Portland Winemakers Club

Monthly Events

January 2021
Annual Gala CANCELLED

January 20th, 2021
Speaker, Mike Smolak,
ZOOM VIRTUAL MEETING

February 17th, 2021
Speaker, Syncline, James Mantone, Rhone varietals
ZOOM VIRTUAL MEETING

March 17th
Speaker: Tyson Crowley from Crowley Winery, Pinot & Chardonnay
ZOOM VIRTUAL MEETING

April 21st, 2021
Speaker: Bobby Rowett winemaker for Mellen Meyer Sparkling Winery
ZOOM VIRTUAL MEETING

May 19th, 2021
To be determined
ZOOM VIRTUAL MEETING

June 16th, 2021
To be determined
ZOOM VIRTUAL MEETING

July, Annual Picnic
~~CANCELLED?~~

July 21st, 2021
To be determined

August 18th, 2021
To be determined

September 15th, 2021
To be determined

October 20th, 2021
To be determined

November 17th, 2021
Crush Talk

December 15th, 2021
Elections, Planning for Next Year, More Crush Talk

Portland Winemakers Club

July 2021

"Bill's Meanderings"

Announcements!

After about 18 months of Zoom meetings the club will have their first in person meeting this month on July 24. Yes, that is a Saturday, and it will be held at a member's residence and vineyard, Paul Natale. The plan is to have it in the afternoon, 2:00 pm to 4:00 pm, and our reasoning for changing location and time is to give everyone a chance to be there and be able to drive home from Newberg at a reasonable time. It will be an outdoors meeting to enable us to still social distance and have the open air. This is not our club picnic, (more on that in a minute) it is a one- time weekend outdoor club meeting that will also be our first post covid blind tasting. We will be tasting other whites so remember to bring two (2) wine glasses and your white wine. It is our hope to be back at the Grange for our September meeting. We will be sending out a club wide email later this week with finer details covering our July 24th meeting at Paul Natale's residence and vineyard.

The second announcement is we have a tentative date for our picnic. Craig and Mindy Bush have again graciously offered their residence to the club on Aug 21st. This IS the picnic. Marilyn and Mindy will be working on the details so there will be more information coming.

One of the details that I feel is important is we ask that if you plan to attend one or both of these events that you be fully vaccinated. Social distancing can be achieved but mask wearing is not easily done when eating or drinking. Also consider that these events are being hosted at members private residence and we need to be respectful of their wishes.

As the picture shows farming is not easy in these crazy times. This is sulfur burn and even though the spray was done at 78° at 8:00 AM the heat of the day burned the berries with the residual spray. Good thing it's a heavy crop because I will probably be dropping about 20 to 30%. -- Bill

Drink Responsibly. Drive Responsibly.

Upcoming events / Save the date

Club Meeting: The next meeting is scheduled for July 21st. "Zoom" sign in will be at 6:45 pm. This will be available on any device that can connect to the internet and has a camera and speaker capability such as a computer, iPad or smart phone etc. Jon Kahrs will again be the moderator. We will provide further sign in information and other details by e-mail prior to the meeting. **Agenda: To be determined**

Website: http://portlandwinemakersclub.com/

Comments from the June Meeting

Attendance: 18

- **Almost all of this meeting was devoted to discussion of when, where and how we will hold our first contact meeting, possibly in July, August or September depending on how favorable conditions are.**
- **Bill Brown will check in with our club insurance agent for our policy renewal.**
- **We will all need to sign new waivers at our first contact meeting.**
- **If we decide to have a contact meeting in July it might be be held at Paul & Jolaine Natal's vineyard and would move from July 20th to Saturday, July 24th. It would be outdoors, and may may be an all whites tasting.**
- **Discussions are still under way for a picnic as well at the Craig & Mindy Bush residence, date not decided.**

For Centuries Wine Was Flavored With What Toxic Compound?

