The Missouri Winemaking Society

Newsletter

November, 2003

Next Meeting:	Thursday November 20, 2003 at 7:30 PM. Maplewood Community Center
Secretary:	Phil Tochtrop, 1546 Virginia Ave., Ellisville, MO 63011 (636) 391-6937 Katherine_14846@msn.com

HAPPENING THIS MONTH

We will have a question and answer session this month. Clarence Trachsel is going to co-ordinate the program. If you have questions or suggestions, please contact Clarence at 636-441-1979 or ctrachsel@mail.win.org.

White/Blush Wine Production Process

By Alan Dillard, Limestone Creek Winery

1.Use only clean, ripe fruit (usually above 20 degrees and up to 23 degrees brix or more), the cooler the better.

Whether picking the fruit yourself or having it delivered, any damage to the fruit is detrimental to wine quality-the best possible situation is to crush/press the fruit immediately after picking. The temperature of the fruit is also very important, since cool fermentation (less than 55F.) improves retention of the more volatile aroma/bouquet components in the wine. Fermenting as low as 42-45F. is preferable for a delicate, fruity style. For more robust, sur lie and oaked styles, temperature in the upper 50's to low 60's is the more usual practice.

2.Use no more than 30 parts per million (ppm) Potassium Metabisulfite (Pot Meta, commonly referred to as SO2), unless the fruit has bunch rot or a vinegar smell.

Skin contact for white wines/blush wines is NOT necessary. If the fruit is clean, add Pot.Meta. while pressing, as needed. The more you use early in the process, the more you will need later on to continue protecting the wine, so obviously, over-zealous use will be a bad idea. As an experienced judge of amateur wine competitions in two states, I can tell you the most common problem in flawed wines is an excessive use of SO2!

However, if there is a significant amount of bunch rot (slimy,gray-tan berries in a group on the clusters) or a vinegar smell to the bunch(es), (YES, taste and smell the fruit if you think there may be a problem), then add more Pot.Meta. – say 50 to 75 ppm, but don't automatically add it "just in case".

3.Gently destem/crush fruit, transfer to press and pump into fermenter or settling tank.

If fruit is crushed too severly, seeds get broken and stems get chewed up, adding bitterness and herbaceousness (think green beans) to the must. If you choose to do a "cold soak" prior to pressing, a gentle crush is even MORE important. In the case of blush wine from red grapes, a cold soak would almost certainly give too much color to the wine, since the skin contact is how you extract color.

For whites, unless you want to make a complex, heavy bodied wine for certain, you probably should also press immediately after crushing. In either circumstance, when you do pump juice from the press to the tank, ALWAYS avoid oxygenation by using a short hose on the intake (suction) side and considerably longer hose on the outflow, making sure to keep the hose in the receiving tank on the BOTTOM. "Blanketing" with CO2 or Nitrogen gas in the receiving tank

will also reduce oxidation and help preserve fresh, fruit character.

4.Depending on cleanliness of must and wine style desired, either settle overnight and then rack/pump or just add yeast to the receiving tank.

Most wineries/winemakers settle white or blush must overnight, preferably at chilled temperature, and then pump off the relatively clear juice, adding yeast to the fermenter (receiving tank) as they fill it. The cleaner the fruit (in terms of rot, bad clusters, oxidized juice in the bottom of the delivery containers) when it comes in, the less likely that native yeasts and bacteria on the skins of the grapes will begin fermenting your juice before the yeast you add takes over. This is where the choice between SO2 (Pot.Meta.) protection levels becomes important. Some "wild" yeast and/or bacterial activity will probably occur during settling, even with "clean" fruit, so that is why---:

5.Use of a good yeast nutrient is advisable. Follow instructions and add along with the rehydrated yeast.

Use of the appropriate amount of yeast nutrient, along with the fact that the commercial yeast you are adding is much more tolerant of higher SO2 levels than native yeasts, gives you a head start, allowing the desired yeast to take over and contribute most of the character and fermentation activity in converting the fruit sugars into wine.

