



MERLOTTA
VIGNAIOLI DAL 1962

LESSON 5

**THE WINEMAKING
PROCESS FOR WHITE,
RED AND NEW WINES**
(BY FRANCO DALMONTE)



WHITE WINE

The winemaking process used for the preparation of white wine from white and red grapes.

The first part of the process is characterised by the need to avoid the phenolic colouring composites of the grapes are transmitted to the wine. For this reason the grapes must reach the cellars in the shortest time possible so as to prevent the beginning of maceration and fermentation. The separation of the skin and stalks from the must must happen quickly after the pressing.

There are two ways of carrying out this process:

Defecation or static wine racking: in other words the use of the appropriate clarifying additives (casein, bentonite, silica gel, gelatine, pectolitic enzymes)

Decantation: this means the natural deposit of the solids by using small refrigerated containers and small doses of sulphur to delay fermentation.

Centrifugation: using the appropriate centrifugal machinery

Filtering: filtering the cloudy must through clarifying filters

Flotation: using specialised equipment, called floaters, the solid floccules created in the wine are brought together by the appropriate clarifiers. These flocculate the solid parts of the wine and with the help of a gaseous emission are pushed to the surface.

The optimal temperature for fermentation is 18°-20° C. In recent years the best equipped wine cellars and those aiming for the best quality, have increasingly begun using the technique of cold maceration or low temperature skin maceration. This consists of the grape skins being in contact with the must for a short space of time; in this way some of the aromatic components are extracted from the skins and absorbed by the must, thus giving the future wine a better quality and character. The crushing (must and skins) is taken to a temperature of 4-5° C (to block yeast activity) immediately after the pressing and conserved for 24-36 hours.

RED WINE

The winemaking process for red wine begins with destalking and pressing the grapes (or viceversa depending on the equipment available) with the aim of separating the stalk and splitting the skin of the grape to release the pulp. The skins, pulp and grape pips ferment together for a varying time depending on the winemakers objectives, the cultivar and above all the state of health of the grapes: for 4-7 days for wines ready to be drunk up to 15-20 days and more for wines destined for ageing.

During the fermentation it is necessary to carry out, two or three times a day, punching down or pumping over to wet or break the cap formed by the skins that are pushed to the surface by the

formation of carbon dioxide. This practice is necessary to avoid the increase of volatile acidity and the start of the process of acetification and to help the passage of the colouring substances and polyphenols to the must.

Important to check temperature which needs to be between 25°-30° C.

A particular operation of red winemaking is the pressing of the marc.

ROSE

Italian law prohibits the blending of red and white wines so rosè is obtained:

- da uve rosse poco pigmentate
- from red grapes with little pigmentation

- mixing red and white grapes
- from red grapes with a process in which only some of the grapes are macerated.

The vinification is the same as used for white wine

NEW WINES

New wines are the first wines put on the market after every grape harvest. By law they can't be put on the market before November 6th. There are about 40 grape varieties that can be used for the production of new wines but the aroma is characterised, not so much by the variety that is used as by the biochemistry of the alcoholic fermentation of this technology, in other words the ethyl cinnamate. At least 30% of a new wine must be obtained with carbonic maceration and can't have more than 1% (10g/l) residue sugars.

The remaining 70% must be a wine with low acidity obtained by cold maceration, with little dry extract and with aromas that don't cover that of the carbonic maceration.

The grapes for the carbonic maceration must be not too mature, also because the final strength of the wine must be around 11.5%.

The technique was officially begun in the fifties in Beaujolais by Professor Flanzy, director of the oenological institute in Narbonne. In that area it was difficult to produce good wines; for this reason he decided to conserve the grapes in an atmosphere conditioned by CO₂ but seeing that the grape underwent organoleptic alterations decided to take it to the distillery to produce the wine. The surprise: the realisation that the wine obtained in this way had a

pleasing characteristic.

A tank is filled with whole grapes (harvested by hand) in a carbon dioxide saturated environment; the maceration occurs in an anaerobic state that lasts from 7-12 days at a temperature of 30°-35° in which occurs the first intracellular fermentation; then it is drawn off from the vat, pressed and the 2nd phase starts.

The carbonic maceration initiates:

- the formation of alcohol through enzymes and by yeasts
- breakdown of the skin cells with the transfer to the pulp of components such as colouring substances,
- production of malic acid that occurs with the production of ethyl alcohol, succinic acid, amino acids and sugars.

With the lowering of the malic acid a biological deacidification occurs, an increase of the pH and for this reason wines coming from carbonic maceration are more prone to a malolactic fermentation.

After a year new wines are similar to normal wines due to the evaporation of the aromatic composites (volatile composites).