Veraison to Harvest

Statewide Vineyard Crop Development Update #6

October 1, 2010

Cornell University Cooperative Extension

Edited by Tim Martinson and Chris Gerling

Around New York...

Statewide (Tim Martinson).

Two to 3 inches of rain fell across NY on September 30, and that in combination with cooler weather over the next several days may slow additional changes in maturity. Again this past week we saw modest to significant changes (0.3 to 1.8) in brix, and moderate acid reductions. With ripe berries (almost all TA's in single digits, and brix levels around 20 or above), two things are likely: Mature berries are likely to take up water, and conditions are favorable for further *botrytis* development (though cool weather will also slow it down). These two factors argue against delaying harvest, with possible exception of late bordeaux reds. In this issue, see Wayne Wilcox's take on advisability of an additional *botrytis* spray (p8) and two brief articles on YAN (p. 3-4).

Finger Lakes (Hans Walter-Peterson).

After summer-like heat at the end of last week, the region has slipped back into weather more typical of fall in the Finger Lakes. Harvest took a break on Thursday, thanks to a gully-washer of a storm that appears to be covering most of New York for the day, but will kick back into gear on Friday.

Many vineyards have started to harvest Riesling this week. At this point, sugar development is still generally in the range of 20-22º brix (take a look at this week's sample results for yourself), and acids are generally average to a little below average for the region. While the overall quality of the fruit still appears to be very good overall, there are some blocks showing signs of late *Botrytis* infections. Fortunately, there are no signs at this point of sour rot or other bunch rots that could cause real problems with flavors in the winery. Harvest of some of the first "later season" red varieties started this week as well, in order to avoid Thursday's deluge. Fruit splitting can be a concern after storms like this, so growers will need to be watching what happens to their fruit over the next few days.

Harvest of native varieties has focused on the end of Niagara grapes for National Grape Cooperative, and Concords for Constellation. According to Constellation, Catawba yields were down overall, but Concord yields seem to be stronger, with a few vineyards in the Branchport area saying that they are seeing some of their best yields in years.

Now if you'll excuse me, I have to go figure out what a cubit is so I can build my ark...

Long Island (Alice Wise and Libby Tarleton).

The last of the whites were harvested this week, capping off a relatively abundant Chardonnay crop. Growers were pleased with fruit quality. High brix, low to moderate acids and an abundance of flavor were the themes with white varieties. Both Pinot Gris and Gewürztraminer were highly colored, likely related to the more than ample sunshine this summer. It will be interesting to compare 2010 wines with those from 2009, a season with radically different weather. Wine styles reflect plant material, site, soil, vine management, winemaker choices and so on but Mother Nature plays a large role as well.

In the research vineyard, we harvested Semebat, a large-clustered

Leaves at the base of shoots, here trained up and down in a Scott Henry-trained Riesling vineyard, are starting to turn yellow and senesce in vineyards along Seneca Lake.

Photo by Tim Martinson

Late-instar (stage) grape berry moth larva collected on October 29th. At least some of the Botrytis showing up in the past week is associated with 4th generation grape berry moth feeding.

Photo by Tim Martinson

vinifera hybrid from a French breeding program. This variety is a cross between Malbec x Baroque. The latter variety is a white variety planted in Southwest France. Semebat came in at 23°Brix, 8.5 g/l TA, and 3.13 pH. While it might have benefited from more hang time, the birds had decimated Semebat through the bird netting. It also had some shrivel thus we decided to harvest ahead of the rains on 9/30-10/1. This year, discerning birds seemed to prefer red grapes in our vineyard. The hardest hit varieties have been Semebat and Cabernet Sauvignon.

Otherwise, red fruit integrity has been good. Some varieties, such as Syrah, have small amounts of shrivel which is normal. The wet weather will undoubtedly start up a little *botrytis* in some blocks. This is not unusual and will mean that sorting may take place as fruit is harvested and/or after harvest on a sorting table. Sorting happens every season regardless, it is a necessary step in the production of quality red wine in the eastern US.

Lake Erie (Tim Weigle).

The weather pattern has changed into one of cooler temperatures with cloudy skies and rainfall. Despite the gloomy conditions National Grape Cooperative is planning on finishing up the Niagara harvest at their North East, PA processing facility and moving back into Concords sometime on Friday, October 1. Judging by the number of semi trailers cruising back and forth past CLEREL on Route 20 in Portland it appears that Concord harvest is still in full swing for all area processors. Shelling is starting to become a problem in some Concord vineyards, especially those that had problems with disease management earlier in the growing season. In a number of vineyards leaves are starting to look a little worse for wear as the grapes reach maturity and go past it.

