STABILIZING SWEET WINES
by
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An old wine industry adage says, "....the easiest way to restart a stuck fermentation is to bottle the wine." Most of us have had the sad experience of bottling wine and then a few weeks later discovering fermentation had restarted in the bottles. Even small amounts of unfermented sugar can cause problems, so any wine containing more then about 0.2% residual sugar cannot be considered biologically stable.

Sometimes the fizzy wine can be reworked if it is discovered in time. But, the carbon dioxide pressure produced when fermentation restarts can push the corks out of the bottles and then the unhappy winemaker is confronted with a big mess. So, fermentation restarting in newly bottled wines is often a complete fiasco.

Several ways of preventing fermentation from restarting in sweet wines are listed below.

Potassium Sorbate

Ferment the wine until it is completely dry. Just before bottling time, when the wine is clear and stable, add 250 milligrams per liter of potassium sorbate. Raise the molecular sulfur dioxide level to 0.8 milligrams per liter and add the desired amount of sugar or sweet reserve. Potassium sorbate stops yeast cells from multiplying. It does not stop fermentation, so sorbate is only effective when added to clear wines (containing only a few yeast cells).

Increase the Alcohol

Increase the alcohol content of the wine until yeast cannot survive. The traditional method is to add high proof brandy until the alcohol content is about 18% or higher. A second method relies on renewing fermentation by adding small quantities of sugar each time the Brix drops to zero. Here, sugar is added slowly and the yeast has time to acclimate to higher and higher alcohol levels. Even so, yeast will succumb when the alcohol reaches about 16 to 18 percent. This method is fine for dessert wines but not many people want to drink off-dry table wines containing 18 percent alcohol.

Pasteurization

Raise the wine temperature to 160 degrees at bottling time. This method was called "hot bottling," and it was commonly used throughout the wine industry before sterile filtration was perfected. A large microwave oven is convenient for small batches and a large water bath on top of the stove will work for larger batches. Use a thermometer and stir the wine to be sure the temperature is at least 160 degrees.

This is an effective way of stabilizing some dessert style wines. Unfortunately, the high temperatures required to pasteurize the wine will decrease the quality of most off-dry table wines.

Remove Yeast Nutrients

Stop fermentation by chilling the wine to a low temperature. Keep the wine cold and allow the yeast to settle. Remove most of the yeast by racking or filtration. Warm the wine to room temperature, and restart fermentation. Repeat this process several times until fermentation cannot be restarted. Each new generation of yeast consumes nutrients from the wine, and after several generations, the nutrients are so depleted the yeast cannot reproduce. This method

effective stabilizes sweet wines, and it maintains the quality of off-dry wines. Asti Spumante wine is stabilized this way. Unfortunately, this method requires much time and work.

Sterile Filtration

At bottling time, add sugar or sweet reserve to a dry wine and then put the wine through a sterile filter. Sterile filtration of off-dry or sweet wines is relatively simple process these days when small membrane filters are used. Unfortunately, the bottles, corks and all of the equipment contacting the sterile wine must also be sterile. Getting the wine sterile is easy. But, getting and keeping the bottle filling equipment, the corker, the bottles and the corks sterile can be difficult for the small producer.

Home Winemaker Method

Do not bother with wine stabilization. Ferment and bottle the wine dry. When a bottle is opened, add sugar syrup and sweeten the wine just before serving. The dry wine can be safely stored with no danger of fermentation restarting, and wine sweetness can be easily adjusted by changing how much syrup is added. This is the easiest method.