



LAMOTHE & ABIET

CATALOG

140 *years*
of experience

ANNIVERSARY CATALOG

2018 EDITION



140 years of experience



Lamothe-Abiet, a forerunner in France in the production of enological products, celebrates its 140th anniversary.

140 years of experience and partnership with laboratories, wineries and negociants to provide useful and innovative enological solutions.

This fine legacy gives us greater inspiration to work towards the future, with close attention to our clients' needs.

Our research and development laboratory, in partnership with several universities and various projects, meets these demands with unique and innovative products.

Our logistics department, along with a highly proficient quality control department, offers an exemplary traceability service which conforms to the highest food safety and environmental standards.

Together, through our special relationships and our established expertise, we have carved our name into modern and future enology.



Guillaume Martineau
General Manager

NEW RELEASES

SO₂LUTIONS

Reducing sulfites in wines has become one of the great challenges in winemaking. Sulfites are an integral part of the winemaking process and their effects are not easy to substitute.

What's more, finding methods and tools to replace sulfites means questioning everything we know as winemakers and tasters, as well as starting afresh in much of the science behind these fields. In short, an exciting new era in winemaking is starting and Lamothe-Abiet is with you to step up to this challenge.

You will find a summary of our **SO₂lutions** - solutions for replacing sulfites - in pages 34 and 35.



In regards to the theme of optimising the expression of thiol aromas, we have enhanced our offering with a specific preparation of enzymes (**Oenozym® TH**) to be used during fermentation or maturation.

Find this on page 17 and our double-page spread on aroma optimisation (pages 36 and 37).

WEBINARS

With its strong winemaking expertise and field experience, our team draws on the company's 140 years to move towards spreading knowledge through webinars.

These will be short video conferences (20 to 30 minutes) on specific subjects. The idea is to go through the concepts in a limited amount of time enabling winemakers to ask their questions by writing on the platform.

The subjects will be spread across the year and will address the different steps in winemaking and maturation, as well as decreasing SO₂ in wines.

Signing up is simple and the webinars are free.
Join us by signing up via our website.

MOBILE APP

ŒnoSolutions



Discover ŒnoSolutions, Lamothe-Abiet's mobile app available for IOS and Android. As well as the winemaking calculators and conversion tables, 5 decision-making tools help users in their tasks and help to guide:

- Active SO₂
- Yeast nutrition
- Management of the malolactic fermentation
- Restarting stuck fermentations
- Choosing oak for winemaking

User-friendly and easy to access, this app features a virtual assistant for pleasant and swift use.

New features and more ease-of-use are planned for the application in 2018.





YEASTS

Yeasts are at the heart of Lamothe-Abiet's oenological expertise.
Our yeasts are very rigorously selected and developed at the Institute of Vine and Wine Sciences (ISVV) of Bordeaux by our R&D teams which have proven themselves, over time, to be the most talented in the field.



STRAINS EXCELLENCE®

The strains Excellence® FTH, TXL and STR are references throughout the world for the production of aromatic white and rosé wines.

Excellence® FTH

Intense revelation of volatile thiols
Citrus notes, fresh aromatic profile
Lively mouthfeel

Excellence® TXL

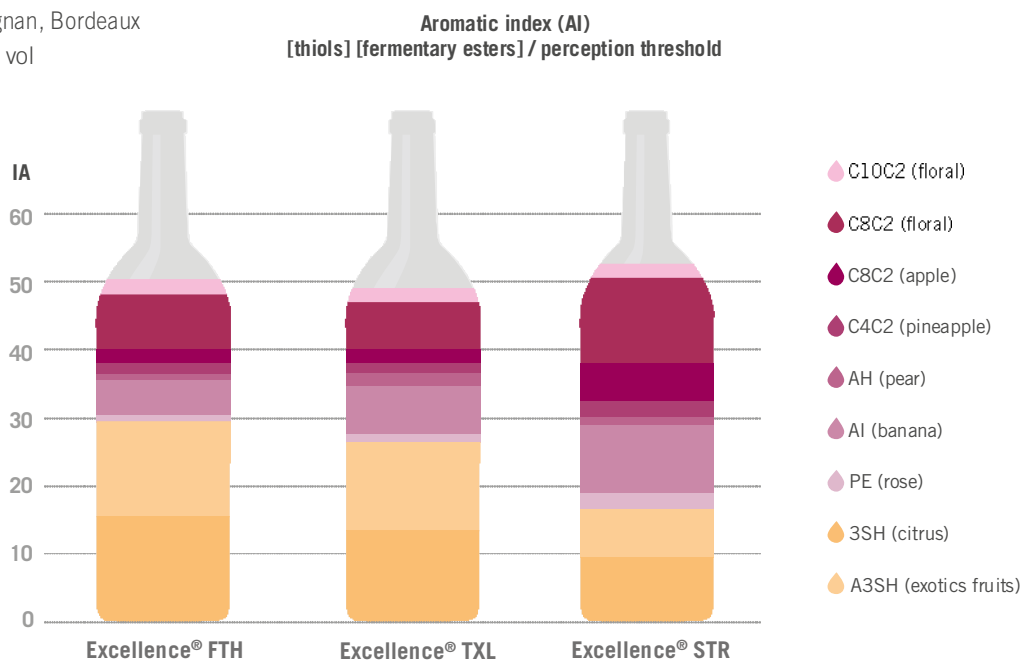
Balanced revelation of volatile thiols
Boxwood, citrus and tropical fruits
Wines that are complex, fine and round on the palate

Excellence® STR

Strong revelation of fermentary esters
Stone fruit and tropical fruit notes, aromatic complexity

Trial conditions:

- Sauvignon Blanc, 2016
- Pessac Léognan, Bordeaux
- TAV : 14 % vol
- pH = 3,48







Total Aromas



● Volatile Thiols





● Fermentary Esters

White wine

	STRAIN	TYPE OF WINE					CHARACTERISTICS OF THE YEAST		VARIETALS
		THIOLS	ESTERS	VARIETAL	ROUNDNESS	SWEET	NITROGEN REQUIREMENTS	ALCOHOL TOLERANCE (% vol.)	
EXCELLENCE® YEASTS	 FTH	●●●	●	●●		●	Medium	15	sauvignon, riesling, gewurztraminer, vermentino
	 TXL	●●	●●	●●●	●●●	●●●	High	16	chardonnay, sauvignon, gewurztraminer, grenache blanc, chenin blanc, riesling, vermentino, viogner, pinot gris
	 STR	●	●●●		●		Medium	15	chenin, chardonnay, muscadet, viogner, muscadelle
	B2	●		●●●	●●●	●●	Medium	13,5	chardonnay, sauvignon, chenin, muscat
	FW	●●	●●				High	15	chardonnay, sauvignon, sémillon, viogner, muscadelle
	 Bio-Nature®	non-Saccharomyces strain for grapes bioprotection					-	-	all

	STRAIN	TYPE OF WINE				CHARACTERISTICS OF THE YEAST		VARIETALS
		THIOLS	TECHNOLOGICAL	BASIC	RESTARTING AF	NITROGEN REQUIREMENTS	ALCOHOL TOLERANCE (% vol.)	
L.A. YEASTS	Arom	●	●●●			Medium	15	chardonnay, sauvignon, chenin, sémillon, viogner, muscadelle
	Cerevisiae		●●●	●●●		Low	15	all
	Bayanus		●●●	●●●	●●●	Low	> 16	all

Rosé wine

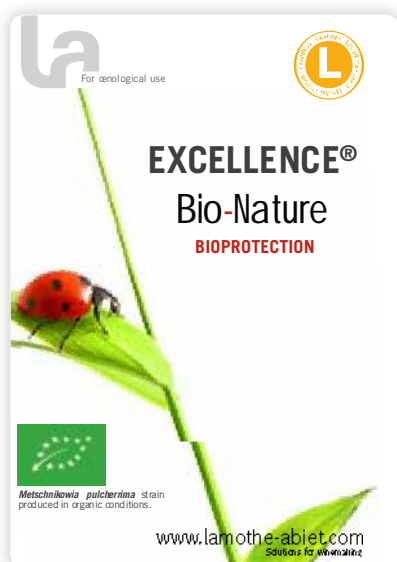
	STRAIN	TYPE OF WINE				CHARACTERISTICS OF THE YEAST		VARIETALS
		THIOLS	ESTERS	VARIETAL	ROUNDNESS	NITROGEN REQUIREMENTS	ALCOHOL TOLERANCE (% vol.)	
EXCELLENCE® YEASTS	 STR	●	●●●		●	Medium	15	grenache, cinsault, cabernet franc, shiraz, merlot
	 FTH	●●●	●	●●		Medium	15	merlot, grenache, cinsault, cabernet franc, cabernet sauvignon, shiraz
	 TXL	●●	●●	●●●	●●●	High	16	mouvèdre, grenache, cinsault, cabernet franc, cabernet sauvignon
	 Bio-Nature®	non-Saccharomyces strain for grapes bioprotection				-	-	all
L.A. YEASTS	Arom	●	●●●	●	●	Medium	15	merlot, grenache, cinsault, cabernet franc, shiraz, cabernet sauvignon



« It is important to us to showcase the purity of fruit aroma and flavour in all our wines. Due to our cooler climate the white wines generally have abundant, lively natural acidity along with more delicate aromas and flavours. For our Wineglass Bay Sauvignon Blanc I specifically wanted to elevate the varietal aromas and palate texture. Following a recommendation from Blue H2O Filtration, I made the wine as a split ferment: 75% using Excellence® FTH in stainless for the aromatic portion, and 25% in old barrels using Excellence® TXL for the textural portion. In all parcels I used OptiThiols® to increase thiol expression. The result? A wine that displays superior aromatics with strong citrus and tropical aromas, coupled with superb texture and roundness. I couldn't be happier ! »



Claude RADENTI
Winemaker, Freycinet Wines - Tasmania, Australia



EXCELLENCE® BIO-NATURE®

Bioprotection involves exercising 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 is 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 faults). As opposed to adding sulphur, which destroys these microorganisms, biological control involves inoculating a slow-fermenting yeast, which occupies the niche and thus naturally prevents the growth of undesirable microorganisms.

Lamothé-Abiet, after extensive research, has selected "Excellence Bio-Nature®", a *Metschnikowia pulcherrima*, which has the following benefits:

- Control of the microbiological flora from the harvest
- Decrease of the dosage of SO₂ on the grapes
- Reduction of the compounds that combine SO₂
- Increased aromatic complexity of the wine



EXCELLENCE® XR

For over 10 years, Excellence® XR is the go-to yeast for top quality red wines.

Its characteristics allow it to express the best of grapes from the most prestigious terroirs:

- Powerful wines, with structure and volume
- Adapted to high potential alcohols, to naturally concentrated grapes
- Low production of volatile acidity and inhibitory fatty acids
- Ideal for carrying out MLF in co-inoculation: clean and pure aroma profiles
- Great respect for varietal typicity

TO KNOW

Excellence® XR is the first yeast developed by Lamothé-Abiet using a breeding technique.

This is an innovative selection technique based on sexual multiplication between two strains. This process enables genetic information to be exchanged between yeasts with enological value.





« Having tried several yeasts on the market, Excellence® XR has given us complete satisfaction thanks to its technical reliability and its organoleptic results.




Its regular fermentation kinetics allows us to extract for longer in a reductive environment. Furthermore, its strong compatibility with MLF, due especially to the fact that it produces few inhibitory substances, greatly facilitates work in the winery.

Finally, it allows the wine to perfectly reflect its terroir, while improving its ageing potential and its structure. For us, Excellence® XR has become an essential tool for revealing the typical characters of "Ribera" style wines. »



Esther GOMEZ & Rebeca PALOMO
Enodivinos
Burgos, SPAIN.

RED WINE

STRAIN	TYPE OF WINE				CHARACTERISTICS OF THE YEAST		VARIETALS
	FRUITY ELEGANT	FRUITY INTENSE	STRUCTURED	RESTARTING AF	NITROGEN REQUIREMENTS	ALCOHOL TOLERANCE (% vol.)	
 XR	••	•	•••		Medium	>16	cabernet sauvignon, merlot, grenache, shiraz, pinot noir, malbec
 DS	••	•••	••		High	15,5	merlot, cabernet sauvignon, cabernet franc, shiraz, grenache, malbec
SP	•	•••			Medium	15	cabernet franc, shiraz, grenache, merlot, malbec, mourvèdre
FR	•••	•			Medium	15	gamay, grenache, duras, carignan, (carbonic maceration)
 Bio-Nature®	non-Saccharomyces strain for grapes bioprotection				-	-	all

L.A. YEASTS	BJL	•	•••			Low	14	gamay (carbonic maceration)
	N°5	•••	•	•		Low	15	mourvèdre, shiraz, duras
	L13	••	••	••		Medium	16	all
	RB2	•••	•••	•		Medium	14	pinot noir, merlot
	Cerevisiae	•	•	•		Low	14	all
	Bayanus			•	•••	Low	>16	all



BACTERIA

Many talk about it, but Lamothe-Abiet was the real pioneer in the technique of co-inoculation over 15 years ago. The strains that we propose are adapted to the current demands for the control of the MLF.



