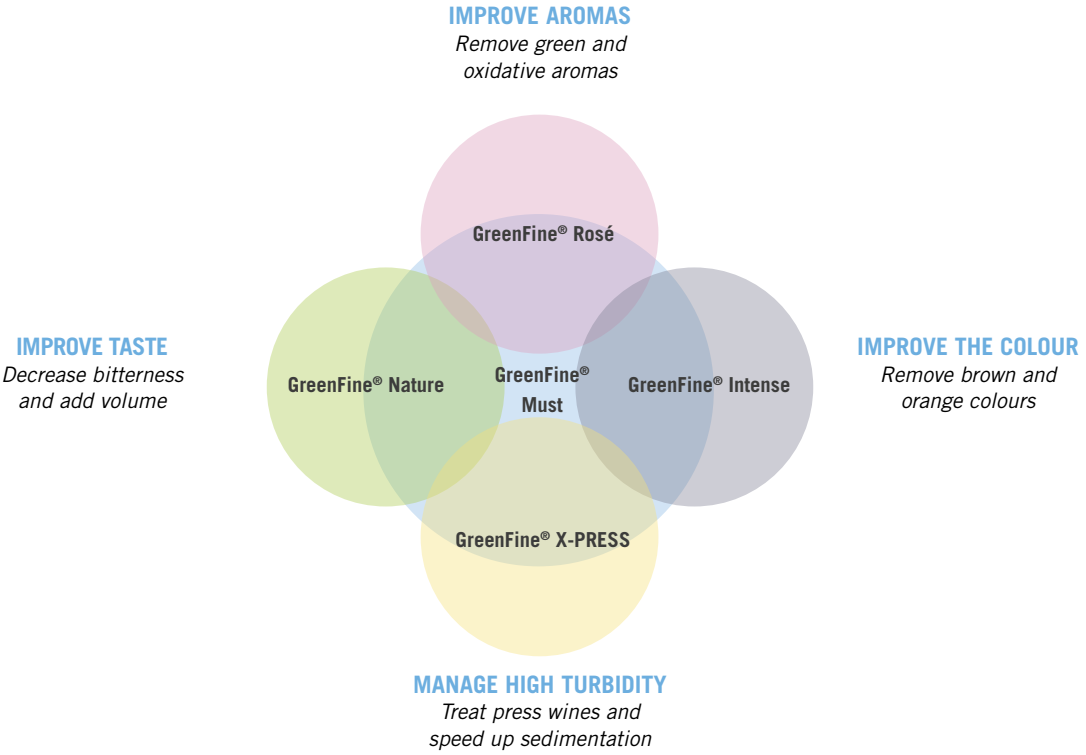
FINING

Must fining, carried out before or during alcoholic fermentation, is an essential step in white and rosé winemaking. Lamothe-Abiet offers enological solutions that are adapted to the winemaker's objectives.

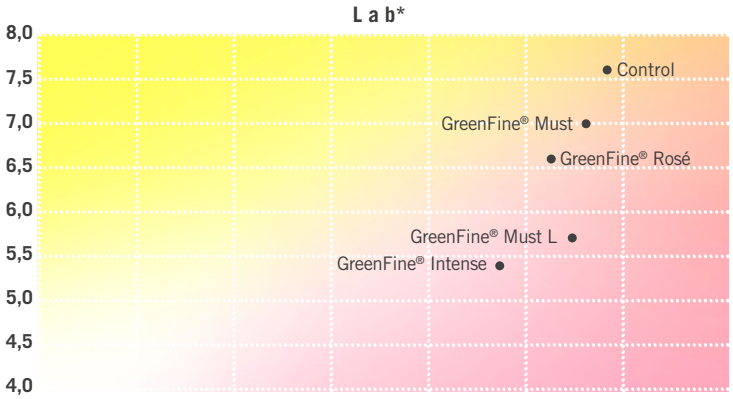
GREENFINE® Give peas a chance

Based on pea vegetal proteins and without allergen*, products from the **Greenfine® range** are complex formulations that specifically fulfill varying objectives:

** Except GreenFine® Must L, stabilised with sulphur dioxide (E220).*

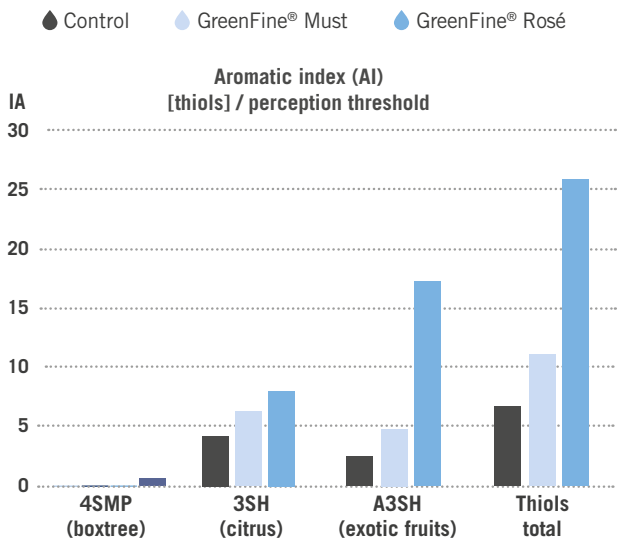


Effect of must fining on the colour of rosé wines
Mourvèdre • Provence • 2018
Dosage: 50 g/hL - Addition during clarification



**analysis by chromametry (Lab) enables a simple, quick and objective measurement of must and wine colours as perceived by the human eye.*

Effect of must fining on wines' aromatic profile
Sauvignon Blanc • Graves • 2016 • Dosage: 50 g/hL

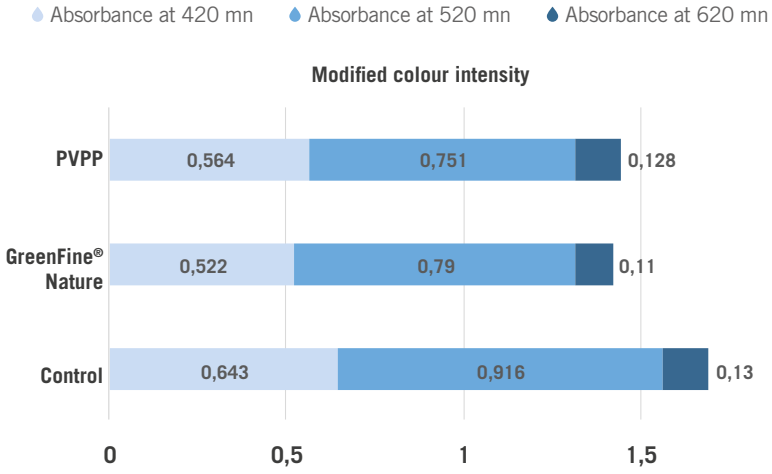


GREENFINE® NATURE Your fining, naturally

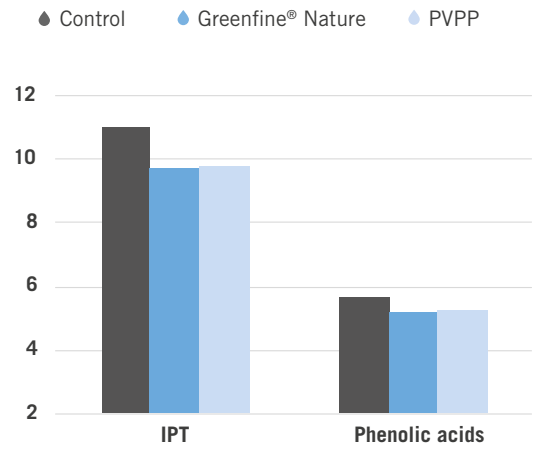
Next generation fining agent, made from 100% natural products, allergen-free and authorised for organic and vegan winemaking. It is a good alternative to PVPP.

It **improves the organoleptic** characteristics of musts and wines (white, rosé and red) by **decreasing bitterness** whilst **adding volume**. GreenFine® Nature provides excellent results for removing colour and revealing fruity notes.

Static fining on Grenache and Syrah must
Dosage of fining products: 30g/hL



Total Polyphenol Index (D0280) and Phenolic Acids (D0320)

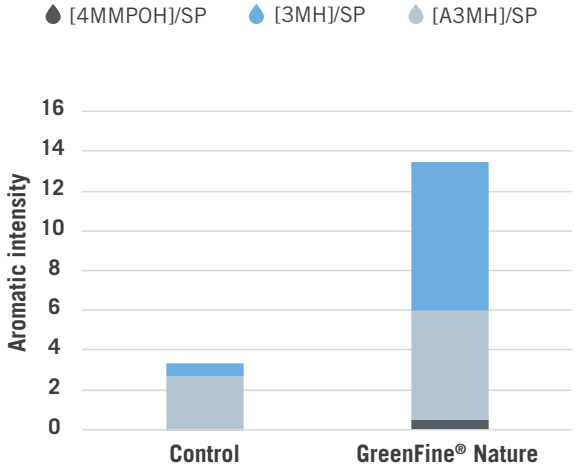


*"We use **GreenFine® Nature** on all types of white and rosé musts, changing the dosage depending on what kind of correction needs to be made. It can also be used during fermentation, if prior fining doesn't appear to be enough.*

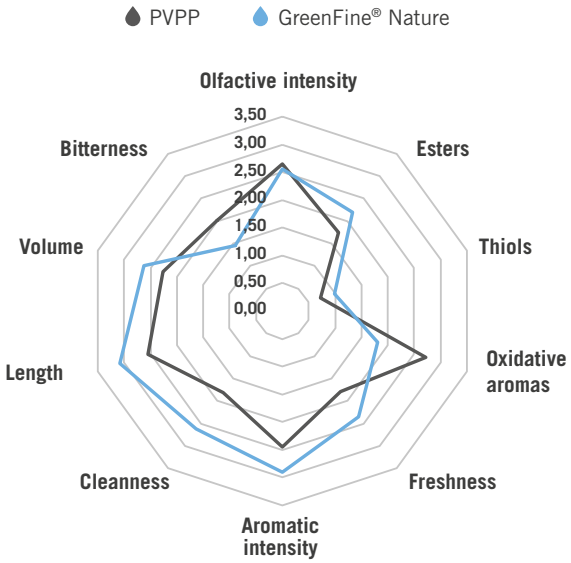
*Having been an active player in the development of this formulation, **GreenFine® Nature** is today an essential product in the GreenFine® range, allowing **early improvement of must colour**, but also **increasing finesse** and **removing bitterness** when necessary. GreenFine® Nature is an excellent alternative to casein on musts affected by downy mildew."*

Gilles BAUDE, Œnologue conseil,
PROVENCE ŒNOLOGIE, FRANCE

Effect of must fining on wines' thiol profile
Rosé Merlot • Entre Deux Mers • Dosage: 30 g/hL



Comparative tasting



GREENFINE® ROSÉ

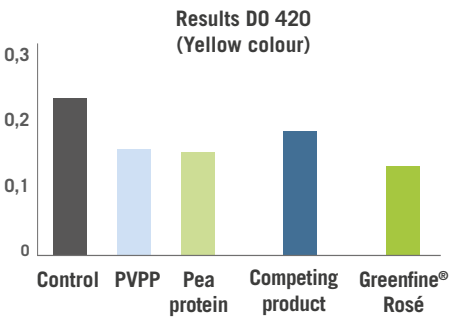
Synergy between pea protein and PVPP

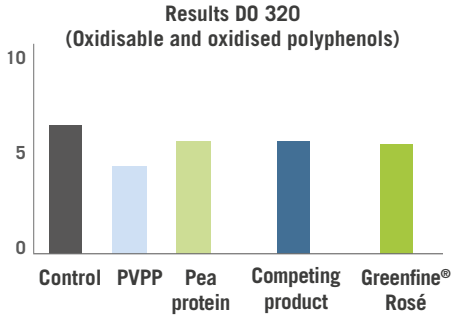
Allergen free formulation for preventative and curative treatment of white and rosé musts.

