

***“Behind every problem there is an opportunity”***

Galileo Galilei

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## Enzymes Ecozim

The enzymes are biological catalysts, that is essences that accelerate the chemical reactions without transforming the state of equilibrium and without contributing to the reaction, **so they are unaltered in the middle of this.**

The **WINE ENZYMES CRC Biotek** start the biochemistry of the processes of grape transformation, and harmonize the making of quality wines.



## RED WINE MAKING

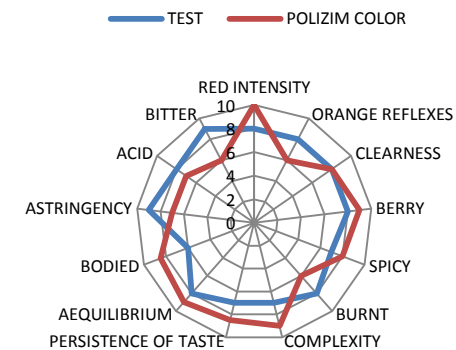
### POLIZIM COLOR

Polizim Color is an enzymatic preparation with a main high **pectinase** activity and a secondary **hemicellulase** activity, specific to optimize the extraction of color and aromas. Its components make it possible to degrade the skin components in a complete and rapid way.

**Applications:** It is intended for the treatment of musts in the production of red wines

**Dosage:** from 2 to 4 g / HL - The highest doses are used at temperatures below 20°C and with lower pH values.

SENSORY CHARACTERS 12 MONTHS AFTER THE VINTAGE, ON WINES TREATED WITH **POLIZIM COLOR**



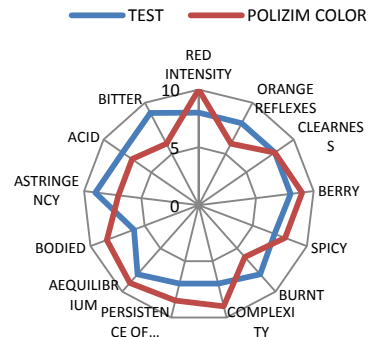
## POLIZIM COLOR L

Polizim Color L is a liquid enzyme with an high pectinase and hemicellulase activity. This preparation has been formulated for the treatment of the crushed intended for the production of red wines with a high color intensity; the action performed on the parietal compounds of the grape cells favors the extraction of color and polyphenolic fractions during the first stages of maceration.

**Applications:** To red wines with intense color.

**Dosage:** 2-4 g / HI – The Highes doses are used at temperatures <20 ° C and lower pH values.

**SENSORY CHARACTERS 12 MONTHS AFTER THE VINTAGE, ON WINES TREATED WITH POLIZIM COLOR**



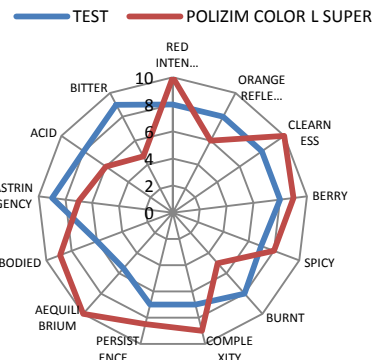
## POLIZIM COLOR L SUPER

Polizim color L super is a concentrated liquid enzyme with an intense maceration activity. It's indicated in the production of red wines with a great structure and aimed to refinement in wood. Its application increases the content of polyphenolic substances, contributes to a greater stability of the coloring matter and enhances the finesse and aromatic complexity.

**Applications:** Destined to the production of red wines with great structure.

**Dosage:** 1-3 g / HI - The highes doses are used at temperatures < 20 ° C and lower pH values

**SENSORY CHARACTERS 12 MONTHS AFTER THE VINTAGE, ON WINES TREATED WITH POLIZIM COLOR L SUPER**



## WHITE – ROSE' WINE MAKING

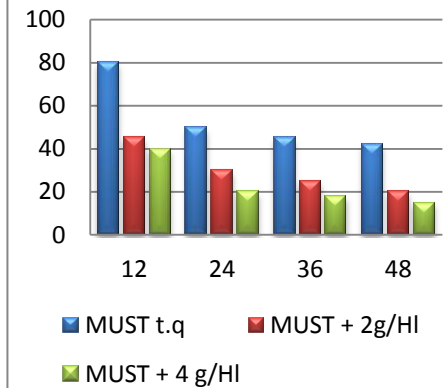
### ECOZIM L-90

It is a pectolytic enzyme complex with high purity for the production of quality wines.

The very strong secondary hemicellulase activity is associated with the pectinolytic activity. A higher dosage is used with lower temperatures and pH , for very short pressing cycles and with musts rich in pectins.

**Dosage:** 2 to 5 g / HI

**MUST'S STATIC CLARIFICATION - TORBID VOLUME ECOZIM L-90**



### ECOZIM L-180

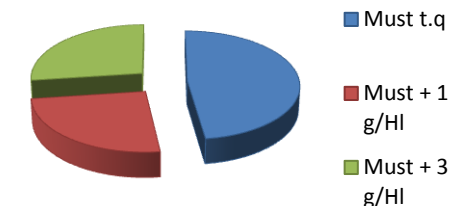
It's a new purified biological preparation of pectolytic enzymes with high purity and extremely high concentration, that decreases the amount of use for the production of quality wines.

The absence of polyphenol oxidase and esterase - cinnamyl favors the rapidity of intervention and grants from the formation of volatile phenols.

**Applications:** for rapid clarification of white musts .

**Dosage:** 1 to 3 g / HL

**MUST'S STATIC CLARIFICATION - TORBID VOLUME ECOZIM L-180**

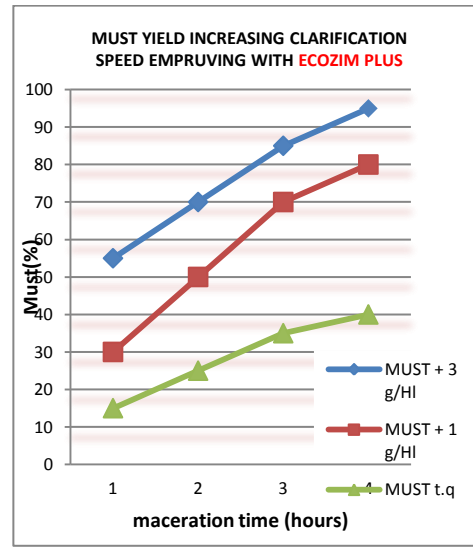


## ECOZIM PLUS

Ecozim Plus is an enzyme preparation obtained from a specific strain of *Aspergillus Niger* with absence of polyphenol oxidase, it contains no cinnamyl - esterase activity, so has not leads to the formation of volatile phenols side. The specific and selective ECOZIM PLUS's enzymatic action promotes disintegration, demolition of the cell walls in a much faster than classic maceration.

**Applications:** processing of grapes and clarification of musts in a very short time.

**Dosage:** 1 to 4 g / Hl.

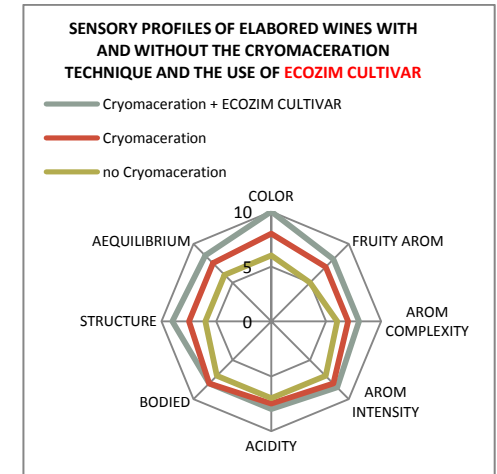


## ECOZIM CULTIVAR

It is a pectolytic enzyme with secondary specific activity for the lysis of polysaccharides cell wall. This hemicellulase activity (*arabinosidase, rhamnosidase, beta-glucanase, apiosidasi*) in synergy with the primary activity of pectinase, allows the degradation of complex polysaccharides of the wall and consequently the release of precursors linked to it in a short time.

**Applications:** for maceration of fine and aromatic grapes.

**Dosage:** 1-3 g/hl



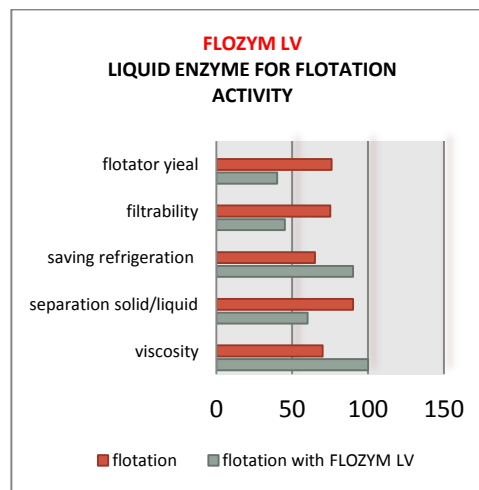
## FLOZIM LV

It is a high-activity pure enzyme, ideal for continuous enzymatic of musts, specifically in flotation systems.

The initial treatment of the masses increases the action of splitting bonds, favoring the hydrolysis of macromolecules and the release of aromatic precursors. Flozym LV enhances the natural grape action solving any enzyme deficiencies.

**Applications:** Helps in flotation.

**Dosage:** 1-4 g / hl

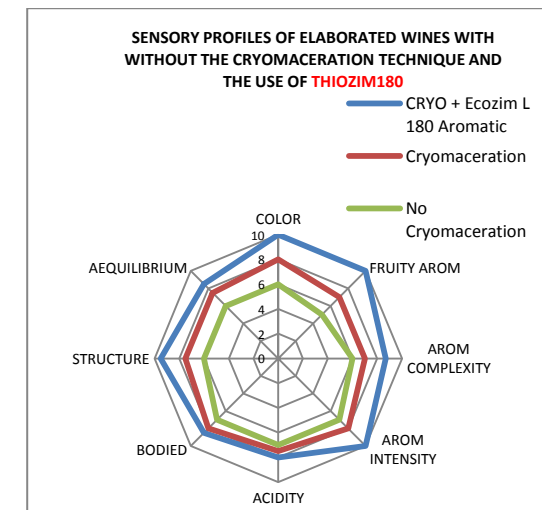


## THIOZIM 180

It has been formulated to the extraction of aromatic precursors in cold maceration of the must for white wines, for an increase of the aromatic components at the end of fermentation and to improve the extraction of color in the must red grapes.

**Applications:** to maceration of fine and aromatic grapes.

**Dosage:** 1-3 g / hl



## REFINING

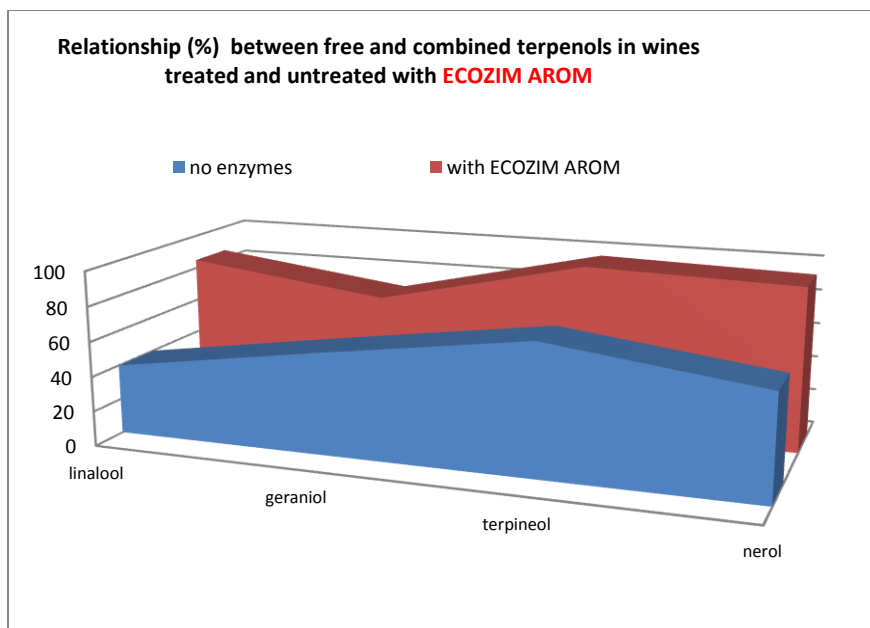
### ECOZIM AROM

Ecozim arom is an enzyme produced from particular *Aspergillus Niger* microorganisms.

