



# HISTORY OF A BALANCED WINE



[martinvialatte.com](http://martinvialatte.com)

TECHNICAL BOOKLET



## Working on the balance of wines, and regulating the contrast between roundness and freshness

The ageing of a wine is as important a stage as the pre-fermentation and fermentation stages when it is being developed. This is when the mechanisms that stabilise and enhance the qualities sought in the previous stages are played out. The search for the **organoleptic balance** defined by the chosen profile can be expressed as the contrast between a wine's freshness and its roundness. Different levers can be used to adjust this contrast and achieve the desired goal – to obtain a more vibrant wine, or one with more fat.

# Roundness

The perception of fat, volume or roundness originates from a complex set of molecules that are included in the physico-chemical composition of the wine. It is an **essential element of gustatory balance**, and in fact wines without enough fat are often described as watery and diluted. Conversely, wines are described as heavy if they are not balanced by their acidity. However, there are many ways to compensate for this potential imbalance.

Polysaccharides are macromolecules which, due to their strong reactivity with other wine compounds (aroma compounds, **polyphenols**), **contribute** to the **sensations of roundness and volume**. In effect, by limiting the reactivity of polyphenols with salivary proteins, they enable you to reduce the perception of astringency.

Polysaccharides are **naturally present in wine** because they are constituent elements of the cell walls of grape berries and of microorganisms. Polysaccharides are released by microorganisms during vinification.

They can also **be of exogenous origin**, i.e. from winemaking aids like **yeast derivatives** (such as mannoproteins) and **gum arabic**. Wood compounds and their **derivatives** can also be used to make up for imbalances in the wine.





## MARTIN VIALATTE® SOLUTIONS

MARTIN VIALATTE® was inspired by nature and has developed a range of yeast products specifically formulated to respond to the problems encountered during the various key stages of winemaking, and to handle the various constraints of the vintages.

### ROUNDNESS and PRESERVATION of colour



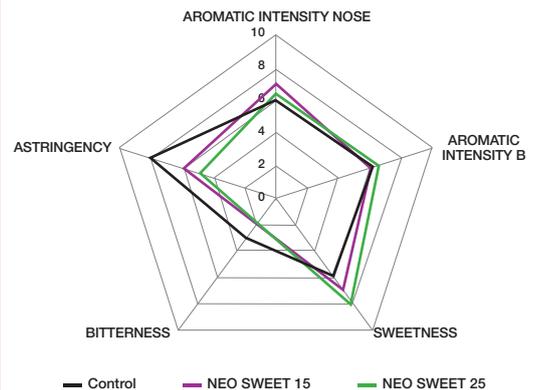
END OF ALCOHOLIC FERMENTATION

PRE-BOTTLING

#### NEO® SWEET

A yeast product rich in parietal polysaccharides, to develop volume and suppleness and protect the colour of red wines. Due to its high reactivity with polyphenols, NEO® SWEET contributes to the coating of tannins and helps to significantly reduce astringency.

#### SENSORY ANALYSIS CHARDONNAY WHITE WINE



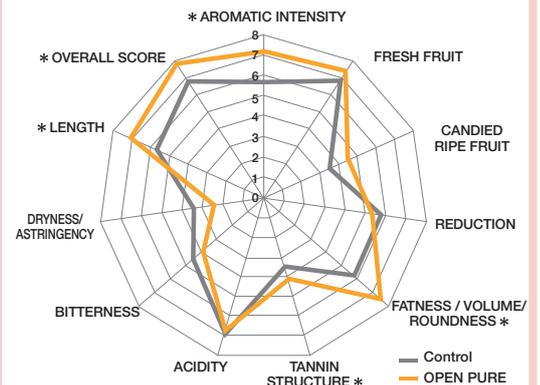
### ROUNDNESS and CORRECTION of astringency



#### OPEN® PURE

Purified mannoproteins from specific yeasts. OPEN PURE® reduces the astringency of tannins and reinforces the volume in the mouth as well as the fruity and floral character of wines. Its protective colloid effect limits tartaric and protein precipitation.

