

## **Oak Cubes: A Good cost effective alternative to Barrels**

(Paraphrased and edited by Barry Ganley from an article in Wine Maker magazine by James Alexander; February-March 2004, Volume 7 No. 1)

As we all know new Oak Barrels are very expensive (\$500-\$800 each depending on origin... American, Hungarian, French etc), and all have a limited life in imparting oak flavor and complexity to wine during the aging process. Once the useful flavor life of a barrel has been expended there are options of installing new oak staves, or even honing the barrel to regain some of the original oak flavor, but these options also cost an additional \$100 per barrel and the flavors imparted are not as easy to predict or control.

The cost of using French Oak cubes is less than \$50 for a 225 liter container (the size of a regular barrel) and only \$5 to treat a 28 liter (7.1 gallon) carboy.

More and more Napa wineries are turning to oak cubes as a cost effective alternative to barrels. And for amateur wine makers oak cubes offer a superior and practical means to obtain very good results.

### **WHY USE OAK CUBES?**

First of all why cubes and not chips or sawdust? Oak contains volatile compounds that evaporate from chips and sawdust because of the higher surface to volume ratio. To confirm this yourself cut a piece of oak and smell the freshly cut surface and compare it to the older surface. Chips and sawdust have lost virtually all of what you smell from the freshly cut surface long before you bought them. In addition the sawdust may not settle well and can present a problem when clearing the wine.

Also oak cubes have been optimized for shape size and toasting level. Research has shown that wine penetrates about 6mm into the oak staves of a barrel. Traditional staves are 20-22 mm thick, leaving a significant amount of oak unavailable for extraction. Light toasting is a surface treatment with no measurable extraction; medium toasting is 2mm thick and heavy toasting is 3-4 mm thick. Oak cubes are about 6mm thick on each side, providing enough depth for heavy toasting, ensuring full flavor extraction, and ease of using them in carboys or larger aging containers.

Finally oak used for cubes is prepared the same way as oak used for barrel staves.

**(NOTE: It is important that you do not use oak lumber in your wine! Oak lumber has additives used to reduce cracking and warping during the drying process that you do not want in your wine. Oak used for wine has not been treated with these chemicals).**

### **PERFORM A TASTE TEST YOURSELF**

Obtain a .5 ounce each of American, Hungarian, and French Oak cubes. Place these in carefully labeled 1-gallon jugs of homemade wine (note use a fourth jug with no wood as a control). Also you may wish to use a 5<sup>th</sup> jug and place 20% American Oak cubes along with 80% French Oak cubes to examine the outcome. Place an air fermentation lock on each of the jugs and leave sit for 6-8 weeks then taste the outcome. With the cubes you can easily vary the percentage ratios. Past experiments have revealed that the 100% American oak is somewhat harsh, but the blend of American and French Oak has

delivered a complex and a more interesting flavor. In fact many wineries are ordering barrels with French staves and American heads to achieve this blended flavor rather than age the wine in separate American and French barrels and then blend them together in a later step.

While Oak cubes do not have the romance factor of a barrel, they nevertheless offer a practical alternative to obtaining oak flavors and complexity in wines at a substantially reduced cost.