

Inquiring Winemaker



Concrete Ideas For Winemaking

On a trip to Crete a few years back, a winegrower took me out into his vineyard to see the remains of an ancient “winery,” several hundred years old and marked with an official historical marker. The former facility was simply an exposed slab of rock, slightly slanted, with two natural depressions in it and a thin crevice connecting them: perfectly suited for crushing grapes by foot in the higher bowl, fermenting the wine, then draining it off to the lower cavity for “aging” and clarification.

In other words, it was a very early prototype of the concrete fermentation tank—a little cruder and more exposed to the elements than the ones I’d seen in co-ops in France or in Southern California at Galleano Winery in Cucamonga, but part of the same old-school tradition.

Then I started getting e-mail ads about concrete eggs, and about how famous winemakers like Michel Chapoutier in the Rhône claimed that the rounder shape of the stone tank made for rounder wines, and I thought, “Oh that Michel, he’s so zany.”

Well, it turns out that concrete tanks are all the rage, from Napa to Paso, among winemakers who are far too smart to have rocks in their heads. Those old Greek winemakers (or whoever had conquered Crete at the time) may have been onto something.

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Highlights

- Concrete fermentors are increasingly popular among artisan winemakers due to their micro-oxygenation and thermal inertia.
- Winemakers say that concrete fermentors impart no flavors of their own (unlike oak), but add richness and volume (unlike stainless steel).
- Three suppliers are delivering concrete tanks to California wineries. Small sizes cost several thousand dollars.
- While long lasting, concrete requires more care than steel, but it can represent cost savings over time when compared to new barrels.

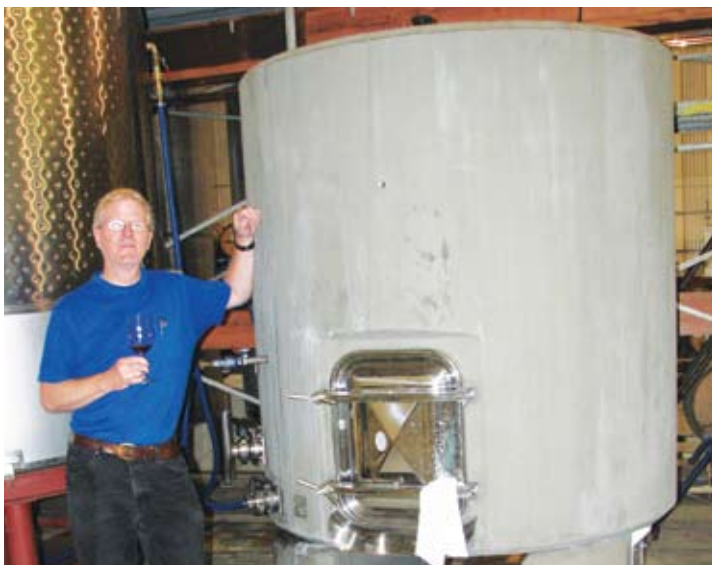
The case for concrete

The fans of concrete that I spoke with all made the same two basic points. First, being somewhat porous, unlined concrete allows a slow but steady stream of oxygen to enter during fermentation and aging, mimicking the advantage of porous barrels over airtight stainless steel. But at the same time, concrete is entirely neutral, imparting no flavors of its own, thereby mimicking the advantage of steel over wood: the upsides of both methods without the downside of either.

Second, the sheer mass of concrete containers, with walls 4-inches or more thick, full of tiny, insulating air bubbles, provides valuable thermal inertia, moderating temperature changes and preventing sudden heat spikes. If a winemaker needs a heating or cooling plate as an insert, that can be arranged.

The testimonials I collected included one from Napa winemaker Charles Thomas, now at Quintessa, who seems to have imported the first egg from the French producer Nomblot when he was at Rudd Winery in 2003. (He thinks it was the first new concrete fermentor in the U.S. industry for 50 years.) Thomas had seen concrete in action in France for years during trips there, from the humblest co-ops to the biggest names in Bordeaux and Burgundy. So when Rudd needed to replace some fermentation tanks, Thomas paid another visit to wineries in both France and Spain and to the Nomblot facility, and the rest is history. “In retrospect,” he says, “the surprise isn’t that I did it, but that no one else had.”

