

**Portland  
Winemakers  
Club**



# Portland Winemakers Club

**May 2016**

Monthly Rant

## Scheduled Meetings

**January 9, 2016**

Annual Gala – Archer Winery; 4-9 PM

**January 20, 2016**

Crush Talk / Planning

**February 17, 2016**

Bordeaux Tasting

**March 16, 2016**

Speaker: Curtis Patience on distilling Brandy & Grappa.

**April 20, 2016**

Barrel / Carboy Sample Tasting

**April 23, 2016**

Tour: Patricia Green Cellars

**May 18, 2016**

Faults & Flaws

**June 15, 2016**

“Open discussion of winemaking issues”

**June, 2016**

Tour

**July 16, 2016**

Annual Picnic

**August 17, 2016**

All Whites Tasting

**September 21, 2016**

Other Reds Tasting

**October 19, 2016**

Pinot Noir Tasting

**November 2016**

No Meeting

**December 7, 2016**

Planning, Tours, Speakers, Events, Elections



Our recent tour of Patricia Green Cellars on April 23rd turned out to be quite a bit more than expected. Co-founder and winemaker Jim Anderson met us at 1 PM and opened with a discussion of their estate vineyard history and a description of the fruit they get from both that and the numerous other vineyards they source both in the Willamette Valley and the Ella Hills. We then tasted through 4-5 bottled wines in a demonstration of the differing qualities of fruit harvested from marine vs. volcanic soils, and he spoke extensively of their philosophy of low manipulation, including natural yeasts and malolactic cultures, low use of SO<sub>2</sub> and rack-free barrel aging. I thought that was pretty much going to be it, but Jim was just getting started. He moved on to barrel samples, and after 3 or 4 from the estate production took us to 4 more from Freedom Hill that focused on wines made from varying percentages of whole cluster in the primary fermentation, starting at zero and going up to 100%. It was remarkable how the wines were changed by this and was well above and beyond what I've ever experienced on a tour either with the club or otherwise. We finished up around 4 PM and wobbled out.

Thanks to Bill Brown for setting this one up!

Phil

**Drink Responsibly.  
Drive Responsibly.**

## Information & Trivia

### • The region's newest wine

AVA is a 480-square-mile "banana belt" straddling the Idaho-Washington border at the confluence of the Snake and Clearwater rivers. The new "Lewis-Clark Valley" Viticultural Area includes 16 vineyards.

### • Penner-Ash Wine

Cellars announced Monday that Jackson Family Wines will take over the 15,000-case winery. The Penner-Ash team will stay on and continue to run the winery in relative autonomy, with Lynn Penner-Ash making all winemaking and grape-sourcing decisions. Lynn and Ron Penner-Ash will keep a financial interest in the winery.

### • One of the very first vintages from Joel

**Peterson, winemaker at California's Ravenswood,** was almost doomed before the grapes even made the winery. A pothole in the road sent four tons of Dry Creek Zinfandel off the truck transporting them from the vineyard. Traffic was suspended as a team of friends was called to help scrape up the grapes. The wine was made and praised by critics for its 'complex, tarry quality'!

• **Making wine teaches you to be humble.** You realize that you are not in control. You can't compete with Mother Nature. It is best to collaborate.

### • Oooh Nooo - France suspends foie gras

**production.** Avian flu has achieved what animal rights protesters have spent years trying to do; halt production of foie gras in France, as officials attempt to contain an epidemic of the virus.

### • Northwest Grape growing Season Powers Up.

Precipitation and growing degree-days are ahead of 2015. The tally of growing degree-days at WA State University's research station in Prosser topped 210 this week, four times where it was a year ago at this time (54) and thrice the historical average of 72.

**Note: The next regular meeting is scheduled for Wednesday, May 18, 2016 at 7:00 PM at Oak Knoll Winery.**

**Agenda: Aroma Kit / Faults & Flaws. If you can, bring a wine sample you suspect might have a problem for the experts to evaluate plus a good bottle to share.**

- 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 please remember to pay your 2016 dues at this meeting.
- 3.) Bring a wine glass for tasting 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.

**NEW! Website: <http://portlandwinemakersclub.com/>**

## April Meeting Minutes

Present: 24

- We welcome two new members, Rufus Knapp and Bob Guptill. Bob is returning from a 24 year hiatus from the club.
- The members present voted to stay with July 16, for our Picnic.
- Internal, member blind tastings; the members present voted to list a wine receiving a "no medal" in the results but not include the member's name in the results.
- Bob Hatt has received grape orders from 3 members and urges you to get your order in as soon as possible. Bob said he will try to get this year's prices from the vineyards and make this information available.
- The members voted to stage an informational wine tasting this summer at Steinbarts. Phil will discuss possible dates and format with them.
- Paul Rogers will have grapes available from Fred Holmes', Kaiser Ridge vineyard. Grapes are Pinot Noir & Riesling. About 500 pounds each is available. No reasonable offer refused.
- Reminded everyone of the Patricia Green winery tour at 1:00 Saturday.

