

NATIONAL OPEN UNIVERSITY OF NIGERIA

HCM 345



Wine and Food Pairing Principles Module 1

HCM 345 (Wine and Food Pairing Principles)

Module 1

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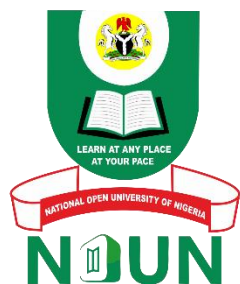
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Module I

Unit I Vinification

1.0 Introduction

The history of [wine](#) spans thousands of years and closely intertwined with the history of [agriculture](#), [cuisine](#), [civilisation](#) and [humanity](#) itself. Archaeological evidence suggests that the earliest known wine production occurred in [Georgia](#) around 8,000 BC, with other notable sites in [Iran](#) and [Armenia](#) dated 7,000 BC and 6000 BC respectively. Evidence of the earliest wine production in [Europe](#) were uncovered at archaeological sites in northern [Greece](#) ([Macedonia](#)), dated to 6,500 years ago. These same sites also contain remnants of the world's earliest evidence of crushed grapes. In [Egypt](#), wine became a part of recorded history, playing an important role in ancient [ceremonial life](#).

Wine was common in [ancient Greece](#) and [Rome](#), and many of the major wine-producing regions of [Western Europe](#) today were established with [Phoenician](#) and later Roman plantations. Winemaking technology, such as the [wine press](#), improved considerably during the time of the [Roman Empire](#); many grape varieties and cultivation techniques were known and [barrels](#) were developed for storing and shipping wine.

In [medieval Europe](#), following the decline of Rome and its industrial-scale wine production for export, the [Christian church](#) became a staunch supporter of the wine necessary for celebration of the Catholic Mass. Whereas wine was forbidden in medieval [Islamic](#) cultures, its use in Christian [libation](#) was widely tolerated. Wine production gradually increased and its consumption became popularised from the 15th century onwards and eventually establishing growing regions throughout the world.

2.0 Objectives

At the end of this unit, you should be able to:

- explain vinification
- list the types of vinification
- discuss vine specie.

3.0 Main Content

3.1 What is Vinification?

Vinification is the art of wine making. This lengthy and delicate process starts with selecting the right grapes to use in producing the liquor. It essentially consists of the transformation of grapes' natural sugars by yeast. The major process in this art is fermentation. The sugar of grape is converted to alcohol and carbon dioxide by yeast. This process is vital to the making of alcoholic beverages. Throughout the vinification process, the winemakers

(vintners) express their individual talents by nurturing their raw materials, and helping them evolve into a vast and original ensemble of aromatic hues.

3.2 Types of Vinification

Generally, vinification is divided into two types:

- Production of still wine, which does not use the carbonation process, and
- Production of sparkling wine, which makes use of the carbonation process.

There are also:

- Classic vinification: This type of vinification process is geared towards producing white wines that are full of colour and structure, containing enough phenolic compounds to support prolonged aging in oak barrels.
- Technological vinification: This type of vinification process is geared towards producing fresh wines with intense fruity and floral flavours and light colour, suitable for earlier consumption. In this instance, fermentation with no skin contact is employed, with or without decanting and under strict temperature control.

3.3 Vine Specie

The vine is a climbing plant with a woody stem, the fruit of which is known as the grape. It is of the genus *vitis*, and of numerous species and varieties, the primary species being the *Vitisvinifera* of the old world. The vine species that produce grape suitable for wine production, and which stocks most of the vineyards of the world is named *V. vinifera*. Most species now planted in Europe and elsewhere have evolved from this specie through crossbreeding; to suit local soils and climates. The same grape may be given different names in different countries. However, a number of grapes have become known to have distinctive characteristics.

3.3.1 The Grapes

The grape consists of a number of elements:

- the skin which provides tannin and colour
- stalk which provides tannin
- pips which provide bitter oils
- pulp which contains sugar, water, fruit acids and pectins.

The yeast that is needed for the fermentation process is found on the outer skin of the grape fruit as a whitish bloom. The colour of wine comes from the skin. Hence, red wines are made from red grapes while white wines are made from white grapes. White wines can also be made from red grapes provided the skin is removed before fermentation begins.

The quality of the grapes determines the quality of the wine more than any other factor. Grape is usually affected by the variety, as well as the weather during the growing season, soil mineral and acidity, time of harvest, and pruning method.

Grape varieties are landmarks on the map of wine. The wine drinker finds it useful to know the variety used because this is a major clue to the taste and character of the wine in the

bottle. A wine made from chardonnay, for example, will have certain taste characteristics, wherever in the world, it is made, but knowledge of the main grape varieties is a most useful tool in wine choice.

Despite the very large number of vine varieties, a few have been selected by winemakers as having special characteristics, and these have become increasingly international. These varieties all originate in classic European vineyards, and they are linked in the minds of wine lovers and winemakers across the world with classic French and other wines. Understanding the types of grapes used in wine and their characteristics is vital to getting a good understanding of wine.

There are over 5,000 varieties of wine grapes. Some of them include:

Auxerrois: Also known as Malbec or Cot. It creates a neutral fruity and soft wine.

Barbera: Barbera is a low-tannin grape known for its tarry flavour.

Cabernet Franc: A "parent" of the [Cabernet Sauvignon grape](#). It is added in small amounts for flavour.

Chardonnay: This is a fresh, fruity grape grown in Burgundy, Champagne, California, Australia, and South Africa. It is one of the most popular and easiest to grow white grapes - it buds early, grows easily and has high ripeness levels.

Chenin Blanc: This grape makes a light, fruity wine.

Cinsaut: Also known (incorrectly) as *Hermitage*, this grape is mostly used for blending with other, stronger varieties.

Colombard: These grapes end up making a wine with "tropical fruit" overtones, a light wine to go with seafood.

