

Canes and Casks – Oak Barrels

Now is the time of year when winemakers will often be placing orders with barrel brokers for new barrels they will use to age wines from the upcoming harvest. Ordering barrels now is beneficial as early barrel orders usually receive a slight discount. One of my barrel brokers mentioned to me that ordering early was particularly important this year, as a dock worker slow down and potential strike could hamper all shipments coming into the west coast. This is a big potential problem for winemakers because most wineries do not have the storage space available to keep all of their wines in tanks, and thus need new barrels each year in order to store their latest vintage of wines. So, why are barrels so important for winemaking anyway?

Barrels have been used to store and transport wine for at least 2000 years. In regions with oak forests it was noticed that wines stored in barrel picked up some interesting qualities from the wood. Oak influences wine aromatically by imparting smells ranging from raw oak or coconut (the smell of Bourbon whiskey) to vanilla, baking spices (clove and nutmeg), and even smoky barbecue aromas. Aging wines in new oak barrels can also effect the flavor of the wine by increasing the body of the wine (also called weight or mid-palate) and imparting a sweetness and chewiness to the taste. The use of large percentages of new oak in winemaking is a somewhat new phenomenon, but has become popular because of the pleasing impact it has on wines, especially red wines.

For a variety of reasons white oak has emerged as by far the most popular type of wood used to age wines. This type of oak is found in France, Eastern Europe (Northern Balkan states and parts of Russia), and in the United States from Missouri north to Pennsylvania and south to Virginia. The origin of the oak is important to winemakers as French oak is said to give more spicy aromas (clove, nutmeg) and has more impact on mouthfeel, while American oak is said to give more oaky/whiskey/vanilla aromas. Eastern European oak is thought to have properties somewhere in between French and American.

Another big factor in which aromas are transferred into the wine from oak is the toast level of the barrel. Untoasted oak can impart raw wood and the aroma of dill into wine. As the inside of the barrel is “toasted” over an open fire the chemical characteristics of the oak in contact with the wine change. As toasting progresses the raw oak component begins to diminish and aromas of vanilla and baking spices increase, followed by aromas of barbecue and smoke at higher levels of toast.

The process of barrel aromas and flavors leaching out of the wood and into the wine can be compared to a tea bag in hot water. The first time the barrel or tea bag is used the flavors leached out are strongest. If the tea bag is used again for another cup the drinker will notice that the second cup of tea has less color, aroma, and tastes more watery or thin than the first. The same is true with barrels which are re-filled and used for the next vintage; they impart less aromas and flavors to the wine in each subsequent use. After about four re-fills most winemakers consider barrels “neutral,” in that they no longer impart an appreciable aroma to the wine stored in them.

Filling, emptying, stacking, and cleaning barrels is one of the most time-consuming activities in wineries. Due to their odd shape barrels are difficult to handle and the small opening for filling and emptying makes cleaning the barrels a difficult chore. Because of this inconvenience some wineries, especially

larger operations, have sought alternative methods of getting the great aromatics and taste impact from barrel aging without actually using a barrel. In the wine industry these are referred to as oak alternatives and they can be supplied in all shapes and sizes: from barrel staves to cubes, chips, and even powdered additions prepared in a similar method to instant tea. These alternatives have come a long way in quality and there is certainly a place in the industry for these products because of their cost effectiveness.

Still, because of their traditional use, their beauty, and their unmatched impact on fine wines, I don't imagine oak barrels will be disappearing from your favorite winery anytime soon. I can remember the first time I walked into a barrel cellar and smelled the heady fragrance of oak and aging wine. The cool humidity made the air feel thick and the aromas brought back sense memories of wines enjoyed in the past, but also of wood shop class, my grandmother's oak desk, and eating cherries in a cherry tree when I was young enough to climb up one. That first experience in a barrel cellar is one of the reasons I changed my career and went back to school to learn the science of winemaking. I think many wine lovers feel this way when visiting a wine cellar as well.