Veraison to Harvest

Statewide Vineyard Crop Development Update #3

Cornell University Cooperative Extension

September 14, 2012

Edited by Tim Martinson and Chris Gerling

Around New York...

Statewide *(Tim Martinson).*

Things are moving rapidly, and harvest will be compressed. Major processors are looking to wrap up receiving grapes by Sept 24th or 25th for bulk varieties such as Concords – which must be some sort of a record, since Sept 24 has often been historically the 'opening day' for Concord harvest. According to one processor, composition-wise Concords and Niagaras are coming in much more like 'Western' fruit from Washington – with lower acids, less color, and less prominent 'concord' flavor. Niagaras, harvested at higher brix, were reported to have very good quality, though crop is small. For the small to medium-sized winery segment, this coming week should see whites and Pinot noir harvest, with Riesling close on its heels (TAs of our monitored blocks are all under 10 g/l except one), and Bordeaux reds to follow. Brix levels are 2-4 degrees higher than last year at this time, and acids 1-3 g/l lower.

Long Island (*Alice Wise and Libby Tarleton*).

Harvest is underway on Long Island. After an early budbreak and a long hot summer (we have passed 3000 GDD), vineyard managers are happy to get an early start to harvest as a reward for their labors. Many Pinot Noir and Pinot Gris blocks are being picked. Some Sauvignon Blanc and even Chardonnay fruit is coming to the crush pad. Harvest is a bit slow in that field sorting is being done in many blocks. This is necessary on some level every year as a means of ensuring a quality product is delivered to the winery.

In the research vineyard, fruit was very sound until late August. A couple of tropical rains arrived and those alone might have been tolerable. But a stretch of misty, warm, humid weather seemed to tip the scales. We see a lot of variability with fruit on the eastern side of our vineyard doing much better than fruit on the west side. We see some possible clonal variation as well - two clones of Sauvignon Blanc (376 and 530) are still hanging while we brought in some of cl.1 fruit. Interestingly, Chardonnay appears to be holding up really well, at least in the research vineyard. Why would one of the most rot-susceptible varieties dodge cluster rot? Undoubtedly it is a confluence of events. It is easy to speculate about what made the difference but difficult to prove. This reminds us how much we don't fully understand about our vineyards. In the research vineyard, Brix were moderate, 19-20, while acids hovered between 6.5 and 7 g/l.

Hudson Valley (*Steve Hoying)*

This appears to be the week for serious Seyval blanc harvest in the Hudson Valley slightly modified by earlier spring frost events. Those blocks that set primary clusters are ready with Brix near 21.0 and those that set on secondary clusters are slightly (but not too far!) behind. Pinot noir and Chardonnay harvest for sparkling wine is now complete with excellent yields nearing 2 tons/acre. They came in with Brix at 19.2, pH 3.25, and TA's at 9.2.

Cabernet Sauvignon in mixed variety block at the Hudson Valley laboratory in Highland NY.

Photo by Steve Hoying

Other varieties very close to harvest in commercial vineyards include Pinot noir, Chardonnay, and DeChaunac. Chardonnay yields appear to be down this year with lighter crops across the Hudson Valley but most other varieties have full crops.

Sour rot is present but not nearly as prevalent as last year, probably due to more favorable weather conditions and more attention to disease management. Observations indicate that complete leaf stripping in some vineyards has had a profound effect on the incidence of sour rot. There is also some downy mildew showing on the more vigorous varieties. And birds continue to be a major problem with a transition from smaller birds such as chipping sparrows to the larger flocking species and crows now finding the vineyards.

Over the past week, we have continued to have had warm days and cooler nights, and the ¾ inch of rain last weekend has only slightly delayed harvest and fruit maturity. Based on our vineyard at the Hudson Valley lab, there will be many varieties ready to harvest all at the same time in the coming weeks with La Crescent, Vignoles, Foch, Pinot Noir, GM 318, Leon Millot, Pinot gris, Chardonnay, Sauvignon blanc, Chelois, Lemberger, GM 322 (Hybernal), Merlot, Landot noir, Traminette, and Cabernet franc all above 20 Brix.

