

Making Wine From Concentrates

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Let's begin by dispelling some of the mystery about wine! We are all familiar with the mystique that surrounds it: the great Châteaux, dreaming behind their lush green lawns; the aged cellar master with beret, bulbous nose and walrus moustache, tip-toeing reverently through the cathedral-like hush of the cellars; the casks of great wine sleeping in the candle-lit gloom; and the tastings; fine linen spread on ancient barrel-ends, silver tastevins, monocles, and gasps of pleasure....
Nonsense!

To be sure, the great Châteaux are there, and their wines – costing into the three figures a bottle here – are treated with due reverence; but much of the wine on the shelves today can claim no such lineage. The Château on the label owes more to artistic license than to architectural achievement, and the wine travels from grower to shipper down European highways blue with exhaust fumes in tandem tanker-trucks.

No mustachioed figure stands guard as the six-inch couplings are snapped together and powerful pumps move the load into stainless-steel tanks. In a few days the bottling line will hiss with pneumatic efficiency, and another case of 12 will roll off to the loading dock, to be acclaimed in due course in stylish parties by self-styled wine experts across North America. You know the type: "Well, perhaps not fully up to last year's standard, but I imagine that's because these were picked on the western slope".

Increasing cost, decreasing quality, and a sense that there must be a better way has resulted in the growth of one of the most pleasant and enjoyable of hobbies, home winemaking.

Mind you, I would not want to suggest that a home winemaker, using readily available fresh grapes, grape concentrates, or garden fruits, can produce a wine to challenge the Mouton Rothschilds, Château Lafites, or Wolf Blasses of this world; thankfully, there is always room for the outstanding, which these wines represent. However, I would attest that a knowledgeable amateur, using concentrates or fresh grapes, can produce commercial-quality wine which will compare favourably with store-bought wine costing four to five times as much. In repeated blindfold tastings, not only have home-made wines been preferred to commercial wines of the same types, but the tasters, being informed that one bottle was home-made, have been unable to identify it!

Concentrates have the advantage of compactness, ready availability, and convenience of use. These virtues are not, of course, without their accompanying vices; not all concentrates are created equal, and some are simply not very good. It pays, therefore, to deal with suppliers who are known for the quality of their products and who will stand behind them. In addition, they do not last indefinitely (of course, fresh grapes have an even shorter "shelf life"). Finally, red concentrates are less successful than whites in equalling fresh grape quality, although more than one expert has been fooled by a red wine from concentrate which has been barrel-aged, and the AWO '91 Best in Show was a red wine from Concentrate!

The production and use of grape concentrates dates back, according to some authorities, at least as far as Roman times when the "concentration" of grape juice was used as a means of preserving excess grape production, or for increasing the sugar content (and therefore the ultimate alcohol level) of low-sugar wine musts.

In those days, and even until about 30 years ago in some countries, the process consisted of boiling grape juice in an open kettle until the liquid content was reduced to the point that the juice had become a thick syrup.

A simple and — in terms of the times — effective process this was, but not one which produced a quality product. The high temperatures produced a cooked, and sometimes caramelized, flavour, and also resulted in the release of pectin from the cell walls of the pulp. This made any wine made from the concentrate at least cloudy, and at worst jelly-like; the open kettle in turn resulted in oxidation and the loss of volatile elements which are responsible for much of the character in wine. Nonetheless, the process persisted, being slowly supplanted, beginning in the late 1940s, by the use of low-temperature concentrators which depend on the use of a partial vacuum to compel the juice to “boil” at temperatures well below 100°C. Initially these concentrators acted at temperatures in the range of 60°C, and coupled with devices to recover some of the volatile fractions, and the use of pectin-destroying enzymes, these early products at least made it possible to produce acceptable wines from concentrates, although even so the wines tended to be dark in colour, and often had a “jammy” flavour about them.