White wine varieties have been harvested at the Fredonia Vineyard Lab wine grape block so future reporting will be available for only the Noiret and Cabernet Sauvignon. Harvest of the wine varieties continues to go smoothly in the region with the only problems reported being hornets and wasps destroying berries as they seek to stock up on carbohydrates in the fall and some of the various rot complexes that are starting to crop up.

Hudson Valley (Steven McKay & Steve Hoying).

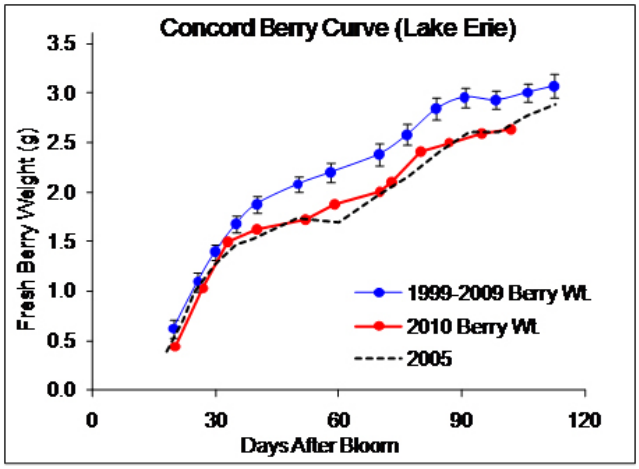
Rain in the Hudson Valley Wednesday night turned out to be much heavier than previously predicted. Heavy rain fell Thursday, and more is expected overnight. This has caused concern about increasing development of *Botrytis* - including whether or not to spray for it [See Wayne Wilcox article, p. 8] A drying trend with mild temperatures is expected over the weekend, and the next forecasted rainfall is next wednesday. Whitecliff Vineyard harvested Noiret (20 brix) and Frontenac (23.5 brix) in anticipation of the storm, and expect to harvest Vignoles and Merlot are expected this weekend. Cabernet Franc, which is ripe but not mature, will be picked a bit further out.

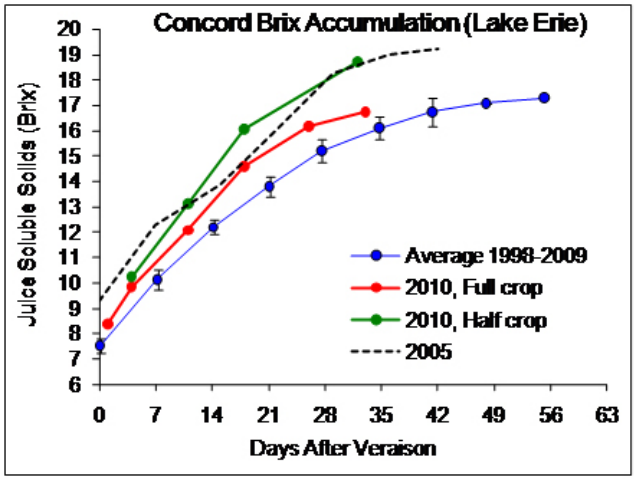
Lake Erie Concord Ripening Profile

Terry Bates
Cornell Lake Erie Research and Extension Laboratory

Concord harvest is into full swing in the Lake Erie region and the Portland crop load plots were harvested two weeks ago. 2010 turned out to be similar to 2005, another warm and dry season, in berry weight and juice soluble solids accumulation. Bloom and veraison dates in 2010 were approximately 10 days earlier than the average. During crop estimation at 30 days after bloom, we predicted final Concord berry weight would be lower than average at 2.75-2.8 g/berry based on the season to that point. Final berry weight turned out to be even lower at 2.6 grams which threw off our estimate by roughly 5-7%.

Full crop vines in our Portland test plots typically reach 16 Brix 35 days after veraison. In 2010, full crop vines (9-10 tons/acre) achieved 16 Brix 26 days after veraison and thinned vines sprinted to 16 Brix in a short 18 days. Warm and sunny conditions in the first three weeks post veraison certainly aided the fast sugar accumulation; however, it also appears to be the culprit behind lower than normal color readings at the processing plants (especially the high nighttime temperatures leading to higher cellular respiration).





