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2007 Summer Wine Supplies and Beverage People News

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TWO WINEMAKING STYLES FROM ONE GRAPE HARVEST, OR TWINS SEPARATED AT BIRTH

by *Bob Peak*

Rosé and port-style wine are extreme expressions of red grapes. In the first, color is played down through short skin contact and a light, refreshing wine for summer quaffing is the desired result. For the second, intense winemaking techniques are followed, including alcohol or sugar additions, to produce a powerful wine consumed in tiny glasses by the fireplace.

Many grape varieties find their way into these wines. In France, Grenache is often made into still rosé and Pinot Noir is used for sparkling brut rosés. In California, both of these and many more varieties may be employed. One standout, both commercially and in home winemaking, is Syrah.

For Portuguese Port, several traditional varieties are used. The most prominent is Tinto Roriz (Tempranillo), plus Touriga Nacional and Touriga Franca. While these grapes may be used for port-style wines elsewhere in the world, we also see Zinfandel and Cabernet Sauvignon used in California, and Syrah used here and in Australia.

So, what about Syrah? Since it does well as both rosé and port, and one seeks to produce less and the other more from the grapes, why not make both from the same lot of grapes? For the 2006 harvest, my wife Marty White and I set out to do just that.

We found some high-quality local fruit at Nolan Vineyards in Santa Rosa's Bennett Valley. There, Ken Hunt grows four acres of Durell clone Syrah on a gently sloping site. Elevated as it is, the vineyard gets a little less heat than the Santa Rosa plain and ripens a bit later, with excellent hang time, intense varietal character, and very clean fruit.

On the chilly morning of October 22, Marty and I arrived at Ken's beautiful vineyard. We picked about 250 pounds of grapes by mid-morning and ran them home in the SUV with the air conditioning on to keep the fruit in its cool picking condition. The grapes were beautiful, with no rot, very few raisins, and excellent color. Upon crushing and stemming, we measured 26.2° Brix and 0.54 g/100 mL Titratable Acidity.

We let the crushed fruit stand on the skins for three and a half hours, then pressed off ten gallons and put the juice in carboys to settle before becoming rosé. To the remaining must in a 10-gallon open fermenter, we added back as much of the pressed skins as would fit to achieve more intensity for the port. As is our usual

See Twins pg. 2.

A Picture is Worth A Thousand Words

by *Robyn Burch and Bob Peak*

Recently I was helping a customer figure out how much tartaric acid to add to their wine so they could raise their total acid. At the store we use a cheat sheet that explains how much acid you need to raise the TA by .1% per 5 gallons. It was simple. I told him how much tartaric acid to add, he was happy and I felt good for being able to help him figure it out. But after he left I felt a little perplexed because he kept saying that his TA was at 5%. Saying that a wine has a TA of 5% when it is really .5% is not scientifically accurate. It is however, a common mistake of novices and even some experienced winemakers.

This got me thinking about how the casual use of our language affects our overall perception of what makes up our wine. So I asked Bob, (he's the chemist) to explain to me what exactly we are talking about when we use these percentage terms regarding wine. This is how he explained it to me...

Wine is mostly water. Imagine this illustration as a 100-mL graduated cylinder of average wine. The first and largest component, 85 mL (or 85%) is the water content. Another 13 mL (or so) represent the ethyl alcohol. (So far, you have the equivalent of a vodka-and-water cocktail—ewww!).

The tasty stuff remains. Represented here in thinner bands of darker colors are: the "other extract" with a whopping 1.4 mL and the Titratable acidity (TA) with about 0.6 mL (or .6%).

That "other extract" is any residual sugar, pigment, proteins, flavor and aroma compounds, and ash (minerals). Without those, wine wouldn't be wine!



So now that we are clear about the specific percentages of components in wine, read further about testing for them on page 11. Our updated discussion of sugar, acid, and pH can help you capture a picture of your own wine.



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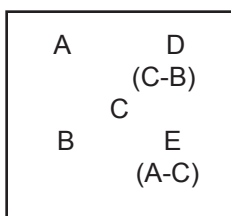
Twins cont. from page 1.

practice, we had added 50 parts per million SO₂ as the fruit was being crushed.

After letting it settle overnight, we racked the pretty pink juice into two seven-gallon carboys and added five grams of Epernay II yeast to each. We stirred the port must and sprinkled 10 grams of the same yeast on top. By the next day, fermentation foam had appeared on the rosé and the port had begun forming a cap. We added five grams of Fermaid K yeast nutrient to each carboy of the rosé, but since we never intended to let the port finish fermenting, we added no additional nutrients.

From that point, the rosé went on merrily fermenting just like a white wine. Meanwhile, we were treating the port like any red wine, including twice-daily punchdowns. After one week, the port was down to 10° Brix by hydrometer, our target value for a rich residual sugar level. Because we are also home brewers, we have several five-gallon stainless steel soda kegs for draft beer. One of these was used to help stop the port fermentation. We pressed the still-fermenting must, poured the semi-finished wine into the keg, added 50 parts per million SO₂, and packed the whole thing in ice in a 20-gallon plastic fermenter. As we hoped, the chilling made the yeast slow dramatically and drop to the bottom of the keg.

Next, time to fortify! Having fermented our port to ten Brix, we then wanted to raise the alcohol to about 19%. To do that, it was time to haul out Pearson's Square:



Where:

A = Alcohol by Volume (ABV), spirit

B = ABV, wine

C = Desired ABV

D = C - B = Parts Spirit

E = A - C = Parts Wine

The Portuguese use fresh grape brandy at high proof as the spirit (basically, white lightning of grapes). We cannot buy that here, so we used grain neutral spirits instead. In California, 151 proof, or 75.5%, is the highest proof available. To calculate the approximate wine alcohol level, we subtracted the current brix (10) from the starting brix (26.2) to find 16.2° Brix consumed. Multiplying that times

0.55 gives an estimated alcohol of 8.9% by volume.

So, A = 75.5, B = 8.9, and C = 19. Plugging those in gives us D = 10.1 and E = 56.5. That means we need 0.18 parts of spirit to every 1 part of wine so the final blend will be 15.2% spirit and 84.8% wine. To fill a six-gallon carboy, we used 0.91 gallons of spirit and 5.09 gallons of wine. Keep in mind that these figures are approximate, since the alcohol level in the wine was an estimate to begin with. We put the filled carboy away in the wine cellar, after one more addition of 50 ppm SO₂.

In January, we racked the port to a five-gallon carboy plus a half-gallon jug. Along with nice flavors of berry jam and spicy black pepper, there was a noticeable alcohol warmth and, unfortunately, a slight sulfide stink. So much for not using nutrients! The rosé was fine. (Considering these wines came from the same grapes, that is a pretty good demonstration of using nutrients to prevent sulfides!) We treated the port with copper sulfate, racked again, and it was fine. The rosé was very nice, with notes of berry and melon in the nose and a crisp, refreshing flavor profile. We bottled it without added sweetening in March and we are enjoying it now.

As expected, its twin, the port, has been much slower in development. When we tasted it in March, it had cleared up very nicely, had no sulfide aromas, and had smoothed out quite a bit. It seemed to need just one more smoothing touch, so we added one dark French Oakboy® stave to the carboy and let it rest. (I also measured the free sulfite level on the Reflectoquant meter in the store. The reading of "low" sent me scurrying to add another 40 ppm of SO₂.)

We tasted the port again in May. It is coming along very nicely. Now we get distinct cherry notes in the nose, along with vanilla from the dark oak. It has a clear appearance with a smooth finish. We added SO₂ again (it was "low" again) and left it to mellow a few more months.

From that single lot of Syrah grapes, our twins were evidently fraternal—certainly not identical! The young, precocious rosé is already drinking at its prime and will probably be gone before the year is out. The port, on the other hand, continues to develop at its own pace. We will taste it again in August and bottle it, or maybe leave it alone until after harvest of 2007. The wine will tell us when it is ready, and we will be drinking it for years to come. So even if you have just a single source of fruit, don't think you are limited to a single kind of wine!

Myth #1: Total Acid is the same thing as pH *Bob*

Total Acid (or, more precisely, titratable acidity, TA) and pH are not measured by the same technique and there is no fixed mathematical relationship between them.

Titratable acidity is measured by direct titration of a wine sample with a dilute solution of a strong base, like sodium hydroxide. The method automatically lumps together all the organic acids in the wine—tartaric, citric, malic, lactic, and others—and the total is reported in grams per 100 mL as tartaric acid. So, it is a direct statement of the acid content of the wine.

On the other hand, pH is the hydrogen ion activity, or effective concentration, of acid ions in the wine. Measured electrometrically, it is reported on a logarithmic scale—a solution that is 10 to the minus 3 molar in hydrogen ion is pH 3, 10 to the minus 2 is pH 2, and so on. No direct titration, no measurement of mass, and not reported "as" anything,

"IF YOU LIKE YOUR WINE, DON'T WORRY ABOUT THE pH"

other than pure units of pH. So, when you add tartaric acid to a

low-acid must, the TA goes up by exactly what you add: add a gram, titrate the presence of a gram. But, when you add that gram, it does not go directly to pH. Because wine is a "buffered" system, other components will partly react with your added acid, reducing the effect on pH. Yes, pH goes down with addition of acid—but not linearly, and not predictably.

TA is mostly about taste. The crispness or sharpness on your tongue is your sensory detector for those mixed acids. PH is mostly about stability. At lower pH, sulfite is more effective in preserving wine. So if your choice is good-tasting wine that is unstable, or bad-tasting wine that is stable, go for the taste. Adjust the TA, but use pH to guide sulfite additions, storage conditions, and how soon you drink up the wine.

Myth #2: I want to make wine so I need to buy an oak barrel. *Robyn*

Barrels have great visual appeal, exciting aromas and have contributed to centuries of wine making romance. These storage containers have successfully housed wine throughout winemaking history. So it's no wonder that when practicing the wonderful

The staff has prepared responses to a few of our favorite winemaking myths to share with you, our customers. In the spirit of promoting knowledge and better winemaking, please enjoy!

hobby of winemaking one assumes that they need an oak barrel to make good wine. And while it is true that barrels have successfully helped in making good wine over the years it is also true that they present some unique challenges in everyday use. We think it's important to consider these facts about barrels before purchasing one yourself.

Many people don't realize the amount of time and care that goes into barrels. In most wineries there is a wine maker and a cellar master. (One makes the wine and the other manages the barrels!) See page 15 for barrel care information.

When using barrels as storage containers wine can easily be over oaked. Byron's rule of thumb for storing wine in a barrel is... one week storage per gallon of capacity to ensure that you don't over-oak your wine. When purchasing a new barrel you will still need other containers on hand to move your wine to.

"BARRELS ARE BEAUTIFUL AS WELL AS FUNTIONAL."

It is known that the slight oxidation within a barrel helps to promote aging. And because of this fact it is very important to top up your barrel and keep the sulfite levels up. As wine ages in the barrel it will evaporate. If you don't continue to top up during this period of time you will run the risk of making oxidized wine. When using barrels, you will also have to sulfite the wine more frequently to protect the wine from spoilage.

Myth #3: Can I make my wine without adding sulfites?
Bob

It is almost impossible to make sound wine without adding sulfite during aging and before bottling. Oxygen from the air is the constant enemy of your wine. It turns wine brown and adds cooked or caramel aromas only appropriate to dessert wines like Madeira.

Sulfur dioxide, SO₂, reacts very quickly with oxygen and prevents it from oxidizing other wine components. On page 8, we list the generally accepted level of "molecular" sulfur dioxide (SO₂) needed to protect red or white wine from oxidation. While these levels are very low (0.5 and 0.8 ppm), the levels of "free" SO₂ needed to achieve them are much higher, depending on the pH. Free SO₂ in wine exists almost entirely as the bisulfite ion: HSO₃⁻. That is the "sulfites" we usually refer to as being in the wine. To get to the 30 to 50 ppm free sulfite that you need, though, the "total" sulfite must be higher still.

Total sulfite is defined by the method used to analyze for it—it really means "total sulfite recoverable by strong acidification and heated transfer". So what we might think of as

"OXIDATION IS THE RUIN OF MANY GOOD WINES"

total sulfite—the quantity we have added over the course of

fermentation and aging—never actually shows up in a sulfite analysis. Sulfite that has truly reacted with oxygen has itself been oxidized to sulfate (SO₄⁼). Sulfate is common in nature (and in wine), so the small amount added from oxidation of sulfite makes no difference.

So think of the sulfite you add as partially disappearing before you get to "total" sulfite, part of which is bound up by other wine components. The leftovers are the "free" sulfite, giving rise to a small amount of "molecular" SO₂. And that small remainder, my winemaking friends, is the gate guard keeping the evil oxygen from doing its dirty work (*unless you wanted to make Madeira*).

Myth #4: All wine needs to finish malolactic fermentation. It will finish in the spring, anyway.
Bob

Malolactic fermentation—the bacterial conversion of malic acid to lactic acid—is considered desirable in most reds and in chardonnay. Other whites, rosés, and fruity young reds generally do not undergo this process. If you do inoculate with malolactic bacteria, the finished wine will be more stable if the secondary fermentation goes to completion. "Completion" is often taken to mean a residual malic acid level of 30 ppm (parts per million) or less. Or sometimes 50 ppm. Since malic acid starts somewhere around 1,500 ppm in grape juice, 30 and 50 are not so far apart as end points.