During trials at Rudd, Thomas found the micro-oxygenation that occurs with concrete during fermentation is similar to what happens with wooden fermentors: In either case, reds like Cabernet Sauvignon come out more accessible, earlier, than wines from stainless fermentations. With Chardonnay and Sauvignon Blanc, he thinks he gets the richness of barrel fermentation (which



Steve Edmunds has a 477-gallon concrete tank installed at the Rock Wall cooperative winemaking facility in Alameda, Calif.

doesn't happen in steel) without any oak character, while retaining the aromatic complexity that might be preserved in steel.

After Thomas convinced a few other local winemakers to try concrete, Jerome Aubin of Artisan Barrels in Oakland, Calif., began distributing the Nomblot concrete in 2007. Artisan is now selling about 65 concrete tanks per year, half of them the smallish eggs and half larger sizes. The U.S. represents, he says, about 20% of Nomblot's business. The list of wineries that have taken a fling

with concrete is pretty impressive: Harlan, Viader, Sine Qua Non, Vineyard 29, Flowers, Screaming Eagle—not to mention Cheval Blanc, Chapoutier and Méo-Camuzet.

Aubin, who also makes wine under the Aubin Cellars and Verve labels, says that the porosity of concrete—the slow micro-oxygenation—makes for noticeable differences in texture and perceived volume, especially in white wines. For reds, the thermal properties create unique fermentation kinetics, naturally encouraging a kind of cold soak at the slow start of the fermentation cycle and holding temperatures constant for extended maceration afterward.

Local suppliers

Interest in concrete on the North Coast is strong enough that a local concrete products producer, Sonoma Cast Stone, is launching its own egg in time for the coming harvest, after holding design and feature discussions with local wineries. The prospect of saving the shipping charges for bringing a 2-ton container from France is mouth-watering.

Down in Paso Robles, local production is already in high gear. Vino Vessel, founded by concrete veteran Micah Utter, has been turning out tanks in various shapes and sizes since 2007. A home winemaker himself, in an area where wine and winemaking are pervasive, it was a natural step for him to take the suggestion of Jake and Josh Beckett at Peachy Canyon to try and develop a concrete tank. Vino Vessel now produces several models, in sizes ranging from 150 to 1,000 gallons, and they're catching on. In mid-May, Utter organized a tasting of several dozen wines that had spent time in his various vinous vessels.

Josh Beckett says that when he and brother Jake decided to launch their own label, Chronic Cellars, they were looking

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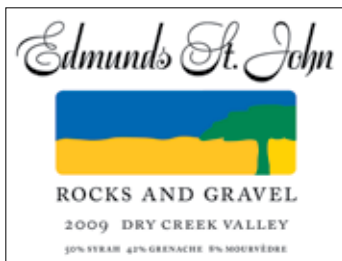


for something new, some way to stand out, some distinction from the swarm of wineries out there. They now employ three Vino Vessel tanks, using them for reds and whites, fermentation and aging, and are very happy with the results so far. Josh Beckett says that even neutral barrels—the closest comparison to concrete—have a flavor impact on wine, and that wine in stainless is stagnant and not evolving. Nothing happens, nothing breathes.

Because of limited tank volume, Chronic Cellars has so far not released a 100% concrete wine, but it will soon. Beckett likes the idea, someday, of having Utter build a bigger, on-site fermentor for Chronic, large enough to do 10 tons of grapes.

Steve Edmunds, one of the original Bay Area warehouse winemakers, has been fond of what concrete can do since encountering it in France many years ago. Since he gets some grapes from the Paso Robles area, and does an occasional fermentation there, he got to know Micah Utter and took the plunge for a 477-gallon tank, now installed at the Rock Wall cooperative winemaking facility in Alameda. Edmunds, a traditionalist, non-interventionist winemaker, says, “If I had the money and the space and a really big forklift, I’d do all my stuff in concrete: red, white, and pink. What you get is freshness, transparency, a lack of obfuscation by oak and no reduction.”

