



Portland Winemakers Club

January 2017

Monthly Rant

Scheduled Meetings

January 14, 2017

Annual Gala – Archer Winery; 4-9 PM

January 18, 2017

Crush Talk / Planning

February 15, 2017

Bordeaux Tasting

March 15, 2017

Speaker:

April 19, 2017

Barrel / Carboy Sample Tasting

April, 2017

Tour:

May 17, 2017

Faults & Flaws

June, 21, 2017

Speaker:

June 26, 2017

PWC Women's Division tasting

July 2017

Annual Picnic (no meeting)

August 16, 2017

All Whites Tasting

September 20, 2017

Other Reds Tasting

October 18, 2017

Pinot Noir Tasting

November 2017

No Meeting

December 6, 2017

Planning, Tours, Speakers, Events, Elections



As home winemakers, we make our wine at home. Of course! But sometimes we want to reach out beyond that to a larger sphere, and inevitably that leads us to wine competitions. The reasons for going there are personal for each winemaker, and the competitions we have available to us locally in the Pac NW are fun and generally fair. There may be 100 other wines in the field, more or less, but we can often win a medal for a decently made wine or better yet, a great one! But lets just be glad we aren't running around out there with the big boys. Case in point: the San Francisco Chronicle Wine Competition. Of course its the largest competition in the US but just to give you an idea of scale this year it had 6,850 entries. That's about 70 times larger than anything we have here in the Northwest. Winning a medal in this type of competition is a rigorous task. Just to get it done they employ 60 judges and 100 volunteers and it takes a number of days to get to the winning slate. If you medal in this arena its BIG. It's BIG as it produces a plaque for display on your tasting room wall. Its BIG because your name is published in the winner's list in the SF Chronicle. And its BIG in your neighborhood when the word gets around. So hooray for you. But hooray for us too, and for the courage it takes to put the product of your labors out there. You know when you're a winner, but its nice when other people think that too.

Phil



Misc. Information

• **THE WINE BUSINESS MONTHLY** proprietary database indicates the total number of wineries in the U.S. to have reached 9,091, compared to the previous year's total of 8,702. This represents a 4.5 percent increase in the number of wineries, a net increase of 389, compared to the previous year's increase of 5 percent and net increase of 415 wineries.

• **Willamette Valley Vineyards Inc.** is steadily expanding its presence in eastern Oregon, adding to its holdings in the Walla Walla Valley. In addition to the Walla Walla purchases, it recently acquired 40 acres in the Ribbon Ridge AVA.

• **North Coast vineyards see more drone use** as agriculture market soars. A Napa Valley company that has been taking aerial imaging of vineyards to new technological heights for a decade and a half has formed a strategic partnership with grape grower-oriented startup makers and operators of unmanned aerial vehicles, often called drones.

• **A winemaker in Tuscany, Italy** has implemented an unusual approach to cultivating his grapes. A recent CBS News report states that Giancarlo Cignozzi plays classical music in his fields because "...he found the vines closer to the music grew bigger and toward the source of the sound." It has evolved into a system where certain areas of the vineyard are continuously exposed to Mozart's works through dozens of speakers placed around the property.

Note:

The next regular meeting will be held on February 15th. The agenda will be the member Bordeaux varietals & Bordeaux blends tasting. Bordeaux varietals are Cabernet Sauvignon, Merlot, Cabernet Franc, Petit Verdot, Malbec, Carmanere or any blend thereof. If you haven't already, be sure to renew your club membership and sign a new waiver.

- 1.) Snacks: This will be a potluck; bring a small snack to share.
- 2.) **Everyone needs to sign a new waiver. If you didn't pay your dues at the Gala or picnic please remember to pay your 2016 dues at this meeting.**
- 3.) Bring a wine glass for tasting of member wines.
- 4.) The regular club meeting will begin at 7 pm and end by 9 pm. If you can, get there a little early to help set up. Please help put away chairs and tables at the end of the meeting.