FAQs about YAN*

Chris Gerling
Enology Extension Associate

**Frequently-Asked Questions about Yeast Assimilable Nitrogen*

Q: What does YAN stand for?

A: YAN stands for Yeast Assimilable Nitrogen. Nitrogen is probably the most important macronutrient for yeast after sugar. Some amino acids- most notably Proline- are not metabolized by yeast under normal fermentation conditions so they're not part of the measurement. We're interested in the nitrogen the yeast can use (hence the "assimilable" part). The other major idea to keep in mind is that YAN is a different idea from nitrogen status in a vineyard. These two aspects, and the management required, are pretty much distinct- at least so far. Stay tuned.

Q: What are the components of the YAN measurement?

A: There are two parts of YAN- 1.) Primary Amino Nitrogen (PAN), aka Free Amino Nitrogen (FAN) and 2.) Ammonia. PAN (or FAN), as the name suggests, refers to the organic amino acid portion. Ammonia is, well, ammonia, and is inorganic. Here we're referring to organic in the chemical sense of the word, meaning containing carbon. This designation has no bearing on which type of YAN would be more likely to be spotted at Whole Foods. YAN is expressed in mg/L.

Q: Are Primary Amino Nitrogen (PAN) and Free Amino Nitrogen (FAN) the same?

A: For our purposes FAN and PAN are interchangeable since the vast majority (99% or so) of the free alpha amino nitrogen compounds (FAN) come from the primary amino acids (PAN).

Q: How much YAN does my yeast need?

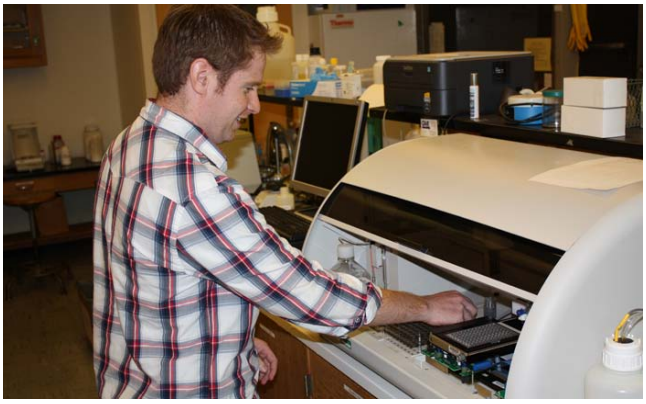
A: It depends. Yeast strain, brix, temperature and lots of other factors will have an impact on one tank's specific nitrogen requirements. Generally it's believed that 150 mg/L is a baseline and 200-250 mg/L is preferred. As potential stressors accumulate (high brix/ alcohol, very high/ low temperatures, etc.) the nitrogen need will climb. At 27° Brix, for instance, Scott Labs recommends a YAN concentration of 350 mg/L.

Q: How do PAN and Ammonia relate to the powders I add to wine?

A: Ammonia is almost always added as diammonium phosphate, or DAP. The organic nitrogen comes from products like Fermaid and other formulated concoctions, which may also contain DAP.

Q: My vineyard N looks pretty good according to petiole tests. Will I need to add more?

A: Extremely hard to say. There seems to be a loose correlation between vineyard nutrition and YAN in the winery, but as of yet we really don't have any predictive ability (see Tim's article). The problem with YAN is that it can vary widely



Enology graduate student Mark Nisbet is running hundreds of YAN analyses on the ChemWell medical analyzer this harvest season, under the direction of Anna Katharine Mansfield, as part of the YAN project.

Photo by Tim Martinson

even in seemingly similar vineyards. There's also no way to get any kind of relative gauge without measuring (see 2009 V to H #6). At this point it still seems cheaper and easier to manage YAN in the winery, although current projects may change that thinking.

Q: Do yeast treat organic and inorganic nitrogen differently?

A: Yes- yeast prefer the simpler ammonia. If given the choice, they would sit around all day eating ammonia and watching reality shows on TV. More complex nutrition (sources rich in amino acids) may not be consumed with the same speed or enthusiasm, but should help ensure a steadier, healthier fermentation throughout. People and yeast have a lot in common.

Q: What happens if I don't have enough YAN?

A: Nitrogen deficiency is associated with a couple of fermentation difficulties. The two major problems we can expect are a failure to metabolize all sugar, or at least to do so in a timely manner, and off-aromas- especially H_2S.