One note of caution about yeast nutrients; MORE is not necessarily better, as too much nutrient can contribute to "off flavors" in the wine. The best bet is to add about one third of the recommended total amount at the beginning, then another third after fermentation has peaked and is starting to show signs of slowing. The "third, third" may very well not be needed.

6.Ferment at appropriate temperature, between 42 and 60F., depending on the style of wine wanted. This will take anywhere from two to six or eight weeks.

Fermentation temperature is crucial to high quality white (and blush) wine production. If you don't have access to a means of refrigerated fermentation, you should probably focus on red wine instead.

There are several ways to control temperature, including a refrigerated contained area for the tanks ("cold room, walk-in-cooler"), individually refrigerated "jacketed" tanks, and even putting the fermenter, such as a carboy or beer keg in a utility sink with ice water (very labor intensive and difficult to maintain a consistent temp.).

For small production, a used fridge with the shelves removed or a chest type freezer with an external thermostat override works well. The best (and most expensive) method is a "cold room" with tanks inside, but making different styles in one room presents problems with stopping fermenting. A must chiller (ask me about a relatively inexpensive and easy-to-make one) can help overcome the problem.

7.Racking of wine from "gross lees" should occur as soon as fermentation slows significantly. Check SO2 level and adjust to molecular 0.8* as you move the wine. *For sur lie wines which are intended to go through malo-lactic fermentation. SO2 levels should be maintained below 20ppm until "M/L" has been achieved, see below.

This is a good time to add yeast nutrient (perhaps the 2nd "third"). It is important, even for "sur lie" fermentation, to rack the wine at this point.

If you have the means to measure brix in the presence of alcohol, you would probably find it to be around 3 to 5 degrees at this point, but for low tech purposes, just watch the fermentation lock and when bubbling slows to about once every 15 or 20 seconds, move the wine to another tank, making sure to once again limit oxidation. Before moving, check the SO2 level, so you know how much Pot. Meta. to add to adjust the level as you pump (see pH/SO2 reference chart).

**For wines which you wish to put through malo-lactic fermentation, it is important to allow the wine to come up to optimum temperature (at least 70F.) and add the M/L culture at this point. The bacteria used for this purposes is sensitive to SO2 levels above about 25-30 ppm, low (below 3.20) pH in the wine and temperatures below

about 70 degrees F, so wines made with this style in mind should not be fermented as cold as others, or should be allowed to warm before this point in the process.

8.Monitor fermentation progress; when fermentation stops*, rack the wine again.

This second rack is full of decisions. *If you want to do a fruity, soft wine, now is the time to fine, add SO2 and do extra chilling to stop fermentation with some residual sugar left in the wine (usually from 0.5% up to 6%, depending on style of wine being attempted).

For a more complex, sur lie type white, this second rack would be postponed and the tank stirred regularly (perhaps once a week) to increase lees/yeast exposure in the wine until you decide to fine and rack the tank (often after 4 to 6 weeks). In either style, at least one more racking with fining (in the case of sur lie) and filtration will be needed.

Most commercial wines are fined with one or more ingredients to clarify and stabilize them prior to bottling. Fining is in itself a rather complex issue, but a safe bet for white or blush wines is to fine as lightly as possible with gelatin and silica gel (see fining Materials attachment). For dry wines, once fined and raked once again, in many cases, filtration may not be necessary, although it is usually done in commercial wines. Prior to final treatment (filtering and bottling), wines for commercial use are also cold stabilized to remove excess tartrates, which can precipitate after bottling and create problems. The tartrates are a natural part of wine, but if cold stabilization is not done, once purchased by the consumer and placed in the fridge for several hours (or days or weeks!), the precipitated crystals can be visually detrimental or alarming to the purchaser (There's broken glass in the bottle of wine I bought from you!").

Cold stabilization can be accomplished by reducing wine temperature to freezing, or better yet to about 26 degrees F. and left at that temperature for several days to a couple of weeks. The tartrates precipitate and attach to the sides and bottom of the tank and are left behind while racking.

