NATIONAL OPEN UNIVERSITY OF NIGERIA

HCM 345

Wine and Food Pairing Principles

Module 2

HCM 345 (Wine and Food Pairing Principles) Module 2

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Unit 1 General Information Required on Wine

1.0 Introduction

There are various information that are required to be given on wine to help the customers in making decision as to choice of drink. Such information includes the wine itself and the alcoholic strength. Most times the wine label contains most of this information.

2.0 Objectives

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

- state the various information that are required to be given on the wine list or wine label
- interpret the information given on the wine label.

3.0 Main Content

3.1 Wines

The required information on wine includes the following:

- bin number
- vintage
- name of wine
- alcoholic strength
- country and area of origin
- ½ bottle, bottle or magnum
- quality indication
- price
- shipper
- supplier
- château/estate bottled
- varietal (type of grape)
- descriptive notes as appropriate.

3.2 Alcoholic Strength

The alcoholic strength of wine and other drinks is expressed as percentage (%) alcohol by volume (ABV). This is measured by the Organisation Internationale Métrologie Légale (OIML) Scale, which is the universally accepted scale for the measurement of pure alcohol in a liquid. Thus a liquid stated to have 30 per cent alcohol by volume will have 30 per cent of its content as pure alcohol. The alcoholic content of most drinks is now shown on the labels.

Figure 1 shows a typical United States wine label.

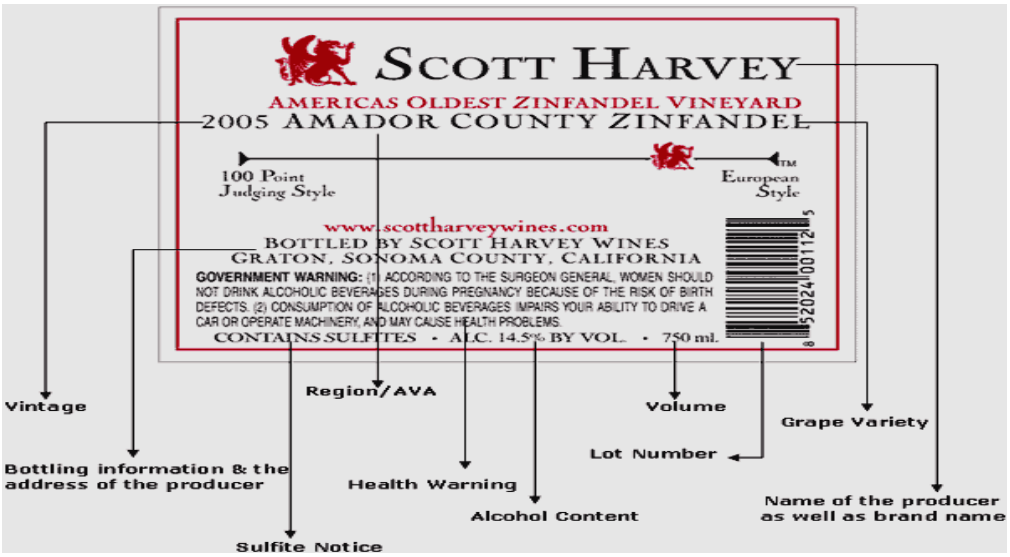

FIG. 1.1: A Typical United States Wine Label

Note that most of the information needed on wine has been supplied on this wine label.

GERMANY

OTHER

BACK LABEL

Fig. 1.2: Examples of Wine Labels

Figure 1.2 shows more examples of wine labels. Follow the numbers from each label to the related numbers in the text for a quick explanation of every label line. Though these labels represent different countries with different sets of labelling regulations, it is seen that they all provide the same general information, with only relatively minor differences in format and content.

1. Winemaker or winery: The company or firm that produced the wine or, in some cases, the wine's trademark name.

2. Appellation: The country or region where the grapes for this wine were grown. This may be as broad as "California" or as narrow as a specific vineyard like *Trittenheimer Altärchen.* Note, however, that the California wine pictured here lists a narrower appellation ("El Dorado County") and takes advantage of the option to denote its specific vineyard

source ("Wylie-Fenaughty") as well. The German wine also mentions its region ("Mosel-Saar-Ruwer"). In most countries, wine-growing regions ("appellations") are defined by law, and wines made in these regions will carry legal language on the label such as "Appellation Controlée" in France or *DenominazionedellaOrigineContrallata* (DOC) in Italy. Most regulations allow up to 15 percent of the wine to be made from grapes grown outside the area.

3. Vintage: This is the year in which the grapes were harvested, not the year in which the wine was bottled, which for some wines may be years later. Note that some countries add the local word for "vintage" to the label: "Cosecha" in Spain, "Vendemmia" in Italian. (Most national wine laws require that at least 85 per cent of the wine be harvested in the year of vintage; up to 15 per cent may be blended in from other years.)

4. Variety: The specific kind of grapes from which the wine was made. Not all wines disclose varietal content, for example, most French and Italian wines. This is because wine laws require the wines of each region be made from traditional varieties such as Cabernet Sauvignon, Merlot, Cabernet Franc, Petite Verdot and Malbec in Bordeaux, for example; Sangiovese and others in the case of Chianti, and the indigenous grapes Obidiah and Merwah in the offbeat Lebanese white wine from Chateau Musar pictured under "Other."Most countries allow the use of some non-varietal grapes in the blend. In most states of the United States, for example, only 75 per cent of the wine's content must be of the named varietal. In Europe and Australia, the rule is usually 85 per cent.

