Using Oak Adjuncts With Barrels

Curtis Phillips

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I'M PRETTY PROCEDURE-AGNOSTIC WHEN it comes to winemaking. On a professional level, I'm always interested in winemaking processes; but when it comes to evaluating the product itself, I focus on the end result, the wine in the glass.

Maybe it's because I'm familiar with making wine—I've shoveled so much pomace and stacked so many barrels—that it's really hard for me to romanticize winemaking. It's a back-breaking job. If one is well-financed, they can foist that effort off onto someone else, but that doesn't make the job any less grueling.

Because I've spent so much time on the other side of the cellar door, I have little patience with the pontifications of the vinorati (i.e., wine writers). Not that they are all clueless: a few appear to make a decent effort to remain as objective as possible and to evaluate wines honestly. A few seem to be simple grifters looking to capitalize on the ignorance of others. Most of the rest seem to have so idealized wine and winemaking that they have taken on a too-bright-in-the-eye puritanism and religious fervor regarding what should be a commonplace beverage.

Oak Adjuncts and Economics

The use of oak in wine is one of the great touchstones of these differing views. Outside the wine industry, and even inside it, oak adjuncts are usually seen as an underhanded, cost-cutting measure. As a consequence, although oak adjuncts are used at all strata of the wine industry, for reasons spanning from wine quality to economics, it's a subject that is avoided by all but a few winemakers.

While I think winemakers are justified in their fear that the use of oak adjuncts "sends the wrong message," a vinorati's current favorite wine would swiftly become anathema should the consumer media "discover" that some of those vanilla notes came from something added to the wine rather than from a container (barrels) into which the winemaker put the wine. It is unfortunate that this is the case—although that is changing to some extent.

In my experience, while oak adjuncts are used at all levels of winemaking, *how* a particular winery uses them varies a great deal by the target price point of the final wine. Over the years, the price point at which barrels are simply too expensive to use has been rising (***WBM*** Barrel & Oak Survey, December 2013). These days, I generally consider any wine with a target shelf price under $24 as a bad candidate for a traditional élevage. The cost of top-end French oak barrels adds about $4 per bottle. This isn't a prohibitive expense for every wine, and the added cost per bottle can be cut quite a bit by reducing the amount of new barrels purchased and by shopping for less expensive barrels. Even with these reductions, however, it's easy to see how it's difficult to put a low-priced and barrel-aged wine on the market.

SEGUIN MOREAU NAPA COOPERAGE

Oenostick barrel inserts, designed for balanced new oak extraction

Oak Adjuncts and Barrels

Barrels have two functions in winemaking. The most obvious is the tannin and aromatics that are extracted from a new barrel into the wine. Barrels are more than mere flavoring agents, however. Traditional barrel aging (élevage) puts the wine into a micro-oxidative environment. This environment can be mimicked in tanks using a micro-oxygenation (MOX) dosage unit. To successfully mimic barrel aging, MOX takes a moderate amount of expertise and a large amount of attention on the part of the winemaking staff. This may lie beyond the abilities or budget of many small- and mid-sized wineries.

INNERSTAVE

Innerstave Cubes: Using an oak infusion tube, cubes can be inserted into used barrels to replenish the oak flavors.

As an alternative to either using oak adjuncts in tank without MOX, installing and using MOX equipment in conjunction with in-tank oak adjuncts or élevage in new barrels, many wineries use in-barrel oak adjuncts. Most oak adjuncts that are used with barrels share similar advantages and disadvantages compared with using either new barrels or in-tank oak adjuncts. Compared to relying solely on a constant influx of new barrels for oak tannins and aromatics, in-barrel oak adjuncts tend to be much less expensive, even when the additional labor costs for using them are factored in. In-barrel oak adjuncts also encourage the winemaker to exert far finer control over the amount, type, and toast of oak used. Compared to in-tank oak adjuncts, using oak adjuncts in conjunction with "neutral" barrels has the advantage of producing essentially the same level of micro-oxidation as a traditional élevage in new barrels without having to use, and monitor, an in-tank MOX system.

