

Winemaker Trial: Investigating Sur Lie Aging Treatments

Using her experience with sur lie aging, winemaker Aimée Sunseri wanted to learn how different techniques—specifically bâtonnage and dry-ice regimens—would affect the mouthfeel of her wines.

Stacy Briscoe

Editor's note: During the time of this interview, the experiment was in the early stages. Thus, the questions and answers published here are a reflection of an in-progress trial. Sunseri plans to exhibit her completed trial at Wine Business Monthly's 2020 Innovation + Quality event this February.

Aimée Sunseri is a fifth-generation California winemaker and grapegrower. She earned a viticulture and enology degree from the University of California, Davis. She works with vineyards in Napa and Vina, Calif., and produces wines under three labels: New Clairvaux Vineyard, Nichelini Family Winery and Aimée. She is a descendant of the Nichelini family, who own and operates the oldest family winery in Napa Valley and work with the Trappist monks at the Abbey of New Clairvaux, America's first Trappist winery.



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. She also maintains her own website, *BriscoeBites.com*, dedicated to wine reviews and tasting notes. 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.



Winemakers Progress Report

Why are you interested in studying sur lie aging techniques?

Sunseri: Simply for more knowledge on how to build more mouthfeel. Viscosity in wine is usually associated with alcohol and residual sugar. But then there are also yeast proteins, which is what sur lie is about.

What variety/varieties are you working with for this experiment? Is there any reason you're specifically working with these grapes?

Sunseri: I am using Trebbiano. It's an unusual grape for Americans, but it is one of the most widely planted grapes in the world. Trebbiano is a bit of a plain-Jane variety, but with oak and sur lie it can transform into something exceptional and delicious. What I mean by that is, it does not have a lot of unique character on its own, not like Sauvignon Blanc or Muscat do, where you can smell those and know instantly what they are. Oak and sur lie, I think, work well with a plain variety because they add something interesting, and that something interesting does not compete with something else interesting.

TRIAL OBJECTIVE: Investigation of the effects on wine styles by various sur lie treatments, including different stirring regimens and the addition of a beta-glucanase enzyme.

TRIAL DESCRIPTION: Roughly 4 tons of fruit were crushed, pressed and put into a cold-settling tank. Adjustments were made to the acidity, yeast was pitched, and nutrients were added. On day two, the wine was racked into barrels (about 50 gallons per barrel). There were six dry ice barrels, six dry ice and beta-glucanase barrels and five bâtonnage stir stick barrels. In the beta-glucanase barrels, the enzyme was added. At the time of this interview, Sunseri and her team were in the second month of the trial and continuing the experiment.

Lot 1: Trebbiano, aging sur lie with daily dry ice addition

Lot 2: Trebbiano, aging sur lie with daily bâtonnage

Lot 3: Trebbiano, aging sur lie with beta-glucanase enzyme, with daily dry ice addition

CONCLUSION: The trial is still being completed. Results will be shown at **Innovation + Quality** on Feb. 27, 2020.

FRENCH OAK ELEGANCE WEST COAST STYLE



TONNELLERIE Ô
531 STONE ROAD
BENICIA, CA 94510
707-752-6350

Tonnellerie0.com
www.youtube.com/user/Tonnellerie0



What are the different sur lie aging regimens you're using?

Sunseri: My experiment is part practical and part theoretical. I have been making sur lie wines since 2007. I started with a traditional bâtonnage stir stick, but it can be pretty time-consuming, and you get more oxygen exposure—unless you're also using dry ice at the same time. The bâtonnage, using the stir stick without dry ice, adds more oxygen because you have to open the barrel to mix. We stir for about one minute per barrel, whereas dry ice takes a few seconds to add, and then you just need to burp the barrels (vent off the excess CO₂ by lifting the bung and then pushing it back in again) until the ice has dissolved.

So, I started adding dry ice to my regimen. I noticed that dry ice alone seemed to stir the lees just as well. So I started to skip the stick and just added dry ice. My control is dry ice versus bâtonnage stick. I do not add dry ice to the bâtonnage lot, so this is also a bit of an oxidative versus reductive experiment. But then, I had enough barrels of this sur lie trial to also throw in a beta-glucanase enzyme lot. For that lot I use just dry ice to stir the lees, so it is the control versus beta-glucanase.

Thus far, have you encountered any complications or difficulties? If so, how have you dealt with them or plan to deal with them? If not, are there any issues you're hoping to avoid or are specifically keeping an eye out for?

Sunseri: Sur lie can get a little funky, but I have been doing this long enough that I know where the trouble spots are. The funky is usually in the realm of H₂S. I find that barrel ferments that do not have a cooling jacket to help regulate the fermentation can go pretty fast—even though we put it in a room that is 55° F and have cold-settled it before going to barrel. We usually make a second nutrient addition mid-ferment, but catching it at mid-ferment can be difficult. So, we just anticipate that and watch it really carefully.

Nutrients are important. We use DAP, but I am sure other nutrients could be utilized just as well and maybe even better. Yeast hulls might be a good choice to help with the sur lie part. You might be able to extract out more proteins to help with the mouthfeel. Maybe we will try with our next experiment.

Who else is working with you on this trial? Do you or your colleagues have any predictions about the trial's conclusions?

Sunseri: My ROC* associates gave me the idea for the beta-glucanase. That part has been amazing to see develop, and it has changed my mind about using enzymes. I used to use enzymes when I first started winemaking. But my approach, in general, was so complicated, I could not tell what was doing what. So, I quickly flipped my approach and simplified everything. I started using one yeast, not 10. I started using one nutrient, not four. Personally, I needed to see the effects of one thing and not compound it with the effects of 20 other things. What I have found is that every variety and wine style is different and can benefit from tailored programs. Using an enzyme is just one of those tailored fits that I think works well with Trebbiano and the style of wine we are creating.

Have you made any conclusions yet? If not, what data have you collected thus far? Have you learned anything new or interesting that you didn't know before? Or, have you proven a theory you may have had?

Sunseri: I have only really tasted the wines at this point. All the wines are coming along nicely. The beta-glucanase lot has the most mouthfeel. The dry ice lot is the cleanest and most streamlined. And the bâtonnage has an interesting nutty/bread character that I love. So, they are all winners in my mind.

Based on the results of the experiment, do you foresee making any changes to your current white wine winemaking program? To what benefit?

Sunseri: I will have to eventually blend them to fit my customers' needs, but I will see how it all tastes once together and then go from there.

Will you conduct a follow-up trial next year? If so, would you work with different or the same grapes? Would you retry the same sur lie methods or new ones?

Sunseri: I am actually thinking of doing a similar trial this year with Semillon. I have grapes coming in next week from Napa. I do a Semillon experiment every year that highlights American oak versus French oak, and I might mix in some beta-glucanase to see if it has an effect with the different oak barrels. [WBM](#)

* The Research Oenovation Collective (ROC) is a non-profit applied research platform that assists in the advancement of practical winemaking by providing a collaborative platform for applied research and innovation. Learn more about the organization at rocwine.org.