"ROUNDER, LESS FRUIT FORWARD WINE IS THE RESULT OF MALOLACTIC FERMENTATION"

Commercially, winemakers cannot accept even a small risk that the wine will spontaneously re-start an incomplete malolactic fermentation in the bottle, leaving the wine fizzy and cloudy. But they also must contend with poor storage conditions in retail distribution and unknown future aging. At home, you will usually keep your wine at cellar temperature until it is consumed, greatly reducing the risk of a malolactic re-start. Like the one in the spring. While it is true that warmer tempera-

tures favor growth of malolactic bacteria, they also favor oxidation. And sulfite inhibits malolactic fermentation, so you would need to keep sulfite low or absent while waiting for that spring re-start.

The winemaker makes the choice, but we recommend stressing less about what is "finished" and caring more about protecting the wine from spoilage!

Myth #5: I only make red wines because white wines are too hard to do. Byron

We're not sure where this myth originates. Perhaps it's because some historical home winemaking practices were not all that careful to minimize the amount of air exposure the wine received, and it is a fact that, while all wines can be ruined by excessive oxidation, white wines are the most susceptible. White wine flavors are, as a general rule, more delicate than reds, and require a bit more attention, but the differences are not nearly so great as often thought. Plus you bottle most white wines younger than reds which reduces their exposure.

A few things home winemakers can and should do to keep their white wines in top shape. After primary fermentation make sure to keep the containers topped up to

"BOTTLE EARLY AND SULFITE OFTEN TO KEEP AROMAS FRESH AND THE COLOR FROM BROWNING."

prevent exposure to oxygen. The more robust white wines (notably chardonnay) may be fermented, and aged, in oak. With white wines, it is even more important to maintain an effective SO₂ level than with reds.

The other main thing about making white wines is that the temperature should be reasonably cool during fermentation. A tour of a winery can be misleading. The impression is that whites must be fermented at 50°F. You look over at the tanks and see the number 50 on the gauge or the digital display, but there is a tremendous amount of heat being generated by a fermentation of that size. You can keep your fermentor cool through evaporated cooling. Add ice to a water bath and keep your fermentor in the water bath. There is absolutely no reason for someone to deprive themselves of the pleasure of making delightful white wines in addition to their reds.

Winemaking Step by Step

EQUIPMENT

For most beginners, the hardest thing about making wine is simply figuring out, in advance, what equipment is going to be needed. This list should set most of these fears to rest.

You will need the following:

1. Siphon Hose and Racking Tube
2. Hydrometer (Saccharometer) and Test Jar
3. Acid Testing Kit
4. Sulfite Test Kit
5. Crusher or Stemmer/Crusher
6. Press
7. Corker
8. Thermometer
9. Pressing Bag (optional)
10. Funnel
11. Bottle Filler
12. Small Bucket

For every 75 lbs. of grapes:

1. 10 Gallon Food grade Bucket and Lid
2. One 5 gallon glass carboy (water bottle) with a fermentation lock and a #6 1/2 or #7 drilled rubber stopper.
3. Extra glass jugs, each with a fermentation lock and #6 drilled rubber stopper. These could be gallon size or smaller.
4. Twenty-five wine corks.
5. Two cases wine bottles.

INGREDIENTS

1. Wine Yeast, (1 gram) per gallon of must or juice.
2. Grapes, (16 lbs.) per gallon of wine.
3. Tartaric Acid as needed.
4. Sulfite as needed.
5. Yeast Food (5 grams per 100 lbs.)
6. Fining Agent, such as Sparkolloid.
7. ML Starter for some wines.

Red Wine Procedures

- 1 **Crush (break the skins) and de-stem the grapes.** For most grape varieties, about 90% of the larger stems should be removed.
- 2 **Test for total acidity following the instructions in your acid testing kit.** If the acidity is less than .7%, add enough tartaric acid to bring it to that level. If you have a pH meter, also test the pH.
- 3 **Test for sugar with your hydrometer.** Correct any deficiencies by adding enough sugar to bring the reading up to 22-24% (22-24 °Brix).
- 4 **When these tests and corrections have been completed, the must should be sulfited.** Estimating that you will get roughly one gallon of juice yield for every 16 lbs. of grapes, calculate the anticipated amount of juice. Using this estimate, add enough sulfite to give you a sulfur dioxide (SO₂) level between 50 and 130 parts per million (ppm). (See pages 8 and 9.)
The amount needed will depend on the condition of the grapes, with moldy grapes getting the most concentrated dose.
- 5 **Unless you have found it necessary to add more than 65 parts per million SO₂ in step 4, yeast should be added immediately.** If using more than 65 parts per million SO₂, you must wait six hours before doing so. Add 1 -2 grams of dry wine yeast evenly across the surface of the crushed grapes (now called "must"). Stir it in thoroughly after eight to twelve hours. At this time also add 1-2 grams of yeast food for every gallon of must.
- 6 **The must should be stirred twice a day until fermentation begins.** The beginning of fermentation will be obvious, as the grape skins will be forced to the surface, forming a solid layer (called a "cap").
Once the cap has formed, it should be pushed or "punched" back down into the fermenting juice twice a day until it is ready to be pressed. You may use your hand or a stainless steel punch-down tool to push down the cap.
- 7 **Throughout fermentation, the temperature of the must is usually between about 60 and 75°F.** For better color extraction from the skins, it is helpful to allow the temperature to rise at least once to the 80-90°F range. The fermentation itself generates some heat, which helps warm the must along with warm fall weather. If it is late in the season you may need a heater.
- 8 **Add a ML culture** (optional) to the wine about half to two thirds through fermentation. You will add this at the end of fermentation if you have the *Enoferm Alpha* strains of bacteria.
When the desired level of color has been achieved (usually from five to fourteen days of active fermentation) **your wine should be pressed to separate the wine from the skins.** Funnel the wine into secondary fermentors, filling them 3/4 full. Attach a fermentation lock, and allow the containers to set until
- 9



Winemaking Equipment from crush to bottle.



Crushing and stemming your grapes.

Time Line for Red Wine Fermentation.....

Active Yeast Fermentation of Must in Primary Fermentors	Pressed wine moved to Secondary Fermentors, stored 3/4 full	Rack off gross lees and top up containers	Rack off lees again, test for ML, add sulfite and store in cool place for aging, topping and sulfiting every couple months.	Rack off lees, adjusting sulfite, fining or filtering, or just topping up	Rack to bottling container, adjust flavor with oak extract, add sulfite, cork and store. ...Usually in time for next harvest.
...5 to 14 days	...1 to 2 weeks	...1 month	...4 to 6 months	...1 to 3 months	

all visible signs of fermentation have ceased (several days to a week or so.)

See "Procedures" cont. next page.

10 At the end of fermentation, when no more bubbles are coming up through the lock, rack the wine off the gross lees.

Place wine in storage containers (glass, stainless steel, or oak). Top up the containers and let stand for a month.

11 One month later, rack the wine away from the lees again, add sulfite to 25 or 30 ppm, and keep in topped up containers for four to six months. You must top up barrels, from respiration, and visible inspect carboys. This is a good time to add oakboys or oak chips. Add sulfite every few months. If you innoculated for ML, test the wine to be sure it is complete.

12 Around May or June of the following year, you might want to fine the wine for clarity (following the instructions supplied with your fining agent.) Optional treatment would be the more aggressive clarification via filtration. If the ML fermentation hasn't finished, keep the sulfite level below 20 ppm and warm the storage containers for a month to encourage completion.

13 By late July or August (just before you need your storage containers for the next year's crush), carefully rack the wine to a sanitary bottling container, then siphon into bottles, cork them, and lay them down for bottle aging.

At bottling time, adjust the sulfite to at least 30 ppm, if you plan to store the wine. If possible store your filled bottles on their sides. Otherwise, store them with the corks down. Most red wines will benefit from at least one year's additional aging.



Pressing the fermented red grapes.

White Wine Procedures

- 1 **Crush the grapes** to break the skins. It is not necessary to de-stem them. Keep the grapes as cool as possible.
- 2 **Test for total acidity.** If the acidity is less than .7%, add enough tartaric acid to bring it up to that level.
- 3 **Test for sugar with your hydrometer.** Correct any deficiencies by adding enough sugar to bring the reading up to 20% (20 ° brix) for most varieties (22-23% for Sauvignon Blanc and Chardonnay.)
- 4 **When these tests and corrections have been completed, the must may be sulfited.** Estimating that you will get roughly a gallon of juice from every 16 lbs. of grapes (varies with the variety), add enough sulfite to give you a sulfur dioxide (SO₂) level between 50 and 120 parts per million (ppm.).
The amount needed will depend on the condition of the grapes, with moldy grapes getting the most concentrated dose.
- 5 **Stir in pectic enzyme at the rate of one ounce to every 200 lbs. of grapes.** Place the crushed grapes in a covered container to stand from 2 to 18 hours (longer for the “big, less fruity” varieties. If left to stand longer than 2 hours at this stage, the crushed grapes should be refrigerated.
- 6 **The grapes are then pressed to separate the juice from the skins.** Funnel the juice into topped up containers, cover, and let stand for approximately 24 hours.
- 7 **Siphon the clear juice away from the layer of settlings into a glass, stainless steel, or oak fermentor which is filled no more than 3/4 full.** Yeast should be added, a gram a gallon and a fermentation lock attached to the fermentor. Add also a 1/4 oz. of yeast food for every 5 gallons of juice.
- 8 **When visible signs of fermentation end, the wine must be racked off the lees,** and placed in topped up storage containers (glass, stainless, or oak). Add sulphite, 20 - 30 ppm. and let stand for a month.
- 9 Rack off the lees and fine with a sparkolloid or bentonite slurry. Sulfite and store full containers in a cool place.
- 10 **In February or March, rack and sulfite the wine again, placing it back in topped up containers.** This is a good time to filter the wine if you are going to do so.

11 For oak flavor add Oakboys™ or Liquid Oak Extract now. **In late April or early May, before the onset of very hot weather, carefully rack the wine from the lees.** Test the wine for free sulfite content with a sulfur dioxide test kit to determine how much SO₂ is needed to bring the level to 30-35 parts per million.

Siphon into bottles, cork them, and set them aside for whatever bottle aging is needed. If you wish to sweeten the wine, do so with simple syrup (two parts sugar to one part water, boiled), and add 1/2 tsp. Stabilizer per gallon to kill any remaining yeast. Light, fruity, white wines may be enjoyed within two months after bottling.

Time Line for White Wine Fermentation.....

Active Yeast Fermentation of Juice in Primary Fermentors 3/4 full	Rack finished wine to clean Fermentors, topped full. Settle out lees. Sulfite	Rack off lees and fine or filter. Add sulfite and keep cool. Add Oakboy.	Rack to bottling container, add sulfite, fill and cork bottles.
...1 to 2 weeks	...1 month	...2 to 4 months	...In the spring



Placing the wood blocks and press head into the press before actually pressing the grapes.

Fruit Wine Procedures

Use the following procedures for Berry or Stone Fruit Wines:

1. **Smash sound, ripe Berries** (or pit Stone Fruit), tie loosely in a straining bag and place in open top fermentor.

2. Heat 6 quarts **Water with Corn Sugar** and bring to a boil. Remove from heat, cool and pour into the fermentor over the fruit.

3. Add the remaining **Water, Yeast Nutrient, Pectic Enzyme and Tartaric Acid and optional Grape Tannin**.

4. Add 5 tablespoons of **Sodium Metabisulfite** stock solution and mix well. (*See pg. 9 for stock sulfite recipe.*)

5. **Cover with loose plastic sheet or lid** and allow to cool and dissipate the sulfite, waiting for 12 hours or overnight.

6. Stir in the **Yeast**.

7. Once fermentation begins, **stir or push** the pulp down into the liquid twice a day.

8. **After 5-7 days, strain and press the pulp**. Funnel the fermenting wine into closed fermentors, such as glass or plastic carboys, and attach a fermentation lock. *Note: if this fermentation is very active, you may need to divide the wine between two carboys or it will foam out and spill.*

9. When bubbles are no longer actively rising through the wine, **siphon the wine back together into one full carboy**. Fine with **Sparkolloid** (*see pg. 10 for mixing Sparkolloid*), add a teaspoon per gallon of **sulfite stock solution** and let set for four weeks under the airlock.

10. **Rack (siphon) away from the sediment**, top full with a neutral wine and leave under airlock for 3 weeks up to 4 months.

11. For **bottling, rack into an open container**, and add **1 1/2 teaspoons sulfite solution** per gallon. Sweeten with **sugar syrup** to taste and add 1/2 teaspoon **Wine Stabilizer** per gallon.

12. **Siphon into bottles, cork, and set aside to age for at least 3 weeks**.