Website: <http://portlandwinemakersclub.com/>

January Meeting Minutes

Present: 12

- Barb Thomson reported on the Gala results. Snow & bad roads kept the attendance down to about 23. After income and expenses, the treasury took only a small hit.
- Gala discussion – Bridget reported having some problems with the Archer's event coordinators late in the game, after reservations were already made. They wanted the PWC to pay a fee and buy more Archer wine and to take out event insurance. If we decide to use Archer again for the Gala we will probably have to have a contract and event insurance.
- Bill Brown – Tours & speakers: Bill is still trying to get someone from ETS Analytical Labs as a speaker. Phil thought Moe Momtazi would be a good speaker about Biodynamic grape growing. Bridget suggested a tour of Appoloni Winery & Vineyards. Others suggested were a couple tours at wineries in the Gorge and an extended stay and winery tours in Applegate Valley.
- Phil Bard is drafting job descriptions for PWC committee chairs.
- Ken - Send an e-mail reminder to members about the Newport Seafood & Wine amateur competition.
- It was suggested that, at our June meeting, the women's division of PWC present their wines for tasting (non-competitive).
- We will have another barrel tasting in the April meeting.
- We need to re-supply our inventory of gifts for guest speakers and tour guides. Govino glasses or a PWC logo corkscrew were suggested. The members voted for the logo corkscrew. Damon Lopez will research.
- Alice Bonham is going to update the website. She needs photos from members. Ken Will send out an e-mail request.



ENTER YOUR BEST HOMEMADE WINES IN THE WORLD'S LARGEST
COMPETITION FOR HOBBY WINEMAKERS!

There are less than one month to go until the entry deadline of March 3, 2017!

Go to: <https://winemakermag.com/competition>

For more information

The thinned red wine

W. Blake Gray November 22, 2016

Imagine if I could tell grape growers a way to produce more wine from the same vineyard that is also actually better. Happy Thanksgiving wine growers, I'm here for you!

There's another culprit to add to the list of reasons wines are unintentionally getting higher in alcohol: **crop-thinning**. This revelation comes from Rootstock, Napa Valley Grape growers' annual technical conference for its members.

The word "unintentionally" is important. Many vintners, especially in Napa Valley, want their wines to have higher alcohol because it brings greater body and more perceived sweetness, not to mention higher scores from last-generation critics. But plenty of others, especially Pinot Noir producers, claim to have little control over alcohol levels. They like to say they give us what nature gives them.

It turns out that they have more control than they believe.

First, a brief explanation of crop thinning. Each summer while grapes are in the early stages of ripening, a grower will hire a crew to go through the vineyard and chop off a bunch of grapes from each vine. The theory is that the vine will concentrate its energy into making the remaining grapes as good as can be. Like many theories of wine growing, this came from Europe in a time and climate when grapes struggled to ripen.

One reason there has been little research into crop thinning is that you don't see farmers of other types of fruits doing it. Nobody cuts a third of their peaches off a tree before they're big enough to sell; they would rather sell more peaches.** But at the high end of the wine industry, grape growers can make more money with fewer grapes of higher quality. The question is, does crop thinning give higher quality?

Dr. Patricia Skinkis from Oregon State University said 89% of Oregon growers thin their yield, dropping anywhere from 25% to 50% of their developing grapes on the ground. Obviously this is expensive: some farmers are throwing away half of their yield.

Are the smaller crops better? It depends on your definition.

Thinning the crop does appear to increase anthocyanins, which give the wine deeper color, but don't affect the flavor or aroma. However, thinning the crop makes the Brix level of grapes at harvest higher by 1.8 to 2.9 degrees, Skinkis said. An increase in Brix of that amount translates to an increase in alcohol level of 1.1 to 1.8%! Imagine that: a Pinot Noir that, unthinned, might have had a 13.5% alcohol level now might weigh in at 15.3%.

Why is that, you might ask? Why not just pick the smaller crop earlier, before the grapes develop so much sugar?

Because under cropped vines have to get higher Brix levels to develop the same desirable taste characteristics as balanced-crop vines, said Dr. Nick Dokoozlian, vice president of viticulture, chemistry and enology for E. & J. Gallo Winery. "Balanced crop vines have more dark fruit flavors at lower Brix," Dokoozlian said.

For anyone who might be shaking their head and saying, yeah but he works for Gallo, two things: 1) Previously he was a professor at UC Davis, and 2) Gallo has a long history of hiring some of the smartest people in wine to do cutting-edge research, not all of which it shares with the rest of the industry.

Now that Gallo has Napa Valley vineyards, it's applying science to get the most from them. There's an interesting question about exactly what this means, and I almost wrote this whole column about it.

As Dokoozlian said, "The lack of accepted fruit quality metrics affects everything we do in the wine industry." In other words, if we don't all agree on what good wine tastes like, then we can't agree on what chemical characteristics of grapes equal good wines. And THAT means we can't agree on whether vineyard treatments of any kind are effective or not.