Cortese: This the primary grape for Gavi wine; it ripens early and makes a neutral white wine.

Gamay: This is the grape used in Beaujolais Nouveau wine, from France.

Gewurztraminer: The first part of the name literally means "spicey" in German. It has a floral taste with nutty tones.

Grande Vidure: This is also known as the Carmenère grape, this grape was best known for its use in Medoc wines.

Grenache: Grenache is most often used for rose wine. It is the second most planted grape in the world.

Pinotage: This wine was developed in the early 1900s and used primarily by South Africans.

Maréchal Foch: This is an early ripening grape, which has small berries in small clusters. The vines are hard, though, and make a good range of red wines.

Merlot: This is an early ripening grape, with gentle flavours of cherry, honey, and sometimes mint.

Muscat: This wine has a grapey-tasting; it contains grape that does not become ripe easily.

Nebbiolo: This is a late ripening grape that is known for being tannic, pruny, tarry and chocolaty.

Pinot Blanc: This grape has a flavour very much like Chardonnay wine.

Pinot Noir: These grapes are softer and earlier ripening than [Cabernet grapes](#), and are sensitive to conditions.

Self-Assessment Exercise

- i. What is vinification?
- ii. State the types of vinification.
- iii. What is the vine specie?

4.0 Conclusion

We have explained what vinification is, the types of vinification, the vine specie and highlighted the role of the vine specie in wine making. A sommelier needs to have a good knowledge of the raw materials that go into wine making as well as the vinification method to have a good mastery of his carrier.

5.0 Summary

Vinification is the art of winemaking. The making of good wine is dependent on the quality of the grape variety, type of soil, climate, preparation of vineyards, and method of winemaking.

Wine making essentially involves the conversion of grapes' natural sugar to alcohol and carbon dioxide by yeast in the process of fermentation.

The major types of vinification are production of still wine and production of sparkling wine. The most important winemaking grape variety is the *Vitisvinifera*.

6.0 Self-Assessment Exercise

1. List and describe some grape varieties.
2. Discuss the role of vine specie in winemaking.

7.0 References/Further Reading

Foskett, D. & Ceserani, V. (2007). *The Theory of Catering*. (11th ed.). Hodder Education.

Lillicrap, D. & Cousins, J. (2006). *Food and Beverage Service* (7th ed.). Hodder Arnold.

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Unit 2 Major Wine Producing Countries

1.0 Introduction

In Unit 1, we learnt about vinification, types of vinification and the vine specie. In this unit, we shall look at the worlds of wine, their characteristics and differences.

Wine regions can be categorised into old worlds and new worlds. Old world wine regions date back to the Roman Empire era and include France, Italy, Germany, and Spain. These European regions had years to witness the impact of *terroir* (local soil) on wine production and refine their vinification methodology. They emphasise *terroir* and traditions in vinification.

The new world wine regions include Australia, America, Latin America, South Africa, and New Zealand. Without years of *terroir* knowledge, these regions rely on technology to obtain good yield and quality wines. For example, many Australian and Californian vineyards rely heavily on oak aging and natural compounds to enhance structure and flavour.

2.0 Objectives

At the end of this unit, you should be able to:

- describe the new world and the old world
- identify the characteristics of the new world wine
- differentiate between the worlds of wine.

3.0 Main Content

3.1 The New World Winemaking Countries

New world wines are those [wines](#) produced outside the traditional winemaking areas of [Europe](#), in particular from [Argentina](#), [Australia](#), [Canada](#), [Chile](#), [New Zealand](#), [South Africa](#) and [the United States](#).

Argentina

Argentina is the world's fifth biggest wine producer. It has a long tradition of winemaking under the Spanish, going back to 1557, but more recent immigrants, notably Italians and Germans, have influenced the industry. The long history of viticulture in Argentina has brought forth the evolution of many local varieties, but perhaps the most typically Argentine grape is the [Torrontés](#), which makes an aromatic white wine. However, Argentines love red wine to go with their famous steaks. [Malbec](#) has proven to be the most successful variety in export markets, with [Barbera](#) and "[Bonarda](#)" (now known to be Corbeau, a minor variety from [Savoie](#)) being blended into more affordable wines.

Australia

Vine cuttings were brought from South Africa to Australia and this marked the beginning of wine production and wine exports. By the 1880s, Australian wines were winning prizes in

Europe. With time, there was a revival of interest in table wines, which culminated in Australia selling more wine to the United Kingdom than did France in 2000.

Australian wines were at some time criticised for being over-oaked and over-ripe, but today, Australian winemaking is one of the most sophisticated in the world. Several regional specialties have emerged which are perhaps the finest [fortified wines](#) of the new world.

Canada

Canada followed a similar path to the eastern United States - early attempts to grow [Vitisvinifera](#) failed, leading to a significant export industry based on [Vitislabrusca](#) and [Vitisriparia](#), fortified to disguise the 'foxy' aromas. The country had its own version of [prohibition](#) until 1927, and after its ended red tape inhibited the industry until 1974. In the following years, improved viticulture and grape varieties allowed a substantial expansion of the industry in the 1990s, centred around the parts of [Southern Ontario](#) warmed by the Great Lakes, and in the [Okanagan Valley](#) of southern [British Columbia](#). While there has been some progress with red wines from the Bordeaux varieties and [Pinot Noir](#), Canada's most successful wines are [ice wines](#) made from grapes such as [Riesling](#), [Vidal](#), and even [Cabernet Franc](#).

Chile

Many of Chile's vineyards are found on flat land within the foothills of the Andes. As in Argentina, Chilean viticulture dates back to the [Conquistadores](#). It is the 10th biggest producer of wine in the world. Under the Pinochet reforms of the 1980s, investments were made in wineries and vineyards, and exports began in earnest in the mid-1990s. Chile is notable for being one of the few vine-growing regions to be free of [phylloxera](#).