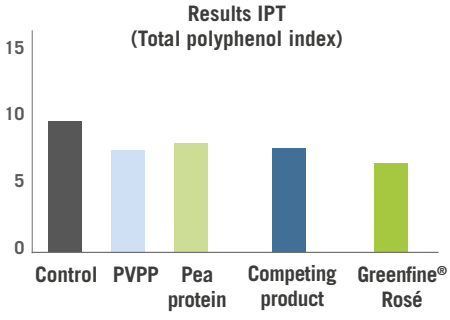
BENEFITS

- The association of pea proteins and PVPP offers a complete action to reduce oxidisable (DO320) and oxidised (DO420) phenolic compounds. It decreases bitterness and off flavours (mouldiness/greenness).
- Removing undesirable elements from musts maximises the aromatic potential and optimises aromas preservation in the wine.
- Efficient in decreasing yellow colours, thus reducing orange tones.

Fining trial on white must
Sauvignon blanc must



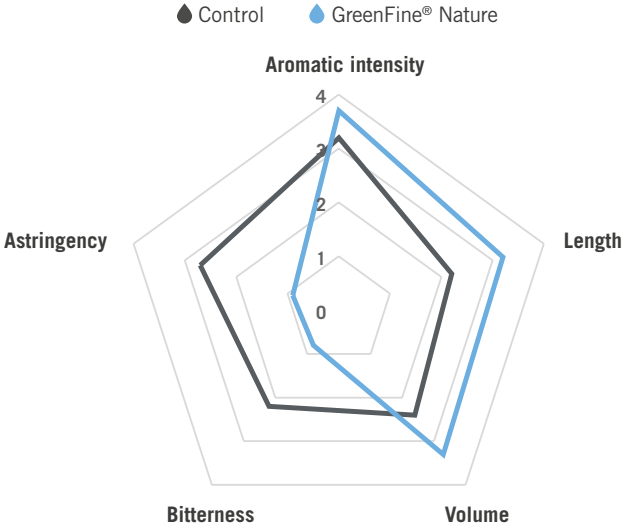




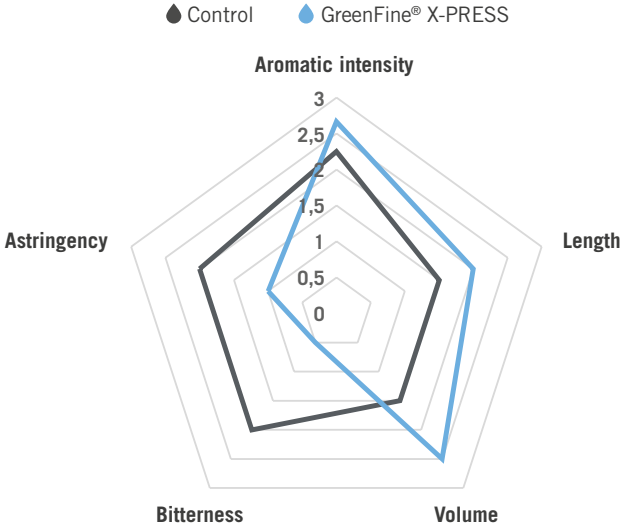
Red wine fining:
Vegan alternatives!

Red wine tasting results (15 experienced tasters)
after use of GreenFine® range fining agents

Fining: GreenFine® Nature
Pinot noir • Alsace • 2021 • 20 g/hL



Fining: GreenFine® X-PRESS
Gamay • Beaujolais • 2021 • 30 g/hL



Our trials have demonstrated the **efficiency** of the Greenfine® range products for fining red wines in **removing astringency** and **increasing volume**. Each wine being different, we recommend that you carry out fining trials beforehand in order to find the product the most adapted to your objectives.

LAMOTHE-ABIET FINING PRODUCT LIST

FINING PRODUCTS BASED ON PEA PROTEINS		STRUCTURE	COLOR STABILITY	DECREASE VEGETAL	TREAT OXIDATION	TYPE OF WINE / APPLICATION	DOSAGE*
GreenFine® Nature (Pea proteins, inactivated yeasts, calcium bentonite)	P	•	••	•••	•••	Must / Wine	10-80 g/hL
GreenFine® Must **Greenfine® Must L:** liquid (Pea proteins)		•	•	•••	•••		10-50 g/hL L: 10-50 cL/hL
GreenFine® X-PRESS (Pea proteins, PVPP, calcium bentonite, Chitin-Glucan)		••	••	••	••		10-80 g/hL
GreenFine® Rosé (Pea proteins, PVPP)		•	••	•••	•••	Must / Flotation	10-100 g/hL
GreenFine® Intense (Pea proteins, discolouring activated carbon, PVPP, calcium bentonite)			•••	••	••		10-120 g/hL

PROTEIN FINING AGENTS		STRUCTURE	ROUNDNESS	COLOR STABILITY	DECREASE VEGETAL	TREAT OXIDATION	TYPE OF WINE / APPLICATION	DOSAGE*
Natur'fine® Prestige (Inactivated yeasts, pectolytic enzymes)	P	•••	••	•	••		Wine for laying down	5-40 g/hL
Ovaline® (Ovalbumin)	L	•••		•••	••		Wine for laying down	1-9 cL/hL
Albumine d'œuf	P	•••		•••	••			5-10 g/hL
Colle de poisson LA		••			•		Wine for laying down	1-3 g/hL
Caséimix (Potassium caseinate)					•	•••	Must / Press wine	15-80 g/hL
Gelflot® (Gelatin)	L	•		•••	••	•	Flotation	1-6 cL/hL
Geldor® (Gelatin)		•		•••	••		Young wine/Thermovinification	1.5-6 cL/hL
Gélatine Spéciale Vins Fins		•		•••	••		Aged wine	2-10 cL/hL
Gélatine Supérieure		••		•••	••		Press wine	1-5 cL/hL
Gelfine® (Gelatin)	P	••		••	••		Aged wine	3-10 g/hL

COLLES COMPLEXES & PVPP		STRUCTURE	ROUNDNESS	DECREASE VEGETAL	PROTEIN STABILISATION	TREAT OXIDATION	TYPE OF WINE / APPLICATION	DOSAGE*
Polymix® Natur' (PVPP, calcium bentonite, inactivated yeasts)	P	••	•	•	•	••	Must during AF	15-100 g/hL
Polymix® (PVPP, potassium caseinate)				•	•	••	Must	15-100 g/hL
Clarfine (PVPP, cellulose)				•••		••	Must / Press wine	10-100 g/hL
PVPP	G MG			•••		••		20-80 g/hL

BENTONITES		PROTEIN STABILISATION	TYPE OF WINE / APPLICATION	DOSAGE*
Bentosol Protect (Sodium)	G	•••	Must / Wine	10-120 g/hL
Bentosol Poudre (Sodium)	P	•••		10-120 g/hL
Bentosol FT (Compatible with tangential)		••		10-120 g/hL

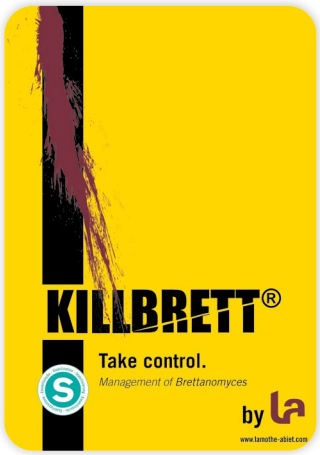
FINING ADJUVANTS		ENHANCING THE EFFECTIVENESS OF A PROTEIN FINING	TYPE OF WINE / APPLICATION	DOSAGE*
Blankasit Super (Acid silica gel)	L	•••		2-5 cL/hL
Gel de Silice (Alkaline silica gel)		••		3 cL/hL

L: liquid G: granulated P: powder MG: micro-granulated

**Guidelines only: carry out fining trials to determine the optimal dosage for each type of must and wine. Respect the maximum authorized dosages according to the current regulations.*

STABILISATION

Stabilisation strategy helps to increase the effectiveness of œnological treatments, to limit the number of subsequent treatments, and also to limit organoleptic losses (colour, aromas).



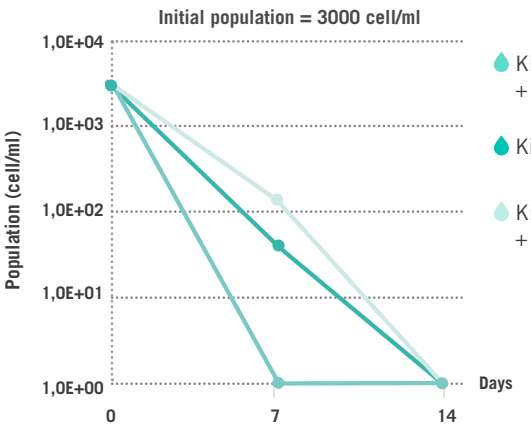
KILLBRETT® Take control

Made 100% from a high purity chitosan exclusively of fungal origin.

To eliminate *Brettanomyces*, **KillBrett®** is shown to be **the easiest** and **most wine-friendly alternative** to DMDC and physical treatments. Chitosan contained in **KillBrett®** causes the lysis of the cell walls of *Brettanomyces* and its sedimentation at the bottom of the barrel or tank.

Killbrett® is a natural product, non-animal origin and non-allergenic, produced of 100 % fungal chitosan (*Aspergillus niger*) which the reduction of microbial load is widely demonstrated.