Recipes

Blackberry or Loganberry Wine

20 lbs. Blackberries or
12 1/2 lbs. Loganberries
12 lbs. Corn Sugar
5 gallons Water
2 1/2 tsp. Yeast Nutrient
2 1/2 tsp. Pectic Enzyme
5 Tbl. stock Sodium Bisulfite solution (initially)
9 tsp. Tartaric Acid
5 grams Epernay II Wine Yeast

Original Brix: 20
Total Acid: .6-.65%

Blueberry Wine

15 lbs. Blueberries
12 lbs. Corn Sugar
5 gallons Water
2 1/2 tsp. Yeast Nutrient
2 1/2 tsp. Pectic Enzyme
5 Tbl. stock Sodium Bisulfite solution (initially)
9 tsp. Tartaric Acid
5 grams Epernay II Wine Yeast

Original Brix: 20
Total Acid: .6-.65%

Raspberry Wine

15 lbs. Raspberries
12 lbs. Corn Sugar
5 gallons Water
2 1/2 tsp. Yeast Nutrient
2 1/2 tsp. Pectic Enzyme
5 Tbl. stock Sodium Bisulfite solution (initially)
9 tsp. Tartaric Acid
1 1/4 tsp. Grape Tannin
5 grams Epernay II Wine Yeast

Original Brix: 20
Total Acid: .6-.65%

Cherry Wine

22 1/2 lbs. Sweet Cherries or 15 lbs. Sour Cherries
12 lbs. Corn Sugar
5 gallons Water

2 1/2 tsp. Yeast Nutrient
2 1/2 tsp. Pectic Enzyme
5 Tbl. stock Sodium Bisulfite solution (initially)
9 tsp. Tartaric Acid
(Omit Acid with Sour Cherries)
1 tsp. Grape Tannin
5 grams Epernay II Wine Yeast
Original Brix: 20
Total Acid: .6-.65%

Plum Wine

15 lbs. pitted Plums
12 lbs. Corn Sugar
5 gallons Water
2 1/2 tsp. Yeast Nutrient
2 1/2 tsp. Pectic Enzyme
5 Tbl. stock Sodium Bisulfite solution (initially)
7 tsp. Tartaric Acid
5 grams Epernay II Wine Yeast

Original Brix: 20
Total Acid: .6-.65%

Cranberry Wine

15 lbs. Cranberries
1 lb. Raisins
12 lbs. Corn Sugar
5 gallons Water
2 1/2 tsp. Yeast Nutrient
2 1/2 tsp. Pectic Enzyme
5 Tbl. stock Sodium Bisulfite solution (initially)
5 grams Epernay II Wine Yeast

Original Brix: 20
Total Acid: .6-.65%

Apricot Wine

17 1/2 lbs. Apricots
12 lbs. Corn Sugar
5 gallons Water
2 1/2 tsp. Yeast Nutrient
2 1/2 tsp. Pectic Enzyme
5 Tbl. stock Sodium Bisulfite solution (initially)
9 tsp. Tartaric Acid
1 tsp. Grape Tannin
5 grams Epernay II Wine Yeast

Original Brix: 20
Total Acid: .6-.65%

Sulfite Procedures

Sulfur has been burned in wine containers to purify them since the days of the Roman Empire, and probably much earlier. The ancients may not have known about the world of microorganisms, but they recognized that sulfur helped make their wines last longer. We now know that sulfur dioxide gas (SO₂) released by burning sulfur was the effective agent for retarding spoilage, and we have a more precise way of adding it these days. We make up solutions of sulfurous acid/water to known parts per million of SO₂. These solutions are stored and added in tablespoons and or milliliters to the volume of wine.

After almost 30 years of teaching home winemakers the importance of adding sulfite to wine and monitoring the results with various testing methods, we are convinced that people are still not testing or scheduling SO₂ additions nearly enough.

Over the past several years we have had a chance to prove this point for customers by employing the testing device called *Reflectoquant*®. This tester uses a small sample of wine and a test strip that is then treated with two reagents and stored for several minutes before reading by the meter. The actual reading is done by light reflection.

Time after time, wine samples are coming back with only a few parts per million of SO₂. These wines may not even yet show the effects of oxidation, but given enough time in this unprotected state, the fruitiness will fade, browning will occur and the taste will become pruney and harsh. To avoid this you need to understand the basics of why sulfite works so well to protect your wine.

When you add sulfite to wine, sulfur dioxide ionizes to the sulfite ion, SO₃⁻, and bisulfite ion, HSO₃⁻. A small fraction remains in the “molecular” form, SO₂. It is this molecular form that protects the wine from spoilage organisms and oxidation. As sulfite reacts with other wine components, it becomes “bound” to them and is no longer available to participate in producing “molecular” sulfite.

We cannot measure molecular sulfite directly. Rather, we measure “free” sulfite, and use a table of wine pH values to predict the amount of ‘molecular’ sulfite we will achieve.

This is why it is so important to frequently measure your free sulfite. No matter how high your total sulfite (within reason), it is only the free sulfite number that really counts. Don’t just guess and toss some sulfite in—analyze it first—then add it.

To this end, we now have three ways for you to keep up with testing your SO₂.

The Reflectoquant Free SO₂ Test

For those of you able to bring a sample to us or to a laboratory, you can use the *reflectoquant* test. You will need **a full, very small bottle, with a fresh sample of wine.** (187ml is more than plenty). Just drop off your sample to the lab for their technicians to test or bring it here and run the test for yourself. We charge \$8.95 for one test, and an additional \$3.95 for each additional test done at the same session. It only takes about 10 minutes to set up, pay and run your test, with additional tests taking about 5 minutes.

Additionally you can track changes to your SO₂ with the *Titret*® Kit. Although not very accurate in terms of the quantity of SO₂, in red wines, they do work in white wine and these tests will also show changes as the level of SO₂ diminishes even

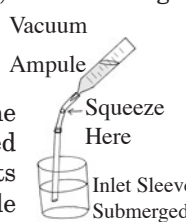
in red wines. These are vacuum sealed, graduated ampules that come with an inlet bead-valve that allows you to titrate slowly by squeezing the valve. You have to keep the inlet tube submerged or the vacuum will be broken by air entering. *The kit instructions recommend a holder which made the test more difficult to execute.* Follow the instructions given here, as their kit instructions are not helpful.

Another testing method, which like Titrets uses the Ripper Test Method, is the *Acidometer*® Kit by Vinoferm. Using the graduated cylinder supplied and a solution that combines starch and iodine, (the Iodic solution), titration is a simple matter of dripping in the iodic solution until the color end point is achieved.

The Titret Kit

Begin the test by inserting the loose plastic inlet sleeve over the tapered end of the glass ampule. Bend the plastic sleeve 90 degrees to break the tip of the ampule. As you do this hold on tightly at the junction of the sleeve and the ampule to prevent the sleeve from sliding off. Next locate the glass bead/valve inside the plastic inlet sleeve. Squeeze this bead to open the passageway for the vacuum in the ampule to pull wine inside the tube. As you squeeze, a color change will occur turning the sample inside the tube dark blue/black. Continue squeezing until a white wine turns light pink or clear.

In the case of red wines, it will return to the original sample color. The titration is finished at this point and the ampule is stood up on its flat end. Let the contents of the ampule settle and then read the liquid level at the graduated line of the vial. This is the amount of free SO₂ present in the wine.



The Acidometer Kit

The *Acidometer* method uses the graduated cylinder to hold the sample wine or juice, while the Iodic solution is dripped in to achieve a color that is blue for white wines and a dark bluish red (blood red) for red wines. Once the color change is observed, you multiply the reading from the graduated cylinder by 10 to get the free SO₂ number. It is as accurate as a Ripper method test can be.

To reduce the false high reading, you must quickly reach the titration point because the iodine solution will react over time with the bound form of SO₂. The light source is also important to accurately observe the color change. Use a bright white background with a high intensity lamp. Also use a 10 ml. graduated pipet, to fill the cylinder and stopper

Molecular SO₂ needed for Stability

pH	.8 ppm.	.5 ppm
	White Wine	Red Wine
2.9	11 ppm.	7 ppm
3.0	13	8
3.1	16	10
3.2	21	13
3.3	26	16
3.4	32	20
3.5	40	25
3.6	50	31
3.7	63	39
3.8	79	49

the cylinder with a solid #2 rubber stopper, for mixing in the iodine solution. Iodine will stain your fingers and clothes, so use with caution.

Scheduling SO₂ Additions

Initial sulfite may be added at 65 ppm to grapes or juice that is free of rot or mold. The presence of a lot of mold, or grapes in otherwise bad condition, might require twice that amount. Under average conditions the information that follows should keep about 20 to 30 ppm of free SO₂ available throughout the wine's cycle of production through bottling. Add sulfite for white wines at every racking.

Test your SO₂ level at least after fermentation and ML, after rackings and several times while in barrels or tanks and again before bottling. Follow the *pH/molecular SO₂* table on the previous page for recommendations for additions. Wines that will be consumed within three months of bottling will not normally need a sulfite addition at bottling time as long as they are stored in a cool place until served.

pH and SO₂

It is generally recognized that only a small amount of molecular SO₂ (.5 to .8 ppm.) needs to be present to provide bacterial stability in wine, but pH has an important effect on how much free SO₂ is needed in order to provide that amount, and that's why both pH and SO₂ need to be tested.

Regard the *Table of Molecular SO₂* to the left. The amount of free SO₂ needed, is based on the pH of the wine. A fairly safe amount for protection of the wine is either .5 ppm for Red Wines or .8 ppm for White Wines. If you know the pH, simply make sure you have the corresponding level of free SO₂, or slightly more, present in the wine during storage and bottling.

Above pH 3.5, you will notice that the amounts of free sulfur dioxide required become quite high. Adding enough to create an appropriate level may raise the total SO₂ high enough to have a negative effect on the wine's flavor. It is best not to approach the problem that way. Instead, the pH should be lowered early in the life of the wine by the addition of Tartaric or Phosphoric Acid.

Sources of SO₂

SO₂ is available as *Campden tablets*, effervescent *Efferbaktol® granules*, or by powdered *sodium or potassium metabisulfite*. A premeasured Campden Tablet equals 65 ppm in one gallon (13 ppm in a five gallon jug) and is very convenient for those making small amounts of wine. You have to crush the tablet to a powder to add it.

The 2 gram Efferbaktol® powder pouches add 528 ppm per gallon or 9 ppm per 60 gallon barrel. They effervesce to disperse evenly in the container. They cannot be divided to accurately dose 5 gallon carboys. Metabisulfite should be made into a liquid preparation before use, to adequately disperse it, and because it is very potent. This is also the least expensive method and accurate to measure for any size container.

Please Note: Avoid confusing the two solution strengths.

If you have a scale that weighs in grams, and have access to a pH meter, you should use the 10% solution instructions. Have on hand Pipettes graduated in .1 ml to .5 ml, 1 ml to 10 ml volumes and a Graduated Cylinder, with a volume of 100 ml., for large additions. Otherwise, use the weaker 3% solution, using household measuring spoons.

Use one of the following solutions to add metabisulfite to your wine. Make a 10% solution if your additions are to larger vessels like barrels and tanks, or a 3% solution for carboys and jugs.

Preparing a 10% Stock Solution

Using a gram scale, weigh out 100 grams of Potassium Metabisulfite and dissolve in 1 Liter of water. Tightly stopper and store labeled: "poison"! For additions of sulfite in large lots, you will prefer to use the information provided in the following table. Just make sure that your 10% stock solution is fresh and measured carefully. *See notes below left.*

10% Solution of Metabisulfite

(Desired final SO₂ concentration in ppm.)

Must/Wine	10	20	25	30	40	50	75
(gallons)	(Add milliliters of 10% solution)						
1	.6	1.3	1.6	2.0	2.6	3.3	4.9
5	3.3	6.6	8.2	9.9	13.1	16.4	24.6
10	6.6	13.1	16.4	19.7	26.3	32.9	49.3
25	16.4	32.9	41.1	49.3	65.7	82.1	123.2
50	32.9	65.7	82.1	98.6	131.4	154.3	246.4

Preparing a 3% Stock Solution

Dissolve four ounces of sodium or potassium metabisulfite powder, (a package size readily available in retail stores) in one gallon of warm water. This is weaker than the 10% solution given above, in fact it is about a 3% solution.

At this concentration, the solution is still quite strong and should be clearly labeled and kept out of reach of children. This stock solution will remain at relatively full strength for up to six months if the jug is kept capped.

3% Solution of Metabisulfite

(Desired final SO₂ concentration in ppm.)

Must/Wine	10	21	33	43	65
(gallons)	(Add tablespoons of 3% solution)				
1	.15	.32	.50	.66	1.00
5	.75	1.60	2.50	3.30	5.00
10	1.50	3.20	5.00	6.60	10.00

Removing Excess SO₂

If you ever need to lower your SO₂ because you doubled the dosage or made some other wildly uncaredful calculation, do the following: for every 10 ppm free SO₂ you want to remove, add 1 ml. of 3% hydrogen peroxide per gallon of wine. This is an oxidative reaction that occurs immediately. Use only fresh 3% Hydrogen Peroxide, available at the drugstore. Use this method to remove up to 100 ppm, more than this and the wine will oxidize and lose its flavor.