Mexico

[Mexico](#) is the oldest winemaking region in the [Americas](#). In 1549, Spanish explorers and settlers came across a fertile valley in the present-day state of [Coahuila](#) where they encountered native vines and founded the Mission of "Holy Mary of the Vines." In 1597, the Hacienda de San Lorenzo was established by the Spanish settler Don Lorenzo García, where he founded, along with other Spanish missionaries, [Casa Madero](#) - the oldest winery house in the Americas. Several Mexican wines have achieved important international recognitions and received medals for their outstanding quality.

New Zealand

New Zealand viticulture was started in a small way by [Croatian](#) immigrants at the end of the 19th century, but it was not until the 1970s that it really got going. Various grapes were tried in the early years, but it was in the 1980s that New Zealand developed the pungent style of [Sauvignon Blanc](#) that became her trademark. Since then the Burgundy grapes of [Chardonnay](#) and [Pinot Noir](#) have been developed in cooler, more southerly vineyards, with considerable success.

South Africa

The end of apartheid sparked a wave of investment and innovation in the vineyards of the Cape. There are large areas of undistinguished grape varieties that can produce world-class wines. South Africa is second home to many known wines.

United States

Although wine is made throughout the United States, 90 per cent of it comes from [California](#). Earliest grape vines were imported from New Spain, or [Mexico](#), which in turn

were brought by Spanish explorers and settlers. Prohibition had a devastating effect on commercial winemaking in United States, which only started to recover in the late 1960s and 1970s. In the years after Prohibition, the domestic market demand changed. Interest in traditional European varieties increased leading to the innovations that triumphed so spectacularly in Paris in 1976.

Self-Assessment Exercise

- i. What are new world wines?
- ii. Mention the new world wine countries.

3.2 Characteristics of New World Wines

Style

Since new world vineyards are generally in hotter climates than those of Northern Europe, New World grapes tend to be [riper](#). Thus, new world wines tend to be correspondingly more alcoholic and full-bodied.

Varietal labelling

Traditionally, new world wine used names of well-known European regions, such as Burgundy, Champagne, Sherry, Port, and Hock. This gave consumers a general idea of how the wine might taste. This changed as winemakers developed the confidence to develop their own styles of wine such as grange. One reason was that unlike Europe, there was no history of particular localities being associated with particular styles of wine, and winemakers might buy in grapes from many sources. Subsequently, new world winemakers have 'rediscovered' the art of blending wines. New world viticulturists now better understood the soils and climates of their vineyards; [terroir](#) has come to the New World.

Marketing

Being less dependent on geography, new world wines have placed more emphasis on branding as a marketing tool. With supermarkets selling an increasing proportion of wine in many markets, new world producers are better positioned to take advantage of this trend towards high volumes and low margins.

Ownership

The greater size of new world wine companies has made them attractive targets for multinational drinks companies seeking to exploit the trend towards drinking wine rather than beer or spirits.

3.3 The Old World Winemaking Countries

[Old world wine](#) refers primarily to wine made in [Europe](#) but can also include other regions of the [Mediterranean basin](#) with long [histories of winemaking](#) such as [North Africa](#) and the [Near East](#). The phrase is often used in contrast to “[new world wine](#)” which refers primarily to wines from [new world](#) wine regions such as the [United States](#), [Australia](#), [South America](#) and [South Africa](#). The term “old world wine” does not refer to a [homogeneous](#) style with “old world wine regions” each making vastly different styles of wine even within their own borders. Rather, the term is used to describe general differences in [viticulture](#) and [winemaking](#) philosophies between the old world regions where tradition and the role of

[terroir](#) lead versus the new world where science and the role of the winemaker are more often emphasised. In recent times, the [globalisation of wine](#) and advent of [flying winemakers](#) have lessened the distinction between the two terms with winemakers in one region being able to produce wines that can display the traits of the other region—i.e. an “old world style” wine being produced in a new world wine region like [California](#) or [Chile](#) and vice versa.

The two most guiding influences of old world style winemaking are that of [tradition](#) and *terroir*. The former refers to the long history of a wine region, while the latter refers to geography and the unique characteristics of a place.

Some of the old world wine producing countries includes:

Austria	France	Romania	Greece
Bulgaria	Germany	Slovakia	Spain
Croatia	Italy	Turkey	
Czech Republic	Portugal	Switzerland	
England			

Differences between Old World Wine and New World Wine

Old world wine	New world wine
Wines come from the "classic wine making regions" in Europe.	Wines come from everywhere else.
Wine has been made in Europe and along the Mediterranean for several millennia.	Started producing wine in the 15th, 16th or 17th centuries, following European exploration or colonisation.
Attracts higher prices.	Wines are often cheaper.
Style: Old world wines are traditionally more ‘ <i>terroir</i> ’ and structure driven	Wines are typically more ‘fruity’; modern, squeaky clean fruit forward and in general more varietal driven.
Philosophy: Winemaking philosophies emanated from a sense of place, and the primordial role ascribed to <i>terroir</i> as well as ‘mother-nature’ in determining wine quality.	Placed less sanctity on the pre-eminence of ‘ <i>terroir</i> ’, and more on the preservation of varietal fruit character, believing that the appropriate harnessing of scientific and technological best practices in the vineyard and in the winery could iron out any <i>terroir</i> imperfections.
Quality: Tend to retain a more obvious minerality or savoriness, no matter how ‘fruity’ they become. Wines typically have lower alcoholic content.	Wines retain their more forward fruit, no matter how strongly they portray their sense of ‘place’. Wines are typically of higher alcoholic content.
Regulation: Has to adhere to a detailed set of rules that govern what can be planted, density of planting,	Very few restrictions exist, and winemakers are free to plant whatever

training and pruning methods, minimum ripeness at harvest, maximum yields, winemaking techniques and use of oak.	grape varieties they wish and make the wine however they deem appropriate.
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Today the dividing line is more blurred, as new world wine producers discover *terroir* and old world producers discover 'fruit', adopting many of the technological advances developed in the new world.