Finger Lakes (*Hans Walter-Peterson*)

Growers and wineries in the Finger Lakes are into the meat of harvest now. Those who were waiting to pick early *vinifera* varieties like Pinot gris, Pinot noir and Chardonnay got started this week. The last blocks of Cayuga White, Marechal Foch and Baco Noir were also being picked over the past several days. Concord harvest is in full swing as well, with some processors trying to get fruit in quickly because of concerns about lower acidity in this year's crop.

Unlike 2011, yields this year appear to be average to below average for most varieties so far. Crops in many native vineyards were reduced by frost damage this spring, and fruit set in these vineyards did not seem to make up for much of that damage. Yields in hybrid and *vinifera* varieties seem to vary more due to differences in timing of budbreak and weather conditions at fruit set.

There is some good news for growers on the economic front this year. We have just released our annual Finger Lakes Grape Price Listing, which showed most varieties having no change or increases in their average prices compared to last year. This brought a stop to a downward trend of prices for many of the most important varieties in the region over the past few years.

Lake Erie (*Jodi Creasap Gee).*

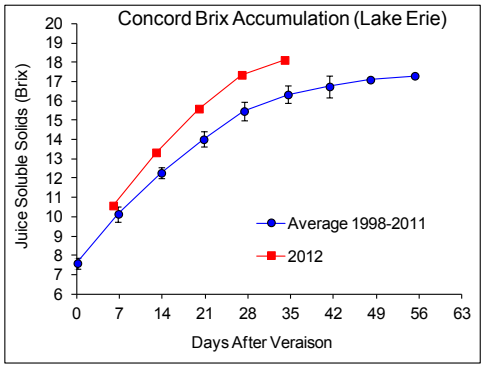
The belt is in the middle of harvest, and word on the street is that at least one processor will be shutting down by the end of September. With the small crop, growers are picking quickly where grapes are being picked, although there are some growers who stop the pickers shortly after starting due to the small crops. The low tonnage is not worth picking for many growers in the belt.

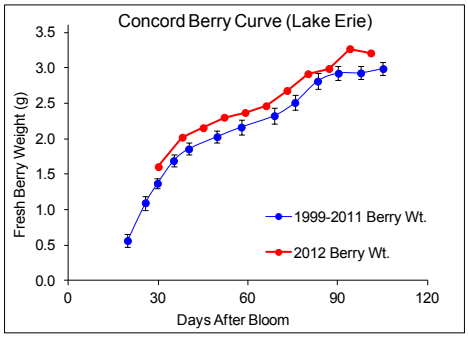
The Concord and Niagara harvest in Niagara County "could be better" this season. Where there was no irrigation, and there is no irrigation in Concord vineyards, vines were weakened by the dry conditions this season. Most areas in Niagara County had no rain until August, leaving them with roughly pea-sized berries at 18 Brix and an average crop around 2 to 3 tons/acre. Some picked as low as 1 ¾ tons/acre, while the Niagara vineyards produced only a slightly larger crop, closer to 4 tons/acre.

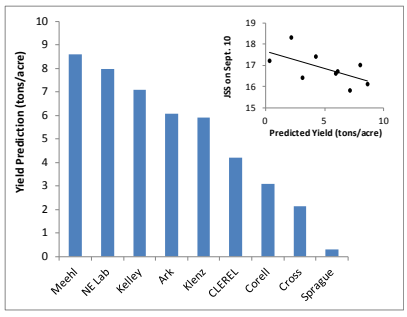
Down in the Lake Erie Grape Belt, the Concord average is not much better, even though many vineyards did have a little more rain in late July. Many growers report tonnages in the 3-4-tons/acre range, while a few are lucky to have close to 6 or 7 tons/acre, which is *still* down from their averages. Here at CLEREL, we collected berries for the Concord berry curve and were surprised to see several 5-gram monsters in our cups. This is unusual, though, probably because that particular block retained more soil moisture than many other vineyards in the belt. Where vineyards are on well-drained gravel soil, the berries are smaller than average (2.5-3 grams/berry). Other growers who regularly estimate crops at 30 days after bloom have noticed that their estimates – instead of being about 10% off – are further off than usual, due to the high variability of crop size within each vineyard.

2012 Lake Erie Concord Update (*Terry Bates).*

Concord harvest is well underway in the Lake Erie region with relatively higher than average juice soluble solids and lower than average titratable acidity. It is over 100 days after bloom and the berry weight has stopped increasing as expected. The warm, dry, and sun filled weather - as well as the moderate to low crop in most vineyards - has kept the soluble solids accumulation rate high.







