

Wine that Stinks

As part of our winemaking coursework at UCC we study sensory science, the science of how humans perceive smells and tastes with respect to wine. This is one of my favorite classes to teach because it was the interesting smells and tastes in different wines which initially stirred my passion for wine and eventually inspired me to change careers from engineering to winemaking.

One of the most interesting parts about teaching the sensory science class is our laboratory session on wine faults. In this lab, perhaps more so than others, the students are very excited to get the opportunity to smell and understand fault aromas, and I'm also excited to show them the stinkiest examples of faulty wine I can find. It seems to be a natural human impulse that when we find something uncharacteristically pungent we want to share it with others: "Wow this is disgusting; you've got to smell this!"

A couple of recent experiences reminded me of my wine fault lab samples. In the first experience I was at a family reunion when several relatives asked if I'd ever had the wines of a particular Washington winery. One of their high school classmates was married to the winemaker and they were interested in my impression of the wines. I replied that I had only one opportunity to taste the wine of this producer (the price of these wines is usually beyond my budget), but that unfortunately the particular bottle I had tried was "corked," so I was unable to give them my impression of the wine.

My relatives gave me a blank stare, which I interpreted as "Aren't most wines sealed with a cork, and what does that have to do with how the wine tasted?" Cork is a natural product. Occasionally mold which grows on the surface of cork bark finds its way into the piece of cork used to seal a wine bottle. When this happens a chemical compound in the mold may seep into the wine and make the wine smell moldy. Some people refer to this smell as wet cardboard or wet dog, but I think of it more as the smell of a dank basement. I also occasionally smell this moldy smell on the surface of off-season apples (stored in cool cellars until sale) and lemonade from self-service dispensers in fast food restaurants (probably not cleaning the lines often enough). When wines take on this moldy smell we refer to them as "corked."

In previous decades it was thought that the percentage of corked wine was as high as 5% of all bottles. This level of cork taint drove winemakers to seek alternatives to natural cork, which is why we now see many bottles sealed with screw caps. There are also plastic corks and micro-agglomerated corks (cork ground to small pieces and treated to remove any possible moldy smell) which guarantee no moldy smell. These new products have forced natural cork producers to upgrade their products and processes, and estimates of the current percentage of corked wine is 1-3%.

My second experience with fault aromas involved judging the amateur wines submitted at this year's Douglas County Fair. This is the second year I've judged wines for the fair committee and I really enjoy tasting the efforts of our local amateur winemakers. Where else can you try classic European wine varieties alongside blackberry, elderberry, blueberry, and peach wines?

This year one of the fair wines exhibited classic signs of being oxidized. An oxidized wine gives up the fruity aromas we normally associate with wine and take on aromas of bruised apples, nail polish remover, and later solvent or vinegary smells. Oxidation is a chemical reaction caused by oxygen, and occurs when wine is exposed to air during processing or when stored in containers which are not completely filled. It is very common in home winemaking because small containers of wine have a limited capacity for absorbing oxygen and because home winemakers often don't have enough wine to completely fill their containers.

You can experience oxidation with a commercial wine by simply leaving a partially filled bottle open for several weeks on your counter. If it really starts smelling interesting be sure to share it with your wine-drinking friends. And for all you home winemakers, keep up the good work and keep submitting your wines to be judged at the fair. I'd love to get a whiff of them next year.