Effect of KillBrett® on *Brettanomyces* populations



Recommended dosages:

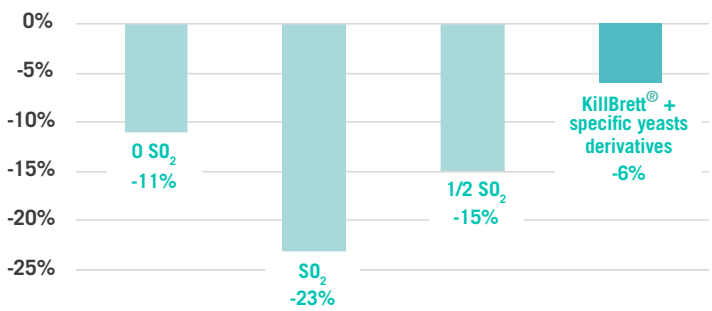
Initial contamination	Recommended treatment
Moderate ± 10^2 cell/mL	**KillBrett® 4 g/hL**
High ± 10^3 cell/mL	**KillBrett® 4 g/hL + VinoTaste® Pro 10 g/hL**
Very high ≥ 10^4 cell/mL	**KillBrett® 6 g/hL + VinoTaste® Pro 10 g/hL**
Preventive treatment (after MLF)	**KillBrett® 4 g/hL**

TO KNOW

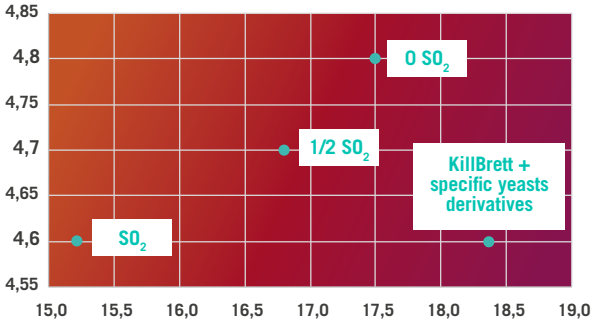
KillBrett® causes cellular lysis and a fining *of Brettanomyces* thus saving your wines from contamination. We recommend that you adapt the treatment according to the observed population of *Brettanomyces*.

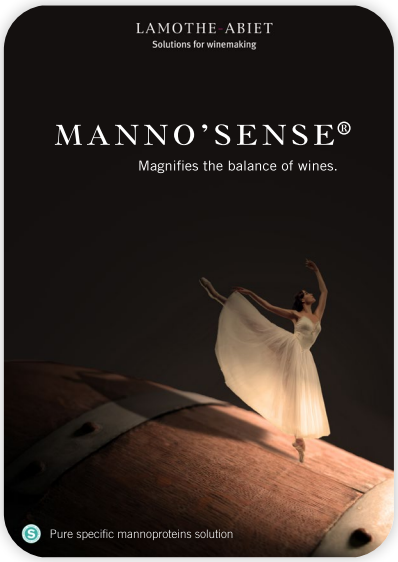
KillBrett® enables the microbial environment to be managed during red wine maturation. Combined with a yeast derivative rich in reductive compounds (like glutathione), it's an excellent tool to **reduce or even get completely rid of sulfites** during ageing. An early addition helps to preserve the wine colour intensity as well as its organoleptic profile.

Loss of ICM between start of maturation and after 9 months
Burgundy • Static 2019 • Pinot Noir



Loss of ICM between start of maturation and after 9 months
Burgundy • Static 2019 • Pinot Noir





MANNO'SENSE® Magnify the balance of wines

Formulation of mannoproteins rich in sapid peptides Hsp12.

Mannoproteins are released during yeast autolysis and play a crucial role in the perception of sucrosity in dry wines.

Manno'Sense® is a natural solution which improves the organoleptic qualities of white, rosé and red wines.

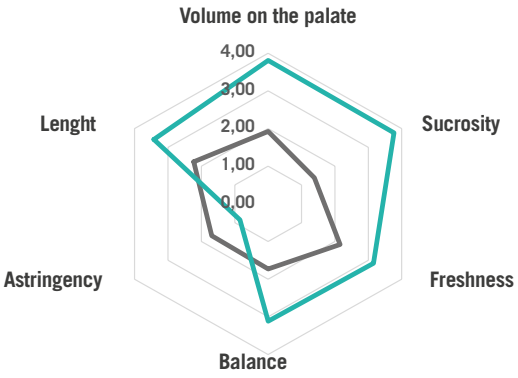
BENEFITS

- Increases roundness and sucrosity
- Provides balance and freshness on the palate
- Improves length of aromas
- Does not have an effect on the filtration clogging index or the CFLA (Lamothe-Abiet Criteria of Filtration)
- Contributes to tartaric stabilisation

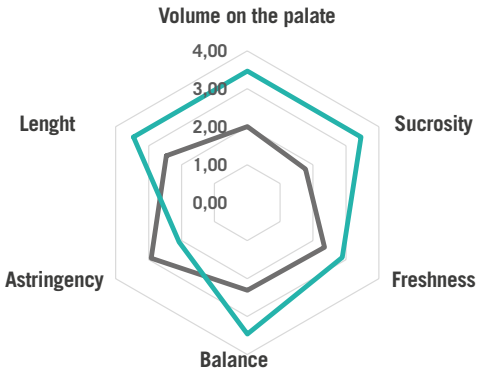
Tasting results of wines (15 trained tasters) after treatment with Manno'Sense®
10 cL/hL before bottling

Control Manno'Sense®

White wine from Gers (Colombard), 2018



Médoc (Cabernet Sauvignon, Merlot), 2019



SUBLI'SENSE® Sublime flavors

Solution of arabic gum and mannoproteins for organoleptic improvements of your wines.

BENEFITS

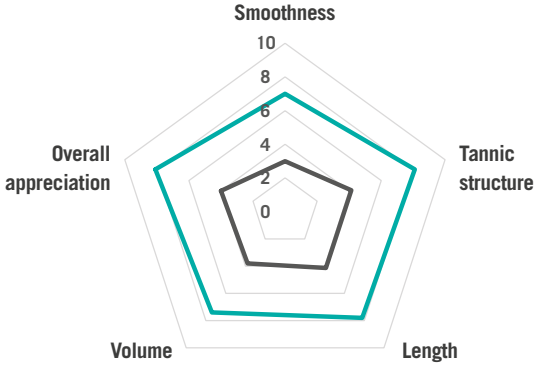
- Increases the unctuosity and flavour
- Enrobes the tannins
- Improves the softness and length on the palate
- Does not have an effect on the filtration clogging index or the CFLA (Lamothe-Abiet Criteria of Filtration)

SUBLI'SENSE®, improves the **mouthfeel** and **flavour** of wines without giving excess heaviness.

Results of tastings after treatment with Subli'Sense®
20 cL/hL before bottling

Control Subli'Sense®

Côtes-du-Rhône (Syrah), 2019



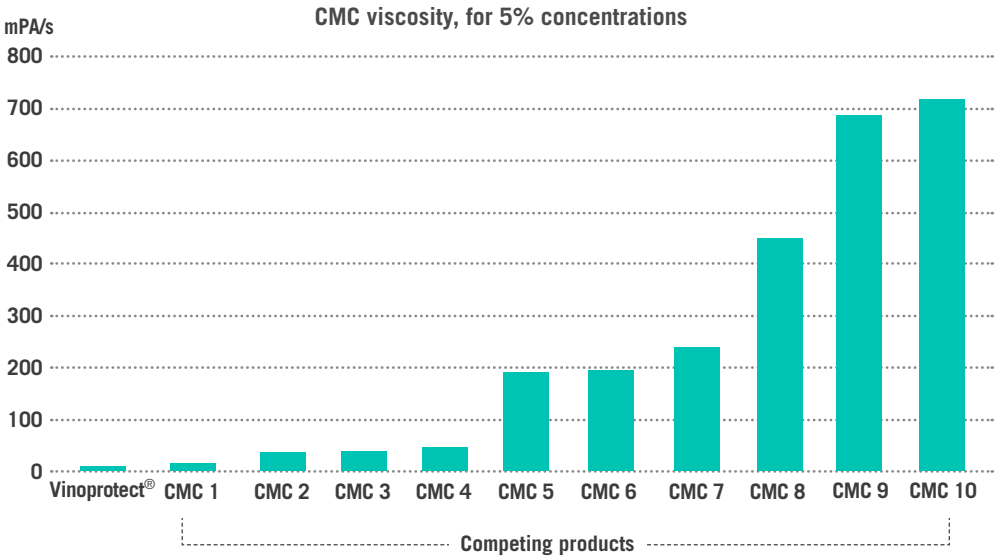
VINOPROTECT®

Cellulose gum for white and rosé wines stabilisation regarding the risk of precipitation of potassium bitartrate.

in addition to its remarkable effectiveness, Vinoprotect® allows you to save preparation time, to reduce the risk of filter clogging and any risk of over- or under-dosage in the final product.

TO KNOW

• Vinoprotect®, is a product with a very low viscosity, it is actually a liquid solution which is both easy to use, to mix in the tanks, and well adapted to in-line injection using a dosing pump.



DOSAPOMPE

Dosapompe is an in-line injection system for liquid enological products, specially designed for automatised in-line continuous injection.

It allows **any type of liquid product** to be safely added to the wine, even the most viscous, such as gum arabic, cellulose gum, liquid SO_2, RCM, enzymes...

BENEFITS

- Avoids loss of product and premature clogging of filter cartridges.
- Guarantees the hygiene and entire integrity of the product and the wine since the product is injected directly from the container.
- Easy cleaning and in-line disinfection through a completely automatised programme.
- Ensures perfect traceability thanks to a management system for batches and volumes.

PRODUCT	PRODUCTION LINE RATE	DOSAGE RATE	DOSAGE PRECISION	MAX. PRESSURE PUT ON LINE	WORKING TEMPERATURE
Dosapompe 100-20	Up to 10 000 bottles/h	Up to 20 liters/h	+/- 3% with calibration	4 bars	5 to 60°C (resistant to vapour)
Dosapompe 200-50	Up to 20 000 bottles/h	Up to 50 liters/h		7 bars *	

** Compatible with counter-pressure bottling line*

200-50

"The gum arabics offered by Lamothe-Abiet conform with our quality expectations for stabilisation and giving roundness in wines.

After having good results, we decided to install a dosapump to make it easier to do in-line mixing."

