

# West Side Wine Club

## November 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**

Sofer 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

November Musings: A season to remember...

Around the world the weather has wreaked havoc on the wine crop. In France, the harvest started in late August, a new record. Meanwhile, the Italian harvest was the smallest harvest in 60 years. Of course here in the Northwest both Oregon and Washington had significant problems. In Washington, grapes that mature later, such as Mourvedre and Tempranillo, had problems ripening. But with the acid and good levels of brix, Merlot, Grenache and Syrah would appear to have banner years for aging. Since this follows after a cool 2010 and fall freeze, many vineyards and wineries are suffering. California suffered as well due to spring rains and fall rot. Tough year.

The Pinot harvest was pretty amazing here in Oregon. After a late spring and a cool early and mid-summer, warmth came our way for a month or so. Although the temperatures declined after late September, the rains were surprisingly light. This allowed vineyards to hang the fruit up long enough to capture delicate flavors. And even if they have to chaptalize the must, the flavors will support some increased alcohol content. Steve Anderson at Eola Hills Winery was kind enough to write back and talk about how he saw this season. Steve's comments started out in the vineyards:

*"Young vineyards did not fare as well as the old established ones with deeper roots. I suspect the dry summer (drier than most) stressed the vines and they shut down for a while. The rains in September and early October were a help as we saw a regeneration of the canopy and some lateral shoot growth. This was a plus when asking for more sugar."*

The mantra for vineyards after last year was that thinning the vineyards with a "green harvest" to reduce clusters to typically one cluster per shoot- was an important method for increasing brix in the vineyard. Perhaps the emphasis should be on flavors rather than absolute numbers:

*"Most vineyards I am aware of thinned early, heavy, and again. Those that did, fared only marginally better than those who did a moderate thinning. The lesson is we probably could have hung more fruit? The difference between quantity vs. quality: Those who were greedy and thinned little, are still hanging."*

One concern that was on every vineyard and winemakers mind was botrytis. Last year there was ample botrytis that played havoc on flavors and fermentation. Steven notes:

*"I am pleasantly surprised at the lack of botrytis, due to the diligence of my vineyard manager and his many footprints in the vineyards. We sprayed late season repeatedly after each rain, or sprinkle with 30% hydrogen peroxide. I would say it was very effective at keeping botrytis at bay. It won't help if you already have botrytis unless you drop that fruit and spray what's left. One day reentry period and it works."*

Hydrogen peroxide? Who knew? This year there was little botrytis in "our" vineyard in southwest Portland. We harvested at somewhere around 19 brix. We were diligent about botrytis as Steve notes and hung them as long as we thought reasonable. We will see about how the wine turns out. But at 19 brix, we faced the issue of Chaptalization. How much does one chaptalize when you are at 19 brix? We probably should have gone to at least 22, but ended up going to 21 due to concerns about balance. Our ambitions with this wine are low so we are going for an easy drinking wine. Steve had some thoughts on chaptalization:

## Information & Trivia



The conservative Mayo Clinic is beginning - although begrudgingly - to jump on the red wine bandwagon. Indeed, an article last March on the renowned Minnesota clinic's web site admits that "Red wine's potential heart-healthy benefits look promising", and concedes that "Those who drink moderate amounts of alcohol, including red wine, seem to have a lower risk of heart disease". Way to go, Mayo.

Despite strong protests from wine producers and environmentalists, the German government is going ahead with plans to build a mile-long auto bridge through the heart of the famed Mosel wine region. The 500-foot high span will pass directly over Zeltingen-Rachtig, Wehlen, Graach and Bernkastel, and according to opponents, will not only disfigure the landscape but, will adversely affect water distribution in nearby vineyards. *Ach du Lieber*

Italy is the world's largest wine producing country, having bottled 4.96 billion liters of vino last year. France was number two, with 4.62 billion liters.

