

Winemaker Trials

Scheid Family Wines Experiments with In-Vineyard Fermentation of Pinot Noir

Editor's Note: At the time of this interview, the experiment was in its early stages. The answers published here are a reflection of an in-progress trial.

Stacy Briscoe



Stacy Briscoe is the assistant editor of *Wine Business Monthly*. She has been writing about wine professionally since 2015, freelancing for multiple publications including *The San Francisco Chronicle*, *Edible Communities* and *Napa Sonoma Magazine*, among others. Outside of wine writing, she also contributes as a freelance editor for the independent publisher She Writes Press. Stacy has a Bachelor of Arts degree in English-language literature from the University of California, Santa Cruz.

CASEY DI CESARE ATTENDED the University of California, Los Angeles and majored in political science. His career in wine began at Cinquain Cellars in Paso Robles, Calif., where he worked weekends. Di Cesare went on to earn his master's degree in enology from Cornell University in the Finger Lakes AVA, under advisor Dr. Gavin Sacks. He returned to California in Jan. 2017 and took a job at Scheid Family Wines as the assistant winemaker/enologist. He designs and executes all experimental wine trials (of which there are many), as well as implements and assesses new lab procedures.



Casey Di Cesare

TRIAL OBJECTIVE: To observe the effects of non-*Saccharomyces* native yeast application during an in-vineyard fermentation.

TRIAL DESCRIPTION: Post-harvest, a portion of a block of Pinot Noir from the Scheid Family Wine's Riverview Vineyard was left in the vineyard to ferment with native yeast in a refrigerated trailer. The rest of that same block was processed in the winery with house yeast. Each batch received the same punch-down routine and additives throughout the process.

Lot 1: Riverview Vineyard Pinot Noir, fermented in-vineyard with native, non-*Saccharomyces* yeast

Lot 2: Riverview Vineyard Pinot Noir, fermented in-house with traditional *Saccharomyces* yeast culture

Winemaker Progress Report

Why is in-vineyard fermentation of interest to you?

Di Cesare: This project began because we wanted to preserve the intrinsic character and truly show the terroir from our Riverview Vineyard. We also want to better understand native fermentations, along with the potential byproducts of incorporating non-*Saccharomyces* yeasts at the start of fermentation. We felt minimalistic winemaking and native fermentation would help us achieve these goals. Recent research has concluded that native yeast fermentations at established wineries that have used commercial yeasts aren't necessarily native because the native microflora found in the vineyard can be flushed by commercial inoculum in the winery from previous harvests. To ensure that our fermentations weren't influenced by established, in-winery commercial strains, we set up a refrigerated trailer in our Riverview Vineyard to receive and process the fruit directly.

Native yeast fermentations encourage non-*Saccharomyces* yeast to initiate fermentations and give them a chance to impart beneficial byproducts, such as mannoproteins, polysaccharides, glycerol and precursors to fruit aroma compounds. Depending on the non-*Saccharomyces* strain, they usually don't survive past 5 to 10 percent alcohol, at which point *Saccharomyces* must take over fermentation. There is also a risk of certain non-*Saccharomyces* yeast and other bacteria in the vineyard creating off-aromas. We wanted to see if our wines could benefit from the character of non-*Saccharomyces* yeast and mitigate the risks of off-aromas.

Why did you decide to try this with Pinot Noir?

Di Cesare: We found a lot of success doing in-vineyard fermentations with our Chardonnay. Each fermentation from the past two vintages had a unique makeup of yeasts that achieved dryness. The native fermentations added a level of complexity and uniqueness to our Chardonnay that we really loved, so we wanted to see if we could capture some of that magic with our Pinot Noir grown on the same site. Logistically, it also worked out great this harvest as our Pinot Noir ripened a few weeks earlier than our Chardonnay. This allowed us to, in theory, complete our Pinot Noir fermentations before transitioning to Chardonnay.

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Thus far, are there any notable differences between how the two varieties are reacting during the fermentation process? Any similarities?

Di Cesare: So far, the Pinot Noir

fermentation is much faster than the Chardonnay. The Pinot Noir appears to reach dryness in about 10 days when our Chardonnay from the past two vintages took, on average, anywhere from three to six weeks to ferment. We even had one outlier fermentation that took nearly four months to achieve dryness. We find our native fermentations give the wines weight with a round mid palate, coupled with higher levels of minerality and salinity. Although it is still early with the Pinot Noir, we have found some of those same characteristics shining through.