OENO 1®

Main benefits of our malolactic starters:

Selected strains
High quality production
Ease of use

Control of the MLF
Prevention of faults
Preservation of fruitiness
Reduction of costs

They guarantee you:

- Speedy implantation
- No production of biogenic amines
- Prevention of *Brettanomyces* development

Evaluate the ease of carrying out malolactic fermentation on your wines :



On our website in the tab
LA Solutions / Toolbox



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



« Château Lagrange is known for the quality of its wines but also for its technical know-how, as well as its on-going partnerships with innovative companies. Thus, we have carried out co-inoculation trials with Lamothe-Abiet since the 2005 vintage.

This remarkable technique went against everything that we learnt in winemaking school. However, the potential was very interesting and we saw certain very strong advantages: better management of malolactic fermentation in barrel and a reduced latent phase between the alcoholic and malolactic fermentations. This phase, which is a "microbiological vacuum", is very sensitive and open to the development of *Brettanomyces*.

Another benefit is a reduction of our carbon footprint since it is no longer necessary to heat the barrel cellar or the tanks for several days and sometimes many weeks.

We approved new trials for the 2006 vintage, before spreading this technique to 56 of our tanks for the 2007 vintage.

Today all 102 tanks of the domain are co-inoculated with the bacteria/yeast duo of Oeno1®/ Excellence® XR.

The rate of success is more than satisfying since 95% of our tanks usually finish their malolactic fermentation before racking. The wines have better aromatic precision with very low volatile acidities.

I can attest today that 10 vintages of experience of this technique have given us complete satisfaction and we would no longer consider not using this technique as part of our vinification process. »



Matthieu BORDES
General Manager - Winemaker
CHÂTEAU LAGRANGE, Grand Cru Classé, FRANCE

Type of inoculation

	EARLY CO-INOCULATION	LATE CO-INOCULATION	SEQUENTIAL INOCULATION	CURATIVE INOCULATION	PROTOCOL
 Oeno 1®	...	...	...	...	For co-inoculation, add directly without rehydration In order to improve the distribution, rehydrate 15 minutes
Oeno 2	.	...	...	..	12 hours (rehydration + acclimatization) with malolactic activator kit provided
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 then MLF	MLF after AF - MLF in barrel	Sluggish MLF – restarting MLF	

If you use Oeno1® at the end of AF with 15 minutes rehydration, better to add OptiML® at 30g/hL.

Optimal conditions for malolactic activity

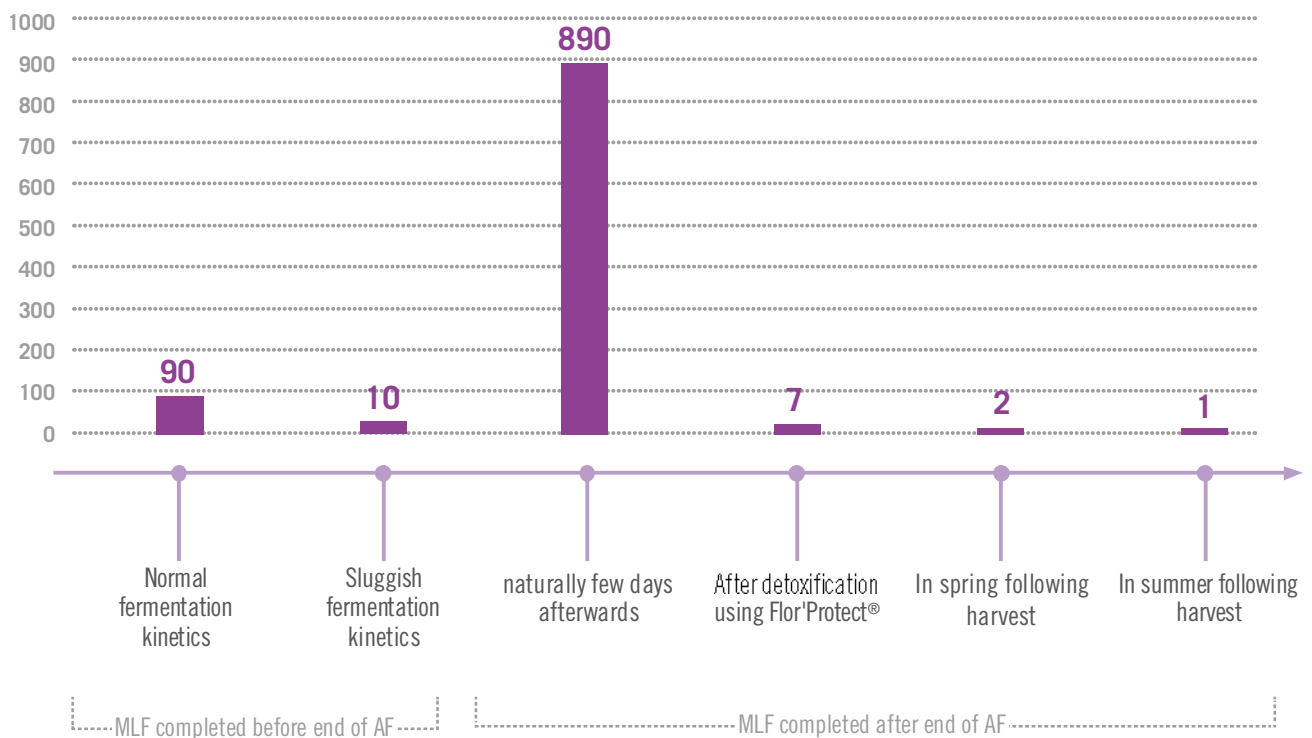
	pH*	SO ₂ TOTAL*	TEMPERATURE*	ALCOHOL TOLERANCE* (% vol.)
Oeno 1®	>3,3	< 50 mg/L	17 - 24°C	< 15
Oeno 2		< 60 mg/L		

*these factors are co-dependant



Co-inoculation Excellence® XR-Oeno1®

Average over 10 vintages of use in the Médoc, France, for 1000 inoculated tanks.





NUTRIENTS

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. In 2016, our nutrition range has been totally reworked and enriched to address both of these objectives.



OPTIESTERS®

Formulation of inactivated yeasts naturally rich in amino acids and ergosterols.

In young wines, fermentary esters make up a large part of the aromatic profile. They promote the perception of fruity and floral aromas, especially in wines which are poor in varietal aromatic precursors. They are only formed by yeasts during the alcoholic fermentation and are optimised by the fermentation conditions: low temperature, low turbidity and the variety of yeast.

Yeast nutrition also plays an important role in defining the profile of the aromatic esters, both in their quality and quantity. Ester formation is closely linked to the yeasts' nitrogen and lipid metabolism: it can therefore be improved by adding yeast derivatives.

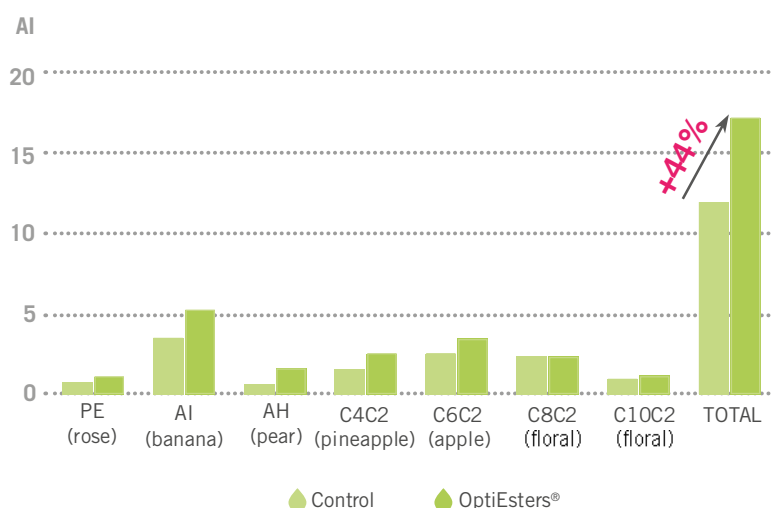
ADVICE FOR USAGE

- Add at the beginning of AF (density -30 points)
- Dosage: 30 g/hL
- Use a strain that has a high yield in esters: Excellence® STR or LA Arom
- AF conditions: T°C of 14 to 16°C - Turbidity 30 to 80 NTU - Anaerobic

Trial conditions:

- Sémillon - South-west, France - 2017
- Addition of 30g/hL of OptiEsters® at 1st third of AF
- ABV : 11,2 % vol
- pH = 3,4

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



« Certain negociants in Cognac demand from their suppliers eaux-de-vie with a high potential in fruity and aromatic notes. Therefore, optimising the production of fermentary aromas during the AF is important because it directly determines the quality of the future eaux de vie. As well as looking at recommendations on harvest dates, operations on the grapes and then on fermenting the musts, we carried out a study on different activators.

Trials carried out in 2016 on Ugni blanc from blocks with high yields (120-140hL/ha) showed the positive impact of adding OptiEsters at the beginning of the fermentation. Indeed, in this experiment, the treated modalities gave concentrations of 70 to 120% greater than the control for the aromatic esters analysed (caprate, caprylate and ethyl laurate). These initial results of chromatographic analyses were carried out on wines after double micro-distillation only a few days after the end of the alcoholic fermentation. Then, new chromatographies were carried out on eaux de vie from wines distilled with all the lees from the tank. Compared to the control, the treated batches were preferred. The quantity in higher alcohols was also reduced. Triangular tastings carried out at the laboratory concluded that the wines and eaux de vie produced using Optiesters® were more intense in aromas and more fruity. »



Olivier CHAPT

Gensac Enology Laboratory, Cognac region, FRANCE



OPTITHIOLS®

OptiThiols® (inactivated yeasts naturally rich in reducing compounds) applied to white and rosé musts before the start of AF is an essential tool for making thiol-rich wines.

Its success is proven by a very significant increase in aromas (from 30 to 120%). The regularity and repeatability of these results has been shown on many different harvests (variety, terroir).

Effects :

- Increase the potential in thiol aromas during AF
- Limit the browning of musts

TO KNOW

OptiThiols® helps to increase the aromatic potential after AF by 30 to 50% compared to other products tested.

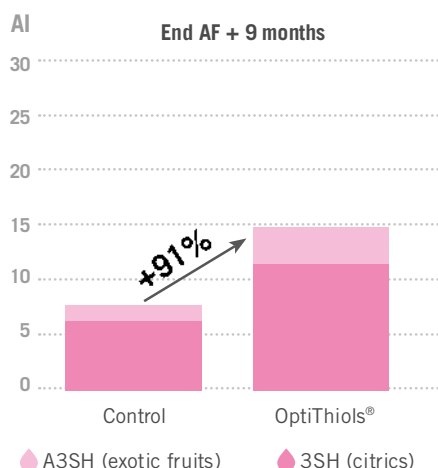
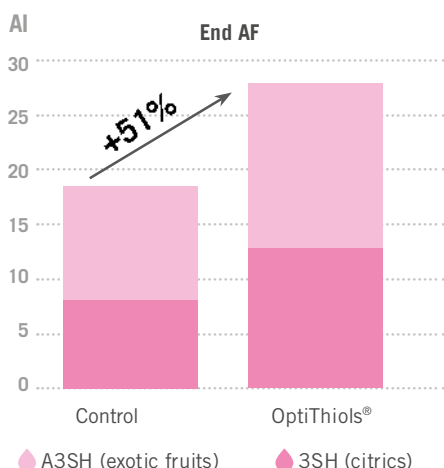
ADVICE FOR USAGE

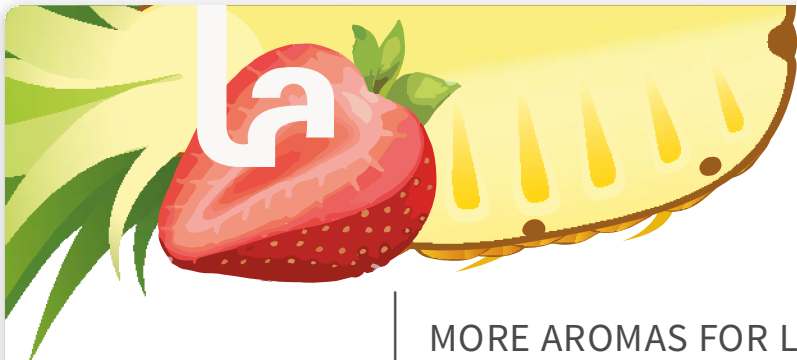
- Add early on, before AF
- Dosage: 30 g/hL
- A suitable fining of musts before addition ensures optimal effectiveness
- A well-adapted nitrogen nutrition of yeasts allows to take advantage of the antioxidant effect of OptiThiols® during aging


Preservation of volatile thiols over time

Grenache, Grimaud rosé trial, 2016 - Addition of 30 g/hL of OptiThiols® before AF

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








OptiEsters®

MORE AROMAS FOR LONGER TIME

OptiThiols®

Solutions for winemaking

WWW.LAMOTHE-ABIET.COM





OPTIFLORE® O

★ Optiflore® O's rich composition in amino acids as well as vitamins, minerals and oligoelements helps to ensure the yeasts' qualitative nutrition whilst avoiding the risks associated with only using mineral nutrition. Indeed, the yeast extracts allow for more complexity and a more effective fermentation kinetics.

MINERAL NITROGEN NUTRITION

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

In case of excess:

- Induced deficiency
- H₂S production
- Sluggish and/or stuck AF
- Excessive heat production
- Stimulatory effect on nitrogen catabolic repression (NCR)

TO KNOW

The addition of 10g/L of Optiflore® O provides 5mg/L of nitrogen in amino form, equivalent to an addition of 15mg/L of assimilable nitrogen.