Thomas TROULAY, Wine manager
VIGNERONS DE PUISSEGUIN, LUSSAC SAINT-EMILION, FRANCE

LAMOTHE-ABIET STABILISATION PRODUCT LIST

ARABIC GUMS & MANNOPROTEINS			STABILISATION				TYPE OF WINE	DOSAGE*
			COLLOIDAL	COLOUR	ROUNDNESS	FILTERABILITY		
ARABIC GUMS	Gomme LA	L	●●●	●●●	●	●●●		10 cL/hL
	Gomme Arabique ST		●●●	●●●	●	●		10 cL/hL
	Polygom		●●	●●	●●	●●		5-30 cL/hL
	Vinogom®		●	●	●●●	●●●		5-30 cL/hL
	Excelgom®	MG	●	●	●●●	●	🍷🍷🍷	15-120 g/hL
ARABIC GUMS AND MANNOPROTEINS	NEW Manno'Gom®	P	● + tartaric	●	●●● + sucrosity	●●		5-30 g/hL
	Subli'Sense®	L	● + tartaric	●	●●	●●●		10-30 cL/hL
MANNOPROTEINS	Manno'Sense®		●● + tartaric	●	●●● + sucrosity	●●●		2,5-15 cL/hL

TARTARIC STABILISATION			STABILISATION			TYPE OF WINE	DOSAGE*
			TARTARIC	EFFECTIVENESS OVER TIME	INTERACTIONS WITH PROTEINS		
CMC	Vinoprotect®	L	●●●	●●●	●●	🍷🍷	10-40 cL/hL
MANNOPROTEINS	STAB K®		●●	●●●	-		≤ 40 cL/hL
METATARTARIC ACID	Antitartre 40	P	●●●	●	●	🍷🍷🍷	10 g/hL
CREAM OF TARTAR	Bitartrate de Potassium	C	●●●	●●●	-		4 g/L

MICROBIOLOGIACAL STABILISATION			STABILISATION				TYPE OF WINE	DOSAGE*
			BRETTANOMYCES	ACETIC BACTERIA	LACTIC BACTERIA	YEASTS		
CHITOSAN	KillBrett®	P	●●●	-	●	-	🍷🍷🍷	2-10 g/hL
LYSOZYME	Lacticide	P	-	-	●●●	-		10-50 g/hL
FUMARIC ACID	Acide Fumarique	C	-	-	●●●	-		25-50 g/hL
SORBATE	Sorbasol	P	-	-	-	●●●		10-20 g/hL
SO_2	Coeff 2 et 5 g	CE	●●	●●	●●	●●		According to objectives
	Sulfisol 6%, 10%,15% and 18%	L						
	Pyrosulfite of potassium	P						

CHARBONS			STABILISATION		TYPE DE VIN	DOSAGE*
			COLLOIDAL/COLOUR	AROMATIC		
CHARBONS	Géospriv	P G	-	●●● + decontaminating	🍷🍷🍷	20-100 g/hL before end of FA
	Super Ultose	P G	●●● + color removal	-		≤ 100 g/hL

L: liquid G: granulated P: powder MG: micro-granulated C: crystal CE: effervescent tablets

** Guidelines only: carry out trials to determine the optimal dosage for each type of wine. Respect the maximum authorized dosages according the current regulations.*

ŒNOBOIS
AU CŒUR DU VIN

Œnobois® continue in this direction with the launch of 18mm Staves. The use of "thick" oak with a longer contact period allows the oak compounds to diffuse progressively. The compounds in the oak and the wine will polymerise gradually. The aromas last longer over time, and the wine finds a better balance, with greater finesse and elegance.

STAVES & BLOCKS ŒNOBOIS® 18mm

Œnobois® 18mm Staves are the result of a two-step toast (Double Toast Process):

- the first slow toast **works evenly on the whole wood mass**;
- the second superficial toast **helps to increase aromatic complexity**.

The resulting profiles are characterised by **intense** and **complex** aromas **that emphasise the wine's finesse** and **length on the palate**.

Œnobois® 18mm Blocks are made from **Œnobois® 18mm Staves**. Their small size allows wines with shorter maturation to benefit from a new dimension of organoleptic complexity.

ORIGIN

- The "lightest" toasting profile
- Freshness of the fruit, coconut and vanilla aromas
- Sweetness and roundness

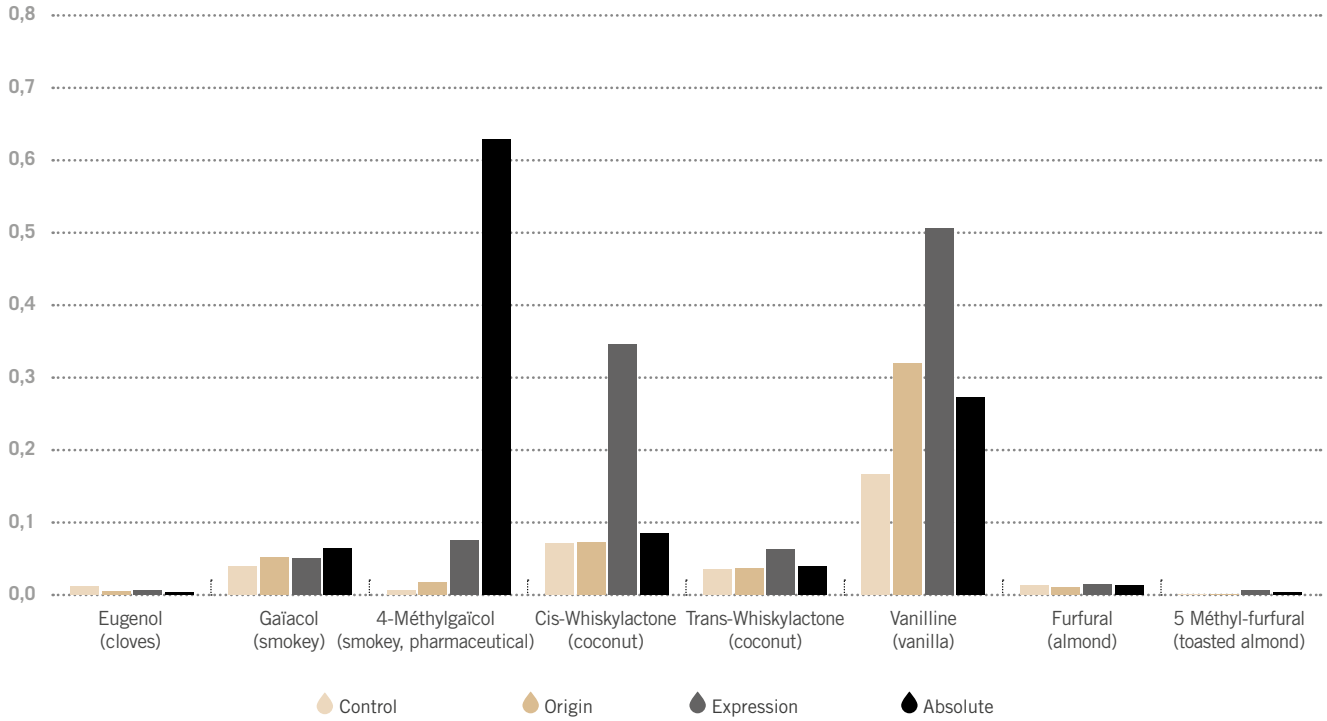
EXPRESSION

- The most "moderate" toast
- Notes of vanilla, caramel, crème brulée and roasted coffee
- Complexity and lenght

ABSOLUTE

- The toast with the most "character"
- Intense aromas of roasted coffee, mocha, smokiness, but also fresher as licorice and eucalyptus
- Freshness and tension

Analyses of wood volatile compounds after 9 months of contact (µg/L)
Cabernet Sauvignon • Bordeaux



STICKS & ŒNOBOIS® 3D

The aim of **Œnobois® Sticks** is to obtain the most integrated **toasting profile** as best as possible, since the wood/wine exchanges can take place throughout the entire winemaking process. This has **two effects** on the taste: the **aromas** are found to be more precise, and the **tannic structure** is found to be more fine and silky.

Vinification with sticks

«Objectives and benefits of the process: vinification with sticks is an alternative technique that does not replace barrels. It allows a qualitative, integrated oak character whilst addressing the issues of production costs.

Linked to the thickness of the stick, this practice provides roundness, volume, a complex aromatic profile, and participates in a greater colour intensity. It has a great benefit on midquality batches with the objective of integrating them into the top wine.»

Antoine MÉDEVILLE, Œnoconseil Laboratory
PAUILLAC, FRANCE

The cube shaped **Œnobois® 3D** (with sides of 22mm) are made from **Œnobois® Sticks.**
They therefore exactly match the delicate and complex aromatic profiles obtained through the toasting of the sticks. They combine the singular effects of the thickness of the **Œnobois® Sticks** with the ease of use of chips. They help to guide the maturation of wines with precision and finesse.

HIGHLIGHT

- Fruity notes of the wine
- Support its natural structure

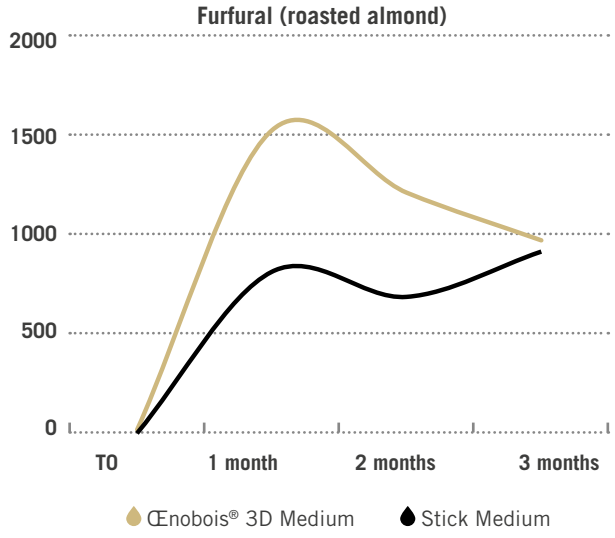
MEDIUM

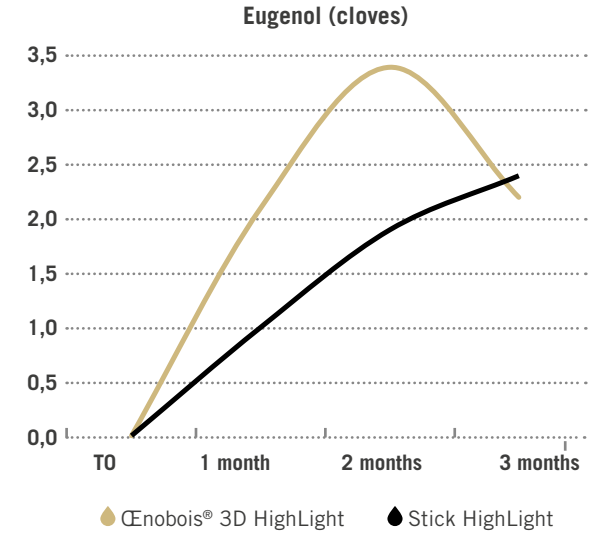
- Sweet aromatic profile
- Notes of caramel, vanilla and speculos
- Silkiness on the palate