The chart at right shows the yield prediction from cluster counts earlier this year in nine Concord vineyards at the same pruning level across the Lake Erie grape belt. The large range in yield reflects the variability in spring freeze damage. Although all the vineyards have reached minimum sugar standards, we are still recording an inverse linear yield – Brix relationship across the sites.

Can Late-Season Fungicide Residues Impact Fermentation and Flavors?

Hans Walter-Peterson
Finger Lakes Grape Program
Chris Gerling,
Extension Enologist

The 2012 growing season has been good to growers from the standpoint of disease development. As we finished veraison and actually entered the harvest season, both clusters and canopies are looking very clean. But as we saw in 2011 and in other seasons, things can change quickly and growers may need to make some final fungicide applications in order to protect their crop through harvest.

Winemakers are often concerned about the use of certain spray materials close to harvest, and while there is legitimate concern about sulfur use close to harvest causing bad aromas in wines, we don't have good information about how, or if, other fungicides, like those used for downy mildew and botrytis, can impact what happens in the winery.

Every material has a pre-harvest interval (PHI) dictating the time before harvest in which it is safe to spray. This PHI has been determined to protect the safety of those who are handling and harvesting the fruit. The problem is that we sometimes neglect to consider the smaller, microbial workers who will help carry out fermentation- or maybe we don't. We need more data. On our 'PressPad' podcast episode last year that discussed this topic, Wayne Wilcox discussed how the PHIs are determined, and also noted that they tend to be much longer in Europe (by weeks in some cases). His hypothesis is that the difference has to do with fermentations rather than a different human health standard.

Much like insecticides, fungicides can have a fairly broad range of target organisms that they control (like Revus Top or Pristine, for example), or they can focus very specifically on a certain disease (think Vangard for botrytis). Based on this, we can reasonably hypothesize that there would be a better chance for something like Pristine residue to impact yeast used in fermentation than something very targeted like Vangard. But again, we don't have good data to confirm this or not. Some previous work has been done to show that captan is toxic to *Saccharomyces cerevisiae,* the type of yeast used in winemaking[1], but not as much has been done to examine what happens when some of these materials are brought to the winery from the vineyard.

Fungicides, as it is not too hard to imagine upon hearing the name, are designed to inhibit or kill fungi. The target organisms are vineyard pests like powdery mildew or botrytis, but there is another member of the kingdom Fungi who we are less eager to inhibit-yeast. Yeast are everywhere, and everywhere includes on grapes out in the field. The yeast in the vineyard will not necessarily be missed in the winery, however, since new inoculum will be added there, and even winemakers who rely on spontaneous fermentation are most likely using yeast populations that inhabit the cellar as opposed to the vineyard. The concern is residual antifungal activity in the fermenter.

Last year, we looked at three different fungicides that have very short PHI intervals and that are often used close to harvest time - captan (0 day PHI, 72 hr re-entry interval) used for downy mildew and (some) sour rot control, Vangard (7 day PHI) and Elevate (0 day PHI, 12 hr REI), both of which are very effective materials for botrytis control.

We applied each material to Riesling and Cabernet Franc fruit using the PHI and re-entry intervals to determine how long to spray each material before our chosen harvest date. All of the treatments in each variety were harvested on the same day (Riesling - October 6; Cabernet Franc - October 17) in order to avoid differences in fruit composition as much as possible. Treatments were split into two reps and fermented separately (each replication is reported in the tables below). Each variety was processed using standard winemaking methods appropriate for them, and the time to ferment each lot (including malolactic fermentation in Cabernet France) was tracked to see if there were any impacts to fermentation rates.

Results. So what did we find? To the tables (Table 1 and 2, following page)!!

While it just looks like we copied and pasted the results from the control into the rest of the table, the net result of our trial in 2011 was that there were no differences between any of the reps or treatments with regard to the amount of time it took to complete fermentation. These experimental wines were presented to members

of the industry at the Finger Lakes Grape Growers' Conference in March 2011 to see if they could detect any differences between the wines and had a preferred treatment over others. Most in the audience said that they could detect differences, but when asked for their preference, there was an almost even split between the four treatments. These wines were also presented for similar evaluation by participants at the 2012 annual meeting of the American Society of Enology and Viticulture - Eastern Section. Results from this audience were very similar to those found at the growers' conference.

