

Winemaking Glossary

acid	Balanced wines with high acidity are often described as crisp or bright, but if the level is too high, it tastes sour and sharp. Low acidity may give wine a flat, dull flavour and finish.
acidification	Adjustment of pH or titratable acidity of the juice after draining or pressing by acid addition.
additives	Additives are often added during winemaking to modify or negate the influence of environmental, harvesting and winemaking factors, which can adversely affect the quality of the resultant wine.
aging	The process of maturing wine, either in bulk or in bottles (or both) to achieve smoothness, mellowness and complexity.
alcohol	The shorthand term for ethanol; a product of yeast fermentation.
anthocyanins	The pigments that contribute the red and purple colours to their wines.
antioxidants	Any chemical added by the winemaker which impedes oxidation (often ascorbic acid).
autolysis	The decomposition of yeast cells remaining after fermentation which often results in more complex wines with creamier textures.
barrel	A hollow cylindrical container, traditionally made of wooden staves bound by wooden or metal hoops. Wine may be fermented or matured inside.
basket pressing	When a winemaker wants to separate the grape skins from the juice or the wine, they use a device called a press. Traditionally a "basket press" was used. A basket press is essentially a cylindrical cage that can be filled with the grape skin and wine mixture, that then allows the wine to drain out leaving the skins (and seeds) behind. Pressure is then applied from the top via a pneumatic ram, that gently squeezes the remaining wine.
bâtonnage	The process of stirring the lees back into the wine following the barrel fermentation of white wines. This imparts a cheesy complexity and a creamy texture.
blending	To produce a wine with better balance and/or consistency, wines made from different grape varieties, regions or vintages are combined.
<i>Botrytis cinerea</i>	This mould is a common viticultural disease that if left untreated can completely destroy an entire grape crop. Wine made from badly Botrytis infected grapes will have mouldy and sour flavour characteristics. However, in some rare cases Botrytis affected grapes can be made into sweet luscious wine with distinctive honey and dried apricot flavours. To mirror this effect and produce these sweet desert wines, some producers use the "cane cut" technique, whereby grapevine canes are cut before the fruit has been harvested, and the grapes allowed to dry on the vine, concentrating the sugars and changing the flavour, without any influence of the mould.
bottles	The most common wine bottle size worldwide is 750 ml and every one consists of a mouth, neck, shoulder, body, and bottom. The bottom may contain an indentation known as a punt.
bottling	The process of transferring wine from a large container to individual bottles.
<i>Brettanomyces</i>	A wild yeast (<i>Dekkera bruxellensis</i>) that imparts aromas and flavours to red wines akin to barnyard, antiseptic, or Band-Aid.
bung	In cooperage, a wooden or rubber stopper used to seal the cask, keg or barrel.

cap	In the primary fermentation vessel, the cap is the layer of fruit pulp, skins, and sometimes seeds that forms on top of wine must during the fermentation process.
carbon dioxide	The gas produced by yeast during fermentation. It also gives sparkling wines their effervescence.
carbonated	The injection of carbon dioxide gas into a wine to make it bubbly.
carbonic maceration	The anaerobic fermentation of whole bunches of grapes in an atmosphere of carbon dioxide, mainly for Pinot noir production.
cellaring	The storage of wine, usually in bottles or barrels where factors such as temperature and humidity are maintained by a climate control system.
chaptalisation	The addition of sugar to wine or juice.
clarification	The removal of insoluble solids from wine.
 closures	The object used to seal a wine bottle and avoid contact between the wine and oxygen. Closure types include: natural cork, screw caps, synthetic closures and glass closures.
cold settling	A non-mechanical process of clarifying juices at low temperatures (< 5°C).
cold soak	Pre-fermentation cold maceration involves the aqueous extraction of compounds from the fruit flesh/pulp/skins/seeds into the must (as opposed to the alcoholic extraction).
cold stabilisation	Chilling wine to -2°C to precipitate tartrate crystals.
cork	A buoyant light brown substance obtained from the outer layer of the bark of the cork oak. Cork is used to close or seal wine bottles.
cross-flow filtration	A filtering system where the majority of the feed flow travels tangentially across the surface of the filter, rather than into the filter.
crusher	A piece of winery equipment that carries out the process of crushing (breaking the grape skins) wine grapes prior to fermentation.
crusher-destemmer	A device that crushes grapes (generally with rollers) and then removes stems with beaters revolving in a perforated cylinder.
crushing	The juice inside the berry, as well as the seeds and broken skins are freed for further processing.
destemmer	The process of separating stems from the grapes. The process lowers the development of tannins and vegetal flavours in resulting wines.
distillation	The process of separating the more volatile component (alcohol) from the less volatile component (water) from a water/alcohol solution. This is done by heating the solution, then condensing and collecting the alcohol rich vapours (a high alcohol strength liquid known as a spirit).
draining	The operation consisting of leaving the juice of the crushed, harvested grapes to flow, before pressing.
esters	Esters are formed by reaction between acids in a wine and its alcohol. They have a low molecular weight, are flavourful (can contribute sweet fruity aromas) and are usually volatile. There are over 100 different esters in most wines.
evaporation	The changing of a liquid into a gas, often under the influence of heat.
extended maceration	Leaving young red wine in contact with skins and seeds on completion of primary fermentation.

