BC GUILD OF WINE JUDGES

2018

CLASS J1 - COUNTRY TABLE WINES

Presented by (Mainland Chapter)

AFTER COMPLETING THIS SESSION, YOU SHOULD KNOW:

- How a country wine is defined
- Different approaches and styles of country wines
- What the typical ingredients are in a country wine
- Why people make country wines
- The difference between the main acids in grape vs country wines

CLASS DESIGNATION AND NAME

Ingredients:	95% non-grape
Alcohol:	Readings will vary according to the class whose purpose the wine is made for
Colour:	ditto
Sugar:	ditto
S.G:	ditto
pH:	ditto
Acid:	ditto, should balance sugar

THE DIFFERENCES IN STYLE AND APPROACH

There are two basic approaches in making country wines. One is to approximate the flavour and appearance of grape wines made in the table or social style; the other is not to. Many home and commercial country wine makers desire a product that can be enjoyed as a table or social wine. The other option opens up seemingly endless possibilities: to make the wine in a port or sherry style, dessert or even an aperitif. The appeal of the sweeter fruit wine is enormous. The bouquet of a fruit wine is rarely subtle and usually carries through to the palate. Dozens of fruits have been fermented to wines, but the following seem to have the most success as a beverage that can be drunk with a degree of enjoyment: blackberry, white, red and black currants, raspberry, strawberry, pear, peach, apple, blueberry, cherry, gooseberry, cranberry, kiwi and plum.

HISTORY AND BASIC INFORMATION

Making fruit wines can be economically rewarding. A certain segment of the population enjoys these wines. A winemaker can produce high quality fruit wines as a speciality product and benefit from this existing niche in the marketplace. Compared to grape wines most of the fruit wines take less time to process and, therefore; the capital is tied up for a shorter period of time. This translates into a quicker return on invested capital.

Fruit wines can also be made during a less busy time (after grape harvest) of the year, thus permitting efficient use of winery facilities.

Sometimes a decision to make a fruit wine is made because surplus fruit is available at a very attractive price. Often in such cases, the fruit quality is poor, and the appeal of low prices can induce a winemaker to produce mediocre wine that he or she would not otherwise make if the price were not so cheap. Although the price of the raw material is an important consideration, it should not be the sole criteria. Remember that the cost of the raw material is a small portion of the total cost and devoting valuable resources to produce a poor to mediocre product amounts to underutilization or even misuse of precious resources. The important point is that the choice of making fruit wine should be based on sound business reasons.

Fruit wine can be made from virtually any plant matter that can be fermented. Most fruits and berries have the potential to produce wine. There are a number of methods of extracting flavour and juice from the fruits or plants being used, pressing the juice, stewing and fermenting the pulp of the fruits are common. Few foods other than grapes have the balanced quantities of sugar, acid, tannin, nutritive salts for yeast feeding and water to naturally produce a stable, drinkable wine, so most country wines are adjusted in one or more respects at fermentation. However, some of these products do require the addition of sugar or honey to make them palatable and to increase the alcoholic content (sugar is converted to alcohol in the fermentation).

The number of fermentable sugars is often low and needs to be supplemented by a process called chaptalization in order to have sufficient alcohol levels in the finished wine. Sucrose is often added so that there is sufficient sugar to ferment to completion while keeping the level of acidity acceptable. If the specific gravity of the initial solution is too high, indicating an excess of sugar, water or acidulated water may be added to adjust the specific gravity down to the winemaker's target range.

Many kinds of fruit have a natural acid content which would be too high to produce a savory and pleasant fruit wine in undiluted form; this can be particularly true, among others, for strawberries, cherries, pineapples, and raspberries. Therefore, much as to regulate sugar content, the fruit mash is generally topped up with water prior to fermentation to reduce the acidity to pleasant levels. This also dilutes and reduces overall fruit flavor; a loss of flavor can be compensated for by adding sugar again after fermentation which then acts as a flavor enhancer (known as a back-sweetener), while too much acid in the finished wine will always give it undesired harshness and poignancy.

Many fruit wines suffer from a lack of natural yeast nutrients needed to promote or maintain fermentation. Winemakers can counter this with the addition of nitrogen, phosphorus and potassium available commercially as yeast nutrient.