#### SENSORY ANALYSIS CHARDONNAY WHITE WINE



\* significant difference with analysis of variance

# Yeast derivatives



## Optimising the integration of alternative wood products

Technological ageing by adding wood chips can be optimised by means of the synergistic properties of yeast derivatives.

### NEO<sub>2</sub>XC

Association of polysaccharides for technological ageing by adding wood chips.

- Protects the wine from involuntary oxygen intake,
- Promotes the protection and revelation of fruity aromatic profiles,
- Improves the integration of the wood,
- Increases the wine's volume in the mouth.



### DYNAMIC INFUSER

Created to improve the extraction of alternative products during wine ageing.

- Optimal diffusion of wood compounds,
- Automated stirring, pumping over and extraction cycles,
- Controlled contact times,
- Managed oxygenation (micro and macro),
- Obtains the target organoleptic profile.

## Test results

### THE CELLAR'S GOAL

To control the making of a red wine (Merlot 2015, IGP D'OC, Languedoc-Roussillon, France) with alternative wood products and the use of micro-oxygenation.

**Equipment:** Dynamic Infuser.

**Type of toast for the test:** VIAOAK® WHITE CHOCOLATE (heavy toast).

**Dosage:** 5 g/L of VIAOAK® WHITE CHOCOLATE + Addition of 20 g/hL NEO<sub>2</sub>XC

After 14 days, the results of aroma analyses correlated daily tastings demonstrate the following:

- Steady evolution of the extraction of aroma compounds until a plateau is reached (Figure 1).
- Correlation of the results with monitoring of the tasting over the 14 days of treatment (Figure 2). The winery gains almost 20 to 30 days of infusion time.

The addition of NEO<sub>2</sub>XC while ageing with the dynamic infuser adds volume, increases the perception of fruity notes, and reduces dryness

Figure 1

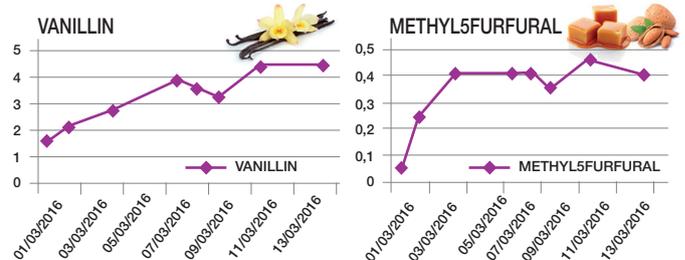
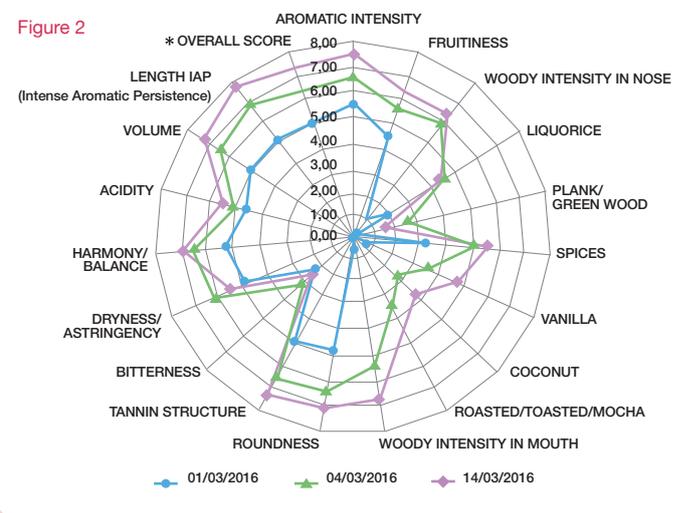


Figure 2



# Gum Arabic

Gum arabic is a natural gum extracted from acacia trees. It is mainly used as a stabiliser to prevent copper and iron casse and the precipitation of colouring matter or tartar microcrystals. It is a plant polysaccharide that adds roundness and eliminates astringency.

## GOMIXEL

Specific gum arabic 100% acacia Seyal. Recommended for white and pale rosé wines.

