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ENTWINE WORLD & NUTRITION




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MYSTIC WINE



One of those well preserved beverages that is consumed by everyone in variable of the occasions either religious or festivals is WINE. Wine is an alcoholic drink made from fermented grapes. By filling different varieties of grapes and strains of yeast produce grape juice into a container at the right temperature, adding yeast which turns the sugar in the juice into alcohol and carbon dioxide the grape juice will ferment. The more sugars in the grapes the higher the potential alcohol level of the wine. Different varieties of grapes and strains of yeasts produce different styles of wine. These variations result from the complex interactions between the biochemical development of the grape, the reactions involved in fermentation and the production process. Wine is not only made from grapes it include rice and fruits. Fruits such as plum, cherry, pomegranate. The alcohol in wine is about 5.5%-15.5%. Various studies have been carried out from where the wine evolved and it has been hard to locate. Although Archaeological studies and evidence suggests that the earliest wine production took place in the country Georgia. It is said that wine was discovered when wild grapes juice turned to wine if left buried through the winter in a shallow pit which is due to fermentation. Also other studies suggest Mesopotamia near Iraq and Egypt seem to be the first place where grape vines were being cultivated in perhaps 6000BC and recent dis-

coveries point to making wine in china during the same period. The ancient Greeks and romans used to distinguish between special and ordinary wines and the difference from how the types can be made, first by drying grapes in the sun until they turn into raisins and the other by picking ripe grapes and fermenting them immediately. Wine has played a important role in religion. Red wine was associated with blood by the ancient Egyptians. During this time, the Egyptians come in contact with the Jews as well as the Phoenicians who would cultivate the wine and begin to spread it around the world. A god in named in the honour of wine: Dionysus. The wine taste also depends on the way it is stored. The use of oak plays a significant role in wine making, as it comes into contact with wine in the form of a barrel during fermentation, storing and aging. It makes a difference in wine as it affects the color, the flavor, tannin profile and texture of the wine. The species of oak typically used are the American oak which is a white oak species that is fast growing, wilder grains and lower wood tannins. Also the wine can be stored in bottles only if there is an effective and appropriate stopper. Corks have been used as bottle stoppers for decades. Wine grapes grow almost exclusively between 30 and 50 degrees latitude north and south of the equator. Wine was not only the most popular and potent beverage but also a powerful antiseptic. The further topics in the article will enlighten about wine.

KAVYA.M (2016016025)

VERMOUTH

An aromatized wine



Most people think of vermouth as a liquor. But the fact is, vermouth is a wine with a history dating back millennia. While treated as a near-toxic substance in bars for decades, vermouth is making a comeback, with a wide range of styles and flavours available to consumers. Vermouth is a low-alcohol wine that's fortified with a neutral spirit and sugar, much like port or sherry. But it's also aromatized, or infused, with herbs and spices, giving it tons of different aromas and flavors. In Europe, it's popular as an aperitif, because it stimulates the palate and appetite. The tradition of infusing medicinal herbs in wine dates as far back as 1250 BCE, to cultures like the ancient Chinese, Egyptians, and Greeks. The types of herbs used in vermouth varies widely between manufacturers, and everyone has a unique — and top secret — recipe. Wormwood, used to treat stomach upsets and intestinal parasites, is the traditional main ingredient (in fact, the name vermouth comes from the French pronunciation of the German word for wormwood, Wermut). But today, most manufacturers forgo wormwood in favor of other ingredients like nutmeg, gentian, angelica, chamomile, cinchona, saffron, elderflower, St. John's wort, and nearly any other herb or spice you can imagine. In fact, most producers use between 30-50 different ingredients in their infusing recipes. The variety on the market is truly dizzying. Let's take the two most common vermouth styles that people are generally familiar with: sweet and dry. Dry vermouth is also called French vermouth, because the first major producer of vermouth in France, Noilly Prat, added very little sugar — only 4% compared to the 10-15% found in sweet vermouths. Meanwhile, sweet vermouth can be referred to as red vermouth, rosso vermouth, Torino vermouth, and Italian vermouth, because the first commercial producer of vermouth in the world, Carpano, was founded in Turin, Italy, where vermouth was a popular aperitif because it stimulates the palate and appetite. The red/brown color in red vermouth comes not from the grapes of the wine, which are white, but from caramel and brown sugar.