## Member Barrel / Carboy samples Tasted

(all 2015 unless noted)

It's obvious that 2015 was a good year for grapes. All of the wines below were tasting very nice for being so young. There was not a clunker in the bunch.

**Joan Betz** - Tempranillo in reconditioned American Oak, Lonesome Spring.

**Ken & Barb Stinger** – Bordeaux field blend, 61% Malbec, 27% Cab. Sauv., 12% Merlot in 3rd yr. American Oak. Estate (Selah, WA) Vineyard.

**Dennis & Marlene Grant** – Pinot Noir, Red Ridge Durant Vineyard, 4 clones, 5 months in new French Oak.

**Bob Hatt** – Pinot Noir, Stormy Morning Vineyard, 3 clones.

**Jon Kahrs** – Pinot Noir, Brittan Vineyard, 2 clones, French Oak.

**Phil Bard** – Cab. Sauv., Chandler Reach Vineyard, 26.8 brix, 3 months in new American Oak, 3.5 months in older oak, cold stabilized.

**Paul Boyechco** – 2013 Bordeaux Blend, 55% Cab. Sauv., 35% Merlot, 10% Cab. Franc, 1 year in barrel, D254, cold stabilized.

**Barb Thomson** – Sangiovese, Chandler Reach Vineyard, carboy only, will be blended with cab. Sauv.

**Bob Guptill** – 1994 Pinot Noir, gleaned from Red Ridge Durant Vineyard, carboy only, over the hill but still quaffable.

Bill Brown was able to get us a tour of Patricia Green Cellars April 23rd. They obtain grapes from Ribbon Ridge, Dundee Hills and the Chehalem Mountain appellations. Winemaker / owner Jim Anderson gave us the tour. Once we got warmed up, we peppered him with multiple questions about the details of how they make wine. They use native yeast fermentation the often extends out for 25 or more days. "we only do what is needed", minimal manipulation is the rule of the day. Almost all their wines have tremendous aroma and flavor.

We started with two Sauvignon Blancs and about three Pinot Noirs presently in the sales room. What followed was an adventure through some where around 15 vineyard designated Pinot Noir barrel samples from just about every vineyard they obtain grapes from.

A special treat was tasting four wines from Freedom Hill Vineyard, same grapes but fermented with zero whole clusters; 15% whole clusters; 50% whole cluster & 100% whole clusters. The difference in aroma and flavor was amazing.

Below are some photos from the tour.





# Keys to Successful Fermentation: (Part 1)

MAY 17, 2013 BY Cook

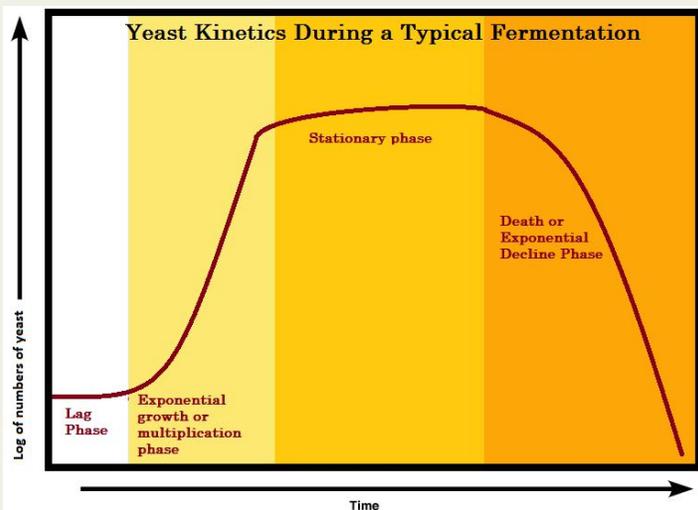
Fermentation is a natural process by which yeast consume sugar and convert it to ethanol. A successful fermentation is one in which the winemaker ensures that the conditions are met to enable a population of yeast to live and thrive until the winemaker wishes – generally until all the sugars have been depleted. All this needs to be done while minimizing the production of volatile acidity and sulfur off-aromas, and maximizing the desirable aromas and flavors produced during fermentation. It sounds easy enough, but for anybody who's been around the industry can attest, stuck and sluggish fermentations happen more often than you might wish. So, I present, the key points to a successful fermentation in four parts: yeast hydration and addition, the first quarter of fermentation, mid-fermentation, the last quarter of fermentation.

## Yeast Population Kinetics

There are four main stages that a population of yeast will go through in a typical wine fermentation as illustrated in figure 1 below.

- 1) **Lag phase** – this is a very short period of time in which the yeast become acclimated to the juice or must. The duration of the lag phase is less than a few hours, until the yeast realize that they are in a sugar and nutrient-rich environment and they begin to multiply by budding (yeast division).
- 2) **Exponential growth phase** – yeast multiply rapidly. The yeast population can double every 4 hours until a maximum population density is achieved. There is an increased demand for oxygen as yeast cells replicate.
- 3) **Stationary phase** – The yeast population has reached a critical mass. This is the longest phase of fermentation in which the yeast are actively converting sugar to alcohol through anaerobic fermentation. At this point oxygen isn't necessary for yeast survival, but a winemaker may choose to aerate a wine for other reasons (reduction aromas, color stability, etc.)
- 4) **Yeast Death** – Over time, the yeast will slowly deplete the nutrients available in the juice (sugar), and will also be producing waste products that are toxic (ethanol). Dead yeast cells will break apart (lyse) as they fall to the bottom of the tank and release more toxins that will kill surviving yeast. Thus, the decline of the yeast population is a rapid, exponential decline.