Notice – Just because the cold room temperature is 32 or less, that does not mean that stabilization has begun. The temperature of the wine in the middle of a tank can be considerably warmer. The larger the tank(s) and the more total volume being chilled, the longer it takes. Check the temperature in the center of your tank and only begin counting stabilization time when it has reached the target temp. (for info on how to check wines for cold stabilization, see fining reference (attached).

9.Always check SO2 levels immediately prior to racking and adjust to keep level between 0.5 and 0.8* molecular as you rack.

Oxidation of wine that has stopped fermenting is always an issue and the colder a wine is the more gas (air, O2) it absorbs, so keeping SO2 at the appropriate level until bottling is crucial to quality and freshness. In addition, you should always keep you tank as full as possible and the smaller the container, the more oxidation is a problem. (That is why 5 gallon carboys are not as good for wine making as a 50 gallon poly or stainless container or a 500 liter or larger tank).

Another issue with SO2 levels and use of Potassium Metabisulfite or Campden tablets is overuse (I'll add another dose, "just in case") and treating wine too closely to bottling time. It is definitely better to adjust a little higher than necessary at least 3 to 4 weeks before bottling, rather than adding a dose as you bottle.

*For wines with residual sugar, the level should be at 0.8 and Potassium Sorbate at 150 ppm should be added just before bottling.

Sorbate helps protect wine with residual sugar from refermentation by any yeast left at bottling. You don't, even as a non-commercial winemaker, want your corks to start popping out of bottles unless you are using a corkscrew! Even in the case of commercial wineries, most do not have the ability to sterile bottle their wines, nor to absolutely guarantee removal of all yeast, so if you have a sweeter wine, always use sorbate and always in conjunction with sufficient SO2 protection.

10.Sanitation of equipment that has had any contact with malo-lactic bacteria (M/L) is absolutely CRUCIAL.

The presence of M/L bacteria in wine that also contains sorbate will result in horribleness!!
Never use anything from a wine thief to a flask to a tank without first sanitizing thoroughly and always sanitize again immediately after use.
M/L is sometimes used in dry white wine production as well as in red, especially in conjunction with sur lie fermentation and oak aging or fermenting initially in oak, and works well for that style, but never with wines having residual sugar.

11.Finally, Bottling

If at all possible, filtration of wine meant for commercial use should be done before bottling. I make one white wine (sur lie, fermented in oak) that is not filtered, but I also make three other whites and a blush that are filtered just before bottling.
Filtration removes yeast particles and other residue (pulp pieces, etc.) from the wine, making it look brighter/cleaner, but also inevitably removes some of the bouquet/aroma in the process. For wines with residual sugar, filtering through a "tight" 0.45 micron filter helps you sleep better, since it virtually assures you that the wine will not begin fermenting again after bottling. For dry wine, a "looser" filter of 1 micron will be sufficient.
Once you have filtered, it is bottling time. Particularly for white and blush wines, "sparging" the bottles after sanitizing them and either immediately before filling or after filling, but before corking is a good practice. Nitrogen or CO2 in the bottle means less air in contact with the wine while it ages, extending the freshness and bottle life. Nitrogen is probably the best choice, sincer it will not absorb into the wine, while CO2 will.
Absorption of gas, as you may recall, is temperature dependent. Therefore it is a good idea to allow wine to come up to "room temp.", say 60-65F. before bottling. Wines bottled cold will be "spritzy" when opened, since they have excess air absorbed. If you allow it to warm first, the wine will out-gas before being corked and will last longer in the bottle as well. Also, getting labels to adhere to bottles which are "sweating" from being filled with cold wine is virtually impossible and a real bummer!
Some wineries operate on the assumption that shrink wrapped pallets of cases of bottle are essentially sterile, but many others (myself included) sanitize the bottles immediately before filling by spraying a solution of about 75 ppm Potassium Metabisulfite into them and allowing them to drain upside down. The bottles are then filled, sparged with Nitrogen and corked.
Labels and capsules or wax caps are often also put on at this time, but some wineries label separately. In either case, it is a good practice to leave the bottles upright for a few days to a couple of weeks to allow the corks to expand and seal well. For long term storage most commercial wines are stacked neck down to maintain wine contact with the corks, but if you do this immediately after bottling, you will get a significant number of "weepers" seeping wine into the cardboard before the cork seals properly.
Even for these types of wine, it is a good idea to allow for some storage time between bottling and release for sale. The wine will be "in bottling shock" from having been filtered, pumped, corked and turned head over heels and it needs at least two weeks to a couple of months to begin coming back together and tasting as it should again. In the case of more complex, full-bodied sur-lie types, up to a year of storage before release can be beneficial, if you can wait that long.