Reference: <https://learn.winecoolerdirect.com/vermouth/>

DONE BY: KOWSIKA.N (2016016027)

WINE FUTURES VS WINE PRE ARRIVALS

Knowing the difference between futures and pre arrivals takes the stress out of presales. Even well-educated wine collectors mistakenly assume that these both are one and the same. In reality, both terms refer to buying wines "en primeur", but they represent two distinct styles of presales. The most commonly offered en primeur are from Bordeaux, Burgundy, The Rhone Valley and Port. The goal of wine futures and pre arrivals is to get immediate access to the finest wine without risk of the bottles selling out after release. Let's see the actual difference between these two. 'Wine futures' is the method of purchasing wines early while the wine is still in the barrel. This offers the customer the opportunity to invest before the wine is bottled. Payment is made at an early stage, a year or 18 months prior to the official release of a vintage. By contrast, wine pre arrivals are sold to collectors mere months before a wine is shipped out on the public market, long after it has been bottled. Pre arrivals sales typically takes place in the six months between a wine's bottling and the date on which it is shipped off to importers. . Buying wine futures involves more risk than that of buying wine pre arrivals. A possible advantage of wine future is that it is considerably cheaper as it is bought when the wine is in barrels but the quality can never be guaranteed in this case. Some wines lose their quality over time. Tampering and fraud are made in wine futures.

Brokers with best intentions can sell useless futures to collectors which would result in poor quality wine while bottling causing ultimate loss to the collectors. So wine futures are always recommended to buy in small quantities as the wine quality cannot be ensured. On the other hand, pre arrivals offer a safety nets. Unlike wine futures, pre arrivals are all but guaranteed bottles of wine. The likelihood of something going wrong after a wine has been bottled is far lower than the wine which is still in the barrel. This is because winemakers test the wine for spoilage before bottling and wine critics can more accurately rate the wine later in its life and importers know exactly how many bottles they will receive from the estate. It is still a worthwhile investment to buy wine before it has been released, but collectors should turn to pre arrivals rather than futures as often as possible. The key to invest in quality pre arrivals is to buy the wine in spring at its lowest price, just before it goes on to the market than buying cellar (the wine for 10 years or more to gain interest on the investment).

REFERENCE:

<https://blog.vinfo.com>
<https://en.m.wikipedia.org>

DONE BY: CHARUMATHY.S

WHITE WINE COMBO PREVENTS UNWANTED DIS-COLORATION OF PASTRY DOUGH

Pies , cakes and other pastry dough are susceptible to enzymatic browning by an enzyme called polyphenol oxidase (PPO) similar to that of bananas and other fruits and vegetables to turn brown in color. Commercial bakers often prepare dough days or weeks ahead to the time of preparation . This results in discoloration of baked product by PPO and could lead to economic losses. commercially available additives can suppress this reaction but as consumers demands for natural additives with more ingredients in their



foods, manufacturers are seeking alternative ways to preserve pastries .In the presence of oxygen, PPO capable of catalyzing melanin formation, which is the colored metabolic end product of enzymatic browning .Mainly to address this concern, many researchers sought to find a more and sustainable way to inhibit the enzymatic browning. The researchers initially tested various synthetic additives and showed that they had different effects on the dough. some caused slight discoloration when initially added but prevented further discoloration during storage and some kept dough white still storage. After series of experiments using white wine , red wine, grape juice and lemon juice, the researchers found that the combination of white wine and lemon juice did the best job to prevent the enzymatic browning by inhibiting the PPO. White wines have antioxidant capacity than red wines and Lemon juice contains ascorbic acid (vitamin C) and has low PH level , oxygen reacts with ascorbic acid before it reacts with the PPO and thus prevents enzymatic browning . Lemon juice demonstrated the highest inhibitory potential while white wine revealed itself as ideal additive for prevention of enzymatic browning and mold formation.

REFERENCE : pubs.acs.org/doi/abs/10.1021/acs.jafc.8b04477

DONE BY: GANGA KISHORE. S (2016016014)

SURPRISING INGREDIENTS IN OUR WINE

Wine is nature's best miracle. Grapes alone contain everything they need to transform into a glass of vino. Leave a vat of grapes in a container over time, and eventually the yeasts from the skins will work to convert the fruit's sugary juices into alcohol. The end product is a delectable libation that's been sipped and swirled throughout the centuries. Aside from grapes, here are the top ingredients you may not have known were swirling around in wine glass.

1. Potassium Sorbate & Potassium Metabisulfite

Both potassium sorbate and potassium metabisulfite are used as a protector in the winemaking process to ward off bacteria and prevent the yeast from spoiling. These ingredients are ideal to use together during the fermentation process, as they give the yeast a better opportunity to ferment efficiently, help prevent micro-organisms from spoiling the wine and improve the overall flavor while inhibiting enzymatic browning in white wines.