MEDIUM+

- Intense notes of roasted almonds and mocha
- Complexity and persistency

Aromatic analyses
Merlot • Bordeaux

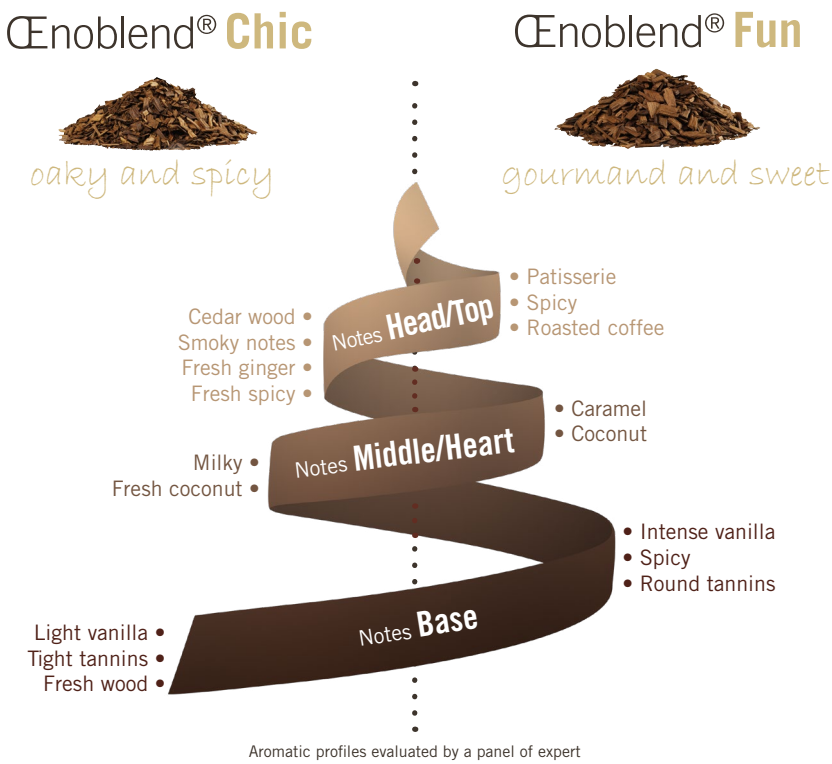




ŒNOBLEND® CHIPS

Œnoblend® is a unique and original range of chips created by blending oaks of different origins and different toasts.

Developed by a team of aromaticians and enologists, this range makes use of the sensorial pyramid, as described by experts in the field of perfumery and aroma creation. Their profiles are a perfect illustration of the alliance of aromatic precision with modern styles.



STICK INSIDE

Customise your Sticks Inside:

Œnobois® now offers the possibility to **custom-make personalised recipes** by blending different toasts into the same Stick inside. The goal is to add complexity and individuality to the aromas for each barrel.

Optimise your choice of oak for winemaking:

On our ŒnoSolutions mobile app, available on the Appstore and Google Play Store

STICKS, 3D, STAVES AND BLOCKS		HIGHLIGHT THE FRUIT, RESPECT THE TYPICITY	BRING ROUNDNESS AND WEIGHT	CARAMEL, SMOKY NOTES	BRING FINESSE	AF	MLF	AGEING	TYPE OF WINE	GUIDELINES
Staves 1,8 x 5 x 90 cm **Blocks** 1,8 x 5 x 5 cm **French oak**	Origin	●●●	●●●	●	●●●	●	●●●	●●●		**Contact time (varies according to dosage, wine and objective):** **3D:** 2 to 4 months **Sticks:** 6 to 10 months **Blocks:** 3 to 6 months **Staves:** 6 to 10 months
	Expression	●●	●●	●●						
	Absolute	●	●●	●●●						
Sticks 2,2 x 2,2 x 90 cm **3D** 2,2 x 2,2 x 2,2 cm **French oak**	Highlight	●●●	●●●		●●					
	Medium	●	●●●	●●						
	Medium +	●	●●	●●●						

STICKS INSIDE	HIGHLIGHT THE FRUIT, RESPECT THE TYPICITY	BRING ROUNDNESS AND WEIGHT	CARAMEL, SMOKY NOTES	BRING FINESSE	AF	MLF	AGEING	TYPE OF WINE	GUIDELINES
HighLight	●●●	●●●		●●●	● ● ●●●	● ●●● ●●	● ●●● ●		During AF for white and rosés. During MLF or maturation for reds. **Contact time:** 4-10 months
Medium	●	●●●	●						
Medium +	●	●●	●●						

CHIPS AND GRANULARS		HIGHLIGHT THE FRUIT, RESPECT THE TYPICITY	COCO, VANILLA, SWEETNESS	CARAMEL, SMOKY NOTES	BRING STRUCTURE	AF	MLF	AGEING	TYPE OF WINE	GUIDELINES
Chips French oak	Fresh	●●●	●●		●	●●●	●●	●		During the AF, the MLF or the maturation. **Contact time:** 4 - 8 weeks
	Light	●●	●●		●			●●		
	Medium	●	●●●	●●	●●	●	●●●	●●●		
	Medium +	●	●	●●●	●●					
Chips American oak	Medium	●	●●●	●●	●	●				
	Medium +	●	●●	●●●	●					
Chips ŒNOBLEND®	**Chic** Oaky and spicy	●●	●●	●●●	●●●	●				
	Fun Gourmand and sweet	●●	●●●	●●●	●●					
	Pure Natural and fruity	●●●	●		●●	●●●	●●	●		

Granular French oak	Œnofresh®	●●●	●		●	●●●	-	-		From vatting, throughout AF. **Contact time:** 1-2 weeks Possible to use during MLF or ageing according to recommendations of your winemaker. **Contact time:** 1-3 weeks
	Fresh	●●●	●		●		●	-		
	Light	●●	●●	●	●			●		
	Medium	●	●●●	●●	●●					
Granular American oak	Medium	●●	●●●	●●●	●					
Granular ŒNOBLEND®	Ferm'Oak	●●●	●●	●●	●●		-	-		

SPARKLING WINES

Lamothe-Abiet has developed a **range of specialised products** for the production of **sparkling wines**. These are equally suitable for winemaking using the "traditional method" as for in closed tanks (Charmat method).

1. BASE WINE PRODUCTION

For the alcoholic fermentation of the base wine, and for the secondary fermentation, we have selected 3 yeast strains capable of giving the different wine profiles that may be sought after:

- **Excellence® E2F:** the most hardy yeast, for the objective of aromatic purity.
  Yeast resistant to alcohol, pressure, to hostile environments, produces a good quality of bubbles.
- **Excellence® TXL:** varietal yeast, for the objective of volume and finesse.
- **Excellence® STR:** the most aromatic yeast, for the objective of aromatic impact.
- **L.A. Spumante:** the most suitable yeast for second fermentation in pressure tank (Charmat method).

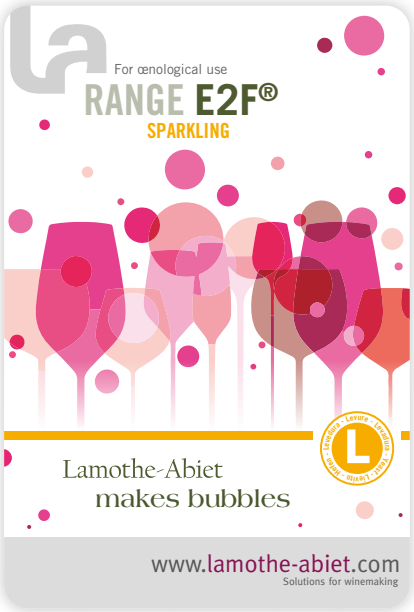
	STRAIN	BASE WINE	SECONDARY FERMENTATION	RESTARTING AF	NITROGEN REQUIREMENTS	ALCOHOL TOLERANCE (% Vol.)	VARIETALS
EXCELLENCE® YEASTS	E2F®	●●●	●●●	●●●	Low	> 17	all
	TXL	●●	-	-	Medium	16	all
	STR	●●	-	-	Medium	15	all
L.A. YEAST	NEW SPUMANTE	●●	●●●	-	High	14,5	all

Yeast nutrition:

ŒnoStim®: used at a rate of 30 g/hL in the yeasts' rehydration water, ŒnoStim® gives the growth factors (vitamins, minerals) and survival factors (sterols, unsaturated fatty acids) necessary for the increase in the number of viable cells. It ensures the yeasts' survival under difficult conditions.

OptiFlore® O: rich in organic nitrogen, OptiFlore® O gives a rich nutrition to yeasts throughout the alcoholic fermentation. This can decrease the appearance of reductive aromas and ensures regular fermentations and aromatic purity.

2. TIRAGE



Tirage liquor:

TANIN E2F®: selection of gallic and ellagic tannins.

- **Protection role:** natural antioxidant, blocks polyphenol oxidases and improves the effectiveness of SO_2.
- **Stabilisation role:** causes the precipitation of unstable proteins and protects the organoleptic qualities of wines.
- **Organoleptic role:** adds elegance and structure to white wines without adding astringency.

Riddling adjuvants:

BENTOSOL Protect®: Mixture of pure bentonite

Easily neutralised by proteins, you must therefore first check that the base wine is not too rich in proteins. If it is, it is sometimes advised to increase the adjuvant dosage by 1 to 2 cL/hL.

3. DISGORGING LIQUOR

- Gomme LA, **Polygom®**, **Vinogom®**: colloidal stabilisation and/or addition of roundness
- **Subli'Sense®**: Add roundness, sweetness, flavour and aromatic persistence
- **Softan® Finition**: production of a liquor with a profile adapted to consumer demands: roundness and sweetness
- Citric acid: adds liveliness and freshness
- Acide ascorbique (ascorbic acid) (only to be used with a 10 mg/L minimum of free SO_2): antioxidant effect and limits premature ageing
- Solution de bisulfite (bisulfite solution): microbiological and anti-oxidising protection
- Copper sulfate solution: limit reductive tastes

More information about our E2F® range on our website at Technical tools / Technical booklets.