Self-Assessment Exercise

- i. In what areas are the characteristics of the new world wines considered?
- ii. List any five old wine countries.

4.0 Conclusion

The new world wine region is made up of [Argentina](#), [Australia](#), [Canada](#), [Chile](#), [New Zealand](#), [South Africa](#) and [the United States](#). Some of the old world wine producing countries include [France](#), [Armenia](#), [Austria](#), [Bulgaria](#), [Croatia](#), [England](#), [Germany](#), [Italy](#), [Spain](#).

The characteristics of new world wines are seen in style, varietal labelling, marketing and ownership. Differences between old world wine and new world wine are in the areas of style, philosophy, quality and regulation.

5.0 Summary

No doubt, this unit has educated you on the new and old world as it concerns wine making. It has also tried to explain the characteristics of the new world wines, as well as the differences between the two worlds.

6.0 Self-Assessment Exercise

1. What does the term "new world wine" and "old world wine mean"?
2. Discuss the characteristics of new world wine.
3. Itemise the differences between new world wines and old world wines.

7.0 References/Further Reading

Foskett, D. & Ceserani, V. (2007). *The Theory of Catering*. (11th ed.). Hodder Education.

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Walker, J. R. (2005). *Introduction to Hospitality*. (4th ed.).

Unit 3 Classification of Wines

1.0 Introduction

In the last unit, we learnt about the worlds of wine, their characteristics and differences. In this unit, we will be dealing with the classification of wines. The classification of [wine](#) can be done according to various methods including, but not limited to, [place of origin](#) or [appellation](#), vinification methods and style, [sweetness](#) and vintage, or varietal used. Practices vary in different countries and regions of origin. Some classifications enjoy official protection by being part of the [wine law](#) in their country of origin, while others have been created by, for example, grower's organisations without such protection.

2.0 Objective

At the end of this unit, you should be able to:

- explain the criteria used in classifying wines.

3.0 Main Content

3.1 Classification by Appellation

An appellation is a legally defined and protected [geographical indication](#) used to identify where the [grapes](#) for a [wine](#) were grown. Restrictions other than geographical boundaries, such as what grapes may be grown, maximum grape yields, alcohol level, and other quality factors, may also apply before an appellation name may legally appear on a wine bottle label. The rules that govern appellations are dependent on the [country](#) in which the wine was produced.

Historically, wines have been known by names reflecting their origin, and sometimes style. For example, [Bordeaux](#), [Rioja](#), [Mosel](#) and [Chianti](#) are all legally defined names reflecting the traditional wines produced in the named region. These naming conventions or "[appellations](#)" (as they are known in France) dictate not only where the grapes in a wine were grown but also which grapes went into the wine and how they were vinified. The appellation system is strongest in the European Union, but a related system, the [American Viticultural Area](#), restricts the use of certain regional labels in America, such as [Napa Valley](#), [Santa Barbara](#) and [Willamette Valley](#).

In most of the world, wine labelled Champagne must be made from grapes grown in the Champagne region of France and fermented using a certain method, based on the international trademark agreements included in the [1919 Treaty of Versailles](#). However, in the United States, a legal definition called [semi-generic](#) has enabled United States winemakers to use certain generic terms (Champagne, [Hock](#), [Sherry](#), etc.) if there appears next to the term the actual appellation of origin.

More recently, wine regions in countries with less stringent location protection laws such as the United States and Australia have joined with well-known European wine producing regions to sign the Napa Declaration to Protect Wine Place and Origin, commonly known

as the Napa Declaration on Place. This is a “declaration of joint principles stating the importance of location to wine and the need to protect place names”. The Declaration was signed in July 2005 by four [United States](#) winegrowing regions and three [European Union](#) winegrowing regions.

3.2 Regional Wine Classifications

Many regional wine classifications exist as part of [tradition](#) or [appellation](#) law. The most common of these is based on vineyard sites and include the [Bordeaux Wine Official Classification of 1855](#). However, some regions classify their wines based on the style like the [German wine classification](#) system. Vineyard classification has a long history dating from some early examples in [Jurançon](#) in the 14th century, in 1644 when the Council of [Würzburg](#) ranked the city's vineyards by quality and the early five-level designation of vineyards based on quality in [Tokaj-Hegyalja](#) in 1700. Other well-known classifications include:

- [classification of Saint-Émilion wine](#) of [Bordeaux](#)
- [classification of Graves wine](#) of Bordeaux
- [Cru Bourgeois](#) of Bordeaux (Médoc)
- [classified estates](#) of [Provence](#).

3.3 Classification by [Vinification Methods and Style](#)

Wines may be classified by vinification methods. This method of classifications gives rise to having:

- red wine
- white wine
- sparkling/semi-sparkling wine
- still wine
- organic wine
- table wine
- cooking wine.

The [colour of wine](#) is not determined by the juice of the grape, which is usually clear, but rather by the presence or absence of the grape skin during fermentation.

Style

Attempts have been made to classify wines by style, which is difficult to define. Subjectively, it involves a combination of the colour, taste, [alcoholic strength](#) and several other factors. These are influenced by such factors as the [grape variety](#) or varieties used; climate and soil conditions in the [region of production](#), as well as the method of vinification. By this method, there are:

- [dessert wine](#)
- [fortified wine](#)
- [fruit wines](#)
- [rosé wines](#).

3.4 Classification by [Vintage or Varietal](#)

A [vintage](#) wine is one made from grapes that were all, or primarily, grown in a single specified year, and are accordingly dated as such. Consequently, it is not unusual for wine enthusiasts and traders to save bottles of an especially good vintage wine for future consumption. However, there is some disagreement and research about the significance of [vintage](#) year to wine quality. Most countries allow a vintage wine to include a portion of wine that is not from the labelled vintage.