Ecozim Arom associates to pectolytic action an high activity  $\beta$ -D- glucosidase. This preparation is intended for the degradation of glycosidic precursors and for releasing the terpenic substances linked to them. The presence of all the enzymatic activities involved in the glycosides hydrolysis, promotes the full development of varietal aromatic expression.

**Applications:** extraction of typical aromas of the grapes used.

**Dosage:** 1-4 g / hl depending on the temperature and the variety of the grape. The enzyme must be added after the end of alcoholic fermentation leaving it in contact at least 25-30 days at a temperature of 15 ° C .



### ECOZIM FILTRA

It is a pectolytic enzyme produced from a particular strain of *Aspergillus niger* devoid of Cinnamoyl esterase, enzymes that lead to the formation of undesirable volatile phenols in wines.

ECOZIM FILTRA is a pectolytic enzyme with  $\beta$ -glucanase secondary activity specific for the degradation of macromolecules such as pectin, glycoproteins, arabinogalactans deriving from grapes and from yeast walls after autolysis. Particularly active and suitable in the presence of glucans derived from grapes affected by botrytis.

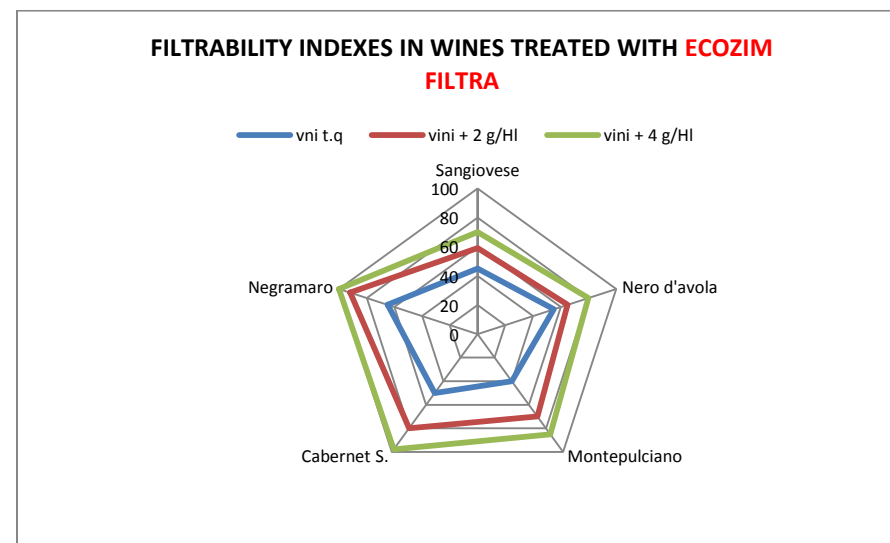
ECOZIM FILTRA promotes yeast autolysis which frees a complex of mannoproteins with specific activities.

The wine structure is enhanced and the colloidal and tartaric stability is optimized.

The release of mannoproteins contributes synergistically to expand the sensory characters.

**Applications:** hydrolyzing treatment of glucans for optimization of filtration.

**Dosage:** 2-5 g/hl



PRODUCT	FORM	ACTIVITY	APPLICATION	ENOLOGICAL EFFECT	DOSAGE
<b>POLIZIM COLOR</b>	Powder	Pectinase Cellulase Hemicellulase	The most advanced system to extract the color	Increase the structure and the color; Potential polyphenolic increase ; aromatic complexity; Color stability.	1-4 g/hl
<b>POLIZIM COLOR L</b>	Liquid	Pectinase Cellulase Hemicellulase	The most advanced system to extract the color	Increase the structure and the color; Potential polyphenolic increase ; aromatic complexity; Color stability.	2-4 g/hl
<b>POLIZIM COLOR L SUPER</b>	Liquid	Pectinase Cellulase Hemicellulase	The fastest and most advanced system to extract the color	Increase the structure and the color; Potential polyphenolic increase ; aromatic complexity; Color stability.	1-3 g/hl
<b>ECOZIM 180 AROMATIC</b>	Powder	Pectin-lyase β-glucosidase Poligalacturase Pectin-esterase Arabinoside	Enzyme for the clarification and maceration it's very active with must pH (3,0-4,0)	Must cleaning; increasing in yield pressing.	white must 2-3 g/hl  Red must 2-4 g/hl

PRODUCT	FORM	ACTIVITY	APPLICATION	ENOLOGICAL EFFECT	DOSAGE
<b>ECOZIM CULTIVAR</b>	Powder	Pectinase Cellulase Hemicellulase	pellicular maceration of fine and aromatic grape	More stabil color; better organoleptic balance	- 1-3 g/ql
<b>ECOZIM L-90</b>	Liquid	Pectinase Cellulase	Static dregs removal of difficult must's with low pH.	Must cleaning; it improves the aromatic potential .	2-5 g/hl
<b>ECOZIM L-180</b>	Liquid	Pectinase Hemicellulase	Liquid pectolitic enzymes with high depectinization and hydrolytic activity.	It improves the yeald pressing; it improves the aromatic potential.	1-3 g/hl
<b>ECOZIM PLUS</b>	Powder	Pectinase	Enzyme for a rapid dregs removal	Rapid must cleaning	1-3 g/Hl
<b>FLOZYM LV</b>	Liquid	Pectinase	Floatationit	It reduces the time for the enzymatic production; it reduces the dregs volum.	1-4 g/ql
<b>ECOZIM AROM</b>	Powder	Pectinase β-glucosidase Emicellulasi	Enzyme for varietal aromatic actvity development in the and of fermentation	Increasing of olfactory complexity and intensity	2-4 g/hl
<b>ECOZIM FILTRA</b>	Powder	Pectinase β-glucanase Hemicellulasi	It empruves filtrability – promotes autolysis and stability	Filtration yeald improving; simple claryfing color stability;	2-5 g/hl

## *Yeast Ecopherm - Thiopherm - Ecocrù*

The most important strain of the commercialized yeast is *Saccharomyces* whose main species are *cerevisiae* e *bayanus*. The ECOPHERM and ECOCRU' selections arise from the innovative research that CRC BIOTEK leads in universities and in enological research centers. In this way alcoholic fermentation becomes a dynamic and metabolic system, with deterministic nature, it is not based on case.



### **ECOPHERM** *universal utilization*

**ECOPHERM SC** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

Yeast strain for white and red must.

**DOSAGE:** 10 – 30 g/HL

**PACKAGING:** Kg 0,5, Kg 1, Kg 5 and Kg 10.

**ECOPHERM SB** – *Saccharomyces Cerevisiae* r.f. *Bayanus*

Yeast strain for white and red must.

**DOSAGE:** 10 – 30 g/HL **PACKAGING:** Kg 0,5, Kg 1, Kg 5 and Kg 10.

**ECOPHERM UD/522** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

Excellent starter. Yeast strain for white and red must.

**DOSAGE:** 10 – 30 g/HL **PACKAGING:** Kg 0,5 – 5 – 10 – 15

### **ECOPHERM** – *Fruit selection for White and Rosè Wines*

**ECOPHERM SCE 55/P** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

Specific varietal strain, It is able to produce glycosidase enzymes with release of linalool, geraniol, nerol in the last phase of the fermentation. Excellent for white elegant and fresh wines and also for sparkling wines recommended for the wine-making of Prosecco, Pinot B., Verdicchio, Moscato, Vermentino Chardonnay.

**DOSAGE:** 10 – 30 g/HL

**ECOPHERM SCE 424/T** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

In addition to the characterization of the vineyards, it gives sensorial refinement and elegance. Especially appreciated for the grapes of Terebbiano, Grillo, Grechetto, Malvasie. Excellent for Inzolia and Catarratto. Low acetaldehyd, strain with high capacity of implantation thanks to the killer factor.

**DOSAGE:** 10 – 30 G/HL

**ECOPHERM SBK 26/CH** – *Saccharomyces Cerevisiae* r.f. *Bayanus*

Suitable for the first and second fermentation, it facilitates fermentation restart till to a very high level of alcohol. Excellent for white, rosè, sparkling wine; It respects the varietal characteristics such as Prosecco, Pinot and other specific wine varieties for the re-fermentation. Low foamy.

**Dosage:** 10 – 30 g/HL

**ECOPHERM SCE 101/I** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

It is a specific varietal strain for the production of quality dry white wines. It facilitates the extraction of varietal aromas exalting the purity and specificity of the grape. Its qualities are exalted in the grapes of the Pinot b., Vermentino, Verdicchio. Excellent results on Garganega and Tokai. Low foamy.

**Dosage:** 10 -30 g/HL



**ECOPHERM SBK TB/1** – *Saccharomyces Cerevisiae* r.f. *Bajanus*

Cryophilic strain, selected for fermentation at low temperature. It gives excellent results in re-fermentations with classical method and autoclave. For White and rosé, delicate, fine and for foamy wines. It doesn't flocculate during the preparation of the pied-de-cuve. Great fermentation force. Weak production of acetaldehyde.

**Dosage:** 10 -30 g/HL

**ECOPHERM SBE C20/W** – *Saccharomyces Cerevisiae* r.f. *Bajanus*

Specifically for the production of sparkling wines and champagne. It provides a second fermentation and enhances the typical notes of freshly baked crusty bread, yeast and white fruit. It is slightly flocculent, and so it facilitates a rapid and accurate remuage.

**Dosage:** 20 g/HL in fermentation; 5-10 g/HL foaming.

**THIOPHERM** – *Thiol Yeast Pof***THIOPHERM VLT1** – *Saccharomyces Cerevisiae* r.f. *cerevisiae*

Specific varietal strain POF – able to free glycosidase endogenous enzymes that exalt the thiolic characteristics of the grape. Particularly interesting for the production of white wines, fruity and elegant. Suitable for the production of wines made from grape varieties such as Sauvignon Blanc, Pinot Blanc, Prosecco, Gewurztraminer, Riesling, Pecorino, Moscato, Verdicchio and Vermentino.

**Dosage:** 10 -30 g/HL

**THIOPHERM VLT3** – *Saccharomyces Cerevisiae* r.f. *cerevisiae*

Specific varietal strain POF – able to free glycosidase endogenous enzymes that enhance the thiolic characteristics of the grape. Particularly interesting for the production of white wines prized; It gives it freshness, crispness and harmonious overall. It gives a subtle organoleptic refinement and elegance. Suitable for the production of wines made from grapes such as Malvasia, Chardonnay, Pinot Grigio, Falanghina, Grillo, Greek, Vermentino, Catarratto and Inzolia.

**Dosage:** 10 -30 g / HL

**ECOPHERM** – *Cuvée Selection for Red Wines***ECOPHERM SCE 10/SG** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

The production of many esters, such as isoamyl acetate, makes it suitable for fresh wines and elegant ready for consumption. Good endogenous enzymatic activity. It promotes the extraction of anthocyanins. Recommended for Sangiovese, lambrusco, Dolcetto.

**Dosage:** 10 -30 g/HL

**ECOPHERM SCE D/41** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

Ready, fresh, fruity wines. Specific yeast for new wine. At the end of fermentation tends to flocculate with compact storage and low turbidity. Great fermentation force. Low production of acetaldehyde. High production of glycerol (6 g/L). After carbonic maceration produces high levels of cinnamato ethyl ester typical of new wines.

