

Basic Home Winemaking



Interest in home winemaking is increasing in Oregon. The reasons are: increased commercial grape and fruit wine production in the state and an abundance of quality berries and fruits. This publication describes the basic steps and considerations for the home winemaker. Additional information and the following supplies, listed in order of appearance in this publication, are available from winemaking equipment suppliers:

Crusher, press	Water seal (fermentation trap)
Pectic enzyme	for jugs
Wine yeast "starter"	Refractometer or hydrometer
Campden tablets	Siphon hose
(Potassium metabisulfate)	"Clinitest" or "Dextrocheck"
Yeast nutrients	(simple tests for low levels of sugar)
Small-mouth glass jugs or carboys	Potassium sorbate
	Fining agents

Getting started

Importance of cleanliness and selection of proper equipment

Clean thoroughly all containers, hoses for siphoning, and all other equipment, preferably with boiling water.

For fermentation, use a stoneware crock, or a container made of glass, stainless steel, or food-grade plastic. Never use containers or equipment of galvanized iron, copper, or aluminum.

Selecting fruit and preparing for fermentation

Fruit should be ripe (not overripe or moldy), clean, and sound. Almost any fruit can be used for winemaking.

Grapes. Destem to prevent bitterness in the wine. Red grapes are usually fermented with skins. White grapes are crushed and pressed to extract the juice. Press by hand or with the help of a small press.

Pome fruit such as apples and pears. Cut into small pieces and press to extract juice.

Berry fruit and stone fruit such as peaches and plums. Use whole crushed fruit for fruit extraction by pulp fermentation or heat extraction.

For all fruit, you can obtain more juice of increased clarity by adding a pectic enzyme preparation to the crushed fruit. Add about 3 grams (approximately ½ tsp) per gallon and hold at room temperature (55°F or above) 1 to 2 hours before pressing.

Preparing yeast starter

Instead of the slow, natural fermentation process, winemakers use yeast starters to produce a strong, clean fermentation. Use a wine yeast (baker's yeast will produce less alcohol and lower quality wine). Make the starter in a quart container. Add to juice or *must* (winemakers' term for crushed fruit or extracted juice) as indicated below.

Preparing for fermentation

For white grape varieties and pome fruit

1. To each gallon of extracted juice, add 0.7 gram (approximately ⅛ tsp) of potassium metabisulfite or one Campden tablet to inhibit the growth of undesirable microorganisms and to prevent browning. (Dissolve this chemical in a small volume of juice before stirring in.)
2. *For pome fruit only*, dissolve approximately 1 ¼ lb (2½ cups) of sugar per gallon of juice.
3. Transfer juice to a fermentation vessel (small-mouth glass jug or carboy), fill to ¾ capacity, insert a water seal in the container opening, and let stand in a cool place overnight (at least 6 hours).

A water seal allows carbon dioxide from fermentation to escape and prevents air from entering the fermenting wine. Buy one or construct a simple water seal by inserting one end of a short piece of glass or plastic tubing into a cork or rubber stopper and insert into the jug. Place the other end of the tubing in a small bottle or jar of water.

For red grape varieties, berry fruit, and stone fruit

Juice extraction by "pulp (skin) fermentation"

1. Place 10 lb of fruit (fresh-crushed or frozen-thawed; remove stones from stone fruit) in a clean, 3- to 5-gallon container.
2. Add 0.7 gram (approximately ⅛ tsp) potassium metabisulfite or one Campden tablet, as described above for white grapes and pome fruit.



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3. For berry fruit only, dilute berries with an equal amount of water.
4. Cover with cheesecloth and let stand in a cool place overnight (at least 6 hours). (Refer to fermentation process.)

An alternative method of juice extraction using heat

Heat extraction can increase juice yield and color, produce a good clean fermentation, and result in wine that is "softer" (ages more quickly and can be consumed "younger").

