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Things We're Dwelling on Now...

When MLF is Not the Answer: Strategies to Prevent Malolactic Fermentation

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At this time last year, many winemakers were attempting to start malolactic fermentations (MLFs) with the same concerns—and success rate—as weary campers trying to start a fire after a day-long rainstorm. The need was great, but the conditions were not favorable. This year, we find ourselves in a very different situation. The wine environment is much more suitable for MLF, but for a number of reasons, you may choose not to pursue the secondary fermentation. Perhaps you are hoping to hold onto any remaining malic acid to balance mouthfeel, or perhaps the pH is already high enough, and you fear raising it further. Whatever the motivation, there are times when MLF is undesirable. I asked Ramón Mira de Orduña, our resident expert on wine microbiology, about the best tools for keeping MLF at bay when needed.

Prior to fermentation, there are a few steps which can reduce the microbial load in general, including the population of lactic acid bacteria (LAB). Sorting fruit, if logistically possible, can limit the microorganisms present in must, and good juice clarification will also help. Ramón points out that measuring turbidity is the best way to know for sure that your clarifying regime has been effective. “Judicious” use of SO₂ can be beneficial before fermentation—ML can be inhibited by relatively low levels (~30-50 ppm, depending on fruit condition). Large additions at this time are relatively inefficient, since there will be no free SO₂ remaining after fermentation anyway. Knowing that high pH is more favorable for MLF, grapes could be acidified with tartaric acid at this stage to build a more solid ML defense. Ramón also suggests considering press-fractioning, as the hard-pressed juice may have an even higher pH than the other portions.

When preparing for fermentation, select a yeast strain with higher nutrient demands—it will clean out the available food and hopefully not leave enough for the LAB. Ramón suggests using a rehydration nutrient for the yeast, because this is an opportunity to introduce food solely for them. Nutrients added to the entire tank are up for grabs by all microbes present. Furthermore, he points out that inorganic nitrogen (i.e., ammonia added as DAP) is not usable by LAB and is therefore a safe addition to the tank at large, bacteria-wise. Lower temperatures are better for fermentations sans-MLF, as we know that LAB are more finicky than yeast about being too cold.

Once fermentation is complete, be ready to rack fairly quickly and then add SO₂. This is the time to add a healthy dose of sulfite. With good care and good luck, this addition should hold off the LAB until filtration. Keep

in mind that 0.45 micron (“sterile”) filtration is required to remove bacteria, and potassium sorbate only inhibits yeast. Also remember that good sanitation from press to tank to barrel to bottling line—and in all the hoses in between—will prevent the appearance of unwanted creatures of all shapes and sizes. Bacteria are everywhere and, if you don’t want nature to take its course, you need to limit their numbers wherever and whenever possible.

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