**Dosage:** 10 -30 g/HL

**ECOPHERM SCK 20/M2** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

A great versatile yeast. It can also be used with high temperature, strong SO<sub>2</sub> content, high alcohol content. Dominant on the indigenous flora. It uses different sources of nitrogen and a large variability of sugars. Great fermentation force.

**Dosage:** 10 -30 g/HL

**ECOPHERM SBK 110/R** – *Saccharomyces Cerevisiae* r.f. *Bajanus*

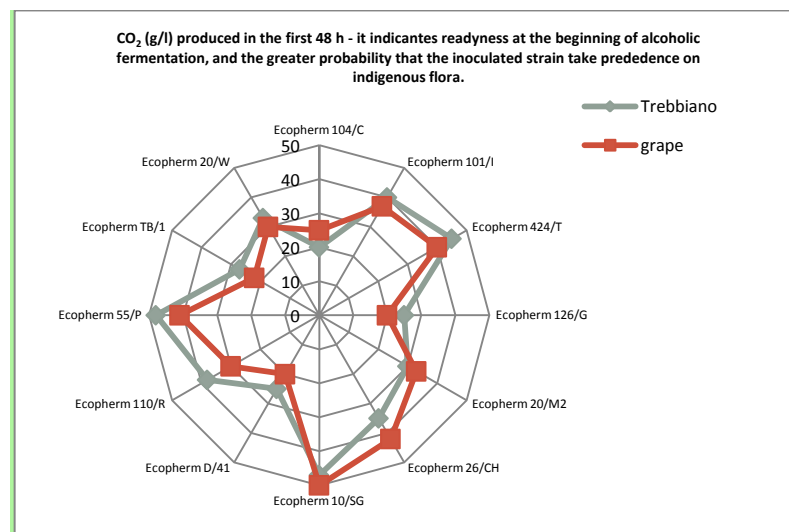
Selected strain for the production of high quality and great body red wines, destined for aging, and barrel. It has a strong predominance on indigenous flora and it starts the dynamic, regular and complete fermentation. It does not hinder the malo-lactic fermentation. Excellent for Nebbiolo, Cabernet, Brunello, Sangiovese, Aglianico, Montepulciano.

**Dosage:** 10 -30 g/HL

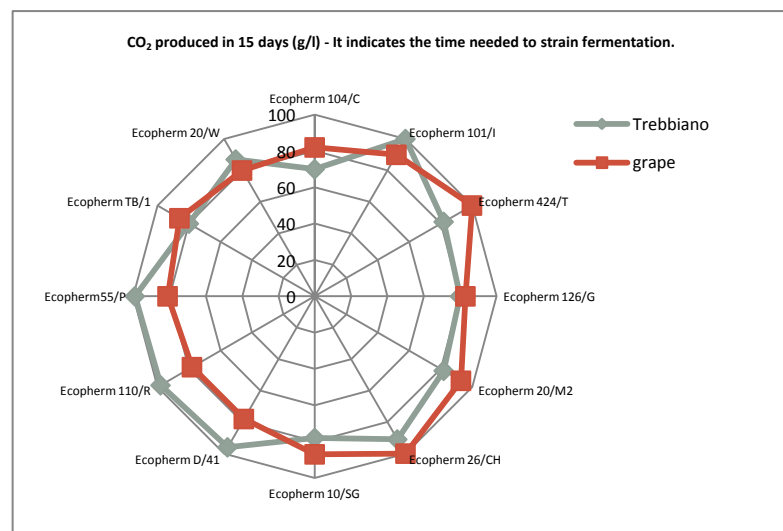
“to achieve optimal results with yeast **ECOPHERM**, **THIOPHERM** and **ECOCRU'** you need to follow certain procedures of application: rehydrate the yeast with **BIOSINT VITAMAX**, a potent activator of nitrogen multivitamin that determines an immediate cell multiplication and the early initiation of metabolic activity. It is recommended the intake of nutrients such as **BIOENERVIT** (vitamin-nitrogenous complex).

In the arrest of fermentation and secondary fermentation it is appropriate to modify the procedure, taking care after rehydration proceeding with alcohol inurement. The same is true for the production of sparkling wines. Our technical service is available for all information.

All the yeast **ECOPHERM** promote a fast fermentation start. It follows that the inoculated strain take precedence on indigenous flora.



15 days after all the yeast **ECOPHERM** finish the s fermentation. No queue of fermentation



## CHARACTERS OF THE YEAST ECOPHERM CRCBIOTEK

YEAST ECOCRÙ											
WHITE WINE								RED WINE			
104/C	424/T	101/I	126/G	55/P	26/CH	20W	TB/1	110/R	10/SG	20/M2	D/41

### Yeast activity

Point out the fruity-floral bouquet	o			o		o	o		o		o
Favors antocyanin extraction								o		o	
Enzyme activity on flavour precursor	o	o	o	o	o					o	o
β-glucosidase activity; liberation terpens	o		o	o	o						o
Favors start M.L.F								o			
Peel sweet tannins release								o		o	
Creation of tannins –polysaccharides complex								o		o	

### Yeast application

Red wine with high varietal expression								o	o	o	
Red wine to be refined								o		o	
Red wine to aging								o			
New wine											o
Great red wine to be allocated to the barrel								o			
White wine fruity-floral parfum		o		o		o	o		o		
White wine maceration	o	o	o	o	o		o			o	
Sparkling wines					o	o	o			o	
Second fermentation; sparkling wines					o	o	o				

### Biochemical characteristic

High alcohol tolerance (14-17% vol)	o		o				o		o		o
Low nitrogen needs		o	o	o			o		o	o	o
Killer factor		o	o	o			o		o	o	o
Short lag phase	o	o	o								o
Low production of sulfite	o					o			o		o
Rapid and constant fermentation			o	o		o	o				o
Low volatile acidity production		o	o	o		o	o		o	o	

## *Yeast* **ECOCRÙ**

Tradition and innovation are not in contrast, but complementary.

ECOCRÙ responds to the laws of Nutrigenomics, which is able to extend yeast's life.

In yeast-nutrient interaction, the yeast express the best metabolic response of its genetic potential. Nutrigenomics studies which present or lacking substance can prevent the origin of certain diseases of the yeast. A clear sign of the importance of nutrigenomics is the lengthening of the life of yeast that is reflected on the kinetics of fermentation.

The ECOCRÙ selection borrows from innovative research that CRCBiotek leads at universities and enological research institutes.

Thereby alcoholic fermentation becomes a dynamic and metabolic system, with deterministic nature, it is not based on case. This means that the yeast has in itself, in its genetic makeup, the goal that you must achieve. The winemaker can predict the heaviest fundamental and essential character of his wine. ECOCRÙ yeasts determine the interactions between polysaccharides secreted by yeast and polymerized polyphenols of wine, for this reason ECOCRÙ fixes the sensation of volume and softness of taste. Some strains of ECOCRÙ are specifically designed to interact positively with the color of the wine.

Everything done in the vineyard remains sterile if action is not taken in winemaking with a yeast that expresses the full potential inherent grapes. In this case two fundamental constraints must be considered. First of all the yeast's strain will be targeted for the specific grape in the specific fermentative condition. In addition, attention to the nutritional aspects needs to be considered, both in terms of oxygen and in terms of different forms of nitrogen. These are the conditions to respond to the changing request of the consumer, which requires full-bodied wine, structured wine, intense color and soft wine. ECOCRÙ selection meets these needs and increases the actual characteristics typical of the grape variety.

ECOCRÙ Sauvignon, Chardonnay, Nebbiolo, CS81, Merlot, Sangiovese and Montepulciano interpret with secure performance biodynamic the maximum possibility of the varieties to which they relate, and they also have a high ductility for other grape variety.

## **ECOCRÙ** – *Great Selection White Wines*

**ECOCRÙ Chardonnay** – *Saccharomyces Cerevisiae r.f. Cerevisiae*

Suitable for the production of white wines of great quality with or without fermentation in barrique.

**Dosage:** 10 -30 g/HL

**ECOCRÙ B75** – *Saccharomyces Cerevisiae r.f. Cerevisiae*

Specifically for the production of white young, fresh and fruity wines.

**Dosage:** 10 -30 g/HL

**ECOCRÙ BH10** – *Saccharomyces Cerevisiae r.f. Cerevisiae*

Poor latency. It ensures the start of the fermentation even in difficult conditions.

**Dosage:** 10 -30 g/HL

**ECOCRÙ Pecorino** – *Saccharomyces Cerevisiae r.f. Cerevisiae*

Yeast strain studied and targeted for particular grape in particular fermentation conditions.

**Dosage:** 10 -30 g/HL

**ECOCRÙ Sauvignon** – *Saccharomyces Cerevisiae r.f. Cerevisiae*

Strain of yeast specially designed and selected to maximize the typical aromatic nature of this grape variety

**Dosage:** 10 -30 g/HL

**ECOCRÙ Trebbiano** – *Saccharomyces Cerevisiae r.f. Cerevisiae*

Yeast strain targeted for particular grape in suitable fermentation conditions.

**Dosage:** 10 -30 g/HL

## **ECOCRÙ** – *Great Selection Red Wines*

**ECOCRÙ Merlot** – *Saccharomyces Cerevisiae r.f. Cerevisiae*

Strain of yeast specially designed and selected to maximize the typical characters of this grape variety.

**Dosage:** 10 -30 g/HL

**ECOCRÙ Nebbiolo** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

Strain of yeast specially designed and selected to maximize the typical chromatic and aromatic nature of this grape variety.

**Dosage:** 10 -30 g/HL

**ECOCRÙ Sangiovese** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

Strain of yeast specially designed and selected to maximize the typical chromatic and aromatic nature of this grape variety.

**Dosage:** 10 -30 g/HL

**ECOCRÙ Montepulciano** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

Strain of yeast specially designed and selected to maximize the typical chromatic and aromatic nature of this grape variety.

**Dosage:** 10 -30 g/HL

**ECOCRÙ CS81** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

Strain selected in France for the production of full-bodied and soft red wines. It is an international strain, because it is tested in the most diverse areas in the world. Selected for the production of red wines from Cabernet Sauvignon, has given excellent results also with other varieties such as Merlot, Primitivo, Aglianico, and Sangiovese. It presents biotechnological traits of great interest, the kinetics of regular and complete fermentation and a minimum production of volatile acidity. It promotes extraction of color, favors the formation of spicy aroma like blackcurrant and dried plum. It gives great structure, harmony and complexity. Recommended for soft and low tannins wine. Especially recommended for red wines from right matured grapes.

**Dosage:** 10 -30 g/HL

**ECOCRÙ E102** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

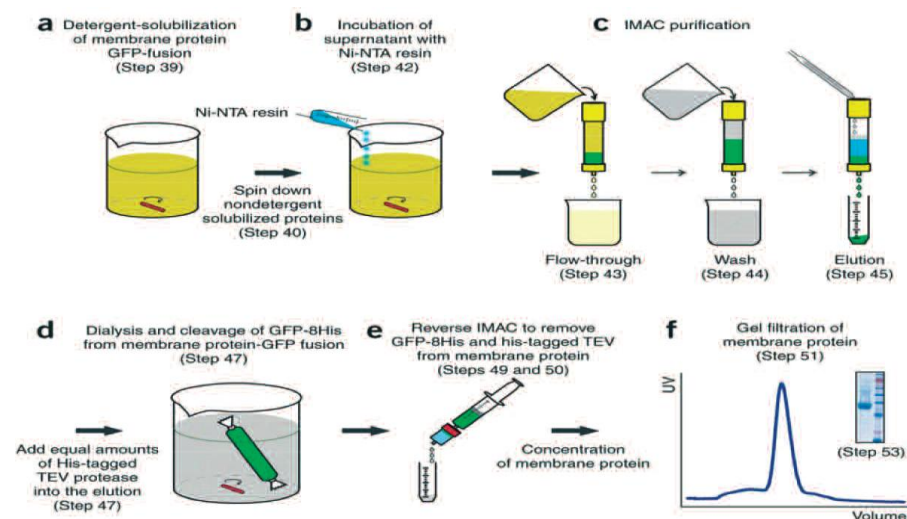
Specific yeast, selected for its outstanding technological features, it is equipped with great vigor that allows a safe dominance of the indigenous flora. Resistant to high temperature of fermentation and the high alcohol content. It has a minimum production of volatile acidity, minimal foaming and H<sub>2</sub>S production. In the presence of a good supply of nitrogen (APA > 200mg / L) it develops fruity wines with good aromatic odor impact. It allows excellent performance in alcohol. It contributes to a good extraction of color. The finished wine has a good composition, more harmonious, both in smell and in taste.