2. Calcium Carbonate

Calcium carbonate is commonly used in the winemaking process to reduce the acidity of the final product. Typically, a vintner will add this ingredient before or at the beginning of fermentation, because it is less likely to affect the aroma of the wine. It is not unusual for calcium carbonate to be added when the grapes are having trouble ripening due to the climate in which they were grown.

3. Sulfur Dioxide

As one of the most common additives in wine, that probably refer to Sulfur Dioxide (SO₂) as "Sulfites." Acting as an antioxidant and antibiotic, Sulfur Dioxide is commonly used to preserve the grapes, stabilize the wine and prevent oxidation during the winemaking process. It is also commonly used to help sanitize barrels and other winemaking equipment.

4. Sugar

We may think this one was a given since grapes themselves contain sugar, but oftentimes winemakers add even more sugar to the mix to help boost the alcohol content in their product. Known as chaptalization, adding sugar to wine is mainly done to assist the yeast in the fermentation process. Very few winemakers add sugar to sweeten the wine. Adding sugar to wine is often used in cooler climates where grapes aren't able to ripen fully before harvest.

5. Grape Juice Concentrate

Street names include Mega Purple and Ultra Red, but those menacing sounding names are really just types of a thick concentrate derived from Teinturer grapes. These wine boosters make the color of the red wine more intense while adding a bit of extra sugar to smooth out the mouth feel and make the wine taste a bit more velvety.

6. Water

Yes, turns out it's true that some wine may actually be "watered-down," but it may not be for reasons you think. Never used as a ploy to fill a bottle, adding water is done early in the winemaking process to bring down high alcohol levels and even out a wine's balance.

7. Flavors

Oak has been used since the beginning of wine making to flavor a wine with strong notes of vanilla (like the flavors found in American oak barrels) or balance undertones of subtle spices (like those found in French oak barrels). Since only a small portion of the wine actually comes in contact with the barrel, many winemakers have taken to adding oak chips, powders or staves to a wine to evenly distribute those subtle flavors (i.e., leather, roasted marshmallow, cinnamon, cloves, etc.) before being strained out after fermentation.

8. Powdered Tannins

Tannins are found in the skins of the grape, and can add complexity to wine. The catch can be a bit tricky to manage between crushing, macerations, maturation, climate changes, and more that occurs during the winemaking process. Powdered tannins (a.k.a. oenological tannins) have been used to help add bitterness or balance out the wine early in the vinification process to help boost grapes particularly grown in the warmer regions of the world.

9. Yeast

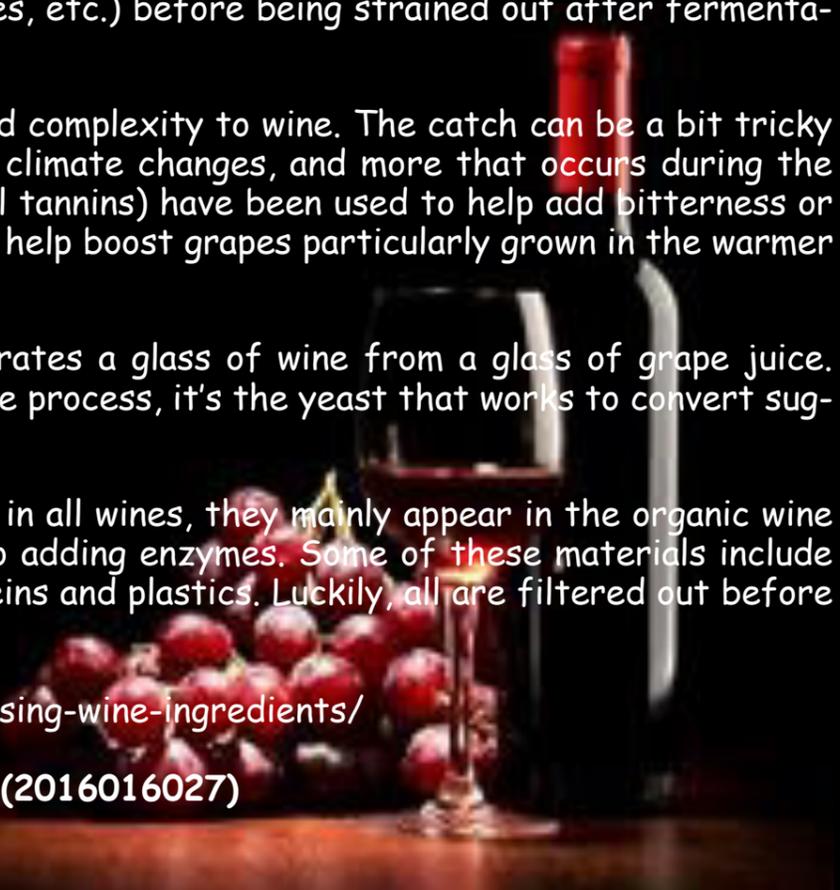
In wine making, yeast is the key ingredient that separates a glass of wine from a glass of grape juice. When oxygen is withheld from the grapes early on in the process, it's the yeast that works to convert sugars into alcohol.