Fining Procedures

Sparkolloid™ and Bentonite are the two most common **all-purpose fining** (clarifying) agents used by home winemakers.

Either may be used with success, and in the somewhat unusual circumstance that the wine doesn't clear with the first agent, the other will generally work.

Here's how they are used.

Sparkolloid is used at the rate of 1 to 1.5 grams per gallon, so to fine five gallons of wine, begin by measuring out 5 to 7.5 grams of dry Sparkolloid. Then take about 1-2 cups of water, stir in the Sparkolloid, and heat it on the stove in a saucepan.

Simmer gently (bubbles, but not boiling) for 15-20 minutes, and thoroughly stir the hot mixture into the wine. Let stand three weeks and carefully rack away from the lees.

Bentonite requires that a slurry be made up a day in advance. Measure out 750 ml. of water, and heat it to boiling. Slowly stir in 1 oz. of Bentonite. Mix it thoroughly for about one minute in a blender, funnel it into a 750 ml. wine bottle, stopper it up and let it stand for a day.

Shake up the slurry, and then thoroughly stir 1/4 cup into each five gallons of wine. Rack away from the lees in about 10-14 days

To remove oxidation or reduce bitterness, fine with Polyclar. **To soften tannins**, use either egg whites or gelatin, followed by Sparkolloid.

Always add Metabisulfite when adding a fining agent, to prevent excess oxidation during the mechanical stirring or pumping needed to blend in the agent.

Fining Agent	Rate of Use	Best Used For	Preparation	When
Sparkolloid	5 - 7 g/ 5 gallons	All wines	Heat 1 - 2 cups of water with Sparkolloid, simmer 15 minutes and stir into wine.	Post fermentation three weeks before racking.
Bentonite	10-40 g/ 5 gallons	White wines	Slurry with juice or water in blender.	Add to must prior to fermentation.
Isinglass	1 Tablespoon/ 5 gallons	White wines that haven't clarified with Sparkolloid.	Soak in 2 Cups water with 1/2 teasp. Citric Acid for 30 minutes. Add to wine.	Prior to a racking.
Gelatin	1/4 oz./ 5 gallons	Red wines with excess tannin.	Dissolve in 10 oz. hot water, let sit for 10 minutes. Stir thoroughly into wine.	After fermentation up to three weeks before bottling.
Egg Whites	1/2 egg white/ 5 gallons	Red Wines with excess tannin.	Whipped to a soft froth with some wine and water then mixed in thoroughly.	In barrel/glass a month or more before bottling.
Polyclar (Divergan F)	2.5-12.5 g/ 5 gallons	White wines to remove oxidation reduce bitterness.	Thorough mixing Fluffy, difficult to rack off cleanly.	Before, during or after fermentation.
Non-Fat Milk	100-250 ml/5 gallons	White wines to reduce bitterness, adds sweetness.	Follow with Bentonite Fining	Rack after 4 days A month prior to bottling.
Whole Milk	100-250 ml/5 gallons	Reduce harshness absorb aldehydes,	Follow with Bentonite Fining	Rack after 4 days A month prior to bottling.

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Sugar, Acid, and pH

by Bob Peak

Our **SNAP** and **SAP** laboratory panels, offered in cooperation with *Vinquiry* in Windsor, have been very successful for the last several years (see next page). But sometimes it's fun to do your own testing. Or maybe you live too far away to take advantage of **SAP** and **SNAP**. There really is no equivalent home test for the "N"—nitrogen—in **SNAP**. But the **SAP** Tests—sugar, acid, and pH—are readily addressable with home testing techniques.

For the 2006 harvest, my wife Marty and I decided to give several home kits and techniques a try. We used the **SAP** panel from *Vinquiry* as our reference and ran our own tests to match on our home-grown pinot noir and chardonnay. We did not have the *Vinquiry* results in hand prior to running our own tests. In the interest of full disclosure, I should note that both Marty and I have bachelor's degrees in chemistry and she also has a master's in chemical engineering, but no such education is needed for *Beverage People* test kits!

SUGAR

The harvest home test for sugar is a brix refractometer, which is the same instrument *Vinquiry* uses (although theirs is digital and ours is analog). We crushed the pinot noir grapes and stirred the must before taking a sample with a thief. We crushed, soaked up, and pressed the chardonnay before taking that juice sample. (The split samples for *Vinquiry* were collected at the same time.) Use of the refractometer is very easy. First, it is calibrated with a few drops of 20 degree brix reference solution. Then it is rinsed with distilled water, and a few drops of grape juice are placed on the prism. Our results were 24.2 brix for the chardonnay and 26.0 brix for the pinot noir. *Vinquiry* said 24.1 for chardonnay and a match-



ing 26.0 for the pinot. Conclusion: using a refractometer at home can provide very reliable harvest sugar readings.

ACID

Vinquiry uses a sophisticated autotitrator to execute the traditional winemaking method for Titratable Acidity. They report in grams per 100 milliliters—roughly equivalent to percent. The lab results on our juice samples came in at 0.809 grams per 100 mL on the Chardonnay and 0.760 on the pinot.

At *The Beverage People*, we offer three home tests for TA. The most popular is the little **Country Wines** titration kit with its phenolphthalein indicator and sodium hydroxide titrating solution. This is based on the primary lab procedure for the same test. Executed carefully at the kitchen table, it gave us a result of 0.81 on the chardonnay and 0.62 on the pinot noir. The close correlation on the white juice (and less success on the red) probably reflects the difficulty of seeing the pink endpoint in the grayish-pink "red" must.

Next, we tried the **Precision Acidometer**. This kit includes a blue indicating solution which is itself also the basic titrating material for neutralizing the acid during analysis. The first few additions, still reflecting acid conditions in the juice, turn green. As you continue to add, the solution is neutralized when it is (not quite) blue—almost the same color as the indicator solution alone. Since this has the "not quite" feature, it's a good idea to write down your results as you get close, since you will mostly know for sure right after you go too far. The kit also includes litmus paper to verify the neutrality of the titrated sample. If a drop on the litmus paper turns red, it is still acid. No color change means neutral (the end point) and blue means basic—you went too far with that addition. With the green-to-blue color change and litmus paper for verification, the endpoint seems a little easier to pin down than the **Country Wines**

endpoint.

With this kit, results are in grams per liter, so you need to divide by 10 to match the reporting units by other methods. For the chardonnay, we got 7.9 (0.79) and for the pinot noir 6.8 (0.68). Both are close enough to *Vinquiry's* results that we would probably not do anything different in fermenting the wine based on these answers.

Finally, we ran the simplest of the tests, the *Accuvin* dipsticks. Once again reporting in grams per liter, we got 9 (0.9) on both samples. Good enough to tell us that we did not need to add any acid to these juices.

pH

Vinquiry uses a pH meter integrated with their autotitrator for this test. Laboratory results were 3.38 for the chardonnay and 3.43 for the pinot noir. Using the pH Tester 20 meter that we carry at *The Beverage People*, Marty and I measured 3.32 on the chardonnay and 3.36 on the pinot. At less than one tenth of a pH unit difference on each, these results are very comparable and the home results are certainly adequate for winemaking judgments.



Accuvin also has a dipstick test for pH. On those, we measured 3.6 for both juices. While in the ballpark of anticipated results, these may not be accurate enough for all winemaking decisions. The procedure is, however, simple and inexpensive.

CONCLUSIONS

- 1) No matter what test you choose, TA is difficult to do well at home. Both **Country Wines and Precision Acidometer** can give reasonably good results, but the commercial testing laboratory has a clear advantage on this test.
- 2) For *Brix and pH*, properly calibrated home equipment gives results virtually identical to laboratory results.
- 3) Quick tests are just that. They do not measure up to the precision and accuracy of analytical instruments.

Note: Always calibrate your pH meter before using. Use the buffer solution pH 7 first, then calibrate to pH 4 then calculate the wine pH. Rinse the probe in DI water after each set point and after use. If your meter is sluggish, leave off and soak the probe in 4 pH buffer overnight. and/or replace the batteries.

JUICE TESTING FOR SUGAR, ACID, PH AND NUTRIENTS

The Testing Program

Our **SAP** and **SNAP** Panel testing program is a collaboration between ourselves and *Vinquiry*, the commercial wine laboratory in Windsor. Here's how the program works:

(1) Before picking your grapes, you purchase from *BP* either a **SAP** or a **SNAP** testing panel for your wine. We give you a numbered voucher to take to *Vinquiry*, along with a 225 ml. sample bottle for the juice.

(2) When your grapes are crushed, you deliver the voucher and the sample bottle full of clear, settled juice to *Vinquiry* at 7795 Bell Road, Windsor, CA 95492.

(3) *Vinquiry* sends the results to *us* and to *you*, so we can help you interpret the results.

The SAP Panel

This is the more basic panel. It includes Sugar, Total Acid, and pH tests. These are the three tests deemed most essential in the majority of winemaking situations.

By testing these three things: Sugar, Acid, and pH, the SAP panel provides the minimum level of information that a serious home winemaker will generally want to have.

There are, however, a couple of additional tests that will enable winemakers to zero in on Nutrients, an area whose importance has only recently begun to be understood. That brings us to the SNAP Panel.

The SNAP Panel

In addition to the three tests of the SAP Panel, the SNAP Panel provides detailed information in the area of nutrients. Adequate nutritional levels help ensure a healthy yeast fermentation, and also help avoid problems such as: stuck fermentations, or the "rotten egg" smell of Hydrogen Sulfide.

As far as nutrients are concerned, there are two tests a home winemaker could utilize: one for *Ammonia*, and one for *Assimilable Amino Nitrogen*. The results of these two tests are added together to determine the total amount of *Yeast Assimilable Nitrogen (YAN)* present in the sample. When these figures have been combined, the result (logically enough) is called *Yeast Assimilable Nitrogen Combined (YANC)*. It is this *YANC* figure, in combination with the sugar level of the must,

that tells us the nutritional requirements of our juice.

Adjusting Nutrients

Because different strains of yeast have different nutrient requirements, talking about *YANC* levels can quickly turn complex. For our discussion here, we will consider the natural juice level of *YANC* in one of 3 levels: Low *YANC* < 125 ppm, Medium *YANC* 125-225 ppm or High *YANC* > 225 ppm.

We also divide the yeasts into three levels of nutritional need (see table on page 13). **LOW, MEDIUM AND HIGH-VERY HIGH.** Once you know your *YANC* level, it may influence your choice of yeast. Choosing one with an appropriate nutrient need will minimize your nutrient additions.

With your yeast choice comes your selection of a nutrient addition program from the following table by first choosing Low, Medium or High *YANC* level and then the Yeast Nutrient program of *Low, Medium or High-very High*.

Note: all of this advice is based on "moderate" sugar levels up to 22° Brix. For high-sugar musts, choose yeast both low in nutrient requirements and high alcohol tolerant. Increase the yeast pitch 50% and add both 1 gram DAP and Fermaid K per gallon of juice when 1/3 of the sugar has been fermented.

Yeast Nutrient Needs				
YANC LEVEL	Low	Med	H-VH	
	LOW	A	B	E
	MEDIUM	C	D	E
	HIGH	C	C	D

Nutrient Additions

A) Add enough DAP to bring your *YANC* up to 150 ppm about 8-12 hours after pitching yeast.

For **program A**, use these levels:

50 ppm or less *YANC*, add 2 grams DAP per gallon.

50-100 ppm *YANC*, add 1 1/2 grams DAP per gallon.

100 -125 ppm *YANC*, add 1/2 gram DAP per gallon.

125+ ppm *YANC*, add no DAP

In addition, about 1/3 of the way through fermentation, add 1 g/gal. of Fermaid K (or Yeast Food).

B) Do all of **program A**, plus:

Add an additional 1/2 g/gal. DAP and do a second addition of 1 g/gal. Fermaid K when roughly 2/3 of the sugar has been consumed.

C) Add no DAP. Add 1 g/gal. Fermaid K about 1/3 of the way through fermentation.

D) Follow **program C**, plus add another g/gal. of Fermaid K about 2/3 of the way through fermentation.

E) Follow **program A**, plus add 1 g/gal. DAP and 1 g/gal. Fermaid K about 2/3 of the way through fermentation.

Costs

The **SAP** Panel (TE98) is priced at \$40.00, and the **SNAP** Panel (TE99) is priced at \$95.00. If you are ordering by mail, there is no additional shipping and handling charge. Vouchers are non-refundable, and **must be used the harvest they are purchased**. You are responsible for delivering your samples to *Vinquiry*.

Handling & Shipping Juice

Remember that you are sending juice, and that means it is subject to fermentation. *Vinquiry* must receive your samples before fermentation begins! Unless you take your clarified juice to *Vinquiry* yourself, you should do one of two storage methods:

Freeze the juice in the sample jar (with the lid loose). When the sample is solidly frozen, reseal it and ship via next day air.