By understanding the important steps that winemaker needs to take during each of these phases of fermentation, one can be assured that the risk of a stuck or sluggish fermentation is minimized. The first part begins with hydrating active dry yeast, and adding the yeast to juice or must.



## Part 1: Yeast Hydration and Addition

**1) Choose the correct yeast (Account for Osmotic Shock).** Grapes are naturally high in sugar. When yeast encounter this high sugar environment, there is a certain amount of osmotic pressure placed on the outside of the yeast cell wall. Since the cell wall is permeable, the yeast expend energy to ensure that they maintain an equilibrium between the the pressure on the inside and the outside of the cell. To do this, they tend to produce more glycerol inside the cell, but they also will produce acetic acid to try to decrease the viscosity of the fluid outside of the cell (the grape juice). This phenomenon is well known in ice wine production, and is why these wines tend to have higher levels of volatile acidity than table wines. In this type of environment, the yeast need an array of micronutrients and amino acids to form the fatty acids and sterols that will

strengthen their cell membrane. A winemaker can also minimize damage to the yeast by making sure it isn't exposed to further stress such as cold temperatures and excess SO<sub>2</sub>.

The initial osmotic pressure placed on the yeast will impact the physiology of the cell for the duration of its life, that is, until the end of fermentation. The resistance of yeast to alcohol in the final stages of fermentation depends on the initial osmotic pressure placed on the yeast and its ability to resist this stress. If a winemaker knows that the potential alcohol of the juice is greater than 13%, it is important to choose a yeast that has the ability to resist higher alcohol levels. Late harvest or ice wine styles should be fermented with a yeast that is intended for high sugar musts in order to minimize the potential problems with volatile acidity, and to ensure that the fermentation begins in a timely fashion.

## 2) Proper yeast re-hydration practices (resistance to other shock factors).

As mentioned above, sterols and polyunsaturated fatty acids are important factors that the yeast need to create a strong cell membrane. When one rehydrates the yeast in water (along with yeast nutrient), the yeast metabolism is in a respiratory state (consumes oxygen) which allows it to more easily synthesize these resistance factors in its cell wall. If yeast is rehydrated in juice, the yeast are more inclined to have a fermentative metabolism from the get-go, which makes it difficult to

synthesize the products necessary to strengthen its cell wall to provide protection from stress during fermentation. The initial content of these resistance factors will become diluted with each generation during the multiplication phase.

The yeast multiplication phase corresponds to the consumption of the first 30-40 grams of sugar. Once the initial population of yeast cells reaches 100 million cells/mL of must, the juice is considered completely colonized. This level of colonization does not depend on the initial population of the yeast. So, in order to arrive at 100 million cells/mL, the greater the initial population of yeast, the less they need to replicate to reach their maximum population. Thus, their resistance to stress becomes less diluted, and the yeast are more able to survive in the high alcohol environment near the end of fermentation. This isn't to say that you should double or triple the recommended dose for yeast in your fermentation. This dilution of stress factors is only seen if the initial amount of dried yeast used is less than 300 mg/L. Thus, the recommended quantity of 400 mg/L on the package of active dry yeast accounts for this.

### 3) Yeast Nutrition.

During the multiplication phase, yeast need amino acids/nitrogen, fatty acids, and micro-nutrients (vitamins and minerals). Some of these elements aren't bioavailable in the juice at this critical moment when the yeast need them the most. By adding nutrients that make these elements immediately bioavailable to the yeast, it diminishes the risk of added stress to the yeast due to a nutritional deficit. Adding yeast nutrients during rehydration and at the moment of yeast addition to the must allows the yeast to multiply in the best conditions. However, **the different enological yeasts all have different needs when it comes to nutrition.** The dose necessary during yeast addition depends on which yeast you use, along with other factors: potential alcohol, maximum fermentation temperature, oxygenation, and the initial temperature of the must during addition.

### 4) Accounting for cold shock in low temperature juice.

Have you ever jumped into water that is just above the freezing point? You know then, how yeast might feel if they are immediately dumped into a cold tank of juice – something that is common in white and rosé fermentations. It is easy to evaluate the potential for cold shock to the yeast: the greater the temperature difference between the water at the end of yeast hydration and the juice in the tank, the greater the stress to the yeast. If the temperature difference is greater than 50°F, the stress on the yeast caused by the cold shock will have physiological consequences to the yeast that will affect it throughout the fermentation. When it is known that there is a high potential for this cold shock during yeast addition, it is important to take some steps to compensate for these risks. The most important is to slowly acclimate the yeast to the juice temperature by adding some of the juice to the hydration water to bring down the temperature. **The temperature decrease should not be more than 50°F over a 20 minute period.** When the yeast is added to the tank, the temperature difference should not be greater than 50°F. Other ways to compensate for this stress are by adding a higher dose of active dry yeast, and ensuring adequate nutrition.