10. Non-Vegan Materials

Although these fining agents and clarifiers aren't used in all wines, they mainly appear in the organic wine segments or by artisan winemakers who are opposed to adding enzymes. Some of these materials include fish bladders, egg whites, bentonite clay, mammal proteins and plastics. Luckily, all are filtered out before the bottling begins.

REFERENCE: <https://learn.winecoolerdirect.com/surprising-wine-ingredients/>

DONE BY: KOWSIKA.N (2016016027)



WINE FUTURES VS WINE PRE ARRIVALS

Knowing the difference between futures and pre arrivals takes the stress out of presales. Even well-educated wine collectors mistakenly assume that these both are one and the same. In reality, both terms refer to buying wines "en primeur", but they represent two distinct styles of presales. The most commonly offered en primeur are from Bordeaux, Burgundy, The Rhone Valley and Port. The goal of wine futures and pre arrivals is to get immediate access to the finest wine without risk of the bottles selling out after release. Let's see the actual difference between these two. 'Wine futures' is the method of purchasing wines early while the wine is still in the barrel. This offers the customer the opportunity to invest before the wine is bottled. Payment is made at an early stage, a year or 18 months prior to the official release of a vintage. By contrast, wine pre arrivals are sold to collectors mere months before a wine is shipped out on the public market, long after it has been bottled. Pre arrivals sales typically takes place in the six months between a wine's bottling and the date on which it is shipped off to importers. Buying wine futures involves more risk than that of buying wine pre arrivals. A possible advantage of wine future is that it is considerably cheaper as it is bought when the wine is in barrels but the quality can never be guaranteed in this case. Some wines lose their quality over time. Tampering and fraud are made in wine futures. Brokers with best intentions can sell useless futures to collectors which would result in poor quality wine while bottling causing ultimate loss to the collectors. So wine futures are always recommended to buy in small quantities as the wine quality cannot be ensured. On the other hand, pre arrivals offer a safety nets. Unlike wine futures, pre arrivals are all but guaranteed bottles of wine. The likelihood of something going wrong after a wine has been bottled is far lower than the wine which is still in the barrel. This is because winemakers test the wine for spoilage before bottling and wine critics can more accurately rate the wine later in its life and importers know exactly how many bottles they will receive from the estate. It is still a worthwhile investment to buy wine before it has been released, but collectors should turn to pre arrivals rather than futures as often as possible. The key to invest in quality pre arrivals is to buy the wine in spring at its lowest price, just before it goes on to the market than buying cellar (the wine for 10 years or more to gain interest on the investment).

REFERENCE: <https://blog.vinfo.com>, <https://en.m.wikipedia.org>

DONE BY: CHARUMATHY.S (2016016010)

WINE POLYPHENOLS FEND OFF BACTERIA

PREVENT CAVITIES AND GUM DISEASE

Evidence suggests that sipping wine a day is good for our colon and heart because of the beverage's abundant and structurally diverse polyphenols. Some health benefits of polyphenol compounds are they have been attributed as Antioxidants. These Antioxidants compounds likely protect the body from harm caused by free radicals. Polyphenols also promote health by actively interacting with bacteria in gut. This evidence created sense because plants and fruits produces naturally polyphenols to ward off infection by harmful bacteria and other pathogens. This evidence made researcher M.victoria Moreno Arribas and his colleagues to know whether wine and grape polyphenols would also protect teeth and gum from infections, and how this work on a molecular level. Researchers checked out the effect of two red wine polyphenols, as well as commercially available grape seed and red wine extracts, on bacteria that stick to teeth and gum and cause dental opaque, cavities and periodontal disease. Working with cells that model gum tissue, they observed two wine polyphenols in isolation - caffeic and p-coumaric acids - were better than wine extracts from at fending off the bacteria's ability to stick to the cells. When combined with the *Streptococcus dentisani*, which is a oral probiotic, the polyphenols from wine where even better at fending off the pathogenic bacteria. Researchers also showed that metabolites formed when digestion of the polyphenols begins at the mouth might be responsible for some these effects.

