

MARCH 2023 MISSOURI WINEMAKING SOCIETY MEETING

Steve Brunkhorst started off the meeting with the explanation of the coveted traveling trophy for **WINEMAKER OF THE YEAR**. Greg Stricker, the 2022 recipient handed over the trophy to Cris Hiner for achieving the most points in the Favorite White and Favorite Red Competition. Congratulations Cris!



Steve Brunkhorst then led the forum for our March meeting, **What's going on in your cellar for the 2022 vintage?** 15 members attended and 11 wines were presented.



It was obvious that all the winemakers worked hard on making a very drinkable wine. Vignoles, Aromella, Chardonal, Seyval, Norton, Chambourcin and Nebbiolo were tasted. Some winemakers found that their original varietal was better when blended with another wine. We tasted both sweet and dry Vignoles. A traditional method of a sparkling wine failed to sparkle but was a delicious sweet wine with a nice balance of acid and sweet. We tasted a Chardonal that went through MLF with a hint of oak. All the wines were very satisfying.

And then we tried to trouble shoot some problems. One main question was “Why did my wines flavor fall off after several months of tasting wonderful.” We did not come up with any solid answers that evening but Steve Brunkhorst did some research the next day and came up with this answer.

PROBLEM STATEMENT: “My wine seems to have such nice aroma-taste early in the process, and then at some point in time before bottling, it just falls apart and loses the character I loved”.

Steve comment: I have experienced this problem with my white wines and through reading and experimentation have discovered one reason this can happen. If your yeast come under stress during the fermentation process, they can emit sulfurous compounds and eventually the sulfur compounds increase to an extent the winemaker can identify them in the wine. Typical sulfur aromas include “burnt match”, “hard-boiled egg” or “mercaptan” or other... see the PENN State Extension article below.

THIS IS MY COMMENT THAT IS NOT SO FREQUENTLY DISCUSSED: **The initial impact of stressed yeast and sulfur compound generation is the loss of the varietal aroma from the wine.** My experience is that not all yeast stress is sufficient to result in the full blown sulfur defect but it does progress sufficiently to rob your wine of its nice varietal character. This morning I have searched my trusted winemaking texts to confirm this fact but I cannot. My mind does go to a conversation with former member **Judy Hon** (who I have copied here) and I recall that she told me some small commercial wineries check all their white wines for possible surfer compounds even though there is no aroma which would indicate a problem.

TROUBLE SHOOTING: If you have a (white wine) that seems low on varietal character, and you would like to confirm or rule out the contribution of sulfur compound, simply perform the “penny test” described below. Be sure to use a penny minted before 1982 which means

it was 95% copper. If you do not have an old penny, you can also use a piece of copper wire, the type used to wire a house. It only takes a short time to do this test, the penny only needs to be in contact with the wine for a minute or so. If a sulfur compound is the problem...the before and after aroma will be dramatic. Be sure to discard and not drink the sample wine. Wine already in the bottle...no problem... the test still works! (Fixing a sulfur problem after the wine is in the bottle is another story).

RED WINE: I don't have experience with sulfur compounds impacting the aroma of red wines, but I think it could be applicable. The penny test is certainly easy to do.

SOLUTION TO THE PROBLEM: There are best practices that can be employed to minimize the likelihood of generation of sulfur compounds during fermentation:

1. Know the yeast nutrient requirements for your particular yeast and manage it. (nutrient requirements can be low, med, or high) Look at the manufacturer's yeast table
2. Use the appropriate amount of yeast nutrient. If you are not using Fermaid "O", why not?
3. Rehydrate the yeast using Scott Lab GoFerm and carefully follow the rehydration instructions (yes just sprinkling the yeast on the surface of your must will probably work 9 times out of 10, what me worry?)
4. Stir your wine during fermentation so that yeast are not trapped under the gross lees and become deprived of nutrients. (You will not oxidize your wine because it is blanketed with CO₂ during fermentation).
5. Sniff your wine on a regular frequency during fermentation and while aging to detect sulfur smell or loss of varietal aromas. The best time to address a sulfur problem is when it first occurs. (of course if you remove the stopper to sniff your wine, you will fill the open head space with CO₂-right?)
6. If the penny test indicates a sulfur problem...use Redules to address the problem as soon as possible.

From Penn State Extension: What are Sulfurlike off-odors in wine?

Sulfur contributes to several wine off-flavors, including the presence of hydrogen sulfide (H₂S), reductive aromas (developed by mercaptans/thiols or disulfides), and a high concentration of free sulfur dioxide. The word "sulfur" is often used, incorrectly, to describe all of these aromas and flavors. However, each defect has a particular aroma/flavor association that is somewhat unique:

- H₂S has the aroma of rotten eggs or hard boiled eggs.
- Mercaptans or thiol-based compounds and disulfides have various aromas/flavors. Many common descriptors include canned or cooked vegetables, canned asparagus, garlic, onion, cooked cabbage, garbage, putrefaction, burnt rubber, canned corn, and molasses.
- High free SO₂ smells like recently burned matches and often causes a burning or irritation in the nose.

Chemically, all of these compounds are very different despite the fact they all contain the element sulfur. Additionally, remediating these defects in wine requires

winemakers to properly identify the problem and use appropriate techniques to treat the problem.

Did you Know?

You can tell if a wine contains H₂S by using the "penny test." Drop a penny from before 1982 into about 30 milliliters of the questioned wine. Cover and swirl the glass. Smell the wine only. If the penny addition cleans up the wine, chances are that the wine has hydrogen sulfide problems. The copper in the penny has reacted with the hydrogen sulfide to clean up the wine aroma. Dispose of the wine and clean the penny.