A [varietal](#) wine is wine made from a dominant grape such as a [chardonnay](#) or a [cabernet sauvignon](#). The wine may not be entirely of that one grape and varietal labelling laws differ. In the [United States](#), a wine needs to be composed of at least 75 per cent of a particular grape to be labelled as a varietal wine. In the European Union, a minimum of 85 per cent is required if the name of a single varietal is displayed, and if two or more varietals are mentioned, these varietals combined must make up 100 per cent and they must be listed in descending order. For example, a mixture of 70 per cent chardonnay and 30 per cent [viognier](#) must be called chardonnay-viognier rather than viognier-chardonnay.

Self-Assessment Exercise

State the criteria used in classifying wines.

4.0 Conclusion

Wines are classified based on established and accepted criteria. Some of these classifications enjoy legal protection and form part of the wine laws of their various countries while some others do not enjoy this protection, particularly those created by grower's organisations.

5.0 Summary

In this unit, we have discussed the criteria used in the classification of wines. The classification of wine is based on four main criteria:

- a. appellation
- b. region
- c. vinification method
- d. vintage.

All these criteria enjoy legal protection except some of them created by grower's organisations.

6.0 Self-Assessment Exercise

Discuss the various considerations in the classification of wines.

7.0 References/Further Reading

Foskett, D. & Ceserani, V. (2007). *The Theory of Catering*. (11th ed.). Hodder Education.

Lillicrap, D. & Cousins, J. (2006). *Food and Beverage Service*. (7th ed.). Hodder Arnold.

Unit 4 Categories of Wines

1.0 Introduction

In the last unit, we discussed the criteria used in the classification of wines. In this unit, we shall be looking at the categories of wines as well as wine listing.

There are hundreds of wine types in the world, each with its own flavours and styles. Most people know about the popular varieties of wine - chardonnay, cabernet and merlot.

2.0 Objectives

At the end of this unit, you should be able to:

- describe the different categories of wine
- state the ways wines are listed.

3.0 Main Content

3.1 Red Wines

Red wine is red. Its colour can be derived from a vast assortment of grape [varietals](#) ranging from grapes that are reddish, deep purple, and even a beautiful blue on the colour scale. These grapes give rise to a wine that is colour classified with such descriptors as garnet, almost black, dark red, light red, ruby red, opaque purple, deep violet, maroon and the list goes on. The grape skins are responsible for the red wine's distinct colour spectrum. The skins are in contact with the grape's juice during the fermentation process, allowing the dispersion of both colour and [tannins](#). The individual wine's particular red hue depends on the grape type used in the process and the length of time the skin's pigmentation is in contact with juice. There are about 50 red wine varietals that consistently manifest themselves in today's world wine market.

Wine producers worldwide are constantly developing reds that are smoother, more rounded and juicier.

Red wine style

As with all wines, the particular winemaker will have adequate "say" in the style of wine he will produce. Red wines are often classified by "[body-type](#)." This has to do with mouth-feel and tannin structure. There are:

- light-bodied
- medium-bodied
- full-bodied

A light-bodied wine will have fewer tannins present and less presence on the palate. These wines tend to be less demanding partners with flavour-filled foods. An example of a light-bodied red wine would be one derived from the Gamay grape varietal, such as France's famed young red wine: [Beaujolais Nouveau](#). In general, light-bodied wines tend to "feel" more like water in the mouth.

A medium-bodied red wine will contain more tannins than light-bodied wine. Typical examples of medium-bodied red wines include [Merlot](#), [Shiraz](#) or [Chianti](#).

Full-bodied red wines boast the highest tannin (and often alcohol) content. Prime examples of full-bodied reds are France's esteemed [Bordeaux](#) wines, California's key [cabs](#) and Italy's sizzling [super Tuscans](#). Full-bodied wines feel heavier and more like milk. This effect is due in large part to the higher tannin (and alcohol) content.

3.1.2 White Wines

White wine is not white at all, but yellow, golden or straw-like in colour. Its colour can be derived from an assortment of grape [varietals](#). White wines are made from the grape juice and grape skin of green, gold or yellowish coloured grapes or from just the juice (not the skin) of select red grapes. They are more refreshing, lighter in both style and taste than the majority of their [red wine counterparts](#).

White wine styles vary from bone dry to golden sweet.

3.1.3 Sparkling and Still Wines

Sparkling wines

Sparkling wine is a [wine](#) with significant levels of [carbon dioxide](#) in it making it fizzy. The carbon dioxide may result from natural [fermentation](#), either in a bottle in a large tank designed to withstand the pressures involved or as a result of [carbon dioxide injection](#).

Sparkling wine is usually white or [rosé](#) however, there are many examples of red sparkling wines such as Italian [Brachetto](#) and Australian sparkling [Shiraz](#). The sweetness of sparkling wine can range from very dry "brut" styles to sweeter "doux" varieties.

The classic example of a sparkling wine is Champagne; however, this wine is exclusively produced in the Champagne region of France. Other sparkling wines are produced in other countries and regions, such as Espumante in Portugal, Cava in Spain, [Franciacorta](#), Trento, Oltrepò Pavese Metodo Classico and Asti in Italy (the generic Italian term for sparkling wine being Spumante) and Cap Classique in South Africa. Most countries, reserve the word "Champagne" for a specific type from the Champagne region of France.

The [French](#) terms *Mousseux* or *Crémant* are used to refer to sparkling wine not made in the Champagne region. [German](#) and Austrian sparkling wines are called [Sekt](#). The United States is a significant producer of sparkling wine with producers in numerous states.

Recently the United Kingdom, which produced some of the earliest examples of sparkling wine, has started producing sparkling wines again.

Categories of sparkling wine

Sparkling wines and Champagnes are categorised as:

- extra brut,
- brut
- extra dry
- sec and
- demi-sec

This categorisation depends on their sugar levels. These classifications can be somewhat confusing, but keep in mind, that in wine terms “dry” is the opposite of “sweet.”