### 5) Compensation for the elimination of fatty acid sources (white and rosé wines).

In all white and rosé fermentations the juice is racked 24-48 hours after pressing to eliminate suspended solids. The degree of clarification can be enhanced by using fining agents and enzymes in the juice – an important step if the grapes arrived in poor sanitary state. Ideally the turbidity of a juice following the first racking falls between 100 and 250 NTU. Nonetheless, while eliminating pectin particles and insoluble solids, you are also removing poly unsaturated fatty acids that are important for yeast survival. If the juice clarification is less than 200 NTU, it is important to take steps to reduce stress on the yeast. Adding yeast nutrients rich in fatty acids, or increasing the initial yeast population are ways to ensure yeast survival through the end of fermentation.



## Fermentation (Part 2)

by Charl Theron

### Tips for cellar workers

- Fermentation is the conversion of one product to another by yeasts and bacteria.
- Bacteria can be round or rod shaped if seen with a microscope.
- Bacteria can be beneficial or detrimental.
- Malolactic and acetic acid bacteria are the most important bacteria in wine.
- Only malolactic acid bacteria can however cause bacterial fermentation.
- Three fermentations are important in cellars.
- First (alcoholic) fermentation, second (malolactic) fermentation and third (secondary) fermentation.

### Second (malolactic) fermentation

Tartaric acid and malic acid are the most important acids in wines, originating from the grapes. During the ripening of grapes the concentration of both acids decrease, which causes the grapes to taste less acidic. In warmer wine countries the acids decrease more than in cold countries, which can cause the wines to taste thin and watery. To prevent this the

mentioned acids are sometimes added to the juice or wine.

Ripening is however not the only reason for the decrease in the acid concentration. As indicated by the name, malolactic bacteria can convert the malic acid in the juice or wine to lactic acid. The lactic acid is however a weaker acid than malic acid and the acid concentration of the wine will consequently decrease. During the process carbon dioxide is also formed and the process is called malolactic fermentation (MLF).

Different MLF bacteria occur and it can be beneficial or detrimental for wine quality. The bacteria causing it, occur naturally on grapes in which case it is referred to as spontaneous MLF. If spontaneous MLF is allowed, the bacteria and the influence on the wine quality are unknown. In such cases it usually happens after the first (alcoholic) fermentation and if grapes are pressed late in the season, the lower autumn temperatures can prevent spontaneous MLF, because the lower temperatures are not optimal for the bacteria.

It can also be pure MLF bacteria cultures bought by the cellars, which are added to the juice. If pure cultures are used, the bacteria and the results of the MLF are known. Contrary to alcoholic fermentation MLF is not essential for winemaking and winemakers have a choice to prevent or facilitate it. Once the decision is made by the winemaker certain actions must be implemented to prevent or promote MLF. To prevent MLF wines must be racked and clarified immediately after the alcoholic fermentation is completed and the sulfur dioxide concentration must be adjusted. To allow spontaneous MLF the wine must be left on the fermentation lees and the sulfur dioxide concentration must not be increased.

If the wine is however inoculated with pure culture bacteria, it need not be left on the fermentation lees but the sulfur dioxide must still not be increased. To monitor the MLF process wine samples must be analysed. During the MLF the malic acid concentration decreases and the lactic acid concentration increases. If all the malic acid is converted to lactic acid, the malic acid concentration will practically be nullified.

### **Third (secondary) fermentation**

Secondary fermentation can be caused by yeasts or bacteria and can be desired or undesired. It usually occurs after the primary (alcoholic) and/or second (malolactic) fermentation have been completed. It is undesired when it is not planned, for example when sweetish wines start fermenting again in tanks, bottles or bag-in-the-box (BIB) causing the wine to become cloudy and fizzy. It is desired in the case of bottle fermented sparkling wine (Cap Classique) when dry wine is sweetened in the bottle and pure culture yeast is added to it to create a second fermentation in the bottle. The formed gas will cause the sparkle in the sparkling wine

---

## **Roundtable: Extraction**

Three winemakers discuss the choices that affect the style of a finished wine.

*Lance Cutler*

**THERE MAY BE A** lot of truth to the axiom, "Great wines are made in the vineyard." Still, one way or another, those grapes have to be picked, fermented and turned into wine. The winemaking process presents winemakers with infinite choices, and each of those choices will affect the style of the finished wine. When to pick the grapes is a crucial choice that has a direct influence on the style of wine to be produced. After that, especially in red wine production, the way a winemaker chooses to extract color, flavor and tannin from the grapes is most important.

The available grapes and the style a winemaker desires should guide the way that winemaker goes about extraction. Should you incorporate a cold soak or not? Will you use SO<sub>2</sub>? The cap management regimen can make a big difference to style, and the temperature of the fermentation, along with the amount of time on the skins, is crucial. Different varieties require different extraction techniques, and vintage variations demand flexibility.

