



# winemaking



*Traditional Georgian Qvevri - clay fermentation and storage jars for wine that haven't changed much in 8000 years.*

## what is it?

Wine is an alcoholic beverage made from fruit or plant material via a process of fermentation (conversion of sugar to alcohol). Shop-bought wines are usually made from grapes, but 'country wines' can be made from any fruit, flower, herb or vegetable (or honey, in the case of mead).

Yeast converts sugar into alcohol (ethanol), which is usually toxic to microbes - but not to yeast, which can survive in alcohol levels of up to 20%. This is why even high-alcohol wines such as port are no stronger than that

Grapes' acidity, sugar and tannin levels make them the ideal fruit for winemaking - so much so that the word wine itself is from the same root as the vine that grapes grow on. Wine from other plant material will usually need sugar, tannin and acid levels adjusted.

Wine can be still or sparkling - i.e. with or without carbonation. This can happen naturally, or CO<sub>2</sub> can be injected. A person who makes wine is known as a winemaker or vintner; the science of winemaking is oenology or enology; and the growing of grapevines is called viticulture.

You can't make red wine from white/green grapes, but you can make white wine from red grapes, because the pigment is in the skin, not the juice. If you ferment red grape juice with the skins you get red wine, and if you separate the skins before fermentation, you get white wine. Rosé is produced by allowing a short period of fermentation with the skins.

## History

Winemaking started around 7-8000 years ago, in the Caucasus region, between the Caspian and Black seas. The Egyptians were keen on winemaking, but it really took off with the Greeks,

and then the Romans, who spread it around their empire, including Britain, which apparently produced especially fine wines. When Rome adopted Christianity, wine became a central part of the sacraments, and winemaking became popular amongst monastic orders, notably the Benedictines. The Catholic Conquistadors introduced viticulture and winemaking to the New World, after which it spread worldwide.

Country wines were a part of the medieval medicine cupboard. Elderberry wine was used to treat coughs and colds, and cowslip wine for insomnia. Corks and bottles were introduced in the 17th century, which allowed wines to age for a longer period, in an airtight environment. In the Middle Ages, wine was consumed relatively quickly, before it turned to vinegar.

## what are the benefits?

Winemaking is a way of preserving fruit. You'll be reducing the distance that the wines have to travel to get to you, and if you re-use your bottles, you'll extend their life and reduce the amount of energy required to make or recycle them.

Making wine is much cheaper than buying it. After an initial layout for equipment, you'll probably be looking at around 30p per bottle for homemade wine. Granted, shop-bought wines are reliable when it comes to taste, but with a bit of practice, you can make delicious wines yourself.

You have a huge amount of choice. Country wines can be made from elderberry, damson, crabapple, blackberry, plum and more. Common flower wines include elderflower, dandelion, cowslip, daisy, chamomile or marigold. Some fruits or blossoms are inedible in an unprocessed state - turning them into wine allows you to make use of a wider range of local, natural products.

Last but not least, winemaking is an interesting and fun hobby - and great for gifts or parties.



*Primary fermentation of crushed fruit - in this case in a cheesecloth bag to keep the liquid clear.*



## what can I do?

Either practise with grape concentrate or a wine kit, or launch into making country wines. You're not going to make anyone ill. Wines tend to have an alcohol content of over 10% - human pathogens can't survive that.

Get equipment/additives from brewing shops, online or second-hand: demijohns, screw-top bottles (or corks / corking machine), air-locks, bungs, muslin cloth, funnel, plastic hose and (food-grade) plastic buckets. Plus stirring spoons, jugs, knives, chopping boards etc.

Collect (ripe) fruit / plant material. Consult recipes for quantities, but first get to know the fundamentals. With grapes, you may not need to add anything at all apart from yeast. Wild yeast is in the air, and some winemakers use it in during fermentation. It's tricky, and can spoil the flavour. Wine yeast is bred for winemaking, so it's better for beginners. Keep kit clean with boiling water or a Campden tablet dissolved in cold water. It's more of a risk if you don't want to use Campden tablets. Use a bottle brush to clean inside bottles.

**Prepare the fruit:** wash; remove rotten bits, stalks, leaves etc; leave skins - to improve flavour & colour. Crush fruit in a large plastic bucket, and add almost boiling water; this may affect flavour, so you could use cold water with a Campden tablet. When cool, add pectic enzyme, to break down cell walls, release more juice and prevent haziness. You now have a 'must'; cover and leave for 2 days for the enzyme to extract all the juice. Stir occasionally with a wooden stirrer.

**Primary fermentation in the bucket:** add sugar and stir. Follow recipes or use a hydrometer (from a wine/beer making shop, or online - it will come with instructions) to find the sugar level, and how much alcohol it can produce. You want at least 10% alcohol, so you can see how much sugar you need to achieve that. Dissolve yeast in warm water, add and stir; cover with a lid. You could add more nutrients, as some fruit won't have enough to keep the yeast going. Buy winemaking nutrients and/or add a cup of black tea, to provide tannin, add body and help prevent spoiling. To stop wine tasting flat, add lemons (citric acid) or raisins (tartaric acid). You can also get acid blends from wine/beer making shops. Follow recipes until you get a feel for it. Leave this bubbling mixture in a warm place for a week, stirring daily.

**Secondary fermentation in demijohns:** pour into demijohns via a funnel with muslin cloth to filter out pulp. Close with a bung and air-lock with water in, to allow CO<sub>2</sub> to escape, but to keep oxygen out (so the yeast produces alcohol, not vinegar). Leave in a cool, dark place for at least 6 months; fermentation is finished when no more bubbles are released and the liquid is clear. Dead yeast cells form a sediment, which releases flavour, but if left too long, spoils the wine. To prevent this, when the sediment is about 2cm thick, 'rack' the wine - siphon into a fresh demijohn with a length of hose, top up with water and close with bung and air-lock. Rack the wine each time you get 2cm of sediment. You can also add spices or a little extra sugar - depending on what fruit you're using, what flavours you like, if you're following a recipe etc.

**Bottling & ageing:** siphon into bottles; seal, label and store in a cool, dark place to age. When you break the airlock to siphon, bacteria can enter and spoil the wine; you can add a crushed Campden tablet here, but some say it's not necessary. Experiment to see what works for you.

Fruit wines are often best after 3 years; flower wines, a year. You can drink it earlier than this, but wine mellows with age. Good luck, and cheers!

## resources

- see [lowimpact.org/lowimpact-topic/winemaking](http://lowimpact.org/lowimpact-topic/winemaking) for more info, products, links & books, including:
- Sheridan Warrick, *The Way to Make Wine*
- Paul Turner, *Traditional Country Winemaking*
- Rich Gulling, *Making Wild Wines & Meads*
- [nawb.org.uk](http://nawb.org.uk), Nat. Assoc. of Wine & Beer makers
- [englishwineproducers.co.uk](http://englishwineproducers.co.uk), promote UK wines
- [wine-making-guides.com](http://wine-making-guides.com), lots of recipes
- [wineskills.co.uk](http://wineskills.co.uk), huge resource



Secondary fermentation - demijohns with air-locks.

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