extraction	The release of substances, mostly derived from grape skins and just under the skin surface, that contribute tannin, colour, glycerol and flavour in wine.
fault	An unpleasant characteristic of wine resulting from a flaw with the winemaking process or storage conditions.
fermentation	Alcoholic fermentation is a chemical reaction in winemaking where sugars are converted to alcohol by yeast. Malolactic conversion it is the conversion of malic acid to lactic acid by bacteria.
filtration	The removal of unwanted particles suspended in wine or grape juice.
fining	Addition of substances to refine wine by removing undesirable chemical compounds, colour, flavours or tastes.
free run	Juice obtained from grapes that have not been pressed.
gross lees	Gross lees (dead yeast cells) usually collect at the bottom of the fermentation vessel immediately after fermentation is complete.
heat exchanger	A device for rapidly cooling or warming wine, grape juice or must, often employing a shell with tubes inside.
hydrogen sulphide	The combination of hydrogen and sulphur dioxide which can produce a 'rotten egg' fault. The compound may develop into mercaptans in bottle.
indigenous yeast	A number of species and strains of indigenous yeasts are found on grapes and winery equipment. If left, grape juice will spontaneously start to ferment.
inoculation	The process of yeast addition to juice or must.
juice	The liquid expressed from the grape berries.
laccase	An enzyme which can occur in grapes, particularly under wet conditions. It causes rapid and damaging oxidation of juice and wine.
lees	Wine sediment that occurs during and after fermentation. It consists of dead yeast cells, grape seeds, and other solids.
lees contact	A process in which the yeast are not removed at the end of the alcoholic fermentation and are allowed to remain in contact with the wine. The lees or yeast are mixed with the wine occasionally to slowly change the wine's mouthfeel and add "yeasty" like flavours. Also known as "sur lies" or "bâtonnage" when undertaken in a barrel.
maceration	The mixing of grape skins and juice prior to, during and after alcoholic fermentation is known as maceration. This can also be termed skin contact. In white winemaking skin contact is only used with certain varieties (e.g. Sauvignon Blanc) to enhance varietal character. Almost all red wines require some form of maceration. If it occurred prior to fermentation, typically the temperature is kept low (< 10°C) and this process is called a "cold soak". Maceration during the alcoholic fermentation of red wines is crucial as the grape skins contain the majority of flavours, tannins and colours necessary for winemaking. If the contact continues beyond alcoholic fermentation, then this process is designated "extended maceration".
maderised	A wine which shows Madeira flavours has evidence of oxidation. It is a fault whereby over-heating has given the wine a brown colour and burnt, stale taste.