ORGANIC NITROGEN NUTRITION

- Progressive use
- Repression of H₂S production
- Nutrition for yeasts and malolactic bacteria
- Does not cause nitrogen catabolic repression
- Increases the aromatic complexity

Optimise the nutrition of your yeast thanks to our online diagnostic tool :







On our website in the tab
LA Solutions / Toolbox

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

Basic nutrients

	AMMONIACAL NITROGEN	THIAMINE	YAN INCREASE mg/L per 20 g/hL added	DOSAGE
Sulfate d'Ammonium (SA)	...		40	10 - 50 + g/hL
Phosphate d'Ammonium (DAP)	...		40	10 - 50 + g/hL
Vitaferment®	SA ...	...	40	10 - 50 g/hL
Vitaferment® PH	DAP ...	...	40	10 - 50 g/hL
Thiamine		...	0	30 - 60 mg/hL

Complex nutrients

		N: nutrition P: protection S: support element AR: aromatic revelation	CELLULOSE POWDER	AMMONICAL NITROGEN	THIAMINE	ORGANIC NITROGEN	VITAMINS / MINERALS	DETOXIFICATION	STEROLS / UNSATURATED FATTY ACIDS	AROMATIC IMPACT	YAN INCREASE mg/L per 20 g/hL added	DOSAGE (g/hL)
 CenoStim®	P					...	..	...	•		0	30
 OptiEsters®	AR				•	•	•	•	...		0	20 - 40 At de beginning of AF
 OptiThiols®	AR				•	•	•	•	...		0	20 - 40 Before AF
 OptiFlore® 0	N/P				...	..	...	•	•		10	20 - 40 Before end of AF
OptiFerm® (Vitactif)	N/P		DAP ...	..	..	..	•				30	20 - 40
OptiML® (bacteria)	N/P				•	...	..	•			0	20 - 40
Actibiol®	N/S		..		•	..	•	•			0	30 - 60
Natur'Soft®	P				..	•	•	•			0	20-100 Before end of AF

Protection, support and detoxification

		N: nutrition P: protection S: support element AR: aromatic revelation	CELLULOSE POWDER	VITAMINS/ MINERALS	DETOXIFICATION	STEROLS / UNSATURATED FATTY ACIDS	AROMATIC REVELATION	AROMATIC PROTECTION	YAN INCREASE mg/L per 20 g/hL added	DOSAGE (g/hL)
Flor'Protect®	P				...				0	20 - 40 Maximum legal dosage in EU
Granucel	S		...						0	20 - 80
 Aroma Protect®	P			•	•	•		...	0	10 - 40
Aroma T'N'T	P AR			•	•	•	...	...	0	10 - 40



ENZYMES

Lamothe-Abiet and Novozymes, a success that has endured for more than 20 years. The combination of Lamothe-Abiet's expertise in oenology 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.



VINOZYM® VINTAGE FCE

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

In order to liberate the beneficials phenolics components :

- skin tannins
- anthocyanins with an increase in concentration (ICM) and a better stability over time

To modify the polysaccharides profiles:



- a higher concentration of positive small size polysaccharides (RGII)
=> decrease of astringency
- a decrease in intermediary size polysaccharides (PRAG)
=> improvement of the filterability

To increase yield of free-run wine and press wine

TO KNOW

- Application: maceration and extraction of red grapes in traditional vinification
- Purification from Cinnamoyl Esterase activity

Granulated enzymes

	MACERATION	CLARIFICATION	TYPE OF WINE	DOSAGE	RECOMMENDATIONS
VINOZYM® FCE G *		2-4 g/100 kg	Increase the dose to 5 g/100 kg for berries of small size or lacking maturity.
 NOVOCLAIR® SPEED *		...		0,5-2 g/hL	After use of enzyme on grapes, use a half dose on the press fraction > 1 bar only.
 VINOZYM® VINTAGE FCE *		3-4 g/100 kg	Increase the dose to 5 g/100 kg for berries of small size or lacking maturity.
VINOZYM® PROCESS *		3-4 g/100 kg	Increase the dose to 5 g/100 kg for berries of small size or lacking maturity.

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



VINOCLEAR® CLASSIC

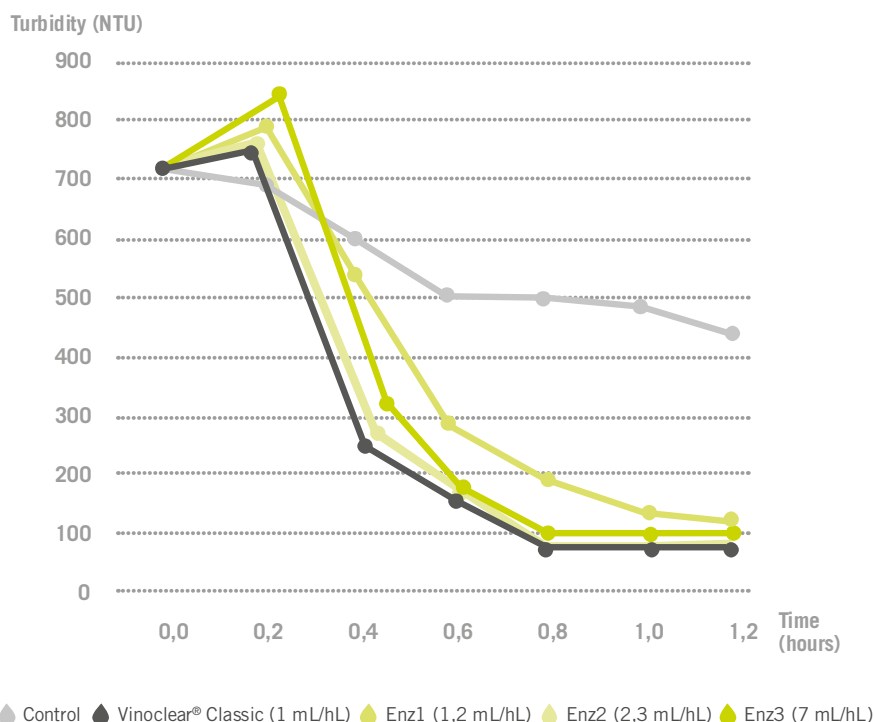
Liquid enzymatic formulation to accelerate the clarification of musts before alcoholic fermentation. Its use also decreases the volume of grape lees, thus helping you to reduce your costs. The formulation is active at low (<10°C) and high (<68°C) temperatures. It is therefore suitable for use for white must flotation as well as for red wine thermovinification.

TO KNOW

The acknowledged effect are:

- Very fast depectinisation and flocculation, reducing turbidity even at low dosages ($T^{\circ} > 5^{\circ}\text{C}$).
- 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.

Kinetics of clarification of a white must grapes from Victoria - pH : 3,6 - T : 10°C



« 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) »

VINOCRUSH® CLASSIC

Extraction enzyme which improves maceration and extraction of red and white grapes.

“



Optimisation of quality and yield

« By using the Vinocrush® Classic enzyme preparation, wineries optimise the pressing of musts, in particular achieving a significant economic gain (better yield in juice).

Through the use of Vinoclear® Classic, the winemaker significantly improves the steps of depectinisation and must clarification, during static clarification as well as floatation. »



José Luis NÚÑEZ
Managing Director ENOCENTRO 2003 S.L., Castilla La Mancha, SPAIN.

Liquid enzymes

	MACERATION	CLARIFICATION	TYPE OF WINE	DOSAGE	RECOMMENDATIONS
VINOZYM® ULTRA FCE *		Maceration : 2-4 mL/100 kg Clarification : 1-2 mL/hL	Maceration: Increase the dose to 5 g/100 kg for berries of small size or lacking maturity. Clarification: After use of enzyme on grapes, use a half dose on the press fraction > 1 bar only.
VINOCRUSH® CLASSIC		2-4 mL/100 kg	Increase the dose to 5 g/100 kg for small sized seeds or lacking maturity.
 VINOCLEAR® CLASSIC		...		1-3 mL/hL	Recommended for the clarification of heat treated musts. Stable at high temperatures. Particularly suitable for flotation. After use of Vinocrush® Classic, apply a half dose on press fraction > 1 bar only.

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



VINOTASTE® PRO

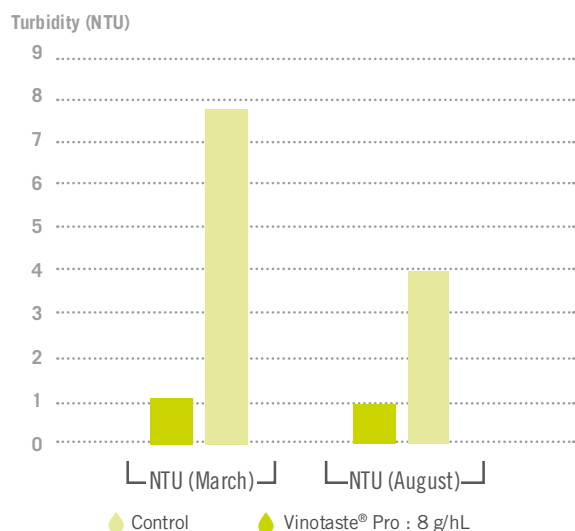
Enzymatic formulation that combines pectinase and betaglucanase (1-3; 1-6) activities for the hydrolysis of yeast polysaccharides, and/or botrytis polysaccharides in the case of curative usage (altered harvest). The product can be used for a large number of applications: at the end of the maceration, at running-off, or during maturation. The dosage is determined according to the substrate to break down and the desired time of action.

TO KNOW

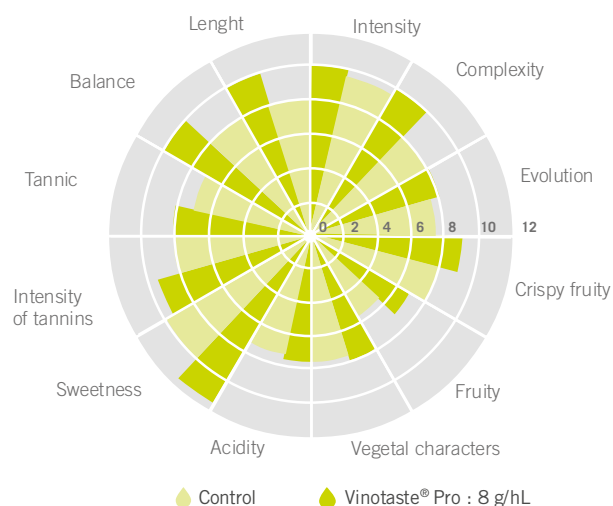
The recognized effects are:

- Increases the freshness of aromas and the roundness of wines thanks to the re-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 classic maturation
- Elimination of botrytis glucans in the case of altered harvests

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



Tasting done 4 months afterwards



"When tasting the 'maturation' modality, differences in favour of the product under trial were identified on the criteria of freshness of aromas, volume, balance, and length on the palate"



OENOZYM® TH

★ Oenozym® TH is a new pectolytic enzyme preparation from *Aspergillus niger*, rich in secondary activities and free from cinnamyl-esterase activity.

Oenozym® TH used **during alcoholic fermentation** enhances the liberation of thiol aroma precursors such as 4MSP (boxwood) 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 Oenozym® TH 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.

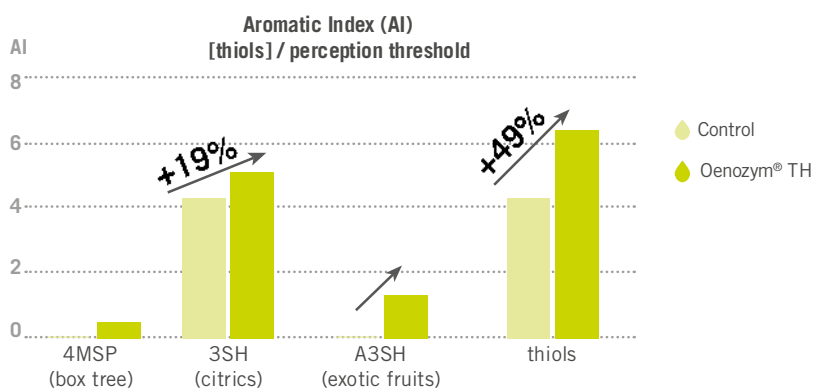
- **Liberation of thiol precursors to thiols** (increase the % of conversion).
- Depending on the moment when used, possibility to **modulate the final aromatic profile** of the wines.

