



# Portland Winemakers Club

April 2022

## “Bill’s Meanderings”

### Monthly Events

**January 19th, 2022**

To be determined

**VIRTUAL MEETING**

**February 16th, 2022**

To be determined

**VIRTUAL MEETING**

**March 16th, 2022**

To be determined

**VIRTUAL MEETING**

**April 20th, 2022**

**In person meeting at Aloha Grange**

**May 18th, 2022**

To be determined

**June 15th, 2022**

To be determined

**July 20th, 2022**

To be determined

**August 2022, Annual Picnic,**

To be determined

**August 17th, 2022**

To be determined

**September 21st, 2022**

To be determined

**October 19th, 2022**

2022 crush & harvest

**November 16th, 2022**

To be determined

**December 14th, 2022**

Elections, Planning for Next Year, More Crush Talk



**No April fools, we are actually attempting to get back to in-person meetings. We are working out the final details, but we plan on having an in-person membership meeting at the Aloha grange on April 20th at 7pm. We will discuss, at this meeting, the coming year’s schedule for further meetings and events. We will list the finer points in the newsletter.**

**Well, it’s springtime already and we will see bud break on the vines any day now. Here’s to hoping for a good year and hopefully milder temps.**

**Bill**

### Fun facts about Bordeaux

- 89% of all wine made in Bordeaux is red.
- 53 distinct wine growing areas make up Bordeaux
- The region is 297,000 acres in size (six times the size of Napa Valley!)
- Every second, 20 bottles of Bordeaux wine are sold around the world.
- Grapes have been grown here for almost 2,000 years.
- Cabernet Sauvignon originated there sometime during the 1700s
- The most planted grape variety in Bordeaux is Merlot.



## Upcoming events / Save the date

The next PWC meeting is scheduled for April 20<sup>th</sup>. Baring any negative developments regarding COVID-19, this will be an in-person meeting at the Aloha Grange starting at 7:00 pm. We are looking forward to reuniting with all our winemaker friends and once again enjoying our home- grown wines. We hope everyone has been vaccinated but not requiring it. Please stay home if you are experiencing cold or flu like symptoms. Bring your own snack foods, plates and utensils. Bring your own wine and wine glasses. If you want to share tastes, it would be best if the wine's owner pours. We will try to leave a few windows /doors open to increase ventilation so bring a jacket. Looking forward to seeing everyone again.

Aloha Grange: 3425 SW 185<sup>th</sup>, Aloha, OR 97006

PWC Website: <https://portlandwinemakersclub.com/>

## Notes from the March Meeting; 3-16-22

Present: 12 virtual

- Another wine supply vendor on Sherwood-Tualatin Road near Sherwood. I purchased DIAM corks there. Have lots of used equipment in backroom.
- Daniel Pambianchi is doing virtual lectures on basic winemaking. Go to "Home Winemaking" Facebook page for schedule.
- Working on holding our April meeting in person at Aloha Grange. More details to follow.
- Bob Hatt needs to know if you plan to use the grape purchase program for grapes this Fall. Especially for Touriga National grapes.
- Craig & Cindy Bush have offered to hold the Summer picnic at their house on July 23<sup>rd</sup>. Members present voted yes. We will wait until the April meeting to decide.
- If we continue in person meetings it was recommended to hold our Bordeaux tasting in May. Paul Natale & Barb Stinger will pour. May have to limit the number of wines to be tasted by using a sign up or lottery?

I remember worrying that covid might last three whole weeks

My husband walked into our closet to find me drinking a large coffee and eating a doughnut in the dark. He said, "Do the kids know you are in here?" To which I replied, "Welcome to the teacher's lounge."

**Q: If someone from the 1950s suddenly appeared today, what would be the most difficult thing to explain to them about life today?**

**A: I possess a device in my pocket that is capable of accessing the entirety of information known to man. I use it to look at pictures of cats and get into arguments with strangers.**



# The Role of Varietal Thiols in White Wines

Written by Gian Pietro Carrozza

The sensory characteristics of wine are the main determinants of its quality. They are directly appreciated by drinkers and are caused by the different chemical compounds that are present in wine and by their concentrations.

