

EDUCATION

CORK. ADDING VALUE TO WINE

Culture, Nature, Future

# FINDING Closure

**AT SOMMCON SAN DIEGO, THE TASTING PANEL  
LED A SEMINAR ON THE POSITIVE EFFECTS OF  
NATURAL CORK ON FINE WINE**

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CLOSURE: Positive Effects of Natural Cork on Fine Wine

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At SommCon San Diego,  
The Tasting Panel and sister  
publication *The SOMM  
Journal* led seminars as  
the media sponsors of this  
well-attended event.





Pictured is Lisa Mattson, Director of Marketing for Jordan Winery. Jordan is among the wineries that are already spending \$1 per cork to ensure the highest quality possible.



Master Sommelier David Glancy, Founder of the San Francisco Wine School, moderated the seminar.

SommCon attendees compared Jordan Chardonnay's 2012 and 2015 vintages.



Wine closures have increasingly evolved as a trending discussion in recent years. While natural corks have been around for centuries, issues with increased cork taint in the 1990s accelerated the expansion of screwcaps and synthetic corks into the world of fine wines. This loss in market share compelled the cork industry to invest heavily in research and development to improve quality while resolving lingering issues. As a result, new technology is constantly being introduced, which makes it difficult to stay up to date on where exactly the cork category stands today. With that in mind, it seemed pertinent to host a seminar entirely devoted to natural cork at the 2017 SommCon in San Diego.

Master Sommelier and moderator David Glancy opened the seminar by noting that attendees would be “looking at differences in ageability, in faults, in consumer perception, and in sustainability.” The panelists representing both the wine and cork communities included Peter Weber, Executive Director of the Cork Quality Council (CQC); Lisa Mattson, Director of Marketing for Jordan Winery; Katie Madigan, Winemaker for St. Francis Winery; and Jeff Meier, the President & Director of Winemaking for J. Lohr Vineyards. Each of the panelists, while admittedly advocates of natural cork, have decades of experience in their respective industries that imparted a personal perspective on the many topics discussed throughout the session.

### TCA-Free and the Future of Natural Cork

It's especially interesting to consider just how far we've come in our knowledge of cork contamination and other wine faults in just the past two decades. In the 1990s, six cork companies came together to form the Cork Quality Council (CQC), a nonprofit devoted to improving cork quality by fostering research and implementing standards for the industry. “One of the first things we did was try to explore the different chemicals that were responsible for taint,” Weber explained.

With multiple compounds initially suspected, that research yielded ambiguous results. We now know the presence of the chemical compounds 2,4,6-trichloroanisole (TCA) can contaminate not just cork, but also barrels, pumps, pallets, and other materials employed in the winemaking process. As a direct response, guaranteed “TCA-free” corks have been recently introduced, with agglomerated corks like Diam among the first to enter the market. These corks are ground down so the particle batches can be tested before being molded back into a cork form.

TCA-free punch corks, however, have proven more difficult to produce; they only became available in 2015, with Portocork and Amorim emerging as two of the industry leaders. Their rigorous testing can detect the presence of TCA down to 0.5ppt (parts per trillion), well below the human threshold of 3–4ppt.

Jordan Winery, a staunch supporter of natural cork, adopted the TCA-free

ICON corks by Portocork just last year. “We're very excited,” Mattson enthused. “We do think it's a few years away from being perfect, but so far we like what we're seeing.” Since availability is still extremely limited, ICON corks make up only 10 percent of the winery's cork supply. They're also quite costly at \$1.20 each compared with the industry average of \$0.30, yet some wineries like Jordan already spend \$1 per cork to ensure the highest quality possible.

While the winery's leadership is intrigued by the promise of this innovative product, they're not completely confident in endorsing them *quite yet*. Jordan Winery has implemented its own extensive testing of corks for the last 40 years by evaluating them in batches for its 750ml/1.5L bottles and individually testing the corks for its large formats (3L and up). While the ICON corks are guaranteed to be TCA-free, they're still finding the compound in roughly 1 percent of these corks.

