A UNIVERSE OF NUTRIENTS FOR YOUR WINE

CHOOSE AEB AND DISCOVER
THE COMPLETE NUTRITION PROPOSAL

AEB®

YEAST NUTRITION

Oenological yeast nutrition plays a key role in wine processing; its value is **comparable to the value of the yeast itself.** Until recently, nutrients were called **activators**, as they were essentially considered "boosters" for alcoholic fermentation.

Today, thanks to continued research and the advent of targeted yeast lysis, it is possible to obtain compounds that, **in addition to assisting the smooth course of AF, allow the bouquet to expand**, act as antioxidants and give volume to the wine.

One of the latest frontiers in nutrition are **specific nutrients** for rehydration that play a key role in cell growth from the earliest stages, making the yeast more resistant to fermentation stresses and allowing it to better express its organoleptic profile.

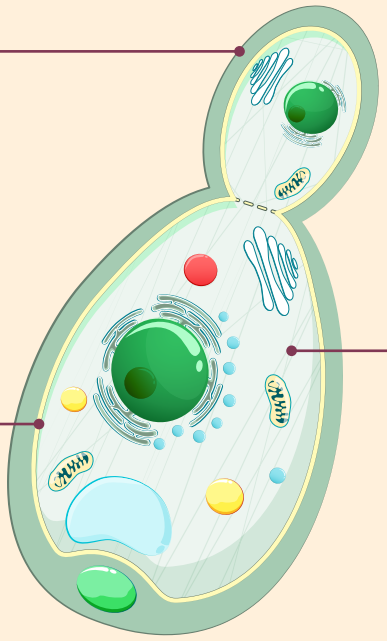
THE COMPONENTS OF THE YEAST CELL

CELL WALL

- Mannoproteins
  35-40%
- Polysaccharides, β-glucans
  50-55%
- α-glucans, chitin, proteins and lipids
  15-5%

CELL MEMBRANE

- Proteins
  25-15%
- Lipids (fatty acids)
  75-85%



CYPOPLASMA

- Amino acids
  75-90%
- Peptides-nucleic acids
  25-10%

THE 3 TYPES OF NUTRIENTS

ORGANIC NUTRIENTS

Originated from yeast cells

- **Yeast skins/cell walls:** yeast derivatives with high adsorptive power towards various unwanted compounds such as medium-chain fatty acids and heavy metals.
- **Inactivated yeast:** a substance rich in amino acids and time-release mannoproteins. It is also used in aging to impart body, flavor and roundness to wine.
- **Autolyzed yeast:** an amino acid-rich substance obtained by lysis of yeast by endogenous enzymes. Autolyzed yeast is used as an organic nutrient by yeasts, both for cell multiplication and for secondary flavor production. It also contains yeast hulls that exert an adsorptive action.
- **Yeast lysate:** an amino acid-rich substance obtained by total lysis of the essential parts of the yeast cell. It is used by yeast as a nutrient, both for cell multiplication and for the production of secondary flavors; compared with autolysate it has a higher amino acid value.
- **Yeast derivatives rich in GSH (glutathione) and/or trace elements:** GSH is a tripeptide capable of protecting yeast from oxidation; it also preserves color and aromas in wine. Microelements are capable of catalyzing sugar transport by improving fermentation performance and reducing stresses to the yeast at this stage.

INORGANIC NUTRIENTS

Derived from inorganic salts of sulfates and phosphates

- **Diammonium phosphate and ammonium sulfate:** are capable of supplying large amounts of YAN (Readily Assimilable Nitrogen). They are characterized by ease of dissolution and rapid assimilation by yeast.

VITAMIN B1

Also commonly known as **Thiamine**, it is a key vitamin in the yeast multiplication process. It promotes the increase in biomass, as well as increasing the resistance and speed of yeast multiplication.