Olfactory perceptions are caused by volatile chemical compounds present in the air, in food, and in beverage. Humans are able to recognize from 10,000 to 100,000 different odors caused by chemical compounds belonging to many different chemical families.

Odoriferous substances are numerous in wine, and have very different chemical structures: Alcohols, hydrocarbons, thiols, ketones, aldehydes, amines, carboxylic acids, esters, and lactones. Each compound is present in wine in variable concentrations, which, in general, are very low: From mg/L (parts per million) to ng/L (parts per trillion). The simultaneous presence of so large a number of molecules makes the human perception of wine aromas a complex process.

These compounds have different origins:

- From the grapes.
- From enzymatic reactions occurring during crushing (mostly hexane, hexanol, and hexenol).
- From the activity of microorganisms during fermentations (alcoholic fermentation and possibly malolactic fermentation).
- From chemical and biological processes that occur during storage and aging.

Sensory thresholds are defined as the concentrations at which a particular odoriferous substance is perceived by the majority of people involved in the panel tests. These thresholds are highly variable, according to the chemical families.

Relating the chemical composition of wine to sensory perceptions of aromas is an extremely demanding and complex task, due to a series of interactions between the molecules.

In wine tasting, odor descriptors are frequently used; for instance, the descriptor “rose” indicates that that wine reminds of the rose odor. Some odors in wine have been successfully related to particular compounds (“impact odorants”), but in general they are conferred by mixtures of substances.

The ortho-nasal way of perception of odorants and the perception in mouth can sometimes produce different sensations from the same compound. This is due to a more efficient extraction of odorants from wine in the mouth, where temperature is higher than in the glass. So, some compounds can be perceived already in the glass, because they are highly volatile and therefore easily extracted; other substances are less volatile and can be properly perceived only in the mouth. The olfactory perception of some substances in the mouth can interact with other perceptions, such as tactile, leading to complex perceptions, not easily distinguished.

## Varietal aromas

The odor compounds originated in the grapes during berry maturation are called varietal aromas (sometimes also called primary aromas), because they differ notably depending on the variety. These compounds are extracted from the skin of the berries during must extraction or maceration.

A lot of recent scientific studies have investigated their structure, their abundance in different grape varieties, and their influence on wine aroma, because they can confer specific sensory characteristics to young wines.<sup>3</sup> Aging can ruin the delicate molecules responsible for the varietal aromas.



There is a consolidated attention to high-quality, aromatic wines and to the role of the grapes that give origin to these wines. Differences between grape varieties are relevant and depend mainly on the different composition of mixtures of odoriferous compounds; in only a few cases there is the presence of particular impact odorants.

## Thiols



Among the varietal aromas, volatile thiols (or mercaptans) are delicate but powerful aromatic compounds that are found in some grapes, mostly white, such as Sauvignon Blanc, Riesling, Chenin Blanc, Gewürztraminer, Colombard, Sémillon, Pinot Blanc, Pinot Gris, and Sylvaner. They have been also found in some local Italian grapes, such as Vermentino, Verdicchio, Grillo, Trebbiano di Lugana, and Grechetto. They are significantly present in some red varieties as well, such as Cabernet Sauvignon and Merlot.

Usually they are odorless, normally being chemically bound to other compounds, which reduces the volatility of the molecules. During the fermentation, enzymes produced by the yeast metabolism split these bonds and release the volatile compounds. Once they are separated from the precursors, the human nose can sense their aromas.

All thiols present the -SH group (sulfhydryl group), which is the main chemical characteristic of this family of sulfur-containing compounds.

An aroma deeply influenced by these compounds is showcased in

Sauvignon Blanc wines; it was studying these grapes two decades ago that research began to clarify the enological role of thiols. Research in this field is difficult, primarily because volatile molecules are recalcitrant to easy conclusions, secondly because thiols are present in wine at parts per trillion (ng/L), and therefore are difficult to detect.