How do you plan to collect data?

Di Cesare: We are tracking fermentation kinetics, as well as doing Variable Number Tandem Repeat (VNTR) Analysis during the start, middle and end of fermentation to gain an understanding of what microbes are doing the fermentation.

Have there been any complications during the trial process so far? Are there any issues you're trying to avoid?

Di Cesare: So far so good! There is always a risk of increased volatile acidity (VA) as well as stuck fermentations when using native yeast, but for now the fermentation has been going smoothly and has been tracking well. If the rate of fermentation continues as expected, and no off-aromas are detected, then we will not need to mitigate. If the fermentation slows, we will start tracking VA daily and potentially bring the must back to Scheid and inoculate if needed.

Do you/your colleagues have any predictions about the conclusion of this trial? Are there have any results you'd like to see?

Di Cesare: From the team's experience with native fermentations, predictions range from hot and fast to slow and sluggish. There is a consensus that the native wines will make a differentiated product from our other fermentations. We hope that we have a slow start in order to get an ambient soak with non-*Saccharomyces* initiating fermentation and then a steady march to the finish with native *Saccharomyces*. Overall, we expect an increased understanding of our Riverview Vineyard, native fermentations and maybe a bit of "noble funk" to help create a distinguished product. We would love to see if the fermentation in the vineyard is completed by non-commercial yeasts native to our site!



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Based on the results of the in-vineyard fermentation of Chardonnay, did you actually change any of your white winemaking routines?

Di Cesare: Yes, with the success of our first two vintages in the vineyard, we have begun to incorporate some native fermentations at Scheid, as well as bring in commercial non-*Saccharomyces* yeast. We have found native yeast and non-*Saccharomyces* yeast can add an extra level of complexity and bring a unique component to the resulting wines. Both vintages of native in-vineyard fermentations of Chardonnay have become a main component in our Metz Road Chardonnay—our small-lot, single-vineyard brand named after the road that runs alongside our Riverview Vineyard. We are looking to potentially bottle our in-vineyard fermentations individually in the future.

Based on the results of the in-vineyard fermentation of Pinot Noir, do you foresee any changes to your red winemaking processes?

Di Cesare: We will see! We will evaluate all aspects of the fermentation and, ultimately, the finished wine. If the resulting wine is of higher quality or brings a desired character, we will consider bringing more native yeast into our larger production. We have begun to experiment in the winery with commercial non-*Saccharomyces* mixed yeast, non-*Saccharomyces* yeast and native fermentations in the winery to see if we can emulate what we predict would happen out in the vineyard. I foresee a mixture of these practices to continue to be evaluated alongside our traditional practices.

Though the Pinot Noir is currently fermenting, what kind of data have you collected and what have you learned?

Di Cesare: So far, we have core juice analysis, fermentation curves and are waiting for the results from our VNTR samples. I was expecting, at the start of fermentation, to potentially pick up more off-aromas—VA and ethyl acetate—but so far, so good. We had a nice period of ambient soak with a cap forming on the third day of fermentation. Punch-downs have been easy, and the fermentation has not been very vigorous, just chugging along.

Do you think you'll repeat this trial with Pinot Noir again as you repeated with Chardonnay? Would you consider running the experiment on a third grape variety?

Di Cesare: Yes, we will run this trial again. We learned a lot from year one to year two with the Chardonnay, and I look forward to learning more from our repeats of this trial. Each year brings a potentially different microflora, so it will be interesting to see what differences we get from vintage to vintage.

We are always open to trying these techniques with more varieties. Last year we did a native fermentation at Scheid with Sauvignon Blanc that was bottled on its own as Scheid Vineyards Reserve Sauvignon Blanc. We will see if another trial pops up in another one of our vineyards soon!

Doing trials like this can be a large investment by a winery in time and capital. Continuous improvement and innovation are two of our core values at Scheid Family Wines. We find great value in doing trials on a production scale in order to learn more about our vineyards and winemaking. Not every trial is a success, but we always learn something. We have 4,000 acres and 12 unique vineyard sites along a 70-mile stretch of Monterey County, and based on the results of this and previous trials, going native looks to be another winemaking tool to use to express our distinctive terroir. **WBM**