Answer: **Lead Salts**

To a modern reader, the idea of sweetening wine let alone anything else with lead salts seems like an absurdly unsafe thing to do (and to be certain, it is). To a Roman who wanted sweeter wine and had no concept of the dangers of lead poisoning, however, it was a cheap and easy way to sweeten things in an area of the world where natural and safe sweeteners were few and far between.

In ancient Rome, wine makers would boil *must*, the juice of freshly pressed grapes in lead pots. The acidity of the juice would leach lead out of the pots and create lead acetate salt in the liquid. Lead acetate salt, unlike most compounds, toxic to humans, has a sweet flavor instead of a bitter one. They would reduce the liquid into a syrup called *defrutum*, which would then be reduced again into a very sweet and very concentrated syrup called *sapa*. The sapa would then be added to wine to sweeten it, lacing it with lead in the process.

For centuries afterwards, lead was used as a sweetener in wine and other foods. Even after the dangers of lead were recognized, it was difficult to detect lead salt in foodstuffs, so the practice continued. The advent of modern chemistry and the ease in which lead can now be detected in trace amounts, however, led to a rapid decline in the use of lead salts.

Using Fining Agents

Written by Daniel Pambianchi

Sediments in the bottle! There is nothing more frustrating to home winemakers than a wine that will not clear or that continues to throw sediments in the bottle.

Making crystal-clear wine is an important objective in any type of winemaking. Anything less is considered a serious wine fault — a telltale sign of poor winemaking control — and will probably be shunned by serious wine drinkers.

A seemingly clear wine can also throw sediments in the bottle. This is usually not considered a wine fault in older wines that have been aged for many years and that have not been clarified except for periodical rackings. However, sediments in early-drinking, young wines are a sign of insufficient clarification and rushed winemaking.

Grape juice and wine contain many naturally occurring particles as well as compounds acquired during winemaking, such as tannins during oak barrel aging, which will affect clarity and may result in sediments in the bottle. Proteins, pectins, phenols (such as color pigments, tannins) and salts are examples of such particles that need to be controlled through racking, use of natural additives (fining agents), and careful filtration.

Note: Clear (tartrate) crystal deposits at the bottom of a bottle or on the inside end of the cork are a result of the wine being subjected to cold temperatures. Tartrate crystals are a different beast altogether and should not be confused with other sorts of sediment. Tartaric acid, the most prominent wine acid, will cause some precipitation under cold temperatures; it is not a problem related to clarification. Cold stabilizing the wine prior to bottling prevents tartrate deposits.

Fining agents and related products	Recommended rate of addition[1]	Quantity for 5-gal (20-L) batch		Type of wine
		No. of tsp	Weight (grams)	
Bentonite	25 – 100 g/hL	1-1/2 – 6	5 – 20	White/Red
Casein	50 – 100 g/hL	3-1/3 – 6-2/3	10 – 20	White
Egg white	5 – 10 g/hL	1/4 – 1/2	1 – 2	Red
Gelatin	10 – 25 g/hL	1/2 – 1-1/2	2 – 5	White[2]/Red
Isinglass	1 – 3 g/hL	1-1/2 – 4-1/4	0.2 – 0.6	White
Kieselsol	25 – 50 mL/hL	1 – 2	N/A[3]	White/Red
Pectic enzymes	1 – 2 g/hL (whites)	1/16[4] – 1/8	0.2 – 0.4	
	2 – 4 g/hL (reds)	1/8 – 1/4	0.4 – 0.8	White/Red
PVPP	25 – 75 g/hL	4 – 11-1/2	5 – 15	White/Red
Sparkolloid	10 – 40 g/hL	1-1/2 – 6	2 – 8	White/Red
Tannin	10 – 30 g/hL	3/4 – 2	2 – 6	White/Red

1. To convert to US measures, use 1 g = 0.035 oz, and 1 L = 0.26 gal.
2. Requires the addition of tannin for proper fining. Refer to section "Tannin."
3. N/A = Not Applicable.
4. Due to the small quantity required, tsp is not sufficiently accurate. If you can find a spoon measuring 1/8 of a teaspoon, 1/16 tsp or 0.2 g is approximately half of the 1/8 teaspoon.