REFERENCE : 10.1021/acs.jafc.7b05466/American chemical society, Journal of agricultural and food chemistry

DONE BY:

GANGA KISHORE. S (2016016014)

COLOR OF WINE

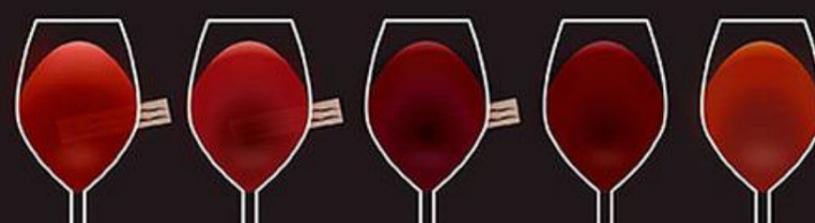
The color of the wine is the most important characteristic of the wine. Color is also an element in wine tasting since heavy wines generally have a deeper color. Color is an important element that plays major role in the classification of wine. The accessory traditionally used to judge the wine color was the tastevin, a shallow cup allowing one to see the color of the liquid in the dim light of a cellar. The color of the wine mainly depends on the color of the drupe of the grape variety. The color is mainly due to plant pigments, notably phenolic compounds like anthocyanidins, tannins etc. The color of the wine can be partly due to co-pigmentation of anthocyanidins with other non-pigmented flavonoid or natural phenols. The color also depends on the presence of acids in the wine. The color can be altered with wine aging by reactions between the different active molecules present in the wine these reactions generally giving rise to browning of wine, leading from red to tawny color. The use of wooden barrel in aging also greatly affects the color of the wine. The presence of a complex mixture of anthocyanins and procyanidins can increase the stability of color in wine. The exposure of wine to oxygen in limited quantities can be beneficial to the wine. It affects color. Red drupe grapes can produce white wine if they are quickly pressed and the juice not allowed to be in contact with the skins. Since pigments are localized in the center of the grape drupe, not in the juice, the color of the wine depends on the method of vinification and the time is in contact with those skins, a process called maceration. The Teinturier grape is an exception in that it also has a pigmented pulp. The blending of two or more varieties of grapes can explain the color of certain wines, like the addition of rubired to intensify redness. The International Organization of Vine and Wine (OIV) provide methods to assess the color of a wine using a spectrophotometer and the calculation of indices in the lab color space.

WINE COLOR CHART:

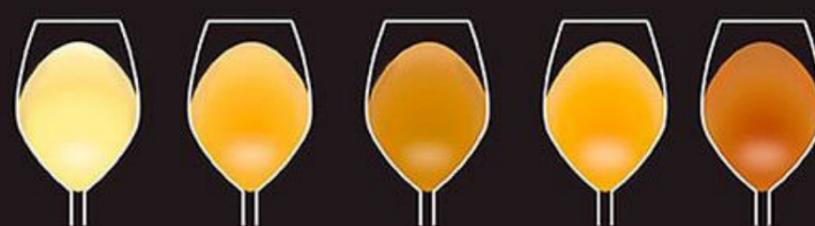
Restaurants, retailers and wine shops have been classifying wine for long years. The wines are categorized based on its color. It is one of the valuable clue for assessing the wine's quality and a better way to replace blind tasting challenge. The complete wine color chart shows 36 unique color states of red, white and rose wines, which are organized by hue and intensity.

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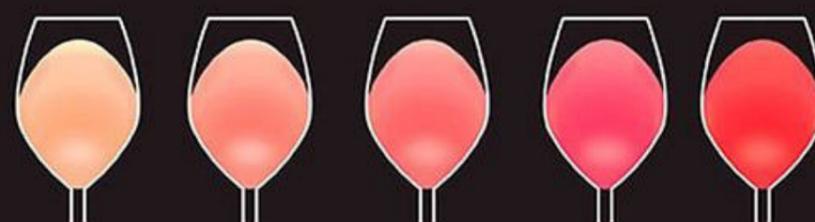
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Light-bodied Medium-bodied Full-bodied Young wine Old wine



Light-bodied Medium-bodied Full-bodied Young wine Old wine



Pinot Noir Merlot Pink Moscato Grenache Malbec

DONE BY:

