

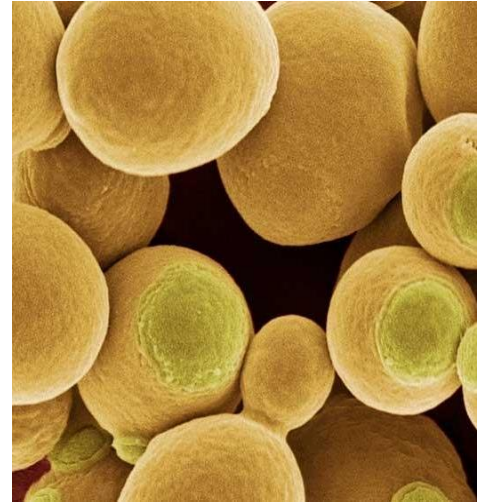
WHAT IS WINE?

The classical definition of wine is:

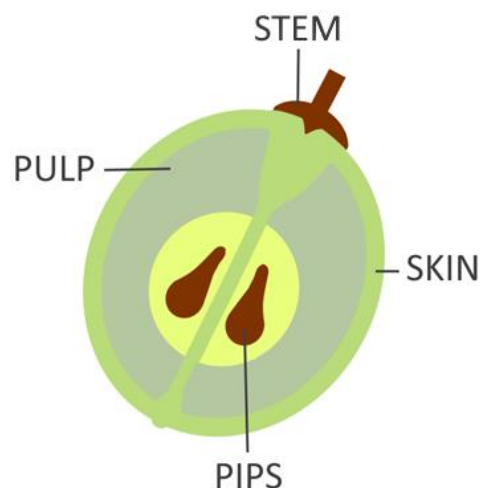
‘An alcoholic beverage obtained from the fermentation of juice from freshly gathered grapes.’

Fermentation occurs when yeast is introduced to sugar. A living organism (shown right under a microscope), there are thousands of yeast strains, though only one, *Saccharomyces cerevisiae*, is used for fermentation, whether that is in baking bread or making wine.

During fermentation, yeast converts sugar into two products: carbon dioxide, and alcohol. At its simplest, wine is made by crushing grapes and allowing the natural yeasts present on the skins to come in to contact with the natural sugars present in the juice. But of course, there’s a lot more to it than that.



In fact, the wine grape is the perfect, self-contained package for making wine. There are many components, not only sugars, but acids, potassium, tannins and numerous compounds in the stems, pips, skin and pulp of the grape. These are what give aroma, flavour and complexity to the wine.



The **stems** give tannins, the **skins** colour, plus more tannin and phenolic compounds, and the **pulp** gives sugar, acid and juice. The **pips** contain bitter oils, so winemakers avoid crushing these.

The lightest white wines are made fermenting only the juice – the grapes are pressed before fermentation to release the the juice, without stems or skins giving their colour or tannin. For a heavier red, the grapes are not pressed until after fermentation, so the skins and sometimes stems are all part of the fermentation mix.

The winemaker makes decisions on this according to the style and quality of wine being made. That’s just the first step in the process of making a wine, and many other interventions will affect the quality and style of the wine that is produced.

