West Side Wine Club

September 2011

President's Musings

Scheduled Meetings

January 19, 2011
Crush Talk

January 22, 2011
Holiday Party/Awards Gala

February 16, 2011
Red Bordeaux Tasting

February 27, 2011
Argyle Winery Tour

March 16, 2011
Speaker: Robert Brittan of Brittan Vineyards

April 20, 2011
Speaker: Darcy Pendergrass, winemaker at Amity Vineyards

May 18, 2011
Barrel Sample Tasting

May 29, 2011
Soter Vineyards Tour

June 15, 2011
Rosé Tasting

July 17, 2011
Annual Picnic

August 17, 2011
Other Whites Tasting

September 21, 2011
Other Reds Tasting

October 19, 2011
Pinot Noir Tasting

November 16, 2011
Pinot Gris/Viognier Tasting

December 7, 2011
Planning, Tours, Speakers, Events

September Muse: Heat, Just as the doctor ordered….

If there was one thing we all wanted this year it was more heat - and like a gift it is here. The next 5 days from when this letter was written are supposed to be near 90 degrees and above. The long range forecast is for normal fall weather - whatever that is. Temperatures this high can shut down vines, but with most of them being so far behind my main worry is still the rain. At the small vineyard in SW Portland, Sammy, Rick and I face the difficult task of culling clusters. If there are too many clusters their chance of ripeness decreases and the flavor profile decreases as well. We have made sure this year that we have great air flow through the vineyard in anticipation of botrytis as the rain returns. This is the first year we have seen this big a set. This vineyard is giving us all an appreciation of the work that the vineyard owners do. It is not easy being a vineyard owner and every year is different. Next time you pick up grape, give some money and appreciation to the vineyard owners. Speaking of which, we have many club members selling pinot and some other grapes. Swan Estate (Terry Swan) in Molalla has grapes for sale. Some older Pommard and other interesting clones are for sale. Nina Tanabe also has pinot for sale at Green Acre Vineyards located in a nice area. A former member and WSWC President, Ed Sienkiewicz, has some higher elevation pinot. He carefully prunes his vines and restricts yield to encourage ripening. Fred Holmes has some pinot and Riesling near Bethany. He will be bidding it out soon if there is no interest, but WSWC members get first pick! Some vines are 30+ years old. There are many other opportunities (see pages 3 & 4 for more details). Unfortunately, Chateau LaBeau will not have any this year as their yield fell below the contractual amount they owe the winery. But Scott Schroeder has our club in mind for next year. They had very low brix last year, so unless you cherry picked on the "the golden slope" it was a tough hoe.

As many of you know, the frost and the cooler summer temperatures hit Sagemoor Vineyards pretty hard. Terry Swan is in contact with Sagemoor and will let us know when he knows more. The situation may be fairly fluid. Lonesome Springs Ranch came out of the freeze pretty good and all the orders for Viognier and Tempranillo are likely to be filled. Chandler Reach also looks pretty good. Sammy will update us when we know more. Remember that when you order you should count on adding 5-10% on top of whatever weight/cost you have if you are not picking up eastern Washington fruit. It cost gas to pick the grapes up. Also, if you have a truck or Van and can pick fruit up, always be prepared to volunteer. We will try to work out arrangements over the next couple of weeks. Please keep in mind that except for the Viognier and associated order we expect most red grapes to be ready in mid-October.

Our last "Other Whites" tasting was very interesting. There were many strong opinions and many fine wines. In years past we were lucky to get 6 wines. This year we went to 12 wines and were not able to taste the wonderful meads that Michael Smolak and Bill Spiller made. Bill's mead was older and had fascinating flavor. We didn't have rose' in this tasting because we had the rose' tasting mid-summer. Given the lower amount of Viognier and Pinot Gris, I would be tempted to move all the aromatic grapes, such as Riesling and Gewürztraminer to the "Viognier and Pinot Gris" tasting. This would occur next year of course. But this also makes sense from a tasting perspective. Our discussions were pretty strong at the meeting. I would encourage people not to take them personally. I know that I can get defensive sometimes. They are like our babies. There are some strong personalities and strong opinions in the room. And frankly, much of the tasting is a vote on what members like not necessarily what they "respect" which is how the competitive tastings ideally occur. Members may not be familiar with a varietal and will not know how to grade it, or they may find a particular style not to their liking. If you feel that the discussions get out of hand, let Craig Bush or myself know. We want to give people honest opinions, but we also want to encourage people to strive toward positive goals. The wines of this club have made huge strides in the time that I have been a member. Everyone who makes a wine and submits it is a winner. This is not an easy hobby (It is, however, expensive).

The results from all the competitions are in, and your WSWC President is clearly a major wine stud. I won a Gold in the State Fair and Best of Show in the WVAWS national competition. Am I deserving of praise or what? Or what?? I was kind of bummed that there was no letter like last year where they talked about the competition and some of the trends and observations by the judges. I thought 2009's letter from the WVAWS national competition was witty and enlightening. Hopefully they will post a similar letter on their website for 2011. We showed big in the State Fair winning nearly half of the medals. Way to go! We entered about ¼ of the wines in the WVAWS competition. I thought both competitions were well run. I think the WVAWS competition had slightly better judging (naturally), but both were quite good. The Clark County competition was disappointing. Fruit and sugar seemed to win the day, although we came up with one of the top 3 thanks to Mr. Smolak. Given the "anyone can judge" nature of the competition, I am not sure it is a particularly useful given that 18 of the top 20 wines were sweet or fruit wines. Vinifera wines should look elsewhere. The Washington County fair had some great judges and we should encourage more entries next year. All in all, another banner year for the WSWC!

This is also a reminder that tastings are restricted to 10 wines which allows us adequate time to talk about the wine and helps prevents members from getting inebriated. It is not a sin to spit or pour wine out. If there are more than 10 wines available, we will try to pick a variety of wines from a variety of individuals. Typically this will be done by our wine steward in consultation with the President as necessary.