V.MANOJA (2016016031)

RESCUING MINERALITY IN WINE

I think most of the people liked to drink wine but how many are enlightened of its minerality. It's a word you hear bandied about by wine tasters and professionals. Minerality is the umami of the wine world. Umami is the term for savouriness (neither sweet, sour, salty, nor bitter, may be meaty), the fifth taste. It's a controversial thing to show that why the wine have the minerality such as stoniness, taste like rocks and bottom of backboard chalks, flinty-smoky or tiny bit salty or saline. Generally the mineral content of wine varies from 1.5 to 4 g/litre. White wine provides 3% Mg, 3% vit B₆, 3% vit B₂, 3% niacin, 1% riboflavin along with trace amount of Fe, Ca, K, P and Zn to our daily requirement. Minerality of wine mainly depends on terroir i.e., the wineryard environmental factors such as soil chemistry, aspect, drainage, average climate and slope. Humans could adapt their techniques to best exhibit this regional differences in wine. The experience of many wine-growers testifies that soil effects are not just about water availability, but also about the soil chemistry, and in particular the mineral composition of soils. The bulk mineral soils are primarily derived from the parental rock substrates by weathering. The factors which affects weathering includes total surface area of rock, climate, moisture, temperature, exfoliation, decomposition and disintegration by the action of plants, animals and microbes. This biological activity may either alters rocks chemical composition by creating an acidic environment and improves chemical weathering or the plant roots can exert pressure on rocks and make cracks wider leads to disintegration of rocks into mineral soils. Minerals in a rock buried in soil decomposes rapidly than the minerals in rocks exposed to air. The minerals bind to the clay and humus colloids in the soil is taken by the roots of vine due to cation exchange capacity [CEC]. The hydrogen in the vine roots are replaced by the minerals in the soil and this affects the health, chemistry and the fermentation of vines. Thus the flavor, texture, acidity, subtle taste of minerality can change in wine. This indicates that the different minerals in soils can produce different types of flavored wines. For example in 2000, a plant researcher from Germany Andreas Peuke, grew Riesling vines in pots containing different soils. He then collected sap from the vines and analyzed its chemical composition, and found differences among the different soil types. Also the taste of rocks, chalks or slates in wine is because it migrated from the soil.

Rescuing the minerals in wine can be made by controlling the factors causing rock withering and finally the time. Weathering occur faster in cold and humid climate, slower in hot and dry climate. Hence, moisture and water availability can speeds up the chemical weathering process. This chemical processing includes hydrolysis, solution, oxidation, reduction, hydration, and carbonation. So, climatic conditions is a very essential factor. The two main physical weathering methods are freeze-thaw and exfoliation. Freeze-thaw occurs when water continually seeps into cracks, freezes and expands, and eventually breaks the rock whereas exfoliation occurs as cracks develop parallel to the land surface a consequence of reduction in pressure during uplift and erosion. Biological weathering is also called as organic weathering because it involves the activity of microflora to produce minerality in wine. But we can't grow and cultivate grape vines without the use of chemical inputs. The use of fungicides kill off not just fungi but also a high proportion of bacteria and actinomycetes. Herbicides and insecticides also restricts the growth and kills off microbes. The chemical used in this pesticides namely copper sulphate is responsible for microbial reduction and also the mineral depletion. Avoiding this chemical can result in high minerality. The soil PH and acidity also determines the minerality of wine. A wine marked by salty and minerally more often a white wine is rich in calcium and magnesium. High salt contents make the acidity more 'savoury' and therefore less aggressive. Also Stepp. Says "a cold-stabilized wine has lower potassium content than the same unstabilized wine, and it tastes different with less flavor and complexity. Behind all these complexities and variabilities, the crisp wines are served from raw oysters to fresh fava beans. I hope this will be helpful for rescuing of minerality in wine due to better understanding in the factors of rock weathering and soil characteristics.

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BHUVANA.G
(2016016008)

HARVESTING



PRESSING & CRUSHING



FERMENTATION



BARRELING



?



AGING



RACKING

FARM TO FORK



Hello Readers...Welcome back to the Farm to Fork session. This session is about the production of wine from the grapes of pinot noir variety called PINOT NOIR WINE. As usual, one of the process is left out in the flowchart. The answer will be provided in the upcoming edition.