A common feature of these molecules is their relative instability; they are easily oxidized during the must extraction and the initial phase of fermentation. If the winemaker wants to preserve them, cellar choices prior to fermentation are crucial for the quality of the future wine. When not destroyed by winemaking oxidation processes, these compounds are capable of developing positive aromas, such as boxy (box tree), passion fruit, grapefruit, tropical fruit, black currant, orange peel, and tomato leaf. It is interesting to note that these flavors belong to different aroma groups: Fruit, tropical, green (herbaceous or vegetable-like).

As to the descriptor “boxy,” it refers to the smell from boxwood plant leaves; boxwood plants (*Buxus*) are evergreen shrubs often planted in formal landscapes. It is interesting to note that chemical analysis of fresh boxwood leaves show significant concentrations of thiols, demonstrating that the descriptor “boxy” is precisely referred to this class of compounds. It is a rare case, because in general it is not so easy to link odor descriptors to certain chemical compounds.

Three main thiols are found in wines: 3MH (3-mercaptohexan-1-ol), 3MHA (3-mercaptohexyl acetate), and 4MMP (4-mercapto-4-methylpentan-2-one). The concentrations of thiols in grapes and wine are very low, but sufficient to give the olfactory sensation. It is surprising and somewhat disconcerting that the concentration of thiols (but of other wine odorants as well) can change their olfactory perception; for instance, at low concentrations 3MHA can deliver passion fruit, guava, and gooseberry odors, but at high concentration it imparts a sweaty aroma.

## Preserving thiols

In order to avoid oxidation and retain thiols, it is mandatory to work in a reductive (that is, minimal oxygen concentration) environment and to use anti-oxidant preservatives, such as sulfur dioxide. The winemaking in reduction for white wines reckons on avoiding oxidation during the must elaboration, fermentation, maturation and bottling.

The must extraction is a key stage for the oxidation reactions that happen in presence of oxygen; using sulfite (anti-oxidant), sometimes coupled with ascorbic acid, and paying attention to pump-overs and rakings, protects thiols. Other tips to make wine in a reductive environment include using stainless steel, closed-top vessels and using pumps that do not increase oxygen concentration in must and wine.

Enhancing thiols concentration

In addition to preserving a grape's thiols it is also possible to enhance their concentration. Here are some factors that have been shown to be effective for the purpose of enhancing thiols

in wine:

- Picking the grapes early is thought to favor the concentration of thiol precursors that begin to decrease prior to grape ripening.
- Cold maceration (prior to fermentation) is frequently adopted, increasing the extraction of thiols, which are mainly resident in the skins.
- Use yeast cultures that have been specifically selected to release varietal thiols (varietal thiols are released during fermentation by *Saccharomyces cerevisiae* yeast through its enzymatic activity). A list of some of these strains is included in the sidebar on this page.
- Bound thiols can be released through the use of exogenous enzymes during cold soaking of the must.

### Wine yeasts that enhance volatile thiols

Some strains of *Saccharomyces cerevisiae* have been assessed for their ability to enhance the production of volatile thiols. Some examples:

#### **AB BIOTEK – MAURIVIN**

**SAUVIGNON** has the ability to enhance the varietal aromas of Sauvignon Blanc and of other thiolic grapes, thanks to the high activity of the  $\beta$ -lyase enzyme, the one that converts odorless precursors into aromatic thiols.

#### **ENARTIS**

**FERM Q9** favors thiol production, the outcome being complex wines with intense citrus, grapefruit, tropical fruit, pear, and pineapple aromas.

#### **LAFFORT**

**ZYMAFLORE® VL3** is a yeast strain known for expressing thiol-type varietal aromas.

#### **LALLEMAND**

**IOC BE THIOLS™** can enhance 3-MH potential (generally associated with grapefruit and contributing to pineapple notes) without excessive plant-based notes.

**SAUVY™** has the ability to release volatile thiols, in particular 4MMP.



## Finding Balance: Fining for Color, Tannin and Oak

By Kevin Kourofsky

Our job as winemakers is to handle our fruit gently and allow it to speak, but not to shout. A wine that shouts is one that is out of balance, perhaps with alcohol that is too strong for the fruit, has too much acid, or too much oak. In a recent article in *Decanter Magazine*, the noted wine writer and educator Andrew Jefford summed up the challenges that every winemaker faces in crafting a vintage: avoiding what he described as “hardness.” He remarked that this concept had been on his mind since he tasted and judged numerous wines for the Decanter World Wine Awards.