Many traditional commercial winemakers, many of whom produce some of the best wines in the world, avoid the use of additives or filtration to clarify wine for fear that it might be perceived as unnatural winemaking. These winemakers prefer to rely instead on periodical rackings — for example, they might rack every 3 months over a period of 18–24 months.

Home winemakers wanting to produce early-drinking wines without the hassle of multiple rackings or having to age wine should always clarify wine using fining agents and/or filtration. In this article, we will examine fining agents available to home winemakers, and explain how to maximize their effectiveness in clarifying wines.

Selecting and using fining agents

Early-drinking wines from fresh juice or grapes should always be clarified prior to bottling. The high-protein content in these wines can cause clarity instability, resulting in a cloudy wine or sediments in the bottle. Wines from concentrate or other processed juice (such as semi-concentrate or sterilized juice) are designed for quick production and bottling and therefore should also be clarified.

When selecting a fining agent, the main factors to consider are the type of wine you are making (white or red), the tannin concentration of the wine, and desired results relative to color.

Fining agents have varying levels of effectiveness in white versus red wines because of different particles present, namely concentration of phenolic compounds. Tannin concentration is the most significant difference in the context of clarification and may cause improper clarification with some fining agents, resulting in a cloudy wine or bottle sedimentation. Grapes and the process used in red winemaking impart a higher concentration of phenolic compounds. As a result, red wines have a significantly higher tannin content compared to white wines. Wines aged in oak barrels will also have higher tannin content because oak is rich in tannin.

The primary objective of clarification using fining agents is to produce a clear wine, free of suspended particles that could otherwise affect clarity. Color should be altered only minimally, except in the case where color must be corrected from such problems as browning due to oxidation. Great care must be taken with some fining agents to avoid over-fining, which would strip color compounds from the wine.

The table above lists common, commercially available fining agents for clarifying white and red wines, along with the recommended rate of addition and the type of wine where it is most effective, and other products used to improve the effectiveness of fining agents. Always start with the lowest rate of addition in the recommended ranges, and increase the rate, as required, if the wine requires further clarification.

Fining agents in solid form should always be dissolved in water first, unless specified otherwise, according to instructions before adding to wine. Fining agents lose their effectiveness if dissolved or introduced directly into the wine.

Bentonite

Bentonite is a natural absorptive clay that binds to, and precipitates oppositely charged suspended particles. It is used in clarifying both red and white wines, although it is highly recommended for white wine applications because it inhibits haze caused by naturally occurring proteins in juice. Bentonite's clarifying effectiveness makes it a popular choice as a fining agent among winemakers, although the heavy deposit translates into more wine loss. One of its advantages over other fining agents is that it minimizes color reduction and therefore provides a safeguard against over-fining.

Bentonite is added at a rate of 25–100 g/hL of wine. First, prepare a bentonite solution by adding the required amount of powder to a volume of warm water approximately 15 times the weight of the powder, e.g., 20 g in 300 mL. Shake the solution vigorously for a few minutes, and then let stand for 24 hours while shaking or stirring occasionally. Add to the wine while stirring continuously and store the wine at a temperature between 59° and 77° F (15° and 25° C) for approximately one week before racking.

Bentonite is most effective when added at the end of fermentation, although it can be added prior to start of fermentation to help the clarification process. Double the rate of addition without exceeding the recommended maximum when adding bentonite before start of fermentation.

Casein

Casein, a phosphoprotein of milk that flocculates to absorb and precipitate suspended particles, is primarily recommended for clarifying white wines, especially for reducing tannin content in over-oaked white wines, and for reducing browning resulting from oxidation. Drawbacks include color stripping if excessive casein is used and requires a second fining with bentonite to avoid clogging of filter pads if the wine is to be filtered.