Pasteurize the juice, heating it up to 180°F, keeping it there for 2-5 min. Do not boil. Cool, freeze, and ship via next day air. **Indicate which storage method used to *Vinquiry*.**

Which Nutrient, When

Add **Fermaid K** (Yeast Food) at the rate of 1 oz. per 32 gallons early in fermentation and prior to ML. Provides a complete and balanced food for yeast. Use with DAP if you know you need more nitrogen. Contains ammonia salts, amino acids, sterols, unsaturated fatty acids, yeast hulls, vitamins, magnesium and pantothenic acid.

Diammonium Phosphate - DAP will raise the level of free nitrogen for a healthy fermentation. Contains only ammonium phosphate. Use varies, but 1 oz. per 32 gallons is a good starting addition.

Autolyzed Yeast is used to restart sluggish and stuck fermentations. Contains pure dried yeast providing amino nitrogen, B vitamins and yeast hulls from autolyzed yeast.

Yeast Hulls help prevent stuck and sluggish fermentations and with Autolyzed Yeast to restart fermentations. This is the pure cell wall membrane of whole yeast cells and is more concentrated than autolyzed yeast.

Wine Yeast Recommendations

Locate your grape variety or style, read about the yeast characteristics for the recommended strain(s). Remember that the option is always to use what is freshest and available to you, if all of these strains are not in supply. We try to stock all of these during harvest. See page 18, for instructions on **Rehydrating** dry yeast. Please read page 12 for **Nutrients** programs for yeast.

To find fermentation specifics, read down	Assmannshausen	Beaujolais 71B	Brussels BM45	CSM	Eperney 2	French Red (BDX)	ICY D254	M-2	VQ15 Rockpile	P. Champagne	Prise de Mousse	Rhone L2226	RC212	Steinberger	Simi White	Wadenswill 27
Varietal	Pinot Noir	Zinfandel Syrah	Sangiovese	Bordeaux	Zinfandel	Bordeaux	Chard Red Rhones	Chard, Cabernet	Chard, Cabernet	Chard Cabernet	White, Red	Rhone	Pinot Noir	German White	Chard	Whites
Fruit Wines	YES	YES			YES		YES	YES			YES	YES	YES	YES		
Enhances Fruit		YES			YES		YES	YES							YES	
Enhances Mouthfeel	YES						YES	YES							YES	
Sensory Effect *	EVC	Estery	EVC	EVC	EVC	EVC	EVC	Estery	Complex	Neutral	Neutral	EVC	EVC	EVC	Estery	EVC
Reduces Vegetal Character	YES			YES	YES			YES							YES	
Stabilizes Color	YES			YES		YES	YES		YES			YES				
Cold tolerant					YES						YES			YES		YES
Use to Restart										GOOD	GOOD	GOOD				GOOD
Temp-erature Range F.	68-86	59-86	64-82	59-89	50-80	64-86	50-85	59-86	59-90	59-80	50-86	59-82	68-86	40-70	59-85	50-86
Vigor	Slow	Average	Average	Average	Average	Average	Fast	Fast	Average	Fast	Fast	Fast	Average	Slow	Slow	Slow
Alcohol Tolerance %	15	14	16	14	15	16	16	16	16	17	18	18	16	14	14	14
High Alcohol Tolerant			YES			YES		YES	YES	YES	YES	YES	YES			
Nutritional Need **	Medium	Low	Very High	High	Medium	High	Medium	Medium	Low	Medium	Low	High	High	Low	Medium	Medium
Reaction to Oxygen ***	Medium			Low			Medium		Low		High	Medium				
Comments	Enhances spiciness	Fruit wines	Extended Macerations	Alternate to BDX	Can be stopped	Ideal Fermentor	Complex flavor Mineral Aromas	Complex	Rich, lush, Balanced	Vigorous	Late Harvest	Late Harvest	Good Color	Easy to stop	Monthfeel	Very Cold Tolerant Late Harvest

Notes to Text

*Sensory Effect: EVC = Enhances Varietal Character, Estery = Enhances Fruitness, Neutral = No Enhancements
 ** See page 12 for Nutrient recommendations, especially for Medium and High Categories.
 *** Also try additions of Oxygen with active stirring during fermentation to yeasts that react to O₂ additions.

GREAT OAK FLAVOR, WITHOUT A BARREL

There are several methods of adding oak flavor and aroma without using a barrel.

Oak staves and sticks take about six weeks to three months for full extraction, extracts are instantaneous and oak chips take only 48 hours.

Oak **chips** are made from full size staves, with all the normal drying and kilning but chipped for easy addition to any size container. They can even be added into the must during fermentation. Use about 3 oz. per 5 gallons. They impart great flavor, but aren't heavy in the aromatic department.

Chain of Oak™ **staves** can be added any time after fermentation to tanks or barrels which have lost their



oak-i-ness. This **Innerstave** innovation, consists of separate oak staves that tie together with nylon ties, which then folds into a barrel. The bung opening must be at least 2". These are also appropriate for use in stainless tanks. One chain treats 60 or so gallons. They can also be used in smaller

barrels if the bung opening is 2", by using less than all 17 staves. We carry both French and American staves.

Also see our lineup of Oak **sticks** for use in Carboys. Use one stick per 5 gallons. After extraction, the stick can be removed and or the wine racked off the stick. Leftover sticks are great on the barbeque.

Finally, the most expensive additive is Liquid Oak **Extract**. A highly concentrated product, liquid oak can be added all the way up to bottling, for making fine tuning adjustments or just finishing a wine that seems lacking in aroma. See page 19 for all these products and small American and French barrels. See below for our method of making your own liquid oak extract using oak chips.

HOMEMADE OAK FLAVORING

Homemade Oak Extract is a sound alternative to barrel storage. The marriage of flavors takes place in glass or stainless steel storage containers instead of barrels and therefore needs to be racked at least as frequently as a barrel to slowly introduce oxygen. Other than maintaining that program, the effects of oak flavor and aroma will very nearly match the tastes imparted from storage in oak cooperage. To make up your extract you will need a few supplies, as well as the oak chips.

You will need:

8 oz. Oak Chips, Plain or Toasted	1 yd. Cheesecloth
25 oz. Vodka (or Everclear)	Small Funnel
2 Quart Mason Jars with Lids	.5 ml Pipet or Syringe
100 ml Graduated Cylinder	5 Clean Wine Glasses

To make the extract, fill one Mason jar with the oak chips and fill the jar completely with vodka. Cover and let stand for 24 hours. Line a funnel with several layers of folded cheesecloth and place over the second Mason jar. Pour in the oak and vodka mixture, stand until well drained. You will normally collect approximately 10 to 12 oz. of Liquid Oak Extract. You may further clarify this liquid by straining a second time through a paper coffee filter. Pour the extract into a clean bottle and store until needed.

Trial additions: measure 100 ml of wine into the graduated cylinder and add .5 ml liquid

oak extract. Pour 1 oz. of this flavored wine into a wine glass and mark .5 ml. Add 1 oz. of wine to the graduated cylinder. Add another .5 ml liquid oak extract. Pour 1 oz. of this second flavored wine into a second wine glass and mark .85 ml. Add 1 oz. of wine to the graduated cylinder and repeat this process 3 more times to give you five wine glasses marked .5, .85, 1.1, 1.28, and 1.41 ml. Now taste and smell these different wines until you decide which amount is the most desirable.

Now, **to treat five gallons of wine**, multiply your favorite amount (in ml) by 188. For example: your favorite sample wine glass holds is the sample with 1.28 ml added. Multiply 1.28 x 188 = 241 ml. Add this extract per 5 gallons of wine you are flavoring. Taste it now and again in three weeks. The wine will appear to have lost some of its fruitier flavor and aromatic components, but after several weeks, the extract will "marry" to the wine and the fruit will reappear. We recommend you do the extract addition several weeks before bottling, in case you want to increase the amount of oak by making a second addition.

Sample	Dosage	Add to 5 gallons
Glass #1	.50 ml	x 188 = 94 ml.
Glass #2	.85 ml	x 188 = 160 ml.
Glass #3	1.10 ml	x 188 = 207 ml.
Glass #4	1.28 ml	x 188 = 241 ml.
Glass #5	1.41 ml	x 188 = 265 ml.

Barrel Care Procedures

Care of a New Barrel

Brand new oak barrels are about as sanitary as they can be because the wood has been heated over direct fire in the process of making the barrel. This is done in order to bend the staves into place, and also to enhance various flavor accents (such as vanilla and caramel).

Swelling up a Barrel

Like any wooden container, however, a new barrel must be filled with water to make the wood swell and eliminate leaks. These leaks will often seal themselves in only a few hours, or a couple of days. However, the barrel should be continually refilled until the leaks stop, and the water should be changed each day to prevent off flavors caused by rancidity or mold growth.

Acidifying a New Barrel

It is recommended that an acidic environment be created in a new barrel, which is about to receive wine for the first time. Dissolve in water 2 Tablespoons of *Citric Acid* for every five gallons of barrel capacity. Fill the barrel and check to make sure it isn't leaking. Drain the acid water and fill the barrel with wine.

Cleaning a Barrel at each Wine Racking

Once a barrel has been used for wine storage, additional cleaning and sanitation measures are required.

At each racking, rinse the barrel thoroughly with water to remove debris. Follow

by rinsing the barrel with an acid wash. Dissolve 2 Tablespoons of *Citric Acid* in five gallons of water, sloshing this mixture around the interior surfaces of the barrel for 5 to 10 minutes. Drain, and refill the barrel with wine.

Preparing a Barrel for Storage

It is always best to keep a barrel full of wine. When this is not possible, start by removing the organic matter that has penetrated into the surface of the wood. This is done with a solution of *Sodium Percarbonate*, a sodium percarbonate based cleaner.

Use 4 oz. (or 8 Tablespoons) of *Sodium Percarbonate* for every 15 gallons of barrel capacity. Dissolve in a small amount of water, and funnel the mixture into your barrel. Fill the barrel the rest of the way with water. You may leave this mixture in the barrel for as little as 20 minutes or as much as 24 hours. If the barrel has VA (volatile acidity), double the amount of *Sodium Percarbonate* and leave for 24-48 hours.

Drain and rinse the barrel several times with water. Re-acidify the barrel using one ounce or 2 Tablespoons of *Citric Acid* for every five gallons of water. Slush this all around and

drain completely. Now prepare for storage.

Short Term Storage

If it will be **two months or less** before the barrel is used again, drain the barrel, and fill with a "Sulfite" and *Citric Acid* solution. Use one teaspoon of *Potassium or Sodium Metabisulfite* powder, along with 1/3 teaspoon of *Citric Acid* for every 15 gallons of barrel capacity. Add enough water to fill the barrel, and bung the barrel tightly. Check to make sure sulfur can still be detected inside the barrel, replacing the solution if necessary. Rinse with water before refilling with wine.

Cleaning Step by Step

1. Drain wine from barrel and hose out visible solids until clear.
2. Add 4 ounces (8 Tablespoons) of Proxycarb for every 15 gallons of barrel and fill with water, let stand 2 - 24 hours.
3. Drain out cleaner and rinse until water is clear.
4. Acidify barrel with one ounce (2 Tablespoons) *Citric Acid* for every 5 gallons water. Either make this into a volume to fill barrel, or just slush around a 5 gallon volume and then drain.
5. No water rinse is required after the citric rinse.

Long Term Storage

If it will be **more than two months** before the barrel is used again, drain the barrel and leave it upside down overnight. Next burn a *Sulfur Strip* in it, hanging it down at least 6 inches below the bung on a wire. Replace the bung. Remove the sulfur strip after about 15 minutes, and bung the barrel tightly. Burning sulfur releases sulfur dioxide gas into the barrel's interior.

Repeat every two weeks (as needed) until a flashlight reveals no shiny dampness in the bottom of the barrel. Bung up the barrel and store it in a dry place until needed, allowing enough time to soak up and acidify the barrel before the next use.

Grape Growers Wanted

We keep a book at our shop giving information provided by grape growers with small lots of grapes for sale to amateur winemakers. The program has effectively bridged the gap between the grower needing to find a home for some excess crop and the winemaker looking for a supply to harvest.

If you would like to place a listing, please send us a list of grapes available, with your **name, address and phone number**.

Please **also indicate**:

The estimated Picking Date

Varietals available

Minimum/Max avail

Price with/or without picking

Age of vines, location of vineyard.

Competitions for Winemakers

Marin County Fair, Entries due last week of May or so. Contact Marin County Fairgrounds. We normally deliver the entries for you, if you have sent in forms and money in advance.

Orange County Fair, Entries due June 1st., Contact Jim Graver, chairman of Orange County Wine Society 714 708 1636. Again, we normally deliver the entries for a small fee, but you must send in the forms in advance.

HomeWinemakers Festival, Kelseyville, Lake County, contact via email at edandchar@earthlink.net. Annual food, wine, music festival with home winemaking competition. June, 23, 2007, 1 p.m. - 5 p.m., Main Street. Information call 707 277 8172.

California State Fair. Contact fair www.bigfun.org. Deadline for entries is July 7. Entries accepted at *The Beverage People*.

Harvest Fair of Sonoma County. Contact fair office at 545-4203, we have forms. Deadline for entries is the last week of August. Opportunity for local winemakers to judge, contact Robert Bennett, 433-4574 to be included on a panel. Deliver entries directly to fair.