The first use of the tank at Edmunds St. John was the co-fermentation of Syrah and Grenache from a vineyard in Dry Creek. Edmunds was pleasantly surprised when the fermentation, which he feared would get too hot, peaked gently at 83°-84°F. The name of the bottling: “Rocks and Gravel.”



Another Bay Area believer is Jeff Cohn, former winemaker for Rosenblum Cellars now concentrating on his own label, JC Cellars, focused on small-batch Rhône and Zins. Like a number of other concrete aficionados, Cohn says that concrete lets the *terroir* that shaped the grapes shine through, not shrouded in oak, not masked by reduction. In particular, he praises the minerality—not some flavor obtained from the concrete, but the signature of the soil in which the grapes themselves were grown. Still experimenting with what works and doesn’t, he blends all his concrete lots with barrel or tank lots for more complex, complete wines. (See Cohn’s article about barrels on page 32.)

Few numbers exist

I hunted in vain for some rigorous, scientific numbers and measurements—perhaps a comparison of oxygen-transfer rates for concrete, oak and standard micro-ox dosages, or replicated comparisons of the wine chemistry of samples fermented in different materials. The main reason such numbers don’t exist is that the tanks

are made by concrete guys, not wine guys.

Jerome Aubin passed on the story that Nomblot, a prominent builder of concrete mausoleums in the 1920s, was inspired to get into the business when a winemaker in Burgundy suggested at a funeral that one of those nice little monuments would make a great fermentor. For a while, the sizes were apparently described as three-body, six-body and so on.

Concrete tanks are not cheap. Utter says his smallest tank, 150 gallons, goes for about \$4,900, give or take some bells and whistles; his largest, 1,000 gallons, sells for \$9,000. On the other hand, this

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Care and maintenance

It is well known that the alkaline character of untreated concrete—derived from lots of calcium—can interact badly with wine acidity, raising pH and creating odd flavors. Concrete tanks thus need to be “cured” before use—most winemakers say before *each* use—by rinsing surfaces with a strong solution of tartaric acid to neutralize the surface.

Care must also be taken in cleaning concrete; it can handle scrubbing and cleaning agents better than barrel wood, but not hot water or steam, which will lead to cracks, particularly around valves, doors and other fittings.

T.P.



is at least a 20-year investment. Take the 150-gallon size, roughly equivalent to three barrels that go these days for more than a grand each, and it won't be long before you've spent \$4,900. Prices for the larger sizes are more or less comparable to equivalent capacity stainless tanks.

Why concrete disappeared

If concrete is such hot stuff, and has been standard equipment in high-profile French wineries forever, why did it go so far out of favor in California?

The people I talked to speculated that concrete somehow got identified with the bad old days of California winemaking, even though it was the least of the culprits. When the new wave of industry revitalization hit in the 1960s and 1970s, stainless steel was the new thing on the block in Europe and everywhere else. It came with many advantages: control of oxidation, temperature regulation, easy cleaning, enhancement of fruit flavors and aromas, and so on.

Gleaming stainless, befitting a technical turn in winemaking, soon became the norm. Small oak barrels also became more prominent features of the winescape, but they were a natural extension of the large oak vats and casks already in place. Concrete got lost for several decades.

Meanwhile, concrete technology has gotten better. As Aubin explains, old-style concrete tanks were made in wooden molds, making thorough compaction difficult and leading to a tendency for the concrete to crumble. Most wineries solved the problem with epoxy or glass liners, which preserved the thermal properties but eliminated the vital air exchange. Now tanks are made in metal molds, with better compaction techniques, and using a variety of “secret recipes” for the concrete itself—Nomblot, Vino Vessel and Sonoma Cast Stone all have proprietary mixes—rendering it less reactive and chemical-free.

Makes me want to go back to Crete, make a little wine on that slab of rock, and stick it into the next tasting down at Vino Vessel. ^{W&V}

Tim Patterson writes about wine and makes his own in Berkeley, Calif. Years of experience as a journalist, combined with a contrarian streak, make him interested in getting to the bottom of wine stories, casting a critical eye on conventional wisdom in the process. Contact him through edit@winesandvines.com.

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