*"Chaptalization is one of those, everybody has an opinion and they are all right, in my opinion. I chaptalized early and all at once, only to be done with it. I also do not like to chaptalize more than 1.5 brix, as I am positive everyone knows that sugar is alcohol, and not flavor. Too much alcohol and the wine can be out of balance.*

*Some who are fans of post fermentation maceration could wait until the ferment is almost complete and the cap is soft, add sugar and raise the cap for a few more days. If you are going to make a big bump to the brix it is recommended to split the sugar and add some at the start and the rest at a future time towards the end of the ferment."*

But one concern of mine that hasn't been talked about much this season is the acid balance. Because these grapes have spent a long time on the vines, the seeds and flavors can be mature. So the malic and tartaric acid ratios can defy expectations. Moreover, sometimes it is pH and not brix that we should be looking for. As Steve points out:

*"Something new that I observed this year was that after repeated sampling, the grapes reached a point where the brix rose by 1/10 in 5 days and the acid and pH increased as well. The vines had shut down and the grapes started to shrivel was the answer. Sugar went up as well as acid due to the dehydration occurring. Even in a year like last year I was able to wait for flavors to develop and this year being so late and cold the flavor was not there. It wasn't until the pH rose to above 3.1 that I could detect the nuance of ripe flavors. I will keep this in mind in future years to be cognizant of the pH and when I think I can detect some flavor other than green grape flavor.*

*I will be using a bit of potassium carbonate as well as sugar."*

Robert Brittan had similar thoughts as he raced around to different wineries he consults for:

*"Just crazy right now. Overall impression is a vintage that is more mature than can be expected but out of synch - has been throughout the growing season and the chemistry reflects that."*

So if you are working with 21 brix grapes with brown seeds, don't panic. Anything can happen in a year like this. If you have any questions you can either ask a senior winemaker here at the club or you can post it on "Winepress". Finally, Steve provided some figures on the pinot harvest. I thought it was an interesting compilation of brix, acid and pH figures. It provides a good template to see if your measurements were reasonable:

Date	Brix	pH	TA
10.1.11	29.2	3.72	0.48
10.12.11	20	3.26	0.7
10.13.11	20.8	3.13	0.63
10.15.11	24.6	3.34	0.48
10.17.11	19.1	2.92	0.99
10.18.11	23	3.41	0.48
10.20.11	17.2	3.42	0.6
10.21.11	21.9	3.17	0.7
10.22.11	18.3	2.88	1.21

Date	Brix	pH	TA
10.23.11	21.7	3.28	0.7
10.24.11	22	3.06	0.7
10.25.11	20.6	3.15	0.75
10.26.11	23.1	3.37	0.55
10.27.11	24	3.77	0.4
10.28.11	19.9	3.54	1.05
10.7.11	22.4	3.8	0.45
9.20.11	25.8	3.47	0.4

Interesting figures: Brix numbers appear to be all over the place, even a few numbers above 23. Not sure about the 29 brix but this was a good year to have a warm vineyard. As the season matures and we start doing barrel samples, we will get a better feel for the year. The biggest question is to what extent will those flavors show through?

All the best,

Jon Kahrs

President, WSWC

Special thanks to Steve Anderson of Eola Hills and a shout out to Robert Brittan for assistance in this muse.

**Next Meeting:** Wednesday, November 16 at 7:00 p.m. at Oak Knoll

**Agenda:** Pinot Gris / Viognier Tasting

**Snacks:** Scott Nelson, 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/>

### October Meeting Minutes

A large crowd of 33 people was present for the annual Pinot Noir tasting.

Four new members joined the group. Please welcome new members Robert Ratts, Elizabeth Legerson, Jim Ourada and Paul Rogers.

Scott Nelson volunteered to bring snacks to the November meeting.

The November meeting will include a tasting of member produced Pinot Gris and Viognier.

The annual Gala committee will consist of Barbara Stinger, Sammy Nachimuthu and Mindy Bush.

Jon Kahrs pointed out that, for the first time, we held our Pinot Noir tasting before crush.

Jon also mentioned that, because of the poor growing season:

- Grape sorting will be necessary because of rot.
- Added Oak chips may reduce green flavors.
- Chaptalizing (adding sugar) may be necessary to make up for low brix levels.
- Extended maceration may help with reds but be conscious of green stems and seeds.

Terry Swan said he sometimes chaptalizes using grape concentrate from kits, which have a high brix level.

Jon also recommends using the "Wine Press US" forum website to ask and get answers to all your winemaking questions.

Craig Bush and Phil Bard conducted the Pinot Noir tasting.