Traceability is also a crucial metric for Jordan Winery, which has the time and date etched into each bottle in order to track them back to their source. There are 6,000 corks in each of Jordan's lots and its main cork supplier, Scott Labs, allows them to trace each lot to the forest level. This means that if the consumer opens a tainted bottle, they can send the winery team a photo and enable them to pull the lot number and locate the source. “We know that we don't have a 100 percent

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**J. Lohr Vineyards President and Director of Winemaking Jeff Meier.**



**St. Francis Winery Winemaker Katie Madigan.**

chance of it not having TCA, so we trace it," said Mattson.

### Oxygen and Wine

With vast improvements in the battle of TCA eradication underway, the CQC is also spending a fair amount of time researching the variance in Oxygen Transmission Rates (OTR) among different types of closures. While oxidation is a wine fault that should generally be avoided, very small amounts of oxygen are desired both for early consumption and aging.

A natural cork inherently contains oxygen. As Weber pointed out in the seminar, a cork is 24mm in diameter, but when it goes into the bottle, it's 18mm. "Cork is fundamentally different from other closures in that it lets oxygen into the wine through diffusion," he explained. "Basically, when you squeeze a cork, you're going to release 2–3 milliliters of oxygen. Most of it is going to go into the wine."

The CQC's study, which followed OTR in various quality levels of natural and synthetic corks over the course of 36 months, showed that a "dose" of oxygen delivered by the natural cork into the wine is released over a six-month period before leveling out. On the other hand, synthetic corks release oxygen through permeation, which appeared to continually increase the dose without limit.

For example, the greatest challenge with Stelvin—an aluminum closure system that originated in the 1960s—appeared to be that it allows

little to no oxygen into the bottle. This disrupts aging and may cause wines to be somewhat reductive early on. While wine aging is a complicated process with many unknowns at play, the study seemed to indicate that the initial release of oxygen from the cork at bottling is what allows the wine to develop over time. In regards to the transformation of wine over a ten- or 20-year period, Weber noted, "It's obvious that they are continuing to develop, the theory being that the oxygen is helping that development. Which is why, to me, the screwcap guys are trying figure out ways to induce more oxygen."

While we didn't have an opportunity for a side-by-side comparative tasting of a screwcap versus cork closure, Mattson discussed Jordan's own findings during the seminar. When screwcaps were beginning to take off in 2002, the winery bottled ten cases of its Chardonnay under Stelvin to compare with its traditional bottling.

Winemaker Rob Davis, who joined the winery in 1976, tasted the wines together once or twice a year; for the first five years he preferred the cork closure, as the wine seemed to develop better when young. However, at the ten-year mark, "the Stelvin got kind of interesting because it had the freshness we were losing on the natural cork," recalled Mattson. Yet, as one guest pointed out, if a consumer is purchasing a ten-year-old bottle of Chardonnay, aren't they looking for those aged characteristics?

### Consumer Perception

Numerous polls have been conducted over the years that reflect consumer preference toward natural cork. Weber showcased a study from June 2017 that overwhelmingly showed its 1,549 respondents prefer natural cork, especially for wines meant to age (93%) and for high-quality wines (97%). Panelist Katie Madigan, who's worked at St. Francis Winery since 2002, can attest to this demand: The winery, which transitioned to synthetic corks in the late 1990s, switched back to natural cork due to protests from customers. "Our main complaint with the synthetics was oxidation," Madigan explained.

J. Lohr Winery also struggled with an increase in cork taint in the early 2000s, and took steps to mitigate the issue by seeking a higher-quality product. A team traveled to Portugal to visit with producers and later received samples to help them decide which product they wanted to work with long-term. While the winery employs a number of

## At a Glance:

### Quick Facts You Should Know About Natural Cork

There is no cork shortage; we have enough cork available today to sustain production for 100 years.

Cork forests are increasing by 4 percent each year.

Cork bark can be harvested every nine years, and the trees can live for up to 300 years.

Corks are 100-percent biodegradable, renewable, and recyclable.

Cork trees harness carbon dioxide and are a net positive in the battle against climate change.