The main disadvantages of using in-barrel oak adjuncts are that they require additional labor when compared to using new barrels. The in-barrel alternatives effectively lower the capacity of the barrel by anywhere from 1 to 2 gallons. This may be a trivial amount for a small winery, but a large barrel program can be faced with a significant reduction in storage capacity.

Using Oak Adjuncts With Barrels

Main Advantages for Using Alternatives in Conjunction with Barrels

1) Cost reduction: even factoring in the additional labor, alternatives are very much cheaper than new barrels.

2) Essentially the same level of micro-oxidation as traditional élevage.

3) Easily allows for variations in oak exposure (type, toast, amount).

4) Allows the winemaker to adjust the amount of oak exposure during élevage—more oak can be added as needed or most of the in-barrel adjuncts can be removed once the desired level of oak extraction has been reached (the latter is tricky in practice, however).

OAK SOLUTIONS GROUP

XT4 Oak Chips from evOAK

Main Disadvantages of Using Alternatives in Conjunction with Barrels

1) Requires additional labor.

2) The in-barrel alternatives effectively lower the capacity of the barrel by anywhere from 1 to 2 gallons.

3) Used, empty, barrels.

Types of Oak Alternatives Used in Conjunction with Barrels

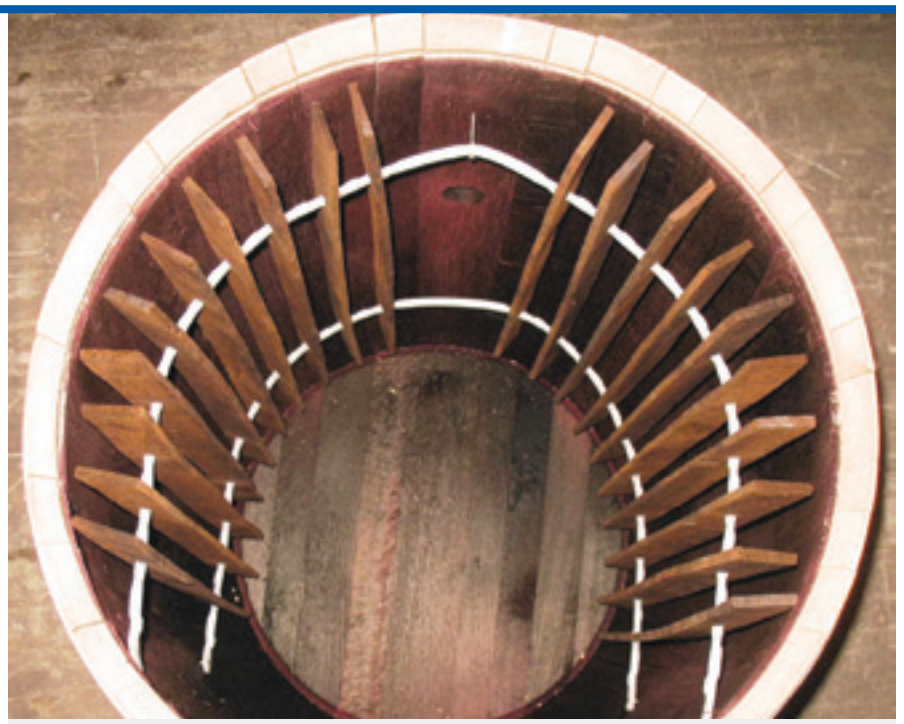
Barrel Inserts

Definition: Inserts are thin slats of toasted oak that are mounted on the inside of the barrel.

Advantages: Require little to no special handling once installed. Most inserts allow the barrel to be cleaned as normal.

Disadvantages: A barrel-head has to be removed for installation. Labor-intensive to install but there should be little to no extra labor required to maintain inserts during élevage.

Recommendations: Be sure to include the labor costs when comparing prices.



INNERSTAVE

Barrel inserts require little to no special handling once installed.

Oak Sticks

Definition: Essentially these are oak sticks or slats that are narrow enough to fit through a barrel bung hole and linked together.