Which gets back to the first point: if higher alcohol is a desired consequence, thinning the crop is great: it allows the grapes to take longer to develop flavor characteristics while building up sugar. You can see why this might be a good idea in cooler parts of Europe, especially when growers were paid more for grapes with higher Brix levels. But in the New World, avoiding excessive alcohol is most wineries' concern. Nobody minds 14.5% alcohol; few want 16% alcohol. Yet sometimes they get it anyway; now we know why.

"When we did a survey of Napa Valley and Sonoma County vineyards, we found most vineyards were far, far under cropped," Dokoozlian said.

In Napa, they thin crop because they've been told it increases quality. What if there's a regime change in how quality is measured?

We'll see with the 2015 Oregon Pinot Noirs, which appear likely to be that state's biggest, boldest red wines ever. If the market embraces them and pays a premium, growers will want to keep dropping some of their crop on the ground. If not, let's have more, better Pinot!

**** Editor: au contraire – Commercial peaches, apricots, cherries and plums are thinned just after fruit set to Improve remaining fruit size, color, & quality.**

Northern California downpour

Vineyard owners who prayed for rain just a few months ago got more than they bargained for in January, when days of storms flooded parts of Northern California and kept winery employees from getting to work in some of the state's most visited tasting locations. The deluge was mostly welcome, however, as reservoirs recharged after years of drought.



2017 Newport Seafood & Wine Festival Results

OK guys, you just got smoked by the Portland Winemakers Club, "Club de Femme". Two of our up and coming women winemakers both took Gold at the Newport Seafood and Wine Festival. Our winners are:

Marilyn Brown	2015 Cabernet Franc	Gold medal
Barbara Stinger	2015 Tempranillo	Gold medal

I should mention that one male winemaker also entered but only got a measly bronze for his Bordeaux Blend.

Why Airplane Wine is So Bad

The last few times that we have had to fly on business trips, we have ordered the wine that was available, and put it in our pockets to bring home. This began as an experiment, and has developed into this theory that we have about airplane wine and why it is always so bad. Of course, the answer is that it's not really that bad, it's just the conditions.

Wine is not just a beverage, but really, it is an experience. As such, it is rather dependent on the surrounding circumstances. If you are uncomfortable and eating bad air plane food, the wine is unlikely to taste wonderful to you.

The first wine we tasted on an airplane was a Rutherford Estate Cellars Cabernet Sauvignon. It was horrible. It tasted like tar, and we struggled to find something nice about it, but this proved to be very difficult.

A Theory Emerges

But we realize now that there were several things conspiring against us enjoying the wine. It wasn't the wine itself that was at fault, since we have had Rutherford Estate wines since then, and they were always good. We think that perhaps the real culprits were...

- Uncomfortable seating- if you are uncomfortable, it is a little difficult to enjoy anything, especially something that requires concentration.
- Bad food- perhaps airlines have been unfairly charged with serving the worst food in the world, but one must admit it is hardly the best either. In the occasion in question, I was eating cold lasagna that was mostly devoid of flavor. Wine complements food, but some food does not deserve the complemented.
- Altitude and turbulence- We are not sure how this one works, but it seems that as you increase your altitude, and as the plane jostles around, the wine seems to taste more and more metallic. Flying to Paris, we had a merlot recently that was rather like chewing on aluminum foil. Perhaps this is just the body's natural reaction to flying.
- Assorted other smells and ventilation- when you are crammed into an aluminum tube with 200 other people (most of whom don't want to be there) you tend to be more aware of the people that are crowding around you. The overhead ventilators are blowing cold, sterile-smelling air on you, and you can smell what your neighbor is eating, and it looks even less appetizing than what you are eating. As you may know, more than half of the wine tasting experience is smell. These are hardly the conditions for smelling a wine.

As we have been bringing these wines home with me, and opening them in the comfort of our office and homes, it has been a pleasant surprise that they have been pretty good. We don't think that wineries are going to put their best stuff in those tiny bottles for commuters to hate, but it's not their worst, either.

So, the next time that you are flying and are offered what looks like a nice wine on the beverage cart, put it in your pocket, and have some water instead.