In order of tasting they were:

2008 RoxyAnn vineyard	Don Hofford
2010 (chaptalized)	Bob Hatt
2007 Dundee Hills	Scott Nelson
2009 Courting Hill, 115 & Jackson clones	Don Robinson / Jon Kahrs
2009 Sunnyside vineyard, 777 & Wädenswil clones	Jon Kahrs
2009 Courting Hill, Pommard clone	Ken & Barb Stinger
2009 Pommard clone	Bill Brown
2006 Sunnyside, Stormy Morning & Highland Vin.	Craig & Mindy Bush
2004 Temperance Hill vineyard, Pommard clone	Don Hoffard / John Hooson
2009 115, 777, & Pommard clones	Terry Swan
2008 Borgo Pass vineyard	Jon Kahrs

(Winners certified by Dewey, Cheatum & Bush.)

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## **My \$100 Bottle of Wine**

aka

### **"The People Deserve To Know the Truth"**

**by Brendan Eliason Assistant Winemaker, David Coffaro Winery**

As the new winemaking year begins, I find myself reflecting on the previous vintage. In the process, I do a quick mental check of how much we have to ante up in order to go from happy, green vines to squished juice in a bottle. Our costs add up to slightly more than \$7 a bottle. This usually doesn't hit me until I'm walking through a wine shop and happen to compare this price with the prices on the shelves. My reaction usually goes something like this: "What the &#@%!? A hundred dollars for a bottle of wine? How could this happen? What went wrong? What can you possibly do to make a bottle cost \$100? Were the grapes individually crushed between the thighs of Cuban virgins? Were many overpaid psychologists hired to deal with the wines' post crush stress? How can \$50, \$70, \$100 or more a bottle ever seem reasonable?"

Then I had to stop. Wait, I'm thinking about this the wrong way. If there are people willing and able to pay these obscene amounts for wine, then who am I to stop them? Heck, I should take advantage of these people. I should make a \$100 bottle of wine! It's brilliant. I'll make millions.

Now if I'm going to make a \$100 bottle of wine, then I need to start with great grapes. Not just any grapes will do. I need incredible grapes. World class grapes. Uber grapes. Grape prices are at a major high right now, but for my wine, price is no object. This year, old vine Dry Creek zinfandel was going for around \$2,500 a ton (higher for some vineyards). This is really expensive. That puts Dry Creek zin in about the top one percent of all wine grapes. Unfortunately, zin just won't cut it for elitist appeal. So my grapes will have to be cabernet - more specifically, Napa

Valley cabernet. And the top one percent just isn't going to be good enough, either. Let's crank it up a notch. Let's assume I'll pay \$4,000 per ton. This is probably around the top one percent of the top one percent of all wine grapes.

Because I don't want to get too greedy, I'll make 3,000 cases. Wine geeks usually call this size "boutique." Personally, I call it a license to print money. Anyway, to make 3,000 cases, I have to think forward. Of course, I'll lightly press the grapes and take only the best of the free-run juice. This means I'll only get about 50 cases (600 bottles) of wine per ton of grapes. (If I pressed harder I could yield as many as 15 additional cases per ton. But I can afford to be picky.) So I'll need to buy 60 tons of grapes.

Having been very selective with the world's most expensive grapes, I now have a total investment of only about \$6.66 per bottle. Add another couple of cents for special processing and individual loving care (not to mention easier math), and I've got \$7 invested in each bottle. Hmm? I better bulk up my costs substantially if I expect to justify an additional \$93 a bottle.

Okay, I'll need to age my wine in the best oak barrels. I can get good American oak for less than \$200/barrel (plus or minus 70¢ a bottle). But for my Uber wine, I clearly need French oak... and the pricier the better. I can get great French barrels for around \$600/barrel, but I'll up that to \$800 apiece just to be safe. That adds about \$2.67 to every bottle, bringing my total cost to about \$9.67. Drat! That's still not enough money.

Overhead! I'll need equipment! If I employ any "used" equipment people might talk, not to mention laugh. I wouldn't want that. So I'll need new toys. Lots of new toys. Let's see... I'll need a crusher/stemmer (\$10,000), a must pump (\$12,000), a new forklift (\$20,000), a nice state-of-the-art press (\$45,000 - for that price it better slice, dice, saw an aluminum can in half and still cut a tomato paper thin), and assorted hoses, clamps and other cellar equipment (\$5,000). Toss in a good winery building (\$150,000) and \$40,000 for utilities, and I've parted with an additional \$278,000. This factors out to an extra \$7.91 per bottle. And given that my dedication to quality is so great, I'll buy new equipment every year and donate the old stuff to charity. And I won't even take a write-off. (Won't the Boy and Girl Scouts just love their new Brusher membrane press?)