Pinot noir wine is a red wine obtained from pinot noir grapes which is harvested in cold regions especially in Burgundy region of France. It has thin skins and low levels of phenolics compounds. After harvesting, grapes are crushed and pressed. After this, fermentation process is carried. It is the process of converting sugar to alcohol. The fermentation temperature is 80-85F. It is done by cultivated yeast and an active nutrient regimen. Its end point is determined by blood sugar test. This process is very sensitive to sulphur. Once the wine is somewhat settled, it should be racked to clean oak barrels. This process is termed as barreling. The barrels should be stored in a warm room at about 72F for the further development. Small dose of *Oenococcus* bacteria and malolactic nutrient is added. All the malic acid will convert to lactic acid. By result of this, Carbon dioxide is created. Next to this, 20-30 ppm of sulphur is added to the wine. Temperature requires is 60F. Healthy pH is 3.4-3.7. Pinot noir is sensitive to oxygen, so it should be racked gently into a tank with nitrogen, argon, carbon dioxide. When the racking of Pinot noir is done, leave it for several months. After several months of ageing, topping up and settling, the wine will once again need to be racked, analyzed and adjusted for bottling. Then it is cold stabilized (30-40F). Hold it for several months. This allows any tartrates and remaining lees to precipitate out. Wine should be racked or filtered and warm to 69F. Wines are ready for bottling.

REFERENCES: <https://www.intowine.com>

FACTS

FACTS ABOUT WINE COLOR:

- Red wines lose color as they age, turning more garnet in color and eventually brown.
- As much as 85% of anthocyanin (the color pigment in red wine) is lost after 5 years of aging, even if the wine still appears quite red.
- Red wines that are more opaque generally contain high levels of tannin.
- Red wines fermented at higher temperatures will have reduced color intensity.
- Rose wines are stained pink by macerating skins of red grapes over an average period of 4 hours to 4 days.
- Oxidation may also leads to brown color in wine.

DONE BY: V,MANOJA (2016016031)

MAGNETIC TREATMENT TO REMOVE "OFF-FLAVOR" FROM WINE

All wines naturally contain substances that contribute to their distinctive flavors and aromas. One group of such substances called **alkylmethoxypyrazines (MPs)** produces vegetable like aromas in certain varietal wines such as cabernet sauvignon. However, if present in excess, lead to overwhelming fruity flavors resulting in unbalanced sensory characteristics. Additives such as activated charcoal and deodorized oak chips when tried gave unsuccessful results. The possible alternative is to use polymers. David Jeffrey and his colleagues at the University of Adelaide tried attaching magnetic nanoparticles to isolate and sop up MPs easily from wine. The researchers tested magnetic polymers in cabernet sauvignon spiked with a perceptible amount of a particular MP, which produces a strong green bell pepper aroma. Using gas chromatography and mass spectrometry, the research team concluded that magnetic polymers removed MPs from cabernet sauvignon more effectively than polylactic acid film did. This new approach removed these molecules without dampening the wine's distinct aroma intensity.

REFERENCE: Journal of Agricultural and Food Chemistry

DONE BY:

MEENAKSHI.P.L
(2016016032)

INDUSTRIAL UPDATE



Ajinomoto Co to build plant to manufacture soups on Kawasaki premises

Ajinomoto Co is working toward the formation of a new company in accordance with the details announced in press release entitled Ajinomoto Group to Form Ajinomoto Food Manufacturing Co, Ltd, a New Company in Charge of Manufacturing and Packaging of Seasonings and Processed Foods in Japan, in April 2019.. At present, Ajinomoto Co is building a new plant on the premises of its Tokai Plant that will conduct integrated manufacturing and packaging of seasonings and other products, and has begun consolidating the functions of the Kansai plant of Ajinomoto Packaging Inc. there. The aim is to realize a world-class level of production that meets customer demand flexibly and quickly. Ajinomoto Co is also aiming for further growth in the soup business, and will increase production to accommodate this growth. Ajinomoto Co intends to continue developing the business by delivering nutritionally-balanced, premium and other products that meet diversifying customer needs.

ITC invests in food manufacturing facility and luxury hotel in Odisha

ITC has invested in two flagship projects in Odisha - an integrated foods manufacturing facility in Khurda and a luxury hotel in Bhubaneswar. The investments were unveiled by state chief minister Naveen Patnaik two years ago. Work on the state-of-the-art facility in Khurda is progressing at full swing and will be ready by the end of next year. ITC will produce its world-class Indian food brands, including Aashirvaad, Sunfeast, YiP-Pee! and Bingo!, here. Once operational, the facility will provide significant linkages with the agricultural sector. As food pro-

cessing is positioned at the intersection of agriculture and industry, it has multi-dimensional benefits for society. The sector can enhance farm incomes, reduce agri-wastage, encourage sustainable agriculture, enable value creation through manufacture of packaged foods, drive investment in cold chains and storage, and generate employment opportunities as well as livelihoods along the entire value chain from farm to production to warehousing, logistics distribution and retail. The new unit is expected to be operational by end of 2019.. The luxury hotel in Bhubaneswar is under ITC's WelcomHotel brand. Once operational, this hotel will also add to the eastern state's vibrant tourism landscape. The hospitality value chain that this hotel will support will also be an employment multiplier and generate new livelihood opportunities. This property will be ready to welcome guests in the end of 2019.

