



WORDS CLIVE HARTLEY

ART AND SCIENCE OF SPARKLING WINE

IN PATRICK Forbes wonderful 1967 book on champagne, he makes the point that champagne is an art not a science. He pays due testament to the artistic skills of the winemaker. Yet, he goes on to say that the most remarkable thing about the Methode Champenoise process, is the “exceptional extent to which it enables man to manipulate grape-juice”. It has literally taken many centuries of trial and error to perfect the process. Time and motion studies must have been all the rage in 1967, as Forbes notes it was estimated that a bottle of champagne was attended by nearly 300 pairs of hands before it was ready to drink.

Such was the time honoured method of making quality sparkling wine, and, one reason why it still costs a princely sum. There are four methods of making a wine sparkling; The term Methode Champenoise is reserved for the produce made in the Champagne region of France and is outlawed in the EU since 1994. In Australia we use the term traditional method or Methode Traditionnelle or “fermented in the

varieties. The must, both red and white, is then separately fermented as a normal white wine with the usual array of winemaking techniques, such as malolactic fermentation (MLF) and barrel fermentation being employed.

Ed Carr, group sparkling winemaker for Accolade wines uses both MLF and barrel. “We ferment our juice on light solids and use 100 per cent MLF, with our Arras label having a small proportion of new oak.” Ed says.

The art of making the base wine is as rigorous as any other dry wine. But when a sparkling winemaker tastes and compiles their final blend or cuvee it is only half the story and they are not tasting the final product.

The first step in making a sparkling wine is to add a mixture of sugar (between 19 and 26g/litre) and yeast, known as Tirage Liqueur to the cuvee. The bottles are topped with a crown seal, like the one used on a beer bottle. This stimulates a secondary fermentation which takes four to six weeks. The alcohol content is increased by between 1.3 and 1.5

vintage is 2001. So why do it? Claudio explains: “The benefit is in the smooth, creamy texture and complexity it brings to the wine. It also creates a persistence in the aftertaste that stays there for a very long time.”

Remuage machine (Gyropalette) shakes and gradually inverts the bottle to get the dead yeast cells down to the neck of the bottle. Patrick Forbes comments on the days that this process was done by hand: “A professional remueur can rotate up to 100,000 bottles in a single working day”. The modern process used by Accolade Wines takes only three days, but smaller producers like Freycinet still uses an old Spanish hand operated wheel system that takes a slower 25 days.

The process of disgorgement removes the lees from the neck of the bottle. Only the neck is plunged into a glycol- brine solution, which freezes the yeast plug. Traditionally salt brine was used and Radenti still uses one, however, it has lost favour due to problems with possible corrosion. The bottle is then opened and the pressure of the carbon dioxide expels the icy plug. A little wine is lost in disgorgement and a dosage (expedition liqueur or liqueuring), consisting of wine and sugar is added, which determines the final level of sweetness. Radenti, for instance, receives a dosage of between 8 and 9g/litre. The wine is finally corked and a wire cage or muselet is tightened around the neck to hold the cork in place.

The transfer method is exactly the same with the exception that the wine is removed from the bottle after maturation on lees and then filtered and topped up, before being pumped into a fresh bottle. “The process is all carried out under inert gas and chilled so there is very little compromise in quality” comments Ed Carr. It is an economical method for larger blends that eliminates the costly practice of remuage and disgorgement. This method is extremely popular in Australia and brands such as the Bay of Fires uses this process.

Sparkling wines allow art and science to gracefully merge and the only difference between producers is, as Claudio Radenti puts it: “some larger company winemakers get to play with bigger toys.”

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bottle” to explain the process. Then there is the transfer method, charmat or tank method and finally the good old simple impregnation method that produces a carbonated product, as distinct from a sparkling wine.

In Australia sparkling wines are produced from a number of grape varieties. Chardonnay, pinot noir, and pinot meunier are the most commonly used. Other grapes that are used to produce sparkling wine include: semillon, chenin blanc and sauvignon blanc. Red grapes, such as shiraz, cabernet sauvignon and merlot, are used to make full-bodied sparkling red wines.

Premium grapes that display natural high acidity are chosen from cool climate regions such as Tasmania and Tumbarumba. The grapes generally have a low sugar level of around 9-10 degrees baume. Whole bunches of grapes are pressed very gently so as not to extract any colour or undesirable phenolics from the red

per cent and carbon dioxide is trapped in the bottle. The pressure is between six and seven atmospheres. Once fermentation is over the bottle is stored horizontally in contact with the dead yeast cells. Eventually the yeast cells break down and their flavour is imparted to the wine, a process known as yeast autolysis. This maturation on lees, which varies in duration from nine months to several years, is essential in determining the style of wine. Arras Brut Elite, their non-vintage style, spends an average of six years on lees, while the Grand Vintage is left for between seven and eight years and their special late disgorged spends a massive 10 years on lees before disgorgement. Claudio Radenti’s sparkling wine from Freycinet has nine years on lees, however, this sort of practice by a small producer requires deep pockets and a sympathetic accountant as this is a 10 year investment without a return. Their current