Q: How and when should I add nitrogen?

A: A lot of recent recommendations suggest staggering the additions when possible. Current thinking is that too much DAP too early may actually cause later deficiencies because it encourages a large biomass buildup, and then the biomass cleans out all available nutrients before fermentation is complete. Additions too near the end of fermentation are associated with higher H_2S.

Q: That sounds complicated.

A: Well, we're dealing with a biological system with a lot of moving parts. I think of it like situations where you have some species of animal running amok, so you introduce another species to try and bring the first population into balance. Inevitably there are problems with the new species. There are always going to be unintended consequences when intervening with ecosystems. (Think soybean aphids and MALB.)

Q: What if I add too much or my initial YAN is too high?

A: There are a few potential problems with very high YAN. First and foremost, there's the cost of the nitrogen. Next, if the yeast don't consume all of the YAN, there's food remaining for spoilage organisms. TTB regulations limit the amount of Fermaid-K that may be added due to the thiamin content. There are also potential health concerns relating to the increased potential for precursors of ethyl carbamate and certain amines.

Note: See Anna Katharine Mansfield article from last year entitled "*Yan - the other harvest parameter (that we mostly pretend doesn't exist*" for more information:

http://www.cals.cornell.edu/cals/grapesandwine/veraison-to-harvest/upload/Veraison-to-Harvest-2009_6.pdf

Project Focus:

Improving management options for YAN in the vineyard and winery

Tim Martinson, Anna Katharine Mansfield, and Lailaing Cheng

You may have noticed the additional YAN numbers we are providing as part of *Veraison to Harvest.* This additional information is available thanks to a three-year grant from Cornell's internal Integrated Research and Extension Projects grant program, funded through USDA 'Federal Formula Funds' allocated to Cornell. Our overall goal is to better understand how YAN in fruit changes between veraison and harvest, why it varies so much from vineyard to vineyard, and how to better manage it in the vineyard and winery. Our project has three specificgoals.

Short-term YAN prediction. Winemakers need to know how much YAN is present in fruit in order to plan additions of yeast nutrients (DAP and complex yeast nutrients such as 'Fermaid'). But harvest logistics make this difficult. Most wineries can't measure YAN in-house, so they have to send samples to contract labs. To state the obvious, this is challenging in the middle of crush. If preharvest samples could reliably predict YAN at harvest, winemakers could sample several weeks ahead of harvest and plan their nutrient additions accordingly.

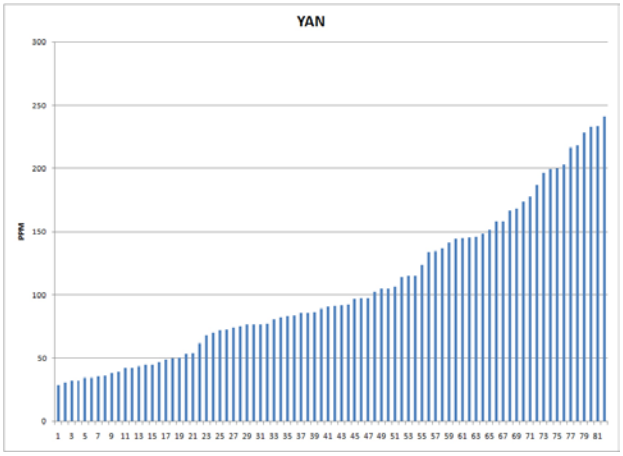
Figure 1. *Yeast Assimilable Nitrogen (YAN) levels ranged from 28 to 240 ppm in fruit from 82 Riesling blocks sampled on September 15 and 16.*

Early prediction and vineyard intervention. It may be possible to predict YAN even earlier – before or at veraison – leaving time for vineyard managers to schedule foliar Nitrogen sprays (eg. Urea) to increase YAN before harvest. Presumably, it would be better to start off with sufficient YAN in the fruit at crush, rather than adding it afterward. We've shown that foliar urea applied around veraison can substantially increase YAN – particularly in dry years.

What causes it to vary so much? This year, we've seen Riesling numbers ranging from 28 ppm to 240 ppm (The minimum needed to complete fermentation is pegged at about 140 ppm, but 200-250 is considered preferable). There is no obvious relation between YAN and how good (or bad) the fruit looks, or what the brix, pH and TA are. So our third goal is to look at what causes YAN to vary – whether its soils, vigor, cropping level, vine age, or fertilization practices.