I'll also need a winemaker. This could be difficult. I'll need someone who can act. Why? 'Cause not only are our wines worth \$100 a bottle, but they're also a steal at anything less than \$200. And consumers should be grateful that we're letting them spend a C-note for our "masterpiece." Winemakers like this don't come cheap. The average salary for a winemaker at a premium winery this size is around \$50,000 a year. I should at least double this because I want my winemaker to be happy. Yep, \$100,000 for a thespian winemaker. Add an assistant at \$30,000 a year (because I really can't expect my winemaker to work too hard for only 100K) and I've successfully added another \$130,000 to the total cost. Then the benefits (health, dental, vision, regular massage, espresso bar), and that's an easy \$200,000, or \$6.67 per bottle. My total now... \$24.25 a bottle.

After aging, processing and pampering my wine, it's ready to bottle. I'll openly mock the normal 50¢ per bottle most wineries pay for glass, and scoff at the standard 20¢ per cork. My wine deserves nothing less than triple the cost across the board. That should get me custom designed glass bottles and cork that's hand processed by blind Portuguese artisan monks who'll individually bless each cork as they personally package and send it to me. Toss in label and foil costs at the same triple markup (normally about 33¢ -- \$1 for my wine), along with \$2.50 a case for bottling, and I've managed to up my spending to roughly \$27.56 per bottle.

Now that my Uber wine is bottled, I've pretty much run out of ways to spend more money to better the quality. All I can do now is market it. First, I'll buy the back cover of the Wine Spectator. It'll cost \$28,000 (or 77¢/bottle) but heck, it's only money. Even with all this spending I'm only up to \$28.25 - a far cry from my \$100 goal. Luckily I still have an ace up my sleeve: the three tier marketing system in which I have other people selling my wine. (After all, I don't want to actually deal with the public, do I?)

From here on out my job is pretty well set. I'll add a "reasonable" profit (about \$20 per bottle or \$720,000) to my cost, thus selling my wine to my wholesaler for \$50 a bottle. Taking the standard 33 percent markup, the wholesaler will sell my wine to a retailer for about \$66.67. At the standard retail markup of 50 percent, my wine will, finally, reach \$100 per bottle. But my biggest joy will be when my wine's sold in restaurants. There, it'll go for triple the wholesale cost a downright reasonable \$225 per bottle. This is so beautiful I could cry.

At this point I have only one possible impediment: the customer. If no one's willing to pay full price for my uber wine, then all of my well laid plans will be ruined. I think I'm pretty safe, though. There never seems to be a shortage of people who want to spend excessive amounts of money on a "cult" wine. Once someone's ready to pay for the \$75 profit and the marketing, then the cycle will be complete.

Whew. That was tough. Making a \$100 bottle of wine isn't as easy as I thought. I think I need to hire strolling mandolinists to walk through the vineyards (for "cultured" wines) and trained linguists/agriculturists (because multi-lingual grapes are tasty grapes)! Maybe I'll have to start hiring individual workers for each vine (personal attention can be very important), or maybe I can just build an oversized chateau so I'll have a place to relax while trying to figure out how to make next year's \$150 uber wine.

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## Ullage (head space).

Just when you thought you were home free, when the only thing remaining to do is get the wine packaged and on its way, bottling it can be a complicated situation.

Leaking wine bottles are often erroneously blamed on poorly performing closures, but unless the closure has serious physical defects, the reason for leakage is usually due to improper bottling practices and excess bottle pressure after bottling.

Bottle sizes vary, ambient and liquid temperatures are rarely ideal, corks come in different sizes, and pressure can rise in the neck of the bottle. All these variables can potentially cause leakage over time when the chilled wine warms and expands, and increases pressure against the cork.

Good bottling requires reconciling the wine temperature, the pressure between the cork and the wine, and the necessary ullage (head space).

Wine bottle drawings from glass manufacturers show the suggested fill point for wine at 68°F. The fill point is measured as the



distance from the top of the bottle to the correct wine level in the bottle. They provide a good idea as to where the correct fill point should be. Generally, the fill point on the 750 ml bottle at 68°F will be approximately 64mm (2½ in.) from the top using a 45 mm (1¾ in.) cork length.