Casein powder is added at a rate of 50–100 g/hL of wine. Dissolve the powder in a small volume of water — use 100 mL of water for each gram of casein powder — and then quickly add the solution to the wine while stirring vigorously. To avoid over-fining, use the lowest rate of addition and increase if the wine was aged in oak barrels. Rack the wine

after a couple of days or within one week. For white wines affected by browning due to oxidation, increase the rate of addition to the maximum depending on the severity of the oxidation problem.

Egg white

Egg white is a very effective fining agent, long used for clarifying red wines and still widely used in modern winemaking. The rich albumen content in egg white makes it ideal for softening a wine's astringency by binding and reducing the tannin content and is therefore most appropriate for highly tannic wines or oak-aged wines. Although there is a small risk of over-fining, color loss in the wine is minimal when fining and racking are properly controlled.

Egg whites are added at a rate of 5–10 g/hL of wine, or the white of 1 to 2 eggs per 100 L; be sure to first separate the egg white from the yolk. Alternatively, pure, refrigerated egg white can be used. Typically, approximately 30 mL (6 tsp) of pure egg white is the equivalent of 1 large egg white. Next, prepare a saline solution by dissolving a pinch of salt in 10 mL of water for each egg used, and stir gently into the egg white. Salt is added to prevent the solution from getting cloudy. Add the saline egg-white solution directly into the wine and stir vigorously. Rack the wine within 1–2 weeks, no later.

Gelatin

Gelatin, derived from animal tissues, is a good fining agent for red wines because of its affinity for binding with phenols in precipitating suspended particles and for reducing tannin content. For this reason, it is usually not recommended for fining white wines, as it will reduce the the amount of tannins — and in fact, it may not fine adequately if the tannin content is too low. To avoid over-fining in white wines, tannin powder can be added before gelatin fining.

Gelatin crystals are added at a rate of 10–25 g/hL of wine. Use the maximum rate for highly tannic wines or wines having a higher-than-normal concentration of suspended particles or pectin. Prepare a gelatin solution by soaking unflavored gelatin crystals in approximately 25 times its weight of warm water. For example, if 10 g/hL of gelatin is desired in 20 L of wine, then dissolve 2 g of gelatin in 50 mL of warm water. Stir the gelatin thoroughly until dissolved completely. Some gelatin manufacturers may recommend soaking the gelatin in cold water and then heating it until it just starts boiling. Always follow the manufacturer's instructions for the gelatin product you purchase.

Mix the warm gelatin solution with a little wine — about twice the amount of water used — and then add it to the rest of the wine while stirring. Rack the wine within 2–3 weeks.

Isinglass

Isinglass, a very pure gelatin prepared from the air bladders of sturgeons, is a popular fining agent among home winemakers because it strips color to a lesser extent than other protein-based fining agents, such as gelatin or casein. It is most effective in clarifying white wines, particularly oak-aged whites. A drawback is that it throws a heavier deposit that tends to cling to the carboy glass wall, making racking a little tricky. A second fining with bentonite alleviates this problem and avoids clogging of filter pads if the wine is to be filtered.

Isinglass powder is added at a rate of 1–3 g/hL of wine by first dissolving it in water at a temperature between 61° and 64° F (16° and 18° C) and stirring the solution thoroughly. Let the solution stand for 15 minutes, stir once again for 2 minutes, and then add it to the wine while stirring vigorously. Rack the wine within 1–2 weeks.

Isinglass is also sold as a solution for convenient mixing into wine. You can find this solution at many winemaking shops. Follow the manufacturer's recommended rate of addition.

Kieselsol

Kieselsol, a silicate suspension that electrostatically binds to and precipitates proteins, is an excellent fining agent for both white and red wines and is specifically effective in wines with low tannin content. Kieselsol is therefore recommended for wines produced from concentrate, sterilized or fresh juice, or wines that have not been oak-aged in barrels. Use Kieselsol in conjunction with gelatin to increase its effectiveness.

Kieselsol is added at a rate of 25–50 mL/hL of wine. Add the Kieselsol suspension directly into the wine and stir gently. After 24 hours, add gelatin at the recommended rate and rack the wine within 1–2 weeks.

