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BARREL SELECTION & MAINTENANCE

As a winemaker you have very likely decided upon a winemaking style and varietal and possibly whether or not you would prefer French, American or other origin oak barrel.

1. What makes a good barrel?

First of all, your cooper *must* start with good wood. No matter how well a barrel is made and toasted, without the best raw materials, your barrel will not be the best it can be. The wood has to be cut properly, stacked for optimum air and weather pattern flow through the stack and naturally seasoned. This process, over 18 – 36 months, allows the heavier tannins to be washed out and all sorts of microbial actions to take place. After the required time, the wood is moved through a kiln to stabilize it and to even out the moisture content.

After jointing into finished staves, the barrel is raised for bending and toasting. Toasting is absolutely critical and each cooperage has its own unique style of doing this. Six different cooperages will produce six different 'medium' toasts from the same wood lot. During toasting sometimes a stave will pop and form a blister on the inside of a barrel. These staves must be removed otherwise you will never have a properly cleaned barrel. What looks like a minor surface crack in all likelihood hides a major cavern for bacteria to grow in. These flaws are generally more prevalent in barrels that have been toasted over a very aggressive fire. There is no reason for a cooperage to leave this kind of flaw in a barrel as blisters are very evident at the end of the toast cycle.

Depth of toast is also very important; too shallow and the wine can penetrate beyond the toast and your wine will pick up some 'green' components. Too deep and the barrel will leak. The toast should be even from top to bottom and all around the barrel.

So, good wood and proper toasting techniques are mandatory. The physical task of making a wine-tight barrel are comparatively simple but you need the wood and the toast to make it right.

2. Grain vs. Origin

Many schools of thought on this one! If every barrel sold as Troncias was actually made from wood grown specifically in that forest, there would not be a forest. More and more cooperages are adopting the philosophy that if the grain pattern is very tight, it can be marketed as Troncais even if it was harvested in, say, Nevers. The same goes for Allier, Vosges, etc. Within any specific forest region you are going to get a variety of grain patterns. This is not to say that there are not particular extractive profiles from particular regions, and reputable cooperages are certainly able to accommodate specific requests for Allier, Vosges or whatever.

3. Inspect Your Barrel

You have just spent a lot of money on your barrels and they should reflect that investment. Wine barrels have become fine furniture rather than simply a vessel to enhance your wines. Hoops should be straight and rivets lined up on the bung stave, the finish sanding should be smooth on the staves, heads and chime, etc.

However, just because it looks good doesn't mean it will perform. You want to check that there are no obvious big, open joints, the heads should be flat not warped, the bung hole should be centered in the largest stave and cauterized. Look for missing bits of wood around the chime, bug holes and any damage from shipping. Barrels should be wrapped in poly and some cooperages also supply cardboard head covers. There should also be a temporary shipping bung in place. Leave these in place until you are ready to use the barrels.

Take a small flashlight and look inside the barrel to satisfy yourself that the toast is good and even and that there are no blisters or debris.

4. Hydration

Some winemakers never hydrate barrels before use and others fanatically soak the heck out of new barrels. Somewhere in between is fine. If there is going to be any issue with leakage on a new barrel, it will usually occur around the head/chime joint or between staves within a few inches of the barrel end. Our recommended procedure is to stand the barrel on end, put about 20 liters of water in the barrel for a couple of hours then flip the barrel over. Any minor seepage should certainly stop within this time.

MAINTENANCE & MINOR REPAIRS

Despite the absolute best of intentions and attention to detail, occasionally something slips through. It can happen to anybody. At OBW we have the luxury of being the only full service cooperage in the immediate area and we have made repairs to barrels from *every* major cooperage; even one of ours. These repairs range from tiny bore bug holes to replacing multiple heads and staves. These things do happen (but they shouldn't happen too often!)

Many minor repairs to barrels can be accomplished in the winery by cellar hands wielding just a few tools:

- Hammer
- Hoop driver
- Spiles and wedges
- Flagging
- Scratch awl
- Scraper
- Chisel

Common Problems:

Bore bug holes	Locate the hole and enlarge it slightly by tapping in the scratch awl. Tap a spile snugly into the hole. Shear off the excess with a sharp chisel
Leak between staves	Sometimes this can be rectified simply by tightening the hoops and hydrating. If the gap between the staves is still a bit open you will have to remove the head and quarter hoops. Insert a piece of flagging between the staves, and replace the hoops.
Leak at head/croze joint	Again, try tightening the hoops, particularly the head and quarter. There may be a chip off the edge of the head which can be fixed by removing the head and quarter hoops and possibly loosening the bilge hood. Take a thicker piece of flagging and slip it between the head and croze so that when you tighten the barrel, the flagging wraps over the edge of the head.
Leak through stave or heading	This can be a bit more complex because the origin of a through-stave leak could be several inches away from where the leak is manifested. Once this is determined you need to squeeze the wood fibres <i>beside</i> the offending area to close the leak.
Removing a head	Mark the orientation of the head in relation to the chime. Remove the head and quarter hoops and carefully loosen the bilge hoop. Loosening the bilge too much can allow the head to fall into the barrel and perhaps cause more damage to it.
Replacing the head	Tap the bilge hoop so that the head almost passes over the edge of the chime. Place the closest edge of the head to you into the croze and push the head down onto the barrel. Pay attention to the orientation. Tap the edges of the head evenly around the barrel to seat the whole head into the croze. If the bilge is too tight there is a risk of breaking the edges of the cants so be careful. Replace the hoops and tighten.
Replacing a stave	Remove one head hoop, flip it over and snug it on to the barrel. Remove the bilge and quarter hoop. Flip the barrel over and remove the head. Put the head hoop loosely back on the barrel and remove the quarter and bilge hoops. Slide the head hoop up so that the offending stave end comes out from underneath it, put the hoop back down and wiggle the bad stave out from the bottom head. Reversing the process, wiggle the new stave back onto the bottom head and bring it in back under the head hoop. Replace the head and tighten all hoops.