malolactic fermentation	This is a secondary fermentation that occurs in almost all red wine and some white wines. A group of bacteria known as the Lactic acid bacteria are responsible. Wine is allowed to undergo this process as it reduces the chance of microbial spoilage occurring once the wine is bottled. Typical flavour and odour characteristics of MLF are nutty, buttery, butterscotch, lactic, and diacetyl. The wines are also less acidic after MLF as the bacteria have transformed the green tasting malic acid into the softer lactic acid.
marc	A French word for the residue stalks, skins and seeds left after pressing.
maturation	Storage of wine in tanks or oak barrels to allow slow chemical changes to occur and the wine to mellow.
mercaptans	A short-chained hydrocarbon that contains a thiol group. It is highly volatile and possesses strong, putrid odours.
methoxypyrazines	Methoxypyrazines are a group of compounds, found in both grapes and wine, which are responsible for the green, herbaceous, or vegetative aromas in wine.
micro-oxygenation (MOX)	The controlled exposure of wine to small amounts of oxygen in the attempt to reduce the length of time required for maturation.
must	Unfermented grape juice, including berry seeds, skins and stalks.
non-vintage	Usually a blend of wines from two or more years. This is a common practice for winemakers seeking a consistent style of wine each year.
oak	A common source of wood for fermentation vessels and barrel aging. Oak influence can also be imparted by using oak chips or staves.
oak chips	Oak chips are small pieces of oak which utilise all sides (increased surface area) of the chip to impart aromas. Generally, chips are added prior to fermentation which allows the yeast to react to and modify the tannins and aromas of the oak.
oak staves	A shaped piece of wood that forms part of a barrel or other type of cooperage. Staves and sticks are often added to a wine tank post-fermentation where the oak aromatics and flavour compounds are extracted from the wood by the alcohol.
oxidation	Uncontrolled exposure of wine to air or oxygen will result in negative effects. Oxidation dulls wine aroma (flat) and can give acetaldehyde off-odour (bruised apples/pears, sherry and nut-like characters). Extreme oxidation will result in vinegar and nail polish solvent aromas and even straw and or hay like characters. Oxidation increases colour depth in white wine, causing browning and brickish tints in red wines.
packaging	Most wines are sold in glass bottles with a seal (including cork, synthetic cork or a screw cap). An alternative wine packaging is boxed wine.
pectin	Pectins are structural molecules in the cell walls of grapes which have the important function of binding plant cells together.
pH	A measure of the acidity. The lower the pH, the higher the acidity (the concentration of hydrogen ions).
plunging	The process of pushing down the cap to extract colour, flavour and body.
polymerisation	Aggregation of anthocyanins and tannins into larger particles, leading to colour changes of red wines.
potter fermenters	A fermentation vessel which uses gravity to separate juice or fermented wine from skins and seeds.
press	Equipment used to separate juice or wine from skins, pulp and seeds.

pressing	The separation of grape solids (stems, skins, seeds, pulp, leaves, and detritus) from the juice.
pressings	The juice extracted from the grapes under pressure which has flavour, deeper colour and more tannins than free-run juice.
primary fermentation	During primary fermentation of wine, glucose and fructose are converted to alcohol (ethanol) by yeast. The by-products are aroma and flavour compounds as well as carbon dioxide and heat.
pump-over	The act of pumping wine out from a bottom valve of a fermenting tank, up onto the top of the fermenting mass in the same tank. This ensures a floating "cap" of wets skins.
rack and return	Decanting clear juice or wine from above the sediment (lees) into another vessel. The lees are then cleaned out and decanted liquid is then returned to the original vessel.
racking	The process of drawing wine off the sediment, such as lees, after fermentation and moving it into another vessel.
random oxidation	A flaw that occurs in white wines, when a wine is expected to be in good condition, but is found to be oxidised and often undrinkable.
reduction	The reduced state is usually recognized the smell of rotten eggs (hydrogen sulphide). Compounds in wine gain an electron (or hydrogen atom) and become reduced.
reserve wine	A term given to wines which implies it is of a higher quality than usual and/or has been aged before being sold.
residual sugar	The amount of sugar remaining in a wine that has not been converted into alcohol when fermentation ends.
resveratrol	A stilbene compound produced by grapes in response to environmental stress, notably to attack by pathogenic fungi. It is also an important antioxidant with beneficial health consequences when wine is consumed in moderation.
reverse osmosis	A process used to remove excess water or alcohol from wine.
rotary fermenter	Rotary fermenters have agitators inside them to mix the cap and juice when the whole tank is rotated mechanically.
saignee	The removal of grape juice from the must before primary fermentation to increase a wines skin/juice ratio.
screw-cap	An alternative to cork for sealing wine bottles. The closure consists of a metal cap that screws onto threads on the neck of a bottle.
secondary fermentation	A second period of fermentation in a different vessel than the one used to start the fermentation process.
skin contact	A process where the phenolic materials of the grape (tannins, colouring agents and flavour compounds) are leached from the berry skins, seeds and stems into the must.
solera	The multi-barrel system used in the traditional production of some fortified wines, such as Sherry and Muscat.
solids	Microscopic particulate matter that is held temporarily in suspension following crushing of the grapes.
sparging	The sparging of juice or must with oxygen to oxidize readily oxidisable phenols and promote their subsequent precipitation during fermentation.
stabilisation	The removal of unstable components such that the wine will not develop any undesirable physical and sensory properties under normal storage conditions.