Pectic enzymes

Pectic enzymes are not classified as fining agents, but they greatly improve fining and filtering operations of

high-pectin wines by breaking down pectins, which occur naturally in wines but are often the cause of cloudiness. Pectic enzymes are especially beneficial for press-run wines (from grapes), as well as fruit and country wines, because these tend to have much higher pectin content.

Pectic enzyme powder is added at a rate of 1–2 g/hL for white wine and 2–4 g/hL for red wine by first dissolving the powder in cool water. It is recommended to add pectic enzymes following the crushing operation (for wines produced from grapes), as a preventive additive, although they can be added during the fining operation. The juice or wine should be at a minimum temperature of 80° F (27° C) for pectic enzymes to be effective.

If cloudiness persists after fining, this indicates that the wine may contain excessive pectin. To test for the presence of pectin, add 50 mL of wine to 200 mL of methanol. If heavy, whitish sediments form, the wine contains excessive pectin and should be treated again with pectic enzymes.

Filtering is recommended for wine treated with pectic enzymes to further clarify the wine.

PVPP

PVPP, short for polyvinylpolypyrolidone, is a synthetic polymer that is effective in absorbing and precipitating polyphenols, responsible for browning in wines as well as excessive bitterness in red wines. PVPP is typically used as a preventive fining agent to avoid such problems.

PVPP powder is added directly to wine at a rate of 25–75 g/hL of wine. Settling occurs very fast, as fast as 1–2 hours, depending on the type of PVPP used. Rack the wine immediately after settling and filter the wine.

Note: There are different PVPP formulations requiring different rates of addition and shorter or longer settling periods. The above instructions are provided as guidelines; be sure to follow the manufacturer's instructions for the PVPP product you purchase.

Sparkolloid

Sparkolloid, a proprietary fining agent derived from alginic acid salt found in brown algae, is very effective in settling finely suspended particles and is therefore recommended for red wines, although it is suitable for white wines also. A benefit of Sparkolloid's effectiveness is increased filter throughput, if the wine is to be filtered, due to the greater extent of lees compactness.

Sparkolloid powder is added at a rate of 10–40 g/hL of wine. First prepare a Sparkolloid solution by boiling water in a saucepan. Add the Sparkolloid powder to the boiling water and stir thoroughly. Let the solution boil for 20 minutes while stirring continuously to dissolve all the powder. Add the hot Sparkolloid solution to the wine while stirring continuously.

Although many winemakers recommend letting the wine settle for only a week or two before racking, experience has shown that settling can occur well after bottling. I recommend letting the wine clarify for approximately 3–6 months before racking, particularly when using a rate of addition at the upper end of the range.

Tannin

Tannin is a key oenological ingredient contributing to a wine's structure and taste, and a key component of age-worthy wines. Tannins are extracted mainly from grape skins during the maceration process in red winemaking, or from oak wood during barrel aging of whites and reds. The lesser-known application of tannin is in the fining operation. Although tannin is not classified as a fining agent, clarification is often dependent on the presence of tannins, and requires to be added (in the form of oak bark powder, for example) for fining agents such as gelatin to be effective.

For fining low-tannin wines with gelatin, tannin powder is added at a rate of 10–30 g/hL of wine. Prepare a tannin solution by dissolving the powder in warm wine and then add it directly to the wine batch, 3–5 days before adding the fining agent. Stir the solution in thoroughly.

Conduct bench tests

It is always recommended to perform bench tests if you are not familiar with fining agents. Fining can be quite a complex science for the uninitiated. Fining agent effectiveness depends on the rate of addition, pH and composition of the wine (e.g., acids, proteins, phenols), temperature, and other factors that can influence results. In addition, fining agents have varying levels of effect on color, aromas and flavors. So always perform bench tests and learn from your tests and experience.

The ABC's of MLF

Written by Dave Green

Recently we posted a link on our Facebook page about tips for malolactic fermentations (MLF). A reply came back from a gentleman saying that he's been making wine now for 15 years and has never heard of MLF. At that moment I knew what I needed to cover for this issue's segment.