1. Heat 10 lb crushed fruit (160 to 180°F) for about 30 mins. For berry fruit only, dilute with an equal amount of water before heating.
2. While the fruit is still warm (but not above 130°F), add pectic enzyme (½ tsp per gallon) to aid juice extraction and clarification. Let stand at least 1 hour.
3. Recover juice with light pressing or by squeezing through clean muslin sacking or cheesecloth.
4. Add 0.7 gram potassium metabisulfite (or one Campden tablet) and sugar to the berry and stone fruit juice and transfer to fermentation vessel as previously described.

These procedures are designed to produce balanced wines of acceptable acidity and sweetness with approximately 12 percent alcohol; however, they may result in incomplete fermentations—producing sweeter wines than desired. For more consistent sweetness and alcohol content, determine the initial sugar content of the juice or must. You can do this easily with a refractometer or hydrometer. These devices will measure the "Brix value," which gives an indication of percent of sugar.

Many fruit growers have refractometers for checking fruit maturity. For Brix values below 22 degrees for grapes or 25 degrees for other fruit, add sugar to the juice or must at a rate of 2 oz (¼ cup) per gallon (e.g., add 1 cup to each gallon of grape juice of 18 degrees Brix).

Fermentation (the second day)

For white grape juice

Add the strongly fermenting yeast starter prepared earlier (within 1 day).

For pome fruit and heat-extracted fruit juices

Add yeast nutrient before adding yeast starter.

For red grape varieties, berry fruit, and stone fruit

1. Add yeast nutrients and yeast starter. Ferment for 3 to 4 days at a temperature between 60 and 75°F. Stir twice daily.
2. Recover partially fermented juice by light pressing or by squeezing through cheesecloth.
3. For every gallon of fermenting juice, add (dissolve) approximately 2 lb of sugar for berry fruit, 1½ lb of sugar for stone fruit.
4. Transfer fermenting juice to fermentation container. Insert a water seal, as described above for white grapes and pome fruit.

Allow fermentation to proceed, preferably in a place with minimal temperature variation, such as a cellar. A suitable temperature for most grape wines is 60 to 65°F, while 65 to 75°F is preferred for most fruit wines.

Care after fermentation

At the end of fermentation (when there is no further bubbling—normally 1 to 4 weeks, depending on the fruit and temperature):

1. Siphon wine from the sediment into clean jugs (called "racking" by winemakers) that you have thoroughly washed, rinsed, and scalded. In each one, dissolve a Campden tablet in

a small volume of wine (½ tablet for each gallon of wine). Wine should fill the jugs completely and remain in these jugs long enough to become clear—perhaps several weeks.

2. To further clarify the wine and to prevent tartaric acid crystals forming in the bottle, store approximately 3 weeks at a low temperature (near freezing) before final racking. You can also add fining agents, which assist the settling of haze, to wines that are difficult to clarify.
3. After the wine has cleared, rack, sample, and sweeten if you wish. Use ¼ to 1 cup sugar per gallon, depending on taste. As an added precaution, to prevent spoilage of sweet wines, add potassium sorbate. Use 0.04% (1.4 grams or ¼ tsp) per gallon.
4. Bottling: siphon into clean bottles as above, seal, and store at a cool temperature, preferably 55 to 60°F. You can bottle dry wines (wines without sweetness, containing less than 0.5% residual sugar as determined by "Clinitest") directly without heating. Put corks or caps in water containing 6 Campden tablets or ½ tsp potassium metabisulfite per gallon for approximately ½ hour.
 - Loosely cap bottles and place in a boiling-water bath canner filled with water nearly to the top of the bottles.
 - Heat to near boiling, 190°F or higher. Allow water and bottles to stand until the water has cooled.
 - As the water cools, tighten caps on bottles snugly—do not tighten fully. When you remove the bottles from the water bath, tighten the caps fully.

A word of caution: Federal law limits home wine production to 200 gallons of wine per year for use in the home (not to be sold). No permit required.

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