

Harvest essentials

VOLUME 3



LAFFORT

l'œnologie par nature



Harvest essentials

Innovation and passion are the driving characteristics in the genes of the **LAFFORT®** team. For more than 120 years, this has provided the drive in the development of an **oenology of precision®**.

Inspired by nature and supported by **LAFFORT®** investment in R&D, this **oenology of precision®** is a direct link to the uniqueness of your terroirs and the revelation of the typicity of your grape varieties.

In June 2018, **LAFFORT®** gained ISO 22000 certification, guaranteeing the best quality control systems in terms of food safety; a necessary step as a producer and in line with the needs of our market. We are always available to implement new standards of quality in order to better assist you in the creation, production, and marketing of your wines.

We launched our new website dedicated to the US market (www.laffortusa.com) for efficient online shopping and a helpful interactive library, **LAFFORT & YOU**, which continues to grow with new application tools. This year, we are also developing a dedicated website for **NOBILE®** with its own Decision Support Tools.

LAFFORT® is a team of motivated and attentive professionals, at your service for your own **oenology of precision®**.

Philippe GUILLOMET
General Manager - **LAFFORT®** SAS
Bordeaux, France



LAFFORT® are proud to be founding
sponsors of the spectacular wine museum
in Bordeaux

4

Fining

LAFFORT® fining tools for harvest

4

6

Tannins

Fermentation tannins

6

7

Enzymes

Clarification and pressing enzymes

8

Extraction enzymes & specialty enzymes

9

10

Nutrients

Nutrients

10

12

Non-Saccharomyces range

ZYMAFLORE® yeasts

12

Focus // BIOPROTECTION on equipment

13

14

Yeasts

ZYMAFLORE® yeast chart

14

ACTIFLORE® yeast chart

15

Yeast flavor descriptions

16

Yeast derived products for mouthfeel

18

19

Bacteria

Malolactic bacteria: LACTOENOS® range

19

20

Winemaking protocols

Aromatic white & rosé wines

20

Chardonnay & full-bodied white wines

21

Pinot Noir

22

Fruit-forward red wines

23

Structured red wines

24

All protocol links on laffortusa.com

25

26

NOBILE®

Chips and granulars

26

Staves, blocks and barrel refresh

27

28

Laboratory tools

Vintessential and Sentia products

28

NEW PRODUCTS

ZYMAFLORE® OMEGA



Lachancea thermotolerans strain selected for high capacity to produce L-lactic acid from fermentable sugars, ZYMAFLORE® OMEGA brings freshness and restores balance to wines. Its unique metabolism leads to a decrease in the pH and an increase in the total acidity of wines accompanied by a slight reduction in alcohol content. Enhances the perception of acidity by favoring fresher sensory profiles while facilitating microbiological stabilization during aging. Introduces the LAFFORT® "FRESH-TANK" for blending purposes.

P. 12



ZYMAFLORE® XORIGIN

Saccharomyces cerevisiae yeast for the production of well-balanced fine white wines, respecting the typical character of grape varieties and terroirs. Reveals notes of white-fleshed fruits to produce elegant wines with great aromatic clarity while respecting the terroir expression. An excellent choice for Chardonnay.

P. 14 & 16

ZYMAFLORE® KHIO^{MP}



Non-*Saccharomyces* yeast *Metschnikowia pulcherrima* for the BIOProtection of white and rosé musts or grapes during long pre-fermentation phases at low temperatures (e.g. during stabulation). LAFFORT® selected this particular strain for its ability to colonize the must at very low temperatures (32°F), its low fermentative action, and strong capacity to consume oxygen.

P. 12



ZYMAFLORE® XAROM

Saccharomyces cerevisiae strain recommended for the production of highly aromatic wines, especially rosé wines, to boost the production of fermentation aromas (yellow fruits, strawberry, pineapple, and candy). This yeast strain has the natural ability to preserve malic acid during alcohol fermentation.

P. 14 & 17

ZYMAFLORE® KLIMA

Saccharomyces cerevisiae strain isolated for its lower conversion of sugar to ethanol and its ability to produce small quantities of malic acid during fermentation. ZYMAFLORE® KLIMA is a new addition to the yeast range, bringing freshness to wines in our changing climate.

P. 14 & 17



NEW PRODUCTS

MANNOSWEET®



100% natural preparation of pure mannoproteins and vegetal polysaccharides specifically selected for colloid stabilization of wines and to add finesse on the palate. **MANNOSWEET®** will boost midpalate length, enhance the perception of sweetness, and lift fruity notes in all wine types.

FUMARIC^{Ctrl}®



Fumaric acid in winemaking provides a new method for the control of lactic acid bacteria post-fermentation. Use of **FUMARIC^{Ctrl}®** on wine will block the malolactic fermentation and can stop an MLF in progress. The result of this practice is the preservation of malic acid as well as increased effectiveness of the SO₂ without increasing heat-instability associated with the use of lysozyme.

MANNOSPARK®

MANNOSPARK® is a formulation based on mannoproteins, resulting from a research program launched by **LAFFORT®** in 2014 in collaboration with the University of Reims to improve bubble size, volume, and stability of the effervescence.



LACTOENOS® BERRY *Direct*

Looking for more fresh fruit character in your wines? **LACTOENOS® BERRY *Direct*** ML strain has an extremely slow citrate metabolism, preserving the fresh profile of the wine. It's low diacetyl production also enhances the aromatic intensity.

P. 19

POWERLEES® LIFE



Yeast-derived formulation rich in reducing compounds (including glutathione) to preserve or refresh wines during aging. Developed for the low SO₂ winemaking community, **POWERLEES® LIFE** slows down oxygen consumption, refreshes the aromatic potential of already oxidized wines, and can prevent the premature aging of wines.

P. 18

EXTRACLEAR®

A liquid pectinase formulation for the clarification of wine. Limits the risk of microbial contamination by reducing the load of microorganisms in suspension. Improves the filterability of wines. Can be added at the end of fermentation, during aging, or up to one month before bottling.

P. 7 & 8



VEGAN FINING

With consumer trends leaning towards allergen-free, vegan, and environmentally friendly foods and beverages, **LAFFORT®** has a full range of vegan fining options to choose from. Please explore our pea and potato protein fining agents on page 5.

LAFFORT® FINING TOOLS FOR HARVEST

LAFFORT® fining tools offer a range of solutions for clarification, elimination of phenolic compounds, and organoleptic correction on juice and wines during the harvest phase. From the curative approach at juice settling on whites and rosés, to the post pressing treatments on young red wines, LAFFORT® has the right tool for you.

PRODUCT	WINE TYPE	PRODUCT MATERIAL	APPLICATION	DOSAGE	PACKAGE SIZE
GELAROM®	All wine types	Liquid gelatin solution	Reduces phenolic content and astringency, improves aromatic expression.	30 - 60 mL/hL	1 L 5 L 20 L
GECOLL® SUPRA	White & red	Liquid gelatin solution	Reduces phenolic content and astringency, improves clarity & settling.	40 - 100 mL/hL	1 L 5 L 20 L
VINICLAR® P	White & rosé	PVPP	Reduces browning, pinking & bitterness.	50 - 800 ppm	1 kg
POLYLACT®	White & rosé	PVPP & casein	Reduces polyphenolics, browning, pinking & bitterness.	150 - 1000 ppm	1 kg 10 kg
CASEI PLUS	White & rosé	Potassium caseinate	Reduces oxidized characters, increases clarification.	50 - 600 ppm	1 kg 5 kg
ARGILACT®	White & rosé	Casein & bentonite	Reduces oxidized characters and bitterness. Reduces laccase activity.	400 - 1000 ppm	25 kg
MICROCOL® ALPHA	White & rosé	Sodium bentonite	Removes heat sensitive proteins, excellent clarifying capacity, preserves aroma.	100 - 800 ppm	1 kg 5 kg 25 kg
MICROCOL® FT	White & rosé	Calcium/sodium bentonite	Removes heat sensitive proteins. Can be used during crossflow filtration.	300 - 800 ppm	15 kg
SULFIREDOX	All wine types	Copper sulfate solution, 2.5% concentration	Elimination of reduced character in wines.	2 - 10 mL/hL	1 L



PVPP ALTERNATIVES - MOVING TOWARDS NATURE



OENOFINE® PINK

1 kg

Preparation combining inactivated yeast, vegetable proteins (potato), enological carbon and sodium bentonite for fining and managing the color of juice and wine.

OENOFINE® NATURE

1 kg

Preparation combining inactivated yeast, vegetable proteins (potato & pea) and calcium bentonite.