Anyone who has bought frozen orange juice concentrate will realize that this doesn't have to be the case; orange juice from concentrate has no cooked or jammy flavour, and is difficult to distinguish from fresh juice. The reason is that orange juice is typically concentrated at low temperatures (as low as 15°C, or 60°F) with very high vacuum applied to cause the juice to boil at this temperature.

What works well for white juices does not work as well for reds, primarily because good red wines are made with a period of fermentation on the skins to extract tannin, polyphenols and aromatics. Several technological tricks are used to ensure that the juice has as many of these elements as possible, but I would have to say that wine made from red grape concentrate alone often still lacks the quality of a wine from good fresh wine grapes of the same type. Note the use of the word “alone”; I'll return to that point shortly.

The home winemaker is able to buy the juice to make 4 1/4 gallons (19 l) of wine in a container which can be easily carried home, rather than in the form of grapes weighing upwards of 90 lbs (40 kg, +/-). The retailer also supplies a recipe showing how much water, sugar, acid, tannin, pectic enzyme, nutrient, and yeast to add, and off the winemaker goes.

What appears not to make sense is that, here you are, adding not only water (which was removed during the concentration process), but also sugar, acid, nutrient, and tannin, which were not. What's going on?

The reason, basically, is that producers of concentrate are catering to the trade. While many winemakers are prepared to wait for a year or two for a fresh grape wine to mature, the idea of doing the same for a wine from concentrate is, to many, anathema, and the recipes are intended for people who may be prepared to wait for a few months, but not for a few years. We can do something about this.

It is possible to modify a recipe by adding more or less water than is called for in the recipe, and adjusting the other additives. This will result in a heavier or lighter bodied wine; however there are limits to the extent to which this can be done satisfactorily.

How? The following is based on concentrate which produces 19 litres of wine, and which has an assumed concentration ratio of 4:1, which is commonly found with commercial concentrates (although NOT with 4 week kits, or any in which the instructions read just add water).

To make a lighter-bodied wine, add an extra 4 litres of water and double the amount of sugar, acid and tannin called for in the recipe.

For heavier-bodied wines, try reducing the amount of water added by 4 litres, and adding no sugar or acid. Again this is based on the assumption that by limiting the dilution to 4 to 1 we should not need any extra sugar or acid.

In both cases, it's important to ensure — through measurements of S.G. and acid — that your results are going to be satisfactory. The foregoing hints cannot guarantee success, since concentrates vary in their degree of concentration, but with careful measurement should provide an interesting experiment.

The primary failing of red wines from concentrates is that they lack some of the tannins and volatiles present in fresh grape skins. Why not add grape skins to red concentrate wines?

Think about it. 40 kg (90 lbs) of fresh grapes provide about 19 litres (4 1/4 gallons) of juice, and just under 20 kg (44 lbs) of skins, stalks and other vegetable matter. If those skins were to be pressed, and added to another 19 L of wine from concentrate, and the whole treated as if it were a fresh grape wine, might not the result be the same as if one were using fresh grapes? The answer is a qualified "yes".

In our experience this is capable of producing a wine with a fully commercial character, provided that the wine is treated as if it were fresh grape only (thus, punching down the cap on a daily basis, and removing and pressing the skins after the desired period of skin contact), and that the skins are wholesome and compatible with the wine being made. (Concord skins will not, repeat not, improve a Cabernet Sauvignon concentrate!).

After the "second run", most of the flavour will have been extracted from the skins, although some of our acquaintance have been known to repeat the process with a "third run", producing a wine which is lighter in character but still interesting and pleasant on the palate. Note however that the addition of skins to a concentrate wine renders it invalid for competition in the Red Concentrate and White Concentrate classes at the Provincial Finals.

As with fresh grape wines, concentrates may legitimately be barrel aged or use oak chips to obtain true oak flavour.

What about quality? A while ago we were invited by the local CBC station to talk about wine and wine-tasting on the morning program. We brought along three bottles of wine, two of which were commercial and about \$12.00 each in today's prices, and one made from a concentrate at under \$2.00. We asked the host, in a blindfold-tasting test, simply to identify the home-made wine. He did... but only on the third try!