**Dosage:** 10 -30 g/HL

**ECOCRÙ RE372** – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

Selected for the production of great red wines of medium and long-term aging. It allows you to produce wines of great structure and considerable breadth aromatic; wines with great finesse and roundness on the palate. It develops complex aromas that are evident in aging in barrels like cherry, black cherry, blackberry and licorice. Low production of components that combine SO<sub>2</sub>. It contributes to a very high extraction of anthocyanins even after not prolonged maceration. Is a strain that ensures the predominance on the indigenous flora (killer factor).

**Dosage:** 10 -30 g/HL



## CHARACTERS OF THE YEAST ECOCRÙ' CRCBIOTEK

YEAST ECOCRÙ											
WHITE WINE						RED WINE					
CHARDONNAY	B75	BH10	PECORINO	SOUVIGNON B.	TREBBIANO	CS81	E102	RE372	NEBBIOLO	MERLOT	MONTEPULCIANO
											SANGIOVESE

### Yeast activity

Point out the fruity-floral bouquet	o	o		o		o						
Favors antocyanin extraction							o	o	o		o	o
Enzyme activity on flavour precursor	o	o	o	o	o	o						
β-glucosidase activity; liberation terpens	o	o		o	o	o						
Favors start M.L.F								o	o		o	o
Peel sweet tannins release							o	o	o	o	o	o
Creation of tannins –polysaccharides complex							o	o	o	o	o	o

### Yeast application

Red wine with high varietal expression							o				o	o	o
Red wine to be refined							o		o		o	o	o
Red wine to aging									o	o	o		
Great red wine to be allocated to the barrel									o		o	o	o
White wine fruity-floral parfum		o	o										
White wine maceration	o	o		o	o								
Sparkling wines		o	o										
Second fermentation; sparkling wines	o	o	o										

### Biochemical characteristic

High alcohol tolerance (14-17% vol)			o	o					o		o	o	o
Low nitrogen needs	o		o	o	o				o				
Killer factor		o	o	o	o	o		o	o				
Short lag phase			o	o	o	o			o	o	o	o	o
Low production of sulfite		o			o	o		o	o		o	o	
Rapid and constant fermentation	o				o		o		o		o	o	o
Low volatile acidity production	o	o			o		o	o	o		o	o	o

## SOLUTION FOR YOUR BIOLOGICAL WINES

### ECOPHERM 101/B BIO – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

It is a Strain of dry active biological yeast, with good vigor, that allows you to manage regular complete and safe fermentations. Excellent for white fresh wine, elegant, and also for sparkling wine.

**Dosage:** 10 -30 g/HL

### THIOPHERM VLB1 – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

Specific strain varieties for the production of white wines of high quality organic. It enhances the purity and uniqueness of its grape variety.

**Dosage:** 10 -30 g/HL

### ECOPHERM 201/R BIO – *Saccharomyces Cerevisiae* r.f. *Cerevisiae*

It is a Strain selected for elaboration of red wine. Ecopherm 201/R bio is excellent for the production of fresh, elegant and structured wines, with these wines it expresses the best characteristics of the grape worked. It has excellent adaptability in unfavorable conditions such as low pH and high concentrations of sugar and alcohol.

**Dosage:** 10 -30 g/HL

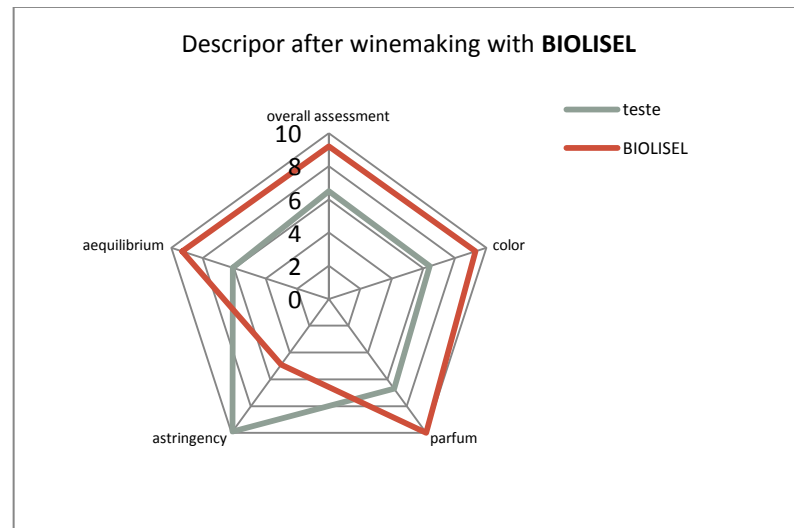
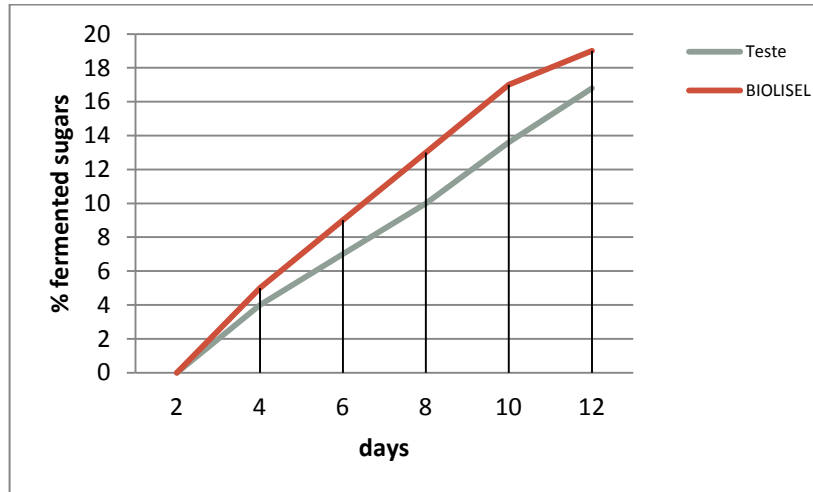
### BIOLISEL

Bio-nourishment based on a specific derivative of yeast rich of organic readily assimilable nitrogen and bio vitamins. The intake of micronutrients is strategic in the early stages of yeast multiplication, when alcohol and lack of oxygen are not yet intervened to alter the metabolism and the ability to take in nutrients. Thanks to the contribution of Biolisel, the yeast cell increases the speed of growth exponentially, starting before the fermentation stage.

**Application:** in fermentation and second fermentation it can be used like nutriment for the growing of yeasts and lactic acid bacteria.

**Dosage:** 15 to 50 g/hl, it depends on the condition of the must and on the nutrition strategy.

Fermentation kinetic of must added of **BIOLISEL**



## MALOLACTIC FERMENTATION

### **ECOBACTER** – *Oenococcus Oeni*

Ecobacter is a selected strains mixture of lactic acid bacteria of the species *Oenococcus oeni* specially prepared for an ideal management of malolactic fermentation. These selected bacteria are able to grow in a safe and effective way even in difficult conditions (pH, temperature, SO<sub>2</sub>, percentage of alcohol ethyl). Besides ensuring a natural acidification by means of the degradation of malic acid, Ecobacter allows you to improve the characteristics of structure and body in red wines and to increase the aromatic components in white and new wines without increasing the levels of volatile acidity.

**APPLICAIZIONS:** wines with standard conditions.

**DOSAGE:** packaging for the treatment of 20 Hl and 100Hl

### **ALIBACT**

Nourishment specific for the activation of malolactic fermentation. It facilitates the multiplication of added malolactic bacteria and favors the metabolic activity

**APPLICATIONS:** in musts and wines as activator of malolactic fermentation. We recommend the use of **ALIBACT** for both white and red wines especially for those which have suffered a clarification, which finished fermentation with difficulty, which are obtained from not fully ripe grapes, where yeasts resistant to alcohol have been used.

**DOSAGE:** 10-30 g/HL

*For the success of malolactic fermentation in difficult conditions (low pH, high alcohol content) or to accelerate the fermentation under normal conditions, it is recommended to prepare a pied de cuve as shown here below.*

#### **Example for 100 hl of wine**

1 rehydrate the dosage of 100 hl of **Ecobacter** as indicated in the data sheet

2 prepare a mixture with 50 liters of water - 50 liters of wine - 1Kg **Alibact**

3 If necessary, adjust the pH of the mixture above 3.3

4 Inject the mixture thus prepared with the bacterium rehydrated. Keep the temperature at 18-20 °C.

5 When 5 1/2 - 2/3 of malic acid have been consumed, add to the foot in fermentation 2hl of wine + 1Kg **Alibact**. Keep the temperature at 18-20 °C.

6 When 6 1/2 - 2/3 of malic acid have been consumed, use the foot in fermentation to inoculate the 97.5 hl of remaining wine. Maintain the temperature at 18-20 °C until the end of fermentation



# YEAST NUTRITION

The **yeast**, like all living beings, inoculated in the must, **assimilates and metabolizes pouring metabolites in the environment**, that is partially oxidized products which constitute the excess of enzymatic reactions that characterize the basal metabolic rate.

The products immediately not used constitute the **strategic reserve of a metabolic process**: according to the metabolism of the yeast and according to the composition of the medium in which it operates, **this strategic reserve assumes significant value from an organoleptic and structural point of view for the wine itself**. These compounds are also known as secondary products of alcoholic fermentation; *actually they are not secondary because these products are responsible for the technical and commercial characteristics of a wine*.

The technical task is to prepare the medium in such a way that the processing of secondary product occur, qualitatively, in an optimal way, which will not be further altered or impaired in the course of the fermentation and storage in wine.

This will require an **accurate knowledge of the nutritional characteristics of the must**, especially in relation to the treatments suffered before the fermentation, so it is important to have *adequate bio/regulators and bio/nutrients* which, *if necessary, can balance the compositional characteristics of musts* or wines in order to optimize the metabolism of the yeast and make it more functional for the type of product we want to obtain.



Exceptional results can be obtained by applying the **biotechnology proposed by CRC Biotek** and following a few basic rules:

1. **ensure the predominance of selected yeast;**
2. **inoculate the selected yeast immediately after harvest;**
3. **check the values of the readily assimilable nitrogen (RAN)**

## **A CORRECTS DOSAGE OF RAN:**

1. **It stimulates cell multiplication;**
2. **it optimizes the speed of fermentation;**
3. **it facilitates the optimization of the sugars;**
4. **it prevents the formation of hydrogen sulfide (H<sub>2</sub>S) and decreases the content of pyruvic acid and α-ketoglutaric acid;**
5. **it contributes to the formation of pleasant fragrance and aromas.**

The useful quantity to regulate the proceeding of fermentation is **200 mg N/L**. Excellent results are obtained with values of **RAN over a 250 mg N/L**

The **choice of the BIO-Nutrients** is important both for the certainty of the result and for the **quality of wines**.

## **ADJUVANTS OF FERMENTATION**

### **BIOVIGOR**

It is a unique biological preparation with a high concentration of vitamins and nitrogen that acts specifically on the yeast during rehydration. Its formula rich in microprotectors and bioavailable micronutrients increases the viability of the yeast in difficult conditions of fermentation.

