



Baker Wine & Grape Analysis

TTB Certified
COOC Lab

Newsletter

Spring 2011

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Hot Points:

Price Change! Export reissues are now only \$10 instead of \$15

Bentonite Trials (\$70), now includes up to two (instead of just one)
heat stability rechecks after you have added your bentonite.

Cold Stability: Turbid wines are charged a \$15 filtration fee.
No extra charge for standard sterile filtration.

Hours of Operation:

Monday - Friday: 8am - 6pm Saturdays: 10am - 4pm

Closed for Memorial Day Weekend, May 28th - 30th

Closed for Independence Day Weekend, July 2nd - July 4th

Closed on Saturdays during July

We are open on Labor Day, September 5th: 8am - 6pm



Bacteria in Wines

Here at Baker Wine and Grape, we have a couple of options for helping winemakers identify bacteria. Our new microscope can take pictures of these bad boys if the concentrations are high enough. We are adding a new service - Microbe Count (\$40) where we can count using a hemocytometer to give you a quantitative number of microbes in a sample of wine. We can also culture for bacteria (5-7 days - \$20). Cultures are good because they can isolate a microbe that might not be detectable with a Microscope Scan (\$20)

Name	AKA	Favorable Conditions	Killed by	Effect on wine
Oenococcus	Malolactic	pH > 3.3	Lysozyme	Converts Malic acid to lactic acid (1:1)
		Alcohol < 15%	High doses of SO ₂	Less susceptible to spoilage
				Raises pH by 0.1 for each 1.0 g/L converted (less acidic)
Lactobacillus	Rods	pH > 3.5	Lysozyme	Produces acetic acid
		Likes a little Oxygen	High doses of SO ₂	Stuck or sluggish fermentations
				Mousy Smell
Pediococcus	Tetrads	pH > 3.5	Lysozyme	Unfavorable odors (also turns cabbage into sauerkraut)
		Oxygen	High doses of SO ₂	'Ropiness' from producing polysaccharides, increasing viscosity
Acetobacter	Vinegar Bacteria	pH > 3.7	High doses of SO ₂	Turns wine into vinegar (acetic acid producers)
		Oxygen and time		Ethyl Acetate (nail polish remover - 150 ppm spoils a wine)

OENOCOCCUS



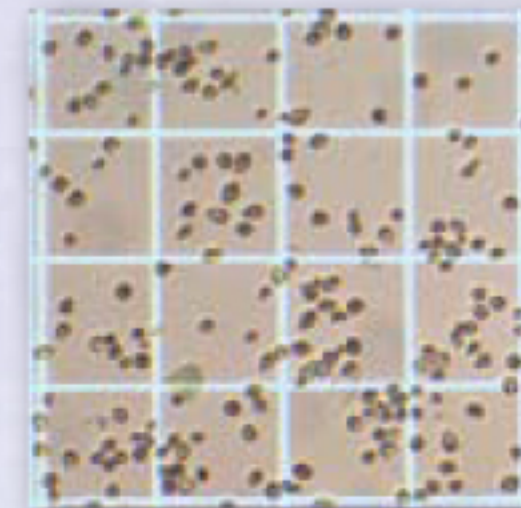
LACTOBACILLUS



PEDIOCOCCUS



ACETOBACTER



Hemocytometer image with yeast

Which Bentonite should I use for fining trials?

I get this question frequently and decided to do a little experiment. I tested three common types of bentonite (Vitiben, Krystal Klear, and Kwik Clear) on a 2010 Chardonnay at doses of 1#, 3# and 5# per 1000 gallons. Each dose was done in duplicate.

Samples were heated at 65°C for 24 hours, cooled at room temperature for one hour and then the turbidity was measured. The averages for each dosage were calculated and the results are in the table to the right. A wine is considered heat stable when the difference between the heated and unheated wine is less than 1.8.

Unheated Control: 0.6
Heated Control: 35.4

Pounds per 1000 gallons	Vitaben	Krystal Klear	Kwik Clear
1	10.3	7.0	6.7
3	0.7	0.7	0.4
5	0.4	0.4	0.1

In this particular case, all three bentonites heat stabilized this wine at a dose of 3# per 1000 gallons. I'm not endorsing one type of bentonite over another and remember this was just one little test on one type of wine. Different varietals may react differently.

Ask Brenda. . .

