

Oak Options: Roll Fermentor Offers All-in-One Oak Fermentation/Cap Management and Aging

Designed for Early Oak Integration with High-End Red Wines

Story by **Ted Rieger** > senior feature editor

The Roll Fermentor is a new rack and oak cask device designed for fermentation of “micro-cuvees” of premium red wine in oak with the ability to rotate the cask to turnover and break the pomace cap during fermentation. The device is a forklift moveable, galvanized steel rack, with rollers that allow the barrel-shaped cask to be rotated. Manufactured by Tonnellerie Vernou of France, the casks used with the Roll Fermentor are available in 6 HL (158 gal.) and 9 HL (238 gal.) sizes made of French oak.

The cask is designed with a stainless steel top hatch for easily loading whole berry or crushed grapes, and after fermentation, it is rotated down for easy emptying of pomace for pressing. The Fermentor is designed with handles for manual rotation on four rollers and comes with a manual brake handle in order to stop the rotation with the stainless steel hatch at the top.

The Roll Fermentor allows for vinification and aging of the wine in the same oak vessel. Fermenting red wine in oak can provide integrated oak tannins and flavors early in the life of the wine for potentially better color stabilization and tannin polymerization, and enable

overall aromatic and flavor complexity between wine and wood compounds.

Three California wineries purchased and used a total of seven 9 HL units during the 2006 crush supplied through Pickering Winery Supply of San Francisco that is a supplier of Tonnellerie Vernou bar-



A 9 HL cask manufactured by Tonnellerie Vernou of France, used with the Roll Fermentor.

rels and products in the western U.S. Kendall Pickering said the Roll Fermentor has generated a lot of interest, but most units sold to date have been in other wine producing countries.

One New Zealand winery has purchased 10 units for pinot noir production. Pickering noted that more wineries are using larger format oak barrels, casks, and tanks for fermentation and aging. The Roll Fermentor fits in with this trend,

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with the added design features that allow rotation for cap management, along with long-term aging for use on a 12-month cycle. But Pickering noted, "The whole unit is rather pricey, so it's designed for making very high-end wines, and wineries need to have a niche for it."

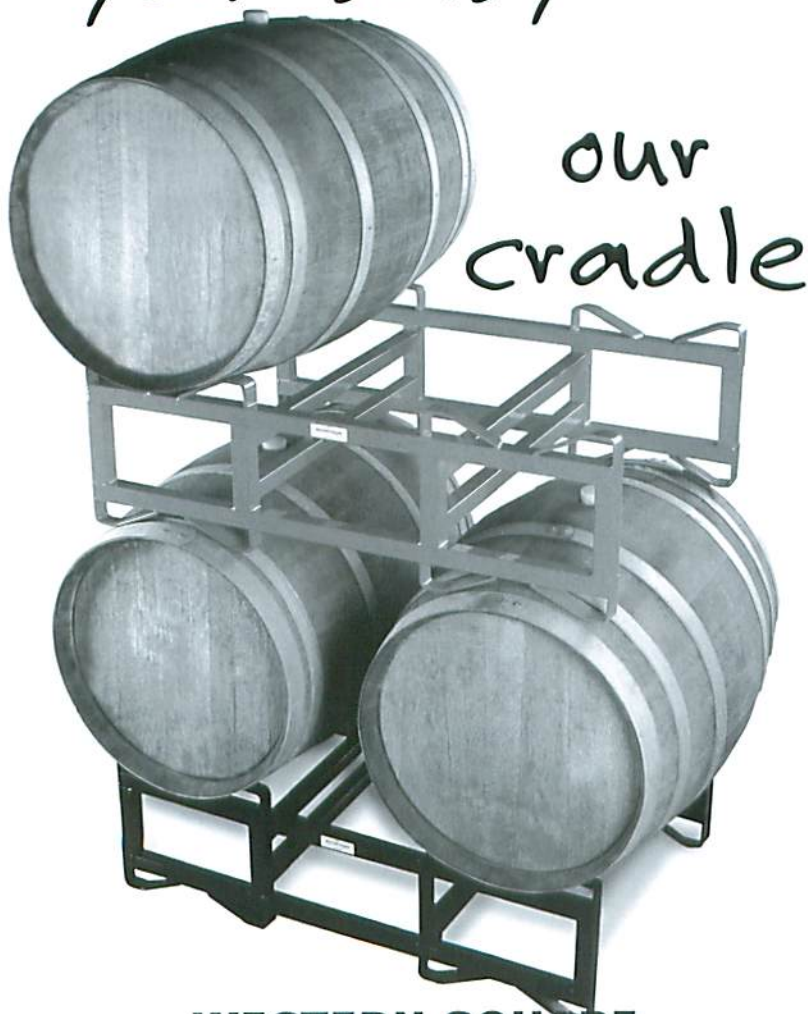
The Roll Fermentor can be customized with some features for individual

winery needs, including different toast levels, the addition of drain valves or sampling valves in the cask head, and an optional cooling system that is inserted into the cask through the top hatch. A pressure relief ball-valve vent is located on the top hatch for degassing during fermentation. The valve must be closed during rotation, then opened again after a rotation regime.

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—Adam Richardson,
Concannon Vineyards

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Vernou recommends at least two or three movements every 24 hours, with at least two or three successive rotations each cycle needed to break up the cap. The interior of the cask is fitted with three inner steel blades to break and turn the cap. The 9 HL cask weighs 200 kg (441 lbs.) when empty and 1,200 kg (2,646 lbs.) when full. The 6 HL is 140 kg (309 lbs.) empty and 800 kg (1,764 lbs.) full.