Every winemaker has a theory about how to extract just what they need to produce the exact style they want from a given variety. In spite of the introduction of more sophisticated measurement tools, exactly which technique contributes exactly which characteristics to a finished wine remains largely unconfirmed by scientific analysis. If winemakers cannot be positive that what they are doing for extraction actually gives them the elements they seek, then how can they make wine?

It is a fascinating conundrum, one that we thought would make an interesting roundtable. We decided to get three experienced winemakers and ask them which techniques they used and why. We wanted to know what their specific goals were and how they assessed whether what they were doing was effective. We were interested in how different varieties and style choices influenced their decisions for the extraction process.

John Skupny started Lang & Reed Wine Company with his wife 20 years ago with the distinct purpose of trying to find the unique characteristics and inherent qualities of Cabernet Franc. Before that, he was in the restaurant business. In 1980, he moved to California and worked for Vintage Wine Merchants. He became director of marketing and sales for Caymus Vineyards in 1984 and then VP of marketing and sales for Clos Du Val Wine Co., finishing as general manager and sales

manager at Niebaum Coppola Estate before founding Lang & Reed in 1996.

Hugh Chappelle started part time in the wine business in the early 1980s and has worked full time since 1989. He did graduate work at UC Davis before working as winemaker for Madroña Vineyards in the Sierra Foothills from 1993 to 2000. Since then, he has worked in Sonoma County at Flowers Vineyard & Winery, Lynmar Estate and now Quivira Vineyards and Winery. He also works as a wine consultant for several clients.

Zeke Neeley graduated from UC Davis in biochemistry. He got his masters in enology before working in Santa Cruz, Sonoma County and Napa. He spent seven years as winemaker for Trefethen Winery before moving to Orin Swift Cellars in 2015.

### **When we talk about extraction, what do we mean?**

**Neeley:** If you ask a thousand different winemakers, you'll get a thousand different answers. In plain terms, I would say extraction is what you get from the skins during the maceration time of a red wine fermentation. In general, this is where your red wine is made. The degree of extraction and how you do it determine your wine style.

**Chappelle:** I would echo that. When I hear the word extraction, I don't think of white wine although there is an element of extraction to making it, but my brain immediately goes to red wine. Other than your pick decision, what you do during extraction really makes or breaks your red wine, aside from how you farm your grapes.

I think sometimes extraction is underrated because everyone talks about how wine is made in the vineyard, and then the importance of your pick decision, and then the wine somehow makes itself. Well, I think extraction is equally key to making a great red wine.

**Skupny:** I would concur with that. We like to say that everything is in the vineyard, but terroir to me has always been a three-legged stool of the dirt, the climate and our imposition of what we do in the winery with it. The extraction issue, or lack thereof, really defines what that wine can be. After you've done your pressing, the only thing you can add to it is aging time and/or oak components. What you start with can evolve but you can't add to it after extraction.

### **What are you doing to get extraction: cold soak, punch downs, pump overs, delestage . . . ?**

**Neeley:** Yeah, all of those. In general, what you are dealing with is how long and how hot. Those are your major tools during a red wine fermentation and determine what kind of extraction you will get. So how long and how hot depends on the grapes you harvested, as well as your intended wine style. Grape varieties, the given vintage and the different ripeness of the grapes would determine how much extraction you are going to get and whether or not you might decide to ferment at a higher or lower temperature.

**Chappelle:** As someone who has worked with everything from Pinot Noir to Bordeaux varietals, I've pretty much worked with every technique except the flash method. What I might add to what Zeke said about how hot and how long is that there is a definite mechanical element to extraction. Are you crushing or are you going whole berry? I've seen Bordeaux varietals under-extract because people are obsessed with having whole berries where sometimes a little gentle crushing will give better extraction.

There is also an element to how long. For example, we calibrate our pump overs by tank volumes. Some people do their pump-overs a certain number of minutes per ton, but unless you know how many gallons per minute your pump is moving, there is really no way to standardize your pump-over. So, I'm at custom crush places where they tell me they do so many minutes per ton; but if you don't integrate that flow rate element in pump overs, you can't really do it consistently.

**Skupny:** I don't normally do a cold soak, especially now that grapes come in early in the morning, which gives me a de facto cold soak. My very first pump-over is always the very next morning, and it is a fire hose pump-over, so I get a lot of movement that way. After that, I go gentle with sprinkler arms. Sometimes I found myself doing pump-overs that weren't necessary. I've actually cut back a lot during the last few years. I don't know if it is because I've started to introduce enzymes at that point or not.

Tank dimensions make a big difference. If you have a 15-ton lot and it is in a large squat tank that should really hold 35 tons, you are going to get an entirely different extraction than if you are in a taller, essentially modified white tank.

### **What do you do when the grapes arrive at the winery and what are you trying to accomplish?**

**Skupny:** We've never crushed. It has always gone in as whole berry as possible.

Originally we didn't use rollers because they were actually crushing the pips. I don't think that would happen now if we were doing it. I'm winding up with possibly less opacity and less extraction in terms of color. We might be getting more of the high-tone cherry and fruit tannin this way. My pump overs are done twice a day for relatively short periods and very gently, except for that first one to get everything mixed.