Insertion of the cork into the bottle compresses the air trapped below the cork and above the wine, and generates excess pressure in the headspace. If the bottle is laid on its side or upside down shortly after corking, the pressure in the headspace can force some wine out, thus causing a leak. To release excess pressure and minimize the risk of wine leakage, the bottle should be stored upright (off the cork) for 24 hours after corking.

If the bottles are filled with wine colder than 68°F, the fill level should be adjusted downward to allow for the expansion of wine volume with the rise in temperature.

Many winemakers sparge the headspace with carbon dioxide. When CO<sub>2</sub> is injected before corking, the air from the headspace is displaced by CO<sub>2</sub>. As the CO<sub>2</sub> is dissolved into the wine, the positive headspace pressure is reduced.

## What Size Cork to use

The standard wine bottle has an opening of 18.5 mm. Obviously, the "standard" cork has been designed to fit the standard wine bottle. Cork sizes are designated by a number and length. The number corresponds to the diameter of the cork.

The #9 (24mm diameter) cork, is the standard for wine bottles. Typical lengths are 1.5 inches, and 1.75 inches. Shorter corks (1.5 inches) are recommended for wines to be aged less than one year. Longer corks (1.75 inches) are recommended for wines to be aged more than one year, as the longer corks will be less prone to dry out.

The #8 (22mm diameter) cork is the standard size for champagne bottles, and some 375 ml bottles.

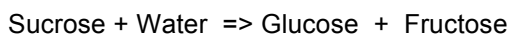
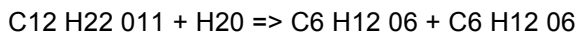
The #7 (21mm diameter) cork is the standard size for beer bottles.

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## SUGAR IN HOME WINEMAKING

In winemaking, treacle, golden syrup and brown sugar are best avoided, because they impart distinctive flavors, which may conflict with the flavor of the basic ingredients. Honey can be used in mead recipes. The best sugar to use is pure, cheap, granulated white sugar.

Don't be confused by names such as sucrose, glucose, fructose and lactose. Sucrose is the chemical name of ordinary white sugar. Sucrose is said to be a "two-unit" sugar because each molecule of sucrose is made up of one glucose and one fructose molecule joined together. Thus it follows that glucose and fructose are simple "one-unit" sugars. Yeast begins its fermentation of sucrose by splitting sucrose into glucose and fructose:



The yeast then ferments glucose and fructose. (You will see that glucose and fructose have the same chemical formula; they differ in the shape of the overall molecule.)

It has been claimed that the winemaker can help yeast if he or she supplies the sugar already split into glucose and fructose, i.e. inverted. This is actually open to question, but if you wish to try it yourself, do not buy glucose (which is expensive), but invert the amount of white sugar specified in the recipe by boiling it in water with a teaspoonful of citric acid for ten minutes. The syrup should be allowed to cool and then used in the preparation of the must; it will have a pale yellow color. The acid is not affected by the boiling and therefore takes the place of the same amount of acid in the recipe.

## Chaptalization

Ask any experienced winemaker about factors that can come into play to make each year's harvest unique, and there's a good chance mention will be made to the local growing conditions or climate. Some years, the fruit will be fully ripe and bursting with flavor - while in other years (especially during poor growing conditions), the fruit seems like it takes forever to ripen and the harvestable quantity is diminished.

It doesn't take a genius to figure out that wine made from two diverse growing seasons requires different must adjustments in order to make good wine year in and year out. If you've ever made blackberry wine according to your grandfather's old recipe and wondered why one year's wine is great but the next one isn't, one possible explanation is that the sugar content of the blackberry must varied widely from one year to the next.

To get consistent results, vintners test the raw fruit juice to determine the must's quality - and based on the results of these tests, make the necessary chemical adjustments to ensure a well-balanced wine.

This winemaking article will focus on one aspect of creating a well-balanced wine - controlling the alcoholic content of your wine. The amount of alcohol that is in your finished wine is directly proportional to the amount of sugar found in the raw fruit juice, or must. This makes sense, since we know that wine yeast converts the sugar to alcohol and carbon dioxide. The more sugar you

have, the more alcohol you'll get. This article does not go into any great detail to discuss other methods of adjusting your must, such as adjusting your acidity and pH.