LAFFORT® FINING TOOLS FOR HARVEST

POLYMUST® RANGE

The **POLYMUST®** range is a complete range of complex fining products for many different winemaking applications. All the **POLYMUST®** products will reduce the phenolic content and increase aging capacity, especially in white and rosé wines. Benefits of early fining include organoleptic improvement, prevention of oxidative characters, reduction in microbial load, color stabilization, and general clarification.

PRODUCT	MATERIAL	BENEFITS IN JUICE & WINE	DOSAGE	PACKAGE SIZE
POLYMUST® BLANC	Pea Protein + PVPP	Juice fining for white and rosé musts. Eliminates oxidizable phenolic acids, preventing aromatic and color decline associated with tired wines.	300 - 800 ppm	1 kg
POLYMUST® NATURE	Pea Protein + Sodium & Calcium Bentonite	Juice or wine fining for reducing phenolic compounds, aroma preservation, and early protein stabilization. Excellent lees compaction.	White & rosé musts: 200 - 800 ppm Red press wines: 100 - 200 ppm	1 kg
POLYMUST® PRESS	Potato Protein + PVPP + Calcium Bentonite	Juice or wine fining for all wine types. Broad spectrum phenolic fining, including tannin fining for red press wines. Good lees compaction from the bentonite fraction.	White & rosé wines: 300 - 1000 ppm Red wines: 150 - 500 ppm	1 kg 10 kg
POLYMUST® ROSÉ	Potato Protein + PVPP	Juice fining specifically for rosé wines to help stabilize the hue (color) and reduce phenolic acids to prevent oxidation.	300 - 800 ppm	1 kg 10 kg

VEGETABLE PROTEIN FINING RANGE

As consumer trends lean toward allergen-free, vegan, and more environmentally-friendly wines, **LAFFORT®** developed a range of vegetable-based fining products for improving wine quality. Through extensive research, **LAFFORT®** has four options for your winemaking needs, specifically formulated with pea and potato protein isolate blends for precise wine treatments.

PRODUCT	MATERIAL	BENEFITS IN JUICE & WINE	DOSAGE	PACKAGE SIZE
VEGECOLL®	Potato Protein	High quality potato protein isolate for juice or wine fining for all wine types. Excellent settling capacity and high reactivity make it a good option for flotation.	White & rosé juice: 30 - 200 ppm All wines: 10 - 200 ppm	500 g 5 kg
VEGEFINE®	Potato Protein	Mix of different potato proteins for general phenolic fining. Broad spectrum fining, can be used on all wine types.	White & rosé musts: 50 - 300 ppm All wines: 20 - 100 ppm	1 kg 10 kg
VEGEFLOT®	Potato + Pea Protein	Blend of pea and potato protein with high flocculation ability for fast action during flotation. Clarification and good phenolic binding capacity.	Flotation: 80 - 200 ppm	1 kg
VEGEMUST®	Potato + Pea Protein	Blend of pea and potato protein for general clarification and phenolic fining in must for use in static settling or during fermentation.	White & rosé juice: 100 - 400 ppm	1 kg

FERMENTATION TANNINS



All LAFFORT® tannins are processed with a patented drying process which allows the addition of our tannins directly to the grapes, juice, or wine. This Instant Dissolving Process (IDP) enables efficient solubility in must or wine without mixing tannins in water, saving labor, time, and water during harvest.

TANNIN	DESCRIPTION	TIMING	DOSE RANGE	PACKAGE SIZE
TANIN GALALCOOL®	Highly purified gallic acid tannin for reducing natural enzymatic oxidation in picking bins and during press cycle with white & rosé grapes. Compliments protein removal and boosts SO ₂ antioxidant power.	White & rosé grapes or must Addition at initial processing	30 - 150 ppm	1 kg
TANIN VR SUPRA®	Blend of ellagic and proanthocyanidic tannins for improving wine structure & color, antioxidant protection, and protein precipitation.	Red grapes or must Addition at initial processing	100 - 500 ppm	1 kg 5 kg
TANIN VR ELEGANCE®	Softer formulation of TANIN VR SUPRA® for use in lighter bodied red wines or early to release to the market red wines.	Red grapes or must Addition at initial processing	100 - 500 ppm	1 kg 5 kg
TANIN BDX®	Blend of ellagic and proanthocyanidic tannins for entry-range grapes. TANIN BDX® will improve wine structure, promote protein precipitation, and inhibit natural oxidation enzymes.	Red grapes or must Addition at initial processing	100 - 500 ppm	5 kg
TANIN VR COLOR®	Blend of different tannin sources rich in reactive catechin for color stabilization. An excellent tool for low tannin vintages and thermo-vinification.	Red grapes or must Addition at 1/3 fermentation completion	100 - 300 ppm	1 kg 5 kg
TANIN VR SKIN®	Proanthocyanidic tannins extracted from grape skins. An excellent tool to increase the level of soft tannins in vintages lacking phenolic maturity or generally low in tannin.	Red grapes or must Addition during fermentation or cellar aging	50 - 200 ppm	500 g
TANIN VR GRAPE®	Proanthocyanidic tannins extracted from grape seeds, rich in grape catechin. A tool for low tannin vintages specifically for color stabilization.	Red grapes or must Addition during fermentation or cellar aging	30 - 150 ppm	500 g

ENZYME CHART

	<div>LAFASE® HE GRAND CRU</div> <div>LAFASE® FRUIT</div> <div>LAFAZYM® CL</div> <div>LAFAZYM® PRESS</div> <div>EXTRALYSE®</div> <div>LAFAZYM® EXTRACT</div> <div>LAFAZYM® AROM</div> <div>LAFAZYM® THIOLS^(*)</div> <div>LAFASE® 600 XL^(CE)</div> <div>LAFASE® XL CLARIFICATION</div> <div>LAFASE® XL PRESS</div> <div>LAFASE® XLEXTACTION ROUGE</div> <div>EXTRACLEAR®</div> <div>LAFASE® DISTILLATION New</div>															
Form	⚙	⚙	⚙	⚙	⚙	⚙	⚙	⚙	⚙	💧	💧	💧	💧	💧	💧	💧
Pre-fermentation maceration	●	●		●	●							●	●			
Conventional red wine maceration	●	●		●	●							●	●			
Pressing				●	●							●				●
Enhances the thiols revelation in wines*								●								
Clarification of white and rosé musts			●							●	●					
Clarification at low temperature ($\leq 5^{\circ}\text{C}$)			●							●	●					
Flotation			●							●	●			●		
Clarification of red grape musts treated by thermo-vinification			●							●	●					
Clarification of wines (free-run and/or press)			●							●	●				●	
Lees aging						●	●									
Filtration						●	●								●	
Botrytied harvests (Glucan presence)						●	●									
Aroma release							●									

* Acts in synergy with specialty yeast with thiol production abilities (ZYMAFLORE® X5, DELTA, VL3...).

Legend

⚙ Microgranulate

💧 Liquid

● Red

● White

● Rosé

CLARIFICATION AND PRESSING ENZYMES

Naturally present in all living organisms, enzymes are high precision catalysts. **LAFASE®** and **LAFAZYM®** enzymes have become standard aids in a broad spectrum of winemaking applications. These enzymes not only ease pressing, clarification and filtration processes, they also allow for aromatic expression, improved wine mouthfeel, color and structure. Using the appropriate enzyme will reduce the amounts of other interventions.