Given that this class encompasses such a diverse array of fruits, as diverse as the world of grape wine, but at a smaller scale, it's often difficult to fully be informed of what the characteristics of each wine should be. Below is a brief overview of many of the wines you may encounter.

APPLE WINE

Generally, locally grown apples which are in surplus after meeting fresh market demands are used for making juice and wine. It is important that the fruit be sound, i.e., free of decay or rot and well mature. Unripe or immature fruit should not be used since it is high in starch, acid, and astringency, and low in sugar and flavor. On the other hand, overly mature fruit can be low in fresh and fruity flavor, difficult to process and difficult to clarify.

Many apple varieties can be used for making wine. Generally, the choice is largely governed by locally available fruit. The amount of fruit constituents such as sugars, acids, phenolic compounds, colour and flavor varies considerably among the apple varieties. It can be difficult to obtain a single variety which would contain all the important constituents in an ideal proportion. For this reason, a combination of varieties should be used to obtain the most desirable composition in the juice and wine. To achieve a good blend, it is necessary to know the fruit composition of locally available varieties. Once this information is known, blending can be done to obtain desired results.

Instead of processing apples, one can buy cider to make wine. In such a situation great attention must be paid to obtain only high-quality juice. The cider must not be made of immature, inferior, or decayed fruit. It should have a rich apple flavor, good colour and sugar, and astringent compounds in proper proportion.

Sometimes fruit concentrate is used for wine production. The concentrate is easy to store, requires less space, and can be processed when the winery operation is less busy or slow. When using concentrate, only high-quality concentrate with good apple flavor should be used. The apple aroma of the juice from concentrate can be enhanced by blending it with fresh apple juice.

Apple juice does not contain a sufficient amount of sugar to produce a table wine with an alcohol content of 10-12% by volume. Because of it, the regulation permits the addition of sugar or other sweetening materials, such as syrup or concentrate, to raise the sugar content to a desired level. The addition of sweetening material is also permitted to sweeten the wine, however; in no case should the volume resulting from the addition of all the sweetening material exceed 35% of the final volume of the wine. In order to produce well balanced wine, the must should contain a sufficient amount of acid. There are two important points that need to be considered here:

1. Addition of sweetening material will dilute the acid level; and
2. In apple wine the acidity is expressed in terms of malic acid. This is different from grape wine where the acidity is expressed as tartaric acid. To convert the tartaric acid value to malic acid, simply multiply the tartaric acid value by a factor of 0.873.

Probably the best way to ensure a sufficient level of acidity in must is to choose medium to high acid varieties in the blend to make the wine. For example, Delicious apples are low in acidity. These should be blended with high acid varieties such as Gravenstein and Jonathan.

Malolactic fermentation should be discouraged to preserve acidity and avoid wine spoilage by lactic acid bacteria. The pH of apple wine is generally higher, which makes the wine relatively more susceptible to attack by lactic acid and other bacteria. To avoid microbial spoilage, the wine should be processed under scrupulously clean and sanitary conditions. This means generous use of steam, hot water and cleaning and sterilizing chemicals during processing.

Apple wine with rich and delicate flavor can be prepared for the market after a short aging period of two to four months. Winemakers sometimes age wine in oak barrels for four to six months to make a dry white wine with complex fruit and oak flavors.

CHERRIES AND SOFT FRUITS

Soft fruits are used to make both table and dessert wines, although generally in a sweeter style. For the purpose of this, wines from the following fruits will be considered: blackberry, raspberry, blueberry, and strawberry.

Quantitatively, sugars make up the largest fraction of soluble solids found in soft fruits. Among the soft fruit being considered here, strawberry, blackberry and raspberry are relatively low in sugar (ranging about 4 to- 8%), while blueberry contains a significantly higher amount (about 12%). Glucose and fructose are the predominant sugars and sucrose is present in small amounts. Organic acids are the second most abundant soluble solids found in soft fruits. With the exception of blueberry, the soft fruits contain significant levels of organic acids.

Generally, in the case of fruit wines, the must is not naturally well-balanced for production of table wines. The sugar content is usually low and the acid content can be either too much or not enough to produce a balanced table wine. Among the fruits being considered here, raspberries, blackberries, and strawberries are low in sugar (4 to 6%); blueberries and cherries are relatively high (about 10 to 12%). To produce fruit wine of 11 to 12% alcohol by volume, a sweetening material such as sugar, syrup, or concentrate should be added to raise the sugar content to 20 to 22°Brix.