5. Ripeness: In a tradition known primarily in Germany and, in somewhat different form, Austria, some wines use special terminology to reflect the ripeness of the grapes and the quality of the finished wine. The German wine pictured, for instance, is a *Kabinett*, the lowest ripeness level in *QualitätsweinmitPrädikat*, the highest quality level. Some German wine labels will also show "Trocken" ("dry") or *Halbtrocken* (half dry) to denote wines vinified to less natural sweetness.

6. Estate bottling and winery information: If the wine is "estate bottled" (made from grapes grown and harvested in the winery's own vineyards), this will be disclosed with language on the label such as the French *Mise en bouteille(s) au Chateau*; the German *Gutsabfüllung*; or the English estate bottled or grown, produced and bottled.

7. Other required information: This may vary widely depending on national regulations. German wines, for example, carry an "Amptliche Prüfungs Nummer (AP Number)," the serial number it received during official testing (barely visible on the right in the pictured label). French wines may carry their ranking from traditional classifications (such as "Grand Cru" or "Premier Cru" on qualifying Burgundies). The back labels of wines sold in the United States are typically decked out with required consumer warnings such as the notorious "Surgeon General's Warning" and notices that the wines contain sulfites. Wine labels also carry small print disclosing the wine's approximate alcoholic content and the size of the bottle, as highlighted on several of the labels photos. Imported wines in the United States normally bear the name and other information about the company that imported the wine.

8. Optional information: Additional information that may range from winemaker's notes or detailed analytical and tasting information to advertising hype are often featured on labels, especially the back label.

Self-Assessment Exercise

Mention the general information required on wine.

4.0 Conclusion

The vital information required on wine labels has been discussed. Information brings knowledge. Lots of the prints on wine labels convey lots of information. It is important that the sommelier or conossoir arm themselves with adequate knowledge to be able to impress and serve customers better.

5.0 Summary

The major information required on wine is normally covered by the information on the wine label. This most times includes:

- wine maker
- appellation
- vintage
- variety
- ripeness
- estate bottled or not
- alcoholic strength.

6.0 Self Assessment Exercise

Discuss the general information required on wine.

7.0 Reference/Further Reading

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

Unit 2 The Role of Wine in the Society

1.0 Introduction

In Unit 1, we learnt about the general information required on the wine. This information will help you to interpret the information on wine labels. In this unit, we shall be discussing the role of wine in the society.
Wine was regarded as an important product of civilisation, which brings significant benefits to human body. At the same time, it has been discovered that wine has great potential to harm if not properly used.

From the ethnographic material available, it is clear that in all cultures where more than one type of alcoholic beverage is available, drinks are classified in terms of their social meaning, and the classification of drinks is used to define the social world. Few, if any, alcoholic beverages are "socially neutral;" every drink is loaded with symbolic meaning; every drink conveys a message. Alcohol is a symbolic vehicle for identifying, describing, constructing and manipulating cultural systems, values, interpersonal relationships, behavioural norms and expectations. Choice of beverage is rarely a matter of personal taste.

A United States survey examined perceptions of the situational appropriateness of various types of alcoholic drink, finding that wine, but not spirits or beer, is considered an appropriate accompaniment to a meal; wine and spirits, but not beer, are appropriate drinks for celebrations, while beer is the most appropriate drink for informal, relaxation-oriented occasions.

Scientists have discovered that wine can be physically beneficial. Wine can be dangerous, too, and out-of-control consumption can be a problem. How societies balance the benefits and the dangers of alcohol is the subject of constant revealing debate.

2.0 Objectives

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

- state the functions of wine
- discuss wine and health
- list the health components in wine.

3.0 Main Content

3.1 Functions of Wine

A look into the past will reveal that all the writings our ancestors left behind as a witness of their times and their cultures, among all beverages created by man, wine is the one, which has been more frequently, mentioned and it occupies a place of absolute importance.
Wine is rarely drunk to quench thirst. Wine has always played a primary role in social and cultural events among the people in which it was present.

3.1.1 Situation Definer

At the simplest level, drinks are used to define the nature of the occasion. In many Western cultures, for example, champagne is synonymous with celebration, such that if champagne is ordered or served at an otherwise "ordinary" occasion, someone will invariably ask "What are we celebrating?"

3.1.2 Religious Importance

In many religions and secret cults society, wine is considered a ritual element. For example, in Christianity, wine is essential in celebrating Eucharist; it is considered sacred, which therefore goes beyond the simple concept of beverage. Dionysus, Bacchus, and Liber are the examples of the ancient Greek and Roman gods of wine. These gods embodied many of the qualities, which Greeks and Romans saw in wine itself:

- life and death
- nature and civilisation
- male and female.

3.1.3 Social Importance

Like food, wine has a social role to play:

- wine is a beverage of communion, friendship, aggregation and union
- the most important moments in the life of men are still today celebrated by wine
- it is consumed as a beverage to wish good luck for agreements
- it is used to celebrate special events.

3.1.4 Wine as a Spiritual Component

- It brings people together.
- It can reduce sadness and increase happiness.
- Wine amplifies a sense of well-being.
- Wine can bewitch and bewilder, transfix and inspire.

By evoking these simple social and emotional responses, wine can be said to be a spiritual component.

