

The Art of Wine Making

*By
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Modern Wine Making

The art of the Wine Maker, in its most simplistic form is to crush the grapes to produce the juice, blend in the yeast to convert the natural sugar in the juice to alcohol.

Here in Pahrump, simply expressed, is for us to choose the very best grapes, carry out or supervise the crushing, fermenting and pressing with scrupulous care and hygiene. Then, to prepare the wine for drinking by filtering it of yeasts and foreign bodies. For some wines, this entails aging as well; for others, the quicker it gets to market the better.

If there is one innovation that has made the most difference between old and modern wine-making, it is refrigeration. Refrigeration and cellar climate control have added a new dimension to producing the finest wines available.

Every aspect of grape growing and wine-making under our hand, is under a degree of control undreamed of before. These controls are now common practice in almost all of the bigger and newer wineries throughout the world. The ultimate goal of modern wine-making is to avoid having to treat the wine at all.

It has been our finding and preference to use temperature control at all levels of our production and to maintain a 57F degree consistency during fermentation. We feel this keeps the fruit flavor on the finished wine and creates a gentle balanced product.

The results of our efforts in this area is proven by the number of gold, silver and bronze medals received in international competitions.

The Vineyards

Soil is the pride of most vineyards. It is considered from two aspects: Its natural chemical and physical properties. Current vineyard management thinking is not so much the chemical but the physical properties. Most soils already contain the chemical elements the vines need.

Soil on the western slope of the Spring Mountain Range and the apron of Mount Charleston has remained undisturbed for millions of years. With the exception of some cotton and alfalfa, there has been little cultivated crop in this area. This is good. It means soils have less tendency for contamination and are virtually virus free.

The physical factors that affect quality are texture, porosity, drainage, depth and even color. Stones on the surface as well as mixed into the soil can be extremely good. In the Winter, during the time the vines are dormant, the sun heats the surface rocks and holds the heat. At night, the heat is released keeping the vines root-system warm which can promote root growth. In the Summer, the light color stones reflect the heat.

Soil that has good deep drainage, such as the soil on the slope of the land in this area, promotes greater root depth. Deep roots promote a more stable environment: a sudden down-pour, usually occurring in August just before harvest will prevent inflating the grapes with unwanted water. The water will flow around the vines or penetrate the ground, seep past the roots giving moisture to the vines.

Another advantage of the porous soil is it tends to be cooler during hot Summer days. This affects the microclimate within the vineyard itself promoting a better growing environment.

The Location

In addition to proper soil conditions, the vineyard site was chosen because of the gradual slope of the land and the potential microclimate.

It is conventional wisdom that wine from slopes is better. The obvious reasons are increased solar radiation on a surface tipped toward the sun. This means warmer surface soil and improved cold air drainage, reducing the risk of frost. The southwestern slope of Nevada's Spring Mountain Range is ideal.

Microclimate

The term microclimate refers to the immediate surroundings of each vine. Because heat rises from the Pahrump Valley floor, winters at the vineyard site are milder than other parts of the valley. Our experience has shown temperature variations during the Winter months at the Willow Creek Championship Golf Course, located in the lower portion of the valley to be at 20 degrees F. at daybreak, while the vineyard site is close to 40 degrees F.

I am becoming convinced that as new building in Las Vegas continues to grow toward the west in the direction of Red Rock Canyon and the Spring Mountains, our Summer evening temperatures may become lower than previous years. Our theory is that the concrete tile roofs, asphalt paving and addition of concrete store the heat in the Las Vegas Valley during the day. At sunset, this stored heat releases and forces the cool air off of Mount Charleston and the Spring Mountains, down across the alluvial fan and into the vineyard area. The result is hot days and cooler nights making a great partnership for wine-grape growing.

Microclimates also occur within the vineyard itself. Depending on the trellising and canopy management, irrigation and the way the sun tracks can create temperature and humidity conditions that are beneficial for the vines and the fruit.

Temperatures within each vineyard, although separated only by driveways, may vary by several degrees under the leaf canopy. This variation in temperature is dependant on wind direction, irrigation flow and of course the degree of the sun.