TO KNOW

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

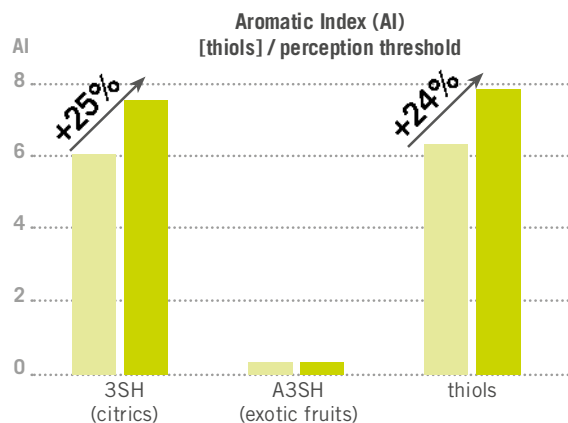
Oenozym® TH added during AF

white wine pecorino variety, 2016 - Italy
ABV: 13,15% vol - pH = 3,37 - TA: 4,3 g/L H₂SO₄



Oenozym® TH added during maturation

white wine pecorino variety, 2016 - Italy
ABV: 12,65% vol - pH = 3,3 - TA: 4,4 g/L H₂SO₄



Specific Enzymes

		CLARIFICATION	FERMENTATION	MATURATION	FILTRATION	TIPE OF WINE	DOSAGE	RECOMMENDATIONS
L : liquid G : granulated								
Vinotaste® Pro *	G	•		••• + roundness	•••		4-10 g/hL	Active at all pHs Increase the dose by 30% if Temp. < 12°C
Oenozym® TH (Thiols)	L		••• Revelation of thiol aromas	••• Revelation of thiol aromas			4-6 g/hL	
Oenozym® FW (Fruity White)	G			••• Revelation of terpenes			Dry wine: 3 à 6 g/hL Sweet wine: 6 g/hL	Check the level of SO ₂ , stop the enzymatic activity with 20 g/hL of bentonite

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



The specific microgranulated (MG) and granulated (G) formulation of our instantly soluble tannins means that they can be added directly to grapes, musts or wines. The ideal dispersal which guarantees an immediate, effective, and uniform action with simple mixing or pump-over. Compared to a powdered tannin, the ease of use is greatly improved: less pulverulent, more convenient and time saving.



PRO TANIN R®

Pro Tanin R[®] **inhibits laccase**, an enzyme that causes drastic and irreversible oxidation in botrytised musts and wines.

Even a small laccase activity in the must can significantly decrease the visual quality of the future wine. Using Pro Tanin R® helps to stop this laccase activity and to conserve the future wine's colour.

- Cabernet Sauvignon, Graves, 2016
- TAV : 11,5% vol, pH= 3,52



Control

$\frac{1}{2}$ dosis Pro Tanin R

1 dosis Pro Tanin R

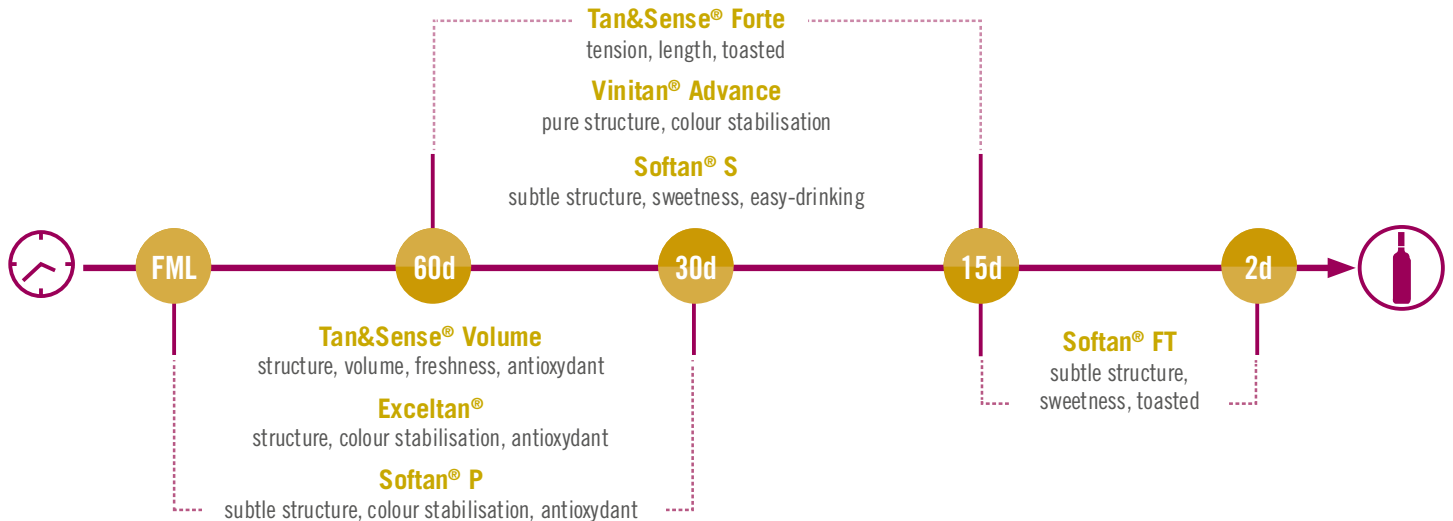
10 g/hL 20 g/hL

Vinification Tannins

P: powder G: granulated MG: micro-granulated		COMPOSITION	INHIBITION OF LACCASE ACTIVITY	ANTIOXYDANT ROLE	REACTIVITY WITH PROTEINS, EASE OF FINING	COLOUR STABILISATION	CONTRIBUTION OF ROUNDNESS	TIMING	APPLICATION	DOSAGE (g/hL)
 Pro Tanin R®	MG	Proanthocyanidic tannins						Vatting	Must and wine 	Healthy harvest: 10 - 30 Affected harvest: 30 - 80
Softan® V	MG	Catechic tannins bound to vegetal polysaccharides						added 1 day after reception		10 - 40
Vinitan®	MG	Proanthocyanidic tannins from grapes						Fermentation or maturation		5 - 30
Tanin gallique à l'alcool	G	Gallic tannins (Oak gall)						Altered mechanical harvest, pre-fermentation maceration, press, fining	Must and wine 	3 - 15
Gallo tanin B	P	Ellagitannins (Chestnut)						Vatting	Must and wine 	5 - 15

Maturation Tannins

Positioning and effects of tannins depending on time before bottling:

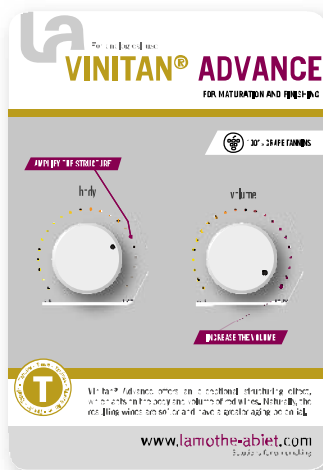


VINITAN® ADVANCE

★ Increase the volume, amplify the structure

Vinitan Advance® is the result of the latest advances in grape tannin production. It consists of the latest generation of pure grape tannins.

- Its own **grape tannins** have an **excellent reactivity** with the native grape tannins present in the wine.
- It has a significant **effect** on wines slightly lacking in **structure** and in maintaining their **fruity characters** throughout maturation and bottle aging.
- The effects can be quantified for the **reduction of the astringency** of certain wines, showing a reactivity with the originally present tannins.

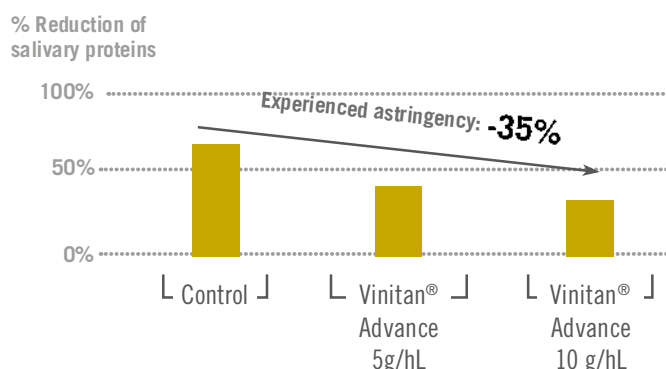


Maturation trial Vinitan® Advance

Measurement of the astringency of a wine after treatment

SPI - salivary protein index, (Sarco laboratory, internal method)

- Maturation, red wine, Pomerol.
- Addition of increasing dosages of Vinitan Advance®.
- Measurement of SPI (salivary protein index), 1 month after addition.
- The SPI is representative of the astringency of the wines. A lower value shows less pronounced astringency.







Results

- Reduction of experienced astringency during tasting.
- The volume and structure are increased.

The results are dependent on the type of wine treated and the dosages. Trials in bottle are recommended.

Maturation tannins

		COMPOSITION	COLOUR STABILISATION	CONTROL OF REDOX POTENTIAL	CONTRIBUTION TO STRUCTURE	CONTRIBUTION TO ROUNDNESS	PROFILE HARMONISATION	TIMING	APPLICATION	DOSAGE (g/hL)
	P : powder G : granulated MG : Micro-granulated									
 Vinitan® Advance	MG	Grape proanthocyanidic tannins, unique selection process	•	•	•••	••	•••	During maturation or as a final touch		5 – 30
Vinitan®	MG	Proanthocyanidic tannins from grapes	•	•	•••		••	During maturation		
Tan&Sense Volume	MG	Pure ellagitannins of oak		•••	•••	•	••	During or at the end of maturation		 5 - 20  3 - 5
Tan&Sense Forte	MG	Pure ellagitannins of toasted oak		••	•••	•	••	During or at the end of maturation		 0,5 - 3  1 - 10
Exceltan®	MG	Grape tannins and oak ellagitannins	•••	•••	•••		••	At running off or during maturation		10 - 50
Harmotan®	MG	Proanthocyanidic tannins and oak ellagitannins	••	•	••		•	During maturation		10 - 20
Gallo tanin B	P	Ellagitannins (Chestnut)		•••	•			During maturation as a complement to fining		5 - 15



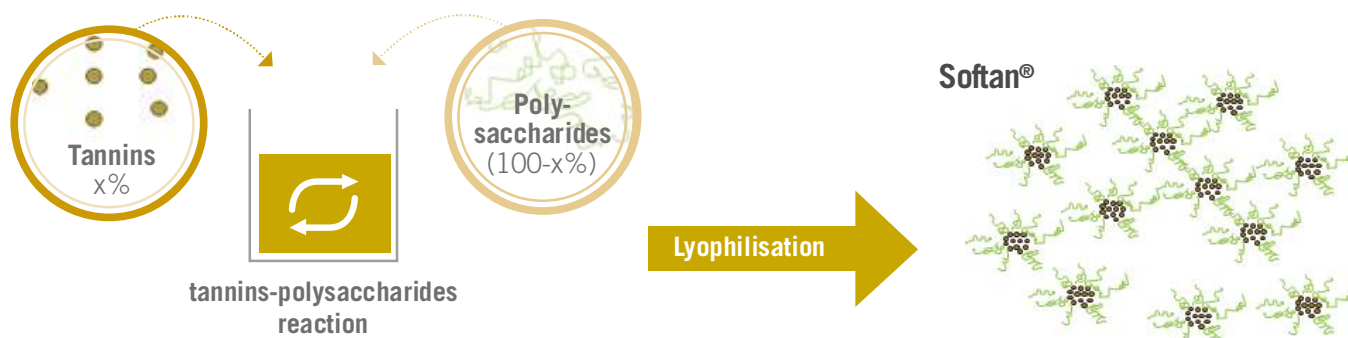
SOFTAN®

Structure and softness

Developed by Lamothe-Abiet according to a unique process, the **Softan® range combines tannins** that are **selected** for their effectiveness and finesse, with **natural polysaccharides** of vegetal origin.

TO KNOW

- When added during maturation, Softan® gives **significant roundness** and **structure** to wines whilst avoiding the risk of astringency associated with tannin additions.

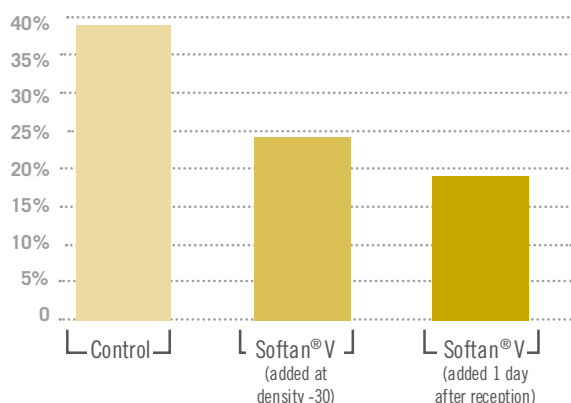


Trial Softan® V

Trial conditions:

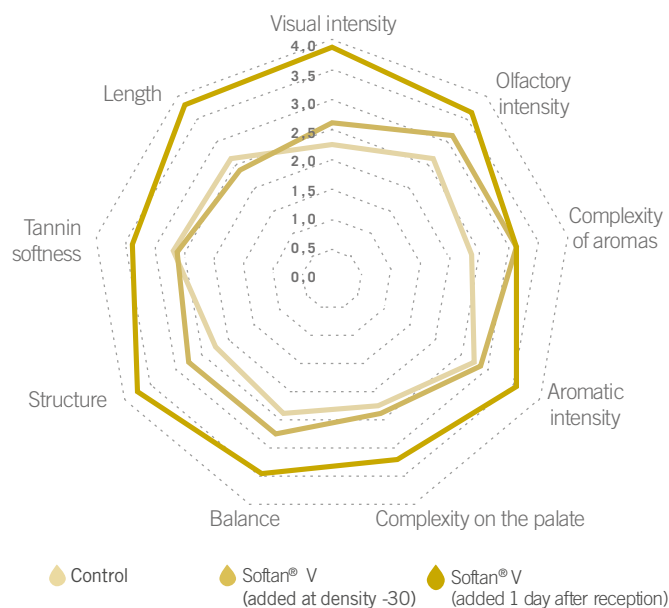
- Thermovinified Grenache, 2016
- Cellier des dauphins, Côtes du Rhône
- ABV: 13,4 % vol., pH = 3,62

ICM variation between analysis made after MLF and another made 6 months later



Added at the beginning of fermentation, Softan® V is effective in **colour stabilisation**. For greater effectiveness, it is recommended to add Pro Tanin® R in the tank at reception.