**Applications:** It is used in the rehydration of all of wine yeast strains

**Dosage:** in phase of rehydration 800 - 1000 g / kg of yeast

### **BIOSINT "Vita Max"**

Specific activator for the preparation of starter yeasts. **Biosint "Vita Max"** is specific for the multiplication of yeast inoculation; it brings organic nitrogen compounds and vitamins easily assimilated and ensures growth and survival factors that promote rapid cell proliferation and prevalence of the strain used.

**Applications:** nutrient starter for yeast fermentations and re-fermentations

**Dosage:** in phase of rehydration 100 - 300 g / kg of yeast

In phase of fermentation and re-fermentation 5-15 g/Hl

### FOSFOSOL

Fosfosol is a fermentation activator based on nitrogenous salts. It allows to maintain an efficient functionality of the cell membrane and efficient transport mechanisms through the yeast cell.

**APPLICATIONS:** in musts and wines as activator in fermentations and re-fermentations.

**DOSAGE:** 10-30 g / HL (30 g / HL represents the maximum quantity legally permitted). It's advisable to carry out the readily assimilated nitrogen's analysis (APA) by determining the number of formalin in order to add the right quantity according to the real needs.

**This product provides 21% of APA** (10 g / HL are about 21 mg / L of APA)

### BIOVITIN C

Biovitin C is a nutritional Bio- complement to fermentations and re-fermentations. It provides the essential nutrients for the yeast to ferment in the best conditions and make the best of its potential. It promotes an increase in cell mass and increases its vitality. A fair and balanced quantity of nitrogen stimulates the production of aromatic compounds. **BIOVITIN C** restores the optimal value of nitrogen and a balanced vitaminic supply both in shortage due to over-ripening, and in clarified musts.

**APPLICATIONS:** in fermentations ( alcoholic and malolactic ) and re-fermentations as nourishment for growing of yeasts and lactic ferments.

**DOSAGE:** 15-30 g / hl in nutrient-poor musts (clarified musts, centrifuged or derived from sick grapes ); 10-20 g / hl in normal musts

### BIOPHERM C

Biopherm C is a bioactive of fermentation and re-fermentations. **It's a balanced complex of nutritional substances** and of long-chain celluloses. It brings ammonium salts and essential vitamins for the development of yeasts, it maintains the dispersion and distribution of the selected yeasts in a homogeneous way in the fermentation mass.

The improvement of fermentation conditions contributes to higher yields of alcohol, and mainly to the formation of esters and higher alcohols decrease.

**APPLICATIONS:** in musts and in wines as an activator and regulator of fermentation

**DOSAGE:** 15-30 g / HL ; This product provides about 15% of APA

### BIOENERVIT

Bioenervit is a bio-nourishment for the activation of fermentations and re-fermentations. **The vitamin and nitrogen bio - complements (especially amino acids derived from yeast ) speed up the end of fermentation.** It helps the dispersion of selected yeasts in fermentation, absorbs any pesticides and toxins still present in the must.

**APPLICATIONS:** in fermentations ( alcoholic and malolactic ) and re-fermentations as nourishment for growing of yeasts and lactic ferments.

**DOSAGE:** 10 -20 g / HL in the fermentation; 20-30 g / hl in re-fermentation.

### BIOENERVIT PLUS

Bioenervit plus is a bio-nourishment for the activation of high concentration fermentations and re-fermentations. **It's particularly rich in organic adjuvants** that absorb toxins of exogenous fermentation. The stopping or deviation of a correct kinetic is frequent in the vinification of red grapes. In these cases, it is necessary a high concentration adjuvant so that the APA of grapes grows significantly. To avoid and prevent the irregular course is useful for obtaining wines with structure , aromatic complexity and roundness. The cell walls, (in combination with vitamin complexes, amino acids and nitrogen), help the regular course of fermentation.

**APPLICATIONS:** in fermentations ( alcoholic and malolactic ) and re-fermentations as nourishment for growing of yeasts and lactic ferments.

**DOSAGE:** 20-40 g / hl for starting the fermentation ; 10-20 g / hl at mid-fermentation.

### FISIOBHER

Fisiobher provides **amino acids, trace elements and minerals**, naturally present in the yeast cell, **in form immediately absorbable.**

The micronutrients supply is strategic in the early stages of yeast's multiplication, when external factors, such as alcohol and sulfur dioxide, have not intervened to alter the metabolism and the capacity to select the nutritive elements, yet.

**APPLICATIONS:**

Stimulation of the mechanism of yeast in the initial stages of growth; Prevention of abnormal fermentation in risky situations: musts with high sugar content, grapes affected by Botrytis cinerea , grapes with high microbiological contamination high grade wine re-fermentation; Preparation of pied de cuve; FISIOBHER prevents long fermentative delays and favors an increase in the release of mannoproteins, when it is used towards the end of fermentation.

**DOSAGE:** 20-40 g / HL **FISIOBHER** to be dissolved in must or wine in 1:10 ratio: when used during the sparkling : 30-50 g / HL .



## FERMENTATION BIOSTABILIZERS

### BIOGLUTEX

Bioactive complex for fermentation and re-fermentation.

Activator rich in **amino acids, vitamins and minerals**; It provides all the necessary elements, including fatty acids and sterols, to complete regular alcoholic or malolactic fermentation. **The synergic action between organic and mineral nitrogen optimizes** the performance of fermentation and improves the nitrogen assimilation. The formulation has been specifically designed to activate the yeast viability and make impossible any slowing fermentation. - **Reduces** the risk of any deviation - **Promotes** the production of secondary alcohols and esters.

**DOSAGE:** 20 to 40 g / HL

### BIOPURE

Organic complex vital for the stability and vividness of the aromas.

Biopure is a fermentation bioactivator **with high reducing power**, rich in bionutritional elements. It ensures a fast development of fermentation. **Particularly suitable** for the vinification of grapes from vines of **high aromatic expression** (Sauvignon Blanc, Pinot Blanc, Prosecco, Gewurztraminer, Riesling, Pecorino, Moscato, Verdicchio, Vermentino) and for fresh and fruity young wines.

It protects the aromatic fractions especially the thiolic one.

It favors color stability against browning.

**DOSAGE:** 20 to 40 g / HL

## ANTIOXIDANTS - STABILIZERS FOR MUSTS

### PROTECTOR

**Applications:** Antioxidant protection for musts

**Dosage:** 20 - 30 g/HL

### BIOAROM

**Applications:** For natural aromas protection

**Dosage:** 30 - 40 g/HL

### BIOAROM PLUS

**Applications:** It protects and enhances the natural flavors.

**Dosage:** 15 - 30 g/H

## FERMENTATION BIOREGULATORS

### BIOECOCELL

Bioecocell is a bio regulator with yeast cell membranes and complex polysaccharides. It is particularly suitable for the absorption of fatty acids and pesticide residues, (fermentation inhibitors). **It increases the rate of cell multiplication and it reduces stuck fermentations.** Bioecocell combines the directly comparable nutrient nitrogen to bio regulatory activity. It enhances the development of organoleptic characteristics.

**APPLICATIONS:** It is used at an early stage as it stimulates alcoholic and malolactic fermentation.

In re-fermentations during curative phase, because the yeast membranes are effective to detoxify and restart stopped fermentations.

**DOSAGE:** at an early stage 20-30 g / HL - in curative phase 30-60 g / HL.

### BIOECOVIT

Bioecovit is a complex bio regulator of the fermentation and re-fermentation. **It provides substrates able to detoxify, removing inhibitory substances and provides readily absorbable nutrients.** It therefore enables the rapid and efficient restarting of fermentation.

**APPLICATIONS:** Great adjuvant for fermentations and re-fermentations. It prevents fermentation stopping due to: fermentation of very clear musts; presence of pesticide residues; unfavorable sanitary conditions of the grapes; development of high fermentation temperature. **It is specific for the restart of stopped or incomplete fermentations.**

**DOSAGE:** at an early stage 30-40 g / HL – during stopping phase of F.A. 50-80 g / hl

### BIOECOGUARD Q10

**Bioecoguard Q10 is a supplement with an high concentration of biovitamins , omega and coenzyme Q10 to revitalize and protect yeast cells from refinement.**

**APPLICATIONS:** Great adjuvant to: reduce the difficult fermentations, reduce bad smells and volatile acidity, increase esters, decrease the content in higher alcohols and conduct more gradual and less vigorous fermentations.

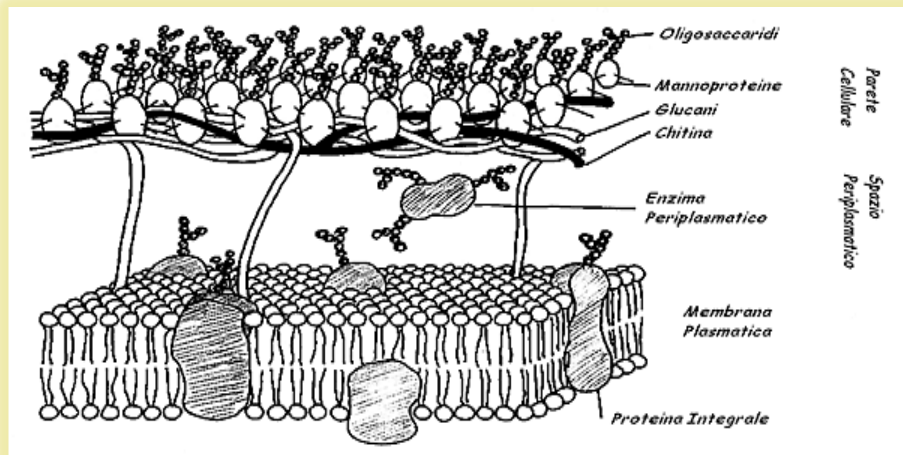
**DOSAGE :** 30-60 g / HL

# MANNOPROTEINS

Polysaccharides represent one of the major groups of macromolecules found in wine and their content varies from 0.3 to 1 g / L. They can originate both from grapes (neutral and acidic polysaccharides) and yeasts (mannoproteins and glucans), as well as by *Botrytis cinerea* (glucans).

Exceptional results can be obtained using the mannoproteins **CRC Biotek** for the following objectives:

- **INTERACTION WITH PHENOLIC COMPOUNDS**
- **IMPACT ON MALOLACTIC FERMENTATIONS**
- **TARTARIC AND PROTEIN STABILIZATION**
- **STABILIZATION OF COLOUR**



## ECOLEV

Ecolev is a structural and sensory bio-stabilizer for the fermentations. It's a biological preparation studied for the release of mannoproteins during the fermentations of musts and white and red wines.

**APPLICATIONS:** Use recommended in the fermentations.

**DOSAGE:** 20 - 40 g / HL

## ECOMANN

Ecomann is a complex bio-stabilizer for high quality products. It enriches the must during the fermentations with mannoproteins that have a significant role for the protein, tartaric and phenol stabilization.

**APPLICATIONS:** Use recommended at the end of fermentation and during refinement.

**DOSAGE:** 20-40 g / HL

## ECOSTABIL

Ecostabil is a highly purified natural mannoprotein. It is a bio-stabilizer for wine refinement. **ECOSTABIL favors the evolution of softer and more structured wine even in absence of glycerol.**

**APPLICATIONS:** Used in refining to increase complexity.

**DOSAGE:** 20-30 g / HL

## ECOSTABIL PLUS 5

These mannoproteins synergize with phenolic compounds because they derive from cell walls with high amounts of glutathione (a powerful antioxidant) that is added to the one already present in wine.

**APPLICATIONS:** Used in refinement. It gives a more pronounced velvet character.

**DOSAGE:** 20-30 g / HL

## MANNOFT S

Mannosoft S brings wine mannoproteins that **improve the quality and persistence of sensory balance**, as well as other metabolites with intense antioxidant activity that preserve the aromatic component of wine from premature aging.