The Grapes & Vines

The choice of grape varieties is the most fundamental decision. Important is to have virus free vines that are phylloxera resistant. The rootstock is also important and should be chosen for the soil and weather conditions.

What determines which type of grape is planted depends on many factors. First of all. Is it tolerant to the soil and weather conditions in the area. The most basic question is: is that particular variety popular today and is it marketable?

Certain terms are used when referring to the vines. Terms such as cloning, varietal, hybrid and many more.

CLONING means that part of, or an entire vineyard is produced from the same plant. This means that one vine, such as Zinfandel, would be used to propagate every vine in that particular vineyard. The advantage of this is that all of the grapes produced from these vines could have the same basic characteristics because it all came from the same plant.

The next time you visit your favorite video rental store, pick up a copy of "A Walk In The Clouds", "French Kiss" and "Sideways". All of these films are very entertaining as well as showing the importance of how one vine can create a master vineyard and the results of day by day care of the vineyards.

HYBRID vines are vines that have been married, so to speak to the European classics to an American root-stock. This was done many years ago when the great Phylloxera blight literally destroyed most of Europe's vineyards. The term hybrid, most commonly refers to grapes that grow in the Midwest and eastern states.

VARIETAL vines are quite distinct from hybrid vines. Its object is to find within the genetic pool of varieties, (Vinifera), a combination of the most desirable qualities and to propagate these.

A variety or varietal, is a selection from the infinity of forms a plant takes by natural mutation. There are over four thousand named varieties of wine grapes in the world. Of these, only about forty have recognizable flavor and character. Very few have moved to

international circulation.

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It was and will continue to be our intent to plant only championship vines within this international circulation. This would include Petite Sirah, Zinfandel and Symphony, a newer varietal developed at UC Davis by Dr Ohmo. Our challenge was to take this varietal toward international recognition. This was accomplished with several gold, silver and bronze medals at international wine tastings. A double gold medal was bestowed upon us by The San Francisco International Wine Competition for the production of our Symphony.

Classic Varietals

When one speaks of classic grapes, wines or Varietals, they include the following:

<u>Varietal</u>	<u>Type Of Wine</u>
Riesling	White
Chardonnay	White
Sauvignon Blanc	White
Gewürztraminer	White
Chenin Blanc	White
Pinot Gris	White
French Columbard	White
Muscat	White
Symphony	White
Cabernet Sauvignon	Red
Cabernet Franc	Red
Ruby Cabernet	Red
Zinfandel	Red
Pinot Noir	Red
Petite Sirah	Red
Merlot	Red
Barbera	Red

The Planting of The Vines

The vineyards are laid out for optimum usage of the available land. This is done for several reasons:

1. The ultimate production of the fruit.
2. The trellising and canopy system.
3. Maximum use of available sun.
4. Protection from the wind.
5. Maximum efficiency of irrigation and frost control.

A perimeter of wrought iron fence and various drought resistant trees, acting as a wind screen, will aid in stopping direct wind on the vineyards, converting it into small un-harmful eddies. It will also prevent intrusion by animals that eat grapes.

Our vines are planted on 6 foot row centers and are spaced at 5 feet per row.

An arbor system using high trellising for experimentation of micro climate creation as well as sun exposure will allow observation and measurement of what is happening in other rows. The arbor should give us ratio indicators of temperature to moisture which is necessary in canopy management.

Ground Cover And Pest Control

Ground cover is best for this climate. Further it is a natural product of the area and will aid in soil management including reduction in soil erosion, dust control and should aid in holding moisture to the ground.

By mulching or roto-tilling the ground cover should reduce the need for chemical additions to the soil for nutrition. This is accomplished by setting up natural decomposition of ground covering, forming natural compost. Further the ground cover is a sanctuary for friendly insects that will help drive away insects that are harmful to the vines.

Another advantage of ground cover is to keep unwanted weeds (tumbleweeds) out of the vineyard. Of course, when Spring comes, we will roto-till and remove all ground cover around vines so the ground cover does not compete for needed nutrients for the vines.