2007 Winemaking Supplies Catalog

Presses

Wooden cage with steel base on legs, lets you quickly and smoothly press fermented red grapes or crushed white grapes.

Model	Basket Number	Basket Diameter	Basket Height	Capacity In Gal.	Retail Price
WE02	#25	10"	14"	5	\$300.00
WE03	#30	12"	17"	7	\$395.00
WE04	#35	14"	19"	12	\$450.00
WE05	#40	16"	21"	18	\$550.00
WE06	#45	18"	24"	25	\$650.00
WE07	#50	20"	26"	34	\$700.00
WE27	#45	(All Stainless Cage and Base and Legs)			\$975.00

Piston Top Basket Press with Hydraulic Ram on frame with wheels. Very easy to use, with tilt frame for draining. *Size shown to right is similar to a #50 basket press.*

WE54	Piston, manual Hydraulic Press on wheels #40	16" x 21"	\$1850.00
WE50	Piston, manual Hydraulic Press on wheels #50	20" x 26"	\$2295.00
WE51	Piston, electric Hydraulic Press on wheels #50	20" x 26"	\$3200.00

Water Bladder Press inflates with regular garden hose pressure, pressing the grapes against the stainless steel cage, while a lid retains the grapes. *(Not pictured.)*

WE55	#42	17"	23"	20	\$1200.00
WE46	#54 with wheels	21"	28"	42	\$2600.00

Crushers and Stemmer/Crushers

Crushers: Manual rollers crush the grapes by simply turning the flywheel supplied.

Dimensions of WE12 and 13 Bins: 21" x 32", WE30 and 35 Bins: 21" x 21".

WE12	Double roller crusher with Paint finish	\$250.00
WE13	Double roller crusher with all stainless hopper <i>(Shown right.)</i>	\$300.00
WE35	Boxed roller crusher, stainless with removeable supports	\$300.00
WE30	Boxed APPLE crusher, stainless hopper, cutting knives, removeable supports	\$450.00

Stemmer/Crushers: Manual and electric models are available, both will process around one ton per hour. Stainless steel models come with a stainless stem grate and stainless hopper. *Dimensions of hopper are 16" x 30", except extended hopper with screw feed : 16" x 36".*

WE14	Manual, paint grade stemmer/crusher	\$475.00
WE15	Manual, stainless stemmer/crusher <i>(Shown middle right.)</i>	\$600.00
WE16	Electric 110V, paint grade stemmer/crusher	\$750.00
WE17	Electric 110V, stainless steel stemmer/crusher	\$850.00
WE22	Electric 110V, paint grade stemmer/crusher with screw feed and extended hopper	\$800.00
WE18	Electric 110V, stainless stemmer/crusher with screw feed (SF) and extended hopper (EXH)	\$900.00
WE25	Electric 110V, ALL stainless stemmer/crusher, w/SF & EXH <i>(Shown bottom right)</i>	\$1350.00

Wine Tanks

Variable Capacity Stainless Wine Tanks, come with a lid, pressure relief valve and drain.

WE43	100 Liter Stainless tank (26 g.)	\$450.00
WE40	200 Liter Stainless tank (52 g.)	\$625.00
WE42	300 Liter Stainless tank (79 g.)	\$700.00
WE44	400 Liter Stainless tank (106 g.)	\$800.00
WE45	500 Liter Stainless tank (132 g.)	\$1050.00
WE41	600 Liter Stainless tank (158 g.)	\$1200.00
WE53	300 Liter Stainless tank /Bottom cone, 3 legs	\$1200.00
WE49	600 Liter Stainless tank /Bottom cone, 3 legs	\$1600.00

Filters/Pumps

F05	3 Plate Filter/Pump (3 gal.min.) BUON VINO™	\$349.95
WE10	6 Plate Filter/Pump (11 gal. min.)	\$900.00
WE60	10 Plate Filter/Pump (11 gal. min.)	\$1325.00
WE61	Pump, 1" tri-clamp ports all S/S, on cart, with forward/reverse/bypass, 110V	\$1000.00



Wine Tanks



#50 Piston Press



Roller Crusher



WE15 Stemmer/Crusher



WE25 Stemmer/Crusher

Equipment is priced for pick up at the store. The basket presses sized #25 to #35 can be broken down for shipping via UPS. All other equipment should be picked up at the store. Call for a freight quote for delivery of any large pieces of equipment.

INGREDIENTS

Ingredient Kits for Winemaking

Two cans of concentrate of your choice are included with instructions for 5 gallons of wine. Choose from the list below, and we include the yeast, sugar, acid blend, and a pack of wine labels.

- BDW02\$34.95
Choose your flavor or use this list to order individual cans
 (C002) **Chenin Blanc** or (C004) **Chablis**,\$10.95
 (C006) **Burgundy**\$12.95

Pure Italian Juice Wine Kits

Mosto Italiano® kits are aseptically packaged in plastic pails, that also serve as the primary fermentor. 23 liter kits are a complete package of ingredients to make 6 gallons. Ready in three months.

- C030 **Cabernet Sauvignon** (R) \$109.95
 C031 **Chardonnay** (W) \$94.95
 C032 **Sangiovese** (R) \$109.95
 C039 **Pinot Grigio** (W) \$94.95
 C034 **Shiraz** (R) \$109.95



- C035 **Zinfandel** (R) \$109.95
 C036 **Sauvignon Blanc** (W) \$84.95
 C038 **Montepulciano** (R) \$109.95

Seedless Fruit Puree

Each 49 oz. can of fruit puree from Oregon is seedless, with all the goodness preserved in the processing, full of aroma and a deep rich taste and color. Use one can in five gallons of beer, two cans to flavor a mead or four cans to make wine.

The classic wine recipe using four cans of puree, will yield 24 wine bottles of superb fruit wine. Finish it with the addition of a simple syrup just to smooth the flavor and intensify the berry taste. Reminds us of summer even in the dead of winter and tastes great for several years, if you can wait that long, but is ready to drink in three months.

- 49 oz. can
 FL44 **Raspberry Puree**.....\$15.95
 FL45 **Blackberry Puree**.....\$14.95
 FL46 **Apricot Puree**.....\$13.95
 FL48 **Dark Sweet Cherry Puree**.....\$13.95



EQUIPMENT KITS



New "Premium" Wine Equipment Kit

Complete with a ten gallon primary fermentor and lid, a six-gallon glass secondary, an air lock and stopper, 25 Campden tablets, a siphon assembly, a bottle filler, Mini-Floor Corker, 100 Corks, CW Acid Testing Kit, Hydrometer and Test

Jar, a Bottle Brush and the book *Home Winemaking Step By Step*. BNW01 \$189.95
 (Note: For **White Wine**, kit includes 7 gallon carboy in place of the bucket and lid, please identify **RED** or **WHITE WINE** on order.)

Mead Equipment Kit

Includes a 7-gallon glass primary and 5-gallon glass secondary fermentor with stopper and airlock, a siphon assembly, bottle filler, an Acid Test kit, Hydrometer and Test jar, the "Emily" Capper, caps, a spoon, sanitizer, a bottle brush and the book *Making Mead* by Morse. BN60..... \$129.95

Meadmaker's Ingredient Kit

9 lbs. of our clover honey with yeast, nutrients, acid blend, sulfite, priming sugar and instructions, makes 5 gallons of sparkling mead. BN50\$39.95

SUPPLIES

Acids

- A17 **Ascorbic**. 1 oz. \$1.85
 A05 **Citric**. 2 oz. \$ 1.50
 A14 **Malic**. 2 oz. \$ 1.95
 A10 **Tartaric**. 2 oz. \$2.95
 A24 **Acid Blend**. (Citric, Tartaric & Malic). 2 oz. \$1.95

Fermenting & Preserving Aids

- AD15 **Corn Sugar**. 5 lbs \$5.95
 QR04 **Pectic Enzyme**. 1 oz. \$1.85
 FN18 **Potassium Sorbate**. 1/2 oz..... \$.99
 FN35 **Wine Conditioner/Stabilizer**. 500 ml. \$5.50
 QR11 **Yeast Nutrient (Diammonium Phosphate)**. 2 oz. \$1.95
 QR33 **Autolysed Yeast**. 2 oz. \$2.95
 QR16 **Yeast Hulls**. 2 oz. \$3.95
 QR06 **Fermaid K™ Yeast Food**. Complete nutrient mix with trace minerals, use 1 oz. per 30 gallons. 3 oz. \$3.50
 QR50 **Yeast Nutrient for Meads**. (Our special blend)
 Use 2 oz. per 5 gallons. 2 oz. \$1.95

Wine Yeast & Malolactic

YEAST

Choose your yeast from the information given on page 13. Use one gram per gallon. Shelf life is 3 to 4 months, if kept refrigerated much of that time. To make a starter: Boil 4 oz. of distilled water, cool to 100°F, add dry yeast and agitate for 10 minutes. Then spread over juice or grape must. Stir in and stir again in 24 hours.

10 grams	.....	\$1.95
WY27	<i>Pasteur Champagne</i> (all-purpose yeast)	
WY23	<i>Prise de Mousse</i> (low foam, yeast for whites)	
WY38	<i>Assmanshausen</i> (Pinot Noir, Zinfandel)	
WY25	<i>Beaujolais 71B</i> (Fruity, aromatic reds)	
WY45	<i>Brunello BM45</i> (Sangiovese, Macerations)	
WY53	<i>CSM</i> (Cab Sauv., Merlot, Cab Franc)	
WY22	<i>Epernay 2</i> (Fruit wines and Blanc de Noirs)	
WY30	<i>French Red</i> (Cabernet, Merlot, Zinfandel)	
WY44	<i>ICV D254</i> (Chardonnay) New!	
WY50	<i>M2</i> (Premium Chardonnay and Cabernet)	
WY29	<i>Steinberger</i> (Riesling and Gewurztraminer)	
WY35	<i>Rhone #L2226</i> (Syrah, Rhone)	
WY55	<i>RC212</i> (Pinot Noir, other blush wines)	
WY31	<i>Simi White</i> (French White) (Chardonnay)	
WY24	<i>VQ15 "Rockpile"</i> (Syrah, Zinfandel) New!	
WY28	<i>Wadenswil 27</i> (Slow, Cold Fermentor)	

MALOLACTIC

QR38	Acti-ML. (Nutrient for MLF for 66 gal.) 50gr.	\$5.95
WY32	ML Culture, <i>MCW Strain</i> . 2 gram pack inoculates 5 gallons directly. May be built up to treat up to 500 gallons. Comes with instructions.	\$15.95
WY51	ML Culture, <i>Enoferm Alpha Strain</i> , 2.6 gram pack inoculates 60 gallons directly. With instructions	\$23.95
WY60	Lysozyme liquid "Lyso-easy" . 250 ml.	\$25.95

Fining Agents

FN06	Sparkolloid™ 1 oz.	\$ 1.95
FN32	Bentonite 2 oz.	\$.69
FN07	Isinglass 1 oz..	\$ 4.95
FN03	Fining Gelatin (75 bloom, grade B) 1 oz.	\$.99
FN16	Tannin . 1/4 oz.	\$.95
TE24	Copper Sulfate Solution . 4 oz.	\$ 4.00
FN22	Polyclar VT (PVPP) (With Instructions). 1 oz.	\$ 1.95
QR28	Calcium Carbonate (With Instructions). 1 oz.	\$.69
FN39	Potassium Bicarbonate (With Instructions). 4 oz. .	\$ 2.95

Cleaners & Sterilants

CS12	Soda Ash (Barrel cleaner) 1 lb.	\$1.95
CS29	Sodium Percarbonate (Cleaner) 1 lb.	\$4.95
CS24	Sodium Metabisulfite 4 oz.	\$2.95
CS20	Potassium Metabisulfite 1 lb.	\$5.95
CS17	Campden Tablets Pack of 25.	\$.95
CS16	Campden Tablets Pack of 100.	\$2.95
CS33	Efferbaktol SO₂ Granules, 2 grams	\$1.00
CS35	Efferbaktol SO₂ Granules, 5 grams	\$1.50
B39	Sulfur Strips 2 strips	\$.69
B38	Sulfur Strips Bundle of 70 strips	\$18.95
CS31	TDC™ Glass Cleaner 1 Liter.....	\$13.95

CS03	BTF™ Iodophor Sanitizer 1 Liter	\$14.95
QE29	Bottle Brush	\$4.95
QE30	Carboy Brush	\$5.95
QE31	Long Handled Nylon Scrub Brush	\$14.95

EQUIPMENT

Transferring

QE11	5/16" Racking Tube	\$3.95
FST02	Hose Shutoff Clamp for 5/16" hose	\$1.50
QE33	1/2" Racking Tube	\$4.95
FST03	Hose Shutoff Clamp for 1/2" hose	\$2.95
QE17	Bottle Filler for 5/16" hose	\$4.95
QE20	Bottle Filler for 1/2" hose	\$5.95
PS26	Transfer Pump , phenolic head, electric	\$149.95
F01	Filter/Strainer for Pumps (Use with 1/2" hose)	\$16.95
PS36	Procon Brass Pump , 4 GPM, 1/4 HP	\$295.95
PS35	Procon Stainless Pump , 4 GPM, 1/4 HP	\$425.95