A wine is considered "corked" when TCA is present in 3–4ppt; that's the equivalent of eight drops of water in 800 Olympic-sized swimming pools.

Current technology can detect TCA down to 0.5ppt—well below the human threshold.

Though screwcaps and synthetic corks are recyclable in theory, infrastructure is not currently in place to adequately do so.





The panel pictured from left to right: Katie Madigan, Winemaker for St. Francis Winery; Peter Weber, Executive Director of the Cork Quality Council (CQC); Jeff Meier, President & Director of Winemaking for J. Lohr Vineyards; Lisa Mattson, Director of Marketing for Jordan Winery; and in front, moderator and Master Sommelier David Glancy.

closures depending on the tier, they've seen a great reduction in TCA. "We've seen our phone calls almost go away from the consumer standpoint," said Meier, who has worked for J. Lohr Vineyards for more than 30 years. "We just have to keep everybody honest and do those tests to make sure that we're getting a product that has that lower percentage of TCA."

Regarding the use of natural cork, J. Lohr only employs that category of closures for its higher-end Vineyard Series and Signature Wines. "Our consumers, from a preference standpoint, love to see the cork for sustainability concerns and whatnot," Meier added. "But from a producer's standpoint, we're also concerned about giving the consumer the product that we intended to."

### Sustainability

From a sustainability standpoint, natural cork has no equal in the market. "They're natural, they're reusable, and they're renewable," Madigan emphasized. "There's just not a lot of waste from the cork tree." As a certified-sustainable winery, St.

Francis' switch back to natural cork can be partially attributed to self-evaluation: How could it be sustainable when it's using a wasteful product? "It really made us turn our attention back to closure and look at the various concepts," Madigan added. "What's best for us is natural cork."

In theory, screwcaps and synthetic corks are made from recyclable materials. With screwcaps specifically, the size of the cap is too small, which can cause them to fall through the metal grating at recycling centers. "With some of these alternative closures, yes, they may be recyclable, but the infrastructure to recycle them just isn't there," Madigan noted.

In addition, cork forests, or *montados*, provide great value to their home country's economy; this is especially true in countries like Spain and Portugal, which have undergone mass deforestation. "Fortunately the cork trees have value, so there's been a lot more planting," Glancy said. The *montados* are also considered to be one of the last barriers to desertification in these dry, semi-arid climates. ■■

## Tasting Notes

**Jordan 2012 Chardonnay, Russian River Valley:** A combination of stainless steel (1/3) and French oak (2/3) fermentation with partial malolactic fermentation makes for a surprisingly zingy wine despite nearly five years in bottle. There's green apple, hints of diesel, and subtle aromas of lemon curd. The palate is bright with a saline-like brine and a fullness reminiscent of par-baked pie crust. Aged for six months in 42% new French oak.



**Jordan 2015 Chardonnay, Russian River Valley:** 47% stainless steel and 53% new French oak fermentation gave the wine a subtle, aged character; some guests thought the two vintages had been switched. Almond cookie and barrel spice mingled with pear, and Meyer lemon aromas echoed on the palate.



**St. Francis 2014 Zinfandel, Giovanetti Vineyard, Russian River Valley:** This eight-acre parcel is planted to primarily Zinfandel, although DNA studies have shown there are around 20 different varieties in this 120-year-old vineyard. A beautiful wine with ethereal, perfumed Indian spiced aromas of coriander and chai mingled with black plum. Savory palate with hints of Darjeeling tea, plum sauce, and mouthwatering black fruit.



**2015 Signature Cabernet Sauvignon, Creston District AVA, Paso Robles:** With the 2015 vintage, the J. Lohr's flagship wine is finished with ND Tech Corks, a guaranteed TCA-free punch cork produced by Amorim. Meier noted that this is structurally the "biggest wine J. Lohr produces." Rich, black fruit infused with umami-like aromas of hoisin and bone broth. A plush mouthfeel with round, silky tannins and a core of blackberries of chaparral.



PHOTO COURTESY OF J. LOHR WINERY