VEGAN CERTIFICAT

DECLARATION ON HONNOR

We hereby confirm that all products and auxiliaries listed below, contain **no substances of animal origin**. Furthermore, we confirm that for the production of the raw materials no processing aids of animal origin are being used. The substances **weren't tested on animals** (conducted or sponsoring directly by our company). This is individually true for all substances (ingredient or auxiliary material), and for the final product.

PRODUCTS AND AUXILIARY MATERIALS CONCERNED

All our products are concerned by this document, except these listed below*.

Information provided on this product information sheet is intended solely for internal use or for Vegan certification and hasn't to be send in other case.

** Products that couldn't be used with this document:*
Albumine d'œuf poudre, Caséimix, Caséine soluble, Colle de poisson LA, Gélatine spéciale vins fins, Gélatine Supérieure, Geldor®, Gelfine®, Gelflot®, Ovaline®, Lacticide, Polymix®.

Ambre RAIBON,
Quality Manager
le 12/04/2023

Protocols

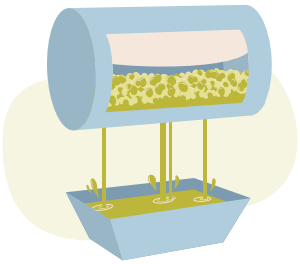
// L.A SOLUTIONS

AROMATIC OPTIMISATION

Fermentary esters

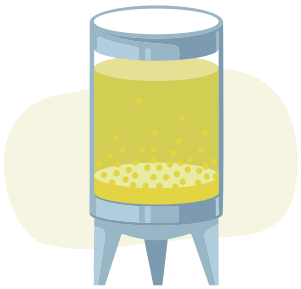
Optimal turbidity = 50 – 100 NTU
Optimal AF temperature = 14-16°C

Pressing



Novoclair® Speed

Application: after pressing.
Benefits: ♦ fast depectinisation of must in cold clarification or flotation



Settling tank

Gamme GreenFine®

Application: at settling.
Benefits: ♦ clarification of must
♦ removal of polyphénols
♦ colour management

Fermentation tank

ŒnoStim®

Application: in rehydration water for the yeast.
Benefits: ♦ optimised fermentation kinetics
♦ better implantation of selected yeast
♦ best revelation of aromas by yeast

Excellence® STR

Application: yeast addition.
Benefits: ♦ synthesis of fermentary esters
♦ good fermentation kinetics

OptiEsters®

Application: at the end of the 1st third of AF.
Benefits: ♦ stimulate synthesis of fermentary esters during AF

TO KNOW

The production of fermentary esters depends directly on the strain of yeast used. Certain enzymatic activities specific to the yeast are essential for an optimal revelation of acetate esters and ethyl esters of fatty acids. Excellence® STR was selected for this very reason.

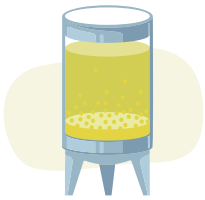
Thiols

Optimal turbidity = 150 – 200 NTU
Optimal AF temperature = 18°C

Harvest

Vinozym® FCE G

Application: on fresh grapes as soon as possible.
Benefits:
- depectinise must
- extract aroma precursors



Settling tank

Gamme GreenFine®

Application: at settling.
Benefits:
- clarification of must
- removal of polyphénols
- colour management

OptiThiols®

Application: before AF.
Benefits:
- stimulates the synthesis of thiols during AF
- better preservation of thiols after AF

Fermentation tank

ŒnoStim®

Application: in rehydration water for the yeast.
Benefits:
- optimised fermentation kinetics
- better implantation of selected yeast
- best revelation of aromas by yeast

Excellence® FTH / TXL

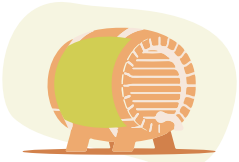
Application: yeast addition.
Benefits:
- reveal aroma precursors (4MSP, 3SH et A3SH)
- good fermentation kinetics

Œnozym® Thiols

Application: start of AF.
Benefits:
- reveal volatil thiols 4MSP, 3SH and A3SH

Optiflore® O

Application: after 1st third of AF.
Benefits:
- no effect on nitrogen catabolic repression
- increased aromatic complexity



Ageing

Aroma Protect®

Application: after AF or during ageing.
Benefits:
- protection of thiol aromas thanks to high concentration in glutathione

Œnozym® Thiols

Application: during ageing.
Benefits:
- liberation of volatils thiols (4MSP, 3SH)

TO KNOW

The B-Lyase enzymatic activity of the yeast frees 10 to 15% of volatil thiols from cysteinyl and glutathionyl precursors during AF.
This leaves a dormant aromatic potential that can be exploited during maturation.
The use of a pectolytic enzyme such as Œnozym® Thiols will help to release remaining thiols still available in the wine, and maximize the aromatic potential of white and rosé wines.

SO_2LUTIONS - REDUCING THE USE OF SO_2

On white and rosé wines

Harvest

Excellence® B-Nature

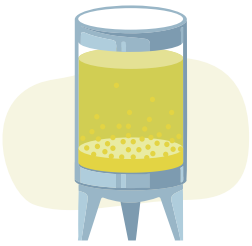
Application: on fresh grapes, as soon as possible.
Benefits: ♦ control of microbial flora
♦ reduction of compounds that combine SO_2
♦ consumes dissolved oxygen

Aroma Protect®

Application: on fresh grapes, as soon as possible.
Benefits: ♦ consumes dissolved oxygen
♦ reacts with quinones

Tanin gallique à l'alcool

Application: on fresh grapes, as soon as possible.
Benefits: ♦ inhibition of oxidases (tyrosinase, laccase)



Settling tank

Gamme GreenFine®

Application: at settling.
Benefits: ♦ decrease oxidised and oxidisable compounds

Fermentation tank

Excellence® FTH / TXL / STR / CHD

Application: yeast addition.
Benefits: ♦ low production of SO_2 and compounds that combine SO_2

Vitaferment® PH / Optiflore® O

Application: during AF.
Benefits: ♦ answer to yeast nitrogen requirements
♦ optimisation of selected yeast metabolism

Aroma Protect®

Application: at the end of AF (if MLF not desired) or MLF.
Benefits: ♦ consumes dissolved oxygen
♦ reacts with quinones

On red wines

Harvest

Excellence® B-Nature

Application: on fresh grapes, as soon as possible.
Benefits:
- control of microbial flora
- reduction of compounds that combine SO_2
- consumes dissolved oxygen

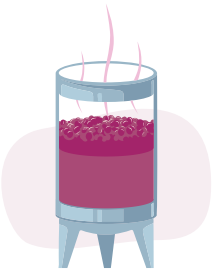
Tan&Sense® Volume

Application: on fresh grapes, as soon as possible.
Benefits:
- consumes dissolved oxygen
- protects grape tannins and anthocyanins

Pro Tanin R®

Application: on fresh grapes, as soon as possible.
Benefits:
- inhibition of oxidases (tyrosinase, laccase)
- grapes tannic potential preservation
- colour preservation

Fermentation tank



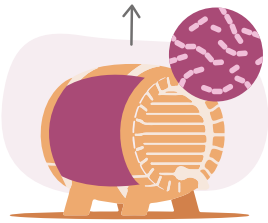
Excellence® XR / DS / SP / FR

Application: yeast addition.
Benefits:
- low production of SO_2 and compounds that combine SO_2

Vitaferment® PH / Optiflore® O

Application: during AF.
Benefits:
- answer to yeast nitrogen requirements
- optimisation of selected yeast metabolism

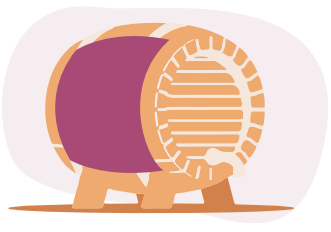
Malolactic fermentation



Œno 1®/ Œno 2

Application: in the hours following the start of AF.
Benefits:
- shorten the gap between AF and MLF through controlled inoculation: limit microbial contamination and oxidations

Ageing



Killbrett®/ Lacticide

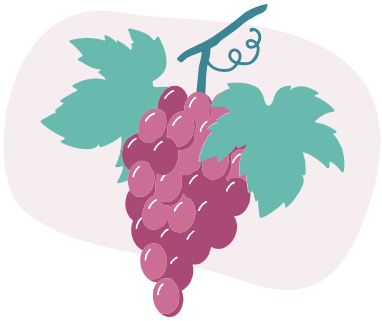
Application: after FML.
Benefits:
- eliminate *Brettanomyces* populations (Killbrett®) and lactic bateria (Lacticide)
- reduce populations of lactic bacteria and non-*Saccharomyces* yeasts (Killbrett®)

Tan&Sense® Volume
Tan'Excellence® / Softan® Power

Application: after MLF.
Benefits:
- consume dissolved oxygen
- protect grape tannins and anthocyanins
- colour stabilisation

On red wines

Harvest

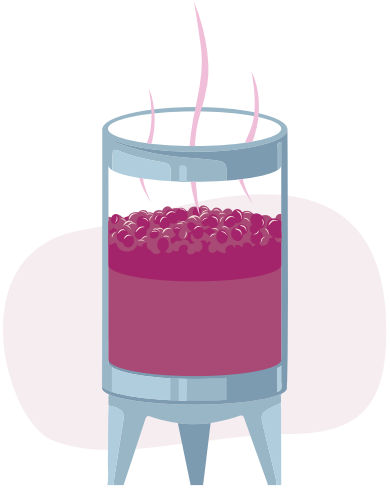


Vinozym® Vintage FCE

Application: on grapes.
Benefits:
- extraction of beneficial phenolic compounds
- increasing colour and its stability
- improving filterability

Pro Tanin R®

Application: on grapes.
Benefits:
- fast reaction with must proteins
- keep beneficial phenolic compounds
- inhibit laccase when *Botrytis* cinerea is present on grapes (refer to *Botrytest* to modulate the dosage)



Fermentation tank

Excellence® XR / DS

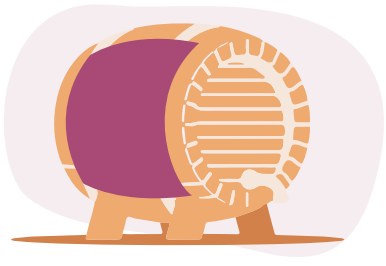
Application: yeast addition.
Benefits:
- high production of polysaccharides during AF, contributing to stabilisation of wines
- steady fermentation kinetics that enable optimal extraction of phenolic compounds

Softan® Vinification

Application: beginning of AF.
Benefits:
- catechic tannin that is highly reactive with ethanal enabling specific anthocyanins to be stabilised
- better colour stability
- brings structure and balance to wine profile