We deal with five to 10 different cuvées of only Cabernet Franc. With the North Coast bottling, which is an early-to-market red, I am trying to mitigate getting really harsh tannins. We get it up to temperature pretty fast, usually starting off in the low

80s. I've never had one stick going too high. I also take a few cuvées and do a slightly longer and cooler fermentation while the others I ferment pretty fast.

The ones that appear light, fruity and grapey, and the ones with all the high-tone aromatics, I'll drain and press at 4° to 5° Brix before the alcohol gets high enough to leach out bitter tannins. Then it goes right back to tank to finish off before it goes to barrel. The Clone 214 grapes from Sugarloaf I usually ferment in two lots, the smaller of which I ferment slower, allow for extended maceration and even use yeast cultures that slow things up.

**Neeley:** At Orin Swift we tend to pick grapes a bit riper than average, so we get a very quick extraction because the skins are already malleable. They start leaking color immediately in the tank. We don't need rollers. If they come in cold, we'll go ahead and cold soak. In spite of some research that has caused me to rethink things, I still believe that skin tannins are more favorable than seed tannins. The more whole berries you have, the more contact you should have with the skins because the seeds are hidden at least for a little bit. So we expect to get more skin tannins along with more color from the skins during a cold soak, without the bitter compounds from the seeds. On the other hand, if you pick Cabernet or Bordeaux varieties at earlier ripeness, I think some gentle breaking of berries might be a good idea.

**Chappelle:** Quivira produces Zinfandel and Rhône varieties. Fruit comes in field-sorted, and then it is further hand-sorted as needed. Reds are destemmed with no crushing, and the must is pumped to a tank. Occasionally we will do some whole cluster, typically in the range of 15 to 20 percent on the bottom of the tank and then the destemmed fruit will go on top. We must pump through 4-inch lines, trying to go as gently as possible. Open-top tanks begin with a punch-down protocol and then move into pump-overs while the closed-top tanks are all pump-overs.

Our objective is to maximize the aromatic potential with an age-worthy elegant structure in the wine. We are not trying to extract every ounce we can get from the grapes. Instead we focus on aromatics and flavor. We are less focused on creating a super-dense, rich-style wine. Everything we do revolves around that objective. Some vintages just don't seem to be extracting, so in those cases we will take the gloves off a bit. We might do a couple delestage or ferment hotter. Typically we ferment in the mid to high 80°s during peak with the cap going up to 88° F to 90° F, so I don't think we are fermenting super-hot, but we do ferment warm.

**Neeley:** When you are working with higher alcohol wines, you are creating a complex and difficult environment for the yeast. As a consequence, the yeast like it better when you ferment at a cooler temperature. Like I said earlier, when you pick Cabernet at higher sugars, the cells in the skins are very leaky. They extract pretty quickly and can do so at a lower temperature. We ferment below 80° F. We'll turn off the thermostats toward the end of fermentation to let it warm up naturally. We do extended pump-overs early in the fermentation. Then we cut them back later in the fermentation when we might be extracting some of the harsher seed tannins.

**Chappelle:** We do a similar thing with front-loading. Generally, we would front-load the extraction quite a bit and then back it down. If we feel we're not getting what we want, we would not hesitate to take it up to 90° F. We generally prefer hotter temperatures to cooler temperatures incorporating enzymes. At least in the trials we've done, the enzymes haven't fared as well as other methods.

**Skupny:** In our small lots, we found we could never get enough heat with bin fermentations where we always do punch-downs. That said, extraction alone is not the end objective for us. We want to work on those aromatics early on. Because it seems like we don't get them later, I'll front-load my manipulation at the beginning. If I see something slowing up, I'll do a tub and screen and get some oxygen in there.

**Chappelle:** In my experience, you can go hotter early without damaging the yeast, as opposed to later in the fermentation when the alcohol is up there and the yeast won't like it. If you push your temperatures at 18° to 20° Brix, the yeast can usually take that, especially if you start backing it down around 10° to 12° Brix.

### **What are you doing to measure levels of extraction during fermentation?**

**Skupny:** I'm pretty much a "seat-of-the-pants" type of guy. To me it is more of a feel thing. The smell is really important and so is watching foam color. You can see when you really get extraction because you no longer have white foam coming off the fermentation. I don't really trust a lot of lab work during fermentation because you can take a sample to two different places and get entirely different results. I think it is more of a feel over time. I know a certain vineyard is going to want more baby-sitting. Others will just fly through it. My fermentations are often as fast as Pinot Noir guys, like four to five days. I have others that will take two weeks.

**Chappelle:** Currently we judge by sensory. There are a lot of options out there now to do phenolic metrics, so we are planning to bring some level of that in-house. We'd like to have a way to track and complement our sensory decisions.

**Neeley:** I've never been a big fan of measuring phenolics, just because to me it seems that what you are extracting is not just tannins and color. You are extracting the aroma and flavor compounds in the skin and the density of the wine. Unfortunately, the things we can measure are just the phenolics and the color. Because we can measure those, I think we sometimes get obsessed with them. What I fear is the whole idea of making decisions on a factor that might not be the

biggest factor in the success of your wine.