He wrote: “Acidity is one of the three main sources of hardness in wines. Aggressive oak is another...the

*third is dry, biting tannins...A prime cause of hardness is course fruit handling or misjudged extraction during fermentation in red wines. Both oxidation and its opposite (reduction) can be sources of hardness too, as well as endangering freshness and disfiguring wine with unattractively stinky aromas..." Decanter Magazine, December 2020, page 15.*

His comments were directed at professional, commercial winemakers worldwide! Imagine how hard it is for amateur winemakers to achieve balance in our wines as we have fewer tools at our disposal. One set of tools we do have, and can use without expensive testing and equipment, are fining agents. They exist in a wide variety, and many are natural products.

I discussed how fining agents work and how to use them to clear cloudy wine in my article Finding Clarity in a Hazy World (March 2021). That article details how fining agents chemically work and how to use them to make your wine sparkle. This is where most of us stop. Clearing a wine is an important function, but why stop there? This column will explore how to correct problems of balance in your wine. Lack of balance is what creates hardness.

## **Fining for Bitterness and Astringency**

The terms bitterness and astringency are often used interchangeably, though they are not the same. They are chemically different. Much has to do with how these different tannins react to solutions, most notably in our mouths.

Bitterness is like French roast coffee or espresso. Coffee can be bitter, although there is a tolerance factor. Perhaps when we were younger, tastes like coffee were repulsive. As adults we line up at Starbucks for our doubles. There is also a tolerance of high tannin wines. Some over-extracted Shirazes can be bitter, at least to my palate. Over-oaked wines can be bitter. There is an inflection point when bitter becomes too bitter. These bitter tannins are *proanthocyanidins* or what are often called ripe tannins.

Astringency is different than bitterness. Astringent tannins are those that cause a lack of lubrication or dryness on the palate. Different than coffee bitterness, astringency is more like tea that has sat on the teabag too long, causing a tongue rubbing coating. This can happen in wine also. It can be an unpleasant quaff. These tannins are often referred to as "green tannins." These tannins come from the seeds and unripe (green) stems. These tannins are called *catechins*.

In my experience green tannins are hardness exemplified. These types of tannins never soften like ripe tannins eventually do. They will be in the wine long after the fruit is gone. Even worse, acidity will emphasize the effect, as it also does with bitterness.

To avoid green tannins, be careful not to crush your seeds, especially unripe seeds, avoid any green material (MOG) and especially green stems. To avoid bitterness, be careful not to over extract tannin from the ripe skins, (especially thick-skinned grapes), add too much oenological tannin (for color retention) or add too much oak. But what if you have failed to do this? Perhaps fining might be the answer to your problem.

Whether your wine is red or white, it's best to first determine if your problem is with bitterness or astringency. In a white wine either problem will detract from the overall effect and pleasure of drinking the wine. In a red wine a certain amount of ripe tannin is desirable and necessary to support the fruit as the wine ages. What would a Bordeaux be without the supporting role of ripe tannin?

Cold temperatures increase the effect of bitterness. White wine, usually served cold, can suffer from this problem. In white wine you can correct for tannin issues while clarifying the wine as many of the fining agents have dual affect. For instance, gelatin is used for clarification, but it will also reduce tannin. Consider using Bentonite with gelatin, in succession. Sparkolloid is another option. These agents may also reduce aroma, so be careful.

For a red wine, you may want to accept a fair amount of ripe tannins. These tannins may reflect the character of a varietal. Aging red wine is also a way to reduce tannin, as tannin will form chains and fall out of solution. In the meantime, the wine can age with the protection tannin gives against oxidation. Strong wines, even those that are meant to age a long time, are often fined. Classified Bordeaux can gracefully age for decades. Even so, traditionally in Bordeaux, egg whites are used to lightly clarify and reduce tannin.