Thanks To Alan

The Wine club is grateful to Alan for his fine article and presentation at our last meeting. Alan is the owner at Limestone Creek Winery in Jonesboro, IL. Jonesboro is located between Carbondale and Murphysboro. The winery is one mile South of Jonesboro Square at 1250 State Rt. 127 So. I'm sure Alan would welcome your business and it would be a pleasant drive from St. Louis.

SECRETARY'S CORNER

Reminder #1: $3 per person in attendance is due to Alice Rau, Treasurer, upon arrival at each meeting to help cover the cost of cheese and bread for the evening's tasting. First-time guests do not pay.

Reminder #2: It's the time of year to begin paying dues for 2004. Dues are $20.00 per year for a single membership or a couple. Make the check out to Missouri Winemaking Society. You may pay at the meeting or send your check to Alice Rau, 10545 Homestead, St. Louis, MO 63114.

BUSINESS MEETING MINUTES

OLD BUSINESS

? The Christmas party will be held at Joy Stinger's house on December 20. Everyone is to bring a dish to share. More information as to time and directions to Joy's house will come in the next newsletter.

NEW BUSINESS

? We will be voting on next year's slate of officers at the November meeting. The proposed officers are as follows:
President; Bernard Cleve
Vice-President; Judy Hon
Treasurer; Alice Rau
Secretary; ?
Cellar Master; ?
Librarian; Stephen Parris
Web Site; Greg Stricker
Wine Fair; Keith Burns

? Charlie Franke brought our gadget of the month. He sprays his labels with "Krylon Crystal Clear". This makes the labels resistant to ice when chilling the bottles, but makes the labels come off the bottles when soaked for cleaning. He also brought a rack to lay the bottle in while he applies the label. Charlie suggested using Kelley's label glue and other suggestions included Elmer's School Glue.

? Congratulations to Greg Stricker, Judy Hon, and Charlie Franke. They each one two medals at the Indiana Wine Competition. It is noted that there were 3290 entries. Great job under stiff competition!!

? We welcomed two visitors to our October meeting. Elly Corbin is a friend of Joy. Our second guest, Dan Tennessen is starting a new winery in IL, close to Redbud. We hope they both choose to become members.

? There is a free brochure available from Southwest State University titled "Growing Grapes in MO". The web site is www.mtngrv.smsu.edu. Look for it under publications. You can download it or contact the University for the printed version.

WINE TASTING

? Deux Blancs from Limestone Creek Winery; 65% Chardonel & 35% Vinoles that was blended when pressed. The yeast used was AC from Scott Labs. It retails for $10.00

? Chardonel from Alto Vineyards; 2001 dry table wine at 11.7% alcohol. It was in oak for 8 months. The yeast used was LW05

? Domaine des Sages from Owl Creek Vineyard; 45% Chardonel & 45% Seval. It was oaked 3 months.

? Spring White from Limestone Creek Winery; 80% Chardonel & 20% Seval. It was oaked for two weeks.

? Lagneappe from Limestone Creek Winery; 100% Chardonel. It is a sweet table wine. The yeast used was CY3079.

THIS AND THAT

- Wine tools can be found at
  www.wineenthusiast.com
  or 1-800-295-2226
- Several interesting web sites are;
  www.winemakermag.org and
  www.mtngrv.smsu.edu/grapenews.htm