CLARIFICATION ENZYMES

PRODUCT	DESCRIPTION	DOSAGE	PACKAGING
LAFAZYM® CL	Concentrated purified pectolytic enzyme preparation for juice and wine clarification. Improved lees settling and compaction, ensures fast juice racking. Active under extreme conditions (low pH, high pectin content, low temp tolerance to 41°F).	5 - 20 ppm	100 g 500 g
LAFASE® XL <i>Clarification</i>	Blend of pectinase enzymes rich in side activities allowing for very fast depectinization of white and rosé juices. Its fast activity makes this an excellent choice for flotation or static settling. Eases wine clarification and improves filterability.	For static juice settling: 0.5 - 1 mL/hL. For fast depectinization before flotation: 2 - 3 mL/hL.	10 L
LAFAZYM® 600 XL ^{CE}	Highly concentrated purified pectolytic enzymes preparation high in side activities with enhanced efficiency on a wide range of pH (2.9 - 4.0) and temperature (41°F - 131°F). Excellent capacity for depectinizing grape musts from difficult varieties (Muscats, Sauvignon Blanc, Pinot Gris). Significantly improves lees compaction and reduces juice loss in lees.	0.5 - 4 mL/hL	250 mL 10 L
LAFAZYM® PRESS	Concentrated and purified pectolytic enzyme preparation to optimize pressing by increasing free-run yield and decreasing pressing cycle length. Ease juice clarification.	25 - 45 g/ton (2000 lbs of grapes)	100 g 500 g
LAFASE® XL PRESS	Liquid preparation of purified enzymes to optimize pressing and extraction of aroma precursors during the processing of white and rosé musts. Increases free-run juice yields, shortens press cycles, and shortens skin contact time for aroma extraction.	10 - 40 mL/ton (2000 lbs of grapes)	1 L 10 L
LAFASE® XL FLOT	Liquid enzyme preparation for the rapid depectinization of juice for flotation.	1 to 2 mL/hL for free-run juice. 2 to 3 mL/hL for press juice. 3 to 4 mL/hL for difficult grape varieties.	10 L
 EXTRACLEAR®	Liquid pectinase formulation for the clarification of wine. Limits the risk of microbial contamination by reducing the load of micro-organisms in suspension. Improves the filterability of wines. Can be added at the end of fermentation, during aging, or up to one month before bottling.	3 - 6 mL/hL	1 L

EXTRACTION & SPECIALTY ENZYMES

EXTRACTION ENZYMES

PRODUCT	DESCRIPTION	DOSAGE	PACKAGING
LAFASE® HE GRAND CRU	Specific blend of purified pectinases with side activities for traditional macerations. Produces structured wines rich in coloring matter and elegant tannins. Encourages extraction of small size polysaccharides, Rhamnogalacturonans (RGII), building mouthfeel. Optimizes wine clarification and free-run wine yield.	25 - 45 g/ton (2000 lbs of grapes)	100 g 500 g 5 kg
LAFASE® FRUIT	Specific blend of purified pectinases with side activities for producing fruity, colorful, and rounded wines, intended for early consumption. Specific for short macerations, enabling gentle extraction of anthocyanins and limiting mechanical actions. Optimizes wine clarification and free-run wine yield.	25 - 45 g/ton (2000 lbs of grapes)	250 g 5 kg
LAFAZYM® EXTRACT	Specific blend of pectinase enzymes for extracting aromatic precursors from skin and pulp in white wines. Reduces skin contact time. Ease wine clarification.	20 - 30 g/ton (2000 lbs of grapes)	250 g
LAFASE® XL <i>Extraction</i> ROUGE	Pectinase blend rich in side activities for efficient extraction in red: Increases extraction of anthocyanins and tannins in red fermentations. Helps to reduce mechanical action (pump overs), allows for a drier pomace, and increased overall wine volume at time of red pressing. Eases juice and wine clarification, making wine filtration more efficient.	20 - 40 mL/ton (2000 lbs of grapes)	10 L

SPECIALTY RANGE

PRODUCT	DESCRIPTION	DOSAGE	PACKAGING
LAFAZYM® THIOLS ⁽⁺⁾	Pectolytic enzyme preparation with protease side activities designed to improve yeast thiol revelation. Increases wines aromatic perception and mouthfeel.	For white and rosé juices: 30 - 60 ppm	250 g
LAFAZYM® AROM	β-glucosidase and pectinase preparation for revealing terpenic varietal aromas from their precursors during the production of aromatic white wines. Used for breaking glycosidically-bound volatile phenols in wines effected by smoke.	20 - 40 ppm Up to 350 ppm for treatment of smoke taint wines	100 g
EXTRALYSE®	Formulation of pectolytic enzymes and β-(1-3) glucanases purified of cinnamoyl esterase for the improvement of wine filterability and aging on lees.	For all wine types at 1/3 or directly after fermentation: 60 - 100 ppm For lees treatment: 150 - 200 ppm	250 g
LYSOZYM®	Enzyme with endo-glucosidase activity extracted from egg whites. Degrades gram ⁽⁺⁾ bacterial cell including <i>Oenococcus</i> , <i>Lactobacillus</i> and <i>Pediococcus</i> .	Whites: 250 - 500 ppm for partial or total MLF inhibition respectively. Reds: 100 - 150 ppm to avoid premature MLF. 200 - 300 ppm for improved microbiological stabilization following MLF. Reds and whites: 200 - 300 ppm to limit the development of lactic acid bacteria in the case of stuck or sluggish fermentation.	1 kg

NUTRIENTS

Yeast rehydration products are rich in micronutrients which yeast utilize during the initial growth phase. The sterols from these nutrients are absorbed into the yeast membrane and passed along to the new generations of yeast. Use of these products will strengthen yeast membranes, reduce VA and H₂S production, and promote a clean healthy fermentation.

YEAST REHYDRATION PRODUCTS

PRODUCT	DESCRIPTION	DOSAGE	PACKAGE
DYNASTART® / SUPERSTART®	General yeast rehydration for all wine types. Rich in vitamins, minerals, fatty acids, and sterols.	200 - 300 ppm (2 - 3 lbs/1000 gallons)	10 kg
SUPERSTART® BLANC + ROSÉ	Specific formulation, rich in vitamins and mineral salts, optimizes the production of aromatic compounds by the yeast.		1 kg 5 kg
SUPERSTART® ROUGE	Due to its high ergosterol content, SUPERSTART® ROUGE will significantly increase yeasts' resistance to ethanol and high fermentation temperatures.		1 kg 5 kg
SUPERSTART® SPARK	Specific formulation high in ergosterol and growth factors necessary for the secondary fermentation (prise de mousse) and fermentation restart.		1 kg

The rehydration products are formulated to be low in YAN, and high in micronutrients to support yeast growth. All of the rehydration nutrients have less than 2 ppm YAN at 100 ppm additions.

SPECIALTY FERMENTATION NUTRITION

PRODUCT	DESCRIPTION	YAN CONTRIBUTION @ 100 PPM*	DOSAGE	PACKAGE
NUTRISTART® ORG	100% organic nutrient from autolyzed yeasts, rich in amino acids, vitamins (thiamine, niacin, pantothenic acid, folic acid...), minerals and micro-nutrients (magnesium, manganese, zinc, iron...) favoring cell multiplication.	10 mg/L (ppm)	300 - 600 ppm (3 - 6 lbs/1000 gallons)	1 kg 5 kg
THIAZOTE® PH	Diammonium phosphate (DAP) and thiamine for optimizing yeast performance during fermentation.	21 mg/L (ppm)	200 - 500 ppm (2 - 5 lbs/1000 gallons)	1 kg 5 kg
NUTRISTART® AROM	Complete nutrient (inactivated yeast, yeast cell fragments rich in glutathione and diammonium phosphate) enhancing the aromatic complexity of wines.	14 mg/L (ppm)	200 - 600 ppm (2 - 6 lbs/1000 gallons)	1 kg 5 kg

* 100 ppm = 0.8 lbs/1000 gallons.

NUTRIENTS

GENERAL NUTRIENT ADDITIONS

PRODUCT	DESCRIPTION	YAN CONTRIBUTION @ 100 PPM	DOSAGE	PACKAGE
DAP	100% Diammonium phosphate, mineral growth factor for yeasts during alcoholic fermentation.	21 mg/L (ppm)	200 - 600 ppm (2 - 6 lbs/1000 gallons)	5 kg 25 kg
NUTRISTART®	All-round yeast activator combining growth and survival factors and promoting yeast multiplication (inactivated yeasts, yeast autolysates, diammonium phosphate, thiamine).	15 mg/L (ppm)	200 - 600 ppm (2 - 6 lbs/1000 gallons)	1 kg 5 kg 20 kg
BI-ACTIV®	A formulation of survival factors, yeast cell walls, inactivated yeast, and inert supporting elements. To be used when fermentation slows down or becomes stuck. Does not contain DAP.	None	200 - 600 ppm (2 - 6 lbs/1000 gallons)	1 kg
OENOCCELL®	Highly purified yeast cell walls. Uses include: stimulate and activate alcoholic fermentation, and detoxify before restarting alcohol fermentation or ML fermentation.	None	200 - 600 ppm (2 - 6 lbs/1000 gallons)	1 kg

LAFFORT® NUTRIENT CALCULATOR

Goal: produce sufficient yeast biomass, without excess, and preserve a good physiological state of the yeast for the duration of the alcoholic fermentation.

	TOTAL YAN REQUIRED* mg/L	YAN ADDED 1 st ADDITION mg/L (YAN1)	YAN ADDED 2 nd ADDITION mg/L (YAN2)
12 % VOL	180	150 - Initial YAN	30
13 % VOL	190	155 - Initial YAN	35
14 % VOL	200	160 - Initial YAN	40
15 % VOL	220	170 - Initial YAN	50
16 % VOL	240	180 - Initial YAN	60

* Chart for low N demanding yeast.