Organoleptic descriptors



The addition of 30g/hL of Softan® V one day after reception **increases red wines' organoleptic complexity**.



« Grenache is the main variety in our appellation. Each year we face problems with colour stability on our thermovinifications.

Since doing a set of trials in 2016 with Softan® V, a catechic tannin, we have noted that the colour lasts longer. As well as this, the taste of the wine improved. Wines treated with Softan® V are rounder on the palate and show more complex aromas. It is now an integral part of our process. »



Thierry Walet, & Guillaume Valli
Head Winemakers,
Cellier des Dauphins - Côtes-du-rhône, FRANCE

Softan® range

MG: micro-granulated		COMPOSITION	COLOUR STABILISATION	CONTROL OF REDOX POTENTIAL	CONTRIBUTION TO STRUCTURE	ROUNDNESS CONTRIBUTION	PROFIL HARMONISATION	TIMING	APPLICATION	DOSAGE (g/hL)
Softan® V	MG	Catechic tannins bound to vegetal polysaccharides	●●●	●	●●●	●●	●●	added 1 day after reception		10 - 40
Softan® P	MG	Proanthocyanidic and ellagic tannins bound to vegetal polysaccharides	●●	●	●●●	●●●	●●	running off or during maturation		10 - 40
Softan® S	MG	Proanthocyanidic and ellagic tannins (from fresh and toasted oak) bound to vegetal polysaccharides	●●	●●	●●●	●●●	●●●	during maturation		● 5 - 20 ● 1 - 3
Softan® FT	MG	Toasted oak ellagitannins bound to vegetal polysaccharides	●	●●	●●	●●●	●●●	during maturation or as a final touch		● 5 - 10 ● 1 - 3



FINING RANGE

Must fining, carried out before or during alcoholic fermentation, is an essential step in white and rosé winemaking, as part of a qualitative process aiming for visual and organoleptic purity.



GREENFINE®

Based on pea vegetal proteins without allergens.

The new products from the Greenfine® Range are complex formulations based on pea proteins that specifically fulfill varying objectives:

GreenFine® Must

Clarifying effect, decrease in oxidised and oxidisable phenolic compounds, and improvement in organoleptic qualities

GreenFine® Must L

Similar effects to GreenFine® Must, in liquid form

GreenFine® Mix

specific treatment of yellow colouring, of oxidation potential, and bitterness

GreenFine® XL

complete treatment, combining impact on the colour, organoleptic characters, and on the level of clarification and settling of fine lees

GreenFine® Intense

specific treatment of the colour intensity

Fining trial on musts with GreenFine® range

Effects on colour of the different products arising from GreenFine® range on a rosé must.

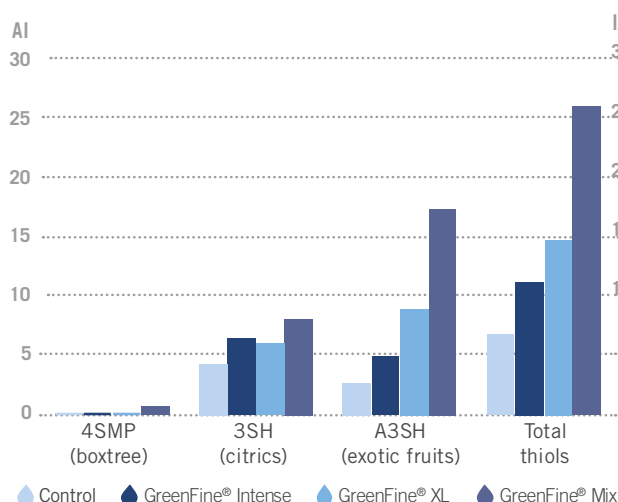


Effect of must fining on wines' aromatic profile:

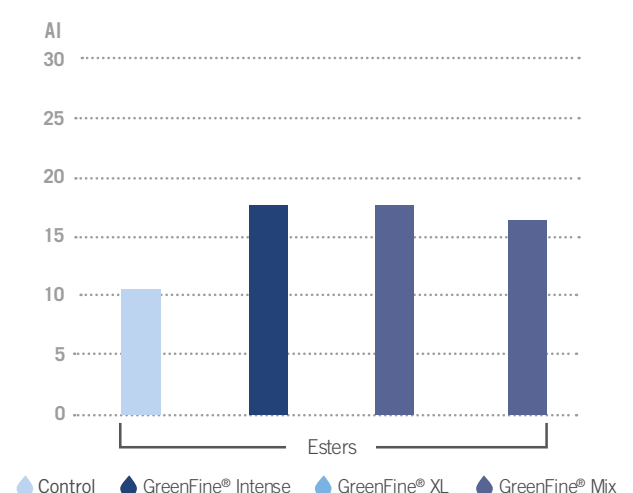
Trial conditions:

Sauvignon Blanc, Graves, 2016 - Dosage: 50 g/hL

Aromatic index (AI)
[thiols] / perception threshold



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





« With more than 80% of the wines of our region being rosés, we are particularly attentive to consumers' key expectations, both in terms of how the wine looks and how it tastes.

In 2012, in order to respond to allergen problems, the first trials using GreenFine® Must were carried out with winemakers who were certified organic. We noted a very significant effect on the colour intensity, the decrease in oxidative characteristics on the musts, as well as lees compaction.







GreenFine® Must very quickly became part of our process.

At the same time, the shared experience of our team led us to suggest to Lamothe-Abiet to develop new formulations: GreenFine® XL is extremely effective on press juice, giving cleaner, less tannic and less green juices. In traditional vinification processes, on varieties which give more colour. GreenFine® Mix has also shown itself to be an excellent compromise for fining problematic musts. Today, the range offers an array of very effective tools with very reasonable dosages. They comply with regulatory changes (both European and organic), consumer demands, as well as winemakers' preference to use ingredients of natural origins. »



Chrystelle GOURRIN
Consultant Winemaker
ICO, Provence, FRANCE

Specific fining products

		L : liquid G : granulated P : powder	IMPROVE STRUCTURE	IMPROVE ROUNDNESS	INCREASE COLOUR STABILITY	DECREASE VEGETAL NOTES	PROTEIN STABILISATION	REMEDY OXIDATION	TYPE OF WINE / APPLICATION	DOSAGE *
 FINING PRODUCTS BASED ON PEA PROTEINS	GreenFine® Must (Pea proteins, liquid formulation)	L	•		•	•••		•••	 Must / Flotation	10-50 cL/hL
	GreenFine® Must (Pea proteins)		•		•	•••		•••		10-50 g/hL
	GreenFine® Mix (Pea proteins, PVPP)		•		••	•••		•••	 Must / Flotation	10-80 g/hL
	GreenFine® XL (Pea proteins, PVPP, calcium bentonite, gelatin)		••		••	••		••		10-100 g/hL
	GreenFine® Intense (Pea proteins, decoloring activated carbon, PVPP, calcium bentonite)	P			•••	••		••		10-120 g/hL
	GreenFine® Wine (Pea proteins, gallic tannins)		•••		••	••			 Aged wine	5-30 g/hL
	GreenFine® Press (Pea proteins, calcium bentonite, inactivated yeasts)		•••	••	••	••	•			Press wine / Thermovinification 20-80 g/hL
COMPLEX FINING PRODUCTS	Polymix® Natur' (PVPP, calcium bentonite, inactivated yeasts)		••	•		•	•	••	 Must during AF	15-100 g/hL
	Polymix® (PVPP, potassium caseinate)	P				•	•	••		Must 15-100 g/hL
	Natur'fine® Prestige (Inactivated yeasts, pectolytic enzymes)		•••	••	•	••			 Wine for laying down / Must during AF	5-40 g/hL

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



FINING FINDER : Find your fining solution

Unbalanced due to astringency

medium to high in tannins

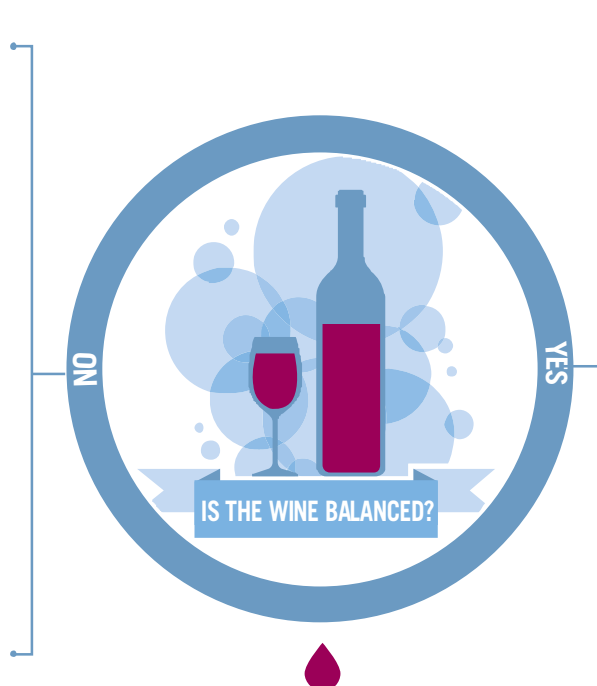
Gélatine de Russie supérieure : 3-5 cL/hL
Polymix® Natur' : 30-80 g/hL
Clarfine : 30-60 g/hL

low in tannins

Gélatine de Russie supérieure : 1-2 cL/hL
Polymix® Natur' : 10-30 g/hL
Clarfine : 10-20 g/hL
Geldor : 1,5-4 g/hL

Other causes of imbalance

treat the cause of imbalance
ex : lack of sweetness > SubliSense®,
> Softan® S
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
Natur'Fine® Prestige : 10-40 g/hL
GreenFine® Wine : 10-20 g/hL
GreenFine® Press : 20-40 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
Natur'Fine® Prestige : 5-20 g/hL
GreenFine® Wine : 5-10 g/hL

Low in tannins

Geldor : 1,5-4 cL/hL
Gélatine spéciale vins fins : 2-4 cL/hL

Excess of polyphenols

secondary oxidation

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® Press : 40-80 g/hL

bitterness, astringency

Polymix® Natur' : 15-30 g/hL
Polymix® : 15-30 g/hL
Clarfine : 10-30 g/hL
GreenFine® Press : 10-40 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 : 5-10 g/hL
GreenFine® Wine : 3-5 g/hL

Clearness

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

Protein stability:

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

Other fining products

		L: liquid G: granulated P: powder MG: micro-granulated	IMPROVE STRUCTURE	IMPROVE ROUNDNESS	INCREASE COLOUR STABILITY	DECREASE VEGETAL NOTES	PROTEIN STABILISATION	REMEDY OXIDATION	TYPE OF WINE / APPLICATION		DOSAGE *
CASEINS	Caséimix (Potassium caseinate)	P				•		•••		Must / press wine	15-80 g/hL
	Caséine soluble					•		•••			20-60 g/hL
PVPP	Clarfine (PVPP, cellulose support)	P				•••		••		Must / press wine	10-60 g/hL
	PVPP	G MG				•••		••			20-80 g/hL
NATURAL BENTONITES	Bentosol Protect (Sodium)	G					•••			Must/ Wine	10-120 g/hL
	Bentosol Poudre (Sodium)	P					•••				
	Bentosol FT (Compatible with tangential)						••				
GELATINS	Gelflot		•		•••	••		•		Flotation	1-6 cL/hL
	Gélatine Spéciale Vins Fins	L	•		•••	••				Aged wine	2-10 cL/hL
	Geldor®		•		•••	••				Young fruity wine / Thermovinification	1,5-6 cL/hL
	Gélatine de Russie Supérieure		••		•••	••				Press wine	1-5 cL/hL
	Gelfine®	P	••		••	••				Aged wine	3-10 g/hL
OVALBUMINS	Ovaline®	L	•••		•••	••				Wine for laying down	1-9 cL/hL
	Albumine d'œuf	P	•••		•••	••					5-10 g/hL
ISINGLASS	Colle de poisson LA	P	••			•				Wine for laying down	1-3 g/hL
FINING ADJUVANTS	Blankasit Super (Acid silica gel)	L								Increase the efficacy of protein fining	2-5 cL/hL
	Gel de Silice (Alcaline silica gel)										3 cL/hL

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



STABILISATION

Deciding upon a stabilisation strategy as early and holistically as possible helps to increase the effectiveness of oenological treatments, to limit the number of subsequent treatments for the same objective and also to limit organoleptic losses (colour, aromas).



Between stabilisation and enrobing: positioning of our gums

TO KNOW

Our arabic gums are rigorously selected from *Acacia Verek* and *Acacia Seyal*.

We process and purify them with great care preserve as much as possible they enrobing and stabilising qualities.



