Mastering the Move from Primary Fermentation to Secondary Storage

Well, it is that time of winemaking season where inevitably we will receive questions regarding what wine should be doing once it is pressed and transferred to demijohns or carboys.

The answer to that question is fairly simple. For wines not intended to go through malolactic fermentation, secondary storage is simply an opportunity for the wine to perhaps complete any residual fermentation, to stabilize, and to clarify. For those intended to go through malolactic fementation, the secondary storage vessel is where that will occur followed by stabilization and clarification.

The key is really in knowing what the cue is that tells us it is time to make the move.

In preparing for the primary fermentation, we've taken readings and made adjustments for sugar, acid, and pH. We've purchased commercial yeast strains, suppressed natural yeasts, and inoculated. With fermentation underway, we check the temperature of the fermenting must to ensure it is ideal for fermentation to not only occur, but to finish. We may have added pectic enzyme to break down cellular structure and release juice and we may have added yeast nutrient to ensure that there is sufficient nitrogen to support the yeast. We punch down the cap at least three times daily, and we take regular hydrometer readings to assess the consumption of sugar.

If we have done all this, we should find that our hydrometer will eventually come close to 0 degree Brix or ~ 1.0 SG. At this point, we should also notice that the cap is not pushing up as strongly as it had. This is an indication that fermentation is letting-up or has ceased. It is also an indication that the natural blanket of CO2 produced as a byproduct of fermentation will soon not be there to protect the wine from spoilage and an indication that it is now a good time to move the wine from the primary container to a secondary container that can be protected via the addition of sulfite and an airlock, which will prevent oxidation.

The goal is for all aerobic fermentation to occur during the primary fermentation phase. With the airlocks on the secondary storage vessels, we allow for any residual that may occur. Visually, this means we should typically not see rapid bubbling. No bubbling in conjunction with the readings of 0 degree Brix or ~ 1 SG is desirable.

No bubbling with readings that indicate the presence of residual sugar is an indication that fermentation is struggling or perhaps even "stuck". This could be due to a temperature that is too low to support an aggressive fermentation. It may also be due to a scenario where yeast cannot survive at the level of alcohol that is present in solution and so is unable to complete fermentation of all available sugar. The later should not be the case if we have adjusted for sugar up front and have selected a yeast strain that is suitable for our wine's potential alcohol, which is determined by taking your original Brix (percent sugar in solution) and multiplying it by .55, which is the percent of sugar converted to ethyl alcohol. So, for an original Brix of 22 the potential alcohol would be 12.1 and so we would need to have selected a yeast strain that could tolerate an alcohol level of 12.1%.

Of course, should you have any questions or concerns upon moving from the primary fermentation phase to the secondary, we at juicegrape.com would be happy to help to assist you.

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