1. *Should I be looking at Residual Sugars (RS) or Glucose Fructose (GF)?*

RS – This is an old measurement for sugars in wine and includes non-fermentable sugars. This is a good test for sweet wines and ports.

GF – with the advent of enzymatic analysis, GF is the most accurate for the fermentable sugars in wine. GF is great for testing dry wines or close to dry wines. However, since it is so sensitive, it is not a great test to choose for sweet wines because you have to dilute the wine 20 to 100X to get it into test range. The amount of non-fermentable sugars varies between the grape varietals and also with the environment. Yeast can use up other types of sugars, but those sugars won't be converted to ethanol.

2. *When monitoring my wine through Malolactic Fermentation, what are your recommendations?*

First, monitor the CO₂ gas coming off your wine, since an active malo culture releases gas continuously. Chemically, we have two tools in our arsenal for monitoring malolactic bacteria. Since an active culture of malolactic bacteria converts malic acid to lactic acid in a 1:1 ratio, we can follow a secondary fermentation by watching the malic acid concentration go down (\$20) and watch the lactic acid increase (\$10). The lactic acid test is also useful if you suspect a lactobacillus infection – we typically see lactic acid concentrations skyrocket to 3.0 g/L or above in this case.

Stuck or sluggish malolactic fermentations are very common. Often in the spring, the wines seem to wake up from their winter slumber and finish malolactic fermentation with the rising outside temperatures and increasing sunshine (bungs popping out all over the place). Spring is a good time to try restarting stuck malolactic fermentation.

3. *Why are my take-out toasted Subway sandwiches taxed, but untoasted sandwiches are not?*

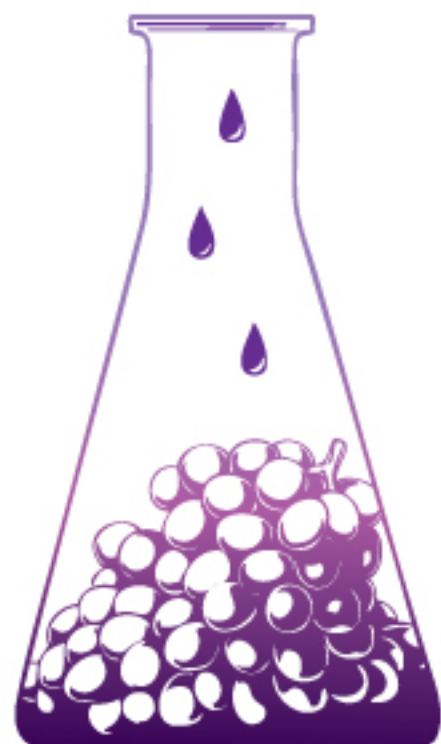
The state of California has recently started to enforce a sales tax law in which cooked fast foods are subject to sales tax, but uncooked food is not. Since a toasted Subway sandwich is put in a toaster for 15 seconds, the state of California has decided now the sandwich is cooked and subject to sales tax.

So if you want to save 8.25% on your take-out sandwich – get it untoasted.

(If you eat your sandwich at the restaurant – it is also taxed.

Saved 8.25% and eat your sandwich on the curb outside
and get a Vitamin D bonus.)





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Baker Wine & Grape Analysis online at: **www.bwga.net**

Collaborative Testing with other Labs

Since 2009, Baker Wine and Grape Analysis has been enrolled in Collaborative Testing Services (CTS), a company that evaluates laboratory testing procedures for reliability and accuracy worldwide. Three times a year, CTS sends us two bottles of wine for a complete laboratory analysis. Our results are compared with other participating laboratories (typically 70 other wine laboratories) and we receive a final report for our ongoing performance. We've been able to use this valuable feedback to solidify our standard procedures and also to guide us for new instrumentation purchases. Having an objective measurement of our laboratories testing performance reassures all that our quality control procedures are valid and that we are giving our customers top quality analytical service.

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.

Baker Wine & Grape Analysis
Tom's Wine Cellars
Customer: _____
Sample ID: *08' merlot* _____
☐ Preharvest Fast Pack ☐ Juice Fast Pack
☒ Wine Fast Pack ☐ Alcohol ☐ pH ☐ TA
☐ VA ☐ GF ☐ Malo ☒ Free SO₂ ☐ Total SO₂
☐ Heat Stab ☐ Cold Stab ☐ Bent. Fining Trials
Other: _____