Let's have a great harvest and I will see you at the "Other Red's" tasting in the middle of the month.

Jon Kahrs, President of the WSWC

Quotes & Information

A German wine label is one of the things life's too short for, a daunting testimony to that peculiar nation's love of detail and organization. *Kingsley Amis Everyday Drinking*

I think it is a great error to consider a heavy tax on wines as a tax on luxury. On the contrary, it is a tax on the health of our citizens.
~ Thomas Jefferson

The Irish believe that fairies are extremely fond of good wine. The proof of the assertion is that in the olden days royalty would leave a keg of wine out for them at night.
Sure enough, it was always gone in the morning. - Irish Folklore

"What is man, when you come to think upon him, but a minutely set, ingenious machine for turning with infinite artfulness, the red wine of Shiraz into urine?" Isak Dineson, SEVEN GOTHIC TALES

"The First Duty of wine is to be Red...the second is to be a Burgundy" -- Harry Waugh

OR

"If it's red, French, costs too much, and tastes like the water that's left in the vase after the flowers have died and rotted, it's probably Burgundy." *--Jay McInerney, "Bacchus & Me"*

"You've forgotten those June nights at the Riviera…the night I drank Champagne from your slipper - two quarts. It would have been more but you were wearing inner soles." - Groucho Marx, from the (1939) movie, At the Circus

Next Meeting: **Wednesday, September 21 at 7:00 p.m. at Oak Knoll**
Agenda: **Other reds - Other than Pinot Noir or any of the Bordeaux varietals which are Cabernet Sauvignon; Merlot; Petit Verdot; Cabernet Franc; Malbec and Carmanere.**
Snacks: **Kathleen High, Thanks**
Place: **Oak Knoll Winery**

1.) Please bring two glasses for tasting wines.
2.) For all our protection, all members must sign a waiver every year. You can also pay 2011 dues at this time.
3.) Meetings begin at 7pm and end by 9pm. If you can get there a little early to help set up, please do and help to put away chairs and tables at the end.

WSWC Website: http://www.westsidewineclub.com/
Message Board: http://groups.yahoo.com/group/Westsidewineclub/

August Meeting Minutes

Twenty-two members were present for the meeting and "Other Whites" tasting.
Marge V. will be in Mexico for the month of February so we need to find another location for this meeting. We are scheduled for a Bordeaux tasting that month.
Please welcome new members Dennis Grant & Ted Johnson.
Snacks for the September meeting will be provided by Kathleen High, thanks.
For the next meeting we will be tasting "Other Reds"; that is other than Pinot Noir or any of the Bordeaux varietals.
Jon read the names of the award winners from the Oregon State Fair; Washington County Fair; Clark County Fair and Winemaker magazine amateur competition.
We discussed the grape orders so far for eastern Washington state. Jon said that the ripening schedule will be close to last year.
Jon said that Brittan Vineyards and most of the Willamette valley will be harvesting Pinot Noir about the third week in October. Ken Stinger talked with Keith Kramer who indicated the same time schedule, he is also dropping more fruit to increase quality.

The tasting of "Other Whites" was supervised by Craig Bush and Phil Bard. The wines tasted were:

#1 - 2008 Chardonnay (no oak)	Dana Blizzard
#2 - 2008 Chardonnay	Rick Kipper
#3 - 2009 Chardonnay (no oak)	Jon Kahrs
#4 - 2009 Chardonnay	John Gassaway
#5 - 2010 Rousanne	Jon Kahrs
#6 - 2007 Bordeaux White	Ken Stinger
#7 - 2009 Geverztstraminer	Scott nelson (best of the evening)
#7 - 2008 Geverztstraminer	Craig Bush

The following WSWC members won awards at the Willamette Valley Amateur Winemakers Society competition:

Congratulations to club member Jon Kahrs for winning "Best of Show" for his 2010 Grenache / Pinot Noir / Mourvedre Rose'.

Jon Kahrs	2010 Grenache / Pinot Noir / Mourvedre Rose	Gold
Jon Kahrs / Don Robinson	2008 Syrah / 2009 Pinot Noir	Silver
Jon Kahrs	2010 Rousanne	Silver
Jon Kahrs	2009 Pinot Noir	Silver
Sammy Nachimuthu	2008 Cabernet Sauvignon / Merlot / Syrah	Silver
Bill Sanchez	2009 Cabernet Sauvignon	Silver
Michael Smolak	2009 Chardonnay	Silver
Michael Smolak	2008 Cabernet Sauvignon; fortified	Silver
Kenneth Stinger	2008 Cabernet Sauvignon	Silver
Terry Swan	2008 Syrah	Silver
Dana Blizzard	2008 Cabernet Sauvignon / Merlot / Syrah	Bronze
Kenneth Stinger	2009 Merlot	Bronze

Oregon State Fair "Pairings" event

Barb & I attended the Pairings event held the evening of August 26 at the fairgrounds in Salem. This featured 18 wineries with an equal number of restaurants and caterers, each paired with a winery. The entry price was $50 unless you happened to win a blue award in the amateur wine competition as did our own members Jon Kahrs and Barb Thomson. Barb is shown below in attendance with her friend, Diane Johnson. It was well worth the price since it included admission to the Fair, all the wine tastes and food you could hold and a great, high intensity, show featuring a musical tribute to Ray Charles put on by the Patrick Lamb band. At intermission they did announce the names and wines of all the amateur blue award winners. It was a little disappointing in that they did not announce a best of show winner and our wine entries were not on display.