The AEB nutrient line is a complete line that allows any winery's nutrition needs to be met. It consists of both blends designed to promote the proper course of alcoholic fermentation and blends that allow the best expression of the organoleptic qualities originated by the interaction between yeast and the must itself.

AEB, A COMPLETE RANGE FOR NUTRITION

ORGANIC NUTRIENTS

FERMOPLUS Alfa

HIGH BIOAVAILABILITY NUTRIENT

Based on hulls preparations and yeast protein extracts rich in vitamins and amino acids.

- Improves fermentation kinetics.
- Allows reduction of hydrogen sulfide production during fermentation due to progressive assimilation by yeast.
- Optimizes yeast flavor profile due to ester and acetate production.
- Improves fermentation of musts that have YAN below 150 through the action of immediate assimilation amino acids such as arginine, isoleucine and leucine.

FERMOPLUS Ecorcell 2.0

DETOXIFYING NUTRIENT MADE FROM WINE-MAKING YEAST PEELS

Yeast hulls washed in an alkaline alcohol solution.

- High porosity and adsorptive power.
- Especially suitable for AF of wines with high alcohol content or in the absence of strict temperature control.
- Ideal for solving fermentation arrests or accelerating stunted fermentations.

FERMOPLUS Energy Glu 3.0

YEAST REHYDRATION NUTRIENT RICH IN HIGHLY ASSIMILABLE TRACE ELEMENTS AND GLUTATHIONE

Formula enriched with available amino acids, sterols and natural glutathione, rich in natural amino acids and vitamins.

- Greatly increases yeast activity, positively influencing its multiplication rate.
- It includes glutathione to reduce cell aging.
- It is ideal for resolving fermentation arrests or accelerating slowed fermentations.

FERMOPLUS Dap Free

NUTRIENT RICH IN AMINO ACIDS AND TRACE ELEMENTS

Based on preparations of yeast hulls and autolyzed yeasts obtained by primary fermentation of *Saccharomyces cerevisiae* strains.

- Improves fermentation kinetics due to its easily assimilated components.
- Reduces the risk of H_2S production during AF.
- Enhances the aromatic profile of wines due to the presence of alpha-amine nitrogen sources (production of esters and acetates of higher alcohols according to the pathway described by Erlich).
- Allows the development of wines with citrusy, floral and light herbal aromatic frameworks.
- Allows partial adsorption of C8, C10 and C12 medium-chain fatty acids in the final stages of fermentation.

FERMOPLUS H_2S Free 2.0

NUTRIENT BASED ON YEAST DERIVATIVES WITH HIGH CONCENTRATION OF NATURAL AMINO ACIDS

Yeast hulls rich in natural amino acids.

- Helps reduce the formation of sulfur compounds and prevents their reappearance in the short term (constant tastings allow detection of H_2S, a sign of yeast distress/stress).
- Promotes fermentation resumption and biomass multiplication, contributing to the elimination of hydrogen sulfide in fermentation.

FERMOPLUS PyrOff

NUTRIENT INDICATED FOR THE REDUCTION OF METHOXYPIRAZINE LEVELS

Formula based on yeast hulls and yeast autolysates, with very high adsorptive power.

- Plays a key role against methoxypyrazines (MPs), odor compounds with a very low threshold of perception that impart unpleasant scents such as "grassy" and "green bell pepper" notes.
- Ideal use in non-phenolically ripe grapes in some varieties where MPs are often present (such as Cabernet Franc, Cabernet Sauvignon, Merlot, Pinot Noir, Sauvignon Blanc, Chardonnay, Riesling).

CELLOFERM

BIOREGULATOR OF FERMENTATIONS WITH ADSORPTIVE EFFECT

Based on special celluloses.

- Maintains fermentation and refermentation activity by exerting high adsorptive power against pesticides and yeast secondary metabolites (medium-long chain fatty acids).
- It has a support function for yeasts by promoting their dispersion in the mass; thus, it assists the fermentation process.