- add 10 mg/L (YAN2) for the average N demanding yeasts.

- add 20 mg/L (YAN2) for the high N demanding yeasts.

NON-SACCHAROMYCES RANGE



ZYMAFLORE® KHIO

Metschnikowia pulcherrima

BIOProtection during pre-fermentation phases at low temperatures with a strong capacity for oxygen consumption.

Dose: 20 - 50 ppm.

Dry pitch or rehydration.



ZYMAFLORE® ÉGIDE™

Torulaspora delbrueckii & *Metschnikowia pulcherrima*

BIOProtection of harvesting equipment, musts and grapes, as part of an SO₂ reduction strategy.

Dose: 20 - 50 ppm.

Dry pitch or rehydration.



ZYMAFLORE® OMEGA™

Lachancea thermotolerans

BIOAcidification to promote freshness and restore the balance of wines. Introducing the concept of the "FRESH TANK".

Dose: 50 - 200 ppm.

Short rehydration protocol.

Recommend co-inoculation with *Saccharomyces cerevisiae*.



ZYMAFLORE® ALPHA™

Torulaspora delbrueckii

Increase aromatic complexity, improve mouthfeel (strong polysaccharide production), and reduce total VA in wine. A "controlled" wild ferment.

Dose: 200 ppm.

Full rehydration protocol.

Alcohol tolerance: 8 - 10%.

FOCUS

ZYMAFLORE® ÉGIDE^{TDMP}

BIOPROTECTION OF EQUIPMENT

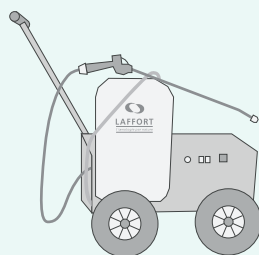
WHY **BIO**PROTECTION OF EQUIPMENT?

- To limit the predominance of undesirable microorganisms on the surface of equipment in contact with grapes.
- To avoid (microbiological) spoilage linked to the contamination of grapes.

ZYMAFLORE® ÉGIDE^{TDMP} is a formulation based on two strains of the species *T. delbrueckii* and *M. pulcherrima* suitable for many enological **BIO**Protection applications.

BIOPROTECTION OF WHAT TYPE OF EQUIPMENT?

- Harvesting machine.
- Grape trailer.
- Grape reception equipment.
- Must transport tanker.
- Harvesting crate.



CONCENTRATION OF ZYMAFLORE® EGIDE^{TDMP} IN THE SPRAYER: 50 g/L

Equivalent ZYMAFLORE® EGIDE^{TDMP} on the grapes:
50 g/ton (2000 lbs of grapes).

Spray on all parts in contact with the grapes.

Spray volume and time:

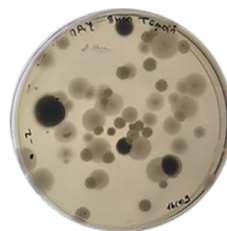
- **Grape trailer:** 1 - 1.5 L of solution - 3 mn.
- **Harvesting machine:** 2 - 3 L of solution - 4 to 5 mn.

ZYMAFLORE® ÉGIDE^{TDMP} solution can be stored for 5 - 6 hours at 25°C (77°F).

SPRAYING ZYMAFLORE® ÉGIDE^{TDMP} ON EQUIPMENT: IMPACT ON THE GRAPES.

Microbiological analysis of grapes in the cellar, with and without prior application of ZYMAFLORE® ÉGIDE^{TDMP} (**BIO**Protection agent) on the harvesting machine and grape trailer, shows the following results:

Count of grape microflora on "total yeast" culture medium:



Without **BIO**Protection: significant presence of molds and potentially undesirable microorganisms on grapes at the end of the day of picking.



BIOProtection with ZYMAFLORE® ÉGIDE^{TDMP}: exclusive and progressive colonization of the grapes by ZYMAFLORE® ÉGIDE^{TDMP} during the day of picking and absence of molds.



TESTIMONY

"I have been using Egide for the past five or six years. The primary reason for using Egide is to extend our cold maceration time on Pinot Noir before fermentation. This has also enabled us to do the cold maceration with lower levels of sulfur. We have noticed lower levels of volatile acidity post fermentation and that the onset of fermentation, whether inoculated or not is more homogeneous and with very little production of ethyl acetate during the very initial start of the fermentation. To summarize, we have not only seen prolonged cold maceration at lower sulfur levels but also cleaner and more homogeneous fermentations with lower volatile acidity."

ANDRIES BURGER

Maître de chai, Paul Clüver

ZYMAFLORE® YEAST CHART

RED WINE



ALL WINE TYPE



WHITE & ROSÉ WINE



Grape variety	Yeast	Alcohol Resistance* (%v/v)	Nitrogen Requirements	Optimal Fermentation Temperature °F	Fermentation Kinetics
Merlot, Cabernet Sauvignon, Cabernet Franc, Pinot Noir...	F15	16%	Medium	68 - 90°F	Rapid
Grenache, Carignan, Sangiovese, Mourvedre, Syrah, Merlot...	F83	16.5%	Medium	68 - 86°F	Regular
Cabernet Sauvignon, Tempranillo, Petit Verdot, Malbec...	FX10	16%	Low	68 - 95°F	Regular
Pinot Noir, Merlot, Gamay...	RB2	15%	Low	68 - 90°F	Regular
Zinfandel, Petite Sirah, Grenache, Syrah...	RX60	16.5%	High	68 - 86°F	Regular
Highlight terroir	XPURE	16%	Medium	59 - 86°F	Regular
Balanced wines	KLIMA	16.5%	High	57 - 86°F	Regular
Improves aromatic intensity all grape varieties	XAROM	15%	High	57 - 86°F	Regular
Organic yeast	011 BIO	16%	Low	57 - 79°F	Rapid
Whites and reds for complex aromatic profile and increased mouthfeel	ALPHA	8 - 10%	Medium	50 - 79°F	Slow
Chardonnay, Pinot Gris, Riesling, Pinot Blanc...	XORIGIN	15.5%	Low	57 - 72°F	Rapid
Chardonnay	CX9	16%	Medium	57 - 72°F	Regular
Rosé, Sauvignon Blanc, Viognier, Pinot Gris...	DELTA	14.5%	High	57 - 72°F	Regular
Secondary fermentation of sparkling wines	SPARK	17%	Low	50 - 90°F	Rapid
Sweet wines	ST	15%	High	57 - 68°F	Regular
Chardonnay, Semillon, Riesling, Gewürztraminer, Chenin, Muscat...	VL1	14.5%	High	61 - 68°F	Regular
Chardonnay, Semillon, Viognier, Roussanne	VL2	15.5%	Medium	57 - 68°F	Regular
Sauvignon Blanc, Vermentino, Gewürztraminer, Pinot Gris, Colombar	VL3	14.5%	High	59 - 70°F	Regular
Sauvignon Blanc, Colombar, Rosé, Albarino, Riesling...	X5	16%	High	55 - 68°F	Rapid
Chardonnay, Pinot Gris, Rosé, Chenin Blanc.....	X16	16.5%	Medium	54 - 64°F	Rapid

* Yeast alcohol tolerance depends on nutrition, temperature, etc. It is recommended to use **SUPERSTART® Rouge** (for red wines) or **SUPERSTART® Blanc** (for white and rosé wines) and a higher yeast dose rate for wines with high alcohol potential.

ACTIFLORE® YEAST CHART

ACTIFLORE® yeasts are technical strains which ensure complete fermentations, with minimized sensory faults even under stressed situations. These yeasts are categorized as “work horse” strains, an excellent choice for value and popular premium wine categories. The yeast strains in this range have low nitrogen needs, higher alcohol tolerances, and a wide optimal temperature zone, making the fermentations easy to manage.



YEAST STRAIN CHARACTERISTICS	YEAST NAME	ALCOHOL TOLERANCE*	NITROGEN REQUIREMENTS	OPTIMAL TEMPERATURE RANGE (°F)
Very high resistance to alcohol, clean fermentation profile, recommended for fermentation restart. Fructophilic yeast.	ACTIFLORE® BO213	18%	Low	53 - 86°F
High production of fermentation esters, low temp tolerance, and short lag phase. Excellent implantation capacity.	ACTIFLORE® ROSÉ	15%	Low	53 - 65°F
Polysaccharide production, low production of VA. Versatile yeast for all wine types (Chardonnay, Cabernet, Pinot, Merlot).	ACTIFLORE® F33	16%	Low	55 - 86°F
Specially adapted for difficult conditions (large tanks, low turbidity, low temperature). Low production of H ₂ S.	ACTIFLORE® RMS2	17%	Low	53 - 86°F

* Alcohol tolerance increases when **SUPERSTART®** / **DYNASTART®** is used.