This year, we've been able to measure YAN weekly in the 60 blocks featured in *Veraison to Harvest* – results of which you see every week in the fruit maturity table.

We also are completing a large survey of 60 Riesling vineyards in the Finger Lakes, and measured YAN at three times: 1) Veraison (L. Cheng laboratory also measured individual amino acid composition at this time), 2) approximately two weeks before harvest (9/15 for Riesling) and 3)right before harvest (this week). Preliminary results (See figure below) already show a wide range of YAN in 82 samples – which vary by a factor of 10. We're also collecting soil and tissue samples, and yield information (cluster no. and weight) from these blocks. Note that we chose Riesling because there are a lot of blocks to choose from within a convenient distance of our laboratory at Geneva – results should be applicable across other varieties as well.



Fruit Maturation Report - 9/28/2010

Samples reported here were collected on **Monday, September 28, 2010.** Where appropriate, sample data from 2009, averaged over all sites is included. Tables from 2009 are archived at www.cals.cornell.edu/cals/grapesandwine/veraison-to-harvest/2009.cfm

Cabernet Franc

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/27/2010	W Seneca	1.28	22.9	3.36	8.6	39
	9/27/2010	E Seneca	1.45	22.1	3.49	6.9	38
	9/27/2010	W Cayuga	1.57	19.7	3.51	7.4	106
	9/27/2010	E Seneca	1.45	21.7	3.58	6.4	68
	9/27/2010	W Cayuga	1.65	21.4	3.47	8.5	125
Hudson Valley	9/27/2010	HV Lab	1.44	22.4	3.90	4.4	118
Lake Erie	9/27/2010	Fredonia	1.57	22.8	3.61	5.3	61
Long Island	9/27/2010	N Fork	-	21.2	3.85	5.8	73
Average	*9/27/2010*		*1.49*	*21.8*	*3.60*	*6.6*	*79*
Prev Sample	*9/20/2010*		*1.53*	*20.9*	*3.49*	*6.8*	*78*
'09 Average	*9/28/09*		*1.47*	*18.3*	*3.22*	*11.2*	

Cabernet Sauvignon

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Lake Erie	9/27/2010	Fredonia	1.38	21.3	3.50	6.7	52
Prev Sample	*9/20/2010*	*Fredonia*	*1.34*	*20.7*	*3.40*	*7.1*	*101*

Catawba

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/27/2010	W Cayuga	2.31	16.9	3.39	8.0	253
Prev Sample	*9/20/2010*	*W Cayuga*	*2.34*	*17.8*	*3.30*	*12.0*	*186*
'09 Sample	*9/2809*		*2.58*	*16.0*	*3.18*	*5.5*	

Cayuga White

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	Harvested	W Keuka	Harvested	-	-	-	-
-	Harvested	W Cayuga	Harvested	-	-	-	-
Final Sample	*8/30/2010*		*2.91*	*15.4*	*3.30*	*12.1*	*201*
'09 Final Sample	*9/21/09*		*3.23*	*13.9*	*3.10*	*12.1*	*9/08*

Chardonnay

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/27/2010	W Seneca - Shoot Thin	Harvest				0
	9/27/2010	W Seneca - No Thin	Harvest				0
	9/27/2010	W Cayuga	Harvest				0
Hudson Valley	9/27/2010	HV Lab	1.33	23.4	3.76	5.3	197
Long Island	9/27/2010	N Fork	Harvest				0
	9/27/2010	N Fork	Harvest				0
Average	*No Average*						
Prev Sample	*9/20/2010*		*1.42*	*21.6*	*3.59*	*6.8*	*246*
'09 Average	*9/28/09*		*1.65*	*18.7*	*3.26*	*10.4*	

Concord

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/27/2010	W Keuka	3.22	17.1	3.61	6.6	157
Prev Sample	9/20/2010	W Keuka	3.30	16.0	3.32	9.8	132
'09 Sample	*9/28/09*		*3.86*	*14.2*	*3.34*	*5.6*	

Corot Noir

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/27/2010	W Cayuga	2.63	17.5	3.60	7.0	152
Prev Sample	9/20/2010	W Cayuga	2.42	16.5	3.47	8.4	192
Average	*9/28/09*		*2.18*	*16.2*	*3.23*	*9.1*	

Delaware

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Lake Erie	9/27/2010	Portland Lab	1.46	23.1	3.63	6.0	161
Prev Sample	9/20/2010	Portland Lab	1.56	22.5	3.53	8.1	152