Natur'Soft®

Application: beginning of AF.
Benefits:
- autolysed yeasts rich in polysaccharides that fix colour during the alcoholic fermentation
- adds volume and roundness on the palate

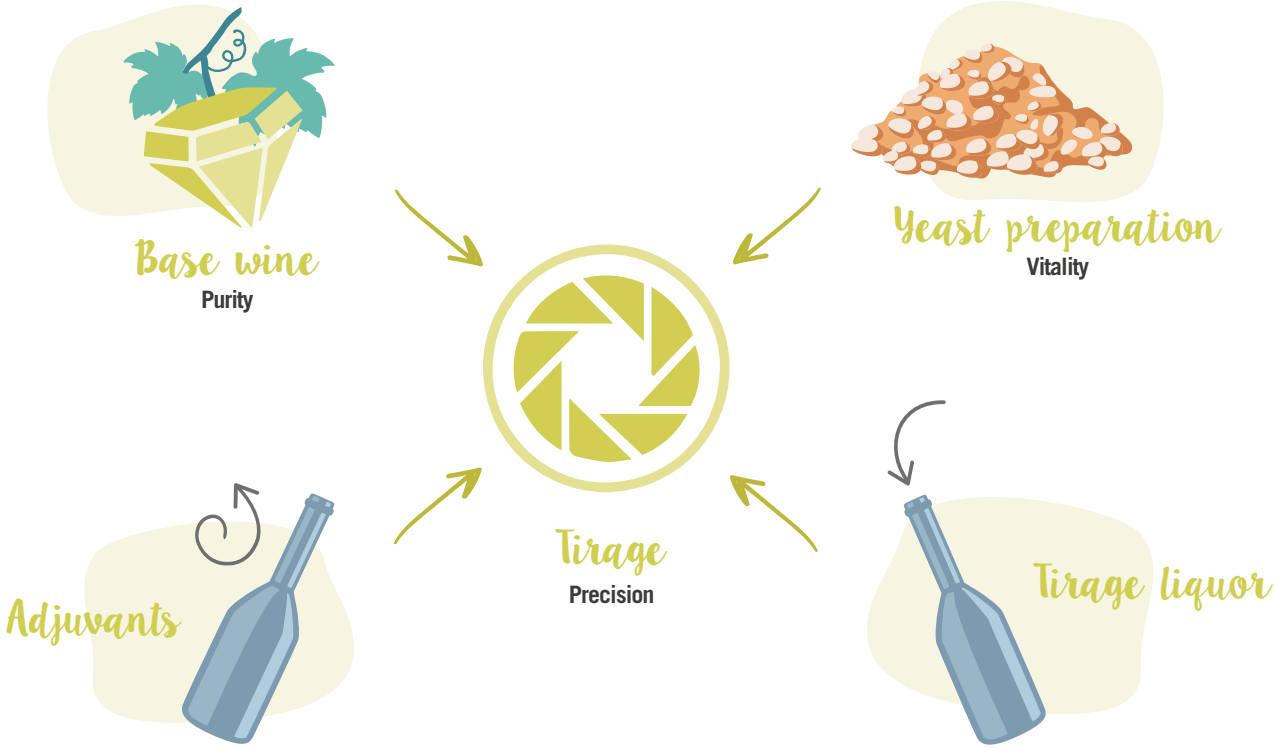


Ageing (End of Fml)

Tan'Excellence®

Application: end of FML.
Benefits:
- stabilise colour thanks to its formulation rich in catechic tannins
- manage oxidation thanks to ellagic tannins

Sparkling wine: the basics



Traditional method

Second fermentation / Maturation
- Precision

Ridding
- Clarification

Disgorging
- Limpidity

Disgorging liquor addition
- Finalisation

Charmat method

Second fermentation / Maturation
- Precision

Stabilisation / Filtration
- Clarification

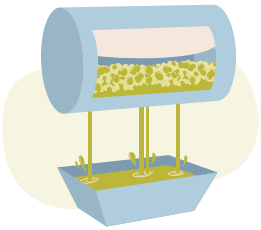
Disgorging liquor addition
- Finalisation

Isobarometric bottling
- Bottling

Base Wines Process

Optimal turbidity = 100 – 150 NTU
Optimal AF temperature = 15-17°C

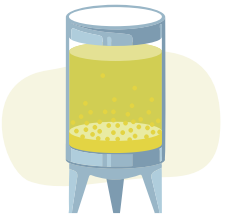
Pressing



Novoclair® Speed

Application: when filling tank.
Benefits: ♦ rapid depectinisation of must in cold sedimentation or flottation

Settling tank



Gamme GreenFine®

Application: at settling.
Benefits: ♦ must clarification
♦ polyphenol removal
♦ colour management

Fermentation tank

ŒnoStim®

Application: in yeast rehydration water.
Benefits: ♦ optimised fermentation kinetics
♦ better implantation of selected yeast

Excellence E2F®

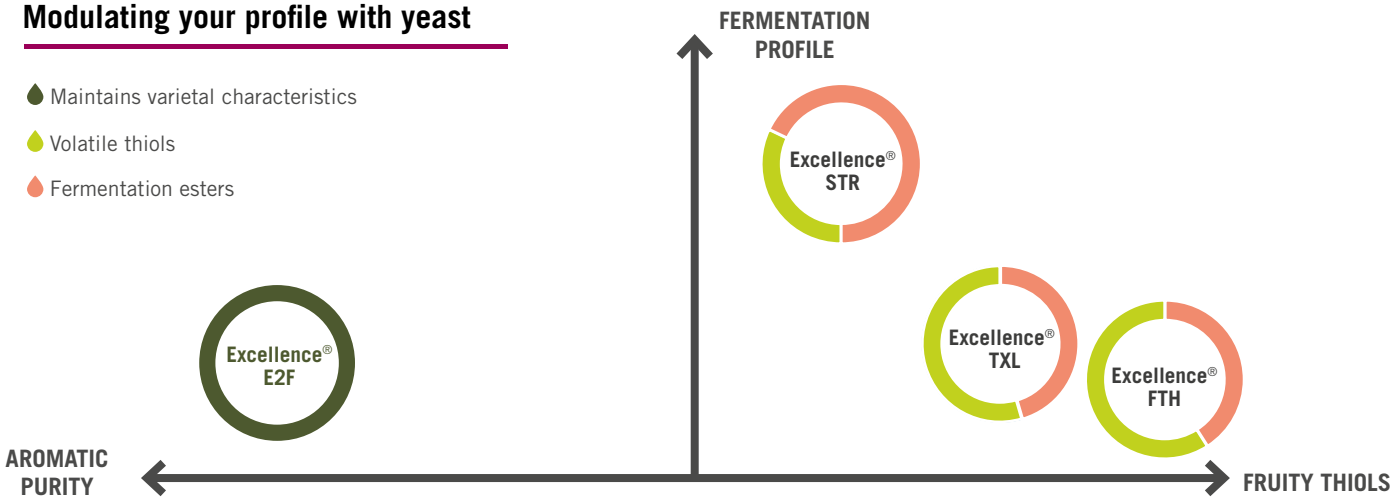
Application : yeast addition.
Benefits : ♦ the strongest yeast, to reach aromatic purity

OptiFlore® O

Application: after one third of the AF.
Benefits: ♦ high quality yeast nutrition, limits appearance of reductive aromas

Modulating your profile with yeast

- Maintains varietal characteristics
- Volatile thiols
- Fermentation esters



Second fermentation and bottling

Tirage

Excellence E2F®

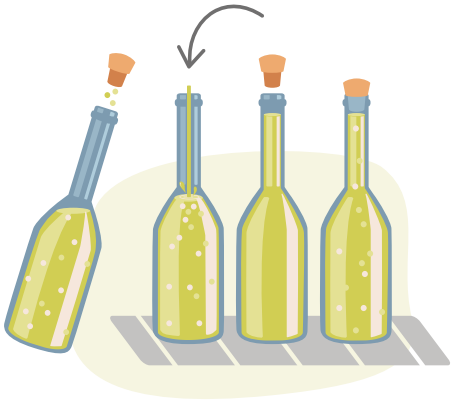
Application: in the tirage liquor.
Benefits: ♦ resistant to alcohol, pressure, and difficult conditions, produces a high quality mousse

Tanin E2F®

Application: in the tirage liquor.
Benefits: ♦ antioxidant
♦ causes unstable proteins to precipitate
♦ brings elegance and structure

Bentosol Protect

Application : adjuvant de remuage pour méthode traditionnelle.
Intérêts : ♦ clarification optimale des levures, forme un dépôt compact



Disgorging & Dosage

Vinogom®, Subli'Sense®, Manno'Sense®

Application: at disgorging / dosage.
Benefits: ♦ adds roundness, sucrosity, aromatic persistence

Softan® Finition / Gamme Tan&Sense®

Application: at disgorging / dosage.
Benefits: ♦ adjust your wine profile to market demands, mitigates bitterness

TO KNOW

SO_2 can strongly disturb the second fermentation.
The level of active SO_2 must be less than 1.5 mg/L. It is important to avoid adding sulfites at least fifteen days before the tirage.

Calculate at any moment your active SO_2 and optimise your secondary fermentations, thanks to our mobile app ŒnoSolutions available on the AppStore and Google Play Store.

ŒnoSolutions

by Lamothe Abiet.

