
RED WINE TIPS & TRICKS

For many home winemakers, it's the Holy Grail — a big, bold, dark red wine that's worthy of cellaring for years to come. If you've made red wine from grapes, you probably already have a good understanding of the basics. You may have even tried a few advanced techniques like cold soaks or malolactic fermentation. In this article, we'll examine those techniques and more, as well as discuss several new products that can help put you on even ground with the pros.

By Steve Kroll

Traditionally, commercial wineries have had access to products that were not generally available to home winemakers. Or if they were available, you would've had to purchase them in quantities guaranteed to last for the next several decades. Over time, a few of the larger home winemaking supply shops began buying and repackaging these products in smaller quantities. One of our local retailers, Midwest Supplies, carries many of these professional additives in stock. On the internet, MoreWinemaking.com is another good source.

It should first be noted that although the phrase "winemaking additives" sometimes gets a bad rap by the media, the products mentioned in this article are not in any way artificial. On the contrary, they're the same type of ingredients that home and commercial winemakers have been using for the last 50 years, albeit in new and improved versions. They're manufactured from natural compounds like inactivated yeast or wood and grape extracts, and some are even organically certified. There isn't anything particularly tricky about using them, once you understand their purpose and how they work.

I will add, though, that if you decide to try some of the products listed below, you may want to consider purchasing a small electronic scale that measures in grams and has a tare function. It just makes life easier when dealing with small quantities. Such scales are widely available online and can often be found for \$10 to \$15.

We're also going to look at some tried and tested methods that have been used by successful wineries around the world. Again, there's nothing difficult about these methods and, though they may require just a little more work on your part, I think you'll find that the results speak for themselves.

To Soak or Not to Soak

Pre-fermentation maceration, also known as "cold soaking," is a method whereby the must is cooled down to 40-50 degrees and maintained at that temperature for 2-5 days before the yeast is pitched. The theory is that the extra skin time gives color extraction a head start, and results in darker, more flavorful wine. The method has both its staunch advocates and detractors. There is a good deal of scientific evidence to indicate that it isn't really worth the effort. Nevertheless, many commercial wineries still do it, particularly with lighter skinned grape varieties such as Pinot Noir, Sangiovese, and Barbera. The method I've used successfully involves adding 10 lbs. of dry ice for every 100 lbs. of must, and wrapping the fermenter with an old sleeping bag or thermal blanket to maintain the temperature. Done this way, I've been able to keep the temperature under 45 degrees

for up to four days. Should you decide to try this method, be sure to add 25-30 ppm of sulfite up front and, to prevent browning of the must, cover the surface with a layer of plastic cling wrap. You should also stir the must and check the temperature twice daily. Don't allow the temperature to exceed 50 degrees, or you risk spoilage.

Breaking it Down with Enzymes

Pectinase, for those who don't know, is a group of enzymes that degrades the cell walls of plants. You've probably seen it in winemaking shops in small jars labeled "pectic enzyme". It's used in winemaking to break down the solids in the must, and release flavor and color compounds from grape skins that would otherwise remain trapped and end up discarded with the pomace. Modern pectinase is far more potent and specialized than products of the past. Individual enzymes are isolated and extracted in the lab to create compounds that work faster and more efficiently - and in much smaller amounts. When using these products, it's important to follow the recommended dosages to the letter, as overdosing can turn the grape skins into mush and make it difficult to put through a press. In addition, you may find a layer of sludge in the bottom of the fermenter that can contribute to hydrogen sulfide issues. Personally, I've found lower dosages to have a much more positive effect in terms of color and flavor of the finished wine. One final note: if you plan to add tannin or oak products to the must, you'll want to add your enzyme product first, and let it work for 6 to 8 hours before adding the tannin, as tannins will deactivate the enzymes.

New products: Lallzyme EX or EX-V

Color Stabilizers

Color stabilizing products won't add color where it doesn't exist, but they will help lock in the color that you have. These products are made from inactivated yeast compounds and work by releasing polysaccharides that act as a molecular "glue" of sorts by binding anthocyanins to tannins. In addition to the color retention benefits, this binding effect also acts to smooth tannins and improve the mouthfeel. Furthermore, they also absorb fatty acids that tend to be toxic to yeast.