**APPLICATIONS:** Use in pre - bottling as an improver of softness.

**DOSAGE:** 10-30 g / HL

## MANNOFT

Mannosoft has an **instant solubility** and a perfect clarity of wine. The filterability index is exactly the same before and after the treatment. Immediately after the addition of **Mannosoft**, the wine **is ready for the last filtration, quickly and without clogging problems.**

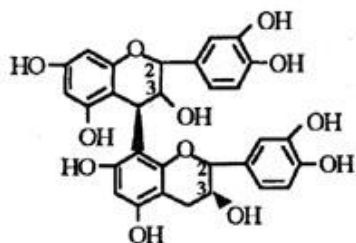
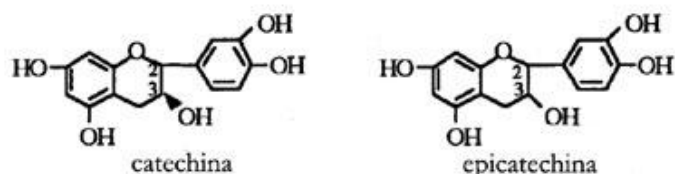
**APPLICATIONS:** Used in pre - bottling for improving smoothness.

**DOSAGE:** 5-20 g / HL

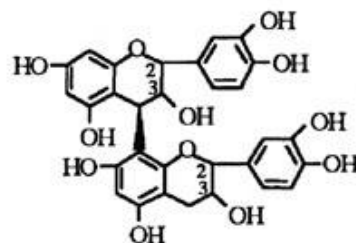
# TANNINS

Wine polyphenols are a family of essential compounds for the quality of wine and for its characterization.

The addition of tannins during the winemaking and the refinement can compensate the shortcomings in concentration and in the typology of grape tannins, they can express the grapes potential and increase the complexity and elegance of wines.



B-1



B-2

## VINIFICATION TANNINS

### TANNISTABIL ROUGE

Ellagic tannins with antioxidant activity. Specific and high-grade actions, obtained from a careful selection. It reacts strongly with must proteins, and favors the elimination of laccase.

**APPLICATIONS:** Use recommended from the beginning of the red wines fermentation.

**DOSAGE:** 10-30 g / hl

### TANNISTABIL C

Complex of condensed and ellagic tannins specific for red wines vinification. The ellagic component protects from possible degradation of anthocyanins. The condensed fraction promotes condensation reactions through the ethanal link between tannins and anthocyanins with remarkable color stabilization.

**APPLICATIONS:** Use in later additions from the beginning of fermentation until racking.

**DOSAGE:** 10-30 g / hl

### TANNISTABIL PLUS

Complex of ellagic and condensed tannins specially designed to assemble **the antioxidant characteristics of hydrolysable tannins with stabilization properties of the condensed tannins color**. It can therefore be added from the beginning, in fermentation, when used ripe or from warm climate regions grapes, situations in which the polymerization of phenolic compounds begins already inside the grape.

**APPLICATIONS:** Especially recommended during and after fermentation for wines intended to refinement.

**DOSAGE:** 5-30 g / HL

### TANNISTABIL BLANC

Complex of ellagic tannins and gallotannins. The synergistic action of these substances against oxidation makes it a product specifically for white and rosé wines. Tannistabil Blanc ensures a constant protection during vinification reducing the use of SO<sub>2</sub>.

**APPLICATIONS:** Use recommended from the beginning of the fermentation of white musts.

**DOSAGE:** 5-15 g / HL

## REFINEMENT TANNINS

### ECOTAN White

Tannins for the refinement of white wines. Phenols have a strong influence on sensory characters. The condensed tannins, also known as "sweet tannins" are less astringent. The refinement with ENOTAN WHITE from 1 to 3 months. The bitter notes and the reduced taste disappear. The grape fruity notes are enhanced in wines.

**APPLICATIONS:** It contributes to the stabilization and the exaltation of the aromatic characteristics of wines.

**DOSAGE:** 5-20 g / HL

#### ECOTAN WB.m

Condensed tannins totally extracted from Moscato grape skins. The presence of substances derived directly from grapes makes this product the best solution for natural and balanced integration in wine treatment. It is particularly suitable to wine refinement (red, white and rosé). It gives perfume, high softness and harmony. It enhances the overall characteristics of the treated wine. It strengthens the structure without having an astringent effect thus respecting the personality of the wine.

**APPLICATIONS:** It contributes to the stabilization of color through the formation of the anthocyanin - tannin - acetaldehyde stable complex and to aromatic vivacity.

**DOSAGE:** 5-20 g/HL



#### ECOTAN WR.p

Condensed tannins totally extracted from grape seeds. The natural contribution of substances extracted directly from grapes makes this product ideal to wine refinement. The astringent character, typical of substances contained in the grapes seeds gives the wine a strong but balanced effect on the structure that gradually softens and amalgams during the refinement.

**APPLICATIONS:** It contributes to the stabilization of color through the formation of anthocyanin – acetaldehyde - tannin stable complex and to a longer life for the wine.

**DOSAGE:** 5-15 g/HL

#### ECOTAN RS

High selection of oak tannins. The high affinity of oak tannins towards sulfur compounds makes ECOTAN RS an excellent adjunct in the elimination of unpleasant redox flavor. The oak tannins combine to thiols that may be present removing the redox flavor.

**APPLICATIONS:** It is recommended to prevent and curate the redox flavor. It is also recommended in the initial phase of bottling to avoid any phenomenon of redox flavor.

**DOSAGE:** 2-10 g/HL

#### ECOTAN LF

Pure ellagic tannins extracted from the heart of Limousine oak. Particularly suited to refinement of red and white quality wines. It is devoid of tannins that provide bitter taste. It is particularly suitable for refining in old barriques or American wood that is poor in ellagitannins. ECOTAN LF can also be used before bottling to refine the product and to prevent it from oxidation.

**APPLICATIONS:** It helps to stabilize the color. Excellent synergistic action in combination with condensed tannins.

**DOSAGE:** 2-10 g / HL in white wines, 5-20 g / HL in red wines.

#### ECOTAN Q.10

Condensed tannins extracted from exotic plant essences and from vitis vinifera. Thanks to their proanthocyanidin nature they represent the best way to stabilization of color as they actively contribute to the formation of stable anthocyanin – acetaldehyde - tannin complex.

**APPLICATIONS:** It contributes to the stabilization of color, highlighting the characteristics and aromatic notes of wines.

**DOSAGE:** 5-25 g/HL

#### ECOTAN PLUS

Condensed tannins complex extracted from grapes and oak ellagic tannins. The proanthocyanidin tannins extracted from grapes, in presence of ellagic tannins, are protected from oxidation and degradation. This allows their better combination with anthocyanins. This product, formulated for optimal wine refinement, grants, in addition to color stabilization, a delicate scent, a stronger aroma combined with a more solid structure.

**APPLICATIONS:** In the process of refinement and pre- bottling

**DOSAGE:** 5-20 g/HL

#### ECOTAN CH

It is a complex of ellagic tannins particularly suitable for the treatment of wines polyphenol stabilization. Ecotan CH binds itself to the molecules responsible for the wine aromas, it stabilizes the oxidation-reduction potential and preserves the freshness enriching the bouquet.

**APPLICATIONS:** It helps to stabilize the color. Recommended for young red and rosé wines to enhance the fruity notes.

**DOSAGE:** 5-20 g/HL

## ECOTAN FS

ECOTAN FS is a special combination of ellagic tannins, from careful selection of fine French oak woods, and condensed tannins extracted from the skins of unfermented *Vitis vinifera*.

This tannin is designed to produce well-balanced, harmonious and velvet wines in order to facilitate the varied typicality, without making tannins predominant.

**APPLICATIONS:** In all red and white quality wines that require greater softness and structural complexity. It highlights the soft and delicate notes and reduces the astringency and bitter sensations.

**DOSAGE:** White wines: 2-8 g / HL Red wines: 4-10 g / HL

## ECOTAN BARRIQUE

ECOTAN Barrique is a solution of ellagic tannins extracted from fine French or American woods in combination with plant polysaccharides.

**APPLICATIONS:** Especially suitable for vinification and refinement process of red wines

**DOSAGE:** 3-20 g / HL

## ECOTAN BARRIQUE SP

ECOTAN Barrique SP is a solution of ellagic tannins extracted from fine American woods in combination with plant polysaccharides.

**APPLICATIONS:** Especially suitable for the refinement of red wines, it gives a complex with aromatic notes of Spicy and Boisé.

**DOSAGE:** 3-20 g/HL

## ECOTAN BARRIQUE W





ECOTAN Barrique W is a solution of ellagic tannins extracted from fine French woods in combination with plant polysaccharides.

**APPLICATIONS:** it is particularly suitable for the refinement of red wines, it amplifies the volume, the aromatic notes and the taste of softness.

**DOSAGE:** 3-15 g/HI

*"To choose the right tannin and dosage, it is essential to know the organoleptic and technical characteristics and to perform preliminary taste tests. A very simple and quick method to operate is to dissolve 1 gram of tannin in 100 ml of a hydroalcoholic solution at 13 % alcohol. This solution can be used to make rapid testing, knowing that the addition of 1 ml of solution in 100 ml of wine corresponds to a dosage of 10 grams per hectolitre of tannin."*

## LEVEL OF ACTIVITY AND SPECIFICITY OF CRCBIOTEK TANNINS

		TANNISTABIL ROUGE	TANNISTABIL C	TANNISTABIL PLUS	TANNISTABIL BLANC
		Main activity of very high level			
		Main activity of high level			
		Secondary activity			
		Modest activity			
Red grapes	Antioxidant and antiradical action				
	Color stabilization				
	Colored grapes but poor in tannins				
White grapes	Specific for grapes and white wines				
	Fruity note				
	Color stabilization				
	Antioxidant and antiradical action				

[illegible]

# CHIPS

- **REDUCTION OF REFINEMENT COSTS**
  - **OPTIMAL USE O PRIMARY WOODEN MATERIALS**
  - **REPRODUCE ABLE RESULTS**
  - **PREVENTION OF OLFACTORY DEFECTS**
- THIS IS A SUMARY OF THE ADVANTAGES OF ALTRNATIE WOODEN  
FRAGMENT USE IN ENOLOGY.***

Since 1997, **CRCBIOTEK** is the premier pioneering company in the research and development in the use of chips as a natural additive in enology. In 1999 the company was awarded the task by MIPAF to undertake experiential research throughout the national territory with the cooperation of various Italian companies. As a result of this research, a variety of articles were published in professional enological journals. Thanks to **CRCBIOTEK** in December of 2005, the UE commission approved the use o wooden fragments as specified in our published recommendations of December 31, 2002. The chips used by **CRCBIOTEK** are derived from oak which has been aged between 4 and 6 years in the open air. In the course of the aging process, as the wood matures, certain microorganisms intercede to enrich the wood. This process is necessary and fundamental to the improvement of the wood in order to maximize its beneficial qualities. **CRCBIOTEK** carefully studies the development of the wood so that it acquires the ideal characteristics which produce a high quality product. After the aging process is completed, the wood is sanitize and dried in an infrared oven or similar conventional drying process. Each wood lot is traced during each step of its development process. The careful computerized registration process, beginning with the original identifying lot number, allows **CRCBIOTEK** to follow each lot from beginning to end. The production process, therefore follows a simple, but rigorous plan controlling at every step important factors like the extraction, if necessary of tannin, the amount of appropriate drying time, physical-chemical regulation, amount of PAH (polycyclic aromatic hydrocarbons) haloanisoli, assembly and final packaging. The diffusion of these chips products used not for containing the wine but to give it the properties of color, smell and taste which stabilize the wine, are being used more extensively throughout the more evolved enological industry of wine production.

## STABILIZATION OF COLOR

The anthocyanins and tannins are the essential components in the chips product which help to develop the proper wine pigment in the course of the oxidation process.

One can reach highly complex flavonoid levels with a high molecular weight , or through the anthocyanins to mixtures less reactive to ph and SO<sub>2</sub> which bring the wine to longer periods of development and maximum absorption of color.