This article is intended for home winemakers who make their own wine from scratch (from fresh grapes or fruit). If you make wines from kits, you will certainly benefit from this knowledge, but you won't have to worry about chaptalization since modern wine kits are already chemically balanced for consistency.

**What is chaptalization?** - Simply put, chaptalization (also known as "sugaring") is the procedure of adding sugar to grape juice or must prior to or during fermentation. As you have already surmised, winemakers chaptalize must to compensate for poor growing seasons, or if they're located in areas of the world that experience cooler climates.

By boosting the sugar content to appropriate levels, you can help ensure your wine is well balanced... but be careful - adding too much sugar is just as bad as not having enough!

**Why is it important to chaptalize?** - The main reason it is desirable to chaptalize your wine is that **your wine will have the proper alcoholic content to help ensure a well-balanced wine.**

There are three aspects of must you should measure and adjust (if necessary) prior to pitching the yeast. They are acidity, pH, and the amount of sugar. These three aspects of wine work together to create the taste of the wine. If only one of these readings is out of whack, the wine that is made from that particular batch of must is said to be "out of balance" and the overall taste of the wine will suffer. If the wine is too acidic, it will taste like battery acid; if it doesn't contain enough alcohol, the wine will taste thin. Properly balanced wines have the right amount of pH, acids, and alcohol and taste great. As previously noted, we will concern ourselves solely with the adjustment of sugar in this article.

While we're on the subject, here are some other benefits of chaptalization:

Your wine will be less susceptible to spoilage. The lower the alcoholic content, the greater the possibility that your wine could fall victim to harmful mold or bacteria. By keeping your wine at or above 10% alcohol by volume, this type of spoilage is largely prevented.

The physical process of chaptalizing involves stirring the must; stirring provides an intangible benefit to your wine, since it helps ensure your must is well mixed and ready to accept the yeast.

It forces you to take a close look at your sugar levels; recording your starting specific gravity is a good habit to get into, and can help you reproduce a great wine year after year.

**Hints for chaptalization** - In a nutshell, here are the processes you would go through to chaptalize wine:

Create the must by getting the juice from your grapes or other fruit

Take a hydrometer reading

Compare the hydrometer reading to your desired specific gravity

Make appropriate sugar additions to must

Pitch yeast to start fermentation

**Note:** A hydrometer is a simple, inexpensive piece of testing equipment used by winemakers to determine the amount of sugar available in the must.

Take the specific gravity reading and see where it falls in the chart below.

#### **Wine Volume:**

Estimate your expected **wine** volume, not your must volume. If you have no idea how much wine you will get, multiply your must amount by 75% as an estimate. E.g. - 11.5 gallons of must will give you ~8.6 gallons of wine. This mainly applies to red wines, where the press will occur after fermentation. In the table and illustrations below, use estimated wine not must. For white wines after press use the juice volume.

<b>Specific Gravity</b>	<b>Sugar in One Gallon of Wine</b>	<b>Brix</b>	<b>Potential Alcohol (%)</b>
1.040	0 lb. 14 oz.	10.0	5.1
1.045	1 lb. 0 oz.	11.5	5.8
1.050	1 lb. 2 oz.	12.5	6.5
1.055	1 lb. 3 oz.	14.0	7.2
1.060	1 lb. 5 oz.	15.0	7.8

1.065	1 lb. 7 oz.	16.5	8.6
1.070	1 lb. 8 oz.	17.5	9.2
1.075	1 lb. 10 oz.	18.5	9.9
1.080	1 lb. 11 oz.	20.0	10.6
1.085	1 lb. 14 oz.	21.0	11.4
1.090	2 lb. 0 oz.	22.0	12.2
1.095	2 lb. 1 oz.	23.0	12.7
1.100	2 lb. 3 oz.	24.0	13.4
1.105	2 lb. 5 oz.	25.0	14.1

For white wines, your target specific gravity should probably be in the 1.085 to 1.090 range. If allowed to ferment to dryness, this would equate to a wine that contains about 11.5% to 12% alcohol. For red wines, your desired starting specific gravity would be around 1.090 or 1.095.