- Develops roundness in the mouth,
- Contributes to the colloidal stability of wines,
- Can be added before or after filtration, before bottling.



## DUOGOM MAX

Specially designed association of acacia Verek and acacia Seyal gums.

Recommended for red and rosé wines of intense colour.

- Stabilisation of the wine's colour,
- Develops roundness in the mouth,
- Best used after final filtration. However, it can be used before within a maximum of 2 hours.

## Some recommendations for the implementation of gum arabic MARTIN VIALATTE®:

- Add the gum retained exclusively **on clear wine (< 5 NTU), after fining and roughing filtration.**
- Incorporate the retained gum preferably **after the final pre-bottling filtration** using a dosing pump controlled by the filtering machine.
- If the retained gum is used **prior to filtration**, add it **within two hours** of filtration to minimise the risk of decreasing filterability performance.
- Only **Gomixel** can be added earlier without any time constraint as it does not **affect the filtration.**

# Freshness



Freshness is one of the dimensions around which the balance of the wine is built. Martin Vialatte® has developed a range of tools to increase it during the winemaking process.



END OF  
ALCOHOLIC  
FERMENTATION

## Freshness and preservation of colour

### NEO® CRISPY

A yeast product rich in amino acids and reducing peptides. NEO® CRISPY is a highly effective tool for protecting the aroma compounds and the colour of wines, especially whites and rosés. It is used from the beginning of the winemaking process to prevent must oxidation.

## Protection and structure

### SUBLIWHITE®

SUBLIWHITE® is a combination of gallic and condensed tannins. Its strong antioxidant power preserves the colour and fresh aromas of white wines while adding roundness and structure. SUBLIWHITE® is used after alcoholic fermentation. It can also be used to optimise clarification.

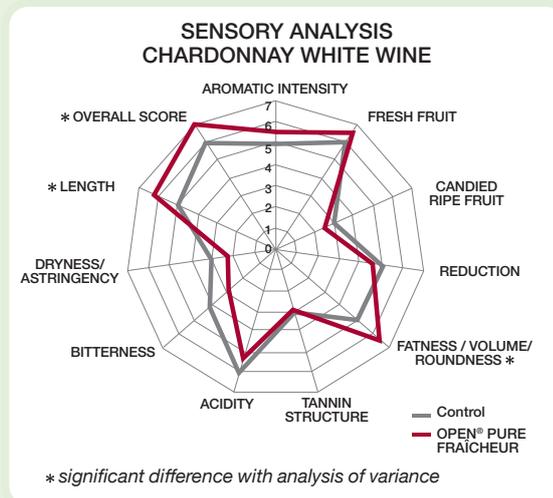


BEFORE  
BOTTLING

## Roundness and freshness

### OPEN® PURE FRAÎCHEUR

A yeast product rich in parietal polysaccharides from specific yeasts and plant polysaccharides (E414). OPEN® PURE FRAÎCHEUR is used on young wines to add volume in the mouth while reinforcing the aromatic potential and the varietal character of the wine. It can also be used on wines that are sensitive to development, to add roundness and aromatic freshness.





## Meeting the needs of each wine between ROUNDNESS & FRESHNESS

PRODUCT	DOSE	WHEN TO ADD	TIME IT TAKES TO ACT	TYPE OF WINE*	COMMENTS	IMPACT ON ROUNDNESS	IMPACT ON FRESHNESS
NEO® CRISPY	20 g/hL	AF	Almost immediate	White, rosé	Oxidation-sensitive wines, late bottling		
NEO® SWEET	20-25 g/hL	Post-AF or FML	2-4 weeks	Red	Maturing on lees type		
SUBLIWHITE®	5-15 g/hL	AF and Post-AF	1-2 weeks	White, rosé	Preserves the yellow-green component of the color, maintains the freshness of the aromas. Beware of protein stability, may react with unstable proteins in wine		
OPEN® PURE FRESHNESS	About 5 g/hL	Pre-set	Almost immediate	All colours	Roundness without losing freshness - mostly white and rosé		
NEO®2 XC	20-40 g/hL	With an injection in the infuser	Depends on the programme (3 months maximum)	Red	Special infuser product		Depends on the type of wood used
OPEN® PURE	1-3 g/hL	Pre-set	Almost immediate	All colours	Completely soluble		
GOMIXEL	30 g/hL	Pre-set	Almost immediate	White, rosé	Non-clogging, mouth coating perception		
DUOGOM MAX	50 g/hL			Rosé, red			

\* Recommendations. May work on colours not described.





