Baker Wine & Grape Analysis

TTB Certified
COOC Lab

Newsletter

Winter 2011

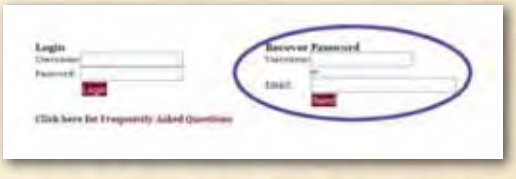
In this Issue:

New Instrumentation

We picked up some new instruments that will expand our testing repertoire in 2011. The Atomic Absorption unit allows us to analyze for metals such as copper, potassium and possibly lead and iron. The Ion Chromatograph has the capability of analyzing organic acids (malic, acetic, lactic, tartaric, ascorbic, and citric in wine) or organic bases (histamine, putrescine!, cadaverine!!). I certainly hope our industry doesn't have a big problem with putrescine and cadavarine in their wine... The Ion Chromatograph is a relatively new instrument for wine analysis, and researchers are continually coming up with new tests as winemakers require. Stay tuned as we look forward to getting these units up and running in 2011.

Accessing Your Results Online

If you're missing your username or your password for accessing your results, go to: *www.bwga.net/clients* and use the Recovery Tool on the right of the page to have the information emailed directly to you:



A Note From Brenda

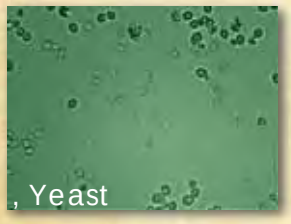
The Relationship Between Molecular SO_2 and pH

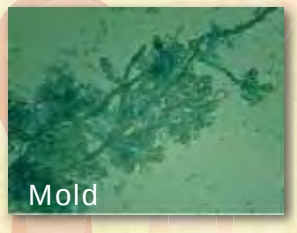
Free SO_2 is actually a combination of three different molecules: molecular SO_2 (a gas), hydrogen sulfite (HSO_3^-) and sulfite (SO_3^{2-}). Molecular SO_2 is antibacterial at lower concentrations and antifungal at higher concentrations. In white wines, 50-100 ppm FSO_2 is needed to delay the growth of wild yeast while 150 ppm FSO_2 will suppress the growth of wild yeast. This number is even higher in red wines due to the protective anthocyanins in red wine which can bind up FSO_2. Commercial wine yeasts are much more tolerant of FSO_2. So the main protective function of molecular SO_2 in winemaking is antibacterial. The amount of molecular SO_2 varies considerably with pH. The following chart illustrates how much Free SO_2 is needed depending on wine pH. Notice that white wines need a lot more protection than red wines.

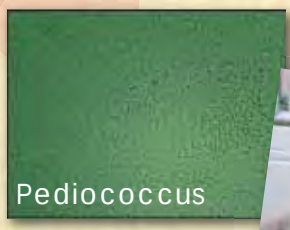
	White Wine 0.8ppm molecular SO_2	*Red Wine* 0.5ppm molecular SO_2
pH	**Free SO_2 (ppm)**	**Free SO_2 (ppm)**
2.9	10	6
3.0	13	7
3.1	16	10
3.2	21	12
3.3	26	14
3.4	32	17
3.5	40	23
3.6	50	30
3.7	60	37
3.8	77	47
3.9	97	62
4.0	>120	83

New Microscope = New and Improved Micro Reports for the Same Price!

Our cool new digital microscope allows us to take up close and personal pictures of yeast and bacteria that might be lurking in your wine. This microscope zooms to 1600X and has a computer monitor for easy viewing. We changed the look of our micro report to include snapshots so you can see for yourself the results of your microbial analysis.