Acid adjustment is an important consideration in preparing must for fermentation. In the case of a high acid must, such as cherry, blackberry, raspberry, and strawberry, the acid content can be lowered by ameliorating the must with syrup. In the case of blueberries, the must is usually deficient in acid level and, therefore, acid addition is recommended to raise the acid content. For acidification, only the acid that is naturally present in a given fruit should be used. For example, in blueberries, citric and malic acids occur naturally, and these can be added to increase acidity in blueberry must.

Fruit musts are prone to oxidation and microbial spoilage. To prevent these conditions, addition of sulfur dioxide to must in the range of 50 to 75 ppm is suggested. The must is also rich in pectic substances. These compounds contribute to cloudiness in wine. To facilitate wine clarification, treatment of the must with pectic enzymes is beneficial.

Major acids in the fruits being considered here are malic and citric and they do not form an insoluble precipitate like tartaric acid in grapes, when the wine is chilled. Because of this difference in acid composition, cold stabilization is not a matter of concern in fruit wines. Fruit wines can contain some heat sensitive proteins and thus cause haze.

Besides the physical instability mentioned above, microbial instability is a great concern in fruit wines. Major acids of the fruits (malic and citric) are biologically not stable. They can be metabolized by lactic acid bacteria. Malolactic fermentation in fruit wines is not desired since it can cause significant loss of acidity, may produce undesirable changes in flavor and result in high wine pH. To discourage malolactic fermentation in fruit wines, the following steps are suggested.

- Maintain adequate free S02 levels. (>0.8 molecular).
- Store wines at cooler cellar temperatures.
- Aim for lower pH (preferably < 3.3) in the finished wine.
- Use germ proof bottling (0.45-micron filter).
- Stringent cleaning and sanitary measures during processing

Fruit wines are generally bottled within 2 to 4 months following fermentation. In strawberry wine, colour stability is a problem; therefore, it should be produced and marketed for early consumption. Dry apple and blueberry wines are sometimes produced with some oak aging. However, fruitier style wines are not aged in oak.

Many fruit wines are made into semi-sweet or sweet styles. To achieve this, sugar or concentrate is often used as a sweetening material. To prevent refermentation of sugar, sorbic acid is usually added. The finished wine is polish filtered or membrane (0.45 micron) filtered and bottled.

Making fruit wines closely resembles the process of producing white and red table wines from grapes. However, there are certain critical issues that differentiate fruit wines from grape wines. For this presentation, the fruit wines we will consider include apple, cherry, and berry.

Fruit contains various amounts of sugar, but not in sufficient amounts to produce sound table wines. Therefore, the addition of a sweetening material is needed. There are many kinds of sweetening agents used, such as sugar, syrup, juice, and concentrate. There are legal limits on the amounts of materials permitted for sweetening. The important points to consider here are that the kind of materials used and the extent of dilution of the must, both would have an impact on sensory attributes of the must.

Organic acid composition is another key difference in the composition of fruit as compared to grapes. The main acids in the fruits being considered here are malic and citric. It is important to note that generally higher pH (3.6 to 4.0) encourages the activity of spoilage microbes, and oxidation of wine. It results in poor color, has an impact on wine stability and the action of preservatives, such as SO2 and sorbic acid. Another important attribute of these organic acids is that they do not form significant precipitate when the wine is chilled.

Fruit also contains significant amount of pectic substances. These compounds contribute to the difficulty in de-juicing the fruit and juice and wine clarification. Because of them, the use of pectolytic enzyme is crucial to fruit winemaking.

One last issue to consider is that of seed contact. While there is much debate over the issue of seed contact in grape wine, in berry wine seed contact can have a large impact on the flavour, most often to the detriment of the wine. The flavour can come off quite strong, often with a shellac quality that will override the fruit. When judging berry wine be sure to be aware of any off flavours and ensure that the wine is balance for the type of style it's being made in. Country wine is an incredibly broad class so ensure you're thoughtful in and generous in your assessment.

REFERENCES

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