THE VINE

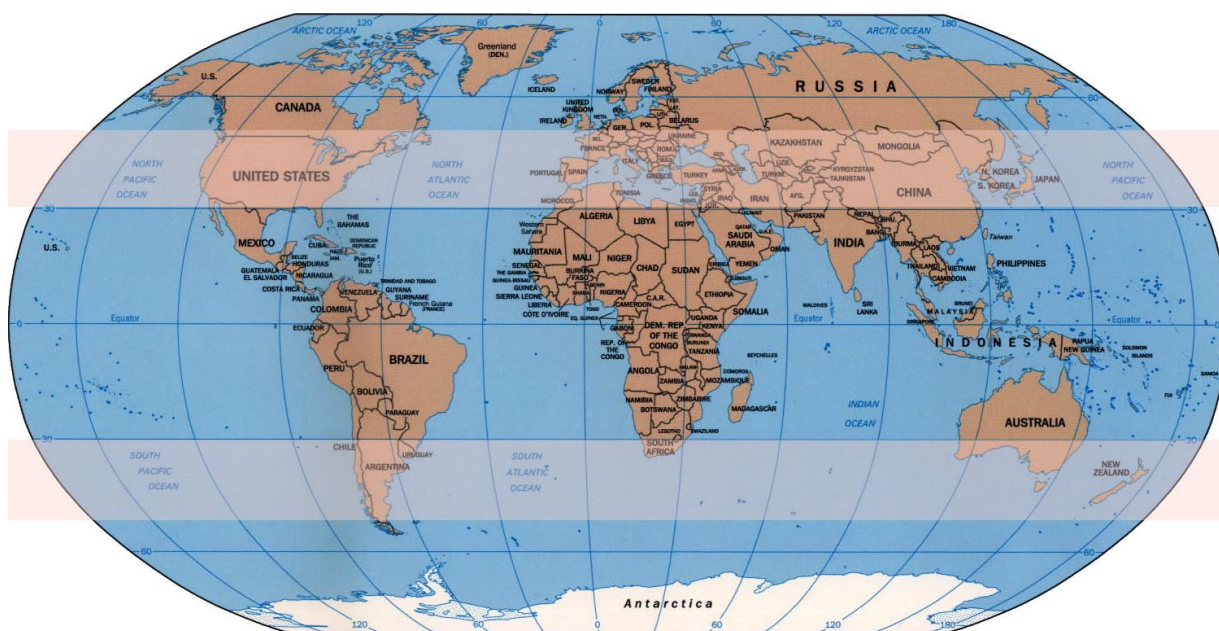
The vine has been cultivated for producing wine for around 8,000 years. The earliest evidence of winemaking comes from around Georgia and Armenia: one archaeological site in Armenia includes a wine press, storage jars and drinking cups dating from 4,100 B.C. - though winemaking probably began much earlier.

There are around 80 species of *Vitis*, the grape vine, and though several are used to make wine, one species, *Vitis vinifera*, is by far the most important. From 10,000 known varieties of *Vitis vinifera*, around 1400 are in commercial production somewhere in the world, though probably more like 100 are truly widespread.

Viticulture is an extremely important aspect in making wine. It’s a commonly heard phrase that “great wine is made in the vineyard, not in the winery.” The French notion of *terroir* includes the soil in the which the vine grows, the climate in the vineyard, and the aspect – altitude, latitude and so on. It’s an all-encompassing word to describe the origin of the grapes used in making a wine.

The conditions needed for growing quality vines are strictly defined. Winter should be cold, so the vine can 'sleep' and gather strength for the production of the next summer's crop. Too cold though, and the roots of the vine can be damaged by frost leading to the death of the plant. Spring must be warm and wet, though not too wet, so that the plants can bud and produce the tiny flowers that will eventually become bunches of grapes. Summers should be long, sunny, and hot, but again, too much heat is counter-productive, leading to scorched fruit that ripens too quickly and doesn't have enough quality. Autumn must be gentle and relatively dry so that the grapes can reach full maturity before excessive rain or cold damages the fruit.

These requirements exclude the northern and southern latitudes, which are too cold with too little sun. Equatorial land is also excluded, as it is too hot and humid, with no period in which the vines can rest.

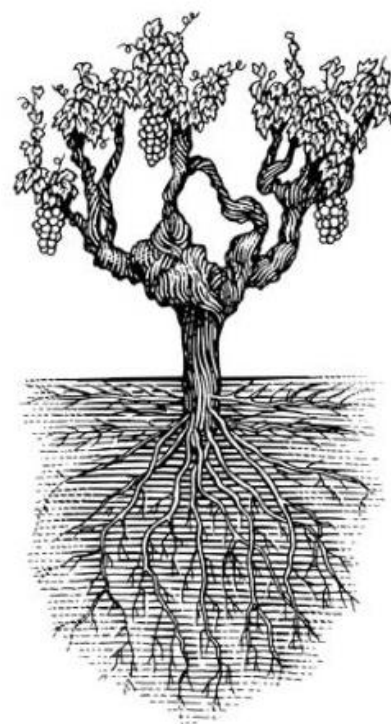


Vines flourish in these two quite narrow bands of latitude, approximately 30-50° north and 30-50° south of the equator. Wines are produced on the margins of these latitudes, but consistency is hard to guarantee.