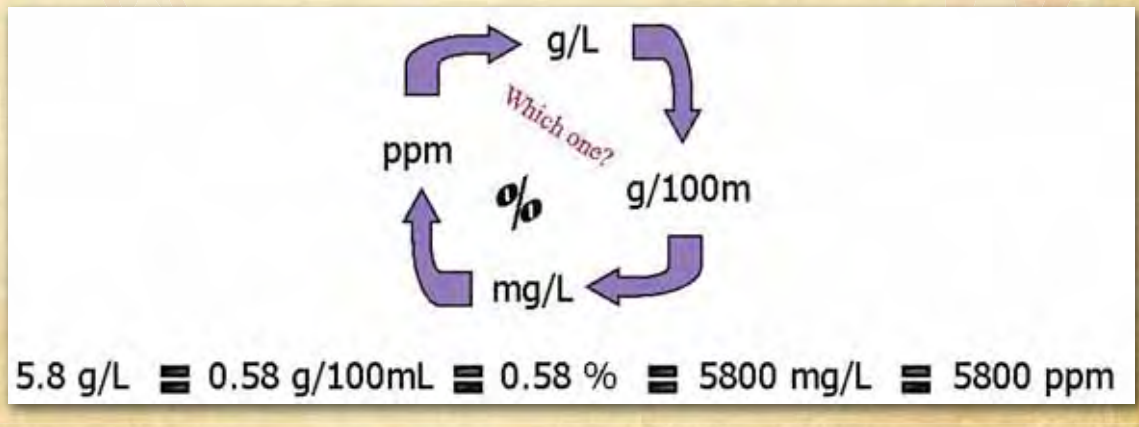




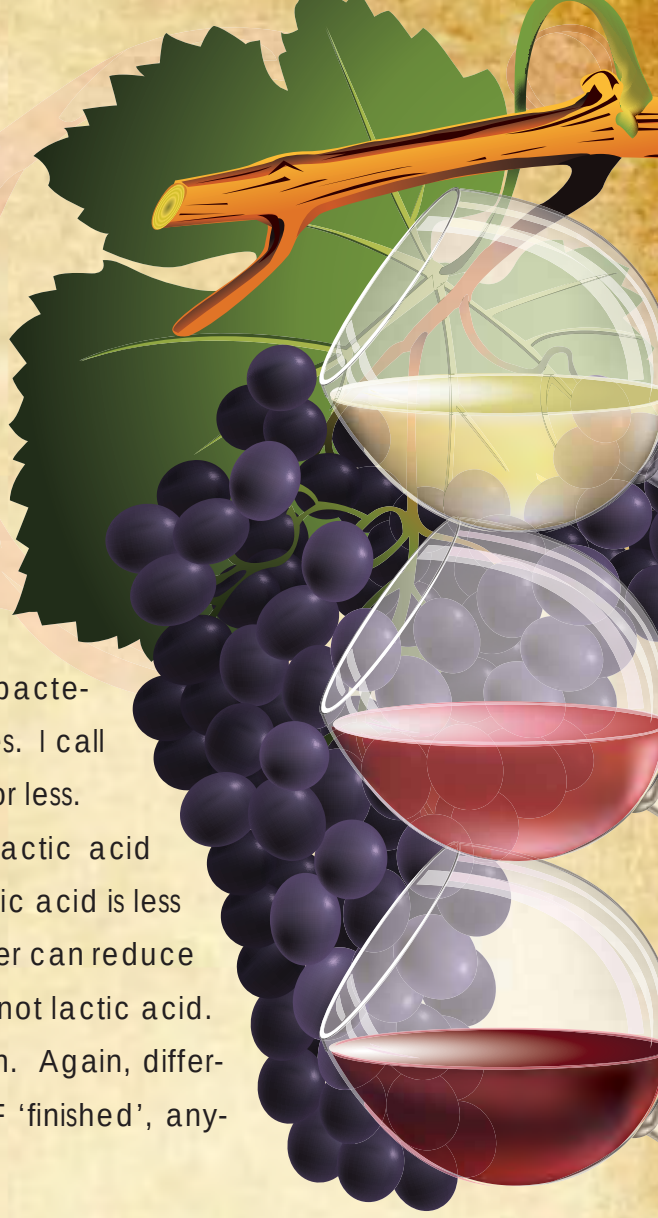


Unit Conversions

Here's a little chart to help you with conversions. You can also use the internet for quick conversions by typing your conversion into the Search Box (i.e.: "600 gallons to liters")



Ask Brenda. . .



1. What is considered dry, and what about secondary fermentation?

The whole goal of fermentation is to convert sugar to alcohol. But not all of the sugar in grape juice gets converted. About 5% is converted to molecules other than ethanol. Another 2.5% is burned up by the yeast for food. Some sugars other than glucose and fructose (about 1%) are simply not able to be converted directly to ethanol and are just left over. A wine is 'dry' when the glucose and fructose levels are so low they are no longer a good food source for lingering yeast or bacteria. Winemakers differ on this number based on their experiences. I call a wine dry when the glucose + fructose levels are 0.1 g/100 mL or less.

Secondary fermentation is the conversion of malic acid to lactic acid (MLF). This is typically done in red wines for two reasons. 1) Lactic acid is less acidic (by one carboxylic group) than malic acid, so a winemaker can reduce the acidity of the wine. 2) Bacteria love to eat malic acid, and not lactic acid. MLF makes the wine less susceptible to microbial contamination. Again, different winemakers have different numbers at which they call MLF 'finished', anywhere from 0.01 g/L to 0.30 g/L. I call MLF finished at 0.10 g/L.

2. What are some things to be aware of with topping wine?

One way to ruin a lovely wine in the barrel is to top it with bad topping wine. The topping wine should be treated with the same care and love as the barreled wine. So keep all containers and utensils sanitized, keep the oxygen and light away and maintain protective SO_2 levels.

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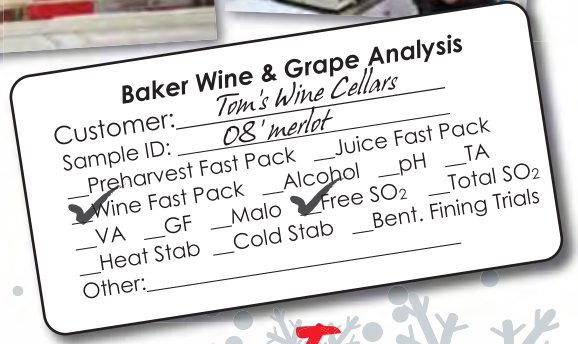
Water Analysis

As many of you may know, we are now a drop off site for Dellavalle Laboratory – a water analysis lab that is located in Fresno. Pamela Proctor, RSO, is the main contact for any water analysis questions. She can be reached at: (559) 647-8895 or by email at: pam@dellavallelab.com. Currently Pamela is in the Paso area Tuesday mornings and is here at the lab on Tuesdays from 1pm – 2pm to answer questions and pick up any water, soil, or tissue samples. Please be sure to contact her regarding sampling times and sampling protocols as many analyses require that you sample the water within 24 hours of when it is run. Sample bottles and paperwork are located to the left of our reception area (just past the Red Vines!).



Download Labels for your samples on our website: www.bwga.net/services
Labels are formatted for Avery 5163, and you can download it in Microsoft Word, or pdf format.

Saturday hours (10a-4p) resume in January

Merry Christmas and Happy New Year!