

About Citric Acid

Citric acid is naturally occurring within fresh grapes, but only minimally as perhaps 5% of a grapes total acidity. Literature points to a normal reduction of citric acid during normal aerobic fermentation and a pronounced degradation of citric acid as a result of anaerobic fermentation via Malolactic fermentation (MLF).

Citric acid is one of the three acids found in commercially available acid blends. Acid blends that are composed of Tartaric, Malic, and Citric acid come in a variety of ratios, but generally are not less than 20% citric and often contain more. Given the understanding that citric acid is only naturally present at approximately 5% of Total Acidity, it would seem that acid blend is not necessarily the best route for increasing acid in wines. However, there are some circumstances when citric acid is ideal.

The most provocative reason for NOT using citric acid in winemaking – especially home winemaking has to do with the metabolisation of citric acid during MLF. Malolactic bacteria will break down Malic acid (being the harsh Green Apple type of acid) into lactic acid (milk related with a softer buttery mouth feel), which is fine. However, some strains have an additional action of breaking down citric acid to produce acetic acid. We know that the amount of acetic acid is the ruler by which we distinguish wine from vinegar and winemakers do not want to establish an environment conducive to such an outcome.

Provided that the winemaker can establish a stable environment that is not conducive to MLF, the addition of citric acid can occur safely. It is for this reason that the addition of citric acid is not recommended until the wine has gone through stabilization.

The other reason for avoiding citric acid in quantities greater than what is natural or considered typical is that the acid will impart to a wine a freshness and tartness that are inappropriate or unbecoming of a wine making the wine seem “un-natural”.

Finally, before dismissing citric acid entirely, there are two arguments for the use of citric acid; one of which can positively affect a wine and the other for promoting a sterile environment with barrels. The first involves adding citric acid to some white and blush wines. In these wines, a “citrusy” element may in fact enhance the wine and add a very nice dimension that was not previously there. As one might imagine, that same “citrusy” quality would not do well in a red wine. The second involves the use of citric acid and sulfite for barrel preparation. For more information, see the article titled *Citric Acid & Sulfite Barrel Preparation*.

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