FERMOPLUS Liquid

LIQUID ORGANIC NUTRIENT

Based on yeast preparations and autolyzed yeast, rich in amino acids and trace elements.

- Due to glutamic acid, which results as the nitrogen source assimilated in the early fermentative stages, it increases cell viability.
- It improves the transport of nitrogenous compounds within the cell through the presence of alanine.
- The presence of leucine/isoleucine promotes the synthesis of alcohols and amyl esters and thus contributes to an enhanced flavor profile.
- Its liquid form (30-35% "aqueous" solution) makes it easy to use.

AUXILIA

IDEAL NUTRIENT FOR WINES, PARTICULARLY CLEAR MUSTS AND BASE WINES FOR CARBONATION

100% organic yeast peels.

- Improves the final stages of fermentation.
- Decreases stress on ADY, resulting in decreased volatile acidity production.
- It improves the fermentability of sparkling wine bases due to the absorption of its inhibitors.
- It is taste neutral.

Certified organic and NOP product

AXULIA Arome

FERMENTATION ACTIVATOR FOR MUSTS AND BASE WINES FOR CARBONATION

Autolysate and 100% organic yeast hulls.

- Decreases stress on ADY, resulting in decreased volatile acidity production.
- It improves the fermentability of sparkling wine bases due to the absorption of its inhibitors.
- It is taste neutral.
- It improves the flavor profile of wines.

Certified organic and NOP product

FERMOPLUS Non-*Sacch*

SPECIFIC ORGANIC NUTRIENT FOR NON-*SACCHAROMYCES* YEASTS

Selected for strains *Metschnikowia pulcherrima*, *Torulaspora delbruecki* and *Lachancea thermotolerans*.

- It is capable of conducting AF with non-*Sacch* strains up to high alcoholic strengths.
- It fully integrates into the co-inoculation technique, where non-*Sacch* strains followed by *Saccharomyces* are used.
- It improves fermentation kinetics due to its easily assimilated components, allowing YAN to be preserved even for *Saccharomyces cerevisiae* inoculation steps.

FERMOPLUS Bravo PS-Free

SULFATE- AND PHOSPHATE-FREE NUTRIENT FOR ALCOHOLIC FERMENTATIONS

Based on yeast derivatives.

- Promotes complete AF even of musts that are not particularly rich in YAN.
- Ideal for large volume fermentations.
- Has a nourishing and detoxifying action on fermenting wort.

COMPLEX NUTRIENTS

FERMOPLUS Malolactique 2.0

NUTRIENT FOR MALOLACTIC FERMENTATION

Represents the specific upgrade for malolactic fermentation.

- Improves the amino acid and vitamin content of wines by ensuring the development of selected lactic acid bacteria and the complete transformation of the malic acid present.
- Optimizes the post-implantation and hydration stages of *Oenococcus oeni* bacteria: specifically, thanks to its careful composition, it promotes their development and multiplication.
- The balanced composition helps the bacterial cell resist stresses and assists the enzyme cluster leading to malic acid degradation.

FERMOPLUS Blanc

COMPLETE BIOREGULATOR FOR THE VINIFICATION OF WHITE GRAPE MUSTS

Based on yeast hulls and autolysates, enriched with ellagic tannin and vitamin B1.

- Promotes the production of secondary aromas.
- Replenishes Yeast Assimilable Nitrogen (YAN) levels in clarified or floated white musts by facilitating the initiation and proper progress of alcoholic fermentation.
- Enables the development of brightly colored wines with fruity and floral aromatic notes.

FERMOPLUS Integrateur 20KD 2.0

EASILY ASSIMILATED NUTRIENT WITHOUT SULFAT

Based on hulls, autolysates, DAP and vitamin B1.

- Allows for a more regular fermentation pattern and better sugar depletion.
- Especially suitable for supplementing nutritional deficiencies.
- Ideal use in fermentations where there are considerable temperature variations.
- Allows the production of wines with cleaner and more intense aromas.