3.1.5 Wine as a Global Commodity

Wine runs the gamut from mass production to artistic craftsmanship, and so offers insight at every level to successes and failures in human organisation, determination and vision.

The wine business, from agriculture to winemaking to sales and education, is rich in powerful personalities. Wine offers culture and connoisseurship, while touching on art and philosophy.

Self-Assessment Exercise

Mention the functions of wine.

3.2 Health Benefits of Wine

The benefits of wine to human bodyare numerous. Wine is good for the heart; wine in moderation might help one shed weight, reduce forgetfulness, boost your immunity, and help prevent bone loss. The benefits of wine may include the following.

Wine reduces forgetfulness
Wine could preserve the memory. When researchers gave memory quizzes to women in their 70s, those who drank one drink or more every day performed better than those who drank less or not at all. Wine helps prevent clots and reduce blood vessel inflammation, both of which have been linked to cognitive decline and heart disease. Alcohol also seems to raise higher density lipoprotein (HDL), the so-called good cholesterol, which helps unclog the arteries.

Wine keeps weight down
Studies have shown that people who drink wine daily have lower body mass than those who indulge occasionally; moderate wine drinkers have narrower waists and less abdominal fat than people who drink liquor. Alcohol may help the body to burn extra calories after taken a glass. Beer seems to have a similar effect.

Wineboosts body's defences
In a British study, those who drank roughly a glass of wine a day reduced by 11 per cent their risk of infection by *helicobacter pylori* bacteria, a major cause of gastritis, ulcers, and stomach cancers. As little as half a glass may also guard against food poisoning caused by germs like salmonella when people are exposed to contaminated food, according to a Spanish study.

Wine guards against ovarian problems
When Australian researchers recently compared women with ovarian cancer to cancer-free women, they found that roughly one glass of wine a day seemed to reduce the risk of the disease by as much as 50 per cent. Earlier research at the University of Hawaii produced similar findings. Experts suspect this may be due to antioxidants or phytoestrogens, which have high anticancer properties and are prevalent in wine. And in a recent study conducted by University of Michigan, a red wine compound helped kill ovarian cancer cells in a test tube.

Focus on wine positive benefits regarding cancer has centered on the antioxidant properties of resveratrol, found in grapes; with some laboratory results showing a protective quality that inhibit cancerous changes in cells. The research is ongoing with no conclusive results though some studies suggest that moderate wine consumption may lower the risk for lung, ovarian and prostate cancer.

Wine helps build stronger bones
On the average, women who drink moderately seems to have higher bone mass than abstainers. Alcohol appears to boost estrogen levels; the hormone seems to slow the body's destruction of old bone more than it slows the production of new bone.

Heavy alcohol consumption has been shown to have a damaging effect on the cellular processes that create bone tissue. Long-term alcoholic consumption at high levels increases

the frequency of fractures. Studies from St. Thomas' Hospital in London and the *Epidimiologie de l'Ostioporose* (EPIDOS) medical group in France suggest that moderate wine consumption may offer positive benefits to women, particularly elderly women, in retaining bone density and reducing the risk of developing osteoporosis.

Wine prevents blood-sugar problem

Premenopausal women who drink one or two glasses of wine a day are 40 per cent less likely than women who do not drink to develop Type-2 diabetes, according to a 10-year study by Harvard Medical School. While the reasons are not clear, wine seems to reduce insulin resistance in diabetic patients.

Research has shown that moderate levels of alcohol consumed with meals, does not have a substantial impact on blood sugar levels. A 2005 study presented to the American Diabetes Association suggests that moderate consumption may lower the risk of developing Type-2 diabetes.

Wine aids digestion and absorption

Wine can improve digestion. It can also increase the body's absorption of calcium, magnesium, phosphorus and zinc. All these important minerals help prevent osteoporosis. Red wine also contains iron, a necessary mineral for oxygen transportation in the body.

3.3 Health Component of Wine

The health benefits of drinking wine come from the chemical makeup of the wine, not necessarily the alcohol. Alcohol is the by-product of fermentation, which on its own has tremendous health benefits (if taken in moderation).

Alcohol

The alcohol itself may help to raise the good cholesterol and inhibit the formation of blood clots. This is called vasodilatation, meaning the opening of the blood vessels and increasing blood flow. Alcohol cannot be dismissed as one of the health benefits of drinking wine.

The real benefits

The real benefits in red wine are the ingredients derived from the grapes themselves. The best part of the grape is the skin. Since the skins are used in the process of fermentation, their benefits get absorbed into the red wine.

The skin contains over 400 health-promoting substances like tannins, phenols, flavonoids, bioflovanoids, vitamins, minerals, antioxidants and polyphenols like quercetin, resveratrol, oligomeric proantho cyanidins (OPCs) and catechins. They all work together to raise the level of high-density lipoprotein(HDL) cholesterol and lower the low-density lipoprotein(LDL) cholesterol.

Most of these act like antioxidants in the blood. Antioxidants reduce free radicals in the body which cause damage, help create conditions for disease and cause aging. Specifically, they donate electrons to "unstable" molecules, which are literally bouncing around in the blood putting small bits in your blood vessels while damaging healthy cells. This action alone helps the body to repair the damage tissue. It is this 'damage' that we call the "signs of aging."

i. Resveratrol

Resveratrol is the main component of the red wine. It is also found in the skins of grapes. Resveratrol is the antibody the producedby grapes to fight disease, fungi or injury. They

repair cells, reduce inflammation, and act as antioxidants in slowing the aging process. Where free radicals damage healthy cells, which are what causes aged skin, resveratrol not only combats the free radicals but also repairs the damaged cells.