The Cellar After Harvest's Dust Settles

By: Denise M. Gardner, *Enology Extension Associate*

24 Jan. 2017

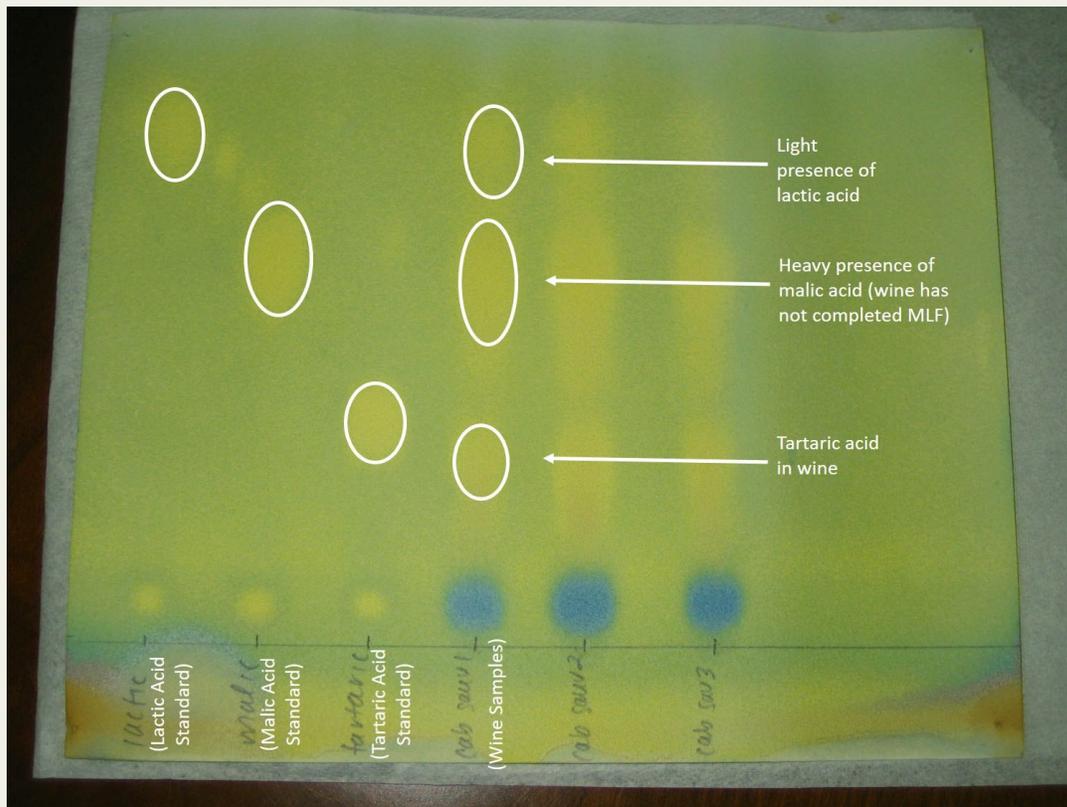
Most likely, all of the wines from the 2016 vintage are happily settling away in tank or barrel at this point. After such a busy time, this leaves winemakers with that tricky question, "What do I do now?"

Monitoring Malolactic Fermentation (MLF)

Now is a good time to make sure you are monitoring your malolactic fermentations. Ensure all of your barrels or tanks have been appropriately inoculated, or have started naturally, and get some initial readings on the malic acid concentration.

If you have a spectrophotometer, you can purchase enzymatic kits to measure the concentration of malic acid in your wine over time. Wines with less than 30 mg/100 mL of malic acid are considered "dry" for MLF or MLF-stable for bottling.

However, winemakers can also monitor malic acid degradation through the use of paper chromatography kits. These kits are easy enough for home winemakers to use and can also be applied to the commercial level.



MLF paper chromatogram. This image shows the paper after it has dried, where the spots are pertaining to the acid standards and the acid separation for a wine sample. Wine samples above have not completed MLF due to the fact there is a noticeable dot of malic acid in each sample.

Paper chromatography works by separating tartaric, malic, and lactic acids from a wine sample (Figure 1). In addition to blotting small drops of your various wine samples, each paper must also contain 3 standards to show the spots documented by the three acids (tartaric, malic, and lactic). While paper chromatography is not the best at concentrating how much of each acid remains in the wine, you can get an idea when the bulk of malic acid is converted to lactic acid (i.e., MLF is completed) when the malic acid spot associated with the wine samples disappears.

Checking Wines for Off-Flavor Development

It's also a good time to check wines for hydrogen sulfide (H₂S) or sulfur-base off-odor aromas, and volatile acidity (VA), especially for wines that you will want to bottle early in the new year.

Hydrogen sulfide can be treated with copper sulfate. Penn State Extension offers a great 2-page fact sheet on how to run a copper screen to determine if the wine requires copper sulfate, and a copper bench trial in order for you to assess how much copper is needed to treat the hydrogen sulfide.