**Chappelle:** It is seductive to think that there is some magic number or ratio, but it is not that simple. At the end of the day it has to smell good and taste good. I've tasted wines where the phenolic metrics predict it is a 90+ point wine, but the wine is undrinkable. That being said, I think color and tannin analyses can be a very valuable QC tool.

### **How do enzymes work with extraction?**

**Chappelle:** Generally, we've only used enzymes in cooler years like 2011. We prefer to work with crushing or not crushing fruit, tank geometry, temperature and pump-over flow rates to get the extraction we want.

When we use enzymes, we need to back off on the physical aspects of the extractions. We would pump-over more gently and with less volume through the cap and ferment cooler to compensate for what the enzymes do to the fruit. They make the fruit more extractable but never as selectively as the vendors claim. When using enzymes, you need to taste the tanks very regularly and not be afraid to press early.

**Neeley:** I've worked at facilities that used enzymes when I came in, but I never continued their use. You run into four vintages that don't require enzymes, and then you forget why you used them at all.

**Skupny:** I pick at lower sugar, 23° to 25° Brix, mostly right at 24° Brix. I tend to utilize enzymes for grapes that come in under 24° Brix for that additional extraction. I follow the protocol of backing off quite a bit from manipulation. These are primarily the early-to-market cuvées that I am pressing off very sweet to begin with. I've used Grand Cru from Laffort quite a bit. I add right after the fire hose pump-over, and it is not much, but you can see the effects very quickly.

### **How does temperature affect extraction and does it vary with variety?**

**Neeley:** We have some facilities with a must chiller that chills the must to 50° F and keeps it there for three days. If we can, we'll warm the tank to 70° F and inoculate. We want to extract those skin tannins and aroma compounds without worrying about seed extraction. Then we'll ferment 75° F to 80° F. Around 8° Brix, we'll turn off the thermostat and let it warm up. In cooler vintages, we ferment at warmer temperatures; warmer temperatures earlier in the fermentation are better than later. Not only do you get faster extraction at warmer temperatures, you get more extraction.

**Chappelle:** With Zinfandel we prefer to start with three to five days of "cool" soak at roughly 55° F. We then warm the must to 82° F. Once fermentation begins, we set the jackets to 86° F to 88° F. We try to get fermentation started quickly and get that early flush of extraction between 20° and 10° Brix. We would pump one to two volumes through the cap per day to try to get aroma and flavor with moderated tannin pickup. Then we would really back tank volumes off and lower temperature because with Zinfandel's tendency to higher alcohol, we don't want to stress the yeast.

With our Rhône varieties, we might have 15 to 20 percent whole clusters, depending on the year. Jacket temperatures on that would be between 82° F and 86° F. We ferment Rhône's a tiny bit cooler, because the tannin potential is a bit higher than Zin, so we would be more concerned about excessive tannin pickup at higher temperatures. We want the temperature to drive the quality of extraction, and we want that to happen early in the curve.

**Skupny:** I only have one lot that goes through a cold soak, and that's because it is picked at night late in the season. I'm not keen on cold soaks with Cabernet Franc because I've seen the pyrazine issue more accented with long cold soaks.

With all the other cuvées, I am not overly concerned as long as they don't come in hot. After the first day, I will warm it up to get fermentation kicked in. I found that my best extraction happens early on. I find that my fermentations will usually last four to six days. I use Rhône cultivars that ferment quickly and don't extract too much tannin. I've run native yeast, but I am in custom crush facilities, so essentially you are going to get a zymergic gang bang anyway. I'd rather feel like I am controlling it than just letting it happen.

### **How do the different temperatures within a tank affect extraction?**

**Skupny:** We used to take the temperature of the cap; but when we set the temperature at 82° F, we feel like we are in a safe zone. If it doesn't get up to 82° F, then I get concerned about that.

**Chappelle:** We no longer pay a lot of attention to the variable temperatures in a tank. We used to check cap temperatures a lot more than we do now. Even fermenting into the high 80's, we don't worry about our cap temperatures killing yeast. Typically we pump-over frequently enough that any spike in cap temperature would only be for a couple of hours. So the length of time something is at a dangerous temperature is fairly low. With open-top tanks, just take the lid off and vent the heat.

**Neeley:** I stopped caring. I think that there is enough mixing during an active fermentation that the liquid shouldn't have such a large temperature differential. Plus, if you turn the thermostat to a certain number and that gives you the kind of wine you want, whether or not that is an accurate measurement of the center of the tank, you have to believe that whatever you are doing is working.

### **How does tank geometry affect extraction?**

**Chappelle:** The short and stubby tanks are great for Pinot or any case where you want passive extraction. The classic one-to-one ratio of most Pinot fermenters seems to work great on that variety, whether you are punching down or pumping over or doing other mixing techniques. Open top fermenters may not get as hot, so people doing warmer fermentation protocols may have less success.