The best way to absorb resveratrol in humans appears to be buccal delivery that is without swallowing, but by direct absorption through the inside of the mouth. The way wine drinkers swish the wine in their mouth before swallowing is what make the combination so effective**.**

ii. Flavonoids and bioflavonoids

These two are really the same. Their purpose in plants is to create the blue and yellow pigments in flowers and leaves - but they do so much more. Research has shown them to have both anti-inflammatory, antioxidant and anti-allergy abilities.

All together, these ingredients makeup the health benefits of drinking wine. The only thing healthier than adding red wine to your diet is quitting smoking. While white wine does have its benefits, it cannot hold a candle to the power grape skins add to the health benefits of drinking wine.

iii. Tannins

Tannins are what give wine its bitter and dry taste. They are found in the skin and seeds of the grapes. They are proanthocyanidins (often referred to as OPC's). Tannins work like antioxidants; they prevent hardening of the arteries, and inhibit the growth of plaque on the teeth. Winemakers often go to great lengths to reduce the number of tannins in wine. Press wine, on the other hand, is extremely high in tannins because the winemakers do not deseed the grapes; rather, they press and break the seeds during winemaking.

iv. Quercetin

This is another pigment in red grapes. Also found in apples, green onions and green tea, quercetin works as an anti-inflammatory, an antihistamine and an antioxidant. Research is currently under way to see how quercetin fights cancer cells.

Self-Assessment Exercise

i. List the health benefits of wine.
ii. Mention the health components in wine.

4.0 Conclusion

The health effects of wine (and alcohol in general) are the subject of considerable in this unit. There is evidence that a regular, moderate intake of alcohol can have beneficial health effects. These findings do not represent a reason to take up drinking if you currently abstain, but they do represent a reason to cut back if you imbibe heavily. Suffice to say that none of the above evidence should induce abstainers to take up drinking just for the health benefits.

Nearly all researches into the positive medical benefits of wine consumption make a distinction between moderate consumption, heavy and binge drinking. What constitutes a moderate, healthy level of consumption will vary from individual according to age, gender, genetics, weight and body stature as well as the situation-i.e. the food being consumed as well as any other drugs currently in the individual's system, etc.

5.0 Summary

In this unit, wine has been shown as a situation definer and a global commodity, which also performs religious, social and spiritual functions. Wine also contains health components that deliver some health benefits when taken in moderation. You were exposed to the health benefits of drinking wine, specifically red wine. Taken in moderation, as all the studies report, the red wine benefits can dramatically improve health.

6.0 Self-Assessment Exercise

1. Discuss the role of wine in the society
2. Explain the health benefits of wine.

7.0 References/Further Reading

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Unit 3 Tasting of Wine

1.0 Introduction

In the last unit,, we discussed the functions of wine as well as its health benefits and the health components in wine. In this unit, we shall be looking at the tasting of wine. A sommelier is expected to have a good knowledge of the characteristics of wines offered. It is through the aromas of wine that wine is actually tasted. The human tongue is limited to the primary tastes perceived by taste receptors on the tongue-acidity, bitterness, saltiness, sweetness and savoriness. The wide arrays of fruit, earthy, floral, herbal, mineral and woodsy flavour perceived in wine are derived from aroma notes interpreted by the olfactory bulb.

2.0 Objectives

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

- explain the meaning and types of wine tasting
- describe the tasting stages and steps
- list the characteristics assessed in of wine tasting
- enumerate the advantages of wine tasting.

3.0 Main Content

3.1 What is Wine Tasting?

Wine tasting is the sensory examination and evaluation of wine. The practice of wine tasting is as ancient as its production. Today, a more formalised approach to wine tasting is in use and formal terminologies for describing the range of perceived flavours, aromas and general characteristics of a wine have been established. Modern professional wine tasters use the constantly evolving terminologies.

3.1.1 Types of Wine Tasting

There are various types of wine tasting, these include the following.

Blind tasting

This is a tasting method in which the wine is served without the tasters knowing anything about the wine e.g. the bottle or the label. Sometimes, the wine could be served from a black wine glass to mask the colour of the wine. This is to avoid impartial judgement about the wine, as it has been established that a taster's judgement can be prejudiced by knowing details of a wine, such as geographic origin, price, reputation, colour, or other considerations.

Vertical tasting

In a vertical tasting, different vintages of the same wine type from the same winery are tasted. This emphasizes differences between various vintages.

Horizontal tasting
In a horizontal tasting, the wines are all from the same vintage but are from different wineries. Keeping wine variety or type and wine region the same helps emphasize differences in winery styles.

Vertical and horizontal wine tastings are wine tasting methods that highlight differences between similar wines.

When it comes to wine tasting, there are factors that have to be considered:

- perception
- expectancy.

People expect expensive wine to have more desirable characteristics than cheaper wine. When given wine that they are falsely told is expensive, people virtually always report that it has better taste than the very same wine when they are told that it is inexpensive.

Similarly, people have expectations about wines because of their geographic origin, producer, vintage, colour, and many other factors. For example, when Brochetis served, a white wine, it usually receives all such descriptions as "fresh, dry, sweet, and lively."If the same wine is served, dyed red received the usual red terms: "intense, spicy, supple, and deep."