STABILISE

Gomme LA

- Liquid form
- High protection index
- Colloid protector
- Inhibits precipitation of colouring matter

Gomme standard

- Liquid form
- Strong protection index though a little lower
- Colour protection
- Lower cost

Polygom

- Liquid form
- Stabilisation and roundness
- Improvement of mid-palate

Excelgom®

- Instantly soluble granules
- Pure hydrolysed gum
- Adds weight and roundness

Vinogom®

- Liquid form
- Pure hydrolysed gum
- Adds weight and roundness

ENROBE

Arabic gums

			STABILISATION			APPLICATION	DOSAGE
			COLLODAL	COLOUR	ROUNDNESS		
ACACIA GUMS	Gomme LA	L	...	...	.		10 cL/hL
	Gomme Standard		...	...	.		10 cL/hL
	Polygom		..	..	..		5-30 cL/hL
	Vinogom®		.	.	...		5-30 cL/hL
	Excelgom®	MG	.	.	...		20-120 g/hL

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

Tartaric stabilisation

		L: liquid C: crystal P: powder	STABILISATION			APPLICATION	DOSAGE *
			COLLOIDAL COLOUR	TARTARIC	MICROBIOLOGICAL		
MANNOPROTENS	Stab K®	L	••	•••		•••	10-20 cL/hL
CMC	Vinoprotect®	L		•••		••	≤ 20 cL/hL
METATARTARIC ACID	Antitartre 36	P		••		•••	≤ 10 g/hL
	Antitartre 40			•••			10 g/hL
CREAM OF TARTAR	Bitartrate de Potassium	C		•••		•••	4 g/L

VINOPROTECT®

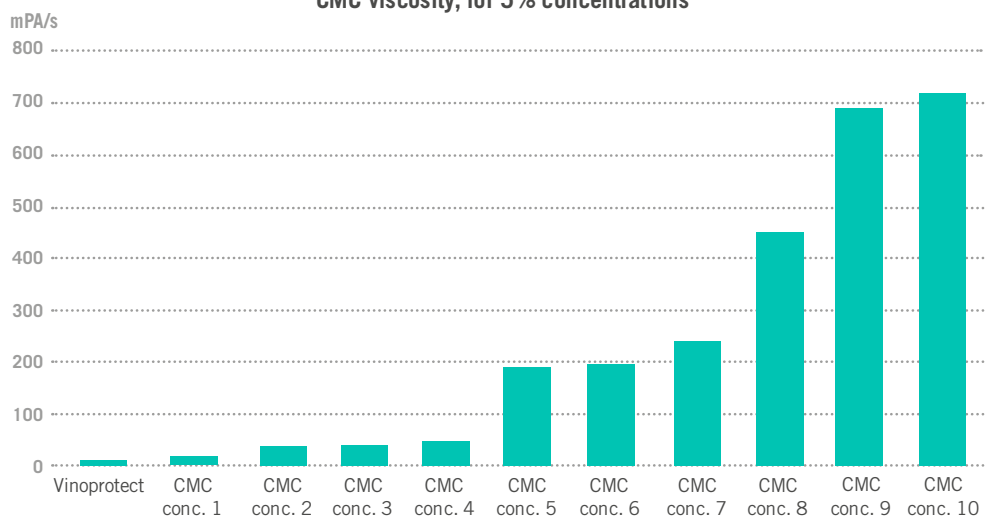
Cellulose gum for the tartrate stabilisation of white wines.

As well as its incredible efficacy, Vinoprotect® also allows you to save preparation time, to reduce the risk of filter clogging and any 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.

CMC viscosity, for 5% concentrations



Preservatives

		L: liquid CE: effervescent tablets	STABILISATION				APPLICATION	DOSAGE *
			COLLOIDAL COLOUR	TARTARIC	MICROBIOLOGICAL	AROMATIC		
SO ₂	Coeff 2 et 5g	CE			•••		•••	According to objectives
	Sulfisol 6%, 8%, 10%, 15% et 18%	L			•••			

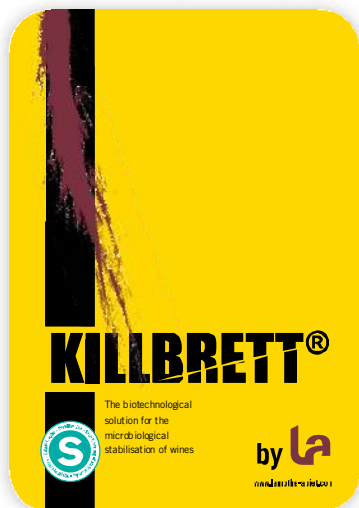
* Guidelines only: carry out trials to determine the optimal dose for each type of wine. Respect the maximum authorized doses according the current regulations.



KILLBRETT®

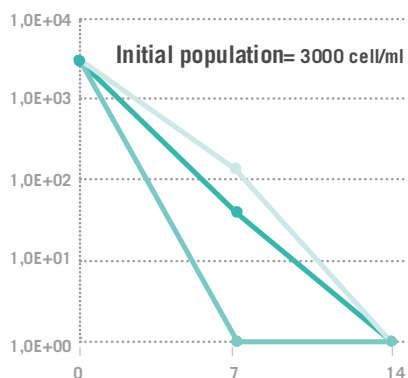
KillBrett® is made 100% from a high purity chitosan of exclusively of fungal origin.

To eliminate *Brettanomyces*, KillBrett® is shown to be **the easiest solution, most gentle on the wines**, against DMDC and physical treatments. KillBrett® chitosan causes the lysis of the cell walls of *Brettanomyces* and its sedimentation at the bottom of the barrel or tank.



- KillBrett 2g/hL + VinoTaste Pro 10g/hL
- KillBrett 4g/hL
- KillBrett 2g/hL + VinoTaste Pro 15g/hL

Effect of KillBrett® on *Brettanomyces* populations







Recommended dosages:

Initial contamination	Recommended treatment
Moderate $\pm 10^2$ cell/mL	KillBrett® 4g/hL
High $\pm 10^3$ cell/mL	KillBrett® 4g/hL + VinoTaste® Pro 10g/hL
Very high $\geq 10^4$ cell/mL	KillBrett® 6g/hL + VinoTaste® Pro 10g/hL
Preventive treatment (after FML)	KillBrett® 4g/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*.

Microbiological stabilisation

			STABILISATION			APPLICATION	DOSAGE *
			COLLOIDAL COULEUR	TARTARIC	MICROBIOLOGICAL		
CHITOSANE	 KillBrett®	P			...		2-10 g/hL
LYSOZYME	Lacticide	P			...		10-50 g/hL
SORBATE	Sorbasol	P			...		10-20 g/hL

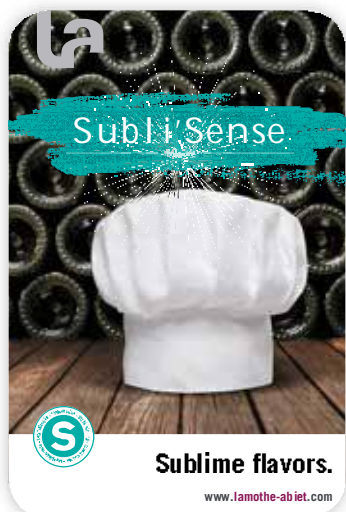
Charbons

			STABILISATION				APPLICATION	DOSAGE *
			COLLOIDAL COULEUR	TARTARIC	MICROBIOLOGICAL	AROMATIC		
CHARBONS	Géospriv	G				... + decontaminating		20-100 g/hL Before the end of AF
	Super Ultose TS	P	...					≤ 100 g/hL
		G	+ decoloring					

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



SUBLI'SENSE®



New solution of gum arabic and mannoproteins for organoleptic improvements of your wines.

★ Subli'Sense®

- Increases the unctuousity and flavour
- Enrobes the tannins
- Improves the softness and length on the palate

Mannoproteins mix

			STABILISATION			APPLICATION	DOSAGE *
L : liquid			COLLOIDAL COULEUR	TARTARIC	MICROBIOLOGICAL		
	GUM ARABIC AND MANNOPROTEINS	Subli'Sense®	L	• + Flavour	•		10-30 cL/hL

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



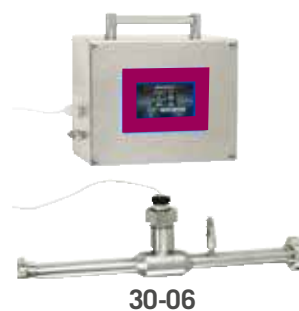
DOSAPOMPE

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 SO₂, RCM, enzymes...

TO KNOW

Advantages:

- 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.



	PRODUCTION LINE RATE	DOSAGE RATE	DOSAGE PRECISION	MAX. PRESSURE PUT ON LINE	WORKING TEMPERATURE
Dosapompe 30-06	Up to 3000 bottles/h	Up to 6 litres/h	+/- 3% with calibration	4 bars	5 to 60°C (resistant to vapour)
Dosapompe 100-20	Up to 10 000 bottles/h	Up to 20 litres/h			
Dosapompe 200-50	Up to 20 000 bottles/h	Up to 50 litres/h		7 bars *	

* Compatible with counter-pressure bottling line



Cenobois

Having first released sticks with a thickness of 22mm, Cenobois has been a forerunner in the use of enological oak in thick formats. We 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, at the same rhythm as with barrel maturation. 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.

The packagings for the granular, chips, Cenobois 3D and blocks 18mm products will change over 2018, with different materials and sizes. The change in material will help to improve strength.

The sizes will be standardised to 12kg, and an ergonomic handle will improve comfort and ease of use.

STAVES & BLOCKS CENOBOIS® 18mm

★ Staves Cenobois® 18mm



Cenobois' 18mm staves are the result of a long and rigorous selection of aromatic profiles that are both intense and complex, while also seeking finesse and length on the palate. The fruit of these labours is a selection of 3 products, each the result of a different toasting process, which occurs in 2 steps (Double Toasting Process): a first toast, slow and prolonged, that has an even impact on the entire volume of the oak; the second toasting is on the surface and gives aromatic complexity.

★ Blocks Cenobois® 18mm

Cenobois 18mm blocks are made from Cenobois 18mm staves. They therefore exactly match the same intense and complex aromatic profiles produced by the double toasting process which is carried out only on the 18mm staves. The blocks' smaller format means that wines with a shorter maturation time can also benefit from this newly attained organoleptic dimension.

Packaging: Staves in 2x10 units, joined together (both sides). / Blocks in bag of 12kg containing 2 infusion bags of 6kg.

		AROMATIC PROFILE				APPLICATION TIMING			TYPE OF WINE	RECOMMENDATIONS
		HIGHLIGHT THE FRUIT, RESPECT THE TYPICITY	BRING ROUNDNESS AND WEIGHT	CARAMEL, SMOKEY NOTES	BRING FINESSE, EQUIVALENT TO BARREL	FA	FML	AGEING		
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)
	Expression	..	..	..	...	.	...	...	...
	Absolute	.	..	...						Blocks: 3 to 6 months Staves: 8 to 12 months

Levels of toast



ORIGIN

The "lightest" toasting profile, highlights the freshness of the fruit and brings intense aromas of coconut and vanilla. On the palate, an increased sweetness and roundness.



EXPRESSION

The most "moderate" toast, the range of aromas is the broadest and most complex, combining notes of vanilla, caramel, crème brûlée and roasted coffee. On the palate, it brings complexity and length.



ABSOLUTE

The strongest toast with the most "character", with intense aromas of roasted coffee, mocha, smokiness, but also fresher notes such as licorice and eucalyptus. On the palate, sensations of freshness and tension round off this very surprising toast!



With over 10 years of experience, C nobo s  offers different concepts for modelling barrel ageing.

STICKS & OENOBOIS  3D

★ Sticks C nobo s  starting at fermentation: modeling barrel fermentation

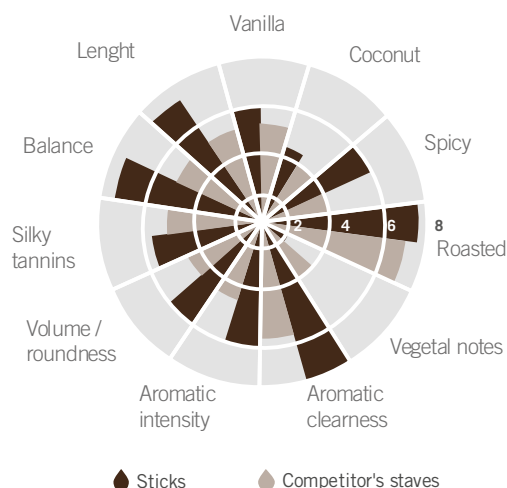
The aim is **integrate the oak** as best as possible, since the wood/wine exchanges can take place throughout the entire winemaking process. This has **two effects on the taste**: the **aromas** are found to be more precise, and the **tannic structure** is found to be more fine and silky.



«Objectives and benefits of the method: 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 gives roundness, volume, a complex aromatic profile, and participates in a greater colour intensity. It has a great benefit on mid-quality batches with the aim of integrating them into the top wine.»



Antoine M  DEVILLE, C noconseil laboratory, PAULLAC, FRANCE



★ C nobo s  3D

The cube shaped C nobo s  3D (with sides of 22mm) are made from C nobo s  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 C nobo s  sticks with the ease of use of chips. They help to guide the maturation of wines with precision and finesse.

Packaging: Sticks in 2x18 units, joined together (one side) / 3D in bag of 12kg containing 2 infusion bags of 6kg.