Barb Thomson

PINOT NOIR & OTHER GRAPES AVAILABLE LOCALLY

Swan Estate

Terry Swan (A club member) offers several pinot clones, LIVE certified: Mostly Pommard with some 777, 767, 828, 115 & 114. After **mid-August** you can get a hold of him by e-mail at terryswan@hotmail.com. Phone: 503 784-9509

Green Acre Vineyards

Nina (A club member) has pinot noir 115, 114, and 113 grapes and some chardonnay 76 and 96 grapes. Price is $1/lb with a minimum (TBD). Farming live to be certified in 2013. Neighbors are Solena Grand Cru Estates (Laurent's place next door) and Shea Vineyards (2 doors down the road), so the vineyard is in a good area. Contact Nina at: ninatanabe@gmail.com

Roxanne's Vineyard

Ed (A former Prez of WSWC) owns the vineyard that was planted around 1998. The Pinot Noir is Dijon 115. It is planted on 4 by 6 spacing at a 700 foot elevation. The typical yield is 1.7 tons per acre. They typically do not get the high sugars in most years, but the fruit is maturing nicely. Hoffard and Hooson earned a Blue Ribbon at the OSF a few years back. Fruit is picked at the very end of the season at $1.25 per pound. Contact Ed Sienkiewicz at: ed@fermentingfriends.org

Holmes Bethany Vineyard

It is a small vineyard with 30+ year old pinot noir (Pommard) and white Riesling vines (about half and half). The plants were supplied by Dick Erath. The vineyard is located in the Bethany area of West Portland. WSWC club get first pick, but he is looking for replacement buyers ASAP.
For more info call Fred Holmes at 503 286 3509 or e-mail at jfred@easystreet.net

Courting Hill Vineyard

503.324.0326 Grandson – Adam Leyden-Tuck
Pinot Noir (several clones: 115, 114, Pommard, Jackson) Chardonnay clones 76 & 96, Pinot Gris. Old vines – 20+ years. U-pick with stemmer/crusher available on-site. Prices not set however usually around $2500/ton ($1.25 per pound).

Borgo Pass Vineyards

Pinot Noir Pommard clone, Cabernet, chardonnay, and maybe a small amount of Pinot Gris. The price will be the same as before at $1 per lbs. u-pick or $1.25 we pick for you. Will crush and de-stem at no extra charge. Harvest in early to mid October and run thru mid November. Mark DuBose 1-541-424 3477 or e-mail is best: bpvineyard@peak.org

Stormy Morning
Pinot Noir: Predominantly Dijon 115 but starting to fruit 777 clone. Price is $1.15 a pound. You can e-mail: bill_lowblad@msn.com find them on facebook: http://www.facebook.com/pages/Stormy-Morning-Vineyard/118796898149879?v=wall

Chateau LaBeau
The Schroeder's will have **NO** Viognier this year for home winemakers. They will have an estimated 3 tons of Viognier which is less then the six tons contracted out for.

Why are pH and Titratable Acidity [TA] not "proportional"?

The question asks why it is that wines or musts with *different* TA's can have the *same* pH and vice versa.

In a must or wine there are both *free* and *bound*, hydrogen particles.
pH is a measurement of how many *free* positively charged hydrogens are around.

When measuring TA, you add sodium hydroxide to the must. What happens is, you deal with the *free* hydrogens, those responsible for the pH. But even as you do and as you continue to add more sodium hydroxide, you actually start to unhook *bound* hydrogens and make them *free*.

Only when you have added sufficient sodium hydroxide to unhook all accessible hydrogens is your measurement of TA complete.

Since the proportions of *free* and *bound* hydrogens varies greatly according to grape varietal, ripeness, growing conditions and so on, so does the relationship between pH and TA.

pH WITHOUT PAIN

J. E. Underhill

It has taken all the years since Granny was a girl for us to learn that, in winemaking, we really have to pay attention to specific gravity (SG) and total titratable acidity (TA). Behind us a long trail of horrid wines marks the progress of our learning.

In recent years we have developed a positively friendly attitude towards hydrometers and titration.

Now, POW! We are hit upon the head with the pH thing. It is expressed to us in complexities that instill fear and boggle our minds. Small wonder that some of the more conservative amongst us are crying STOP! Enough is enough! Don't even tell me about pH!

Be of good cheer. The only thing wrong with pH is that we have been trying to understand it.

Like a lot of other things in life, pH is what you make of it. It is easy to learn to use pH, and you don't really need to understand it. Most of us don't understand the cars we drive so easily, or the TV sets we so blithely manipulate.

Start by simply recognizing pH as a very important number that can help you to make better wines. True, it doesn't work like most numbers we grew up with, because what it measures grows greater as the pH number gets smaller. Those of us who have lived long enough to watch what has happened to the value of the dollar bill over the past fifty years can grasp that. As we receive more and more dollar bills they become worth less and less. Not to worry.

It does help to have some understanding of what pH measures. It has to do with acids. Musts and wines are complex solutions of weak Acids mixed with a variety of other materials. It is essential that we start a wine with its acids just so.

"Total titratable acidity", which is what you measure with your titration kit, is *not* a measure of total acid, but of the acid that is *available* to react with the NaOH [Sodium Hydroxide] solution with which we titrate.

It measures that *available* acid in grams per liter or in percentage. It does not tell us how *strong* that acid is, and acids vary greatly in strength.

pH is a measure of the acid *strength* in the must or wine. The "p" in pH is an abbreviation for the Swedish word for power.

It is pH, rather than total titratable acidity, which indicates the ability of a must to resist oxidation and invasion by bacteria, and which determines how much SO_2 is needed.

pH has its primary importance in checking grapes for purchase and in preparing musts.

All wine musts that are to produce satisfactory wines have to start with their pH in the range of pH 3.1 to pH 3.55 at the commencement of fermentation. What their pH becomes later is considerably less important.

More particularly, white wine grapes and musts should have a pH close to 3.2 (3.1 to 3.3). Red wine grapes or musts should have a pH of 3.3 to 3.4 with pH 3.55 as tops.