Now is also a good time to know what the VA is in your wines, especially those that will be seeing some aging. This is incredibly important to get a baseline value of the VA. That way, if a problem emerges in the future, you will have an indication how much the volatile acidity has increased. Penn State Extension also offers a 2-page fact sheet explaining why knowing volatile acidity is important, provides protocols for its analysis, and how to mediate high VA situations.

If you are having problems identifying these key defects in your wine, don't forget that the annual "Wine Quality Improvement" Short Course is just around the corner in January.

Cellar Maintenance

Now is also a good time to clean up any leftover sore spots from the chaotic harvest season:

Clean up places in the cellar that have gotten dirty or have become areas that are accumulating materials that should otherwise be put away.

Manage all of your harvest records. Make sure all of the wines have the basic wine chemistries (e.g., pH, TA, residual sugar, alcohol, free and total SO₂, malic acid, and volatile acidity) in the record book. It is easy to forget all of these details as time progresses.

Running basic chemical analysis on your wines and updating records is an essential component of making quality wine.

Make sure wines are properly stabilized for storage. Treat wines appropriately with sulfur dioxide. If you need some tips on sulfur dioxide management, refer to Penn State Extension's Wine Made Easy fact sheet:

If you know you need to move wines off of lees, now is a good time to go through each tank one-by-one and make the necessary adjustments.



Volatile Acidity in Wine Making

Drew Horton and Matthew Clark
Dept. of Horticulture, University of Minnesota
9/27/2016

Volatile Acidity, or "VA", is caused by a type of bacterial spoilage which produces large amounts Acetic acid (vinegar) which is a serious wine fault, the metabolization of acetic acid and alcohol (ethanol) can produce ethyl acetate which smells like nail-polish remover and is also a serious wine fault.

The legal limit of VA in finished wines is: 1.2 gram/liter in whites, 1.4 g/l in reds, 1.2 g/l in dessert wines and for late-harvest wines picked at 28 °Brix or above it's 1.5 g/l for whites and 1.7 g/l in reds.

High VA wines can only be brought within legal limit by "blending away" with low VA wine, or by the use of specialized reverse osmosis filtration.

Most or all of the following can be considered "best practices" in all wine making, but are especially important when working with poor condition or otherwise "compromised" or degraded fruit.

How to minimize VA production in the winery

Clean, clean, clean and SANITIZE your winery and all surfaces and equipment that come into contact with wine as effectively, thoroughly, and as often possible. Pay particular attention to keeping floors and drains as clean as possible.

Harvest fruit as quickly, cleanly and as cool as possible, and proceed to crushing/de-stemming and/or pressing as soon as possible. Do not attempt to use obviously damaged, degraded or rotted fruit. Sorting of fruit prior to processing is advised if it can be done cool, quickly and cleanly.

Use a 50 ppm "shock" dose of sulfur (SO₂, aka potassium meta bisulfate (KMBS)) on all juices or musts as soon as possible just prior to or during initial grape-reception and processing to reduce the bacterial "load". This dose should be sufficient to eliminate native yeast fermentation or other microbes being transported into the winery. Do NOT use "cold-soak" methods or encourage 'wild' or "native" yeast fermentations when VA risk is high.

Encourage healthy and fast-starting fermentations through proper yeast hydration strategies that include the use of a yeast hydration nutrient. A yeast *hydration* nutrient is DIFFERENT from a yeast *fermentation* nutrient, and the difference is important. The ultimate goal is to reduce any fermentation stresses and encourage a quick and complete fermentation by the use of adequate yeast nutrition and managed temperature control. Each yeast has a preferred temperature range that you should be aware of and will be indicated on the original packaging or in the supplier catalog.

Choose and use pure strains of yeast that are proven to be low producers of volatile acidity, including: "BC" (a

Bayanus yeast), Lalvin "C" and "DV10", and ICV "OKAY". These yeast do not actually *lower* VA, rather they are proven strong fermenters with a fast start and completion. All commercial "pure" strains of yeast are chosen based, among other things, on the fact that they are naturally low producers of VA.

Eliminate or control the population of fruit flies by keeping all fermentations covered with a physical barrier (even thin plastic sheeting held in place by string and a bungee cord) and the use of fruit fly traps in the winery (a glass or jar with an ounce or two of sweet or red wine in it with a drop of dish soap makes a cheap and effective trap, or commercial "fly strips" or "tape" can also help).

Keep all winery waste (stems, skins, lees, and pressed grape pomace) as far away from winery as possible, at least 100 yards away from winery, or further if possible, do not keep grape-waste near the winery for extended periods.