ZYMAFLORE® SPARK

*Sparkling wines,
difficult fermentation conditions*

Selected for aromatic delicacy in sparkling wine production and resistance to difficult fermentation conditions (tirage & restarts).



ZYMAFLORE® ST

Late Harvest, Semillon, Riesling
Resistant to high sugar concentrations.
Sensitive to SO₂ for easy arrest of fermentation.
Late harvest and *Botrytis* wines.



ZYMAFLORE® 011BIO

*Certified organic
Saccharomyces cerevisiae strain*
Selected for fermentation capacity, resistance up to 16% alcohol, respectful of varietal character, and low production of SO₂ and sulfur-binding compounds.

YEAST FLAVOR DESCRIPTIONS

White & rosé



ZYMAFLORE® XORIGIN

Chardonnay, Pinot Gris, Riesling, Pinot Blanc
Respectful of terroir and varietal expression.
Production of elegant complex white wines with improved mouthfeel and length.
POF - ("Phenolic Off Flavor" negative).



ZYMAFLORE® CX9

Chardonnay
Smoothness, strength and volume.
Lime, fresh hazelnut, almond and toasted bread.
POF - ("Phenolic Off Flavor" negative).



ZYMAFLORE® DELTA

Rosé, Sauvignon Blanc, Viognier, Pinot Gris
High expression of volatile thiols, particularly grapefruit notes, with no green boxwood aromas.



ZYMAFLORE® VL1

Chardonnay, Sémillon, Riesling, Gewürztraminer, Chenin, Muscat
High β -Glucosidase activity favoring the release of floral terpenes.
POF - ("Phenolic Off Flavor" negative).



ZYMAFLORE® VL2

Chardonnay, Sémillon, Viognier, Roussanne
Produces aromas of nectarines, white flower, and hints of toasty notes. High polysaccharide production.
POF - ("Phenolic Off Flavor" negative).



ZYMAFLORE® VL3

Sauvignon Blanc, Vermentino, Gewürztraminer, Pinot Gris
High expression of volatile thiols.
Provides an increase of sweetness sensations (Hsp12 peptide).
Very good mouthfeel contribution.



ZYMAFLORE® X5

Sauvignon Blanc, Albarino, Rosé
Very high expression of volatile thiols (4MSP).
Suitable for fermentation at low temperatures.
Aromatic and complex wines.



ZYMAFLORE® X16

Chardonnay, Pinot Gris, Chenin Blanc, Rosé
Very high aromatic esters production.
Suitable for fermentation at low temperatures.
Excellent fructose utilization.
POF - ("Phenolic Off Flavor" negative).

YEAST FLAVOR DESCRIPTIONS

All wine types & red wines

ALL WINE TYPES



ZYMAFLORE® XarOm

Wines with high aromatic intensity (all wine types)

Selected for the production of wines with great aromatic intensity. Ability to preserve malic acid during AF, giving a brighter profile to the finished wine. High nitrogen requirement. POF- ("Phenolic Off Flavor" negative).



ZYMAFLORE® KLIMA

For All Wine Types - Freshness & Elegance

Low alcohol conversion, decrease potential alcohol up to 0.5%. Preservation or production of malic acid during fermentation. Elegant aroma profile, bringing aromatic freshness.

RED WINES



ZYMAFLORE® RB2

Pinot Noir, Merlot, Gamay

High expression of cherry/kirsch type varietal aromas.

Elegant mouthfeel.

Favors preservation of color.



ZYMAFLORE® XPURE

Pinot Noir, Zinfandel, Syrah, Tempranillo

Very low production of undesirable sulfur compounds (notably SO₂ and H₂S) and compounds binding SO₂.

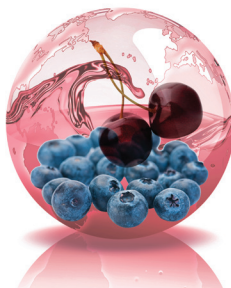
Aromatic freshness and expression of black fruit notes. Great smoothness of mouthfeel.



ZYMAFLORE® RX60

Zinfandel, Petite Sirah, Grenache, Syrah

Very high production of red fruit fermentation esters, giving a clean fruity & spicy flavor profile. High alcohol tolerance, wide temperature range, and good fermentation kinetics.



ZYMAFLORE® F15

Cabernet, Merlot, Pinot Noir, Malbec

Low production of negative sulfur compounds. Fruity, full-bodied wines with varietal expression.



ZYMAFLORE® FX10

Cabernet Sauvignon, Tempranillo, Petit Verdot, Malbec

High alcohol tolerance and good fructose utilization. High polysaccharide production. Preserves varietal specificity and terroir. Silky, full-bodied wines, destined for aging.



ZYMAFLORE® F83

Grenache, Carignan, Sangiovese, Mourvedre, Syrah, Merlot

Strain isolated in Italy for vinification of Mediterranean grape varieties. High production of red fruit and floral notes. High glycerol production for mouthfeel.

YEAST DERIVED PRODUCTS FOR MOUTHFEEL

Through original research and sponsoring multiple PhD theses over two decades, LAFFORT® has created a range of specialty winemaking products rich in naturally occurring compounds derived from yeast cells.

FRESHAROM®

White & rosé wine types.

- **Type:** Inactivated yeasts rich in reducing compounds.
- **Application:** Increase the glutathione in finished wine, protect the aromatic potential of the wine.
- **Timing of addition:** Addition after first third of alcoholic fermentation.
- **Dosage:** 100 - 300 ppm.
- **Package:** 1 kg / 5 kg.



OENOLEES®

All wine types.

- **Type:** Yeast cell walls and inactivated yeasts rich in Hsp12 peptide.
- **Application:** Building mouthfeel & sweetness sensation during fermentation or aging. Used as a gentle fining treatment (alternative to egg whites) in red wines.
- **Timing of addition:** Addition during fermentation.
- **Dosage:** 100 - 600 ppm.
- **Package:** 1 kg / 5 kg.



POWERLEES®

All wine types.

- **Type:** Inactivated yeasts and β -glucanase enzyme.
- **Application:** Quickly increases mouthfeel, gives a perception of sweetness, and improves fruit aromas.
- **Timing of addition:** At the end of alcoholic fermentation or during aging.
- **Dosage:** 100 - 300 ppm.
- **Package:** 1 kg.



POWERLEES® LIFE

White & rosé wine types.



- **Type:** Inactivated yeasts rich in glutathione.
- **Application:** Protects wines from oxidation during storage. Refreshes tired wines while increasing mouthfeel and fruit aromas.
- **Timing of addition:** Addition after fermentation or during aging.
- **Dosage:** 100 - 300 ppm.
- **Package:** 1 kg.





MALOLACTIC BACTERIA

LACTOENOS® Product range



BACTERIA

PRODUCT	DESCRIPTION	INOCULATION TYPE	DOSAGE & PACKAGING
LACTOENOS® B7 Direct	Fast fermentation kinetics, even in stressful condition. Low VA and diacetyl, preserving the fruity character of the wine.	Late co-inoculation. Sequential inoculation.	2.5 hL (60 gal) 25 hL (660 gal) 250 hL (6600 gal)
 LACTOENOS® BERRY Direct 	Preserves acidity and fresh fruity character with slow metabolism of citrate. Low VA and very low diacetyl production.	Late co-inoculation. Sequential inoculation.	25 hL (660 gal) 250 hL (6600 gal)
LACTOENOS® 450 PreAc	Strong implantation capacity at any stage. Selected for its resistance to high alcohol. Requires one acclimatization step (12 - 24 hours).	Can be added at any stage.	50 hL (1300 gal) 250 hL (6600 gal)
LACTOENOS® B16 STANDARD	Very resistant strain to low pH wines, specifically sparkling base wines. Can be used as a rescue culture for challenging MLF wines.	Sequential or to restart a stuck MLF.	50 hL (1300 gal) 250 hL (6600 gal)

PRODUCT	ALCOHOL	PH	TOTAL SO ₂	TEMPERATURE
LACTOENOS® B7 Direct	≤ 16 % vol.	≥ 3.2	≤ 60 mg/L	≥ 59°F
LACTOENOS® BERRY Direct	≤ 15.5 % vol.	≥ 3.2	≤ 60 mg/L	≥ 59°F
LACTOENOS® 450 PreAc	≤ 17 % vol.	≥ 3.3	≤ 60 mg/L	≥ 61°F
LACTOENOS® B16 STANDARD	≤ 14 % vol.	≥ 2.9	≤ 60 mg/L	≥ 59°F



MALOBOOST®

100% organic nutrition formulated to optimize the supply of amino acids essential to the bacteria while reducing the quantities of biogenic amine precursors of amino acids (histidine, tyrosine). Also rich in vitamins required by the bacteria and rich in minerals which are essential co-factors for enzymatic function.