Anything started outside the range of pH 3.1 to 3.55 is headed for trouble. Below pH 3.1 the wine will be highly acidic. Above pH 3.55 the must will be gravely at risk of oxidation and of invasion by bacteria, and it will be difficult or impossible to control with metabisulphite. There are, at the least, likely to be fermentation by-products that will detract from the wine.

In high quality grapes, picked at the right point of maturity, the pH, total titratable acidity, and specific gravity will all be in their correct ranges, and no adjustment is required. Fermentation should produce a quality wine that fully shows the potential of the grape variety.

In grapes that are under ripe, over ripe, or too heavily cropped, and in non-grape musts the pH, total titratable acid and specific gravity will deviate from their ideal ranges. They may be adjusted to those ideal ranges. They may then produce pleasant and useful wines, but they will not regain the ability to produce wines of high quality.

You may usually expect to be able to raise or lower the pH of a must, but in many musts, and in varying degree, the pH is reluctant to change.

Acid/pH Adjustments

Every winemaker, at one time or another, has had to deal with grapes having less than ideal pH and acid balances. Whether the grapes come from California, a warm climate, or Oregon, Washington and the Okanagan, cool climates, the winemaker is faced with the problem: how to adjust the acid and pH.

It may be necessary to adjust the grape acid level for different reasons:

1. The pH is too high and the acid too low;
2. The pH is too low and the acid is too high; or
3. Both the pH and the acid are too high, usually the result of excessive amounts of malic acid and potassium.
   Both 2 and 3 are phenomena common in cool climate grapes; although 3 occurs in warm climate grapes also.

Before continuing, it must be pointed out that when **Total Acidity (TA)** is referred to it will be in **grams per liter.** Some books refer to acid as a percentage: i.e. - 0.7 percent. To make the transition to grams per liter, move the decimal one space to the right; thus 0.7 becomes 7 grams per liter.

All white and rosé musts should be adjusted to a maximum of pH 3.3 and all reds should be adjusted to a maximum of pH 3.4 in order to achieve optimum flavor extraction and to minimize bacterial infection. These adjustments should be made with **tartaric acid**. Even if this procedure increases the TA above desired levels, the tartrates can be precipitated with cold stabilization. The rule-of-thumb for tartaric acid addition is **1 g/l** to reduce the pH by **0.1**. However, there are some cautions:

1. Different grapes have different buffering capacities.
2. High pH drops, say from 3.6 to 3.3 may require about 4 g/l of tartaric acid instead of the rule-of-thumb 3 g/l as the ratio is on a curve rather than being linear.
3. Adding acid can result in some precipitation of potassium hydrogen tartrate (KHT) that, may affect both pH and TA values. Therefore, lab tests should be performed.

The most convenient way of testing for the appropriate amount of tartaric acid to add is to prepare a 10% solution (10 grams in 100 ml of water) of tartaric acid in **distilled** water. Dissolve the acid in a little water and add water to exactly 100 ml. Set up several glasses containing 100 ml of juice. Using one as a control, add 1, 2, 3 ml etc to the other glasses of the 10% solution and measure the pH changes. The volumes of the 10% solution used are equivalent to the grams per liter of acid necessary to make the required adjustment. That is, one ml of the solution equals one gram of acid. The same process can be used if post-fermentation acid adjustments need to be made. By using the 10% solution, results are instantaneous and less bothersome than dissolving the acid volumes one at a time.

Be aware that all the acids - tartaric, malic and citric - will affect the TA values differently. While a one-gram addition of tartaric acid will increase the TA by one gram per liter, malic acid will increase the TA by about 1.12 and citric acid by about 1.17. They also affect the flavor differently. So lab tests are essential.

Whether the grapes are pressed immediately after crushing or let stand on the skins for flavor extraction before pressing, once the juice sample has settled and cleared, the acid and pH readings should be accurate. The same cannot be said for red grapes, however. Most winemakers take their samples immediately after crushing, but the readings are not accurate. Doing a test twenty-four hours later will see an increase in pH of between 0.1 and 0.2 as the direct result of **potassium** extraction. The TA change will be minimal. A further increase in pH will be observed after pressing due to maceration during fermentation and greater extraction of skin constituents.

Many grapes, particularly in climatically unfavorable years, may require the acid to be reduced prior to fermentation. This can be

achieved in several ways.

Water Addition: Adding ten to fifteen percent water, particularly with the more floral grape varieties, will achieve the desired TA without making significant changes in the pH; however, sugar will have to be added as the result of dilution.

Occasionally grapes from California, even the Okanagan, have high **Brix (**or **Specific Gravity),** high pH and high TA; and it may be desirable to add some water in order to decrease the potential alcohol of the high sugar. While adding water will also reduce the acid, it will still be necessary to add acid in order to reduce the pH.

Cold Stabilization: This procedure is usually performed after fermentation, when the weather is slightly below freezing. Putting the wine into a refrigerator is an alternative. In either case, it also helps to "seed" the wine with **cream of tartar** crystals in the amount of 2 - 6 g/l. Do bench trials to determine the optimum amount to be used. Cold stabilization will not work if the pH is too low, less than 3.2, because the **malic** acid content will be higher than the tartaric acid content; and malic acid does not precipitate its salts as does tartaric acid. As well as reducing acidity, cold stabilization reduces the probability of tartrate precipitation when the wine is chilled before serving. Prior to cold stabilization, the pH should be below 3.65, otherwise any precipitation of potassium bitartrate will lead to a decrease in both the pH and the TA, possibly necessitating the addition of acid prior to bottling. Conversely, if the pH is much above 3.65, the pH will increase.