Symega Food Ingredients establishes advanced tech center in Bengaluru

Symega Food Ingredients has opened a technology center in Bengaluru. The Kerala-based company envisaged an expansion and made its entry into Karnataka. The facility, located within the Cessna Business Park in Bengaluru, is an advanced facility with application and sensory evaluation of innovative food and beverage research and development. The new technology center is envisaged to be a facility to co-create; where the marketing and technical teams from food and beverage companies work alongside Symega's experts to develop products and conduct sensory evaluation using a sample pool of target consumers. The facility is equipped with a well-appointed creation lab, trial kitchen, dedicated pilot-scale plants for baked goods,

confectionery, dairy and beverages, presentation studio, and labs for technical research. It will be housed by a 30-member team, including chefs, application specialists, food technologists, regulatory experts, market insights professionals and other functional specialists. "As consumers' tastes and preferences continue to evolve and competition in each market segment intensifies, innovation is the core to having a differentiated positioning," said Paolo George, director, Symega Food Ingredients. "With its cosmopolitan culture and renowned infrastructure, Bengaluru is emerging as a hotspot for innovation, for leading food and beverage brands and food-based start-ups. The long-term strategic benefits offered by such an ecosystem prompted Symega to choose Bengaluru for its facility," he added. The company was established in 2006 at Kolenchery, near Kochi, and is positioned as one of the youngest among sensory solutions manufacturers in India, and one of the very few to have a dedicated innovation center for research and development. The facility, according to the company is said to enhance efficiency and effectiveness in supporting new product development by its customers. The team and the infrastructure further accelerates its effort of being the most preferred partner for food and beverage innovation. A part of the Synthite Industries, the world leader in value-added spices and spice derivatives, Symega Food Ingredients is engaged in developing and marketing sensory solutions and specialty ingredients for food and beverage manufacturers.

REFERENCE: <https://www.fnbnews.com>

DONE BY: NACIBA.N (2016016038)

Oenophilia is a love of wine. In the strictest sense, oenophilia describes a disciplined devotion to wine, accompanying strict traditions of consumption and appreciation. In a general sense however, oenophilia simply refers to the enjoyment of wine, often by laymen. Oenophiles are also known as wine aficionados or connoisseurs. They are people who appreciate or collect wine, particularly grape wines from certain regions, varietal types, or methods of manufacture. While most oenophiles are hobbyists, some may also be professionals like vintners, sommeliers, wine merchants, or one who tastes and grades wines for a living. In a book "Oenophilia. No, not a social disease. It's the sensual orientation towards the pleasures of fine food and wine, and the name of a spiffy new bistro for elegant gourmandizing...."

REFERENCE: <https://en.wikipedia.org/wiki/Oenophilia>

KAVYA.M (2106016025)

ANSWER FOR THE FARM TO FORK (LAST EDITION):

Aging is the unnamed process in the farm to fork session. The mix is aged for between 4 – 24 hours at 2 – 5°C under continuous agitation. During the aging process, the following occur:

- Stabilizer draws water and takes full effect.
- Butterfat solidifies and crystalize.
- The proteins also impart stabilization effect by drawing water and swelling.
- The viscosity of the mix increases and it changes appearance to glossy and smooth. A certain viscosity level is needed in acquiring the required overrun during ice cream making. Excessively viscous mix is not ideal because it will not achieve the required overrun.
- Very little air in the mix results into a soggy and heavy ice cream.

READER'S COLUMN:

26th issue of **ESSEN RIVESTA** is about "WINE". This edition starts with the history of mystic wine and delineates the varieties of wine in the industry. This edition includes the antimicrobial property of wine in the preparation of pastry dough. It also includes magnetic treatment in wine. And tells the process of making Pinot noir wine in a step by step manner in the Farm to Fork column. It also expatiates the colour of wine because colour plays a vital role in the food industry. To make the readers more curious, many columns are provided.

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