I have never trusted myself with egg whites. Gelatin and Bentonite are too harsh on color to use on a red wine. My choice would be casein. It's derived from milk, and I have used it to gently soften a red wine I intended for near term drinking. I decided to divide a vintage of California North Coast Pinot Noir into three batches. These sea-cooled grapes made an intense wine. One third I left big and moderately oaked for long term aging. The second was left with the bigger tannins, but I very lightly oaked for medium aging of two to three years. The third, I didn't oak at all and lightly fined for tannin. This I intend for near term drinking, after a year or so. I was very pleased with the result, as the fruit was able to come forward and the flavors were clarified.

If the problem is astringency, then PVPP is a good candidate to soften those unpleasant tannins. Its full name is polyvinylpolypyrrolidone. You can see why it is often sold as Polyclar or PVPP. It is an artificial agent, but it is gentle on the color and aroma. Thus, it can be used on red wines also.

## Fining For Color

The color of a wine can tell you something about the tannin content of the wine. Big colored wines usually have a larger amount of tannin. A Pinot Noir is usually lighter in color than a Cabernet Sauvignon and also lighter in tannin. An aged red wine may start to have a lighter color as the tannins soften and fall to the bottom of the bottle. A rose that is darker may be less desirable to some drinkers than a lighter salmon colored rosé, both because of the look of the wine but also the intensity of the flavor. Many times, these wines are fined for color as well as the tannin content.

Some wines that have not been properly stored or stabilized with sulfite may prematurely brown, due to oxygen exposure. Fining may help in both cases. If browning of a white wine is the problem, then PVPP may correct some oversight in wine storage. Sulfite will still be necessary.

I have fined a wine for color and tannin. I intended that same North Coast Pinot I discussed above to provide a base wine for sparkling wine. Although I pressed these grapes immediately and as lightly as I could, the pressed juice was as dark as many a cold soaked and fermented on the skins Pinot red wine. I felt that this was unappealing in color and too tannic in taste, in my opinion, for a delicate sparkling rosé. I chose gelatin to lighten the final wine. Gelatin's ability to reduce the color and tannin brought the final wine into balance. It will be a dark rosé, but I hope successful as a sparkling wine.

## Fining For Oak

I had never thought of fining to correct the problem of adding too much oak to a wine. Over addition of oak is a real problem in winemaking, whether commercially or for amateurs. There are many reasons for this. One is that there are many oak additive products that transmit the oak flavor at different rates. Chips work much faster than blocks, for instance. There are also many grades of toasting, from no-toast to heavy toast. There seems to be no standardization of what amount of toast is light versus medium versus heavy.

Inattention is also a cause. It was for this reason I managed to over-oak a Dolcetto I made from California grapes. Dolcetto is a light bodied grape originally from the Piedmont region of Italy. I probably should not have used any oak as it makes a lighter style of wine. I thought I could boost the color and give it a little heft with some small amount of oak. Unfortunately, I had mistakenly purchased medium+ toast rather than my usual medium toast. I compounded the mistake by not doing daily checks on the progress of the oak addition. Drinking the wine was like licking an oak plank. Yuck!

In my research for this article, I came across a reference to casein as a fining agent for oak. Essentially, oak adds tannin. I did a bench test on some of this wine. I found that the casein was gentle on the color and aroma, and it did noticeably reduce the oak taste on the palate and in the aroma. I believe for minor problems with oak, casein is a possible solution. However, I had so mangled this wine that I felt the addition of sufficient casein to succeed in making a pleasant wine would alter the character of the wine too much. I decided to use the traditional cure for over-oaked wine: blend it with another wine.

Mr. Jefford's problem of hardness is really a problem of finding balance in a wine. Every vintage, every individual wine will be different with different problems. In some years, the tannins will be hard and unpleasant. Mistakes in extracting color and flavor from the skins can occur. Oak additions can become excessive. Although we should allow a wine to speak, it should not shout. Fining agents can help civilize those uncouth wines.