		AROMATIC PROFILE				APPLICATION TIMING			TYPE OF WINE	RECOMMENDATIONS
		HIGHLIGHT THE FRUIT, RESPECT THE TYPICITY	BRING ROUNDNESS AND WEIGHT	CARAMEL, SMOKEY NOTES	BRING FINESSE, EQUIVALENT TO BARREL	FA	FML	AGEING		
Sticks 2,2 x 2,2 x 90 cm Mini Sticks 2,2 x 2,2 x 30 cm 3D 2,2 x 2,2 x 2,2 cm French oak	HighLight	...	...		..					Contact time (varies according to dosage, wine and objective) 3D Cubes: 2 to 4 months Sticks: 4 to 8 months
	Medium	.	...	..	..	.	...	...
	Medium +	.	..	...	..	

Levels of toast



HIGHLIGHT

Accentuate the fruity notes of the wine and support its natural structure.



MEDIUM

Sweet aromatic profile (notes of caramel, vanilla and speculos) and silkiness on the palate.







MEDIUM+

Contributes to the complexity of persistence of the aromas of top quality wines, with intense notes of roasted almonds and mocha.

Chips & Granulars

Chips FR & US: Sparks of wood

Packaging: Bag of 12 kg containing 2 infusion bags of 6 kg.

		AROMATIC PROFILE				APPLICATION TIMING			TYPE OF WINE	RECOMMENDATIONS
		HIGHLIGHT THE FRUIT, RESPECT THE TYPICITY	BRING ROUNDNESS AND WEIGHT	CARAMEL, SMOKEY NOTES	BRING FINESSE, EQUIVALENT TO BARREL	FA	FML	AGEING		
	Fresh	•••	••		•	•••	••	•		During MLF or maturation
	Light	••	••		•			••		
	Medium	•	•••	••	••	•	•••	•••		
	Medium +	•	•	•••	••					
American oak chips	Medium	•	•••	••	•	•	•••	•••		Contact time: 4 – 8 weeks
	Medium +	•	••	•••	•					Possible to use during AF
CENOBLEND® chips	Chic Oakly and spicy	••	••	•••	•••					Contact time: 2 – 4 weeks
	Fun Gourmand and sweet	••	•••	•••	••	•	•••	•••		
	Pure Natural and fruity	•••	•		••	•••	••	•		

★ CEnoblend® Chips

CEnoblend® 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. CEnoBlend Pure reveals the fruity profile of wines without adding smokey oak notes; it boosts the volume on the palate and the natural structure of the wine, as well as the length of the end-palate.

CEnoblend® Chic



CEnoblend® Fun



Optimise your choice of oak for winemaking :



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

Granulars FR & US : for a full fermentation

Packaging: Bag of 12kg

Granular Oenofresh® and Granular Medium in bag of 12kg containing 2 infusion bags of 6kg



		AROMATIC PROFILE				APPLICATION TIMING			TYPE OF WINE	RECOMMENDATIONS
		HIGHLIGHT THE FRUIT, RESPECT THE TYPICITY	BRING ROUNDNESS AND WEIGHT	CARAMEL, SMOKEY NOTES	BRING FINESSE, EQUIVALENT TO BARREL	FA	FML	AGEING		
Granular French oak	Oenofresh®	● ● ●	●		●	● ● ●			● ● ●	From vating, 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 CENOBLEND®	Ferm'Oak	● ● ●	● ●	● ●	● ●	● ● ●				

Tank inserts*

Sticks Inside: Boost your barrel !



Customise your Sticks Inside:

Cenobois® 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.



The Stick Inside has 9 segments of 30cm joined together by **inox** binding. Packaging: box of 10 Sticks Inside.



		AROMATIC PROFILE				TIMING OF APPLICATION			TYPE OF WINE	RECOMMENDATIONS
		REVELATION OF FRUIT, PRESERVE TYPICITY	CONTRIBUTION OF ROUNDNESS AND SUBSTANCE	CARAMEL, SMOKEY	CONTRIBUTION OF COMPLEXITY EQUIV. BARREL	AF	MLF	AGEING		
Sticks Inside French oak	HighLight	● ● ●	● ● ●		● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	During AF for white and rosés. During MLF or maturation for reds. Temps de contact : 4 - 10 months
	Medium	●	● ● ●	●		● ● ●	● ● ●	● ● ●		
	Medium +	●	● ●	● ●		● ● ●	● ● ●	● ● ●		

* Addition through the bunghole.

Oak Inside : A ball for your barrel !

Packaging : 450g packet



		AROMATIC PROFILE				TIMING OF APPLICATION			TYPE OF WINE	RECOMMENDATIONS
		REVELATION OF FRUIT, PRESERVE TYPICITY	CONTRIBUTION OF ROUNDNESS AND SUBSTANCE	CARAMEL, SMOKEY	CONTRIBUTION OF COMPLEXITY EQUIV. BARREL	AF	MLF	AGEING		
Oak Inside Diameter of balls 3 cm French oak	Medium	●	● ● ●	● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ● + Lees stirring (white and rosés)	During AF for white and rosés. During MLF or maturation for reds. Contact time: 3 - 10 months
	Medium +	●	● ● ●	● ● ●		● ● ●	● ● ●	● ● ●		

* Addition through the bunghole.

In 2016, Lamothe-Abiet initiated studies on reducing sulfites. The heart of the project revolved around microbial management during the pre-fermentary stages, which led to the selection of a strain of *Metschnikowia pulcherrima* (Excellence® Bio-Nature). In order to meet certain or absolute limits on sulfites in wines, we have characterised different products from the range which might meet winemakers' needs. Other studies are currently underway and will expand on these initial recommendations.

Possibilities for substituting SO₂ are shown in the following pictograms, linked to their effects.



Effect on limiting SO₂



Anti-oxidase effect



Antioxidant effect



Antimicrobial effect

Excellence® Bio-Nature Trial

Trial conditions:

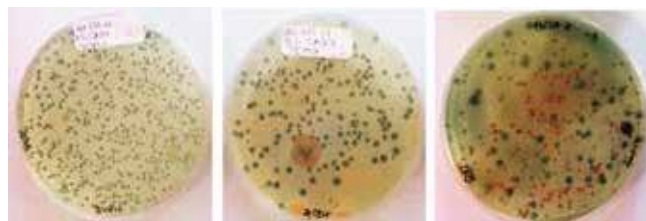
- Chenin, Vallée de la Loire, 2017
- ABV 12,8% vol, pH 3,2

Modalities:

- Starting must = Starting must, before sulfite or yeast addition
- SO₂+ = Sulfite added at 5g/hL on grapes at harvest
- Bio-Nature = 5g/hL d'Excellence® Bio-Nature on grapes at harvest

Non-saccharomyces populations

Green colonies = *Hanseniaspora Uvarum* | Red colonies = *Metschnikowia pulcherrima*



Starting must

SO₂ +

Bio-Nature

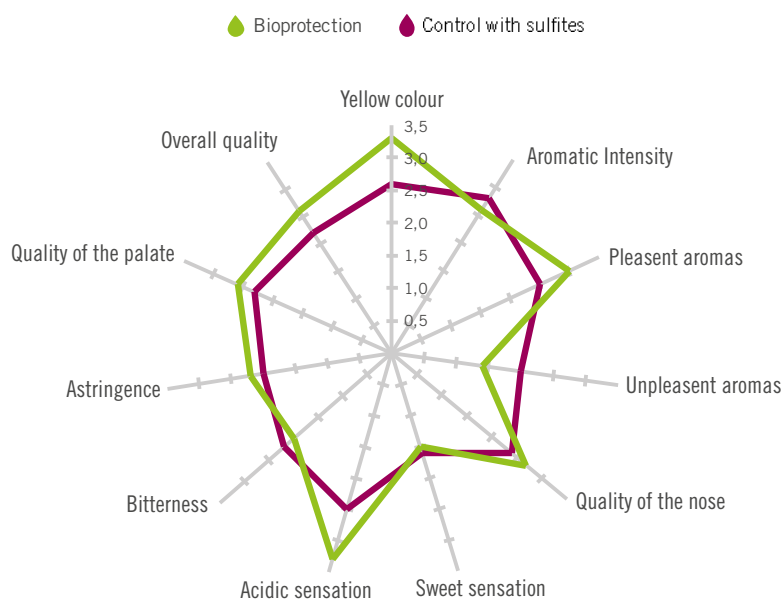
Almost the entire wild population is made up of *Hanseniaspora uvarum*, very recognisable by its large green colonies. Adding sulfur to the grapes at a concentration of 5g/hL was not enough to completely destroy this wild flora. **The modality inoculated with Excellence® Bio-Nature has entirely colonised the environment since its population is greater than that of the wild population.**

Post AF analyses

	SO ₂ +	Bio-Nature
Free SO ₂ (mg/L)	0	0
Total SO ₂ (mg/L)	26	7
Acetaldehyde - Ethanal (mg/L)	24	0
Estimation of the TL35* (mg/L) Post AF	104	80

* quantity of sulfite to add to wine to attain 35mg/L free SO₂

Comparative tasting at the end of AF



As well as removing the need to add sulfites to the grapes at harvest, bioprotection with Excellence® Bio-Nature helps to reduce the production of substances that combine SO₂, as well as giving more complex wines.



Usage: on grapes in hopper, as soon as possible.

Excellence® Bio-Nature

Benefits: control of microbial flora,
reduction of compounds that combine SO₂.

Tanin gallique à l'alcool

Benefits: inhibition of oxidases (tyrosinase, laccase).

Aroma Protect®

Benefits: consumes dissolved oxygen,
reacts with quinones.

Excellence® Bio-Nature

Benefits: control of microbial flora,
reduction of compounds that combine SO₂.

Pro Tanin R®

Benefits: inhibition of oxidases (tyrosinase, laccase).

Tan&Sense® Volume

Benefits: consumes dissolved oxygen,
protects grape tannins and anthocyanins.

Clarification

Usage: directly after pressing.

GreenFine®

Benefits : decrease oxidised
and oxidisable compounds.

Fermentation

Usage: when adding yeast.

Excellence® FTH / TXL / STR / B2

Benefits : low production of SO₂
and compounds that combine SO₂.

Excellence® XR / DS / SP / FR

Benefits : low production of SO₂
and compounds that combine SO₂.

Usage: in the hours following the start of AF.

Oeno 1®

Benefits : shorten the gap between AF
and MLF through early coinoculation:
limit microbial contamination and oxidations.

Thiamine

Benefits: decreases yeast production
of compounds that combine SO₂.

Thiamine

Benefits: decreases yeast production
of compounds that combine SO₂.

Maturation

Usage: after AF (if MLF not desired) or after FML.

Aroma Protect®

Benefits: consumes dissolved oxygen,
reacts with quinones.

Tan&Sense® Volume / Exceltan® / Softan® P

Benefits: consume dissolved oxygen, protect grape
tannins and anthocyanins, colour stabilisation.

Killbrett® / Lacticide

Benefits: eliminate Brettanomyces populations (Killbrett®),
and lactic bacteria (Lacticide). Reduce populations of lactic
bacteria and non-saccharomyces yeasts (Killbrett®).



Lamothe-Abiet offers its expertise for optimising thiol and fermentary ester aromas. The methods shown have proved themselves around the world.

Fermentary esters

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

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.

Novoclair® Speed

Usage: on the grapes as soon as possible

Benefits: Fast depectinisation of must in cold clarification or flotation

GreenFine® Range

Usage: after pressing

Benefits: Clarification of must
 Removal of polyphenols
 Colour management



After pressing

Volatile thiols

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

Vinozym® FCE G

Usage: on the grapes as soon as possible

Depectinise must
 Extract aroma precursors

GreenFine® Range

Usage: after pressing

Benefits: Clarification of must
 Removal of polyphenols
 Colour management

OptiThiols®

Usage: before AF

Benefits: Stimulates the synthesis of thiols during AF
 Better preservation of thiols after AF