For the sake of illustration, let's say you've prepared 6 US gallons of wine juice (0.75 X must volume) and took a hydrometer reading. After making corrections to the reading based on the temperature of the juice (most hydrometers are calibrated at 60 degrees Fahrenheit), you discover that your red wine's starting specific gravity is 1.070. Since we're making a red wine, our desired starting specific gravity is 1.090.

So how much sugar should we add? Not only that, but what kind of sugar should be used?

Luckily, just plain old white granulated sugar - the kind you buy in the grocery store - is the sugar of choice. It doesn't matter if it came from sugar beets, sugar cane, or whatever. Just don't use brown sugar, since it contains molasses and will really throw off your taste.

We can tell from the chart that wine juice with an SG (specific gravity) reading of 1.070 contains one pound and a half of sugar per gallon. To discover how much sugar is present in the raw juice, then, we would simply multiply one and a half pounds by 6. We do this since (at least in this example) we're dealing with 6 gallons of juice:

**1.5 lbs. per gallon X 6 gallons = 9 lbs of sugar**

Our desired starting SG is 1.090, which is equivalent to 2 pounds of sugar per US gallon:

**2.0 lbs per gallon X 6 gallons = 12 lbs. of sugar**

The difference between the two, then, is the amount of sugar to add to bring our juice to the desired starting SG:

**12 lbs. - 9 lbs. = 3 lbs. of sugar**

Our math tells us we need to add 3 pounds of sugar to bring the must up to standard. This is a good original estimate to start with, but I would suggest you err on the side of caution, and add a bit less than this - at least initially until you get some verification from your follow-up hydrometer readings. Why? Well, you can always add more sugar if you need to, but you cannot take it out once it's been put in!

As my personal rule of thumb, I only add 85% of the calculated sugar to my must the first time around. I figure I can always add sugar more later, if my subsequent hydrometer reading tells me so.

Most hydrometers, besides telling you the specific gravity of your must, will also offer a scale which tells you how many ounces of sugar (per US gallon) are contained in your sample. You could alternatively calculate the amount of sugar to add using this scale and applying some simple math.

Using a similar starting SG of 1.070, my own trusty hydrometer tells me that I would need to add about 7 ounces of sugar per gallon to get to my desired SG of 1.090 for my six gallon batch. When I do the math, 6 times 7 oz. equals 42 ounces of sugar to add. This is 6 ounces **less** than the amount of sugar I determined from the first calculation. After doing the calculation this way, it's easy to see why I always err on the side of caution, and add 15% less sugar than is initially called for by the chart shown, until I am sure what the resulting SG will be.

All right, now it's time to add the sugar to your juice. **DO NOT** simply dump the sugar in; my experience is that sugar does not always fully dissolve as fast as you want it to, especially if the liquid you're mixing it with is only at room temperature. If you're

impatient and try to chaptalize too quickly, you will accidentally add too much sugar since some of it won't dissolve into solution until after you've gone away.

I recommend removing a bit of strained juice (no solids) and warming it slightly in a sanitized saucepan on the stovetop. Do not allow the mixture to smoke or boil. Add sugar slowly, and stir with a sanitized spoon until it is completely dissolved. Once the liquid is cooled, you can re-introduce the sugared juice to the rest of the batch. Then stir like crazy to ensure proper mixing.

Finally, treat your must for other issues (pH, acidity), add some food for your yeast, then rehydrate and pitch your yeast to kick off fermentation.

**Other factors to consider during chaptalization** - Besides simply adjusting the amount of sugar in your juice, there are other things you should consider. Among them:

When you add sugar, the overall volume of the liquid will also increase. Be careful you don't overflow your carboy at the first racking!

Be sure all your testing equipment (hydrometers, test jars, spoons, etc.) are properly sanitized before coming into contact with the must.

Do not simply dump the sugar in your juice. Introduce it in the manner specified to prevent shocking your wine yeast.

In the case where sugar is added to the juice because the fruit is slightly under ripe, pay particular attention to the acid level.

Fruit that is not ripe has a higher acid content than fully ripe fruit, so you will likely need to adjust the acidity

to an appropriate level before you pitch the yeast.

If you mess up and add too much sugar during chaptalization, you increase the chances of a stuck fermentation; most wine yeasts can't support further fermentation if the alcoholic percentage is too high.