Unlike most agricultural crops, the grapevine does not require rich, fertile soil to thrive. In fact, soils which are too rich, too full of nitrogen and nutrients, might produce abundant crops, but these will be grapes suitable for eating, not for making wine. The fruit will be too simple and sweet and lacking in complex minerals, sugars, acids and flavours. The world's finest wines are invariably produced from poor quality soils where few other crops would be worth planting. The great wines of Bordeaux are produced from soil composed largely of gravel and pebbles, on a base of clay or chalk. The great Burgundies come from acidic, granite soil on a base of limestone.

The reason for this anomaly – poor land producing great wines – is that poor soil naturally restricts the quantity of the crop, so that fewer grapes are produced, but of higher quality. Also, poor topsoil encourages the vine to send its roots deeper in search of water and nutrients. As the roots reach further down, complex minerals will be absorbed that can add complexity to the grape and, eventually, to the wine.

Vineyards tended to be situated along river valleys, on gentle slopes where they have maximum exposure to the sun, where the soil is free draining, and where, historically, the rivers could be used for transport.



Our understanding of how vine growing and winemaking grew, spread and flourished has been pieced together. Separate waves of ancient cultures took the vine and the secrets of winemaking on their travels along the shores of the Mediterranean and beyond, the Phoenicians, Greeks and Romans planting vines wherever they set up colonies, from France to Egypt.

HOW WINE IS MADE

Before reaching the winery, the winemaker and viticulturist will have decided on the optimum picking date, harvested the fruit and, in high quality wines, will have selected or sorted it on potential quality.

The basic steps are to begin with good quality fruit, ferment it into young wine, mature that as required, and finally bottle it, ensuring the operation is carried out with scrupulous hygiene. Beyond these simple steps however, the winemaker can influence the wine in many ways, taking certain decisions and actions that affect the style of the wine and how it will taste. We will look at these actions in detail in our sections dealing with different wine styles, but they include: the selection and mixture of grapes used, the method of fermentation, and the treatment the wine is given as it matures in the cellars.

The rules vary from region to region, but most authorities allow the addition of controlled quantities of certain other ingredients in the fermentation and making of wine, including:

- Sugar - allowed in many areas if there is insufficient sun to fully ripen the grapes
- Acid - permitted in some hotter regions where it may be naturally deficient
- Yeast – some winemakers prefer laboratory yeasts to those found in the vineyard
- Tannin – a powdered form of tannin may be added in some regions
- Enzymes – used to help fermentation under certain conditions
- Sulphur – minute quantities used to stop fermentation and to sanitise wines.

The beginning of the 21st century saw a rise of a movement towards ‘natural wine’. So far there is no globally-accepted legal definition of a natural wine, but, generally, wines must be organically-grown and made, and most of the additions above are outlawed.

GRAPES AND WINE

Curiously, wine rarely tastes or smells of grapes. The grapes from which wine is made, however, are the most important factor in taste. Wines made from the chardonnay, for example, are said to have a taste of peaches, lemons or butter. Wines made from the cabernet sauvignon are reckoned to have flavours of blackcurrant, plums or chocolate.

Historically, European producers placed little emphasis on the grapes used to make a wine when marketing it. Instead, they placed maximum importance on the place of origin on their labels:

- Bordeaux, Burgundy, Chablis, Sancerre, Rioja, Chianti, Port, Sherry.

Grape variety simply did not appear on the label – front or back – and only the dedicated wine buff would know that, for example, Chablis was made from Chardonnay, or Sancerre was made from Sauvignon Blanc.

Even as recently as the 1980s, the vast majority of consumers had no idea of the grapes used, choosing their wines either by a classic place name, or a brand name. They could not order a Chardonnay, because chances are they had never actually heard of Chardonnay - even if they were fans of Chablis. That gave those classic European regions something of a monopoly in terms of being recognised by wine drinkers.

THE OLD WORLD AND THE NEW

If the New World wanted to compete in the marketplace, the simple solution was to 'borrow' a famous European name, so Australian 'Burgundy', Californian 'Chablis' or South African 'Champagne' were commonplace. International law soon caught up with this practice however, protecting these names and ensuring that if a wine said 'Burgundy' on the label, it had to come from a strictly defined area in France. Even though the New World producer was using identical grapes to make a wine in a similar style, it could not be marketed outside its domestic market under the only name the consumer would recognise.