Avoid cross-contamination of different lots of wine, sanitize all sample devices, valves, and wine thieves with a sulfur/citric acid solution or 40 per cent ethanol solution (i.e. cheap vodka, which is an inexpensive, available and effective surface sanitizer).

The recipe for effective SO₂/citric acid solution is 3 grams of citric acid and 0.5 gram of KMBS per liter of water. This should produce a solution with a pH of 2.2, and active SO₂ level of 250 ppm.

Other acid-based, iodine-based, or quaternary ammonia based sanitizers are highly recommended.

Minimize oxygen exposure during all phases of production and storage by eliminating or reducing headspace in vessels.

Minimize oxygen exposure during processing, settling, racking or transfers and during storage by "sparging" (i.e., displacing the air) all tanks and hoses with a food- grade, inert gas (CO₂, nitrogen or argon) prior to use and/or filling. Keep any headspaces sparged with inert gases at least twice a week.

Dry ice can help in minimizing oxidation by its evaporation into carbon dioxide gas which displaces air/oxygen during processing, pressing, and prior to filling tanks. One should be careful with the handling of dry ice and be aware of the safety hazards of using this product, including its storage.

Minimize or eliminate any head space in storage vessels, and if necessary, spray a mixture of sulfur (SO₂ aka KMBS) and water on the exposed surface of stored wine by mixing 0.5 gram of KMBS with one liter of clean water, this 250 ppm SO₂ solution can be sprayed directly on to the surface of wine in storage, especially if the presence of a "film yeast" is noticed. If large amounts of film yeast form, attempt to siphon or rack the clean wine under the film yeast to another container, leaving the contaminated "film" behind. "Early" sterile filtration may be used to reduce or eliminate bacteria load prior to storage or maturation.

At ALL times, keep the stored or maturing wines at an appropriate Free SO₂ level, which should be checked and adjusted at least once per month. Keep all wines in barrels topped monthly at least and at an appropriate free-SO₂ level, based on the wines pH (Molecular SO₂ chart: <http://srjstaff.santarosa.edu/~jhenderson/SO2.pdf>)

All white wines, fruit wines, and sweet wines should be maintained at 0.8 molecular SO₂ Only dry red wines can be maintained at the lower 0.5 molecular SO₂ level.

A "cool" or cold cellar is better than a "warm" cellar; acetic acid bacteria produce faster in a warm environment. A very clean and very cool (50-56°F / 10-13 °C) cellar/work area is a great help in slowing and reducing bacterial spoilage.

The website "vinoenology.com" is an excellent resource for various wine making "calculators" including: SO₂ additions, acid additions, pH adjustments, blending, copper sulfate additions and fortifications, etc.

IN SHORT: KEEP IT CLEAN, KEEP IT COOL, PROPERLY AND TIMELY MANAGE THE USE OF SO₂, AND MINIMIZE OXIDATION/OXYGEN EXPOSURE AT ALL TIMES.

New Tool to Control Acetobacter and Other Spoilage Bacteria

Scott Laboratories is pleased to announce that Bactiless™, a new product from Lallemand to control spoilage bacteria in wine, has been approved under TTB 24.250 for continual use in wine. Bactiless is a 100% natural, non-allergenic form of chitin-glean from a non-GMO strain of *Aspergillus niger*, which has been formulated to help control bacterial populations in wines post-fermentation. Bactiless helps to lower the viable acetic acid and lactic acid bacterial (LAB) populations, while having minimal effect on yeast populations. This polysaccharide can be used to stabilize wines post malolactic fermentation, or it can be used to inhibit malolactic fermentation. There is a minimum contact time of 10 days and the wine should be racked post treatment. Bactiless helps to avoid the negative sensory impact caused by spoilage bacteria such as acetic acid and biogenic amines. Bactiless recently received a special award from Intervitis Interfructa Hortitechnica for this innovative approach to bacterial control during the winemaking aging process.



The Trouble With Solid Plugs on Carboys

It's a fairly common mistake to use airlocks only during fermentation and switch to a solid plug or bung for bulk aging in a carboy. Why wouldn't you? After all fermentation is over so there really shouldn't be anything going on in there.

The truth is that there are other forces at work that can cause problems when using a solid plug on a carboy.

Typically we like to leave a bit of headspace in our carboys when we rack our wines. While it's best to minimize this headspace we often do still have some space (i.e. trapped air) in there.