Extra brut - is “extra” dry

Brut – dry (most popular style and very food-friendly)

Sec – medium dry

Demi-sec – pretty sweet (pair with fruit and dessert)

Champagne and sparkling wines are also categorised as “vintage” or “non-vintage” (NV on the label) meaning they either come from a single year or are a blend of several different years. The “vintage” Champagnes are typically pricier, as the non-vintage Champagne and sparkling wines make up the majority of the market.

Semi-sparkling wines

Semi-sparkling wines are defined as those with between 1 and 2.5 atmospheres of pressures. These wines have less carbon dioxide than regular sparkling wine. Their bubbles develop during second fermentation in tanks. This fermentation is interrupted before the wines are fully sparkling. They are produced in many countries.

3.1.4 Still Wine

Still wines are wines that have not gone through the sparkling wine methods and have no effervescence. This is the largest category of wine. Their alcoholic content may be between eight per cent and 15 per cent by volume. They can be red, white or rosé.

3.1.5 Organic Wine

These are wines made from grapes grown without the aid of artificial insecticides, pesticides or fertilizers. They are also known as ‘green’ or ‘environmentally friendly’ wines. The wine itself will not be adulterated in any way, save for minimal amounts of the traditional preservatives, sulphur dioxide which is controlled at source.

3.1.6 Dessert and Fortified Wine

a. Dessert wines

A dessert wine is one that is potent, sweet, and full of flavour. Because of their sweet flavour, the wine complements a dessert. Often, extra spirits are added to raise the alcohol content. In general, dessert wines are thicker, richer, and sweeter than table wines. The grapes are picked late in the harvest to preserve residual sugars.

They come in small bottles and are served in tiny glasses. An average pour is two ounces. Therefore, you notice that dessert wines are sold in the smaller 375ml bottles (as well as in larger bottles).

Like dinner wines, white dessert wines are generally served chilled. Red dessert wine are served at room temperature or slightly chilled. Dessert wines are especially good with fresh bakery sweets and fruits. It is best to save heavier tastes for winter, lighter tastes for summer.

These wines contain flavours like peach, almond, oak, and herbs, which allow them to show off their flavour, and add a tang to even the lightest dessert. Adding them to a sweet cream or paste dessert always creates a wonderful combination. Examples include fortified wines like port and sherry, and late harvest wines, which originated from grapes that have shriveled a bit, concentrating their sweetness. As a rule of thumb, a dessert wine should always be sweeter than the dessert it accompanies.

Some of the world's greatest fortified wines include Madeira, vermouth, Marsala, sherry, cream sherry, and port.

Types of dessert wine

Late harvest:

In [Sauternes](#), late harvest allows the sugars to condense in the grapes and then, a noble rot forms on the grapes. It sounds disgusting, but it makes some of the best wines in the world.

Ice wines

The grapes used for these wines freeze at the end of harvest. They yield only a small amount of sugary juice because of this when pressed. The water is frozen. They are grown in cold regions like Canada and Germany.

b. [Fortified wines](#)

Fortified wines are wines that have been strengthened by the addition of alcohol, usually a grape spirit. Their fermentation process is stopped by this addition of a spirit, such as [brandy](#), or additional spirit added after fermentation. They are often sweeter and generally more alcoholic wines. Fortified wines are known on Europe as liqueur wines or *vin de liqueur*. Their alcoholic strength may be from 15 per cent to 22 per cent. Examples include [Port](#), [Madeira](#) and [Sherry](#).

3.1.7 Alcohol-free, De-alcoholised and Low Alcohol Wines

These wines are made in the normal way and the alcohol is removed by either hot-treatment distillation or cold filtration process/reverse osmosis. The hot-distillation process removes not only the alcohol content but also most of the flavour.

The cold-filtration process removes the alcohol by mechanically separating or filtering out the molecules of alcohol through membranes made of cellulose or acetate. At a later stage, water is added in an attempt to preserve much of the flavour of the original wine.

The alcohol-free wine has a maximum of 0.05 per cent alcohol

De-alcoholised wine contains a maximum of 0.50per cent alcohol while

Low alcohol wine contains a maximum of 1.2 per cent alcohol.

3.1.8 Aromatised/Aromatic wines

These are wines fortified and flavoured with herbs, roots, flowers and barks. They may be sweet or dry. Aromatic wines are also known as aperitifs. They are generally consumed before meals as digestive stimulants. Examples include:

- Vermouths
- Chambéryzette
- Dubonnet
- St. Raphael

3.1.9 Table Wines

These wines have an alcohol content that is less than 14 per cent in the United States. In Europe, light wine must be within 8.5 per cent and 14 per cent alcohol by volume. Thus, unless a wine has more than 14 per cent alcohol, or it has bubbles, it is a table wine or a light wine.

Table wines are usually classified as white, red, or rosé, depending on their colour. In Europe *vins de table* (in French), *vino da tavola* (in Italian), *Tafelwein* (in German) or *vino de mesa* (in Spanish), which translate to 'table wine' in English, are cheaper wines that often on the label do not include the information on the grape variety used or the region of origin.

3.1.10 Cooking Wine

This usually refers to inexpensive [grape wine](#) or [rice wine](#) (in [Chinese](#) and other [East Asian](#) cuisine). It is intended for use as an ingredient in food rather than as a beverage. Cooking wine typically available in North America is treated with [salt](#) as a preservative and [food colouring](#). In other countries, good quality [sherry wine](#) is used for cooking, providing nice flavour to the dish and a tasty sauce.

When a usual wine bottle is opened and the wine is exposed to [oxygen](#), a [fermentative](#) process will transform the [alcohol](#) into [acetic acid](#) resulting in wine [vinegar](#). This does not happen in [fortified wines](#), as they are already fermented. The salt in cooking wine inhibits the growth of the microorganisms that produce acetic acid. This will preserve a bottle of cooking wine, which may be opened and used occasionally over a long period.