Calcium Carbonate ($CaCO_3$) or **Chalk:** Use at the rate of between 0.67 and 1.53 g/l to reduce TA by 1.0 g/l. Seeding with cream of tartar crystals and chilling hastens the process. If the pH is too low, calcium carbonate will not work for the same reason that cold stabilization will not work. If this procedure is used, do it well before bottling, at least three months, or a chalk haze or crystalline deposit could occur in the bottle. I prefer to use calcium carbonate before filtering. Calcium carbonate is not the preferred method of acid reduction by wineries because of the length of time it takes to complete the process, as well as the possibility of tartrate precipitation in the bottle. They do, however, have **metatartaric acid** at their disposal. This acid prevents tartrate precipitation for up to a year. Metatartaric acid is temperature sensitive, and wines should be held below 68 degrees F in order to retain the activity of the acid. According to Peynaud (*Knowing and Making Wine),* this acid should be used only in wines that are not going to be kept very long. Since I have not used it, I cannot comment on its effectiveness.

Potassium Carbonate (KCO_3): Use at the rate of about 1.0 g/l to reduce the TA by 1.0 g/l. The wine should be chilled, although it will work at cellar temperature, and unlike calcium carbonate, potassium carbonate reacts immediately and does not leave a deposit.

As with tartaric acid, for the purpose of testing for the proper additions of potassium carbonate, make a 5% solution. Put one liter of wine into a refrigerator and chill to about 26°F. Set up a few glasses with 100 ml of the chilled wine. Using one as a control, add 1, 2, 3, etc, ml. of the solution which will be the equivalent of 0.5, 1.0, 1.5, etc, g/l. Refrigerate for two hours or so stirring regularly - 7 or 8 times. Let the samples warm up to cellar temperature and taste to determine the amount to add to the batch. It is necessary to taste the wine after the potassium carbonate has been added to the glasses in order to determine whether there is a resulting flabby taste. I have found that some wines, particularly aromatic wines lose their crispness when potassium carbonate is used even in very small amounts.

NOTE:

• The last two procedures are generally carried out on wine. It is always best (safest) to do lab trials before treating the entire volume of wine.

• Potassium will increase the pH very quickly compared to calcium, so do not use it if the wine pH is already high, say above 3.5 or for large reductions. Potassium carbonate is best used to "fine tune" the acid balance.

• When using either of the carbonates, put it into a small quantity of wine, mix well, add back to the larger volume and stir it well. Always leave plenty of space in the larger container, as foaming can be violent unless the wine is very cold.

• Because both carbonates reduce only the tartrates, it is quite possible to notice that there may be little drop in TA if the malic acid is predominant despite the increase in pH.

• The rule of thumb is to use 1 g/l to reduce acidity by 1 g; however, this equation is not linear. If it is necessary to reduce acidity by, say, 5g, it will require more than 1 g/l.

Malolactic Fermentation (MLF): Unlike the four procedures described previously, which remove tartrates, malolactic fermentation removes malic acid. It does so by converting malic acid into **lactic** acid. One gram of malic acid is converted into 0.67 grams of lactic acid and the rest is given off as **carbon dioxide**. This procedure is often used for two reasons: it is a natural means of reducing acidity; and as a stylistic tool: it changes the character of the wine by making it softer and slightly buttery. It also influences microbial stability: if used in marginal to high pH's - between 3.5 to 4.0 - it can encourage growth of spoilage forms of lactic acid bacteria. ***Leuconostoc Oenos*** is normally the only lactic acid bacteria inducing MLF in lower pH wines (<3.5). Higher pH wines support the growth of *Lactobacillus* and *Pediococcus*, both spoilage bacteria.

One of the most readily available MLF cultures was developed at Oregon State University. It consists of two strains, Erla and

Ey2d, now referred to as **OSU1** and **OSU2**, which were developed to tolerate both low temperature fermentation (about 60°F) and low pH (about 2.9), similar conditions for winemaking in B.C.

If you use this culture, make a starter. It is in liquid form and the package states that it is good for 5 gallons, and at about $7.00 per package, that's expensive. Buy some apple juice, which has the desired pH of about 4.0 (it also has lots of malic acid), and start the culture in this medium. Gradually add white grape juice to sensitize the bacteria to the lower pH of the must and add directly to the ferment. This starter can be used for both red and white grapes.

Freeze-dried cultures are also available. They are very easy to use and very effective - just sprinkle them into the wine after alcoholic fermentation has been completed. The drawback is that they are very expensive.

MLF is routinely carried out on red wines and a few white wines (Chardonnay, Pinot Blanc, Pinot Gris, Sauvignon Blanc). Some winemakers like the taste; others don't. It also has some important catches to it:

1. Sulfite levels must be kept dangerously low - 30 ppm - during malolactic fermentation. Malolactic bacteria are sensitive to sulfite; they may be stunned, but they are not killed. If the MLF is not completed before bottling, when the free sulfite degrades, the bacteria can become active again; and the wine will undergo malolactic fermentation in the bottle.
2. Since home winemakers cannot test for either tartaric or malic acid levels, they don't really know how much TA drop to expect; and the only way to find out if the MLF is completed is to use color chromatography. (See accompanying article on malolactic fermentation and color chromatography)

Obviously getting involved with MLF is another dimension of winemaking that many people may not want to step up to, but it bears serious consideration. If MLF is not practiced and the sulfite levels are not high enough to inhibit the ML bacteria, there is the real danger that the wine, once it has been corked, will undergo MLF in the bottle. So it is best to use the process for no other reason than to avoid the potential problem.

Blending: Blending high acid wines with low acid wines is a method of balancing acid that many winemakers prefer. It is safe, uses no chemicals and yields immediate results. Many winemakers do an MLF on a portion of the wine and blend it with the non-MLF portion in order to balance the softer lactic characteristics with the more aromatic and fruitier characteristics of the grape resulting in a more complex wine. It can be a lot of fun to experiment in this way, and the rewards can be considerable.

All of the above-mentioned procedures are useful and safe; indeed, it is unlikely that many commercial wineries make their wines without using one or another - or a combination - of these methods of dealing with acid imbalances.