Lemberger

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/27/2010	W Seneca	2.30	21.8	3.35	7.6	70
Prev Sample	9/20/2010	W Seneca	2.06	21.4	3.18	7.4	39

Leon Millot

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/7/2010	W Keuka - Shoot Thin	Harvest				
	9/7/2010	W Keuka - No Thin	Harvest				
Final Sample	*9/7/2010*	*Harvested 9/10*	*0.76*	*27.9*	*3.40*	*12.4*	*116*
Final '09 Ave.	*9/21/09*	*Final sample*	*0.9*	*22.3*	*3.12*	*15.4*	

Merlot

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Hudson Valley	9/27/2010	HV Lab	1.41	21.4	3.94	4.4	129
Long Island	9/27/2010	N Fork	?	22.1	3.95	4.5	99
	9/27/2010	N Fork	?	20.2	3.91	5.5	142
Average	*9/27/2010*		*1.41*	*21.2*	*3.93*	*4.8*	*123*
Prev Sample	9/20/2010		1.80	20.9	3.79	5.0	137
'09 Average	*9/21/09*		*1.90*	*13.5*	*3.44*	*10.2*	

Noiret

Region	Harvest Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/27/2010	W Seneca	2.55	16.9	3.51	8.4	146
	9/27/2010	W Seneca	1.55	20.4	3.43	6.8	108
Hudson Valley	9/27/2010	HV Lab	1.62	20.2	3.66	5.3	165
	9/27/2010	W HV	1.54	18.8	3.45	8.4	70
Lake Erie	9/27/2010	Fredonia	1.68	21.0	3.45	7.2	116
Average	9/27/2010		1.79	19.5	3.50	7.2	121
Prev Sample	9/20/2010		1.68	18.9	3.41	8.5	137
'09 Average	*9/28/09*		*1.82*	*16.4*	*3.19*	*10.6*	

Pinot Noir

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/20/2010	W Seneca					0
Hudson Valley	9/27/2010	HV Lab	1.40	22.6	3.89	6.0	222
	9/20/2010	Hudson Valley					0
Average	No Average						
Final Sample	9/20/2010		1.44	23.6	3.95	7.0	266
'09 Average	*9/28/09*		*1.62*	*19.5*	*3.27*	*10.0*	

Riesling

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/27/2010	W Seneca - leaf rem, shoot thin	1.44	20.7	3.25	8.8	36
	9/27/2010	W Seneca - no leaf rem, no thin	1.45	20.7	3.25	9.1	24
	9/27/2010	E Seneca	1.60	20.9	3.27	9.1	95
	9/27/2010	E Seneca-shoot thin	1.42	19.3	3.28	9.0	60
	9/27/2010	E Seneca - no thin	1.43	20.0	3.30	8.7	66
	9/27/2010	W Cayuga	1.58	16.9	3.33	9.0	154
	9/27/2010	W Cayuga	1.91	18.9	3.34	10.4	143
Hudson Valley	9/27/2010	HV Lab	1.54	17.1	3.54	5.3	135
Lake Erie	9/27/2010	Fredonia	1.52	17.8	3.27	6.9	44
Long Island	9/27/2010	N Fork Riverhead	Harvested				
Average	*9/27/2010*		*1.54*	*19.1*	*3.31*	*8.5*	*84*
Prev Sample	*9/20/2010*		*1.47*	*18.8*	*3.23*	*8.8*	*90*
'09 Average	*9/28/09*		*1.67*	*16.5*	*3.06*	*14.0*	

Sauvignon Blanc

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Long Island	9/13/2010	N Fork Riverhead	Harvest				
Final Sample	*9/7/2010*	*N Fork Riverhead*	*1.84*	*19.8*	*3.64*	*8.0*	*242*
'09 Sample	*9/28/09*		*1.86*	*18.9*	*3.17*	*12.8*	

Seyval Blanc

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/27/2010	W Cayuga - cluster, shoot thin	harvest				0
	9/27/2010	W Cayuga - no cluster, no thin	harvest				0
Hudson Valley	9/27/2010	HV Lab	1.41	19.8	3.62	5.9	200
	9/27/2010	W HV	Harvest				0
Average	No Average						
Prev Sample	9/20/2010		1.17	18.1	3.35	8.2	166
'09 Average	9/28/09	Harvested	1.91	18.7	3.26	7.3	