As you can imagine a glass or plastic carboy does not "breathe" and it's certainly not flexible. Solid plugs or bungs also do not breathe, nor can they accommodate any changes in pressure within that headspace.

You put the two together and there's no room for pressure changes or for suspended carbon dioxide to come out of suspension. So what happens when a carboy warms up a few degrees? Or when a bit of carbon dioxide finds its way out of suspension?

The plug pops out leaving your wine unprotected.

Let's say the opposite happens and the temperature drops. This creates a vacuum in the headspace causing the plug to get sucked down tightly into the neck of the carboy and can be quite difficult to remove.

This happened to me once while making a one gallon batch of mead. The plug was so far down into the neck of the carboy that there was nothing left to grab hold of to pull it out. I decided to go after it with a screw driver and try to pry it out. This resulted in a lot of chipped glass and a decent size hole in my hand.

I also tried drilling a screw into the plug and pulling on the screw. This valiant effort merely put a hole in my plug. It didn't move at all.

After wrestling it for an hour, and eventually got it out. At that point I vowed never to use a solid plug again.

It's actually a pretty common occurrence for winemakers to have trouble with solid plugs in carboys. On average I get two to three emails per month from winemakers who are trying to figure out if their wine has gone bad or not because they came home to find that the plug has popped out of the carboy left their wine exposed for three days or more. It happens all the time.

Always Use An Airlock With Carboys

It doesn't matter how long fermentation has been over, always use an airlock. Yes, you do have to check the water level from time to time as evaporation, however, this is a small price to pay. The alternative is coming home from a week long vacation to find that your plug is on the floor and your wine has been sitting there for who knows how many days open and unprotected.

Airlocks provide a flexible barrier that can give with pressure changes. They can also tip you off if spoilage micro-organisms have taken hold as the airlock will start to bubble again after being in active.

That being said airlocks certainly aren't perfect. They do need some maintenance and your attention from time to time. Evaporation is your biggest concern. If the water level gets too low the airlock will no longer protect your wine.

It's also possible that the water could be come contaminated and cause problems if it comes into contact with your wine. During temperature drops it's even possible for the water to get sucked down into your wine. These are rare occurrences though.

In my opinion keeping tabs on an airlock is a small price to pay for the protection they offer. Solid plugs just aren't reliable enough when used on glass or plastic carboys.

3 Ways to Fool Proof Your Airlock

Here are some ways you can make your airlock safer for your wine and more resistant to the issues mentioned above.

- Add a splash of vodka to the water. This will protect the water against spoilage micro-organisms and even if it does get into your wine it won't be noticeable. Keep an eye on it though as alcohol evaporates fairly quickly.
- Fill your airlock with mineral oil instead of water. Mineral oil is food grade, doesn't evaporate, doesn't spoil, and if it falls into the carboy it floats and can be separated through racking.
- Fill your airlock most of the way with water and top it off with mineral oil. This reduces the amount of oil you need and prevents the water from evaporating or harboring spoilage micro-organisms.

So skip the solid plugs and bungs if you age your wine in carboys. Always use an airlock.



The Use of Mannoproteins for the Tartrate Stabilization of Wine

By Charl Theron

Tartrate crystals that occur naturally in chilled unstabilized wine, create an unacceptable perception among consumers due to the visual impact of the crystals. Tartrate stabilization of packaged wine is therefore essential so that consumers are not unnecessarily upset by the possible occurrence of crystals in wine.

The concentration of potassium bitartrate (cream of tartar) in unstabilized wines always exceeds that which is practically soluble, especially if the wine is chilled. Higher alcohol content and lower temperatures promote the natural precipitation of the crystals. However, it may take a fair amount of time for the oversaturated tartrates to be precipitated from the wine and consequently cellars prefer to accelerate the natural process.