PS04	<i>Pump hose barb fitting, 3/4" x 1/2" barb. Plastic</i>	\$1.99
PS05	<i>Pump hose barb fitting, 3/4" x 5/8" barb. Plastic</i>	\$1.99
PS04	<i>Pump hose barb fitting, 1/2" x 1/2" barb. Brass</i>	\$2.95
PB05	<i>Pump hose barb fitting, 1/2" x 1/2" barb. Stainless steel</i>	\$10.95



PS35 Procon Stainless Pump with PB05 fittings

Funnels:

QE24	9" Carboy	\$10.95
QE23	10" Barrel	\$9.95
QE22	6" Bottle	\$4.95
QE21	4" Bottle	\$2.95

Mesh Pressing Bags:

PS32	12" X 19"	\$4.95
PS16	20" X 22"	\$5.95
PS15	24" X 24" Apple pressing	\$10.95

Stainless Sieve-Strainer for Basket Press QE39 ...\$18.95

Miscellaneous

KEG58	Food Grade Lubricant . 4 oz.	\$3.95
MS03	Silicone Spray Lubricant for all grape wine processing equipment. 12 oz.	\$13.95
MS09	Gondola Enamel . Food grade paint. 16 oz. ...	\$10.95
MS32	Grape Picking Shears	\$12.95
MS16	Grape Picking Knife . Plastic handle	\$6.95
QE36	Grape Masher . (Cap Punch Tool) 24" long	\$29.95
MS43	Wine Away™ . 12 oz. Spray Bottle.....	\$8.95
MS27	Spinning Spray Head Barrel and Tank Washer . FNPT connection 1/2" or 3/4".....	\$195.95
MS33	Wine Degasser/Blender . Nylon whip to stir or de-gas wine, use with a drill.	\$10.95

Filters

F05 Buon Vino Super Jet Filter. Plate & frame filter includes pump and will process 30 to 45 gallons per set of pads. Change pads and continue. Pump is also useful alone for racking wine.\$349.00



Pads for Super Jet Buon Vino
(Set of Three):

F09 **5-7 m. Coarse** ...\$3.95

F22 **0.8 m. Fine**\$3.95

F21 **0.5 m. Sterile**\$4.95

F23 **25 Backing Papers for Filter Pads** \$4.95

F03 10" Cartridge Filter Housing.

Best for early cleanup of wine and larger volumes than the *Buon Vino*. Choose a cartridge from list below. The smaller the micron rating, the more sediment is removed. Clear, poly housing, cartridges are one use.....\$34.95

10" Filter Cartridges:

F10 **3 micron Coarse**\$12.95

F11 **1 micron Fine** \$12.95

F12 **.5 micron Sterile**\$14.95

F41 **.5 micron, reuseable Sterile**.....\$44.95

Hose Barb for Filter Housing. *Need two. Specify: PS02 3/8" hose.*
or PS03 1/2" hose.....\$1.29



Containers

P16 10 liter Plastic Pail, with Pour out lip and Bail Handle.
.....\$7.95

P01 **6.8 Gallon Plastic Bucket** with Wire Bale Handle,
Graduation marks in half gallons & Locking lid.\$13.50

P17 **Poly Drum Liner** (4 mil, 60 gall.)\$4.95

P04M **10 Gallon Heavy-Duty Plastic Bucket**
with molded handles.\$20.95

P05 **10 Gallon Lid**\$6.95

20, 32 AND 44 GALLON SIZES and lids are available at the store.

QE44 **Carboy Draining Stand.**\$8.95

QE34 **Carboy Handle.** 3, 5 and 6 gallon size\$6.95

QE47 **Carboy Handle.** 7 gallon size\$6.95

Glass Carboys

GL02 **3 Gallon Glass Carboy.**\$20.95

GL01 **5 Gallon Glass Carboy.**\$24.95

GL40 **6 Gallon Glass Carboy.**\$27.95

GL04 **7 Gallon Glass Carboy.**\$28.95

Plastic Carboys

Lightweight, NO TASTE NO ODOR NO O2

GL45 **5 Gallon BETTER BOTTLE Carboy.**\$23.95

GL13 **6 Gallon BETTER BOTTLE Carboy.**\$25.95

Oak

Oak Chips, 1 lb sacks

B46 **American Medium Toast.**

..... \$5.95, or

Specify: B24 French Medium

Toast or B25 French Dark

Toast. \$6.95

Carboy Oak Stick Inserts

B80 **American Medium.** \$20.95,

B82 **American Dark.** \$21.95,

B81 **French Medium** \$24.95, or B83 **French Dark.**\$25.95

Chain-O-Oak™ Barrel Stave Inserts, 17 staves and ties

B78 **American Medium.** \$45.95, B79 **American Dark** \$49.95,

B74 **French Medium** \$49.95 or B75 **French Dark.**\$54.95

New Oak Barrels: (Kiln Dried)

B04 **American Oak, 5 gallon** \$169.95

B05 **American Oak, 10 gallon** \$189.95

B06 **American Oak, 15 gallon** \$209.95

New Oak Barrels: (Air Dried)

B47 **American Oak, 26 gallon** - medium toast..... \$325.00

Used French Oak Barrels: (Shaved and Rebuilt from full size barrels, with new Hoops) (Barrels come with medium toast.)

B84 **French Oak, 10 gallon** \$295.00

B85 **French Oak, 15 gallon** \$315.00

B86 **French Oak, 20 gallon** \$325.00

B48 **French Oak, 30 gallon** \$335.00

Small American Oak Barrels:

B01 **American Oak, 1 gallon** \$94.95

B02 **American Oak, 2 gallon** \$99.95

B03 **American Oak, 3 gallon** \$104.95

Vinegar Barrels are paraffin lined (P):

B09 **American Oak, 1 gallon (P)** \$84.95

B10 **American Oak, 2 gallon (P)** \$94.95

B11 **American Oak, 3 gallon (P)** \$95.95

B12 **American Oak, 5 gallon (P)** \$119.95

Bungs & Barrel Supplies

FST48 **Silicone Bung** (#9 size).\$6.95

FST40 **Silicone Bung** (44 X 55 mm) (#11 size).....\$6.95

B21 **Hardwood Bung** (specify diameter)\$4.95

B37 **Barrel Wax** 4 oz.\$3.95

MS06 **Mildewcide Barrel Coating**, 16 oz.\$6.95

Spigots: Wood. B29 **4"** \$5.95, B30 **6"** \$7.95, or B31 **7"** .

Additional spigots 2 1/2" to 12" in length are also available..... \$8.95

B13 **Hoop Nails** Pack of 20..\$1.25

B14 **Spiles for Barrels** (Fills holes) Pack of 10\$1.75

B42 **Liquid Oak Essence.** 4 oz. size treats 5-10 gallons of red wine, 10-15 gallons of white wine.\$5.95



Fermentation Locks

FST04	Three Piece Fermentation Lock	.....	\$1.29
FST05	Fermentation Lock Red Top	.....	\$1.29
Breather Bungs, Waterless Silicone Air Lock and Bung:			
FST42	(fits most carboys)	.....	\$4.95
FST47	(fits glass or plastic carboys)	.....	\$8.95
FST46	(#9 or plastic carboys)	.....	\$5.95
FST45	(fits 2" barrel bung, #11 size)	.....	\$6.95

Drilled Rubber Stoppers

#	Code	Top	Bottom	Price
2	FST09	13/16"	5/8"	\$.60
6	FST12	1 1/16"	29/32"	\$.95
6.5	FST13	1 11/32"	1 1/16"	\$ 1.00
7	FST14	1 7/16"	1 3/16"	\$ 1.20
8	FST15	1 5/8"	1 5/16"	\$ 1.35
8.5	FST16	1 11/16"	1 7/16"	\$ 1.45
9	FST17	1 3/4"	1 15/32"	\$ 1.55
10	FST19	1 31/32"	1 5/8"	\$ 1.75
10.5	FST20	2 5/64"	1 3/4"	\$ 1.85
11	FST21	2 13/64"	1 7/8"	\$ 2.25
11.5	FST22	2 15/32"	2"	\$ 2.50
12	FST23	2 1/2"	2 1/8"	\$ 2.70
13	FST24	2 11/16"	2 9/32"	\$ 2.95

Most sizes are available solid, at the same price.

SIPHON HOSE

Sold by the FOOT

HS03	5/16" i.d.	.....	\$ .59
HS04	3/8" i.d.	.....	\$ .59
HS05	1/2" i.d.	.....	\$ .79
HS06	1/2" i.d. thick wall.	.....	\$ 1.09
HS07	5/8" i.d. thick wall.	.....	\$1.19
HS08	3/4" i.d. thick wall.	.....	\$1.29

Bottling Supplies

BE01	Italian Lever Corker.	.....	\$29.95
BE19	Mini-Floor Corker. Nylon Jaws	.....	\$69.95
BE03	Heavy Duty Floor Corker. Brass Jaws	.....	\$125.00
QE09	90 Bottle Draining Tree.	.....	\$36.95
WE19	Plastic Model 3 Spout Bottle Filler.	.....	\$149.95
WE28	Stainless Steel 3 Spout Bottle Filler.	.....	\$350.00
WE23	Stainless Steel 3 Spout Bottle Tray.	.....	\$50.00
WE29	Stainless Steel 5 Spout Bottle Filler.	.....	\$425.00
WE24	Stainless Steel 5 Spout Bottle Tray.	.....	\$55.00
WC11	1 3/4" Chamfered Corks. 25 pack	.....	\$8.95
WC06	1 3/4" Chamfered Corks, 100 pack	.....	\$34.95
WC14	1 3/4" Twin Disk Corks. 100 pack	.....	\$24.95
WC08	1 3/4" Supreme Corq® Corks. 100 pack	.....	\$26.95
WC07	1 3/4" Corks. 100 pack	.....	\$36.95
WC13B	1 3/4" Twin Disk Corks. 1000 pack	.....	\$205.95



Stainless Bottle Filler
Three Spout (WE28)



Heavy Duty
Floor-Model Corker (BE03)



Transfer Pump (PS26)

TC26	All-Plastic Wine Bottle Cork	ea.	\$.15
TC20	Plastic Champagne Stoppers	ea.	\$.12
TC21	Champagne Wires	ea.	\$.09
TC18	28 mm Black Top Bar Top Cork	ea.	\$.29
TC28	28 mm Black Top Bar Top Cork	100.....	\$ 26.95
S01	28 mm Metal Screw Caps	ea.	\$.15
S02	38 mm Metal Screw Caps.	ea.	\$.25
S03	28 mm. Plastic Polyseal Caps	.....	\$ .35
S04	38 mm. Plastic Polyseal Caps	.....	\$ .85

Bottle Seal, Wax Available in 9 colors \$8.95
SL26 *Black*, SL27 *Burgundy*, SL28 *Gold*, SL29 *Silver*, SL31 *Blue*,
SL30 *Red*, SL32 *Green*, SL41 *White*, or SL34 *Purple*. 1 lb.