Traminette

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/27/2010	W Keuka - Shoot Thin	1.81	20.5	3.16	10.3	139
	9/27/2010	W Keuka - No Thin	1.64	19.8	3.20	11.1	153
Hudson Valley	9/27/2010	HV Lab	1.82	23.2	3.55	5.7	141
	9/27/2010	W HV	Harvest				0
Lake Erie	9/27/2010	Fredonia	1.67	23.7	3.22	6.9	62
Average	*9/27/2010*		*1.74*	*21.8*	*3.28*	*8.5*	*99*
Prev Sample	*9/20/2010*		*1.72*	*20.6*	*3.26*	*9.5*	*160*
'09 Average `	*9/28/09*		*1.92*	*16.1*	*3.07*	*12.5*	*`*

Vidal blanc

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/27/2010	E Seneca	1.61	21.7	3.45	8.6	108
Prev Sample	*9/20/2010*	*E Seneca*	*1.65*	*20.9*	*3.40*	*9.5*	*151*

Vignoles

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/20/2010	W Keuka-VSP, Shoot thin	Harvest				
	9/20/2010	W keuka-VSP, No Thin	Harvest				
	9/20/2010	W keuka-high cordon, shoot thin	Harvest				
	9/20/2010	W keuka-high cordon, no thin	Harvest				
Final Sample	*9/20/2010*		*1.65*	*23.2*	*3.19*	*13.3*	*231*
'09 Average	9/28/2009		*1.69*	*18.1*	*3.12*	*12.4*	

Botrytis: Will another fungicide spray help at this point?

Wayne Wilcox and Tim Martinson

Two to three inches of rain fell yesterday (September 30). Leaves are still wet – ideal conditions for *botrytis* development. Is spraying a *botrytis* fungicide advisable at this point in the season? Will it do anything? Here are some considerations:

- **Preharvest Interval.** You can't spray any material inside the legally-binding preharvest interval (PHI). Most botryticides have a 7 to 14 d PHI.
- **Harvest in the next 7 days.** Even if you are within the allowable PHI, anything harvested within the next 7 days probably wouldn't benefit much from an application now – there's likely to be a week (+ or -) incubation between new infections and development of any symptoms. The cooler temperatures forecast for the next few days will have the effect of increasing the incubation period, that is, delaying the onset of symptoms (rot).
- **Harvest in 7 to 14 days.** More of a toss-up in terms of decision making. Factor in the level of *botrytis* control up to a couple of days ago (is there something already present with the potential for significant spread?), experience with/reputation of that cultivar, and anticipated harvest date (8 days from now or 14?).
- **Harvest > 14 days off.** These blocks might merit treatment, unless it's a block where you're already clean and typically don't have *Botrytis* problems (variety, loose clusters, etc.).
- **Post-infection treatment.** Anything sprayed in response to the just-concluded rains will obviously be applied in a post-infection mode. Vangard (7 day PHI) has been our most consistently effective post-infection *botrytis* fungicide over a number of different tests. Scala (7 days) and Elevate (0 days) have also shown good activity in some tests. Boscalid (Pristine, Endura; 14 days) has been less effective post-infection. Rovral (7 days) is risky if there's a history of use in the vineyard. REMEMBER THAT POST-INFECTION ACTIVITY IS HEAVILY RATE DEPENDENT, YOU'RE WASTING TIME AND MONEY IF FRUIT AREN'T CURRENTLY WELL EXPOSED AND LIKELY TO RECEIVE EXCELLENT SPRAY COVERAGE.
- **Leave an untreated 'check'.** Anybody who does decide to treat should leave two or three rows (or partial rows, whatever works to allow an honest assessment) untreated in order judge for themselves whether or not it was worth the time and money.

This is bound to happen again sometime, it's always nice to have some experience to draw on.

Uncork New York! www.newyorkwines.org

This newsletter was made possible with support from the New York Wine and Grape Foundation, the J. M. Kaplan Fund, and USDA Federal Formula funding through the Cornell and New York State Agricultural Experiment Stations.

Veraison to Harvest is a joint publication of:

Cornell Enology Extension Program

Statewide Viticulture Extension Program

Long Island Grape Program

Finger Lakes Grape Program

Lake Erie Regional Grape Program

Hudson Valley Regional Fruit Program

Botrytis in a Riesling cluster on September 29. To date, botrytis has been at low to moderate levels - but definitely on the increase, with recent rainfall over the past week.

Photo by Tim Martinson