Tasting flights
Tasting flight is a term used by wine tasters to describe a selection of wines, usually between three and eight glasses, but sometimes as many as fifty, presented for the purpose of sampling and comparison.

Self-Assessment Exercise

i. What is wine tasting?
ii. Mention the types of wine tasting.

3.3 Tasting Stages

There are four recognised wine tasting stages:

- appearance
- "in glass" the aroma of the wine
- "in mouth" sensations
- "finish" (aftertaste)

The results of the four recognised stages in wine tasting are combined to establish the following properties of a wine:

- complexity and character
- potential (suitability for aging or drinking)
- possible faults

A wine's overall quality assessment, based on this examination, follows further careful description and comparison with recognised standards, both with respect to other wines in its price range and according to known factors pertaining to the region or vintage such as:

- if it is typical of the region
- if it diverges in style
- if it uses certain wine-making techniques, such as barrel fermentation or malolactic fermentation
- or any other remarkable or unusual characteristics.

Whereas wines are regularly tasted in isolation, a wine's quality assessment is more objective when performed alongside several other wines, in what are known as tasting "flights." Wines may be deliberately selected for their vintage ("horizontal" tasting) or proceed from a single winery ("vertical" tasting), to better compare vineyard and vintages, respectively. Alternatively, in order to promote an unbiased analysis, bottles and even glasses may be disguised in a "blind" tasting, to rule out any prejudicial awareness of either vintage or winery.

3.4 Steps in Wine Tasting

In wine tasting, wine is often perceived before being drunk to identify some components of the wine that may be present. Different terms are used to describe what is being perceived. The most basic term is aroma, which generally refers to a "pleasant" smell as opposed to odour, which refers to an unpleasant smell or possible wine fault. The term aroma maybe further distinguished from bouquet, which generally refers to the smells that arise from the chemical reactions of fermentation and aging of the wine. Wine tasting entails the following steps.

1. Look at the wine

Tilting the glass a bit can make it easier to see the way the colour changes from the center to the edges. Holding the glass in front of a white background, such as a napkin, tablecloth, or sheet of paper, is another good way to make out the wine's true colour. Look for the colour of the wine and the clarity.

What colour is it? Look beyond red, white or blush. If it is a red wine is the colour maroon, purple, ruby, garnet, red, brick or even brownish? If it is a white wine, is it clear, pale yellow, straw-like, light green, golden, amber or brown in appearance?

Intensity, depth or saturation of colour is not necessarily linear with quality. White wines become darker as they age while time causes red wines to lose their colour turning more brownish, often with a small amount of harmless, dark red sediment in the bottom of the bottle or glass. This is also a good time to catch a preliminary sniff of the wine so you can compare its fragrance after swirling. This will also allow you to check for any offensive odors that might indicate spoilt (corked) wine.

2. Swirl the wine in your glass

This is to increase the surface area of the wine by spreading it over the inside of the glass allowing them to escape from solution and reach your nose. It also allows some oxygen into the wine, which will help its aromas open up.

3. Note the wine's viscosity

This shows how slowly the wine runs back down the side of the glass while one is swirling. More wines that are viscous are said to have "legs," and are likely to be more alcoholic. Besides its colour, it is not related to a wine's quality but may indicate a more full -bodied wine.

4. Sniff the wine

Initially you should hold the glass a few inches from your nose. Then let your nose go into the glass. What do you smell?

5. Take a sip of wine, but do not swallow

The difference between drinking and tasting is expectorating! Roll the wine around in your mouth exposing it to all of your taste buds. You will only be able to detect sweet, sour, salty, and bitter. Pay attention to the texture and other tactile sensations such as an apparent sense of weight or body.

6. Aspirate through the wine

With your lips pursed as if you were to whistle, draw some air into your mouth and exhale through your nose. This liberates the aromas of the wine and allows them to reach your nose where they can be detected. The nose is the only place where you can detect a wine aroma. However, the enzymes and other compounds in your mouth and saliva alter some of a wine's aromatic compounds. By aspirating through the wine, you are looking for any new aromas liberated by the wine's interaction with the environment of your mouth.

7. Take another sip of the wine

This time, especially if you are drinking a red wine, introduce air with it. In other words, slurp the wine without making a loud slurping noise. Note the subtle differences in flavour and texture.

8. Note the aftertaste when you spit

How long does the finish last? Do you like the taste?

9. Write down what you experienced

You can use whatever terminology you feel comfortable with. The most important thing to write down is your impression of the wine and how much you liked it. Many wineries provide booklets and pens so that you can take your own tasting notes. This will force you to pay attention to the subtleties of the wine. In addition, you will have a record of what the wine tastes like so that you can pair it with meals or with your mood. Wines have four basic components:

- taste
- tannins
- alcohol
- acidity.

Some wines also have sweetness, but the latter is only appropriate in dessert wines. A good wine will have a good balance of all four characteristics.

- Aging will soften tannins.
- Acidity will soften throughout the life of a wine as it undergoes chemical changes, which include the breakdown of acids.

- Fruit will rise and then fall throughout the life of a wine.
- Alcohol will stay the same.

All of these factors contribute to knowing when to drink/decant a wine. Malolactic fermentation (the natural or artificial introduction of a specific bacterium) will cause white wines to taste creamy or buttery. Aging in oak will cause wines to take on a vanilla or nutty flavour. Other common taste descriptors are minerality, earthiness and asparagus.