## **SUGAR ADDITION BEFORE BOTTLING (TABLE)**

Many winemakers sweeten their wines by adding cane sugar, which is usually done just prior to bottling. The extent of sweetening depends on the style of wine. The amount of sugar in wine is often expressed in terms of percent and calculated accordingly.

To assist vintners in sugar addition, we have developed a table showing the amount of sugar additions in the range of 0.25% to 7.0% (in increments of .25%).

The first column indicates the percentage of sugar that a vintner may wish to have in the wine. The second column shows the amount of sugar in grams per liter. This can be used to prepare small trial blends.

Columns 3 and 4 give the quantity of sugar in ounces per gallon and in pounds and ounces per 100 gallons respectively.

For the purpose of calculations, we have used the following relationships:

1. Ounces to grams multiply by 28.35
2. Pounds to grams multiply by 453.59
3. Gallons to liters multiply by 3.785

%	Grams per liter	Ounces per gallon	Pounds & ounces per 100 gallons
.25	2.5	0.33	
.50	5.0	0.66	2 lbs. 1.1 oz.
.75	7.5	0.99	4 lbs. 2.3 oz.
1.00	10.0	1.33	6 lbs. 3.4 oz.
1.25	12.5	1.66	8 lbs. 4.5 oz.
1.50	15.0	1.99	10 lbs. 5.6 oz.
1.75	17.5	2.32	12 lbs. 6.7 oz.
2.00	20.0	2.65	14 lbs. 7.8 oz.
2.25	22.5	2.98	16 lbs. 9.0 oz.
2.50	25.0	3.31	18 lbs. 10.0 oz.
2.75	27.5	3.64	20 lbs. 11.2 oz.
3.00	30.0	3.97	22 lbs. 12.3 oz.
3.25	32.5	4.31	24 lbs. 13.4 oz.
3.50	35.0	4.64	26 lbs. 14.5 oz.
3.75	37.5	4.97	28 lbs. 15.7 oz.
4.00	40.0	5.30	31 lbs. 0.8 oz.
4.25	42.5	5.63	33 lbs. 1.9 oz.
4.50	45.0	5.96	35 lbs. 3.0 oz.
4.75	47.5	6.29	37 lbs. 4.2 oz.
5.00	50.0	6.62	39 lbs. 5.3 oz.
5.25	52.5	6.96	41 lbs. 6.4 oz.
5.50	55.0	7.29	43 lbs. 7.3 oz.
5.75	57.5	7.62	45 lbs. 8.6 oz.
6.00	60.0	7.95	47 lbs. 9.7 oz.
6.25	62.5	8.28	49 lbs. 10.9 oz.
6.50	65.0	8.61	51 lbs. 12.0 oz.
6.75	67.5	8.94	53 lbs. 13.1 oz.
7.00	70.0	9.27	55 lbs. 14.2 oz.
7.25	72.5	9.60	57 lbs. 15.3 oz.
7.50	75.0	9.94	60 lbs. 0.4 oz.
7.75	77.5	10.27	62 lbs. 1.6 oz.
8.00	80.0	10.60	64 lbs. 2.7 oz.
			66 lbs. 3.8 oz.



# West Side Wine Club Leadership Team – 2010

President: **Jon Kahrs** [jekahrs@aol.com](mailto: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](mailto:nrac@msn.com)

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

Secretary: **Ken and Barb Stinger** [kbstinger@frontier.com](mailto: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@hotmail.com](mailto:pnoir1@hotmail.com)

- Arrange speakers for our meetings

Chair for Tastings: **Craig Bush** [pnoir1@hotmail.com](mailto:pnoir1@hotmail.com)

- Conduct club tastings
- Review and improve club tasting procedures

Chair of Winery Tours: **Mike Smolak** [SmolakM@DimensionResources.com](mailto: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](mailto:kips@lycos.com)

Webmaster: **David Ladd**

Chair of Group Purchases **Sammy Nachimuthu** [murugasamy\\_nachimuthu@yahoo.com](mailto:murugasamy_nachimuthu@yahoo.com)

The chairperson makes the arrangements to purchase, collect, and distribute.

- Chandler Reach Vineyard – **Sammy Nachimuthu** [murugasamy\\_nachimuthu@yahoo.com](mailto:murugasamy_nachimuthu@yahoo.com)
- Supplies – These should be passed to the President for distribution

Chair of Competitions: **Miriam Schnepf** [mowtnwmn@mac.com](mailto: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