FERMOPLUS Blanc Varietal

NUTRIENT FOR THE PRODUCTION OF AROMATIC WHITE WINES

Based on yeast hulls and autolysates, enriched with ellagic tannin and vitamin B1.

- Specific for the fermentation of musts obtained from aromatic varieties.
- Ideal in wines in which the freshness and intensity of floral and fruity notes are sought to be enhanced by resorting to AF at low temperatures (greater release of aromas present in the must).
- It is able to regulate redox potential due to the presence of ellagic tannin; prevents reductions and contributes to better flavor, structure and persistence.

FERMOPLUS Presto Start+

NUTRIENT FOR THE INITIAL STAGES OF FERMENTATION

Nutrient and trace element supplement for grape musts.

- Its amino acid and trace element composition promotes yeast multiplication and rapid development.
- It nourishes cells through rapid assimilation and provides resistance to initial stresses by allowing regular fermentations to take place.

FERMOPLUS Premier Cru

NUTRIENT FOR VINIFICATION OF RED WINES FOR AGING

Yeast peels and autolysates, with added vitamin B1 and ellagitannins.

- It assists yeast in the fermentation of structured, extract- and tannin-rich red wines.
- It provides high concentrations of sterols and promotes sugar depletion, preventing increases in volatile acidity.
- Through the action of ellagic tannins, it reduces the formation of olfactory defects.

FERMOPLUS Omega 3

FUNCTIONAL NUTRIENT FOR YEAST

Formula enriched with available amino acids, sterols, glutathione and natural vitamins.

- Prevents cell aging due to its special composition with functional compounds from yeast hulls and Omega 3 contributed by ichthyoproteins.
- It prevents the transport of ethanol to the outside of the cell from slowing down; this is a metabolic advantage and is especially important as the alcohol level increases, which induces stress in yeasts.
- Allows fermentation success even in very critical oenological situations.

INORGANIC NUTRIENTS
Minerals

ENOVIT

YEAST GROWTH ACTIVATOR IN THE FERMENTATION PHASE

Based on ammonium sulfate and phosphate, enriched with vitamin B1.

- Regulates and activates fermentations and refermentations of musts and wines by activation and stimulation of yeast multiplication.
- Prolongs yeast viability, promoting completion of fermentation.
- Due to the presence of thiamine, it strongly contributes to yeast growth.
- It is ideal when used in the early stages of fermentation to increase YAN levels.

FERMOPLUS Starter

NUTRIENT FOR THE INITIAL STAGES OF FERMENTATION

Ammonium salts, cellulose and thiamine hydrochloride.

- It simultaneously promotes yeast multiplication and development to prevent excessive growth of poorly resistant cells.
- Due to the presence of specially formulated ammonium salts, it ensures immediate availability of Yeast Assimilable Nitrogen (YAN) useful to start the process quickly.
- It has an ideal ratio of vitamin B1 to DAP.

ENOVIT Perlage

SULFATE-FREE YEAST GROWTH ACTIVATOR

Blend of diammonium phosphate and vitamin B1.

- Regulates and activates fermentations and refermentations of musts and wines by stimulating yeast multiplication.
- It is ideal for yeast growth in traditional method refermentations.
- Due to the presence of thiamine, it is ideal for yeast growth.
- It prevents the increase of sulfates in wines due to the presence of DAP.
- It is ideal when used in the early stages of fermentation to increase YAN levels.

FERMOCEL

REGULATOR OF ALCOHOLIC FERMENTATIONS

Special cellulose with mineral elements and vitamins.

- Regulates fermentations in musts and wines.
- It supports the yeast microflora and adsorbs metabolites that hinder fermentation progress.
- Thiamine in the compound is an indispensable factor for yeast growth and consistent alcoholic fermentations.