10. Match the glassware to the wine.

Match the glassware to the wine. Stemware/drink ware comes in a variety of shapes and sizes. The more experienced wine drinkers and connoisseurs often enjoy wines out of stemware or bulbs that are tailor-made for a specific varietal. When starting out, there is a basic rule of thumb; larger glasses for reds, and smaller glasses for whites.

3.5 Components of Aroma

There are volatile and non-volatile compounds that contribute to the makeup of a wine aroma. During the fermentation and for the first few months of a wine's existence, chemical reactions among these compounds occur frequently and a wine aroma will change more rapidly during this period than at any other point. As a wine ages and matures, changes and developments in aroma will continue to take place but at a slower and more gradual pace. Volatile aroma compounds are present in the skin and juice of a grape berry and will vary in composition according to the individual grape variety.

The act of tasting wine is essentially the act of smelling these vaporised aroma compounds. Olfactory receptors cells, each sensitive to a different aroma, pick up these compounds and transfer the information to the brain by way of the olfactory bulb.
Study of the compounds responsible for aroma and flavour, as well as their correlation with a wine's quality, is ongoing. As understanding of these compounds grows, there is concern that wines in the future could be "manipulated" through the use of chemical additives to add complexity and additional aromas to wine (such as creating a manufactured perfume). In 2004, a winery in South Africa was found to have added illegal flavouring to their Sauvignon blanc to enhance the aroma.

Some of the identified aroma compounds include the following.

- Methoxypyrazine: This is a grassy, herbaceous aroma compound associated with *Cabernet Sauvignon* and *Sauvignon blanc*.
- Monoterpenes: This isresponsible for the floral aromatics of varieties like Gewürztraminer, Muscat and Riesling. Includes geraniol, linalool and nerol.
- Norisoprenoids-Carotenoid: This is derived aromatic compound that includes megastigmatrienone, which produces some of the spice notes associated with Chardonnay and zingerone responsible for the different spice notes associated with Syrah.
- Thiols-sulfur: This contains compounds that can produce an aroma of garlic and onion that is considered a wine fault (mercaptans). They have also been found to contribute to some of the varietal aromas associated with Cabernet Sauvignon, Gewürztraminer, Merlot, Muscat, Petit Manseng, Pinot blanc, Pinot gris, Riesling, Scheurebe, Semillon and Sylvaner.

Esters

Some of the aromas perceived in wine are from esters created by the reaction of acids and alcohol in the wine. Esters can develop during fermentation, with the influence of yeast, or later during aging by chemical reactions.

3.6 Characteristics Assessed during Tasting

a. Varietal character

This describes how much a wine presents its inherent grape aromas.

b. Integration

This is a state in which none of the components of the wine (acid, tannin, alcohol, etc.) is out of balance with the other components. When a wine is well balanced, the wine is said to have achieved a harmonious fusion.

c. Expressiveness

Expressiveness is the quality the wine possesses when its aromas and flavours are well defined and clearly projected. The complexity of the wine is affected by many factors, one of which may be the multiplicity of its flavours.

The connectedness of the wine, a rather abstract and difficult to ascertain quality, describes the bond between the wine and its land of origin (*terroir*).

3.7 Advantages of Wine Tasting

The advantages of tasting wine include:

- to develop learning from experience
- to help in the assessment of the quality of a wine in terms of value when making purchasing decisions
- to monitor the progress of a wine being stored to determine the optimum selling time as part of protecting investment
- helps in describing the wine when explaining its qualities or deficiencies to a customer
- provides a personal record of wines tested to reinforce learning and experience.

Self-Assessment Exercise

i. What characteristics are assessed during wine tasting?
ii. Mention the tasting stages of wine.

4.0 Conclusion

Wine tasting is a skill that when employed, brings out all there is to know about the taste of the wine. The taste of wine is all wrapped around the volatile and non-volatile compounds, which contribute to the makeup of wines' aroma.

5.0 Summary

In this unit, we have discussed the various types of wine tasting, which include blind, vertical and horizontal. Recognised wine tasting stages include appearance, in glass, in mouth and finish. You learnt that wines have four basic components: taste, tannins, alcohol and acidity. Characteristics assessed during tasting are-varietal character, integration and expressiveness. We also discussed several advantages of wine tasting.

6.0 Self-Assessment Exercise

1. Define the term "wine tasting."
2. Outline the types of wine tasting.
3. Discuss the various steps in wine tasting.
4. Itemise the advantages of wine tasting.

7.0 References/Further reading

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Unit 4 Factors Affecting the Taste of Wine

1.0 Introduction

In the previous unit, we looked at wine tasting, the types of wine tasting as well as the steps and stages in wine tasting, the characteristics evaluated and the advantages of wine tasting. In this unit, we shall be discussing the factors affecting the taste of wine.

Taste, also called smatch or gestation, is one of the traditional five senses. It refers to the ability to detect the flavour of substances such as food, certain minerals, poisons, etc. In the tasting of wine, the tasters employ their taste organs to qualify the wine. Various factors have been recognised as having effect on the final taste of wine. These factors will be considered in this unit.

2.0 Objective

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

- state the various factors that influence the taste of wine.

3.0 Main Content

3.1 Factors Affecting the Taste of Wine

3.1.1 The Vine

The single most influential factor affecting the taste of wine is the grape variety or varieties from which it is made. It is impossible to put a definitive figure on the number of varieties of wine grapes in the world. Italy alone has more than 1,000 varieties. Each variety has its own distinct character and part of the fun of getting to know them is choosing a word which precisely describes the smell and taste of a particular grape.