Dosage: 300 ppm.

Winemaking Protocol for Aromatic Whites and Rosé Wines

PRESSING ENZYME TREATMENT

LAFAZYM® PRESS

Dosage: 30 g/ton.



Applied to grapes before pressing.

LAFASE® XL PRESS

Dosage: 20 mL/ton.

JUICE FINING FOR AROMATIC LONGEVITY

In high phenolic juices, a treatment at juice settling and at fermentation might be necessary.

POLYMUST® ROSÉ

Blend of PVPP & potato protein.

Dosage: 200 - 400 ppm.



Add at initial juice settling or during fermentation.

VEGEMUST®

Blend of potato & pea protein.

Dosage: 100 - 400 ppm.

YEAST CHOICE

ZYMAFLORE® VL3

Terroir

Amplifies grapefruit & passion fruit notes, enhances mouthfeel.

ZYMAFLORE® X5

Classic

Bright, clean fermentation profile, high expression of thiols (grapefruit, boxwood).

ZYMAFLORE® XAROM

Modern

High expression of tropical fruit & strawberry, great for rosé wines.

YEAST NUTRITION

SUPERSTART® BLANC

For yeast rehydration.

Dosage: 250 ppm - added into yeast rehydration water.

NUTRISTART® AROM

Complex mid-fermentation nutrient composed of organic nitrogen, DAP, and thiamine.

OTHER AROMATIC ENHANCING OPTIONS

FRESHAROM®

Added at 1/3rd alcoholic fermentation, FRESHAROM® will help boost aromas and preserve them during aging.
Dose range: 200 - 300 ppm.

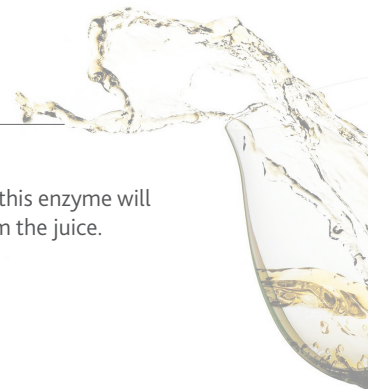
LAFAZYM® THIOLS^[+]

Added during the initial phase of fermentation, this enzyme will help release more aromatic precursors from the juice.
Dosage: 40 ppm.

NOBILE® STYLE CHOICE

Focus structure to the front 1/3 of the palate while lifting fruit and florals by using an 80/20 blend of NOBILE® REVELATION and NOBILE® FRESH 7 mm Staves/Blocks at 5 - 15% NBE at the start of AF.

Build greater volume, fleshy character, and soften acidic profiles while emphasizing subtle fruit characteristics with 1 - 2 g/L of NOBILE® BASE Chips added prior to AF.



Winemaking Protocol for Chardonnay & Full-Bodied White Wines

JUICE CLARIFICATION ENZYME TREATMENT

LAFAZYM® CL

Dosage: 10 ppm.



Added to juice after pressing

LAFAZYM® 600 XL^{ICE}

Dosage: 1 mL/hL.

JUICE FINING FOR ELIMINATING OXIDIZABLE PHENOLIC COMPOUNDS AND ORGANOLEPTIC CORRECTION

Fining treatment can be applied during fermentation when aging on the lees is NOT desired.

POLYLACT®

Blend of PVPP & casein.

Dosage: 200 - 400 ppm.



Add to juice after pressing for treatment during static juice settling

VEGEMUST®

Blend of potato & pea protein.

Dosage: 100 - 300 ppm.

YEAST CHOICE

ZYMAFLORE® VL2

Terroir

Pear, tart peach & notes of toasted bread.
Enhanced mouthfeel.

ZYMAFLORE® CX9

Classic

Meyer lemon, fresh almond & hazelnut
aromas with rich mouthfeel.

ZYMAFLORE® X16

Modern

High aromatic producer: pear, pineapple &
peach. Nice mouthfeel and freshness.

YEAST NUTRITION

SUPERSTART® BLANC

For yeast rehydration.

Dosage: 250 ppm - added into yeast rehydration water.

NUTRISTART® AROM

Complex mid-fermentation nutrient composed
of organic nitrogen, DAP, and thiamine.

OTHER AROMATIC ENHANCING OPTIONS

OENOLEES®

Added during fermentation for building
mouthfeel and reducing astringent character.

Dose range: 100 - 300 ppm.

LACTOENOS® B7 Direct

Clean ML strain for efficient
malo-lactic fermentation.

POWERLEES® LIFE

Added after fermentation for extra
antioxidant protection during barrel
or tank aging.

Dosage: 75 - 150 ppm preventative or
150 - 300 ppm for curative treatment.

NOBILE® STYLE CHOICE

Use 20 - 30% NBE **NOBILE® DIVINE** 18 mm Stave/Blocks
to gain the greatest potential production of thiol-pyrroles
(hazelnut) when introduced to Chardonnay in AF or MLF.

Provide increased weight and volume to the palate with
2 - 3 g/L **NOBILE® BASE** Chips with the enhancement of
vineyard expression and higher potential of expression of
thiols and esters formed during AF and MLF.

Winemaking Protocol for Pinot Noir

COLD SOAK BIOPROTECTION

ZYMAFLORE® EGIDE

Add at initial grape processing: transport to winery, destemming or tank filling. ZYMAFLORE® EGIDE will out-compete negative microflora and protect your must during cold soak.

Dosage: 20 - 50 ppm.

ZYMAFLORE® ALPHA

Can be added as a starter culture during cold soak to protect the must. ZYMAFLORE® ALPHA will start the fermentation and add complexity and mouthfeel that is positively associated with "wild" fermentations.

Dosage: For sensory impact, the full 200 ppm inoculation is recommended.

FERMENTATION TANNIN - PROTECTION & STRUCTURE

TANIN VR SUPRA® ELEGANCE

Add at initial must processing.
Add directly to must - No dissolving required.
Dosage: 100 - 200 ppm.

TANIN VR COLOR®

Add during first 1/3rd of fermentation for color stabilization.
Dosage: 100 - 200 ppm.

MACERATION ENZYME TREATMENT

LAFASE® FRUIT

Pectolytic enzyme for gentle extraction of flavor precursors and anthocyanins.
LAFASE® FRUIT will not over-extract tannin from the grapes.
Dosage: 25 g/ton.



Added at first tank mixing.

YEAST CHOICE

ZYMAFLORE® RB2

Terroir

High production of red fruit aromas and glycerol for mouthfeel.

ZYMAFLORE® XPURE

Modern

Aromatic purity, low production of negative sulfur compounds.
Dark fruit profile and good mouthfeel.

YEAST NUTRITION

SUPERSTART® ROUGE

For yeast rehydration. Added into yeast rehydration water.
Dosage: 250 ppm.

NUTRISTART®

Complex nutrient combining organic nitrogen, DAP, and thiamine. Pinot Noir ferments are known for rapid pace, NUTRISTART® is an easy and efficient way to get balanced nutrition to the yeast in a timely fashion.

THIAZOTE® PH

DAP enriched with thiamine for efficient alcoholic fermentation.

OTHER COMPLEXITY ENHANCING OPTIONS

POWERLEES®

Added during fermentation for building mouthfeel and reducing astringent character.
Dose range: 100 - 300 ppm.

LACTOENOS® B7 Direct

Clean ML strain for efficient malo-lactic fermentation.

TANIN VR SKIN®

An aging tannin for structure and color stability in light tannin varieties or in low tannin years. Add after ML fermentation is complete.
Dosage: 50 - 200 ppm.

NOBILE® STYLE CHOICE

NOBILE® BASE 18mm Stave/Blocks at 10 - 20% NBE provides volume and roundness of palate while amplifying red fruit flavors in the finish when introduced in AF and MLF.

NOBILE® CHERRY SPICE Chips at 2 - 3 g/L lift red and blue fruits with subtle barrel spices and greater integration when introduced in fermentation.

