

# METHODS FOR SPARKLING WINE PRODUCTION

DEFINITION (TTB): An effervescent wine containing more than 0.392 grams of carbon dioxide per 100 milliliters of wine resulting solely from the secondary fermentation of the wine within a closed container.

## TRADITIONAL METHOD (MÉTHODE CHAMPENOISE)

Grapes (1)→base wine (2)→tirage (3)→2<sup>nd</sup> fermentation (4)→aging (5)→riddling (6)→disgorging (7)→dosage (8)→closure (9)

- (1) Grapes  
Low sugar, high acid, clean.
- (2) Base wine  
Separation of cuts when pressing.  
Gentle pressing.  
Low alcohol, low phenolics.
- (3) Tirage (bottling)  
Pied de cuve (yeast culture acclimated to conditions).  
Sugar addition (24 grams/liter for approx. 6 atmospheres pressure).  
Adjuvants for riddling, nutrients.  
Temporary stopper (crown cap)
- (4) 2<sup>nd</sup> fermentation  
Trapping the bubbles in bottle.
- (5) Aging  
Autolysis of dead yeast after 2<sup>nd</sup> fermentation.
- (6) Riddling  
Turning the bottles to upside-down, moving the yeast into the neck.
- (7) Disgorging  
Freezing bottle neck (or not) and expelling the sediment.
- (8) Dosage  
Sugar syrup, SO<sub>2</sub> (possibly other flavorants).
- (9) Closure.

## TRANSFER METHOD

Grapes (1)→base wine (2)→tirage (3)→2<sup>nd</sup> fermentation (4)→aging (5)→filter to tank w/dosage (6)→final filtration to bottle (7)→closure (8)

- (1)-(5) See Traditional Method.
- (6) Filter into pressurized tank containing dosage.
- (7) Sterile filtration; bottle under pressure.
- (8) Closure.

## TRANSVERSAGE

Grapes (1)→base wine (2)→tirage (3)→2<sup>nd</sup> fermentation (4)→aging (5)→riddling (6)→disgorging (7)→transfer to tank w/dosage (8)→bottle (9)→closure (10)

- (1)-(7) See Traditional Method.
- (8) Transfer to pressurized tank containing dosage.
- (9) Bottle under pressure in either smaller or larger bottles.
- (10) Closure (often screw caps for 187's)

### **PET-NAT (MÉTHODE ANCESTRALE)**

Grapes (1)→1<sup>st</sup> fermentation: stop or slow w/residual sugar (2)→bottle (3)→ finish fermentation (4)→clarification (optional) (5)→closure (if clarification used) (6)

- (1) Grapes  
Low sugar, high acid, low pH (especially important if using native yeast).
- (2) 1<sup>st</sup> fermentation  
Stop or slow to retain residual sugar near end of fermentation.  
No sugar: no bubbles.  
Too much sugar: dangerously high pressure may build up in bottle.
- (3) Bottle  
Bottle with RS and some residual yeast.  
Cap w/crown cap (usually).
- (4) Finish fermentation  
Fermentation finishes in closed bottle, trapping gas.
- (5) Clarification  
No clarification, sold with residual yeast sediment.  
May be riddled and disgorged or transferred and filtered.
- (6) Closure  
If clarified, may be re-stoppered with crown cap, cork, etc.

### **CHARMAT METHOD**

Grapes (1)→base wine (2)→tank (3)→2<sup>nd</sup> fermentation (4)→filter into tank w/dosage (5)→ sterile filter into bottle (6)→closure

- (1)-(2) See Traditional Method.
- (3) Tank (pressure capable)  
Base wine plus sugar plus yeast.  
Sealed tight.
- (4) 2<sup>nd</sup> fermentation  
Generally done quickly, trapping pressure in tank.
- (5) Filtration  
Filter (under pressure) into pressurized tank with dosage.
- (6) Sterile filter to bottle (optional)  
Bottle under pressure (counter-pressure filler).
- (7) Closure  
Cork, plastic, crown cap, etc.

### **CARBONATION**

Grapes (1)→base wine (2)→carbonation (3)→bottle (4)→closure (5)

- (1)-(2) Grapes and base wine  
Depends on desired style: any wine can be carbonated.
- (3) Carbonation  
Generally done in bright tank (pressure capable) w/carbonation stone.  
May be done in-line.  
The colder the wine, the more CO<sub>2</sub> can be dissolved in it.
- (4) Bottle  
Bottle under pressure (counter-pressure filler).
- (5) Closure  
Depends on pressure and preferences.