3.1.2 Vineyards and Vinification

Climate, altitude and soil composition all have a part to play in determining flavour. A few extra degrees of warmth can introduce more exotic, tropical flavours. Altitude promotes higher acidity, which also affects taste. There can be significant flavour differences between the same varieties grown in different parts of the same country, especially if a number of different latitudes are involved. Vines cooled by sea breezes ripen more slowly and evenly than those on hot, insulated, inland vineyards do. All these factors have a profound effect on flavour. Generally, wines produced in hot climates have a higher alcohol content and lower acidity content than wines produced in cooler climates.

The concept of *terroir* is important to grasp, as it is central to an ongoing debate as to how much of the distinctive character of a wine stems from the specific environment in which it grows. Its literal meaning is "soil" and in broad terms, the word refers to a regional, or even a particular vineyard character which "sings" in the wine, and represents the combined effects of soil and other factors such as climate and exposure. More specifically, some tasters swear they can taste, for example, slate in a glass of Mosel, or flint in Chablis. There

is no conclusive scientific evidence yet to support the notion that a patch of earth could make its presence so acutely felt in the glass, but there is general agreement that certain vineyard sites do have tangible characteristics, which it is possible to spot despite vintage variations.

3.1.3 Technology

Technology has made it possible to produce wine in a particular style, irrespective of its origins. Some branded wines, for which consistency is very important, rely on the increasing ability of technology, including special yeasts and fermentation techniques, to create uniformity of flavour despite the vagaries of vintage or even variety. In many evolving wine regions, expertise from abroad improves and raises the profile of local wines, but in others serves purely to create international appeal.

3.1.4 Oak

The vanilla aromas and toasty flavours, which are present in wine, which has been fermented and/or aged, in a barrel are instantly recognisable. The mighty oak has always been associated with wine production.
The inside of a barrel is finished by firing, on a range of lightly toasted to charred. This will have its own effects on the wine, which will be stored in them. The age of the barrel, the intensity, which decreases with time, and its size, all affect wine in their own way. Very large barrels influence texture more than taste so that wines fermented or aged in them may display more subtle effects of oak, such as a creaminess of taste, or roundness of texture.
The use of wood chips to flavour everyday wines provides a quick and inexpensive fix, at around five per cent of the cost of a new barrel. The winemaker's decision is not, however, based only on price. Some grape varieties are better suited to oak than others are, and vintage characteristics also have a part to play, as does wine style. The differences between a gently oxidised tawny port, aged entirely in cask, and a deeper-coloured, fruity vintage Port, aged in bottle, are striking.

3.1.5 Time

As wine gets older, it changes dramatically in taste. Harsh tannins polymerise and soften, brash acidity and raw alcohol interact to form compounds called esters, and primary fruit flavours evolve into complex bouquets. When mature fruit and alcohol are in balance, the wine can be said to have reached a platform of drinkability, which may last for a number of years. At the end of this period, the wine is at the end of its useful life, and should be drunk up before it begins to taste dried out.

3.1.6 Soil

Wines have the attributes of the soil that their grapes come from. Clayey soils stick to the hand and are astringently 'sticky' in the mouth, limestone soils make wines with 'curves' (galbe) and gravelly soiled wines are free-flowing just like letting a fistful of gravel fall from your hand.

3.1.7 Other Factors

Other factors that affect the taste of wine include:

- yeast and fermentation
- vintage
- method of shipping and transportation
- storage temperature
- decanting.

Self-Assessment Exercise

i. List the factors that affect the taste of wine.
ii. Outside those listed above; state other factors that will influence the taste of wine.

3.2 External Factors Influencing the Taste of Wine

3.2.1 Temperature

The temperature at which wine is served affects its taste. At warmer temperatures, wines were much less astringent. Colder temperatures accentuate the hardness of tannins. Stipulating the right temperature to serve a wine by type does not go far enough. It is essential to decide on the right temperature for each wine.

3.2.2 Noise Interference

The taste of wine is affected by noise. Noisy environment makes wine seem less aromatically intense.

3.2.3 Colours

Colour of one's immediate surroundings is very important when tasting wine. Neutral colours cause less "interference" when tasting wines.

3.2.4 Foods

Some foods also affect the taste of wine. In a bid to match texture, volume and flavour in food and wine pairing, some foods make some wines appear much lower in acidity and also rounder and riper.

3.2.5 Shape and Structure

Wines do have their own shape and structure and we need to consider this when matching foods with wines.

Self-Assessment Exercise

What are the external influences on the taste of wine?

4.0 Conclusion

Internal influences on the taste of wine include the grape variety used, the vineyard and vinification, technology, oak, time. External influences on the taste of wine are: temperature, noise, colour, food, shape and structure of the wine.

5.0 Summary

It has been shown in this unit that there are both internal and external influences on the final taste of wine. These factors should be taken into consideration in the production and tasting of wines to control or eliminate their influences.

6.0 Self-Assessment Exercise

Discuss the internal and external influences on the taste of wine.