# References

Here is a list of hobby winemaking manuals and other materials in the Secretary's file. They are available for downloading by e-mail or via an internet transfer service. All are PDF format, E-mail Ken Stinger at [kbstinger@frontier.com](mailto:kbstinger@frontier.com)

- Scott Labs 2021 Winemaking Handbook - 21 mb - 119 pages
- Scott Labs 2018 Cider Handbook - 24 mb - 49 pages
- Scott Labs 2018-2019 Sparkling Handbook - 8 mb - 58 pages
- Anchor 2021 – 2022 Enology Harvest Guide 15.7 MB - 16 pages
- A guide to Fining Wine, WA State University - 314 kb - 10 pages
- Barrel Care Procedures - 100 kb - 2 pages
- Enartis Handbook - 4.8 mb - 108 pages
- A Review Of Méthode Champenoise Production - 570 kb – 69 pages
- Sacramento Winemakers Winemaking Manual - 300 kb - 34 pages
- Sparkling Wine brief instructions - 20 kb - 3 pages
- The Home Winemakers Manual - Lum Eisenman - 14 mb - 178 pages
- MoreWine Guide to red winemaking - 1 mb - 74 pages
- MoreWine Guide to white Winemaking - 985 kb - 92 pages
- MoreWine Yeast and grape pairing - 258 kb - 9 pages
- Wine Flavors, Faults & Taints – 600 kb, 11 pages
- Daniel Pambianchi wine calculator set – 10 calculators, 13.5 mb



**The late Jimi Brooks took his punch downs very seriously. He literally got into his wine.**

**I don't think I've ever heard the concept explained any better than this .**



**'Well you see, Norm, it's like this . . . A herd of buffalo can only move as fast as the slowest buffalo. And when the heard is hunted, it is the slowest and weakest ones at the back that are killed first. This natural selection is good for the herd as a whole, because the general speed and health of the whole group keeps improving by the regular killing of the weakest members. In much the same way, the human brain can only operate as fast as the slowest brain cells. Now, as we know, excessive intake of alcohol kills brain cells. But naturally, it attacks the slowest and weakest brain cells first. In this way, regular consumption of beer eliminates the weaker brain cells, making the brain a faster and more efficient machine. And that, Norm, is why you always feel smarter after a few beers.'**



# Portland Winemakers Club

## Leadership Team – 2022

President: **Bill Brown** [bbgoldieguy@gmail.com](mailto:bbgoldieguy@gmail.com)

- Establish the leadership team
- Assure that objectives for the year are met
- Set up agenda and run the meetings

Treasurer: **Barb Thomson / Jim Ourada** [bt.grapevine@frontier.com](mailto:bt.grapevine@frontier.com)  
[jmourada57@gmail.com](mailto:jmourada57@gmail.com)

- Collect dues and fees, update membership list with secretary.
- Pay bills

Secretary: **Ken Stinger** [kbstinger@frontier.com](mailto:kbstinger@frontier.com)

- Communicate regularly about club activities and issues
- Monthly newsletter
- Keep updated list of members, name tags and other data

Chair of Education / Speakers: (need a volunteer)

- Arrange for speakers & educational content for our meetings

Chair for Tastings: **Brian Bowles / Barb Stinger** [bowles97229@gmail.com](mailto:bowles97229@gmail.com)  
[kbstinger@frontier.com](mailto:kbstinger@frontier.com)

- Conduct club tastings
- Review and improve club tasting procedures

Chair of Winery / Vineyard Tours: **Andy Mocny.** [acmocny@gmail.com](mailto:acmocny@gmail.com)

- Select wineries, vineyards etc. to visit
- Arrange tours
- Cover logistics (food and money)

Chair of Group Purchases: **Bob Hatt / Al Glasby.** [bobhatt2000@yahoo.com](mailto:bobhatt2000@yahoo.com)  
[alglasby@gmail.com](mailto:alglasby@gmail.com)

- Grape purchases, Makes the arrangements to purchase, collect, and distribute
- Supplies – These should be passed to the President or Secretary for distribution.

Chair of Competitions: **Michael Harvey** [mharvey767@gmail.com](mailto:mharvey767@gmail.com)

- Encourage club participation in all amateur competitions available. Make information known through Newsletter, e-mail and Facebook.

Chairs for Social Events : **Marilyn Brown & Mindy Bush** [brown.marilynjean@gmail.com](mailto:brown.marilynjean@gmail.com)  
[mindybush@hotmail.com](mailto:mindybush@hotmail.com)

\* Gala / Picnic / parties

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