stelvin	The most well known brand of wine screw caps.
sterile filtration	Filtration through ultrafine pads or membranes which removes unwanted microbes.
storage conditions	An important consideration for wine that is being kept for long-term aging. The three factors that have the most direct impact on a wine's condition are light, humidity, and temperature.
stuck fermentation	A yeast fermentation that stops prematurely and does not restart even though live yeast and fermentable sugar still remain in the liquid.
sugar	Glucose and fructose are converted to alcohol (ethanol) by the action yeast during the primary fermentation of wine.
sulphur dioxide	A pungent gas used in winemaking to inhibit wild yeast growth, protect wine from air oxidation and inhibit browning in juice and wine.
sur lie	A winemaking practice that involves prolonged aging on dead yeast cells.
tannins	Phenolic compounds that give wine a bitter, dry, or puckery feeling in the mouth. Tannin may also act as a preservative/anti-oxidant in wine and is derived from the seeds, skins and stalks of grapes.
TCA	An abbreviation for trichloroanisole; a compound associated with corked wines.
TDN	Older white wines may display a petrol note which is caused by the compound 1,1,6-trimethyl-1,2-dihydronaphthalene (TDN).
terpenes	A class of unsaturated hydrocarbons that are responsible for characteristic aromas. For example, the kerosene notes of mature Riesling or the floral aromas of Muscats.
thiols	Thiols are also responsible for a class of wine faults caused by an unintended reaction between sulphur and yeast.
titratable acidity	Titration acidity is only a measure of hydrogen ion consumed by titration with standard base to a defined end point, usually pH 8.2.
total acidity	Total acid may be defined as the concentration of organic acids in grapes. It is a measure of the hydrogen ion concentration plus the potassium and sodium ion concentration.
ullage	Also known as headspace, ullage is the unfilled space in a wine bottle, barrel, or tank.
vat	A large container, such as a tub or tank, used for storing or holding wine.
vintage	The year or season of wine grape growing.
whole bunch press	Generally grapes are crushed to release the juice and allow fermentation to begin. However, in some style of winemaking (e.g. for sparkling or 'champagne' wines), whole bunches of grapes are loaded directly into the press and the juice is immediately separated from skins, seeds and stalks. This process reduces the skin contact and is perceived to produce "softer" less astringent wines.
wild yeast	Species or strains of yeast that occur on grape surfaces or are on winery equipment or walls.
winery	A building, property, or company that is involved in the production of wine.
yeast lees	A single cell microorganism responsible for alcoholic fermentation, that is converting the sugars in grape juice into ethanol. The most important yeast in winemaking is <i>Saccharomyces cerevisiae</i> , also known as baker's yeast. Strains of this yeast occur rarely on grapes, however, are easily isolated from wineries, and can either be added by the winemaker or evidentially dominate in a uninoculated or "wild" fermentation.