We will be conducting this trial for one more year in 2012, with one change being made to the materials used. We will be removing Elevate from the trial and using Pristine - a material that is effective at controlling a much wider range of fungal organisms than the materials that we have used so far. The thought being that a material that controls a number of different organisms might be more likely to impact wine yeasts than one that focuses essentially on one type of fungus.

Table 1. Riesling Fermentations.

Variety	Treatment	Yeast	Date Inoculated	Date Finished
Riesling	Control	DV10	October 7	October 21
Riesling	Control	DV10	October 7	October 21
Riesling	Captan	DV10	October 7	October 21
Riesling	Captan	DV10	October 7	October 21
Riesling	Elevate	DV10	October 7	October 21
Riesling	Elevate	DV10	October 7	October 21
Riesling	Vangard	DV10	October 7	October 21
Riesling	Vangard	DV10	October 7	October 21

Table 2. Cabernet Franc Fermentations.

Variety	Treatment	Yeast	Alcoholic Inoculation	Date Finished	ML Inoculation	Date ML Finished
Cab Franc	Control	GRE	October 19	October 27	October 28	November 15
Cab Franc	Control	GRE	October 19	October 27	October 28	November 15
Cab Franc	Captan	GRE	October 19	October 27	October 28	November 15
Cab Franc	Captan	GRE	October 19	October 27	October 28	November 15
Cab Franc	Elevate	GRE	October 19	October 27	October 28	November 15
Cab Franc	Elevate	GRE	October 19	October 27	October 28	November 15
Cab Franc	Vangard	GRE	October 19	October 27	October 28	November 15
Cab Franc	Vangard	GRE	October 19	October 27	October 28	November 15

Implications. So why should growers care about this? This might sound more like a winery problem than a grower problem. And after all, which is worse - a little spray residue, or letting more rot and disease take over my vines? It should be a concern to growers because it is potentially a concern to the people who are buying their fruit, their customers. What it really takes is good communication between grower and winemaker so both understand the pressures and priorities of each, so good decisions can be made. Some winemakers won't be concerned at all about these residues, while others may.

And while this may sound like a problem only for growers with *vinifera* varieties or Vignoles, just remember that we were seeing *botrytis* infections last year in varieties where it has never been seen before - Vidal, DeChaunac, Lemberger, and yes, even Concord and Niagara.

While late season sprays are a fairly regular necessity in the East, the past few years have seen a marked increase in rot-inducing conditions on the other side of the Rockies. Places that have not necessarily even needed to start spraying previously are now also dealing with the question of when to stop. As a result, we are not the only group setting up trials like this. More data should be coming from this and other trials, with the goal of developing some useful guidance for both growers and winemakers on making decisions about the need for one last roundabout with the sprayer before harvest. Global weather seems to be growing more unpredictable as time passes, and, for better or worse, lots of people in lots of parts of the world are starting to see what it's like to be a farmer in New York.

Thanks to Wayne Wilcox, Mike Colizzi, Bill Wilsey, Steve Lerch, Jack Reich (vineyard help), Luann Preston-Wilsey, and Pam Raes (winemaking) for their help with this trial, White Springs Winery for hosting the trial, and the John Dyson Research Endowment Fund for supporting this work.

Fruit Maturation Report - 9/14/2012

Samples reported here were collected on **Monday, September 10.** Where appropriate, sample data from 2011, averaged over all sites is included. Tables from 2011 are archived at http://grapesandwine.cals.cornell.edu/cals/grapesandwine/veraison-to-harvest/2011.cfm

We are again reporting berry weight, brix, titratable acidity and pH, and yeast assimilable nitrogen (YAN), as part of a joint project with Anna Katharine Mansfield and Lailiang Cheng. Graduate student Mark Nisbit is running the YAN assays as part of his Ph D project, and other students from the Enology lab are running samples (details in later issue) . - TEM