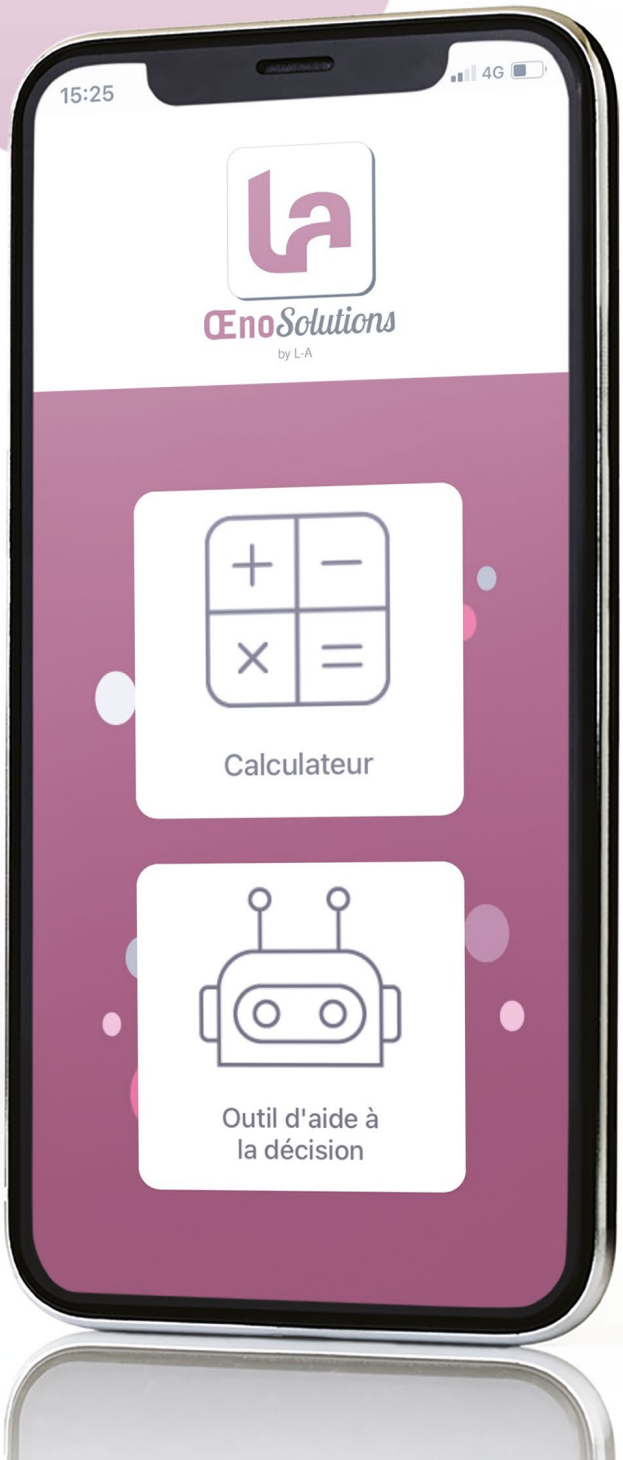
A TURNKEY TOOL

Discover Œnosolutions, Lamothe-Abiet's mobile app available on Android and IOS.

User-friendly, this app features enological calculators, such as sulphiting, acidity management or oenological auxiliaries management.

Using a virtual assistant,
Œnosolutions helps you to manage:

- YEAST NUTRITION
- ALCOHOLIC FERMENTATION
- SECOND FERMENTATION
- MALOLACTIC FERMENTATION
- CHOICE OF ENOLOGICAL WOODS



ŒNOSOLUTIONS IS AVAILABLE ON APPSTORE AND GOOGLE PLAY STORE.

Download on the App Store

Google Play

Decision making tools

// L.A SOLUTIONS

FINING: find your solution

Unbalanced due to astringency

Medium to high in tannins

Gélatine supérieure: 3-5 cL/hL
Polymix® Natur': 30-80 g/hL
Clarfine: 30-60 g/hL
GreenFine® X-PRESS: 30-80 g/hL

Low in tannins

Gélatine supérieure: 1-2 cL/hL
Geldor®: 1,5-4 g/hL
GreenFine® Nature: 20-40 g/hL
Natur'Fine® Prestige: 20-40 g/hL

Other causes of imbalance

Treat the cause of imbalance
ex: lack of sweetness
> **Subli'Sense®, Manno'Sense®,**
> **Softan® Sweetness**
ex: lack of roundness/volume
> **Vinotaste®Pro** + works on lees

Finishing

High in tannins

Gélatine spéciale vins fins: 5-10 cL/hL
Gelfine®: 5-10 g/hL
Ovaline®: 5-9 cL/hL
GreenFine® X-PRESS: 30-80 g/hL

Medium in tannins

Geldor®: 3-8 cL/hL
Gélatine spéciale vins fins: 4-8 cL/hL
Gelfine®: 2-4 g/hL
Ovaline®: 3-6 cL/hL
GreenFine® Nature: 20-40 g/hL

Low in tannins

Geldor®: 1,5-4 cL/hL
Gélatine spéciale vins fins: 2-4 cL/hL
Natur'Fine® Prestige: 10-30 g/hL

Excess of polyphenols

Secondary oxydation

Polymix® Natur': 40-80 g/hL
Polymix®: 40-80 g/hL
Clarfine: 40-80 g/hL
PVPP: 30-60 g/hL
Caséimix: 40-80 g/hL
GreenFine® Must: 10-50 g/hL

Bitterness, astringency

Polymix® Natur': 15-30 g/hL
Polymix®: 15-30 g/hL
Clarfine: 10-30 g/hL
GreenFine® Rosé: 10-50 g/hL

Colour management

GreenFine® Intense: 40-120 g/hL
GreenFine® Rosé: 30-80 g/hL
Polymix®: 40-100 g/hL

Finishing

Colle de poisson LA: 0,5-1,5 g/hL
Gélatine spéciale vins fins: 1-3 cL/hL
Geldor®: 1,5-3 cL/hL
Natur'Fine® Prestige: 10-30 g/hL
GreenFine® Nature: 10-30 g/hL

Brightness

Colle de poisson LA: 1-3 g/hL
Blankasit 2 cL/hL + **Gélatine spéciale vins fins:** 3-5 cL/hL
Polymix®: 15-30 g/hL

Protein stability

Bentosol Protect (granulated)
Bentosol poudre
Bentosol FT (tangential)
Dosage to be determined by heat test

AGEING TANNINS: find your solution

POST-FML

MATURATION

FINISHING

FML

60j

30j

15j

2j

Softan® Power
Proanthocyanidic and ellagic tannins associated to vegetal polysaccharides

Preparation for aging · Strength

Tan'Excellence®
Association of grape, oak and chatechic tannins

Complexity · Harmony · Antioxydant

Tan&Sense® Volume
Pure French oak tannins

Precision · Volume · Antioxydant

Vinitan® Advance
Pure grape tannin - unique selection process

Purity · Structure · Aging capacity

Softan® Sweetness
Association of toasted fresh oak tannins and vegetal polysaccharides

Soft structure · Sucrosity · Gourmand

Tan&Sense® Origin
Pure fresh toast American oak tannins

Sweetness · Delicacy

Tan&Sense® Expression
Pure medium toast French oak tannins and grape tannins

Complexity · Softness · Length

Tan&Sense® Forte
Pure intense toast French oak tannins

Tension · Freshness · Length

Softan® Finition
Association of oak tannins and polysaccharides

Smoothness · Intensity · Finishing

TARTRIC STABILISATION: find your solution

Clarity and the absence of deposits are essential for white, rosé, and red wines. Therefore, stabilisation is a crucial step. Lamothe-Abiet provides specific solutions to obtain tartaric, protein and aromatic stabilisation in wines, whilst respecting their organoleptic characteristics.

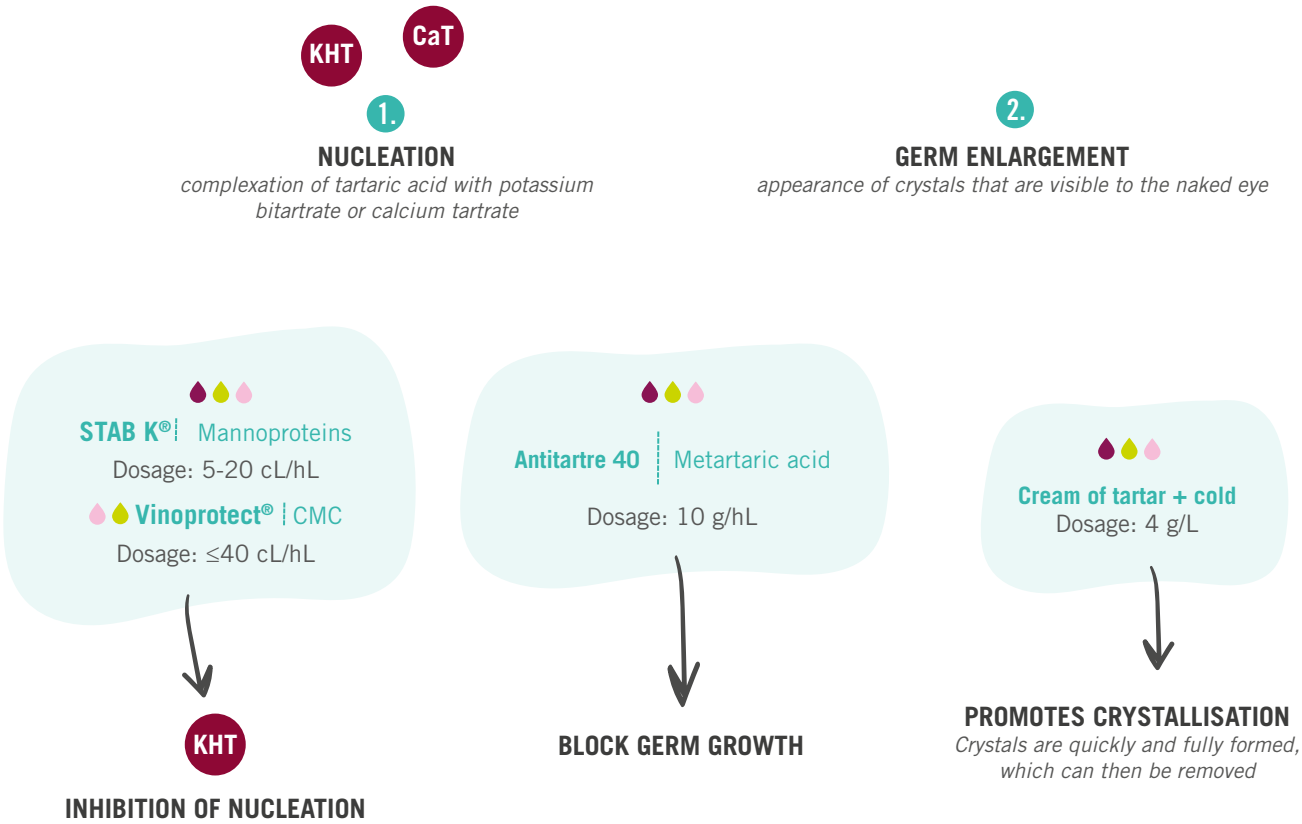
WHAT IS TARTARIC PRECIPITATION?

Tartaric acid is the acid with the highest concentration in grapes. When the concentration is too high (saturation) in musts or wines, it precipitates during the vinification or storage. The crystals (tartar, potassium bitartrate or KHT) can then be seen at the bottom of the bottle. Although these crystals do not affect the organoleptic qualities of the wines, **many consumers reject wines that contain them, thinking that they are a fault.**

Tartaric acid is found in equilibrium in wines in the form of two salts: potassium hydrogen tartrate (KHT) and neutral calcium tartrate (CaT).

These salts have specific solubilities which vary according to the temperature, the pH and the alcohol content. If the amount of KHT or CaT are greater than the solubility limit at a given temperature, there is therefore the risk of "precipitation".

Tartar crystal precipitation in two steps:



LAMOTHE-ABIET

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