Wine Making

We will not accept grapes or juice that has been damaged on the way to the winery. A few years ago, 5500 gallons of pure Symphony Juice arrived at our door. Because it had not been transported correctly, we refused the entire shipment even though it set us back nearly six months.

In our opinion, the quality of our wines begins in the vineyard and must be handled with care from growth to the bottle and ultimately, to the consumer. Because we purchase grapes and juice as well as bond to bond transfers, we must sample each product at every step of the way to ensure it meets our standards. Ultimately, it is the consumer who will be the judge of our work. Therefore, consistency of our product is important.

WHITE WINES are made from white grapes. The object is to crush and de-stem the grapes as quickly after picking as possible. The grapes are gently crushed, just hard enough to break the skins. This pomace is now pressed to extract as much juice as possible. The skins and stems are discarded or used to plow back into the ground or may be used for cattle feed. *(It should be noted that Red Grapes can also make white wine by removing the skins and sometimes striping or filtering any residual color from the must or finished wine.)*

The juice is immediately moved into the fermentation tanks. Chilling the juice to a temperature below 40 degrees helps neutralize any wild yeast cells that may be active. It is our desire to eliminate as much wild yeast as possible before inoculating with a special yeast formula. Inoculation takes place at about 57 degrees F or slightly above.

Fermentation takes as little as 10 days and may last as long as six weeks. This is the first part of making wine. We attempt to maintain fermentation temperatures at or near 57 degrees F. We feel this gives us a crisper cleaner taste and allows the grape to display its characteristics.

The most revolutionary invention in modern wine making is controlled-temperature fermentation. We believe this is why our wines have achieved "World Class" status in just a few short years.

Once we have determined fermentation is completed, the wines are allowed to settle on their own for as long as we feel this is necessary. Generally it lasts for about two weeks but could be longer depending on the amount of solids still suspended in the wine. These solid particles or sediment (generally yeast cells and small pieces of grape skin or pips) begin to settle to the bottom of the tanks. This sediment is called the "Lees" of the wine.

After the "lees" have settled, the wine is "racked" (pumped slowly). This is the process where the clear "Must" (juice that is fermenting or finished fermenting) is taken off the "lees" and pumped into a clean fresh tank. The object is to leave the sediment in the original tank. This process is actually the first clarifying process in wine-making.

Should there be more solids suspended in the "must", we may or may not allow further settling of the tank. Once we have determined we have "racked" most of the sediment out of the "must" we will start the stabilization and cellaring process.

This process takes two to three months depending on the type of wine. Once the wines are stabilized to our specifications, then the aging process begins.

Adjustments are constantly being made to insure proper balance of the wine.

To make light or sweet wines, the fermentation is interrupted as the product reaches its desired balance of sweetness. If we desire a very dry wine, fermentation is carried out until most or all of the fruit sugars are converted to alcohol. We are always mindful of the pH balance of the wines.

RED WINES come from red grapes and are done the same way as white except the skins are left in contact with the juice during fermentation. The rich color of the juice becomes evident as the juice is circulated over the skin cap extracting more and more of its ruby red color. The skins impart some tannins into the juice which will give the wine a more astringent character.

Should we decide to make a "Blush" or "Rose" wine, we leave the skins in contact with the juice for a short period of time in order to get that delicate pink color to the wine.

After fermentation is completed on the red wines, the skins are pressed and if we desire, we can add this back into the wine.

Again stabilization is started and then ageing begins.

Some wines, both red and white may be aged in Oak containers. These containers may not always be oak barrels but could be placed in stainless steel tanks that have either been lined with oak wood. Another process for oak aging is by placing oak chips into the wine.

Bottling, Corking & Labeling

The final step in wine-making is the bottling of the wine. During this process, as well as other wine-making processes, absolute sterile conditions must prevail. Corks must be kept sealed until use, bottles must be purged of any oxygen, the equipment must be sterilized at least an hour or two before any wine may pass through the system.

Once bottling begins, It goes non-stop until the tank we are bottling is empty.

Lets Go To Market

The finished product is now ready for market and distribution. It's now in your hands. You will determine its success from this point forward. "Salute"