Cabernet Franc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/10/2012	E.Seneca	1.48	20.7	3.17	5.5	26
Finger Lakes	9/10/2012	W.Seneca	1.31	20.6	3.00	8.9	0
Finger Lakes	9/10/2012	Cayuga	1.51	19.8	3.14	6.8	3
Lake Erie	9/10/2012	Portland	1.67	17.9	3.18	8.8	162
Long Island	9/10/2012	North Fork	2.07	17.5	3.32	7.0	111
Long Island	9/10/2012	North Fork	1.63	17.5	3.17	7.6	67
Hudson Valley	9/10/2012	HVL	1.47	20.0	3.45	5.6	71
Average	***9/10/2012***		***1.59***	***19.1***	***3.20***	***7.17***	***63***
Prev Sample	*8/29/12*		*1.48*	*15.6*	*3.01*	*12.9*	*88*
'11 Average	*9/13/2011*		*1.52*	*16.4*	*3.12*	*10.3*	*111*

Catawba

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/10/2012	Keuka	2.29	16.2	2.86	11.2	57
Prev Sample	9/5/2012	Keuka	2.09	15.7	2.76	15.1	69
'11 Sample			*2.36*	*15.0*	*2.77*	*13.6*	*57*

Cayuga White

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes		HARVESTED					
Finger Lakes		HARVESTED					
Final Sample	*9/5/2012*		*2.52*	*18.8*	*3.18*	*8.7*	*284*
'11 Average	*9/13/2011*		*2.39*	*16.0*	*3.00*	*8.8*	*184*

Chardonnay

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/10/2012	Cayuga	1.44	21.2	3.15	8.2	159
Finger Lakes	9/10/2012	W.Seneca	1.44	21.9	3.19	7.0	54
Long Island	9/10/2012	North Fork S	1.51	17.8	3.47	7.2	302
Hudson Valley	9/10/2012	HVL	1.37	21.5	3.68	5.4	241
Hudson Valley	9/10/2012	W HV	1.57	18.1	3.42	8.6	263
Average	***9/10/2012***		***1.47***	***20.1***	***3.38***	***7.3***	***204***
Prev. Sample	*9/5/2012*		*1.45*	*19.6*	*3.31*	*7.9*	*229*
'11 Average	*9/13/2011*		*1.55*	*17.4*	*3.25*	*8.8*	*237*

Concord

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/10/2012	Keuka	2.89	15.9	3.33	6.7	204
Lake Erie	9/10/2012	Portland	3.51	17.0	3.30	8.0	212
Average	***9/10/2012***		***3.20***	***16.5***	***3.32***	***7.4***	***208***
Prev Sample	*9/5/2012*		*2.99*	*15.6*	*3.23*	*9.1*	*243*
'11 Sample	*9/13/2011*		*3.33*	*15.4*	*3.2*	*9.7*	*237*

Lemberger

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/10/2012	Keuka	1.71	20.4	3.31	6.3	210
Prev Sample	9/5/2012	Keuka	1.67	22.8	3.08	7.1	40
'11 Sample	*9/13/2011*		*1.60*	*20.9*	*3.11*	*7.0*	*106*

Malbec

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Long Island	9/10/2012	North Fork S	2.48	17.6	3.36	10.2	248
Prev Sample	9/5/2012	N Fork S	2.34	15.4	3.25	12.0	248
'11 Sample	*9/13/2011*	*-*	*2.21*	*16.1*	*3.37*	*10.1*	*283*

Merlot

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Long Island	9/10/2012	North Fork (4)	2.09	17.9	3.53	5.7	124
Long Island	9/10/2012	North Fork (8)	1.96	18.6	3.43	5.2	68
Hudson Valley	9/10/2012	HVL	1.72	19.9	3.74	4.4	122
Average	**9/10/2012**		**1.92**	**18.8**	**3.57**	**5.1**	**105**
Prev Sample	*9/5/2012*		*1.79*	*18.1*	*3.42*	*8.3*	*127*
'11 Sample	*9/13/2011*		*1.63*	*15.6*	*3.45*	*10.5*	*196*

Niagara

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Lake Erie		HARVESTED					
Final Sample	9/5/2012	Portland	3.84	16.6	3.26	7.2	205
'11 Sample	*9/13/2011*		*4.25*	*14.9*	*3.24*	*7.5*	*166*