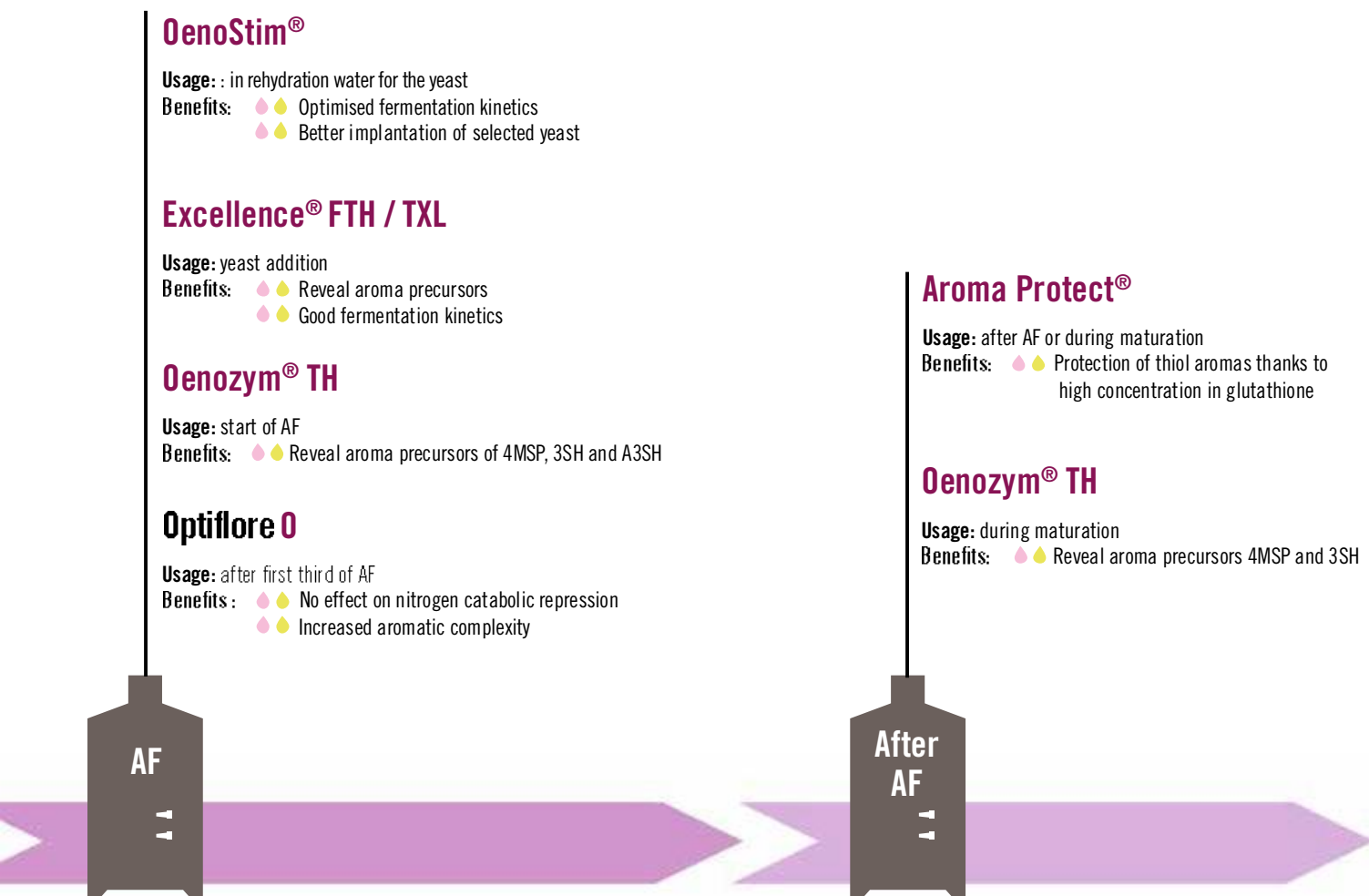
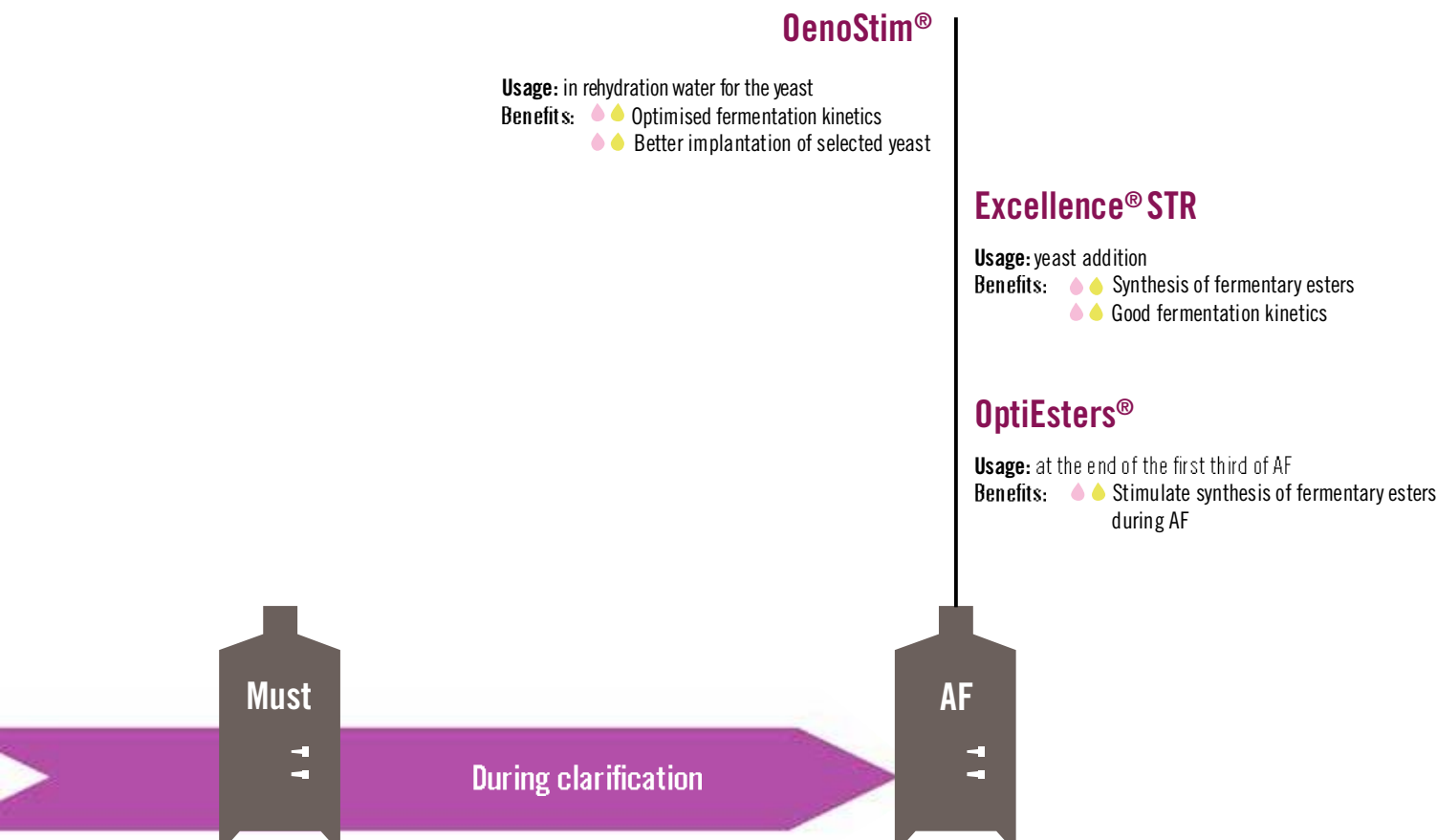


After pressing



Must

During clarification





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 "méthode traditionnelle" as for in sealed tanks (Charmat method).

1

Production of the base wine

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 :

Yeasts

	STRAIN	TYPE OF WINE			CHARACTERISTICS OF THE YEAST		VARIETAL
		BASE WINE	SECONDARY FERMENTATION	RESTARTING AF	NITROGEN REQUIREMENTS	ALCOHOL TOLERANCE (% Vol.)	
EXCELLENCE® RANGE	E2F	●●●	●●●	●●●	Low	>17	all
	TXL	●●			High	16	all
	STR	●			Medium	15	all

TO KNOW

- **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.

Yeast nutrition

OenoStim® : Used at a rate of 30 g/hL in the yeasts' rehydration water, Oenostim® 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.

TO KNOW

YEAST FOR PRISE DE MOUSSE

Excellence® E2F prepared with Oenostim®



Protocol available on our website at:
LA Solutions / Protocols

2

Tirage

TIRAGE LIQUOR

TANIN E2F® : selection of gallic and ellagic tannins.

- **Protection role:** natural antioxidant, blocks polyphenol oxidases and improves the effectiveness of SO₂.
- **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. Protects the organoleptic qualities of the wine.

RIDDLING ADJUVANTS

Mixtures of pure bentonite: Bentosol Protect®

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

Mixtures of bentonite-kaolin or bentonite-alginate:

The most popular: thanks to bentonites with low deproteinising potential, these mixtures maintain the finesse and the longevity of the bubbles, whilst having a coagulating effect which aids in the gathering and flocculation of suspended particles. This leads to the formation of a compact deposit in the bottle, which can be easily eliminated during disgorgement. In either case, the addition of a riddling adjuvant during the tirage process guarantees that the subsequent disgorgement will go smoothly.

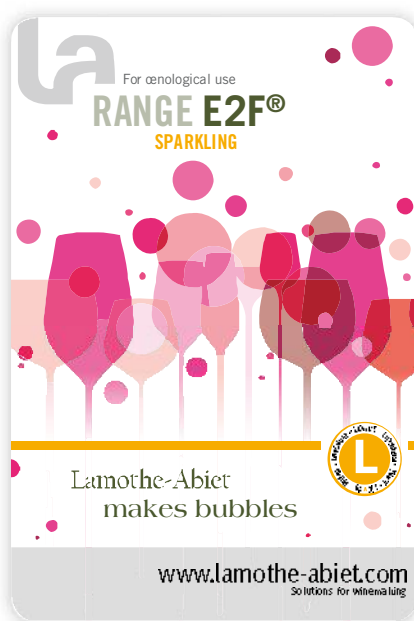
- **Adjuvant E2F®** : in liquid formulation is composed of bentonite and alginate. Dosage: from 7 to 10 cL/hL.
- **Bentosol E2F®** : liquid bentonite. Dosage : 6 cL/hL
- **Kaolin E2F®** : liquid kaolin. Dosage : 2cL/hL

3

Expedition Liquor

- Citric acid: adds liveliness and freshness
- Solution de bisulfite (bisulfite solution): microbiological and anti-oxidising protection
- Acide ascorbique (ascorbic acid) (only to be used with a 10 mg/L minimum of free SO₂): Antioxidant effect. Limits premature ageing.
- Gomme LA, **Polygom®**, **Vinogom®** : colloidal stabilisation and/or addition of roundness
- Copper sulfate solution: limit reductive tastes
- **Subli'Sense®** : Add roundness, sweetness, flavour and aromatic persistence
- **Softan® FT**: production of a liquor with a profile adapted to consumer demands: roundness and sweetness.

BENTOSOL E2F® & KAOLIN E2F®



Two new remuage adjuvants in liquid form have been added to the E2F® range. **Bentosol E2F® is formulated from specific bentonites. Its activity is optimised by simultaneously adding Kaolin E2F®, which is formulated from high purity silicates.**

These two adjuvants to optimise the clarification and sedimentation of the yeast. The deposit formed is compact and improves the quality of the disgorgement. After remuage, wines are clear, with shine and without residues. The nose remains cleaner and fresher.

Trial conditions:

- Crémant de Loire, 2015
- 12 months on laths, riddling on pupitre

Wines treated with Bentosol E2F® and Kaolin E2F® display less loss during disgorgement than the lead competition product. For a winery that produces 10 000 hL at 400€/hL, the **direct saving** is estimated to be 24 000 €.

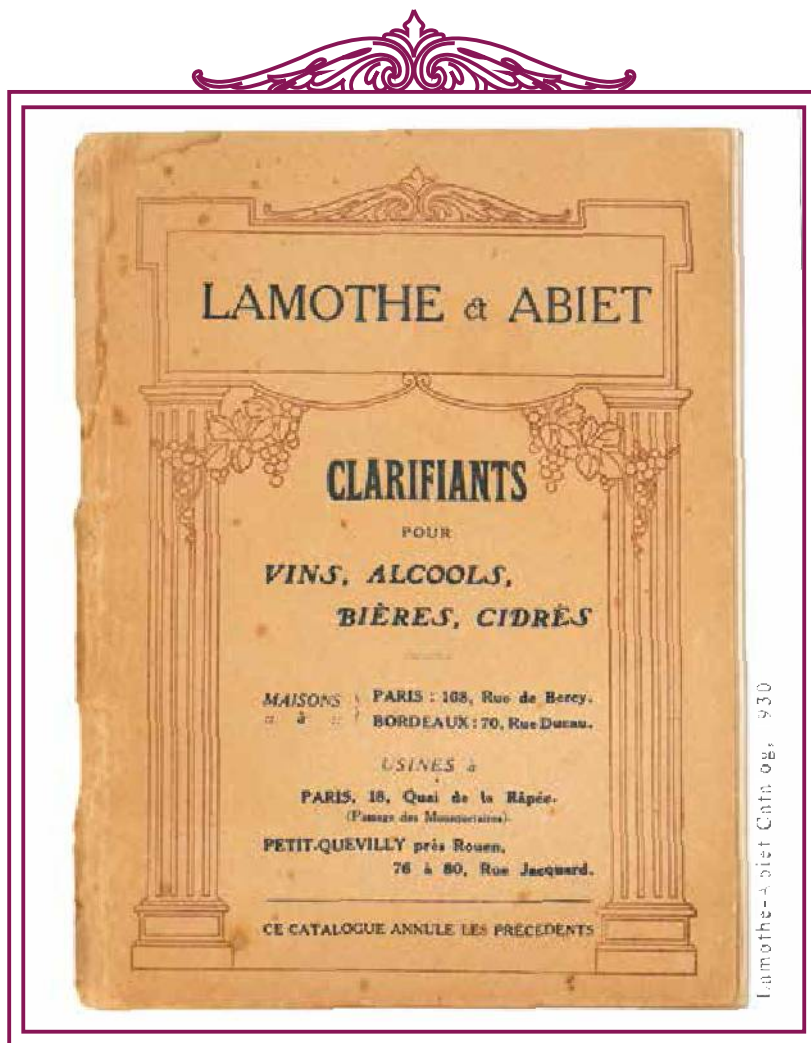


Market reference
8 cL/hL

Bentosol E2F® 6 cL/hL
+
Kaolin E2F® 2 cL/hL



More information about our E2F range on our website at LA Solutions / Technical booklets.



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