Cool Climate Grapes

The most frequently encountered problem, if it is a problem, is low pH and high TA. It is not unusual, however, to encounter both high pH and high TA due to a higher concentration of malic acid and high potassium, which results in high pH. Under normal growing conditions, some of the malic acid is metabolized into sugars and some disappears through transpiration. And the decrease in TA is directly parallel with the decrease in malic acid. Tartaric acid and its salts, on the other hand, remain fairly constant during the ripening process; and ultimately the level of malic acid is metabolized to the point where the dominant acid is tartaric.

A second problem arises when red grapes exhibit both high pH and high TA. Whereas with white grapes it is necessary to press off the juice, make adjustments and add the juice back to the must, this is not practical with red grapes. The best way to deal with red grapes is to add tartaric acid to reduce the pH; use malolactic fermentation to reduce the malic acid; employ cold stabilization; and, if necessary, make further de-acidification adjustments with potassium carbonate.

The problem can be dealt with in the same way with those white grape varieties that can be enhanced by malolactic fermentation. However, white grape varieties that depend upon malic acid for their aromas and flavors do not respond well to malolactic fermentation and require other treatments, including the use of higher levels of SO_2 to prevent spontaneous malolactic fermentation after bottling.

On the other hand, grapes from **warm climates** can also exhibit both high pH and high TA. When this situation occurs, the high pH is due to high potassium, and the high TA is almost entirely tartaric. Tartaric acid must be added to reduce the pH, and the necessary acid reduction must be accomplished by using procedures discussed previously. It is unlikely, however, that malolactic fermentation will result in any significant reduction in TA due to very low levels of malic acid.

Index of Acidity (IA) or Acid Taste Index

Ultimately, acid balance is a matter of taste and there is no "rule of thumb" that will determine what the correct acid balance is. However, research has been done that provides some general guidelines that can be helpful in determining whether the acid balance is within the "desired" range for the type and style of wine. It is simply a matter of subtracting the pH from the TA. For example: dry red wines should have an **IA** range of about 2 to 3, dry white wines about 2.7 to 3.7 and off-dry white wines about 3.8 to 4.8. Too far below these levels and the wine will be flabby or soapy; too far above them and the wine will be sharp and acidic.

Specialty wines such as dry Sherries, sparkling wines, dessert and after dinner wines are not as easy to assess using this method: Sherries because of their general low pH and low TA; sparkling wines because their low pH and high acid are mitigated

somewhat by carbonation; dessert and after dinner wines in particular require a much higher pH-to-TA ratio because they usually have a lower pH with higher acids in order to balance the sweetness. Ice wines, for example, may have an **IA** as high as 12 or more. Of significance in red wines is the level of astringency: high astringency will tend to make wines on the high side of the **IA** seem more acidic than they really are.

While numbers may be useful tools and can be used as aids in striving for good pH/acid balance, the final arbiter of proper balance is the taste buds.

Reducing Acid with Malolactic Fermentation (or MLF)

A "purist" once pointed out to me that before inducing a malolactic fermentation, I should think about the fact that malic acid is part of the grape. Lactic acid is not - rather it is a product of bacterial action and thus a contaminant. I resisted the urge to retort that alcohol is not part of the grape either. So - enough philosophy and on to practicalities.

The two main acids found in grapes are tartaric and malic. Of the two, malic has a more aggressive acid effect on the palate. Lactic acid, the product of malolactic fermentation is less "sour" than either. During malolactic fermentation (MLF), malic acid is converted into lactic acid and carbon dioxide (CO_2): 1 gram (g.) of malic acid will be converted into 0.7 g. of lactic plus 0.3 g. of CO_2. Thus the effect on the acidity is to produce a less aggressive acid and a smaller quantity of it. MLF will also increase the complexity of a wine. The flavor becomes more mellow, the nose more complex and vinous.

To have an MLF occur is desirable in many red wines and in some whites, such as Chardonnay or Sauvignon Blanc. MLF should probably be avoided in wines whose appeal is their fresh fruity characteristic such as Riesling or Gewürztraminer. If you are aiming for a crisp fruity Sauvignon Blanc or Chardonnay, MLF should be avoided here as well. A compromise, a partial MLF is possible but a bit tricky for the hand-winemaker- we'll talk about it later, along with how to avoid MLF altogether.

Inducing MLF

If you want to get an MLF going in a wine, the first thing to do is to get a culture of ML bacteria. One product available on the market is a blend of cultures of the bacterium leuconostoc oenos. It comes in liquid form in a 114 ml packet, and should be stored under refrigeration. The instructions say the packet is sufficient for 5 gallons of wine. You may have more than that and will need to increase the amount of culture.

The ML bacteria do best in warm temperatures, under higher pH conditions and an absence of SO_2. Since conditions ideal for the MLF conflict with those for the wine itself, compromises are necessary. The bacteria will still work at pH levels down to 3.0 or so, but more slowly. The same is true of temperatures down to about 13°C.

Free SO_2 levels should be at a maximum of 15 ppm. If you are going to sulphite the must before adding yeast, try to keep the SO_2 under about 25-ppm if possible. After the alcohol fermentation is well underway, much of the free SO_2 will have gone. This is a good time to add the ML culture. This is particularly true of red wines where you are probably going to take the fermentation temperature up quite high.

Usually white wines you are going to do an MLF on will be low pH, and will thus will have needed much less SO_2 to begin with.

Depending on conditions then, an MLF could take as short a time as a couple of weeks, or as much as several months. Back in the pre-scientific days, winemakers noticed that wines "came alive" again in the spring following their harvest and initial fermentation. This would undoubtedly have been due to MLF caused by naturally present bacteria, combined with the warming temperatures.

If you are using a barrel and you have just taken out a wine that has completed MLF, the new wine you replace it with will almost certainly do an MLF if it hasn't done so earlier.