FERMOCEL P

REGULATOR OF ALCOHOLIC FERMENTATIONS

Cellulose and diammonium phosphate, with vitamin B1.

- Carries out biochemical activity to stimulate yeast growth.
- It exerts a supporting and dispersing action on the yeast mass.
- Ensures smooth course of fermentation by selective physical adsorption of medium-chain fatty acids yielded by yeasts.
- Due to the presence of specific adsorbent celluloses it ensures better fermentation conditions, which in turn produces wines with lower volatile acidity.

AEB®

AEB NUTRIENT COMPARISON TABLE

Nutrient	Activates alcoholic fermentation	Adsorbs substances that inhibit fermentation	Promotes the production of fermentation flavors	Gives volume to the wine	Helps to terminate fermentation	Exerts antioxidant action	Reduces H_2S
AUXILIA		●●●●			●●		
AXULIA Arome	●●●	●	●●●●	●●	●●	●	●●●
CELLOFERM		●●●●	●	●	●●●		●
ENOVIT	●●●	●	●		●		●
ENOVIT Perlage	●●●	●	●		●		●
FERMOCEL	●●●	●●●●	●		●		●
FERMOCEL P	●●●	●●●●	●		●		●
FERMOPLUS Alfa	●●●●	●●	●●	●●●	●●		●●
FERMOPLUS Blanc	●●	●●	●●	●●	●	●	●
FERMOPLUS Blanc Varietal	●●	●●	●●●	●●	●	●	●
FERMOPLUS Bravo PS-Free	●●	●●	●●	●●	●●		●
FERMOPLUS Dap Free	●●●	●●	●●	●●	●●●		●●
FERMOPLUS Ecorcell 2.0		●●●●			●●		
FERMOPLUS H_2S Free 2.0	●●	●●●	●	●●	●●●	●	●●●●
FERMOPLUS Integrateur 20KD 2.0	●●	●●●	●●	●●	●●	●	●●
FERMOPLUS Liquid	●●●●	●●	●●	●●●	●●		●●
FERMOPLUS Non-*Sacch*	●●●●	●●●	●●	●	●●	●	●●
FERMOPLUS Omega 3	●●●	●●	●●	●●	●●●●	●	●●
FERMOPLUS Premier Cru	●●	●●●	●●	●●	●	●	●
FERMOPLUS Presto Start+	●●●●	●	●	●	●●	●	●●
FERMOPLUS Starter	●●●	●	●				

● Low ●● Medium ●●● Medium-high ●●●● High

FERMOPLUS® is a registered trademark of AEB.

The following products, having a specific and very special action, are not in the table:
- **FERMOPLUS Energy Glu 3.0** is used for perfect rehydration and reactivation of yeast;
- **FERMOPLUS PyrOff** is specific for absorbing methoxypyrazines and aromatic compounds of this family;
- **FERMOPLUS Malolactique 2.0** acts in malolactic fermentation *(Oenococcus Oeni)*.

DISCOVER ALL AEB NUTRIENTS

A GOOD NUTRITION BENEFITS YOU

The use of nutrients in winemaking allows for better management of alcoholic fermentation, optimizing the use of frigories(I'm not sure what that means) and minimizing fermentation stalls.
A well-nourished yeast:

Fully expresses all its genetic uniqueness
Processed wines reflect the winery's desired winemaking quality and objective to best satisfy consumer tastes and preferences.

Promotes a rapid fermentation
AF is a key moment in the production process where there is a high use of temperature control. Reducing the time and optimizing this stage gives rise to important energy savings.

CERTIFIED QUALITY

CERTIFIED MANAGEMENT SYSTEMS
CQY CERTIQUALITY
UNI EN ISO **9001:2015**
UNI EN ISO **14001:2015**
UNI ISO **45001:2018**
UNI EN ISO **22000:2018**

GMO FREE ALLERGEN FREE

AEB nutrients are naturally free of genetically modified organisms and allergens.

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