Cooking wines are convenient for cooks who use wine as an ingredient for cooking on rare occasion. However, they are not widely used by professional chefs, as they believe the added preservative significantly lowers the quality of the wine and subsequently the food made with that wine. Most professional chefs prefer to use inexpensive but drinkable wine for cooking, and this recommendation is given in many professional cooking textbooks as well as general cookbooks. Many chefs believe there is no excuse for using a low quality cooking wine for cooking when there are quality drinkable wines available at very low prices.

Cooking wine is considered a wine of such poor quality, that it is unpalatable by itself and intended for use only in cooking. There is a school of thought that advises against cooking with any wine one would find unacceptable to drink.

3.2 Wine Listing

Wines are normally listed in three main ways, these are:

- by place of origin
- by type
- by grape

Place of origin

This is a traditional approach. Here, the wines are presented based on their country or region of origin. This can further be broken down such that within the country or region, the wines are presented area by area. Example of this listing is:

Champagne and Sparkling

France	Spain
South Africa	Germany
Italy	England
Australia	Portugal

It usual to list white wines first followed by rosé wines, and then the red wines.

By type

This is a modern approach, which lists wines by type. For example:

- sparkling wines
- white wines
- rosé wines
- red wines
- dessert wines

Within this grouping, the wines can further be presented by country, region or style. If the presentation will be by type and style, the list could appear thus:

White wines

grapy whites
grassy-fruity whites
richer whites

Red wines

fruity reds
claret style reds
herby-spicy reds

It is better to list the wines from the lighter to the fuller wines.

By grape

In this type of listing, the grapes are usually listed in alphabetical order. Under each heading, the wines made from that grape are listed.

Examples of the grapes are:

White grapes

Chardonnay
Chenin blanc
Pinot blanc
Riesling

Red grapes

Canernet sauvignon
Pinot noir
Sangiovese
Zinfandel

Self-Assessment Exercise

- i. Mention some categories of wine.
- ii. List the criteria for listing wine.

4.0 Conclusion

Red wine is red. Its colour can be derived from a vast assortment of grape [varietals](#) ranging from grapes that are reddish, deep purple, and even a beautiful blue on the colour scale. White wine is not white at all, but yellow, golden or straw-like in colour. Its colour can be derived from an assortment of grape [varietals](#).

Sparkling wine is a [wine](#) with significant levels of [carbon dioxide](#) in it making it fizzy. Still wines are wines that have not gone through the sparkling wine methods and have no effervescence.

Organic wines are wines made from grapes grown without the aid of artificial insecticides, pesticides or fertilizers. A dessert wine is one that is potent, sweet, and full of flavour. It is because of their sweet flavour the wine complements a dessert.

Fortified wines are wines that have been strengthened by the addition of alcohol, usually a grape spirit.

Alcohol-free, de-alcoholised and low alcohol wines are made in the normal way and the alcohol is removed either by hot-treatment distillation or cold filtration process/reverse osmosis. The alcohol-free wine has a maximum of 0.05 per cent alcohol. De-alcoholised wine contains a maximum of 0.50 per cent alcohol while.

Low alcohol wine contains a maximum of 1.2 per cent alcohol.

Aromatised wines are flavoured and fortified wines. Table wines are wines that have alcohol content within 8.5 per cent and 14 per cent alcohol by volume.

Cooking wine refers to inexpensive [grape wine](#) or [rice wine](#) intended for use as an ingredient in food rather than as a beverage.

5.0 Summary

In this unit, we have categorized wines for ease in differentiating them, and understanding their special features. The considerations in wine listing will also help in adequate presentation of wine. You are therefore equipped better to know when and where each

wine comes from. As a connoisseur, you need to have a good knowledge of the categories of wine.

6.0 Self-Assessment Exercise

1. List the various categories of wine.
2. Discuss any three categories of wine.

7.0 References/Further Reading

Lillicrap, D. & Cousins, J. (2006). *Food and Beverage Service*. (7th ed.). Hodder Arnold.

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Unit 5 Components of Wine

1.0 Introduction

We discussed the categories and listing of wine in the previous unit. In this unit, we shall be looking at the components of wine. The subject of wine is quite interesting. Apart from its flavour, its structure is also important. The structure of wine has to do with the components that make up a wine, which in turn affect the drinkability and longevity of the wine. An appreciation of the balance of these components will go a long way in helping your understanding and enjoyment of wine.

2.0 Objectives

At the end of this unit, you should be able to:

- list the components of wine
- explain the effect of these components on the drinkability and longevity of wine.

3.0 Main Content

3.1 The Components of Wine

3.1.1 Tannins

The tannins in wine are derived from the pips, skins and stalks. They are vitally important if a wine is intended to age, as they are a natural preservative. The tannins give structure and backbone to the wine. They can be sensed by a furring of the mouth, or puckering of the gums, a sensation very similar to what happens on drinking stewed tea. This is not surprising, as this effect is also due to tannins, released from the tealeaves after stewing in the hot water for too long.

Tannins are of more importance in the ageing of red wines rather than white. The tannins act as a preservative, and as they fade over many years, the simple, primary fruit flavours have time to develop into the more complex flavours that are found in fine, aged wines.

An ideal level of tannins in a wine ready for consumption is the amount just sufficient to provide structure, and not dominate the palate. For this reason, tannins are still important in red wines not intended for long ageing, as they give grip or structure to these wines also. Tannins may also have different qualities, and may be described as harsh or soft.

3.1.2 Acidity

All fruit require acidity, be it an apple, lemon, mango or grape. Acidity is what gives fruit its refreshing, flavour and some sensation. Without acidity, fruit would seem overly sweet and cloying, a little like the sensation derived from drinking the sugary fruit syrup in which some canned fruit is presented. Just like fruit, wine also requires acidity. Too little, and it will seem dull, flabby or perhaps cloying, particularly if it is a sweet wine. Too much, and the wine will

be sharp, harsh and undrinkable. Acidity can be detected by the sharpness of the wine in the mouth, particularly around the edges of the tongue near the front.