**Skupny:** When we were at Caymus, we did some open-top. They were always a bit more wild and prone to higher VA. I never experimented with open tops; but if I got some cold climate grapes, I'd love to mess with it.

**Neeley:** Open-tops are more difficult for extended maceration, too. Tall, skinny white wine tanks are just no good for red wine fermentations. You can't get any extraction out of it because three-quarters of the cap won't see any liquid. You also have to think about how you introduce liquid to the cap. With a wide tank, the grapes are spread out, and more of the grapes are in contact with the liquid.

**Skupny:** That may be the evolution of rack and return. It could be that the Bordelaise bought all the wrong tanks.

### **What does extended maceration extract and how does it affect style?**

**Neeley:** At Orin Swift we don't so much; it is not really part of the style. We are looking for something that has texture to it, some volume but not aggressive tannins. With extended maceration you can get aggressive tannins, which is fine if you leave it in barrels for a while. Sufficient barrel age can make a well-integrated red wine.

**Chappelle:** With our varieties, we haven't found going more than three weeks to be of much benefit. The loss of aromatics has never been compensated for by a gain in mid-palate or in age-worthy structure. With Bordeaux varietals, I think extended maceration can work, depending on the style. We just don't see it with our Zinfandel and Rhône's, or the Pinot I work with from the Russian River and Sonoma Coast.

**Skupny:** For the upper level wines I used to employ extended maceration every year. Because I had several lots, I experimented with not doing it to one lot. I found the brightness and freshness of that one lot was more of what we were trying to achieve. So I got away from it completely. With the "Two-Fourteen" I will let the small lot go through some extended maceration, and it does create a different tannin structure. It gives a secondary layer of aromatics: more forest floor, more decay. In Cab Franc it brings out more of the earthy character.

### **Every winemaker seems to have a different theory about extraction and not much is proven scientifically. What should that tell us?**

**Skupny:** Some people want to prove that some things work or don't work. I just want to get the cork in it.

**Chappelle:** Winemaking is craft and science. The bottom line is what's in the bottle. You can't make a great bottle of wine from a bunch of theories. You have to engage your senses and engage yourself in the process. UC Davis trains you to think in a rigorous way, but in the end you have to roll your sleeves up and pay attention.

**Neeley:** It hearkens back to what is easy to measure and what isn't easy to measure. They are completely correct on what we are able to measure, but there is stuff besides tannin, phenolics and color compounds that are just as important, if not more so.

**ONCE I STARTED TRANSCRIBING** this roundtable, I realized that one of the most essential developments in the extractive process was barely mentioned by our participants. Thirty and 40 years ago, grapes were beat up in the winemaking process. Crusher rollers tore the berries apart. Must pumps chopped them up and pushed them through long pipes. Pump overs were almost always of the "fire hose" type. In the past 30 to 40 years, every grape handling process has become more and more gentle. Macro-bins have allowed winemakers to avoid large receiving hoppers if they choose to do so. Crushers have adjustable rollers made out of new age materials that gently process berries. Whole cluster fermentations and whole cluster pressing avoid much of the old-time grape trauma. It is likely that equipment advances leading to a more gentle handling of the fruit contribute as much to the way we extract fruit as any other factor.

After that, our roundtable participants use time, temperature and cap management techniques to coax out the nuanced extraction they think creates their wine style. They agree that the size and shape of the fermenters have a direct effect on extraction, and they seem relatively unconcerned about different temperatures in different parts of the tank.

In the end, there was no consensus on what exactly was being extracted and how the various compounds interacted with one another. According to our participants, measuring only anthocyanins and tannin gave an incomplete picture of what was happening during extraction and therefore was not reliable for making important decisions. They seemed to prefer sensory analysis and personal experience to judge the effectiveness of their extractions although they clearly had looked into the various testing available. I got the feeling that if they felt a particular test was reliable and gave them a way to measure what they were looking for, they would use it.

# Portland Winemakers Club

## Leadership Team - 2016

- President: **Phil Bard** [phil@philbard.com](mailto: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](mailto:bt.grapevine@frontier.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: **Bridget Lopez** [Bfosterpacific@gmail.com](mailto:Bfosterpacific@gmail.com)
- Arrange speakers for our meetings

- Chair for Tastings: **Jon Kahrs & Barb Stinger** [jekahrs@aol.com](mailto:jekahrs@aol.com) [kbstinger@frontier.com](mailto:kbstinger@frontier.com)
- Conduct club tastings
  - Review and improve club tasting procedures

- Chair of Winery/Vineyard Tours: **Bill Brown** [bbgoldieguy@gmail.com](mailto:bbgoldieguy@gmail.com)
- Select wineries to visit
  - Arrange tours
  - Cover logistics (food and money)

- Chair of Group Purchases: **Bob Hatt** [bobhatt2000@yahoo.com](mailto: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](mailto: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: **Bridget Lopez** [Bfosterpacific@gmail.com](mailto:Bfosterpacific@gmail.com)
- Awards Gala / Holliday parties

- Web Content Editor: **Alice Bonham** [aliceb@gorge.net](mailto:aliceb@gorge.net)      Web Host: **Phil Bard**