Home Winemaker's Guide To The De-acidification of Must and Wine

The Principal Deacidification Options include the following:
• Carbonates (calcium and potassium)
• Amelioration – the use of sugar and/or water
• Blending

De-acidification of Must

Calcium Carbonate is best used on high acid and high pH musts. It works by bonding with tartaric acid to yield calcium tartrate.

The advantages to using Calcium Carbonate are as follows:

- it is inexpensive
- it is able to reduce tartaric acid by 5g/L or .5% without affecting wine quality
- produces best results when 1/3rd of the total must is treated and blended back into the remaining 2/3rd
- portion of untreated must
- the must will continue to drop acidity during fermentation
- no problems with calcium tartrate precipitation in wine
- preferred for must de-acidification *** *Note – when used in wine in 100% form there is a high risk of destabilization from calcium tartrate, which takes months to form. This is not to be confused with CalciumTartrate seeding whose application yields tartrate stable wine*.

De-acidification Suitable for Both Must and Wine

Potassium Carbonate/Bicarbonate is best used on high acid/low pH musts. It works by bonding with tartaric acid to yield potassium bitartrate. For best results, the must should be chilled prior to its addition. It can also be used during wine stabilization for further de-acidification.

In a low pH environment, the pH raise produced by the addition of Potassium Carbonate/Bicarbonate may be beneficial for the following reasons:

- A higher pH will balance an acidic wine
- A higher pH will shift equilibrium to favor tartrate stabilization
- A higher pH will encourage a malo-lactic fermentation to further deacidify the wine

Amelioration can be employed before, during, or after fermentation and is best when employed before fermentation where there is the greatest potential for maintaining the sensory components of the wine to be produced. Amelioration should be used preferably after having blended in a low acid must that results in an acid level suitable for judicial use of sugar and water.

Blending is defined as the combining of varietal juices or wines so that the end product is better in one or more aspects than each individual component separately.

Blending can be done to either increase or lower acid, increase or lower pH, and to improve flavor and/or color components.

For more information, please contact us at 877.812.1137 or email support@juicegrape.com. Thank you.

De-acidification of Wine

Calcium Tartrate Seeding is accomplished by employing a 60/40 blend of calcium carbonate and tartaric acid. The combination is added to clear wine at a rate of 16g/gallon. The result is a tartrate stable wine within 24 – 48 hours and without chilling. This method is capable of reducing tartrate by 65 – 70% On average this method will reduce total acidity by .1% and will not result in calcium tartrate instability.

Malolactic Fermentation (MLF) uses a bacterial culture to split malic acid into lactic acid and CO2. Its action results in deacidification and an increase in pH. Unlike other forms of deacification, MLF is associated with sensory impact on wine and can be purposely employed to achieve such a result. MLF should not be employed if the subject wine is not well suited to MLF. See article "*A 360 degree View of Malolactic Fermentation".*

Summary

The Best Choices for Must Deacidification are as follows:

1. Chill juice prior to fermentation and add potassium carbonate/bicarbonate to form potassium bitartrate.
2. Blend high acid and low acid juices and ameliorate if necessary.
3. Add calcium carbonate and ameliorate if necessary.

Best Choices for Wine Deacidification

1. Calcium tartrate seeding to tartrate stabilize and reduce acidity.
2. Adjust pH with potassium carbonate/bicarbonate to offset acid imbalance.
3. Blend high and low acid wines to create desired flavor preferences.
4. Malolactic Fermentation