Tracking MLF with the Paper Chromatography Test

Just as you need a hydrometer to track the progress of your alcohol fermentation, so you need a means of checking on the progress of an MLF. This is paper chromatography and it's rather more complicated than taking a hydrometer reading. You need either to put together a paper chromatography kit, or to purchase one from your winemaking supplier. I'll tell you about making or refreshing the solvent at the end of this article.

There are two "chromatograms" illustrations. You should refer to them as you read how to set one up.

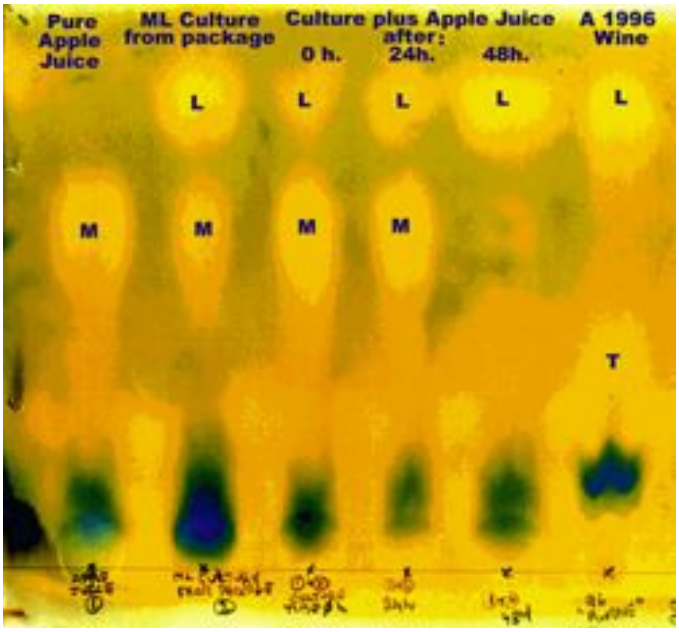
First, draw a line with a pencil (don't us a pen, ink will run and ruin things) about 2 cm above the bottom edge of the long side of the special paper included in the kit. Pencil six or seven "X's" equally spaced along the line and label each with the name of the samples to be tested. Add the date of the tests.

Fold a couple of sheets of ordinary typing paper into roughly 2-cm pleats accordion style. Lay the chromatography paper on one of these and use the other to hold the capillary tubes. Fill a capillary for each of the samples to be tested by dipping it in the liquid until it rises pretty well to the top of the tube. Touch the end of each tube briefly to the "X" mark it belongs to. Make sure the wet

patch formed is a maximum 1-centimeter across. Let the patches dry then re-apply the capillaries. Continue this process until the capillaries are empty. In this way you create a concentrated patch for each sample. When the spots are dry following the final application, staple the short sides of the chromatography paper together to form a cylinder. Handle the paper by the edges - acidic fingerprints could interfere.

Pour about a centimeter of the yellow chromatography solvent into the bottom of the jar supplied (about 100 ml).

Lower the cylinder of chromatography paper, "X" marks downwards, into the jar, and seal it.
It will take about 8 hours for the solvent to get near the top of the paper. As the chromatography solvent makes its way up, it carries the various acids with it. The lactic acid, marked L on the pictures, moves the furthest. Second furthest, marked M, is the malic acid. Tartaric acid moves the least of all and is marked with a T. When the solvent is close to the top (don't let it go past), take the cylinder out and put it upright on a piece of paper towel somewhere well ventilated to dry. It will take a day or even more for the colors to completely develop, depending on temperature and air circulation. When it is done, you will see yellow patches representing the acids against a greenish background. Follow the progress of a culture illustrated by the first illustration: The first sample is from a 1-litre package of apple juice. Make sure there are no preservatives such as sodium benzoate. Vitamin C is okay.



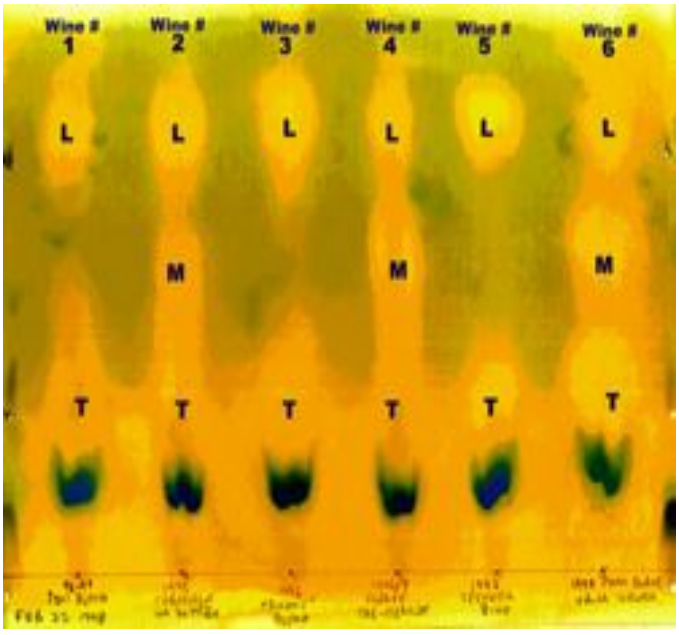
You can see from the chromatogram that the main acid component of the apple juice is malic. The second sample is directly from the packet of culture. This shows a high proportion of lactic acid at the top, with some malic still left.

Mix the culture and apple juice in a 2 or 3 liter bottle under as sterile conditions as you can. Sample 3 was taken from such a mix immediately after it was made. Cover the bottleneck with cellophane wrap and a rubber band, to keep dust and insects out, but also to allow CO_2 to escape. Place it in a warm spot where the temperature will be around 77°F. Sample 4 shows that after 24 hours some of the malic acid of the apple juice has turned to lactic, but not much. Sample 5 shows that after 48 hours all the malic acid has been converted to lactic and the culture is ready.

