Inspiring innovation.

ENARTIS NEWS
WINE REFINEMENT

USING TANNINS AND POLYSACCHARIDES

Preserving the characteristics of a wine throughout its life is important and due attention must be paid. Once produced, wine can be stored for a short period of time, stabilized, and bottled or undergo ageing. Today, consumers demand ever higher quality wines. Regardless of the wine's destination, preparation prior to bottling is crucial, as it will determine the future quality of the wine in the bottle.

The use of selected tannins and polysaccharides is a reliable, natural option to preserve wine according to winemaking needs. Both can be useful to achieve antioxidant and microbial protection, off-flavor prevention, slow or accelarated ageing, improve sensory balance, and increase shelf life.

WHAT TO DO DEPENDING ON THE WINE'S DESTINATION

Accelerate the ageing process while improving sensory balance

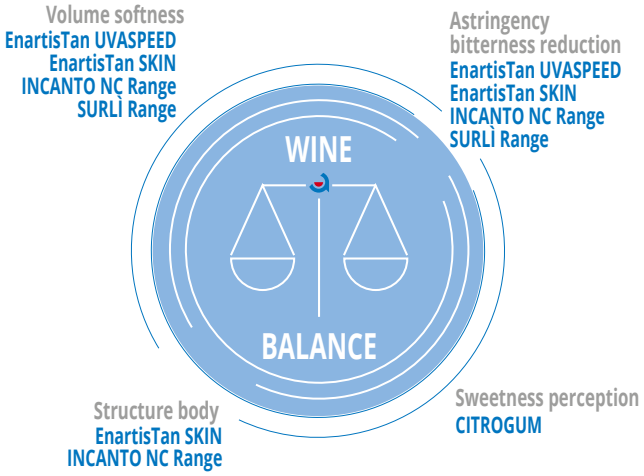
Market demand for fresh and easy-to-drink wines or the unplanned need to bottle wines which require longer ageing, results in earlier bottling. It is essential to improve their sensory balance before bottling, reducing the astringency and bitterness of the most reactive grape tannins, while providing volume and structure.

The correct use of **toasted oak tannins** obtains results similar to those of barrel ageing in a shorter period of time. Depending on the production process and toast level, oak tannins can enhance the characteristic aromas of oak (vanilla, caramel, spice, coffee, cocoa, etc.), providing greater aromatic complexity, structure, and smoothness to wine.

	SOFTNESS VOLUME	STRUCTURE BODY	SWEETNESS PERCEPTION	OAK AROMAS
EnartisTan NAPA	●			●
EnartisTan DC			●	●
EnartisTan TOF		●		
EnartisTan UNICO #1	●	●	●	●

The tannins in the table provide all the sensory descriptors above at varying levels.
more intensity effect.

The use of **grape skin tannins** and **specific formulations** can balance mouthfeel, build structure, improve wine length, and enhance aromas.



Products in the figure provide all the sensory descriptors above at varying levels, but those highlighted have a greater impact.

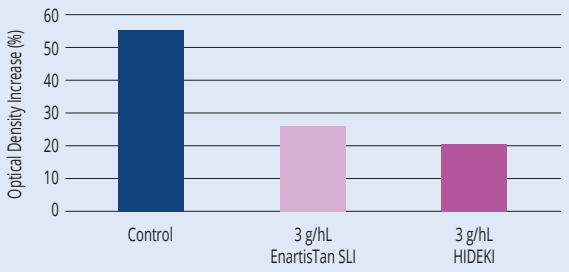
Extend wine shelf life

Long shelf life is essential when you want to maintain the same quality from the moment of bottling until the wine is consumed.

