

# PRESQUE ISLE WINE CELLARS

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## Ameliorating Wine

Sometimes one can use chemicals to reduce acid but, cutting it with water (amelioration) is sometimes a very good and acceptable way to do it. It can be a very good method for use in Labrusca grapes such as Concord, Delaware, Steuben, Catawba and the like because it tones down their very intense flavor and aroma as well as providing the added advantage of reducing acid quite substantially. If the method is considered for other varieties you just need to consider if diluting the aroma, flavor and other desirable qualities of the particular grape is worth it in relation to diluting the acid. Grapes (wines) like Chardonnay, Sauvignon Blanc and like whites as well as desired dark red wines are such that the cost in color and or flavor/aroma is usually too great a cost compared to the benefit of reduced acid. Therefore with those varieties other acid reduction methods are more often used. In other words you can ameliorate any juice but must weigh the benefits versus the costs.

If you are going to ameliorate your juice you should then know what the acid level of that juice is. That is done with an acid testing kit if you need/want to do it yourself or often times if you buy juice from another source they may/should provide you with sugar and acid levels. Then you can make a decision on how much you want to reduce the acid. It's good to know a few things at this point that will help arrive at that decision. You no doubt know most of this already but just in case you should consider the following: 1) The normal fermentation process will drop acid some (usually 0.1 to 0.2 per cent); 2) use of 71B yeast can sometimes give you a little more reduction than some other yeasts; 3) A finished white wine is thought to be best at an acid level of 0.7 to 0.8 and most red wines are thought to be best at about 0.6 to 0.7 per cent; 4) A sweet wine can tolerate a higher would be a ratio of 10% and therefore drop the acid by that much acid level (maybe 0.9 or so); 5) Cold stabilization (bring the wine temperature down to about 27 to 30 degrees for a few days) will cause tartrate crystals to drop to the bottom or cling to the sides of your container off which you can then rack the wine. You probably get only about a 0.1% drop in acid this way; 6) Putting the wine through a malo-lactic (bacteria) fermentation (M/L) in addition to the yeast fermentation which is usually desirable in most dry red wines and big whites like Chardonnay etc can reduce acid quite significantly. An M/L is almost never done in delicate or semi-sweet & sweet wines. If preserving all the fruitiness of the wine is desirable then it may be best to avoid an M/L fermentation..

The reason you add sugar to the water is that in a sense it is juice only with no acid. When you mix your "manufactured juice" with the real juice then you reduce the acid of the real juice. If you didn't add some sugar but rather only water you would not only dilute the acid but the sugar level of the real juice as well and therefore not get as much alcohol production. The formula for making the "manufactured juice" is to use 1.7 pounds of sugar and the rest water to make a gallon total. Or, you can make a 1/2 batch or a double or triple etc batch. You may need to also add sugar to the real juice if that naturally isn't high enough to get the particular alcohol level you want which for table wine is usually around 11% to 13%. It is mathematically easier to calculate the amount of sugar needed for the "manufactured juice" separately from the amount of sugar needed to be added to the real juice. Once the calculations are made though you can certainly combine the amounts of sugar to then add it to the carboy and then add the water (or some of the water now and the rest a few days later). The reason you may not want to add all the water right away is to leave some headspace in your jug so when vigorous fermentation foaming takes place it won't spill out onto your floor. After the fermentation has calmed down a little in a day or two you could add the rest of the water. You would NOT want to wait until the fermentation was done and then add the additional water as that would dilute the alcohol. One way to do all the additions at once would be to draw some of the mix into a smaller container and ferment in two containers, with headspace in each, until it calms down and then add the contents of the small container back into the main batch.

When it comes to the actual calculation of acid drop by cutting with water it is a ratio of the percentage of the total volume that the water is. As an example if you have a five gallon carboy (glass jug) and wanted to use 4 gallons of real juice and then use water (and sugar) to make the fifth gallon (we'll call it "manufactured juice") then the sugar water solution would be 1/5 of the total volume which is 20% (1 divided by 5 = .20 or 20%). Therefore that would reduce the acid of 4 gallons

of real juice mixed with it by 20%. However, it does NOT work that precisely. **The reality is that there will only be about a 10% reduction in the acid.** If you used a six gallon carboy with 5 gallons of real juice and one gallon of sugar water (again "manufactured juice") the ratio of sugar water would be one to six or  $1/6$  or 16.7% (1 divided by 6 = .1666 or 16.7%). In that case then the acid of that six gallon batch would have the acid reduced by 16.7%. Using one half gallon of the sugar water solution in a 5 gallon carboy