Also commonly known as secondary fermentation, MLF is performed by a class of bacteria that can take grape's second most abundant acid, malic acid, and convert it to lactic acid. These bacteria can be found on grape skins and in used barrels where MLF has occurred previously, but oftentimes winemakers will add a fresh batch of *Oenococcus* bacteria culture for this purpose. These bacteria are commonly referred to as lactic acid bacteria or simply LAB and will be added either near the height of active fermentation or after fermentation has died down. We will come back to that point regarding the timing of the addition; but the bacteria consumes the stronger, more biting malic acid and leaves behind the smoother, less acidic lactic acid. Should all wines go through MLF? Definitely not, it is simply a tool that winemakers may or may not utilize in a given batch of wine.

When Is It Appropriate?

So, we'll start with when you may choose to inoculate your wine with a LAB culture. First off, sending your wine through malolactic fermentation provides one huge benefit for longer-term storage — microbial stability. The existence of malic acid in your wine means that there is something for bacteria to consume if left alone. So, if you've already bottled your wine and a population of LAB begins to ferment, then you have a problem on hand in the form of carbonated wines and the potential for popped corks. For this reason alone, almost all red wines will go through secondary fermentation. But also, red wines commonly will benefit from rounding out the tasting profile by the conversion of the malic acid. If winemakers find their grapes to be low in total acidity or too high in pH, then it is recommended that the winemaker use the non-fermentable tartaric acid to boost acidity (for more on this topic see https://winemakermag.com/technique/1650-monitoring-adjusting-ph).

Winemakers may also choose to send several white and rosé wines through MLF, but it is far less common. Burgundian-styled Chardonnays would be the most common white wine to see intentional MLF. The malolactic process can provide the buttery (diacetyl) character commonly enjoyed by lovers of these style wines. Champagne and other forms of sparkling wines found on lees are another class of white wines that often undergo MLF, allowing them a longer-term storage.

When Is It Not Appropriate?

Many white and rosé wines can benefit from the sharper, crisper quality that the malic acid provides . . . think a nice fresh, biting apple picked off the tree. There are many reasons that microbial stability is less of an issue with these wines. First off, they are more typically consumed relatively young. Second, and very importantly, they should have lower pH when compared to red wines. The lower pH and lower fermentation temperatures of white wines, when combined with appropriate sulfite regimen, should provide sufficient protection against LAB from gaining a foothold in the wine during aging. Many winemakers will filter these non-MLF wines for an added layer of protection.

If you plan to backsweeten a wine and have added LAB or potentially have these bacteria in the wine, then you will want to make sure that all malolactic activity is complete (see the Testing For MLF section later) well before the back sweetening process begins. This is because one step in the back sweetening should be the addition of potassium sorbate, a compound that active LAB can convert into a compound called geraniol . . . something you do not want in your wine at perceptible levels. Therefore, MLF and back sweetening are not recommended for the same wine during the same time frame.

Timing Of MLB Inoculation

When you add your malolactic culture can play a crucial role in the profile of the finished wine. This is because of the butter-like diacetyl compounds that LAB can produce. Yeast in primary fermentation can metabolize diacetyl, rendering the wine more neutral in character. So, if you're looking to reduce diacetyl, then add your culture at or just after the height of fermentation. For a more buttery diacetyl-laden wine, add after fermentation is over and your yeast has settled.

Testing For MLF

Testing for MLF can be done at home using paper chromatography. You can purchase a kit from most larger winemaking supply stores. For stability of the wine once it's in bottle or if back sweetening, it's important to know that the process is complete. Your typical MLF takes about 4 weeks at 68 °F (20 °C), so if your test reveals there is still malic acid after about 6 weeks, then it is probably time to start troubleshooting what may have gone wrong and see if there are ways to fix it.