USER EXPERIENCES AND COMMENTS

Three California wineries used Roll Fermentors for the first time during the 2006 crush. Although none had completed a full aging cycle with the cask and were still evaluating their wines as of this writing, two out of the three users reported positive experiences.

Concannon Vineyards in Livermore used four 9 HL Roll Fermentors for its high-end petite sirah program. Winemaker Adam Richardson said the winery plans to purchase four more units for 2007 and four more in 2008. Noting that petite sirah is Concannon's flagship variety, Richardson said, "I like to fix the tannin profile of the wine early on, and this is a good way to integrate oak tannins early and start

the polymerization of the tannins, so we're using this more for tannin management than for flavor."

Richardson further explained, "Petite sirah is generally a fairly robust variety, and color and phenolic extraction is usually not a problem. I try to make it in a more food-friendly and elegant style, and try to handle it more gently, and this helps us to do that." Although the 2006 wines processed in the Roll Fermentors have a way to go before release, as an indication of their intended price tier, the most recent release of Concannon's top-of-the-line Heritage petite sirah was \$49.99/bottle, and the Reserve petite sirah was \$29.99/bottle

The 9 HL oak fermenter holds about 1 ton of fruit. Concannon loads the fermenter with about half to 3/4 whole berries and the remainder partially crushed fruit. Fermentation is done in the barrel cellar that is kept at about 55 degrees F, but fermentation temperatures in the vessel reach up to 85 degrees F. Rotations of the fermenter vary based on the stage and speed of fermentation, but generally start out with 1 rotation three times a day, then may change to two rotations two times a day, and later one rotation once a day.

Richardson said a rotation regime requires two people, and the vent in the stainless steel hatch is opened to release pressure after each rotation. He said the rolling generally provides adequate breakup of the cap, but the fermenter can be stopped and the top hatch opened to manually punch down if necessary. Depending on the batch, some extended maceration on the skins may be done. The rack is forklifted and the fermenter is rotated hatch down to empty pomace into a basket press.

During the 2006 crush, Concannon cycled two or three wine lots through fermentation in each cask, and after racking and pressing, wine was returned to the casks for aging. Richardson estimates that a new 9 HL oak fermenter provides the equivalent oak contact of about 30% of a new oak barrel, given the larger volume of wine in the fermenter.

He does not look for large amounts of new oak flavor, and in fact, the winery uses a significant number of 600 L puncheons for aging. "The bigger the vessel, the less the oak character,

and we're happy to leave our wines in larger vessels longer than in standard barrels," Richardson says. The Heritage series wines are generally aged in oak for 12 to 18 months. Richardson observed, "This fermenter is more labor intensive to use and higher maintenance for cleaning, but so far, we think it's worth it."

Cosentino Winery in Napa Valley

purchased and used two 9 HL Roll Fermentors for the 2006 crush. The winery processed two loads of cabernet sauvignon in one, and two loads of sangiovese in the other as a trial for a new Super Tuscan wine that is planned for production. The fermenters were loaded primarily with destemmed whole berries. Each fermenter was rolled four times a day

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during fermentation, with each regime being ten rotations in one direction followed by 10 rotations in the opposite direction.

For temperature and fermentation control, the entire Roll Fermentor could be moved by forklift outdoors for warming, then back into the cooler cellar to reduce temperature as needed. Fermentations lasted 7 to 8 days, after which the wine was pressed off and racked, then returned to the fermenters for aging.


The winery also processed wine lots from the same vineyards through its standard process with punchdown fermentations and will taste wines side by side for comparison. Founder/winemaker **Mitch Cosentino** said, "We primarily do punched cap fermentations to get round tannins, as we don't want hard, dry, biting tannins

and we didn't get those with the Roll Fermentor."

Cosentino said, "I think it's a great concept. It's a neat tool to do something different with, and we're never afraid to experiment with something new." Cosentino uses a wide variety of barrels, and it has had good experiences with Vernou oak products in the past. It was one of the first wineries to test Vernou barrels designed specifically for sauvignon blanc.

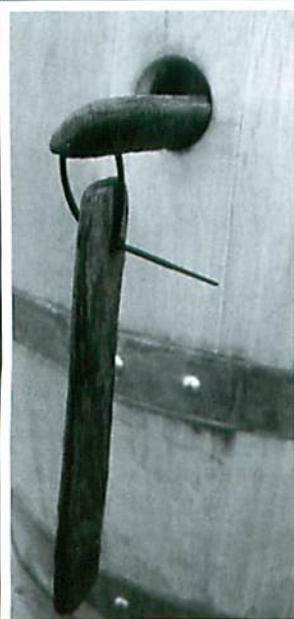
Cosentino said the Roll Fermentors are more difficult to clean than more standard tanks and cooperage. He wanted to evaluate the wine after further aging before making final judgment, but he said more Roll Fermentors may be purchased in the future if the results are positive.

De Loach Vineyards in Sonoma

County purchased one 9 HL unit and processed an experimental lot of carignane in the Fermentor during the 2006 crush. Assistant winemaker **Brian Maloney** said, "Used as a standard fermentation vessel, it worked fine, but when it's full, it's very heavy, and it was too difficult for us to roll it manually." The winery intends to use it in the future for standard fermentations with pumpover. Maloney concluded, "It was fun to experiment with, but we won't be purchasing more of them in the future." 

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