An Alternative Approach To Fortifying Wine

by Roy Ellis (AWO News # 25)

In recent issues of AWO news I found both your article on Distillation and Don Panagapka's and Blake Galloway's articles about Port wine, very interesting. I also make Port wine, of sorts, which could be called a poor man's Port. In your article you referred to the boiling point of both water and ethyl alcohol, 78.5° and 100° C respectively. Don Panagapka talks of using brandy, or alcohol, both of which are very costly. My suggestion is why not take advantage of the freezing point of ethyl alcohol and water, (water at 0° C and ethyl alcohol at -117.3° C), to separate the alcohol out of some wine to concentrate it ?

When I have enough old wine, or off-flavoured wine laying around, I freeze it and drain off the alcohol, which will carry over a fair amount of water with it. Assuming the original wine was in the order of 12 % alcohol, this will give me an alcohol content in the order of 20 to 25%. I then freeze the concentrate once more to give me an alcohol content of 45% to 50%. The alcohol content can be estimated by subtracting the volume of ice that is removed after freezing. I put a two litre container of wine in the freezer for forty-eight hours then drain it off.

The second freezing may take more than forty-eight hours to reduce the water to ice, after which I drain it off. I keep this up until all my old wine is used. Some have said that this also carries over any junk and increases the acidity of the resultant plonk. My tests have shown that the acid remains low, having precipitated with the water. Apart from a high alcohol taste, the body of the wine seems good. This is what I use to fortify a red wine to make a Port-style wine.

My procedure was as follows - initially I purchased from the LCBO three good Port wines, viz. Fonseca Bin 27 Porto; Kopke Ruby Port; Cockburn's Special Reserve. The alcohol of each was 20% by volume and the sugar was 20% by volume and the sugar was LCBO # 9.

My analysis showed the following:

SG.	pH	T/A	g/litre
Fonseca	1.022	3.54	5.0
Kopke	1.022	3.72	4.6
Cockburn's	1.020	3.7	4.7

I then set about to duplicate those numbers. While my intention was to make a moderate amount, which would be shared with my son, we wound up with far more than we wanted. My base was Cabernet Sauvignon, 24.33 %; Cabernet Franc, 21.69 %; Petite Syrah, 29.65 % and Merlot, 24.33%. Essentially we were aiming at about 25 % of each. Each was fermented to completion, cold stabilized then blended. It was then aged for a few weeks in a new French oak barrel. To the blend I added the frozen concentrate. A calculation showed that the alcohol level would be in the order of 20 to 23 % by volume. The carboys of wine then cross-blended to ensure that they were all the same constitution, then they were tested. The final test results were SG 1.020; pH = 3.2 and the T/A 6.01g/litre. The acid was a bit higher than I wanted, but I didn't want to mess around to bring it down.