The role of oxygen is to generate quinones an hydrogen peroxide which react with the ethyl alcohol in the formation of acetaldehyde which is of particular importance in the polymerization (co-pigmentation) of the wine.

But the oxygen also reacts with the anthocyanins, oxidizing and degrading them, inhibiting their presence in the course of the eventual polymerization, thereby stabilizing the color.

In the absense, therefore of other oxygen receptors which react in competition with the flavonoids and antioxidants, there is a loss of other coloring substances.

For this reason it is particularly useful to employ the chips produced by **CRCBIOTEK**.

The tannins extracted from the wood have a particular affinity for oxygen superior to other phenolic additives found in grapes with a faster oxidation and a tendency to quinones.

The tannins in the wood may be the very protection against the anthocyanins and other phenolic components. Their role is evidently important in the stabilization of color.

The barrel acts as the dispenser of oxygen. It follows, therefore, that chips can serve in a similar manner following recommended practices within the industry.



## INFLUENCE ON FLAVOUR

- The different species of oaks, Americans and Europeans, are differentiated by two B- methyl – γ – Octalactone isomers, which have great importance in formation of wine flavor in wood.
- Phenolic aldehydes originate from lignin and evolve into vanillic and sirginic acids that characterize the flavor of wines refined in French oak.
- Volatile composites, originated from thermal treatment of wood like aldehyde furfural and 5-metil furfural, give to wines the particular taste of roasted.

## OAK CHIPS

STABIL-ONE		
CHIPS TOASTED IN INFRARED RAYS OVENS		
PRODUCT NAME	SENSORIAL PERSPECTIVE	USE
FR-MT	French oak medium toast	200-400 g/Hl
FR-HT	French oak high toast	200-400 g/Hl
AM-MT	American oak medium toast	200-400 g/Hl
AM-HT	American oak high toast	200-400 g/Hl

## VINIFICATION CHIPS

ERGOTAN		
CHIPS FOR WINEMAKING TASTED IN OVENS INFRARED RAYS		
PRODUCT NAME	SENSORIAL PERSPECTIVE	USE
ERGOTAN PA/1S	Coconut with spicy note	200-300 g/Hl
ERGOTAN PA/2S	Coffee, Boisé	200-300 g/Hl
ERGOTAN PF/1S	Almond and fresh bread.	200-300 g/Hl
ERGOTAN PF/2S	Boisé, dried fruit, smoky character.	200-300 g/Hl
ERGOTAN 505/1S	Coconut, large extended vanilla arom.	200-300 g/Hl
ERGOTAN 505/2S	Toasted almond, cocoa, toasted coffee	200-300 g/Hl
ERGOTAN 01/FS	Exalts own natural arom (not toasted)	50-200 g/Hl

## ATTACK AGAINST TRADITION?

Different commentators see chips as an attack to the tradition of fair way to make wine. Actually it is like that because the use of wooden fragment dates back to XVIII century. Documents dating back to that period confirm the use of fragments for microbic colloidal stabilization, as well as fining and flavoring factors.

## AFTER FERMENTATION – REFINEMENT CHIPS

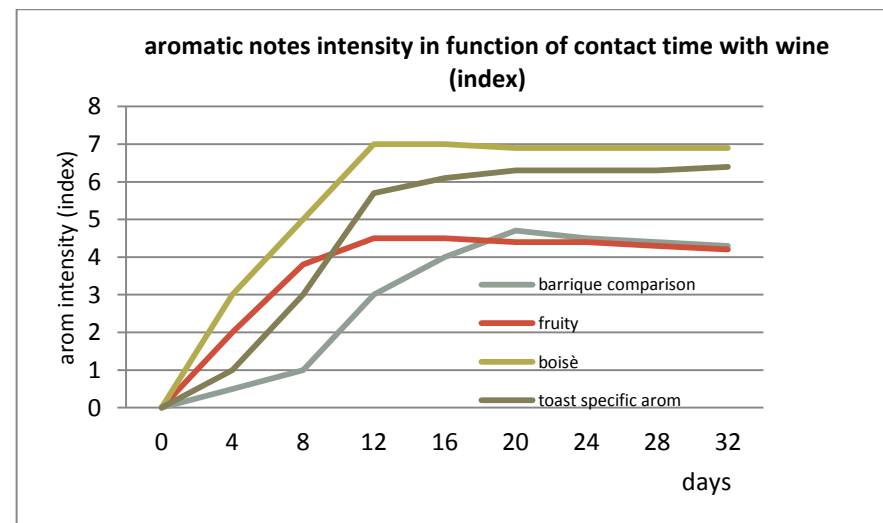
POLICELL		
CHIPS TOASTED IN INFRARED RAYS OVENS		
PRODUCT NAME	SENSORIAL PERSPECTIVE	USE
POLICELL 210/2L	Dried fruit, smoked, coconut.	100-300 g/Hl
POLICELL 311/2L	Dried fruit, almond, vanilla	100-300 g/Hl
POLICELL 10/ML	Fresh nut, tobacco, volume	100-300 g/Hl
POLICELL 11/FL	White wine –coffee, boisè	100-300 g/Hl
POLICELL 01/VL	Vanilla, coconut	100-300 g/Hl
POLICELL DR/1S	Volume, coconut, spicy	100-300 g/Hl
POLICELL MR/2SL	Almond, toasted coffee, under wood	100-300 g/Hl
POLICELL MRH/2SL	Chocolate, spicy	100-300 g/Hl

## REFINEMENT CHIPS – LAST GENERATION

POLITAN		
SELECTION OF AMERICAN AND FRENCH OAK CHIPS WITH LONG MATURATION		
PRODUCT NAME	SENSORIAL PERSPECTIVE	USE
POLITAN 510/LM	Chocolate, Moka.	200-300 g/Hl
POLITAN 511/LM	Chocolate, spicy, toasted	200-300 g/Hl
POLITAN 600/LR	Vanilla and toasted almond	200-300 g/Hl
POLITAN 605/LR	Vanilla, spicy	200-300 g/Hl

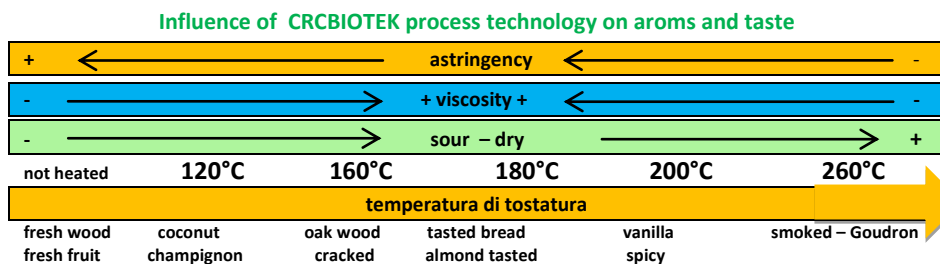
“BREVI” TRIACTYL		
HIGH TECHNOLOGY INNOVATION CHIPS – ULTRA FAST IN EXTRACTION		
PRODUCT NAME	SENSORIAL PERSPECTIVE	USE
“BREVI” TRIACTYL	Coffee, chocolate with light notes vanilla	50-200 g/Hl

POLIACTIVE		
HIGH TECHNOLOGY INNOVATION CHIPS TOASTED IN CONNECTION OVENS		
PRODUCT NAME	SENSORIAL PERSPECTIVE	USE
POLIACTIVE 130 LV	White wine -Vanilla, coffee, coconut.	50-100 g/Hl
POLIACTIVE 140 LT	White wine -Vanilla, dried fruit, toasted almond	50-100 g/Hl
POLIACTIVE 314 LV	Toasted, vanilla, moka, tobacco.	100-200 g/Hl
POLIACTIVE 324 LM	Spice, coffee, toasted almond.	100-200 g/Hl
POLIACTIVE 130 LM	Coffee, boisè, spice.	100-200 g/Hl
POLIACTIVE 120 LV	Vanilla, smoked, spicy.	100-200 g/Hl
POLIACTIVE 134 LT	Toasted almond, toasted coffee, vanilla.	100-200 g/Hl
POLIACTIVE 3CT LC	Vanilla, spicy, toasted coffee.	100-200 g/Hl



STIKS		
FRANCH OAK HIGH SELECTION WITH INNOVATIVE BIOPHYSICAL TREATMENT.		
PRODUCT NAME	SENSORIAL PERSPECTIVE	USE
FITOSTABIL FT/F	Franch oak	1BQ 225 L
FITOSTABIL FT/A	American oak	1BQ 225 L

STAVES		
FRANCH OAK HIGH SELECTION WITH INNOVATIVE BIOPHYSICAL TREATMENT.		
PRODUCT NAME	SENSORIAL PERSPECTIVE	USE
STAVES ST/F	Franch oak	3PZ/Hl
STAVES ST/A	American oak	3PZ/Hl



The astringency sensation, viscosity, sourness and dryness depend on toast temperature



**“IN A REASONED APPROACH TO THE REFINEMENT, THE ASSOCIATION BETWEEN THE USE OF ALTERNATIVE WOOD AND MICRO-OXYGENATION BECOMES A FACTOR OF QUALITY AND COST REDUCTION.”**

ECOCUBES – ECOTUBES		
HIGH SELECTION OF FRENCH OAK WITH INNOVATIVE BIOPHYSICAL TREATMENTS		
PRODUCT NAME	SENSORIAL PERSPECTIVE	USE
ECOCUBI C1	Vanilla, toasted almond	100-200 g/Hl
ECOCUBI C1/A	Vanilla	100-200 g/Hl
ECOCUBI C2	Coffee, Boisé	100-200 g/Hl
ECOCUBI C3	Chocolat, Coffee	100-200 g/Hl
ECOCUBI C4	Vanilla, Chocolat, Coffee	100-200 g/Hl
ECOCUBI C5	Spicy, coffee, toasted almond	100-200 g/Hl
ECOCUBI C6	Moka, chocolat	100-200 g/Hl
ECOCUBI C7	Spicy, Coffee, Vanilla	100-200 g/Hl



## REASONED REFINEMENT

The goals for undertaking a refinement process, with combined use of wood and oxygen, can be several:

- *The cost saving compared to the traditional refinement*
- *The color stabilization*
- *The improvement of tasting characteristics in structure and volume*
- *The improvement of aromatic structure and the qualification of wine with the typical notes of wood refinement*
- *The opportunity to correct some organoleptic defects such as the presence of vegetal notes or reduction characters*

ECOCUVÉE		
HIGH SELECTION OF FRENCH OAK WITH INNOVATIVE BIOPHYSICAL TREATMENTS		
PRODUCT NAME	SENSORIAL PERSPECTIVE	USE
ECOCUVÉE A	Amaretto, coconut, toasted almond with delicate honeysuckle flavours, recommended for white wines	1-2 pz/HL
ECOCUVÉE B	Vanilla, nougat, crème brûlée and toasted. It enhances the natural flavours, recommended for red wines	1-2 pz/HL
ECOCUVÉE C	Broad and consistent taste, with evident notes of chocolate and coffee. The toasting balancing gives remarkable texture. Recommended for red wines of excellency.	1-2 pz/HL



## CLASSIC METHOD

The classical method is a process of sparkling wine production which consists in inducing secondary fermentation of wines in bottle through the introduction of sugars and selected yeasts. In this way, the wine acquires the traditional pressure (visible in the form of bubbles) guaranteed by carbon dioxide produced by the second fermentation occurred in the bottle. Thanks to the experience gained over years of research and development, CRCBIOTEK has developed a line of specific products that can enhance the best features of the traditional method.



### **ECOPHERM SBE C20/W** – *Saccharomyces Cerevisiae* r.f. *Bajanus*

Specifically for the production of sparkling wines and champagne. It provides a second fermentation and enhances the typical notes of freshly baked crusty bread, yeast and white fruit. It is slightly flocculent, and so it facilitates a rapid and accurate remuage.