Rather than battle against tradition and legislation, the solution the New World arrived at was to use varietal labelling. They attempted to change the whole way we thought about, talked about, selected, chose between, and most importantly, bought wine. They educated us in the grapes from which the wine was made, by stressing this, rather than the place of origin on the label. Soon we got used to the idea of buying a bottle of Chardonnay or a bottle of Pinot Noir. This is perhaps the biggest change ever in the way wine is understood by consumers.

As ordinary wine drinkers learned to recognise wine by grape variety, it made them much more willing to experiment, to buy wine because they liked the grape, no matter where the wine was made. Even France has recognised that they must adjust to this modern world in order to compete, and now the naming of grapes on labels is as common in France and throughout Europe as anywhere in the New World.

LONG LIVE THE KING (OR QUEEN)

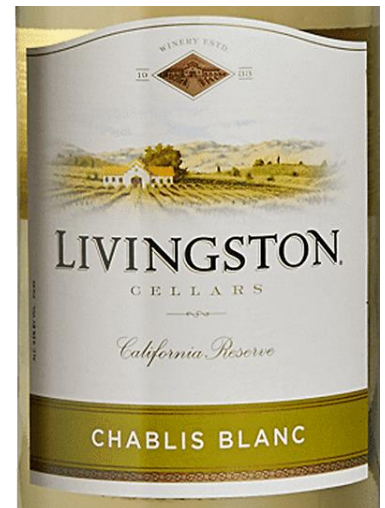
Although the New World has altered the whole way we buy and think about wine, winemakers there have always acknowledged that the Old World – France in particular – had a huge amount to teach them. France has a combination of many factors which mean it is still at the fore-front of quality wine production:

- an ideal location (latitude)
- a highly suitable range of soil types
- suitable weather conditions
- generations of knowledge
- long-established vineyards
- well-established wine laws (appellation contrôlée)
- a highly skilled support industry – nurserymen, barrel makers, scientists, etc.

In other countries around the world winemakers have taken the grape varieties and techniques used in France as a starting point to make their own version of classic wines. Of course, the New World winemakers do much more than just mimic the European models, with their own interpretations of each style, but it is worth understanding where in the world has embraced the model of some French classic regions.

Overleaf is a table with 3 columns:

1. gives the name of some of a classic French wine region
2. gives the principal grapes from which the wines there are made
3. shows just some of the countries making quality wines in a similar style.



Region	Grapes	Competitors
Bordeaux	Cabernet Sauvignon, Merlot, Cabernet Franc, Petit Verdot	USA, Australia, South Africa, Chile, Bulgaria, Spain, Italy, Lebanon
Burgundy (red)	Pinot Noir	USA, New Zealand, Australia, South Africa, Romania
Burgundy (white)	Chardonnay	Australia, New Zealand, USA, South Africa, Chile, Argentina, Spain, Italy, Bulgaria, Hungary
Northern Rhône	Syrah (shiraz)	Australia, New Zealand, USA, South Africa
Alsace	Gewurztraminer, Riesling	New Zealand, Australia, USA
Loire	Sauvignon Blanc	New Zealand, Chile, USA, South Africa
Champagne	Chardonnay, Pinot Noir, Pinot Meunier	USA, Australia, New Zealand, South Africa

Of course the list above is not exhaustive, but the challenge for all countries is, on one hand, to create wines that have the quality of the 'originals' and will have the staying power to keep them being bought and enjoyed by wine lovers around the world, and on the other, to establish their own identity.

Some have done this very successfully, like New Zealand Sauvignon Blanc for example, which had carved its own identity - still Sauvignon Blanc, but with a character that's quite different from France's Loire Valley original, and an identity so distinct that other countries around the world now use *it* as a model.

For the wine lover, there is a wider choice of wines than ever before, from a wider variety of places. It also means – with some top wines of Bordeaux and Burgundy now costing hundreds of pounds per bottle – that we have a chance to glimpse what some of the world's greatest wines have to offer, at a reasonable price.

TONIGHT'S TASTING WINE:

Appearance

Nose

Palate

Conclusion