Some acids, such as acetic acid, are known as volatile acids, and in small amounts, these can really lift the flavours in the wine. Too much acidity will cause the wine to resemble furniture polish, acetone or even vinegar. Higher acidity denotes a wine from a cooler region, such as Northern France, England or New Zealand. Low acid wines come from countries with warmer weather, such as Australia, where acidity in the harvested grapes is often low enough to warrant chemical acidification.

3.1.3 Alcohol

Alcohol is the product of fermentation of the natural grape sugars by yeasts, and without it, wine simply does not exist. The amount of sugar in the grapes determines what the final alcohol level will be. In cool climates, such as Germany, where the vines struggle to ripen their grapes, sugar levels will be minimal, and consequently such wines often only reach seven or eight per cent strength. In very warm climates, however, the final alcohol level will be determined not so much by the amount of sugar but rather by the yeasts themselves. Once the alcohol level reaches about 14per cent the yeasts can no longer function and rapidly die off. For this reason, wines with strength of more than 15per cent are almost certainly fortified.

The conversion of sugar to alcohol is such a vital step in the process of making wine. Hence, the control of fermentation is given much attention by the modern winemaker. Fermentation generates heat, and a cool, controlled fermentation will result in very different flavours in the wine (in particular, it protects fresh, delicate fruit flavours) when compared with wines where fermentation is allowed to run riot.

Although fermentation will start naturally as a result of yeasts naturally present on the grapes in the vineyard, some winemakers prefer to remove the element of chance this involves, by kick-starting fermentation using cultured strains of yeast. This use of cultured yeast strains could also cause problems. They have been blamed for some unusual characteristics in wine, such as banana flavours in some wines.

3.1.4 Sugar

If fermentation is arrested, either as a result of the yeasts failing in gradually increasing alcohol level in the ferment, or as a result of man's intervention, there will consequently be some remaining sugar in the wine. Even when the work of yeast is unhindered, most wines still have at least 1g/L of residual sugar. This is because some sugar compounds are resistant to the action of the yeasts.

Clearly, the level of sugar in the wine determines how sweet it tastes. This is quite subjective, however, as even wines that taste very dry have some degree of residual sugar. Most dry wines have less than 2g/L of sugar, although levels of up to 25g/L may be present in wines which still taste dry due to the presence of acidity and tannin alongside the sugar. The bottom line remains that the greater the amount of residual sugar, the sweeter the wine.

3.1.5 Oak

Many wines are matured in oak barrels, and some are even fermented in oak. Oak from different sources will impart different characteristics on the wine. Generally, oak maturation gives aromas of butter, toffee, caramel, vanilla, spice and butterscotch.

French oak may give more buttery aromas, whereas American oak gives stronger vanilla and spice aromas. However, the aromas most times depend on:

- how much oak is used
- how much of it is new as opposed to re-used
- how long the wine stays in contact with the wood
- whether the wine is merely aged in oak or whether the fermentation takes place in it
- how the oak has been treated, and so on.

For instance, barrels that have been “toasted” will have aromas of smoke and toast. Barrels that have been steamed during manufacture, however, may give more oatmeal aromas.

3.1.6 Botrytis

The result of the fungus *Botrytis cinerea*—“Noble Rot” has a peculiarly beneficial effect on the grapes. It tends to occur in vineyards next to large bodies of water, where morning mists dampen the grapes in the morning. Such locations include Sauternes in Bordeaux, and around the Neusiedlersee in Austria. Following this, the mists are burnt from the ground by the afternoon sun. In conditions, which are too damp, where the mists persist all day, the grapes are much more likely to be affected by Grey Rot, a destructive fungal infection.

Grapes affected by Botrytis look terrible, discoloured and shrivelled, but they are the starting point for making some fabulous wines. The Botrytis has the effect of reducing water content in the grapes, concentrating the grape sugars. The wine that results has a rich, luscious texture, with sweet, concentrated fruit flavours.

3.1.7 Yeast

In many wines, the yeasts themselves are the cause of certain flavours. When a wine has completed fermentation, it remains cloudy and contaminated with dead yeast cells. Many different techniques are employed to clarify the wine from its lees (the collection of dead yeasts).

Wines that remain on the lees for a long time, however, will take on extra richness and texture, with bready, biscuit aromas (and flavours). This technique is employed to add an extra dimension to many Champagnes, as well as Muscadet, white Burgundy and many other white wines. Some vignerons practice batonnage (stirring of the lees) in order to accentuate this effect.

3.1.8 Flavour

After the assessment of all the components present in wine, it is still necessary to examine the flavours that are present in the wine. In young wines, at least, the flavour is directly related to the grape variety used.

Self-Assessment Exercise

- i. List the components of wine.
- ii. Mention the effect of tannin on wine.

4.0 Conclusion

The components that make up wine have vital roles to play in the eventual outcome of the wine making process as well as in the drinkability of the wine.

5.0 Summary

In this unit, you have learnt the various components of wine, which include tannins, acidity, alcohol, sugar, oak, botrytis and flavour. Tannins are a natural preservative and they give structure and backbone to the wine. The level of sugar in the wine determines how sweet it tastes.

The aromas oak impacts on wine depend on how much oak is used; how much of it is new as opposed to re-used; how long the wine stays in contact with the wood; whether the wine is merely aged in oak or whether the fermentation takes place in it; and how the oak has been treated.

Grapes affected by Botrytis look terrible, discoloured and shrivelled, but they are the starting point for making some fabulous wines.

6.0 Self-Assessment Exercise

1. List and explain the components of wine.
2. Itemise the factors aromas from oak depend on.

7.0 References/Further Reading

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