Troubleshooting

There are a few elements that are critical to a successful MLF: Temperature, pH, molecular sulfite, alcohol, and nutrients. It is not uncommon for winemakers to struggle with their bacteria's ability to either start or complete an MLF because one of these factors was not addressed. In summary . . . keep temperature above 64 °F (17 °C), make sure pH of the wine is at or above 3.2, hold off on post-fermentation sulfite additions until MLF is complete, hold alcohol below 15% (24.5–25 °Brix must prior to fermentation), and add some MLF micronutrients. Finally, make sure you are using a fresh batch of bacteria culture (before it's expire date). LAB does not last long in storage.

Using Tartaric Acid

Trouble Shooting - by Alison Crowe

Q

My wine's pH is around 4.0 and it is currently undergoing a very strong malolactic fermentation (MLF). I know this will reduce the titratable acidity (TA) to some degree (already at around 6.5 g/L), which could result in a further elevated pH. My question is: Can I safely reduce pH after MLF is complete by adding tartaric acid? Could this help with aging and color stability? Also, do you recommend the use of any sorbate product post-MLF? I have heard that if the MLF is not fully complete, the sorbate can interact and cause odors.

A

I absolutely recommend that you bring your TA up and your pH down after MLF is complete. This is best accomplished by tartaric acid, because wine bacteria will not consume tartaric acid; what you put in your wine will stay in your wine. This will certainly help with aging and color stability because both of these things are compromised by wines that have too high of a pH.

I am a big advocate of bench trials before you do a major adjustment to your wine like this. This will help you get the kind of numbers you need (probably at least a 1 g/L addition) without compromising the flavor. Or at least you will reach a "flavor compromise." My ideal red wine pH post-MLF is around 3.50-3.75 depending on wine style goals and if you add too much acid your wine will taste tart with pronounced tannins.

Regarding potassium sorbate as a wine adjunct, I have to tell you I am not really a fan of it and rarely use it in my winemaking products. In fact, I only ever contemplated using it commercially once in a high-sugar, low-alcohol wine where I was worried about a yeast re-fermentation and wanted an extra level of security. However, I was able to achieve 0.45 micron, sterile filtration and had enough confidence to go to bottle without adding sorbate.

Potassium sorbate can indeed have an off-flavor and off-aroma. You should also be aware that it is only effective against yeast and not bacteria so, it is of no use in retarding malolactic bacteria if you had residual malic acid remaining. Even if you have residual sugar in a fermentation, I am still a fan of sterile filtration instead of using potassium sorbate. I like to keep my wine as flaw-free and as intervention-free as possible and even small levels of potassium sorbate might throw something off balance. At the very least, tartaric acid is a naturally occurring grape acid, so if you adjust your pH with it, you are simply adding a little more of something that was already there to begin with.

I once dated a girl with a twin and people always asked me how I could tell them apart... It was simple, Alison painted her nails red and Bob had a beard...

References

Here is a list of hobby winemaking manuals and other materials in the Secretary's digital 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

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

Portland Winemakers Club
Leadership Team – 2021

President: **Bill Brown** bbgoldieguy@gmail.com
- Establish leadership team
- Assure that objectives for the year are met
- Set up agenda and run meetings

Treasurer: **Barb Thomson / Jim Ourada** bt.grapevine@frontier.com
jmourada57@gmail.com
- Collect dues and fees, update membership list with secretary.
- Pay bills

Secretary: **Ken Stinger** 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: **Rufus Knapp** Rufus.Knapp@fei.com
- Arrange for speakers & educational content for our meetings

Chair for Tastings: **Paul Sowray / Barb Stinger** davids1898@aol.com
kbstinger@frontier.com
- Conduct club tastings
- Review and improve club tasting procedures

Chair of Winery / Vineyard Tours: **Damon Lopez.** dlopez5011@yahoo.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
alglasby@gmail.com
- Makes the arrangements to purchase, collect, and distribute
- Grape purchases
- Supplies – These should be passed to the President for distribution.

Chair of Competitions: **Paul Boyechko / Michael Harvey** labmanpaul@hotmail.com
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
* Gala / Picnic / parties mindybush@hotmail.com

Web Design Editor: **Alice Bonham** alice@alicedesigns.org

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