



Winemaking from Vinifera Grapes

Red Wine

[Crush](#) (break the skins) and de-stem the grapes. For most grape varieties, about 90% of the larger stems should be removed. Test for total acidity following the instructions in your [acid testing kit](#). If the acidity is less than .7%, add enough [tartaric acid](#) to bring it to that level. Test for sugar with your [hydrometer](#). Correct any deficiencies by adding enough sugar to bring the reading up to 22% (22 degrees brix). When these tests and corrections have been completed, the must should be [sulfited](#). Estimating that you will get roughly one gallon of juice yield for every 16 lbs. of grapes, calculate the anticipated amount of juice. Using this estimate, add enough sulfite to give you a sulfur dioxide (SO₂) level between 50 and 130 parts per million (ppm). The amount needed will depend on the condition of the grapes, with moldy grapes getting the most concentrated dose. Unless you have found it necessary to add more than 65 parts per million SO₂ in step 4, yeast should be added immediately. If using more than 65 parts per million SO₂, you must wait four or five hours before doing so.

Add also one ounce of [yeast nutrient](#) for every 100 lbs. of grapes. Your [yeast culture](#) should be mixed into the crushed grapes (now called "must"). Stir it in thoroughly after eight to twelve hours. The must should be stirred twice a day until fermentation begins. The beginning of fermentation will be obvious, as the grape skins will be forced to the surface, forming a solid layer (called a "cap"). Once the cap has formed, it should be pushed or ["punched"](#) back down into the fermenting juice twice a day until it is ready to-be pressed. You may use your hand or a clean 2x4 to push down the cap. At some point, while fermenting on the skins, the must temperature should be allowed to reach as high as 90° F., at least briefly. This will help extract color from the skins. The rest of skin fermentation should take place at 60-75°F.

When the desired level of color has been achieved (four days to several weeks of active fermentation) your wine should be [pressed](#) to separate the wine from the skins. [Funnel](#) the wine into [secondary fermentors](#), filling them no more than 3/4 full. Attach a [fermentation lock](#), and allow the containers to set until all visible signs of fermentation have ceased (at least three or four days). When the wine is about half to two thirds fermented, most red wines should be inoculated with [malolactic starter](#) (either before or after pressing). At the end of fermentation, when no more bubbles are coming up through the lock, rack the wine off the lees and fine the wine (following the instructions supplied with your fining agent). Place wine in storage containers (glass, [stainless steel](#), or [oak](#)). Top up the containers and let stand for a month. Rack the wine away from the lees again, [sulfite](#) it to about 20 ppm. SO₂, and place it back in topped up containers for three or four weeks. You can check for the end of the alcoholic fermentation by using [residual sugar test strips](#).

In June of the following year, filter the wine if you plan to do so. Sulfite to no more than 20 ppm. SO₂. Allow the wine to sit through most of the warm summer weather with a relatively low sulfite level. This will encourage malolactic fermentation to finish up. You can test for the end of the malo-lactic fermentation with [malic acid test strips](#). In early September, (just before you need your storage containers for the next year's

crush), carefully rack the wine from the lees, siphon into [bottles](#), [cork](#) them, and lay them down for bottle aging. If you have enough storage capacity, you may wish to wait up to another year before bottling. At bottling time, test your wine for free sulfur dioxide, using a test kit for SO₂, determining how much sulfite to add to bring the level in the wine to 30-35 ppm. If possible, store your filled bottles on their sides. Otherwise, store them with the corks down. Most red wines will benefit from at least one year's additional aging, and frequently more. For more detailed information, we highly recommend the following books: [Home Winemaking Step by Step \(Jon Iverson\)](#) and [Techniques in Home Winemaking](#) (Pambianchi).

White Wine

Crush (break the skins) the grapes. It is not necessary to de-stem them. Test for total acidity. If the acidity is less than .7%, add enough tartaric acid to bring it up to that level. Test for sugar with your hydrometer. Correct any deficiencies by adding enough sugar to bring the reading up to 20% (20 degrees brix) for most varieties (22% for Sauvignon Blanc and Chardonnay). When these tests and corrections have been completed, the must should be sulfited. Estimating that you will get roughly a gallon of juice from every 16 lbs. of grapes (varies with the variety), add enough sulfite to give you a sulfur dioxide (SO₂) level between 50 and 120 parts per million (ppm.). The amount needed will depend on the condition of the grapes, with moldy grapes getting the most concentrated dose.

Stir in [pectic enzyme](#) at the rate of one ounce to every 200 lbs. of grapes. Place the crushed grapes in a covered container to stand from 2 to 18 hours (longer for the "big, less fruity" varieties). If left to stand longer than 2 hours at this stage, the crushed grapes should be refrigerated. The grapes are then pressed to separate the juice from the skins. Funnel the juice into topped up containers, cover, and let stand for approximately 24 hours.

Siphon the clear juice away from the layer - of settlings into a glass, stainless steel, or oak fermenter which is filled no more than 3/4 full. Yeast should be added, a fermentation lock attached to the fermenter, and fermentation allowed to proceed. Add also an ounce of yeast nutrient for every 100 lbs. of grapes.

When visible signs of fermentation end, the wine must be racked off the lees, [fined](#) (according to the directions supplied with your fining agent), and placed in topped up storage containers (glass, stainless, or oak). Let stand for a month. After the end of fermentation, add 20 parts per million SO₂ whenever the wine is racked. In February or March, rack and sulfite the wine again, placing it back in topped up containers. This is a good time to filter the wine if you are going to do so.

In late April or early May, before the onset of very hot weather, carefully rack the wine from the lees. Sulfite the wine. Siphon into bottles, cork them, and set them aside for whatever bottle aging is needed. If you wish to sweeten the wine, do so with simple syrup (two parts sugar to one part water, boiled), and add 1/2 tsp. Stabilizer per gallon to kill any remaining yeast. Light, fruity, white wines may be enjoyed within two months after bottling.

For more detailed information, we highly recommend the following books: [Home Winemaking Step by Step \(Jon Iverson\)](#) and [Techniques in Home Winemaking](#) (Pambianchi).