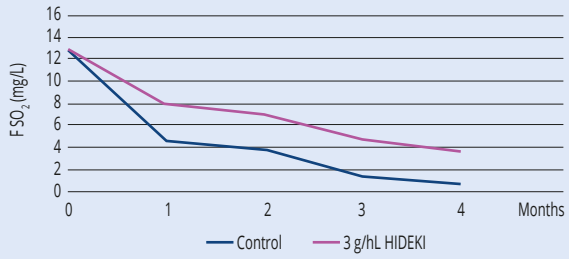
Preserving freshness and avoiding oxidation and off-flavors is key to maintaining the desired wine quality over time. Protecting wine from oxidation is essential to slow the ageing of aromas and color. This can be done using traditional techniques such as inert gases and SO_2, although there are other effective, natural, and allergen-free solutions such as tannins and inactivated yeast:

- **INCANTO NC CHERRY** and **SURLÌ ONE** to consume dissolved oxygen and maintain a low redox potential.

- **EnartisTan SLI** and **HIDEKI** to provide antioxidant protection and preserve a higher quantity of free SO_2 in the bottle for an extended period of time (*Graph 1, 2*), without impacting wine sensory qualities.



Graph 1. White wine with high catechin content and zero free SO_2 exposed to air for 3 days at room temperature.



Graph 2. Bottling simulation of white wine at pH 3.5 and treated with HIDEKI in 0.5 L bottles to observe the effect on free SO_2 over time.

Achieve total wine stabilization

Before bottling, total stability of the wine must be ensured to avoid defects in the bottle that can cause cloudiness, precipitation of crystals, loss of color, and so on.

Color Stability

Protein and Colloidal Stability

Oxidative Stability

Potassium Tartrate Stability

Calcium Tartrate Stability

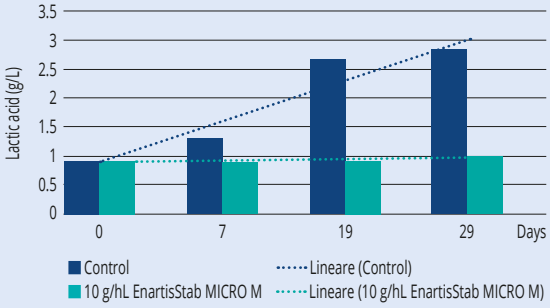
Microbial Stability

The use of specific tannins and polysaccharides during vinification helps improve the overall stability of wine:

Stability type	Enartis tannins & polysaccharides
Protein and Colloid Stability	**EnartisTan CIT** **EnartisTan E**
Oxidative Stability	**HIDEKI** **EnartisTan SLI** **SURLÌ & INCANTO NC Range**
Color Stability	**INCANTO NC Range** **EnartisTan XC** **EnartisTan E** **EnartisTan FT** **MAXIGUM Range**
Potassium Tartrate Stability	**CITROGUM**
Microbial Stability	**HIDEKI**

PREVENT MLF IN WHITE AND ROSÉ WINES & AVOID SPOILAGE MICROORGANISM CONTAMINATION

Undesired malolactic fermentation (MLF) is common in white and rosé wines. Preventing the onset of MLF (*Graph 3*) or the growth of spoilage microorganism during ageing or after bottling is necessary to avoid the loss of freshness or the production of off-flavors that can alter final quality.



Graph 3. Antimicrobial effect of EnartisStab MICRO M (activated chitosan) on white wines at high pH (3.9) and very low molecular SO_2 coverage (<0.1 mg/L), inoculated with a highly resistant Oenococcus oeni strain (10^6 CFU/mL).

Final touches

The addition of tannins and polysaccharides is beneficial to correct or minimize defects such as herbaceous aromas, lack of structure, excess astringency, alcohol sensation, reduction, or other problems.

ENARTIS RECOMMENDATIONS	
EnartisTan SKIN **EnartisTan UVASPEED** **SURLÌ VELVET** **CITROGUM** **MAXIGUM PLUS**	Reduce Bitterness or Astringency
EnartisTan SKIN + **EnartisTan UVASPEED** **EnartisTan SKIN** + **SURLÌ VELVET** **EnartisTan SLI** **EnartisTan TOF**	Increase Structure and Body
EnartisTan ELEVAGE **EnartisTan SLI**	Minimize Reductive Notes
EnartisTan FF + **EnartisTan UNICO #3** **EnartisTan UNICO #3** **EnartisTan SLI** **HIDEKI**	Decrease Oxidative Notes

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