Winemaking Protocol for Fruit-Forward Red Wines

COLD SOAK BIOPROTECTION

ZYMAFLORE® EGIDE

Add at initial grape processing: transport to winery, destemming or tank filling.
Dosage: 20 - 50 ppm.

FERMENTATION TANNIN - PROTECTION & STRUCTURE

TANIN VR SUPRA® ELEGANCE

Add at initial must processing.
Add directly to must - No dissolving required.
Dosage: 150 - 300 ppm.

TANIN VR COLOR®

Add during first 1/3rd of fermentation for color stabilization.
Dosage: 100 - 200 ppm.

MACERATION ENZYME TREATMENT

LAFASE® FRUIT

Pectolytic enzyme for gentle extraction of flavor precursors and anthocyanins. LAFASE® FRUIT will not over-extract tannin from the grapes.
Dosage: 30 g/ton.



Added at first tank mixing.

YEAST CHOICE

ZYMAFLORE® F83

Terroir

High production of red fruit aromas and glycerol for mouthfeel.

ZYMAFLORE® RX60

Classic

Raspberry, blueberry & blackberry aromas, clean & bright profile.

ZYMAFLORE® AROM

Modern

For the production of wines with great aromatic intensity. Preserves malic acid, giving a brighter profile to the finished wine.

YEAST NUTRITION

SUPERSTART® ROUGE

For yeast rehydration. Added into yeast rehydration water.
Dosage: 250 ppm.

NUTRISTART® ORG

Organic mid-fermentation nutrient rich in macro and micro-nutrients.

THIAZOTE® PH

DAP enriched with thiamine for efficient alcoholic fermentation.

OTHER COMPLEXITY ENHANCING OPTIONS

POWERLEES®

Added after fermentation to maximize mouthfeel and fruit flavors, giving a perception of sweetness to the finished wine.
Dose range: 100 - 300 ppm.

LACTOENOS® BERRY *Direct*

Preserves the fresh profile of the wine.

TANIN VR SKIN®

An aging tannin for structure and color stability in light tannin varieties or in low tannin years. Add after ML fermentation is complete.
Dosage: 50 - 200 ppm.

NOBILE® STYLE CHOICE

Focus structure to the front 1/3 of the palate while lifting fruit and florals by using an 80/20 blend of NOBILE® REVELATION and NOBILE® FRESH 7mm Staves/Blocks at 5 - 15% NBE at the start of AF.

NOBILE® CHERRY SPICE Chips at 2 - 3 g/L lift red and blue fruits with subtle barrel spices and greater integration when introduced in fermentation.

Winemaking Protocol for Big, Structured Red Wines

COLD SOAK BIOPROTECTION

ZYMAFLORE® EGIDE

Add at initial grape processing: transport to winery, destemming or tank filling.
Dosage: 20 - 50 ppm.

FERMENTATION TANNIN - PROTECTION & STRUCTURE

TANIN VR SUPRA®

Add at initial must processing.
Add directly to must - No dissolving required.
Dosage: 200 - 400 ppm.

TANIN VR COLOR®

Add during first 1/3rd of fermentation for color stabilization.
Dosage: 100 - 200 ppm.

MACERATION ENZYME TREATMENT

LAFASE® HE GRAND CRU

Pectolytic enzyme for efficient color & tannin extraction from grapes.
Allows for better mouthfeel and clarification post-fermentation.
Dosage: 30 g/ton.



Added at first tank mixing.

YEAST CHOICE

ZYMAFLORE® F15

Terroir

Enhances dark fruit character, while boosting mid-palate weight with glycerol production.

ZYMAFLORE® FX10

Classic

Red fruit profile, polysaccharide production for mouthfeel, and green character masking.

ZYMAFLORE® XPURE

Modern

Aromatic purity, low production of negative sulfur compounds.
Dark fruit profile and good mouthfeel.

YEAST NUTRITION

SUPERSTART® ROUGE

For yeast rehydration.
Added into yeast rehydration water.
Dosage: 250 ppm.

NUTRISTART® ORG

Organic mid-fermentation nutrient rich in macro and micro-nutrients.

THIAZOTE® PH

DAP enriched with thiamine for efficient fermentations.

OTHER COMPLEXITY ENHANCING OPTIONS

OENOLEES®

Added during or after fermentation to maximize mouthfeel, reduce astringent character, and boost fruit flavors.
Dose range: 100 - 300 ppm.

LACTOENOS® B7 Direct

Clean ML strain for efficient malo-lactic fermentation.

TANCOR® GRAND CRU

A complex tannin for use during wine aging for color stabilization, antioxidation, and filling in mid-palate weight.
Dosage: 20 - 100 ppm at rack & return.

NOBILE® STYLE CHOICE

NOBILE® ELITE 12mm Staves/Blocks at 20 - 30%
NBE can focus structure to the mid-palate with greater harmonization of barrel-like complexity when introduced in AF and MLF.

NOBILE® SWEET VANILLA Chips and Granulars at 2 - 3 g/L can introduce darker fruit complexity while elongating the palate and greater integration when introduced in fermentation.



WINEMAKING PROTOCOL LINKS AT WWW.LAFFORTUSA.COM

INSTRUCTIONAL PROTOCOLS

- Yeast rehydration
- Flotation video
- Nutrient calculator
- Yeast restart protocol
- Restart calculator
- Malo-lactic restart protocol
- Must & wine acidification
- Conducting bench trials
- Vinification & analytical record sheet

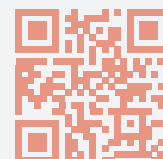
STYLISTIC PROTOCOLS

- Rosé winemaking - Saignée protocol
- Rosé winemaking - Premium protocol
- Rosé winemaking - Super Premium protocol
- Sparkling wine protocol
- Thiol optimization in white & rosé
- Low SO₂ winemaking

CHALLENGING CLIMATE PROTOCOLS

- Rot & mold affected red & white grapes
- Working with under-ripe grapes
- Making wine in extreme heat
- Frost taint management
- Smoke taint management

**VISIT OUR WEBSITE FOR A FULL LIST OF PROTOCOLS
AND OTHER HELPFUL RESOURCES.**

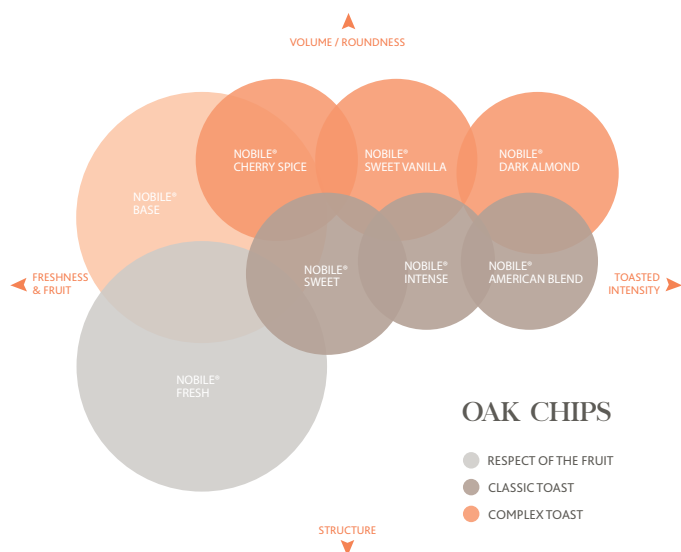


NOBILE®

Oak for Enology

CHIPS & GRANULARS

			WHITES: 0.5 - 3 g/L	
			REDS: 1 - 5 g/L	
CHIPS	TOAST LEVEL	QUALITIES	AROMATIC OR STRUCTURE	RECOMMENDED AGING
FRESH	Super light	Freshness, fruit & structure	Structure	3 - 6 weeks
BASE	Light	Volume & roundness without toasted oak	Structure	3 - 6 weeks
CHERRY SPICE	Light medium	Black fruits with spices	Aromatic	3 - 6 weeks
SWEET	Medium	Volume, vanilla & toasted notes	Aromatic	3 - 6 weeks
SWEET VANILLA	Medium long	Volume, vanilla & marshmallow	Both	3 - 6 weeks
DARK ALMOND	Medium+ long	Roasted complexity & dark chocolate	Both	3 - 6 weeks
INTENSE	Heavy	Volume & coffee	Aromatic	3 - 6 weeks
AMERICAN BLEND	Medium+	Caramel & smoky	Aromatic	3 - 6 weeks
GRANULARS	TOAST LEVEL	QUALITIES	AROMATIC OR STRUCTURE	RECOMMENDED AGING
FRESH THERMO-TREATED	Super light	Freshness, fruit & structure	Structure	1 - 3 weeks
SWEET	Medium	Volume, vanilla & toasted notes	Aromatic	1 - 3 weeks
SWEET VANILLA	Medium long	Volume, vanilla & marshmallow	Aromatic	1 - 3 weeks
FRESH AMERICAN	Light	Fruit & lactones	Aromatic	1 - 3 weeks



TIPS AND TRICKS

NOBILE® Chips and Granular profiles best integrate and harmonize during AF and MLF due to the interaction of yeast and bacteria, meaning an increased dosage can be applied, such as 2 - 3 g/L.