Heat Shrink Plastic Sleeves. Apply to bottle neck with hot water (180°F.) or heat gun. *Specify:* SL18 *Silver*, SL33 *Green*, SL20 *Gold*, SL19 *Burgundy*, or SL09 *Blue*. Also for *Burgundy bottles Oversize Sleeves* are SL01 *Maroon*, SL02 *White*, SL03 *Black*. Sold by the Dozen \$ 1.19

Gum-Backed Label Making Paper. *White* L38, *Blue* L39 or *Green* L40. 18 Sheets, 8 1/2 x 11. \$6.95
MS15 **Label Glue** 16 oz. \$6.95
MS24 **Iceproof Label Glue** 32 oz. \$13.95
MS26 **Manual Label Gluer** Glue Pot. \$249.95
BE07 **Super "M" Crown Capper** \$37.95
BE10 **Plain Crown Caps** 1 gross (144 caps) \$3.95
GL03 **Green** or GL16 **Flint Bottles** 375ml. 12/cs. \$14.95
GL11 **Green** or GL05 **Flint Bottles** 750ml. 12/cs. \$12.95

Tapered Corks, Solid

Size	Code	Top	Bottom	Price
# 9	TC05	23.8mm	18.6mm	..... \$ .20
#14	TC06	31.8mm	25.8mm	..... \$ .60
#16	TC07	34.9mm	27.9mm	..... \$ .75
#17	TC23	35.9mm	29.9mm	..... \$ .85
#18	TC08	38.1mm	30.9mm	..... \$ .90
#20	TC09	41.3mm	34.1mm	..... \$ 1.05
#22	TC10	44.5mm	37.3mm	..... \$ 1.35
#24	TC11	47.6mm	40.5mm	..... \$ 1.40
#26	TC12	50.8mm	43.6mm	..... \$ 1.85

WINE LABORATORY

Sugar & Alcohol Testing

- TE40 **Economy Hydrometer** has Brix, Specific Gravity, and Potential Alcohol scales. 10" \$8.95
- TE42 **Deluxe Hydrometer 3 scale with Thermometer.** Use with the tall test jar below. 11" \$16.95
- Precision Hydrometers (Brix only).**
Specify range: TE43 **-5° to +5°**, TE44 **-1° to 11°**, TE45 **9° to 21°**, or TE47 **20° to 50°** \$20.95
- TE39 **Hydrometer Proof and Traillie**..... \$10.95
- TE65 **"Santa Rosa" Residual Sugar Kit.** 36 Tests (with instructions). \$21.95
- TE15 **Replacement Reagent Tablets for Residual Sugar Test Kit (36 pack).** \$21.95
- TE07 **Replacement .5 ml. Pipet.** \$.95
- TE14 **Replacement Test Tube.** \$.50
- TE23 **Refractometer, 0-32° Brix, ATC, boxed**..... \$89.95
- TE32 **20° Brix Solution.** Sugar solution to standardize the refractometer. 2 oz. \$3.00
- TE13 **Vinometer.** Measures alcohol in dry wine \$7.95

Labware

- Regular Test Jar for 10" Hydrometer.**
- TE55 **Plastic.** 10" \$4.95
- TE08 **100 ml. Graduated Cylinder Pyrex.** \$19.95
- Tall Test Jar for 11" Hydrometer.**
- TE56 **Plastic.** 1 1/2" x 14" \$5.95
- TE54 **Glass.** 1/1/2" x 12" \$15.95
- TE07 **1 ml. Pipet.** Each. \$.95
- TE62 **10 ml. Pipet.** Pack of 20. \$17.95
- TE36 **10 ml. Pipet.** Each. \$1.25
- TE86 **100 ml. Graduated Beaker Polypropylene**..... \$.95
- TE87 **400 ml. Graduated Beaker Polypropylene.** \$1.95
- TE92 **1000 ml. Graduated Beaker Polypropylene.** \$2.95
- TE83 **1000 ml. Polypropylene Beaker w/handle.** \$10.95
- TE84 **2000 ml. Polypropylene Beaker w/handle.** \$11.95
- TE85 **3000 ml. Polypropylene Beaker w/handle.** \$13.95
- TE10 **500 ml. Pyrex Erlenmeyer Flask.** \$10.95
- TE09 **1000 ml. Pyrex Erlenmeyer Flask.** \$12.95

Sulfite and Acid Testing Kits

- TE26 **Country Wines Acid Test Kit** \$8.95
- TE29 **Sodium Hydroxide Refill (Neutralizer)** (for TE26) 4 oz., 0.1 normal \$4.95
- TE58 **Phenolphthalein Refill.** (Indicator) (for TE26) 3 dram \$1.95
- TE61 **Accuvin Titratable Acid** (10 tests) \$25.95



- TE30 **Acidometer, Precision Acid Test Kit** \$23.95
- TE66 **Blue Hydroxide Refill** (for TE30) (100 ml.) \$5.95
- TE82 **Iodic Solution** Tests free SO₂ with the TE30 Acid Kit components. (100 ml.) \$11.95
- TE02 **Titrets® Free SO₂ Test Kit.** Pack of 10. \$18.95



pH and ML Testing

- TE60 **Accuvin pH** (10 tests) \$22.95
- TE73 **Waterproof pH Tester20 DJ.** Digital, battery operated, accuracy to 0.01 pH. Automatic temperature compensated, double junction electrode can be replaced. ... \$89.95
- TE69 **Replacement Electrode for Waterproof pH Testr2** (old model)..... \$39.95
- T35 **Replacement Electrode for Waterproof pH Testr20.** (new model) \$54.95
- TE72 **pH Buffer Capsules.** (pH 4.0. and 7.0) One each capsule, to dissolve in 100ml. distilled water to calibrate your meter. \$1.95



Kit for testing Malolactic Fermentation

- TE20 **Malolactic Chromatography Kit.** With 7 papers, 4 oz Solvent, 100 pipets, 3 Acid Standards and Instructions..... \$39.95
- TE17 **Replacement Solvent.** 4 oz. \$10.95
- TE22 **Replacement Paper 5 Sheets.** \$3.95
- TE19 **Replacement Pipets.** (100). \$6.95
- TE67 **Accuvin Malic Acid.** (10 tests) \$30.95

Thermometers

- TE38 **Instant Read Dial Top Thermometer.** 0-220°F, Recalibratable, Type 304 Stainless, 1" Dial x 5" Stem \$9.95
- TE90 **Must or Juice Thermometer.** 0-220°F, Recalibratable, Type 304 Stainless, 2" Dial x 12" Stem, comes with clip..... \$32.95
- TE91 **Floating Glass Thermometer. 12"** (0-220° F. and -15-100°C). \$18.95
- TE81 **Fermometer.** Monitors temperature from 36 to 78°F, glue-backed to read the surface temperature of tanks or carboys. \$2.95

Wine Thiefs

- TE49 **Wine Thief.** Plastic. One piece. \$5.95
- TE48 **Wine Thief.** Plastic. Assembled of 3 pcs \$7.95
- TE51 **Wine Thief Glass.** Pyrex. D Ring Handle (15") ... \$15.95
- TE52 **Wine Thief Glass.** Pyrex. (3/4" by 15") \$18.95
- TE59 **Wine Thief.** Angled 24" "D" Ring Handle and tough Borosilicate Glass. \$46.95

Digital Scale

- TE01 **Escali Scale.** Weights: grams 1-5000, ozs to 16, and lbs 1-11. Perfect for measuring wine additives. \$42.95

WINEMAKING BOOKS AND VIDEO

BK56 *Making Table Wine at Home*
Cooke & Lapsley. UC Davis text.
..... \$ 19.95
BK140 *Home Winemaking Step by Step*
Iverson. \$17.95
BK20 *Micro Vinification*
Dharmadhikari and Wilker. \$39.95
BK142 *Winemaker's Recipe Handbook*
Massaccesi. \$ 4.95
BK40 *Modern Winemaking*
Jackisch. \$39.95
BK44 *Knowing and Making Wine*
Peynaud. \$89.95

BK61 *Complete Handbook of Winemaking*
American Wine Society. \$14.95
BK54 *How and Why to Build a
Wine Cellar*, Gold..... \$20.00
BK59 *A Handbook For Must and Wine
Analysis* A cookbook approach to analy-
sis, for home labs.
Barrus & Evans. \$24.95
MG11 *Practical Winery and Vineyard
Magazine*, current issue. \$3.95
BK109 *Making Wine at Home,
"The Video"*, Cutler,
1 hour and 15 min. \$29.95



GRAPE GROWING, CIDER, CHEESE, VINEGAR, MEADMAKING BOOKS

Grapes

BK80 *Great Grapes*, Proulx \$3.95
BK71 *Wine Grape Varieties in California*
UC Extension. \$30.95
BK129 *Vineyard Simple*, Powers \$24.95
BK67 *The Backyard Vintner*, Law \$19.95

Cider

BK70 *Cider, Making, Using and Enjoying*, Proulx
& Nichols \$14.95
BK79 *Making the Best Apple Cider* \$3.95

Mead

BK77 *Making Mead*, Morse \$16.95
BK05 *The Compleat Meadmaker*, Schramm \$19.95

Other Fermentations

BK84 *Making Vinegar at Home* \$4.95
BK03 *Homemade Vinegar* \$8.95
CH73 *The Cheesemaker's Manual* \$34.95
BK74 *Making Cheese, Butter, Yogurt* \$3.95
BK75 *Cheesemaking Made Easy* \$16.95
BK76 *Home Sausage Making* \$16.95
BK36 *The Compleat Distiller* \$25.00

ORDERING

Questions? Retail hours are 10:00 to 5:30 Tuesday through Friday and Saturday 10:00 to 5:00.

We are also open on Mondays from August through December. We're always ready to answer questions for our customers.

Ordering Instructions:

For the most personal service, call our TOLL FREE ORDER LINE, (800) 544-1867, which may be used with your Visa, or Mastercard.

To place your order by check, please note the following, if you live in California, add 8% sales tax on non-food items. **Food items are:** concentrates, sugars, purees, and flavorings. **All items shipped to points outside California are not taxable.**

Fastest Shipping in the Business:

We normally ship UPS Ground service the same day the order is re-

ceived, if received by 1 pm. Ground service to Zones 2 and 3 receive one day service. Zones 4 and 5 receive 2 to 3 day service. Customers in Zones 6, 7 and 8 will normally receive their merchandise in 4 to 5 working days.

For faster service to Zones 5-8, and for perishables such as liquid yeast, we recommend UPS Standard overnight Air service, or UPS 2 DAY Air service. **For items totaling less than \$50.00, add \$6.00 for shipping to California, Nevada, Oregon and Washington.** All other states, add \$8.00. Additional rates are quoted at www.ups.com, or call our toll free 800 number.

Customers in Alaska and Hawaii please take note that priority mail service from the Post Office is recommended for packages up to 15 lbs. Heavier packages without perishables can be sent more economically via ground, parcel post.

Shipments to Alaska, Hawaii and out of country we must add shipping charges to these orders, regardless of free shipping offers.

The Beverage People is proud to operate both a retail and mail order supply firm for over 26 years at the same location in the heart of the Sonoma County Wine Country.

Our staff wishes you the very best with your new hobby and look forward to hearing from you. Mention that you are a new customer, so we may give you a free article from a past newsletter to help answer your fermentation questions.

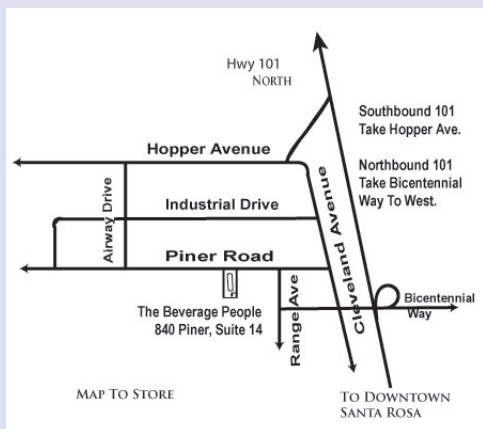
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The Beverage People

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and Saturday 10-5
August through December - Also Open on Mondays*

Equipment Rentals

CRUSHERS

Apple Mill, Grinder and Press, motorized	\$45.00
Apple Mill, motorized (without press)	\$45.00
Grape Crusher, manual	\$20.00
Grape Destemmer/Crusher, manual	\$45.00

PRESSES

#30 7 gallon Basket	\$25.00
#35 12 gallon Basket	\$35.00
#45 25 gallon Basket	\$45.00

FILTERS/PUMPS

Transfer Pump	
Brass	\$10.00
Stainless	\$20.00
Buon Vino Plate Filter	\$30.00

BOTTLING

3-Spout Filler	\$10.00
Wine Corker	\$10.00
Glue Labeller	\$10.00

Rentals are for 24 hrs. from noon to noon, reservations accepted up to 7 days in advance. Call 544-2520 to make your reservation.

Fall Winemaking Class

Phone *The Beverage People* at 707 544-2520 to reserve a place in our winemaking classes. There is a \$20.00 fee. You will get your questions answered, go over equipment and processes. Space is limited, so call today. Class will meet Saturday, August 25 at 2 pm. Bring a bottle of your wine to critique, class is held outdoors at the retail store.

New Yeast!

The two new strains we are bringing you are interesting strains, the first **VQ15 "Rockpile"** has a growing fan base and replaces the outdated "*Montrachet*" variety, the second, **D254** is a bit older strain that was isolated predominately to improve fruit character in red wines and complexity in Chardonnay. We had been selling "*D47*" for Chardonnay for white wine, but the D254 will also enhance red fermentations.

The following descriptions are from the *Vinquiry* 2006 Catalog. We carry yeast in three package sizes, although the catalog only lists one size. You can find pricing for the other two sizes on our website, thebeveragepeople.com : making wine - ingredients - wine yeast.

VQ15 "Rockpile"

California Strain, isolated by *Vinquiry* from spontaneous Rockpile Syrah fermentations, used in Syrah, Zinfandel, Cabernet Sauvignon and Merlot where a moderate fermentation rate is desired. Develops rich, lush, balanced mouthfeel in wines. VQ15 has a moderate nitrogen demand, providing good results with varietal flavor and red fruit character. Good mineral aromatic note development when carefully rehydrated and inoculated into musts. WY24 10 grams \$1.95.

ICV D254

Rhone isolate for all red wines and useful for Chardonnay to be used as a component of a blend. Vigorous fermenter with a short lag time, optimum temperature 15° to 28°C. Complete fermentation below 28°C to 16% (v/v) alcohol. Enhanced fruit character, noticeably prune, blackberry and spicy black pepper plus licorice in red wines. In Chardonnay, low notes of pear and pineapple and higher notes of smoke, hazelnut and almond character. WY44 10 grams \$1.95.

Great New Brush

We have been looking for a new brush for scrubbing things like primary fermentors and wood or stainless presses and the outside of barrels. The all in one brush has finally been located. QE31 Long handled Scrub Brush with Nylon Bristles with 16