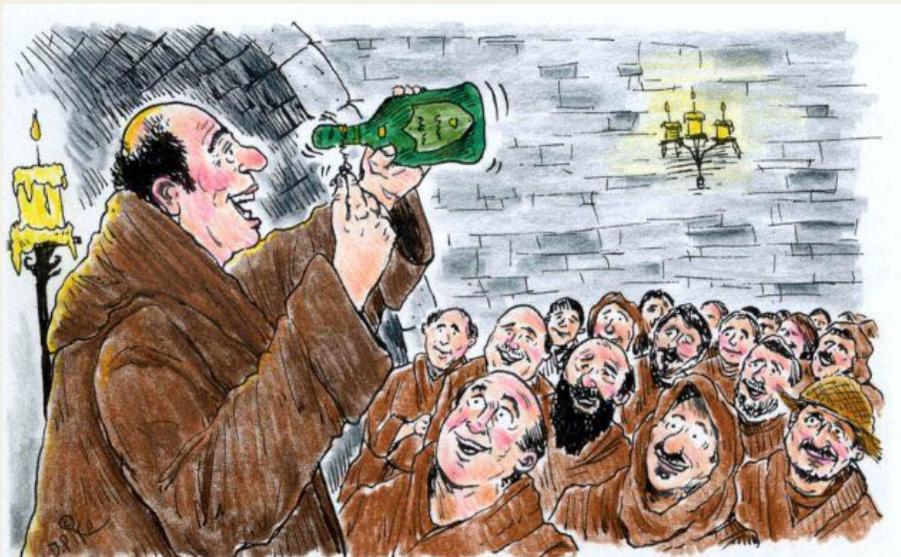
The traditional method of tartrate stabilization involves promoting the precipitation of cream of tartar by storing the wine for a certain period at a temperature just above the freezing point of the wine. This creates an oversaturated wine solution and the excess cream of tartar will be precipitated as crystals. The precipitation process does not take place, however, unless certain favorable conditions are created. The precipitation process entails two phases, i.e. firstly the formation of a crystal nucleus that initiates and promotes the precipitation process, and secondly the formation of sufficient crystal around the nucleus to induce precipitation. By simply relying on reduced temperature to enable these processes to take place, it may take too long and therefore it is often promoted by the addition of fine tartaric acid crystals that are used as a nucleus for the crystal growth process. However, the cold stabilization of wines to prevent tartaric instability has several disadvantages:

- The energy cost is high.
- Considerable infrastructure is required and the maintenance thereof is expensive.
- It is time-consuming and requires a great deal of manpower.
- The chemical composition of the wine is altered seeing that potassium bitartrate (cream of tartar) is removed from the wine.

Despite the above disadvantages tartrate stabilization of wine is essential from a consumer point of view. Any alternative method of tartrate stabilization should therefore address the processes of tartrate precipitation, i.e. the formation of crystal nuclei and crystal growth.

It has been noted that wines which mature on the lees have greater tartaric stability. This is the result of the mannoproteins released during yeast autolysis. Research on model wine solutions has proved that mannoproteins inhibit the crystallization of potassium bitartrate. These react as a protective colloid which covers the surface of the crystal nucleus used for the crystallization and the crystallization process is therefore unable to proceed. As a result Laffort Oenologie has developed a purified mannoprotein product, known as Mannostab, for tartrate stabilization of wine. The product is soluble and has no color, flavor or taste. Use thereof has already been sanctioned in the European Union and Argentina and is currently also being investigated for permissibility in Australia and the USA. (In South Africa it is not yet permissible.) Mannostab must be added to the wine the day before bottling at a dosage of 200 to 250 mg/l and good mixing is obviously important.

The use of mannoproteins should not be confused with meta tartaric acid. The latter is a polymer of tartaric acid that is able to create temporary tartrate stability in wines. Although it functions in a similar way to the mannoproteins, the meta tartaric acid eventually hydrolyzes and long term tartrate stability is not obtained. (Bowyer and Moine-Ledoux, 2007)



*I, Dom Perignon, will now uncork the very first bottle of Champagne.
Of course, I'm just guessing this is the right way to do it.*

Portland Winemakers Club

Leadership Team – 2016

- President: **Phil Bard** phil@philbard.com
- Set agenda for the year
- Establish leadership team
- Assure that objectives for the year are met
- Set up agenda and run meetings

Treasurer: **Barb Thomson** bt.grapevine@frontier.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: **Marilyn Brown** brown.marilynjean@gmail.com

- Arrange speakers for our meetings

Chair for Tastings: **Paul Rogers & Barb Stinger** paulgrogers@fastmail.fm
kbstinger@frontier.com

- Conduct club tastings
- Review and improve club tasting procedures

Chair of Winery/Vineyard Tours: **Bill Brown** bbgoldieguy@gmail.com

- Select wineries to visit
- Arrange tours
- Cover logistics (food and money)

Chair of Group Purchases: **Bob Hatt** bobhatt2000@yahoo.com

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

Chair of Competitions: **Don Robinson** don.robinson.pdx@gmail.com

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

Chairs for Social Events: **Bill Brown (temporary)** bbgoldieguy@gmail.com

- Awards Gala / Holliday parties

• Web Content Editor: **Alice Bonham** alice@alicedesigns.org Web Host: **Phil Bard**