**Dosage:** 20 g/HL in fermentation; 5-10 g/HL foaming.

### **BIOSINT "Vita Max"**

Specific activator for the preparation of starter yeasts. **Biosint "Vita Max"** is specific for the multiplication of yeast inoculation; it brings organic nitrogen compounds and vitamins easily assimilated and ensures growth and survival factors that promote rapid cell proliferation and prevalence of the strain used.

**Applications:** nutrient starter for yeast fermentations and re-fermentations

**Dosage:** *in phase of rehydration* 100 - 300 g / kg of yeast

*In phase of fermentation and re-fermentation* 5-15 g/HL

### **BIOENERVIT**

Bioenervit is a bio-nourishment for the activation of fermentations and re-fermentations. **The vitamin and nitrogen bio - complements** (especially amino acids derived from yeast) speed up the end of fermentation. It helps the dispersion of selected yeasts in fermentation, absorbs any pesticides and toxins still present in the must.

**APPLICATIONS:** in fermentations (alcoholic and malolactic) and re-fermentations as nourishment for growing of yeasts and lactic ferments.

**DOSAGE:** 10 -20 g / HL in the fermentation; 20-30 g / hl in re-fermentation.

### **BIOECOCELL**

Bioecocell is a bio regulator with yeast cell membranes and complex polysaccharides. It is particularly suitable for the absorption of fatty acids and pesticide residues, (fermentation inhibitors). **It increases the rate of cell multiplication and it reduces stuck fermentations.** Bioecocell combines the directly comparable nutrient nitrogen to bio regulatory activity. It enhances the development of organoleptic characteristics.

**APPLICATIONS:** It is used at an early stage as it stimulates alcoholic and malolactic fermentation.

In re-fermentations during curative phase, because the yeast membranes are effective to detoxify and restart stopped fermentations.

**DOSAGES:** at an early stage 20-30 g / HL - in curative phase 30-60 g / HL.

# CLARIFYING

Clarification has as its goal the improvement of clarity and sensory characteristics of the wine. If to make wine re-clear may be used alternative technologies of physical type such as centrifugation and filtration, the removal of substances responsible for instability and organoleptic disequilibrium often is obtained only through the use of clarifying agents. The clarification is therefore a crucial practice of the winemaking process from which can largely depend the final quality of the wine.

While liquid products are ready for use, the powder ones have to be previously dispersed in water. **Attention! Never use wine or grape must in the preparation of clarifiers.** In so doing, you may clarify only a small part of the liquid and not in the right way. As apparently simple, the dissolution is a task not to be underestimated, as a wrong execution can compromise the result of a clarification. For example, add the powder to water, shaking continuously, and not vice versa. In this way you avoid the formation of lumps which, in fact, make the product non-usable for the clarification. It is also important to respect the time of hydration, the proportions between the product to be dispersed and the amount of water to be used as well as its temperature. Use the right amount of water at the right temperature and for the time recommended.

## HOW TO USE THE CLARIFIERS

All clarifiers are added to wine or must in a homogeneous manner, dosing them on the total mass to be treated with a Venturi tube or dosing pump, during a replacement or refilling. If the times or the technology at your disposal do not allow you to comply with this condition, introduce the clarifier at least on one third of the total volume of the liquid to be treated. It is recommended not to add the clarifiers by pouring it from the top of the tank, as it is likely to reduce the effectiveness of treatment. We also advice not to use mechanical agitators too long because they may retard the formation of flocs.

In the case of treatments with gelatin, egg albumin, isinglass, an aeration carried out on the eve of clarification promotes it, as we have the formation of trivalent iron which catalyzes the flocculation.

In the case of use of Protein clarifiers, do not exceed 10-20 days if the wine is in contact with gelatin, albumin, and casein; 3-4 weeks for isinglass. In the case of use of flocculation aids, the tannins are always added before gelatin, preferably the

day before; bentonite and silica sol before the protein on must and wine flower, after this on pressed ones. If you fear an overfining, always end the sequence with bentonite. Make one or two hours pass between an addition and the other. As far as possible, prevent the fining temperature variations that create convection currents inside the tank and can delay the clarifying sedimentation. The Protein fining are helped by low temperatures: 10 ° C for gelatin, up to 5-8 ° C for the isinglass. For rapid sedimentation of bentonite however, the temperature of the wine must be above 10 ° C

BENTONITE	USE	DOSAGE
<b>MICROFARM</b> Super-concentrated Bentonite	Must and wine clarification	10-50 g/Hl
<b>SFEROGEL</b> Super-active granular bentonite	Must and wine clarification	40-100 g/Hl
<b>BENTOFARM</b> Powder bentonite	Must and wine clarification	40-120 g/Hl
<b>BENTOGEL KV</b> Active granular bentonite	Must and wine clarification	20-50 g/Hl
<b>FLOBENT LV</b> Bentonite for flotation	Must and wine clarification	20-100 g/Hl

GELATINS	USE	DOSAGE
<b>GH 50</b> liquid gelatin to 50%	Must and wine clarification	5-20 ml/Hl
<b>HYDROGEL</b> liquid gelatin to 30%	Must and wine clarification	10-30 ml/Hl
<b>OROSYL</b> Powder gelatin	Must and wine clarification	3-15 g/Hl
<b>OROGEL</b> instant solubility powder gelatin	Must and wine clarification	3-15 g/Hl
<b>GEL FISH ITTIOCOLLA</b> fish gelatin	Must and wine clarification	2-10 g/Hl

VEGETABLES GELATINS	USE	DOSAGE
<b>FITOGEL PURE PS</b> Vegetal extract from green pea	Must and wine clarification	3-20 g/Hl must 1-10 g/Hl wine
<b>FITOGEL PURE TP</b> Vegetal extract from potato	Must and wine clarification	5-25 g/Hl

SILICA	USE	DOSAGE
<b>KEMISOL</b> Silica sol 30%	Must and wine clarification	20-80 ml/Hl
<b>TECNOSIL</b> Technical silicon dioxide	Must and wine clarification	10-30 ml/Hl
<b>BIOSIL</b> Pure silica with high absorbent power	Must and wine clarification	5-30 g/Hl

CASEINATE	USE	DOSAGE
<b>CASEOKAP</b> Potassic casein	Must and wine clarification	30-100 g/Hl
<b>LACTOSIL</b> Pure potassium caseinate high solubility	Must and wine clarification	30-100 g/Hl

COMPLEX CLARIFIERS	USE	DOSAGE
<b>LAMPOGEL</b> Complex clarifying with rapid brightening action	Clarifying of white and rosé wine	40-150 g/Hl
<b>SELECT C</b> Super clarifying and stabilizing PVPP based for white wine and must	Clarifying for white wine	20-80 g/Hl
<b>SELECT ROUGE</b> Super clarifying and stabilizing PVPP based for red wine	Complex clarifying for white wine	20-60 g/Hl
<b>OVIOKLAR</b> Dried albumen	Clarifying for red wine	2-10 g/Hl
<b>POLIFLUX MB</b> clarifying and stabilizing for white must	Specific clarifying for the white must	50-100 g/Hl
<b>GELSHINE</b> Clarifying - Brightener	Clarifying with alginate and montmorillonite	3-10 g/Hl in tirage

## STABILIZERS

*The market demands wines without faults. The proper use of stabilizers ensures the production of wines that maintain their original characteristics. CRCBIOTEK offers a full range of suitable stabilizers to prevent clouding*

	USE	DOSAGE
<b>METATARTARIC ACID</b> Tartaric acid a high grade of esterification +40	Tartaric stabilization	10 g/Hl MAX
<b>ARABICUM D</b> Arabic gum Dextrogire	Protective colloide	20-200 ml/Hl
<b>ARABICUM L</b> Arabic gum Levogire	Protective colloide	20-200 ml/Hl
<b>ARABICUM SPRAY</b> Powder arabic gum	Protective colloide	10-60 g/Hl
<b>ARB SUPRA S</b> Arabic gum	Protective colloide	30-200 g/Hl
<b>KRIOGEN</b> Super crystallizing for the precipitation of tartrates	Tartaric stabilization	10-20 g/Hl
<b>K-GEN</b> Rapid crystallizing for the precipitation of tartrates	Tartaric stabilization	10-30 g/Hl
<b>CRISTAL K</b> Crystallizing for the precipitation of tartrates	Tartaric stabilization	10-30 g/Hl
<b>R5</b> Stabilizing, antioxydant	Chemical-physical and micro stabilization	10-25 g/Hl
<b>KITOSAN</b>	Prepared to combat Brettanomyces Yeast	10-25 g/Hl

## RAW MATERIALS

	USE	DOSAGE
<b>CITRIC ACID FU</b>	Acidifying	
<b>TARTARIC ACID</b>	Acidifying	
<b>BIANCO NEUTROL</b>	De-acidifying	
<b>POTASSIUM BICARBONATE</b>	De-acidifying	
<b>POTASSIUM FERROCYANIDE</b>	Clarifying - stabilizer	
<b>SORBAT 27</b>	Potassium sorbate - antifermentation	
<b>POTASSIUM METABISULFITE</b>	Antioxidant – antiseptic – antifermentation	
<b>VITAMIN C</b>	ascorbic Acid - antioxidant	
<b>ENOCARB SD 100</b>	Destaining coal	20-100 g/Hl
<b>POLIKEM</b> PVPP	It reduces the poliphenolic substances of the white and red wine	2-40 g/Hl

## FILTRATION ADJUVANTS

DIATOMACEOUS EARTH	USE
<b>FILTER D-CV/S</b>	Narrow diatomaceous earth
<b>FILTER D-CV/M</b>	Medium diatomaceous earth
<b>FILTER D-CV/L</b>	Wide diatomaceous earth
<b>FILTER D-CV/LL</b>	Very wide diatomaceous earth

PRECOAT	USE
<b>PREFILTER 100 M</b>	Precoat – medium speed
<b>PREFILTER 10 L</b>	Precoat – high speed
<b>POLIFUX</b>	Precoat – with pvpp

# DETERGENTS AND SANITIZERS

CRCBIOTEK provides a wide range of **Detergents and Sanitizers** to:

- Improve the machinery's performance
- Detartarize tanks, barrels and barriques
- regenerate filters and cartridges
- clean bottles
- clean, sanitize machinery
- sanitize cellar

ACID DETERGENTS	USE	DILUTION %
DESAL - DESAL SPECIAL	Descaler limescale	5-15

ALKALINE DETERGENTS	USE	DILUTION%
ADISOD – ADISOD LIQUID	Additive (powder and liquid) for caustic soda	0,5-1
DETERFUL	Detergent clearer	15-15
DETERSANA BOTTI	Detergent for barrels	15-15
DIVOR LIQUID	Alcaline descaler	5-10
DIVOR SPECIAL	Alcaline descaler	2-10
DRYNET	Industrial detergent for bottle washing machine	1-10

FOAMING DETERGENTS	USE	DILUTION %
HYDROFOAM A1	Acid foam detergent	1-5
HYDROFOAM B12	Alcaline foam detergent	1-5
HYDROFOAM N7	Foam detergent	1-5
HYDROFOAM DS	Sanitizer foam detergent	1-5

LUBRIFICANT	USE	DILUTION %
DRYLUBE - LUBRIFIL	Lubrificant for conveyor belts	1-5
OROVEL	Lubrificant for production machinery	10-30

DISINFECTANT SANITIZERS	USE	DILUTION %
BACTIN D	Deo-sanitizer sterilizer	1-3
BACTIN PLUS	Deo-sanitizer high concentration	0,1-0,5
CLOSOSYL D	Sanitizer chlorine	1-5
DIVORSEPT D	Sanitizer	5-10
DIVORSEPT Q	Sanitizer with ammonium salts	0,2-1
DRYSAN D	Detergent sanitizer	3-10
SANIFILTER	Detergent-sanitizer for filter	2-5
STERIL BOTTI	Detergent-sanitizer for barrels	10-15
TERGIL D	Detergent-sanitizer for production machinery	3-8

**YGIENE = QUALITY**



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