

A Natural RENAISSANCE

PHOTO COURTESY OF DRY CREEK VINEYARDS



Like many other wineries, Dry Creek Vineyards is committed to natural corks, as here in the Dry Creek Vineyards Old Vine Zinfandel.

THE WORLD EMBRACES CORK CLOSURES

by Catherine Fallis, MS (aka grape goddess)

Screwcaps and ride-sharing services were both game-changing problem-solvers that permanently shifted the landscape of our day-to-day world. While their benefits are notable—bespoke carefree transport and bartender wrist-saving by-the-glass options among them—their disadvantages are gaining traction. Let's sideline the ignorance, arrogance and dangerous maneuvers of unregulated renegade drivers and dive into wine closures.

Aluminum twist off screwcaps (TOSC), are technically recyclable, but the caps are too small to fit through the grates of recycling machinery, so the only way to recycle them is to flatten them and stash inside an aluminum can. Along with plastic corks, they rely on petrochemicals and mining, according to Ridge Chief Operating Officer/Monte Bello Winemaker Eric Baugher. Neither provides a perfect seal. If the capping machine goes out of calibration, for example, the seal may be liquid tight but not airtight, leading to premature oxidation (prem-ox). Baugher continues, "Early on in our experiments with plastic corks, we found



Dry Creek Vineyards has the world's first design patent that allows the winery to provide relevant winemaking information right on the cork: the name of the forest, the tree, the date of harvest, etc.

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they were not airtight and the wines were oxidized by year two. The polymers and pore structure are 1,000 times larger than a natural cork carbon ring."

There is a tendency for winemakers to sparge TOSC bottles with SO₂, or volatile sulfur compounds, to help prevent prem-ox, giving the wines shelf life and stability but leaving them inert, stinging and slightly bitter as well. At Planet Grape Wine Review we employ the "grape goddess three-day rule," opening and tasting wines over a three-day window without any preserving system. We see screwcapped wines improve the most dramatically. Executive Peter Weber of the California-based Cork Quality Council says, "Sauvignon Blanc is a favorite, but I find them bitter and sulfurous. Good Sauvignon Blancs lend themselves to development for up to 15 years. The natural cork is the only choice. Over the lifetime of the wine, the cork has less permeability."

There is the issue of how to handle the wines tableside. What is the protocol: Twist and present? Twist and pocket the screwcap? Either way, there is certainly none of the romance associated with the traditional removal of the natural bark closure. Kim Stare Wallace, President of Dry Creek Vineyards, one of the few remaining iconic legacy wineries under family control, prefers corks in a restaurant setting, which is why all but their "blancs" (Sauvignon, Fumé and Chenin, which are popular pours) are natural-cork finished. "We are very much fans of cork," says Wallace. "We provide detailed information on our labels, and it came to me to do the same on our corks. We have the first design patent in the world that allows us to provide relevant geeky winemaking information right on the cork: the name of the forest, the tree, the date of harvest, etc. Why don't we provide consumers with the same authentic information about the source of the cork as we do about the source of the grapevines? And it works. I have witnessed people picking up the cork and start reading it! It is a true valid sustainable part of our earth. The cork tells a story."



The Jordan Alexander Valley Cabernet Sauvignon. "Our consumers are struck by the visual and structural quality of our corks," says Jordan's Assistant Winemaker Margaret Kruse, who oversees the winery's cork QC program.

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— Kim Stare Wallace, President of Dry Creek Vineyards



Ridge Vineyards has been conducting pre-sensory cork tests by smaller and smaller batches since 1994.

Jordan's Assistant Winemaker, Margaret Kruse, who oversees the winery's cork QC program, says, "Our consumers are struck by the visual and structural quality of our corks. We pick top-grade corks, then sort ten to fifteen percent out, those that might have wormholes, chips or cracks. It is important for our customers who will hold our wine for ten to fifteen, or twenty, years." She adds, "It is impressive how Portugal manages the forests and production. It is really well-organized and all done by hand. A seasoned vet and his apprentice take a little ax to the tree while the women are in the forest making lunch—and in 30 minutes have harvested it. The bark is shipped to the factories in the North, where it sits out for eight months to dry, then it is brought in, boiled, and punched, old-school, still in long strips of bark, sometimes using feet to get the punches to get the cork out. It's a craft. It is impressive how quickly they do it. Everything is used. There is no waste. Leftovers go for agglomerated closures or fashion."

Weber adds, "Even before global warming, the industry practiced sustainable farming. Even the dust is used to run generators or heat up boilers to make the glue used for Champagne corks. Boatloads of granulated cork are used for shoe foot-beds, flooring, yoga pads, you name it. They don't need a garbage can. It is 100 percent biodegradable, and 100 percent used."

Weber is not a fan of agglomerated corks (other than the three-disc layered mushroom agglomerate used for Champagne) as the cork/urethane combination may leach unpleasant flavors into the wine. Ridge's Baugher has been conducting pre-sensory cork



QUICK CORK FACT:

The cork tree is native to the Mediterranean, but grows well in Healdsburg, and in Lodi, California, where it is their official tree.

tests by smaller and smaller batches since 1994. They request two levels of samples from their supplier: First the raw, unsealed corks: "We put ten corks into a jar with 250 milliliters of our estate Chardonnay and let it soak overnight. Then we taste to see the array of flavors each lot has. The [oak] family provides the cork (*Quercus suber*) and the barrel (*Quercus alba*), and we examine closely what they both contribute to the flavors of our wine over time. We test the second, paraffin or silicone-coated batch, to ensure there is no flavor coming from the sealant. The paraffin dissolves over time, so the original flavors will be imparted into a developing wine as it is cellared. Our suppliers harvest, clean and process carefully. Cork has a pretty amazing structure. Its porosity is massive. Its carbon rings make it a huge sponge, soaking up whatever is in its environment. We laser-engrave all cork-origin info onto our bottles so we can trace it if there is ever an issue." He adds, "I feel



Modern corks go through rigorous testing. In 2016, seven out of ten wines were sold with a cork closure.