Suggested products: Scott Opti-Red, Scottzyme Color Pro, Booster Rouge

A Little Wood Might Be Good (in the Primary, that is)

Contrary to what you might think, oak added during the early stages of the winemaking process does not contribute much in the way of oak *flavor*. It does, however, provide a couple of benefits for red wines. First, if your grapes are a little under ripe, studies have shown that oak will absorb (not just mask) some of the "green" and vegetal compounds that exist in the fruit. Another benefit is improved color stabilization, since the wood tannins in the oak bind chemically with the anthocyanin (pigment compounds) in the grape skins. This is particularly true if you use a powdered product made from oak or chestnut, which more readily releases its tannins during fermentation. Lastly, since these products contain naturally occurring tannin, they also help improve the structure of the finished wine. If you tend to work primarily with cold climate grapes, you may find these products particularly useful.

Suggested products: Scott Labs FT Rouge, evOAK oak powder

The Heat is On (and if it isn't, maybe it should be)

If I had to list one single technique that I feel will improve all of your wines – red or white – more than any other, it would be proper temperature management during fermentation. In short, white wines should be kept cool during fermentation, while red wines require a little heat. I was taught this by a commercial winemaker and have come to consider it winemaking gospel. Think about it. The pros ferment tons of grapes in large tanks. As fermentation kicks into high gear, the kinetic energy that's generated causes the tanks to get very warm. So warm, in fact, that they sometimes require cooling jackets to keep temperatures down. But it's the heat that extracts the flavor and color out of the skins.

Home winemakers usually have the opposite problem. We often ferment our wines in small batches in garages or basements where the ambient temperature is cool (and sometimes downright cold). The must never gets much warmer than 70 degrees, and extraction is poor. You can see it in the finished wine, which may come out pale without much depth of flavor.

One technique that I've found that works well is using an old electric blanket and wrapping it around the fermenter. Leave it turned on low until the fermenting must reaches a temperature of about 85 degrees. Once it gets to this temperature, try to keep it there for about a day. You may have to play with the temperature control a bit. Monitor it carefully. If it starts edging up toward 88-90 degrees, shut off the heat source. If the temperature gets too far above 90 for too long, it will begin to stress or even kill off the yeast, which can result in a stuck fermentation. It's also a good idea to know the limits of your particular yeast strain. Some are better able to withstand higher temps, while others are not. Do some research before you begin.

Designer Yeasts

While the trusty old standbys like Pasteur Red and Côte des Blancs are still around, they're now joined by a number of new specialty yeast strains. Although some of the yeast descriptions you find in the manufacturer's catalogs are almost laughable (from Lallemmand's catalog: "Typical aromas include violets, raspberries, cassis, strawberries, black pepper and grilled meat."), the truth is that a carefully selected yeast can sometimes make the difference between an average drinkable wine and one that contains that spicy or aromatic characteristic that sets your wine apart from the rest. So instead of reaching for the Montrachet, next time take a look at BDX, MT, or Rockpile.

A few suggested yeast pairings:

- Cabernet Sauvignon: BDX, D21, D254, D80, Rockpile (RP15)
- Merlot: MT, BDX, D21
- Zinfandel: Assmanshausen (AMH), VRB, BM45
- Petite Sirah: Syrah, D254
- Frontenac: 71B
- Marquette: GRE, BM45

Be aware that some of these yeasts have higher than normal nutritional needs. For specific recommendations, consult Lallemmand's web site at <http://www.lallemmandwine.us>.

Feed Your Yeast

There was once a time when we would all automatically reach for the generically labeled jar of “yeast nutrient.” The problem was we really didn’t know what we were using. Said jar might have contained anything from vitamin B to pure diammonium phosphate (DAP). Today’s complete nutrients have been scientifically formulated to not only provide food in the form of yeast assimilable nitrogen (YAN), but to also include additional nutrients designed to keep the yeast happy and stress-free. It’s also worth noting there are different formulations for different purposes. Some contain DAP, and these shouldn’t be added until after fermentation has begun. Others (Fermaid O, for instance) can be added to the must before the yeast is pitched. And then there are rehydration nutrients like Go-Ferm that are added when making your yeast starter culture, as well as malolactic nutrients to be added when inoculating for MLF.

When using a nutrient like Fermaid K, it’s generally recommended that you divide the application into two doses. The first dose is added at the end of the yeast growth phase (which is just a fancy way of saying once the cap rises, or 12-24 hours after inoculation). The second dose is added before the sugar reaches the halfway point, usually between 10 and 15 Brix. Nutrient should never be added after 7 Brix, as residual nutrient can encourage the growth of spoilage organisms.

Suggested products: Fermaid K, Fermaid O, Go-Ferm, Acti-ML, OptiMalo

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