

# The Benefits of Adding Tannins Before Fermentation



The addition of tannin during fermentation or maceration is distinct from additions that are made to finished wines. Adding tannins early in the fermentation process takes advantage of conditions that are unique during this stage of wine production and will therefore maximize the impact that tannins can have.



*StellarTan® F  
Premium Fermentation Tannin*

## **Sacrificial Tannins**

During the initial stages of maceration, the endogenous tannins contained within the fruit plant cells are not immediately available. Since there is a delay in the extraction of endogenous tannins, the addition of sacrificial tannins during this time provides several key advantages to help maintain wine quality that include:

- Removing undesirable proteins such as laccases, polyphenoloxidases and pathogenesis-related proteins that can be problematic from an oxidative and physical stability perspective and would reduce the extractability of the endogenous tannins.
- The solids content of a wine is at its highest during fermentation and maceration. These solids, that include plant-based material and yeast cell walls, have a high capacity for binding wine macromolecules. The addition of fermentation tannins help to bind these solids thus maximizing the extraction of endogenous tannins.
- Tannins have antioxidant activity and the addition of tannin prior to fermentation can help reduce the negative effects of oxidation reactions, most notably in terms of aroma impact compounds.

## **Driving Beneficial Acid Catalyzed Reactions**

The temperature of juice/wine is typically at its highest during fermentation and maceration. Higher temperatures translate to an increase in reaction rate. The addition of tannin during this time utilizes the naturally elevated temperature to drive beneficial acid-catalyzed reactions forward including:

- Color stabilization with the addition of tannin at this time to bound macromolecules. This can be particularly important in color-challenged grapes and lighter colored red wines where early color stabilization is critical.

The addition of StellarTan® F premium fermentation tannin at crush is an easy and cost-effective way to start your winemaking with as much assurance of success as possible. StellarTan® F helps facilitate the extraction and retention of endogenous tannins, reduces vegetal and green characteristics, inhibits oxidative enzymes, and improves structure.

## **Structure of Condensed Tannin in StellarTan® F with Reactive Sites Corresponding to the Functions**

