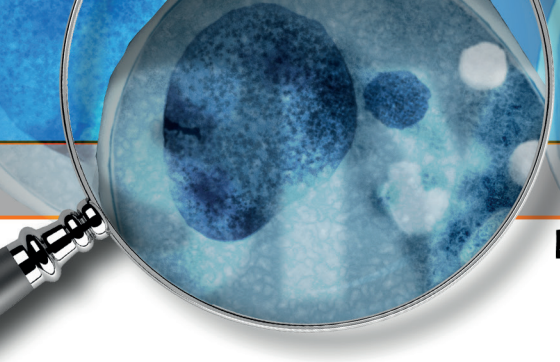

S.I.Y.® under investigation

NEWS AND INNOVATIONS ON SPECIFIC INACTIVATED YEAST

Nº1 INNOVATIVE *OPTIMUM-RED*™ FOR WINE - A NEW YEAST AUTOLYSATE

Recent research that focused on the interactions between yeast polysaccharides and wine polyphenols was conducted at the INRA Montpellier. It showed that yeast mannoproteins form stable soluble complexes with wine polyphenols that can help improve red wine mouthfeel and color.

A specific yeast autolysate was developped which is the result of the original combination of a unique wine yeast and a specific inactivation process (MEX) that leads to an optimal mannoprotein solubilization. The addition of this specific autolysate OPTIMUM RED™ at the beginning of fermentation form stable complex with tannins and pigments early on improving color and mouthfeel of red wine.

MECHANISM OF ACTION

Our studies have demonstrated the role of the macromolecules of OPTIMUM RED™ specifically on colour stability and astringency. The soluble fraction of OPTIMUM RED™ is rich in polysaccharides and it has been demonstrated that the active part, the most eager to interact with polyphenols, is composed of high molecular weight mannoproteins. The formation of stable soluble complexes explains the higher stability of pigments and the lower interaction of the tannins with salivary proteins, thus inducing a lower perception of astringency.

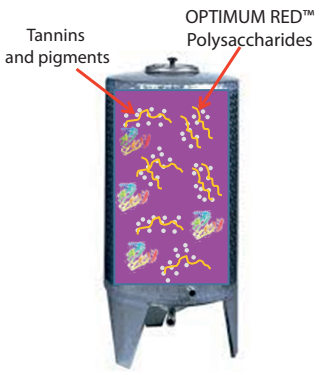

Figure 1. Internactions between the polysaccharides and polyphenols.

IMPACT ON SENSORY PERCEPTION: WINE MOUTHFEEL AND TEXTURE

The use of OPTIMUM RED™ has been shown to have an impact on astringency, mouthfeel, structure and fruit perception in red wine.

In terms of texture and mouthfeel, figure 2 illustrates well the impact of OPTIMUM RED™ on the sensory profile of the wine. The wines are more opulent while still maintaining freshness to avoid weighing down the sensation. OPTIMUM RED™ was also compared to oak chips and the results (Figure 3) in Cabernet Sauvignon/ Merlot blend from Bordeaux show that the wine rated higher in terms of aromatic intensity, length, tannic quality, balance and volume, whereas less bitterness and acidity were perceived.

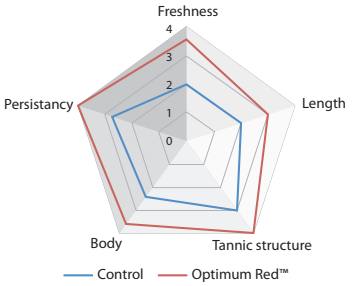

Figure 2. Comparative trial – Cabernet Sauvignon (Paso Robles, California 2016) – Control vs OPTIMUM RED™ added at beginning of alcoholic fermentation @ 30 g/hL

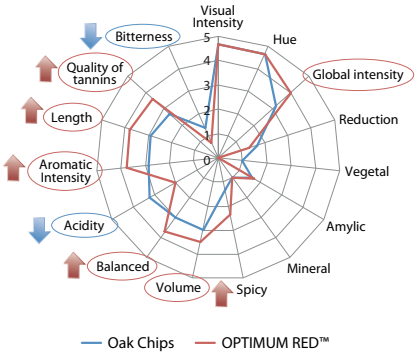

Figure 3. Comparative trial - Cabernet-Sauvignon/Merlot (Bordeaux 2016) - Chips (fresh oak) vs OPTIMUM RED™ @ 30 g/hL, both added at the beginning of alcoholic fermentation.

IMPACT ON COLOR

In numerous trials, the addition of the specific autolysate OPTIMUM RED™ at the beginning of fermentation was observed to have a positive effect on wine colour. An example is shown in Figure 4, which shows the colour (parameter L) measured in Pinot Noir wines from trials conducted in Burgundy (2017). The wine from the fermentation using OPTIMUM RED™ had a darker colour than the control wine at the end of AF and the difference remained till the bottling stage. It is also noticeable that the impact on color was comparable (slightly greater) to the addition of enological tannins usually added for that purpose.

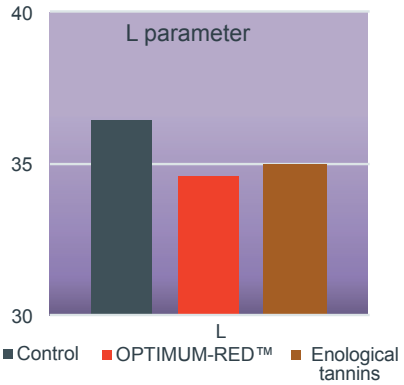

Figure 4. Pinot Noir, Burgundy, 2017, comparative trial : L Analysis (L, a, b) at the bottling stage. Δ E for this trial in between the control wine and the OPTIMUM RED™ wine is of 2.5, meaning the difference in color is visible by the human eye

THE UNIQUE PROPERTIES OF THE WINE YEAST COMBINED WITH THE EFFECT OF THE MEX PROCESS RESULTS IN THE HIGH AVAILABILITY OF SPECIFIC MANNOPROTEINS FROM OPTIMUM RED™