## Biological deacidification

A technique used during ageing to reduce the acidity of musts or wines when it is too high. For example, if the grapes are not ripe enough, **deacidification helps re-establish the gustatory balance and promote the perception of roundness.** **Chemical deacidification** using salts (potassium bicarbonate, calcium carbonate and potassium tartrate) is an effective technique for reducing acidity when it is too high, but it must be followed by a stabilisation stage to eliminate insoluble salt deposits.

**Malolactic fermentation**, if it is carried out, naturally lowers the acidity. This phenomenon leads to biological deacidification, since the lactic acid resulting from this transformation is not as strong as malic acid. The perception of acidity will therefore be lower. It also has the major advantage of **microbiologically stabilising the must and positively influencing the organoleptic quality** of wine, particularly red wines. The choice of a selected bacterial strain and the use of co-inoculation or early inoculation makes it possible to control this stage.



### REFLEX MALO 360

*Oenococcus oeni* selected for malolactic fermentation of **red and white wines** under any conditions.



### REFLEX MALO HD

*Oenococcus oeni* selected for the inoculation of **red wines with high alcohol content**. It contributes positively to the aromatic profile of the wine by enhancing the fruity and intense notes.



### REFLEX MALO PH

*Oenococcus oeni* selected for the inoculation of **wines with low pH ( $\geq 3.0$ )**. It contributes positively to the aromatic profile of the wine by enhancing the fruity and floral notes.



**The acid-base balance** of wine plays an essential role in its gustatory harmony. Acidity is one of the five flavours used to describe the sensations perceived in the mouth. In oenology, there are two ways to express it: **total acidity (TA) and pH**. Total acidity, expressed in g/L of sulphuric acid ( $H_2SO_4$ ) corresponds to *the sum of titratable acidities when the wine is titrated to pH 7.0 against an alkaline solution\**, i.e. the sum of the acids in free form. Unlike pH, which enables the strength and nature of the acids present to be defined, TA only enables it to be quantified. Many acids can be found in wine. Some are naturally present in the grapes (tartaric acid, malic acid and citric acid), while others are produced during alcoholic or malolactic fermentation (acetic acid, lactic acid). The development of the acidity will depend on how concentrated they are.

There are **four main acids that affect the acid balance of wine**: tartaric acid, malic acid, lactic acid and citric acid. Their use is regulated according to each wine-growing region.

## Good to know

Acidity also impacts many other parameters, such as **microbiological stability, malolactic fermentation, sulphiting and colour.**



### Controlling the use of acids

\* Source : OIV

PRODUCTS	DOSE	WHEN TO ADD	TIME IT TAKES TO ACT	COMMENTS
<b>MALIC ACID</b>	0.5-2 g/L	Fined, filtered wine	1 to 2 weeks	The wine needs to find its balance, adds freshness
<b>LACTIC ACID</b>	0.5-2 g/L	Fined, filtered wine	1 to 2 weeks	The wine needs to regain its balance, adds tension but the addition is softer
<b>CITRIC ACID</b>	Do not exceed a final content of 1 g/L in the wine after treatment	Before bottling	Almost immediate	With or without ascorbic acid depending on the degree of freshness desired*
<b>TARTARIC ACID</b>	1.5 g/hL, not to be exceeded	To must during AF	Almost immediate	Botrytised/altered grapes. In case of lactic spoilage. When TA is very low and pH is high, to prevent the development of undesirable flora

\* Tart, lemony perception

Before using these, refer to the current regulations within the region concerned. Prior testing enables you to find the optimum dose that has the best impact on the perception of acidity in the wine.





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