Granulars are designed to be pumpable and come loose in package, Chips come in 2 x 7.5 kg infusion bagsto easily place in tank and remove after racking.

Chips and Granulars are fully extracted by the end of AF and can best establish the oak highway for the profile and character of the wine.

BASE Chips and **FRESH** Chips/Granulars can be applied as the untoasted heads complexity for an ellagitannin boost for volume or structure in blending profiles and are recommended as the 20% part of an 80/20 blend.

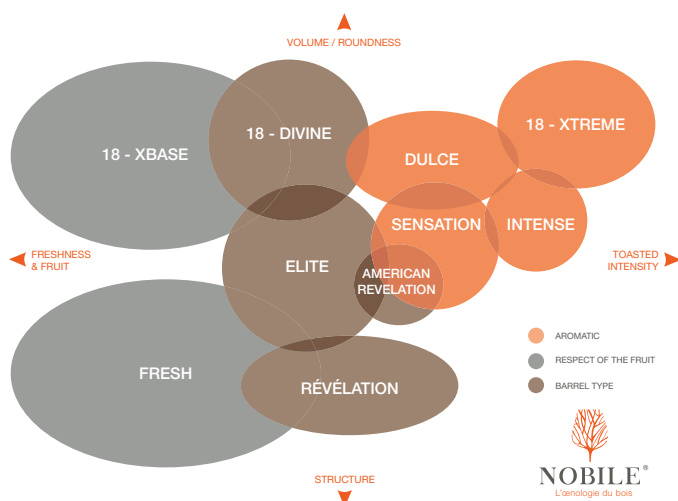
NOBILE®

Oak for Enology

STAVES, BLOCKS AND BARREL REFRESH

			WHITES: 0.5 - 2 STAVES /hL	
			REDS: 2 - 5 STAVES /hL	
PROFILE	TOAST LEVEL	QUALITIES	AROMATIC OR BARREL	RECOMMENDED AGING
FRESH 7 mm	Light*	Freshness, fruit & structure	Barrel	4 - 8 months
SENSATION 7 mm	Medium*	Sweetness, vanilla & toasted	Aromatic	4 - 8 months
INTENSE 7 mm	Heavy*	Volume, roasted coffee & chocolate	Aromatic	4 - 8 months
REVELATION 7 mm	Medium**	Structure & aromatic complexity	Barrel	6 - 10 months
AMERICAN REVELATION 7 mm	Medium**	Sweetness, spice bread & lactone	Aromatic	6 - 10 months
ELITE 12 mm	Medium***	Toasted, volume, Bordeaux barrel	Barrel	6 - 10 months
DULCE 12 mm	Medium long*	Sweetness, caramel & dulce de leche	Aromatic	6 - 10 months
XBASE 18 mm	Light*	Palate weight, fruity without overt oak	Barrel	6 - 10 months
XTREME 18 mm	Heavy*	Sweetness, mocha/coffee & ripe fruit	Aromatic	6 - 10 months
DIVINE 18 mm	Medium**	Texture, extends fruit, Burgundian barrel	Barrel	6 - 10 months

*Homogeneous kiln toasting - **Gradient infrared toasting - ***Homogeneous + Gradient toasting.



TIPS AND TRICKS

NOBILE® Staves / Blocks / Barrel Refresh profiles best integrate and harmonize during MLF due to the interaction of yeast and bacteria meaning an increased New Barrel Equivalent (NBE%) can be applied, such as 20 - 30% NBE.

When applied in aging post-MLF, it is recommended to reduce the NBE% to 10 - 20% to not overwhelm the profile of the wine.

18mm X-BASE and 7mm FRESH Staves/Blocks can be applied as the untoasted heads complexity for an ellagitannin boost for volume or structure in blending profiles and are recommended as the 20% part of an 80/20 blend.

LAFFORT® LABORATORY TOOLS

LABORATORY SUPPLIES AND TOOLS

LAFFORT® stock a wide range of common laboratory reagents and tools, including:

- pH buffers, storage solutions, sodium hydroxide, etc...
- Eppendorf micropipettors and tips
- Bench trial tools
- Vintessential enzymatic analysis kits and Sentia instruments and testing strips
- Pectin and glucan test reagents

These can be found in our St Helena and Paso Robles stores, as well as online at laffortusa.com.

VINTESSENTIAL ENZYMATIC KITS



Vintessential Enzymatic Kits are specifically designed for winemaking and wine laboratories utilizing spectrophotometers and discrete analyzers. They have been producing test kits since 2003 and are market leaders in Australia, New Zealand, and the USA. The Vintessential team is continually working on new test kits and recently added Free and Total Sulfur Dioxide kits to the range.

LAFFORT® USA is the exclusive distributor of Vintessential kits in North America. Explore the range at www.laffortusa.com and give your technical representative a call with questions.

SENTIA WINE ANALYZERS

The Sentia analyzer is a very convenient wine analysis tool available to winemakers, laboratory scientists and cellar hands. Sentia is a portable, handheld device utilizing electrochemical detection methods, and is currently equipped to test six key wine analytes measured during the winemaking process:

- Acetic acid
- Free SO₂
- Malic acid
- Titratable acidity
- Fructose
- Glucose



FOCUS // LAFFORT® COMMODITY PRODUCTS

PRODUCT NAME	TYPE	DESCRIPTION	PACKAGE SIZE
CHARBON ACTIF PLUS GRANULAR	Carbon	Granulated carbon for correcting the color hue of juice or wine. Easy cellar application in granulate form.	1 kg 5 kg
GEOSORB®	Carbon	A de-odorizing carbon for removing off characters in wine. Can help reduce smoke character in smoke-exposed fruit.	5 kg
TURBICEL®	Cellulose powder	Cellulose powder for over-clarified juice. A 100 ppm addition increases the must turbidity by 20 NTU.	5 kg
SUPRAROM®	Potassium metabisulfite, gallic tannins and ascorbic acid	Oxidation protection for must and juice, preserving freshness and aroma potential. Add to grape bins during transport to winery or initial juice processing.	1 kg
ANOXYDE C	Ascorbic acid	Pure L-Ascorbic acid.	1 kg
POTASSIUM METABISULFITE (KMBS)	Potassium metabisulfite	Sulfiting of juice and wines.	1 kg 25 kg
SOLUTION 10	Potassium metabisulfite solution	A stable 10% solution of potassium metabisulfite.	10 L
CITRIC ACID	Citric acid	Wine acidification or cleaning.	1 kg 25 kg
POLYCLAR V by Ashland Specialties	Polyvinylpyrrolidone (PVPP) - 25 µm (small particle size)	Preventative and curative treatment of oxidation in must and wine. Small particle size for juice fining and flotation.	19.96 kg 44 lb
POLYCLAR VT by Ashland Specialties	Polyvinylpyrrolidone (PVPP) - 140 µm (large particle size)	Preventative and curative treatment of oxidation in wine. Large particle size settles efficiently with good lees compaction.	22.68 kg 50 lb

FOCUS // LAFFORT® CONVERSION CHARTS

ppm or mg/L	100	200	300	400	500	600	700	800	900	1000
g/hL	10	20	30	40	50	60	70	80	90	100
lbs/1000 gallons	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	8.3

mL/hL	1	5	10	20	30	40	50	100	200	300
mL/1000 gallons	40	190	380	755	1.135	1.515	1.890	3.785	7.570	11.355
mL/gallon	0.04	0.19	0.38	0.76	1.14	1.51	1.89	3.79	7.57	11.36

1 gallon = 3.785 L
 1L = 1000 mL
 1 hL = 100 L = 26.40 gal
 1 lb = 454 g
 1 US ton = 2000 lbs = 907 kg

12 x 750 mL case = 2.37753 gal
 1 barrel = 225 L = 59 gal
 1 ton = 165 gal approx.
 1 g/L = 0.1%
 1 metric ton = 1000 kg = 2205 lbs



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