7.0 References/Further Reading

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Unit 5 Decanting

1.0 Introduction

In the last unit, we discussed the internal and external influences on the taste of wine. In this unit, we shall be looking at the art of decanting and its effect on wine. Who actually owns a decanter nowadays? People who live in stately homes, or perhaps the proprietors of antique and curiosity shops? Anyone who wants the best from their wine should own one. Decanting wines is not just for show, and even in this modern age of industrial, fined and filtered wines, some wine will still benefit from spending some time in a decanter. Decanting is known to improve the smell and taste of wine.

2.0 Objectives

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

- state the importance of decanting wines
- explain how wine is decanted.

3.0 Main Content

3.1 Meaning of Decanting

Decanting means the transfer of contents of a wine bottle into another receptacle (the decanter) before serving.

Fig. 5.1: Example of a Decanter

3.2 Why Do We Decant?

In times gone by, before so many wines were routinely fined and filtered to a clear state, it was quite common for wines poured from both barrel and bottle to contain a considerable degree of solid matter. In order to avoid bringing an unsightly looking wine to the table, it was quite the norm to decant the wine into a suitably resplendent receptacle. The need for such a receptacle led to the development of the many and varied elegant decanters, which are available today. The presentation of wine in a beautiful crystal decanter adds to the ambience of a beautifully set table and prepared dinner.

Most wines on the shelves today, however, have no real need for decanting. The winemaking process ensures the wine is thoroughly clarified before it is bottled. A process of fining which involves passing egg whites, bentonite clay or other unsavoury substances through the fine to collect solid matter, and mechanical filtration were applied. Although these wines are often best served from the bottle, many others still benefit from decanting. Wines, which have aged in bottle, typically red wines rather than white, will generally throw sediment by perhaps 10 years of age or more. Not only is this sediment displeasing to the eye, it can also be quite unpleasant in the mouth. More than any other wines, these ones deserve decanting.

Young wines also benefit from decanting. The aim is not to take the wine off its sediment, as there is rarely any such sediment in young wines, but rather to aerate the wine. The action of decanting itself, and the large surface area in contact with the air in the decanter, alters the wine. Decanting softens its youthful bite and encourages the development of the more complex aromas that normally develop with years in bottle. For this reason, even inexpensive wines plucked from the shelves of the local supermarket can benefit from decanting, if a first taste reveals a tannic and youthful structure.

Therefore, the essence of decanting is as listed below:

- Decanting separates the wine from the sediment, which not only would not look nice in your glass, but would also make the wine taste more astringent.
- Decanting the wine ensures that the sediment stays in the bottle and you get a nice clear wine in the decanter, and subsequently in your glass.
- Decanting aerates the wine. Many young wines can be tight or closed on the nose or palate. As the wine is slowly poured from the bottle to the decanter, it takes in oxygen, which helps open up the aromas and flavors. Highly tannic and full-bodied wines benefit most from decanting.

3.3 How to Decant a Wine

Assuming that we are decanting a wine to remove it from its sediment, there is a simple procedure to follow. If decanting a wine is simply to aerate it and perhaps liven it up a little, this procedure does not really matter. Simply pour the wine into any suitable receptacle with minimal fuss.

First, take the wine from where it has been stored, hopefully lying on its side in a suitably cool, dark environment. If you suspect a considerable amount of sediment, as may occur with older wines, it is advisable to stand the bottle upright for a day or so prior to decanting, thus allowing the sediment to fall to the bottom of the bottle.

When the time comes to decant the wine, assemble the few things, which you will need. These are corkscrew and bottle together with a suitable receptacle, together with a suitable source of light. A small candle or a small torch or anything similar will do.

First, remove the entire capsule from around the neck of the bottle, using a knife or other instrument. It is important to remove the whole capsule, and not just the top, as you need to have a clear view into the neck of the bottle whilst decanting. This will allow you observe the wine coming through the neck for sediment. To enhance your view of the wine in the neck, position the light source shining through the neck from behind. Once done, you are ready to pour.

Hold the receptacle in one hand and the bottle in the other, and with a smooth and steady action, pour the wine into the decanter. Do not rush when decanting, rather use a gentle, steady movement, to avoid disturbing the sediment in the wine.

Keep the neck of the bottle over the light source, so that you can observe for an arrowhead of sediment moving into the neck of the bottle. This is your cue to stop pouring.

If you have done it all correctly, the result should be a full carafe or decanter of clear wine, with just half a glass or so of sediment-laden wine remaining. This remaining portion makes a great addition to the gravy, should you be decanting the wine as an accompaniment to a roast dinner. Do not fret too much if you have not achieved a clear pour, as a small amount of very fine sediment is not a great concern - as long as the large, unpalatable pieces have been removed.

Self-Assessment Exercise

i. What is decanting?
ii. Why do we decant a wine?

4.0 Conclusion

Wine decanting is very beneficial to the sommelier. Old wines that have been cellared properly will contain sediment due to the aging process. By properly decanting the wine, the sediment will remain in the bottle.

Young full-bodied red wines can benefit from decanting. When the wine is exposed to oxygen, the aromas present in the wine are released. The decanter in this case should be a wide bottomed decanter. Wide body decanters provide more surface area for oxygen to allow aromas from the wine to be released.

The presentation of wine in a beautiful crystal decanter adds to the ambience of a beautifully set table and prepared dinner.

5.0 Summary

In this unit, you have learnt what is meant by decanting a wine, reasons for decanting a wine and process of decanting a wine.

6.0 Self-Assessment Exercise

1. Define the term "decanting".
2. State the reasons for decanting wines.
3. Explain the process of wine decanting.

7.0 References/Further Reading

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