Sample 6 is of a wine that has completed its MLF. It is shown to indicate where the tartaric acid, which is not present in the ML culture shows up.

It is interesting to note that there is a faint indication of acid below the malic position in samples 1, 3, 4 & 5 that does not appear in sample 2. This could be due to the vitamin C (ascorbic acid) or others appearing as traces in the apple juice. If you had added citric acid (possibly in an acid blend) it would also show up between the tartaric and malic spots.

Now let's look at the second illustration, the one with samples from six different wines.



The main feature is that samples 1, 3 and 5 have completed MLF, while samples 2, 4 and 6 have not. Of those uncompleted, #2 is furthest along with #6 the least.
There is other information to be gleaned, although a person has to be a bit careful not to over interpret.

The tartaric spot on 4 is weak. This is a B.C. red wine. There is a possibility of a very high proportion of the acid being malic. In this sort of situation, you need to keep a close eye on the pH and TA. If the acid was in balance before the ML started, a complete MLF could leave the wine short of acid. By the same token, if a wine were heavy on the tartaric with little malic showing, an MLF wouldn't have much effect.

If the spotting was carefully controlled, that is to say, each capillary equally filled and each spot the same diameter, then wine #6 has more tartaric than the others, and even though ML has started, it looks like more malic was present at the start, as well. In fact sample #6 is a 1996 B.C. Pinot Blanc with a relatively high TA.

Wine # 5, a 1996 Spenker Ranch Zinfandel is interesting for the tight definition of the tartaric and lactic patches and the lack of indications of the presence any other (minor) acids.

Avoiding Malolactic Fermentations

If you want to avoid having an MLF occur, prompt racking off fermentation solids helps, but most important is maintaining adequate SO_2 levels. Generally this means a concentration of molecular SO_2 of at least 0.8-ppm. The amount of free SO_2 to achieve this depends on pH, for instance a minimum of 30 ppm free SO_2 at pH 3.3, 40 ppm at pH 3.4. Since some of the SO_2 you add immediately becomes bound you need to check to see if you have enough SO_2 left in the free state.

Disaster can strike a sweet wine stabilized with potassium sorbate. If SO_2 levels are too low and MLF occurs under these conditions, a revolting geranium like smell and flavor develops and the wine has to be dumped.

Partial MLF

Suppose you wish to have a Chardonnay that has some complexity, but that also retains a lot of crisp fruity character. A partial MLF is the answer. You can't partially ferment your whole batch. What you have to do is a complete MLF on a portion of the wine, no MLF on the rest, and subsequently blend. The problem here is preventing the MLF portion from getting the non-MLF portion started. Commercially, this is achieved by sterile filtering the ML bacteria out. This is difficult for the home winemaker. However, if good filtration is done and, most importantly, the molecular SO_2 level is kept at a minimum of 0.8 ppm a blend of MLF and non MLF portions should remain stable.

Some notes on your malolactic chromatography kit:

The paper is Whitman's #1 Chromatography paper.

The solvent is made as follows: Thoroughly shake together in a 250 ml separatory funnel, 100 ml distilled water, 100 ml n-butanol, 11 ml glacial (concentrated and very nasty stuff to handle*) formic acid and enough bromcresol green indicator (about 0.15 grams) to give a deep yellow color. Allow to settle. Drain off and discard the bottom, water-soluble portion and you will be left with about 100 ml solvent.

***If you are not trained in working with hazardous chemicals, don't even think of working with glacial formic acid yourself. Get someone competent to do it for you.**

The solvent can be used several times over a period of two or three months. However, it eventually wears out and the patches from the different acids begin to run into each other. However, don't throw your tired solvent out. You can rejuvenate it by adding n-butanol to bring the volume back to 100 ml, a tad of bromcresol green if necessary for good color, 100 ml distilled water, 11 ml glacial formic acid, and going through the mixing and separating process all over again.

It is even possible to get away without having capillary tubes for spotting. Use toothpicks.

West Side Wine Club
Leadership Team – 2010

President: **Jon Kahrs** jekahrs@aol.com
- Set agenda for the year
- Establish leadership team
- Assure that objectives for the year are met
- Set up and run meetings

Treasurer: **Bill Spiller** nrac@msn.com
- Collect dues and fees, update membership list with secretary
- Pay bills

Secretary: **Ken and Barb Stinger** kbstinger@frontier.com
- Communicate regularly about club activities and issues
- Monthly newsletter on first Wednesday
- Prepare meeting agenda
- Keep updated list of members, nametags and other data
- Club message board invitations

Chair of Education: **Craig Bush** pnoir1@frontier.com
- Arrange speakers for our meetings

Chair for Tastings: **Craig Bush** pnoir1@frontier.com
- Conduct club tastings
- Review and improve club tasting procedures

Chair of Winery Tours: **Mike Smolak** SmolakM@DimensionResources.com
- Select wineries to visit
- Arrange tours
- Cover logistics (food and money)
- Winery Tour 1
- Winery Tour 2

Web Content Editor: **Rick Kipper** kips@lycos.com

Webmaster: **David Ladd**

Chair of Group Purchases **Sammy Nachimuthu** murugasamy_nachimuthu@yahoo.com
The chairperson makes the arrangements to purchase, collect, and distribute.
- Chandler Reach Vineyard – **Sammy Nachimuthu** murugasamy_nachimuthu@yahoo.com
- Del Rio Vineyard – **Craig Bush** pnoir1@frontier.com
- Supplies – These should be passed to the President for distribution

Chair of Competitions: **Miriam Schnepf** mowtnwmn@mac.com
- Work with Washington County Fair staff
- Encourage club participation in County Fair
- President will be the contact for the Oregon State Fair

Chairs for Social Events: **Barbara Stinger and Sammy Nachimuthu**
- Awards Gala / Holliday party