Advantages: Flexible, easy to install, easy to remove.

Disadvantages: Oak stick systems have few disadvantages other than those intrinsic to using a barrel alternative (specifically they displace some wine and therefore lower the capacity of the barrel, albeit slightly).

Recommendations: These are my go-to, in-barrel oak adjuncts because they are so easy to use. In my opinion, the larger size makes them best suited for use later during élevage when the winemaker is looking to tune the amount of oak expressed, but honestly they can be used anytime during barrel-aging.

Blocks are easy to add to the barrel. The winemaker controls the amount and type of oak added to each barrel.

SEGUIN MOREAU NAPA COOPERAGE

Infusion Tubes (includes bags)

Definition: "Infusion tubes" simply are a mesh tube with a small enough diameter to fit through the bung hole of the barrel. They are filled with oak chips, beads or small blocks and function somewhat like a tea infuser.

Advantages: Extremely flexible. Allows the winemaker a great deal of control of the type and amount of oak used.

Disadvantages: Restricted by geometry. Generally has one-third of extractable oak as a new barrel (however, this may be considered an advantage). Exact amount depends on the chip size used, with larger chips or "beads" having less surface area and packing into the tube less efficiently.

Recommendations: In my opinion, infusion tubes are best used as soon as the wine goes to barrel. Some winemakers feel that the smaller chip size means that it takes a bit longer for the oak to integrate into the wine. I'm not so sure myself; but if I'm using infusion tubes, I like to do it early because an infuser puts less than a new-barrel-equivalent of oak into the wine. If done early during élevage, I have the time to let the oak extract from the chips in the tube but still have enough time for a second, third or fourth round of fresh chip extraction while the wine is in barrel.

THE BARREL MILL

Extremely flexible, infusion tubes allow the winemaker a great deal of control of the type and amount of oak used.

photo taken at St. Francis Winery

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Using Oak Adjuncts With Barrels

Loose Oak Chips, Blocks, Beads & Beans

Definition: The terminology gets a bit fuzzy between the various oak alternative vendors, but generally the term "chip" only refers to rough chunks of oak whereas blocks, beads and beans are all terms used to refer to small, but more regular, cubes of oak. Because of their rougher surfaces, chips should have more surface area for a given size.

Advantages: Easy to add to the barrel. The winemaker controls the amount and type of oak added to each barrel.

Disadvantages: Can clog or jam small pumps.

Recommendations: Always use a pump with a large enough bore to pass any accidentally ingested chips if one is using loose oak alternatives in the barrel.

TONNELLERIE RADOUX

Reconditioned Barrels

Definition: Reconditioned barrels are another alternative to buying new barrels. Typically, although not always, the winery sends used barrels out for reconditioning. During reconditioning, the inner surface of the used barrel is removed to expose oak from which the extractable tannins have not yet been depleted. The barrel is then re-toasted and reused.

Advantages: Reconditioning is cheaper than buying new barrels. It extends the extractive life of the barrel for another one to three years. Reconditioned barrels also gain rather than lose capacity. No additional material in the barrel to get in the way of winery operations.

Disadvantages: Perhaps the most labor-intensive barrel alternative; however, the cost of the labor is often included in the price since barrel-reconditioning is usually sold as a service rather than as a product. Be sure to keep this in mind when comparison shopping; the price difference may be much less than it seems. Unlikely to completely remove spoilage microbes even though re-toasting the barrels should greatly reduce the microbial population inside the barrel.

Recommendations: Inspect barrels before sending them out for reconditioning. Discard *any* barrels with off-odors before sending them to be reconditioned. After reconditioning, the barrel staves should have enough material left to be used Do not stack on top of reconditioned barrels more than four high.

Don't Fear the Adjuncts

I find that using in-barrel oak adjuncts to be an efficient way to maximize the useful life of barrels in the winery. This should lower the cost to produce a given wine. Lower costs may be the reason driving barrel adjunct use, but I find the sheer flexibility of oak type, toast and amount that they give to be the reason that they have a place in my winemaking repertoire even when making higher-priced wines. **WBM**