PHOTOS COURTESY OF APCOR

the industry has gotten a good handle on things, such as projects for individual cork testing. Now we can focus on the environmental benefits of natural cork, keeping a forest alive, not to mention providing an economy to Portugal."

Margaret Kruse notes that cork suppliers have invested heavily in technology such as gas chromatography to test for flaws down to 0.8 parts per trillion (ppt). Customers have to pay for this, but it virtually guarantees clean product. Operational Director of the InterCork program of APCOR, Carlos de Jesus, who along with Dr. Paolo Lopes conducted extensive research over the past several years explains, "The current incidence at 0.8ppt is the best that we can measure. Gas chromatography measures 0.5 of a nanogram (half of a ppt). Zero degrees does not exist. If we are below 0.5 of a nanogram, which is the lowest the machine detects, we are safe. Human detection is 1.5 to 2.0 for Champagne (the most sensitive), and 3 to 4 nanograms per liter for reds."

He adds, "The cork story involves three levels: the people, the planet and the profits. Cork harvesters are paid up to \$125 euros per day, often taking holidays from their full-

About APCOR

The Portuguese Cork Association (APCOR) exists to promote natural cork and its products. APCOR is the employers' association of the cork sector that represents, promotes and carries out research in the Portuguese cork industry. It was created in 1956 and is based in Santa Maria de Lamas, in the council of Santa Maria da Feira, at the heart of the cork industry around 30 kilometers from Porto, Portugal's second largest city. Membership of the association is open to all companies operating in the fields of production, marketing or export of cork products. The organization advocates on behalf of the Portuguese cork industry worldwide and is the driving force of an industry based on tradition, innovation and sustainability.

www.apcor.pt/en/



Cork suppliers have made massive investments in technology.

PHOTO COURTESY OF APCOR

time jobs to do this. It is one of the best paid agricultural jobs in the world. Our cork forests [in Portugal] are one of the 36 hotspots of biodiversity in the world, alongside Borneo, Costa Rica and the Amazon. Consider the ability of the cork tree species to regulate water cycles, prevent erosion and safeguard aquifers by regulating them with the root systems of the trees. This is the template of what we need going forward, not utopia. That doesn't exist."

In 2016, seven out of ten wines were sold with a cork closure. A cork renaissance is taking place worldwide, as consumption grows especially in the U.S., the largest mar-

ket by value and volume. De Jesus highlights three pillars of the return to cork:

Massive investments in technology coupled with cork's incredible structure—800 million cells, each with its own elastic memory. We grab something nature gives us and wrap it around technology. Look at pharmaceuticals, defense. Fall in love with cork, but then put the science behind it.

Value added—we all need to emphasize the value-added aspect of natural cork. Packaging in wine matters.

Sustainability matters. Stripping the bark off of a 40-year-old tree is not utopian, but it is part of the sustainable ecosystem (see

Montado sidebar) and provides benefits to our people and planet that matter. For 65 million years, people weren't harvesting cork trees, but today we have here in the western Mediterranean a social/economic/environmental story going. Without bark-harvesting we would have 2.2 million acres planted to other crops, likely ones that are not carbon-zero.

As Baugher concludes: "For us, it's always been traditional winemaking. Why not use something organic and natural to touch the wine in the bottle? It's a greater synergy, and allows the wine to evolve naturally and correctly."

PHOTO COURTESY OF APCOR



Cork harvesters working in the Portuguese montado. Stripping the bark off of a 40-year-old tree is part of the sustainable ecosystem.

The Montado courtesy of Cork Information Bureau

"Montado" is the Portuguese term used to describe landscapes of a delicately balanced ecosystem centered around extensive oak woodlands, interspersed with areas of shrubs, grassland and cultivated fields. It is an integrated mix of agriculture, forestry and pastureland, developed over millennia to secure greatest abundance from often harsh and inhospitable conditions, ensuring the land's productivity for future generations.

The average density of the montado is approximately 80 trees per hectare, although it can be 120 trees or more. Up to five per cent of the total area may be used for growing cereals such as wheat, barley and oats, and 40 per cent may be used as pastures. The main species that dominate the montados are of the genus *Quercus*, with large areas of holm oak (*Quercus rotundifolia*), small areas of Pyrenean oak (*Quercus pyrenaica*) and the majority of cork oaks (*Quercus suber* L). *Quercus suber* L is a medium-sized evergreen oak with thick corky bark that is periodically stripped to yield commercial cork.

Consumers Prefer Cork

The Portuguese Cork Association (APCOR) and the Cork Quality Council, along with Wine Opinions, a U.S. wine market research company, conducted a study of 1549 consumers. Findings revealed that natural cork is the closure of choice for wine purchased at a restaurant (91%), wine purchased as a gift (93%), and wine purchased to bring to a dinner party (86%).