Noiret

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Lake Erie	9/10/2012	Ripley	1.81	19.1	3.28	8.4	344
Hudson Valley	9/10/2012	HVL	1.53	18.6	3.45	6.2	232
Hudson Valley	9/10/2012	W HV	1.56	17.9	3.23	8.9	122
Average	**9/10/2012**		**1.63**	**18.5**	**3.32**	**7.9**	**233**
Prev Sample	*9/5/2012*		*1.53*	*18.1*	*3.18*	*9.3*	*265*
'11 Sample	*9/13/2011*		*1.65*	*16.7*	*3.12*	*11.0*	*190*

Pinot Noir

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/10/2012	E.Seneca	1.37	21.4	3.33	6.1	190
Hudson Valley	9/10/2012	HVL	1.72	21.6	3.67	7.0	209
Hudson Valley	9/10/2012	W HV	1.30	19.6	3.56	6.2	269
Average	**9/10/2012**		**1.46**	**20.9**	**3.52**	**6.4**	**222**
Prev Sample	*9/5/2012*		*1.43*	*20.6*	*3.41*	*7.6*	*219*
'11 Sample	*9/13/2011*		*1.50*	*17.8*	*3.36*	*7.8*	*246*

Riesling

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/10/2012	W.Seneca	1.40	18.4	2.87	9.9	-
Finger Lakes	9/10/2012	E.Seneca	1.50	17.7	2.96	8.8	16
Finger Lakes	9/10/2012	W. Seneca	1.42	16.7	2.87	10.7	104
Lake Erie	9/10/2012	Fredonia	1.60	19.5	3.11	8.3	223
Long Island	9/10/2012	North Fork	1.52	17.9	3.29	7.9	107
Hudson Valley	9/10/2012	HVL	1.69	18.5	3.40	6.7	97
Finger Lakes	9/10/2012	E.Seneca	1.52	18.5	2.94	9.4	44
Finger Lakes	9/10/2012	E.Seneca	1.49	18.5	2.91	7.5	23
Finger Lakes	9/10/2012	Cayuga	1.61	18.0	2.96	9.9	58
Finger Lakes	9/10/2012	Keuka	1.30	18.1	2.94	9.2	94
Average	**9/10/2012**		**1.50**	**18.2**	**3.03**	**8.8**	**77**
Prev Sample	*9/5/2012*		*1.42*	*17.9*	*2.97*	*10.5*	*98*
'11 Sample	*9/13/2011*		*1.36*	*16.4*	*2.95*	*10.4*	*97*

Sauvignon Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Long Island	9/10/2012	North Fork	1.70	20.2	3.40	7.5	141
Prev Sample	*9/5/2012*		*1.63*	*18.8*	*3.35*	*9.0*	*125*
'11 Sample	*9/13/2011*	-	*1.58*	*18.0*	*3.39*	*7.6*	*170*

Seyval Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes		HARVESTED					
Hudson Valley	9/10/2012	HVL	1.77	19.2	3.41	5.8	172
Hudson Valley	9/10/2012	W HV	1.64	19.5	3.36	6.8	215
Average	9/10/2012		1.71	19.4	3.39	6.3	194
Prev Sample	*9/5/12*		*1.59*	*19.3*	*3.28*	*6.7*	*211*
'11 Sample	*9/13/2011*		*1.88*	*17.6*	*3.23*	*7.7*	*135*

Traminette

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/10/2012	Keuka	1.76	19.5	2.95	8.8	70
Lake Erie	9/10/2012	Fredonia	1.73	20.8	2.98	6.7	-
Hudson Valley	9/10/2012	HVL	1.83	19.1	3.44	6.8	120
Hudson Valley	9/10/2012	W HV	1.68	17.9	3.25	7.4	100
Average	**9/10/2012**		**1.75**	**19.3**	**3.16**	**7.4**	**97**
Prev Sample	*9/5/2012*	*Average*	*1.51*	*16.3*	*2.93*	*13.0*	*63*
'11 Sample	*9/13/2011*		*1.84*	*18.0*	*2.98*	*10.0*	*71*

Vignoles

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/10/2012	W. Seneca	1.32	24.5	3.27	8.8	163
Finger Lakes		Keuka	Harvest				
Finger Lakes		Keuka	Harvest				
Average	**9/10/2012**		**1.32**	**24.5**	**3.27**	**8.8**	**163**
Prev Sample	*9/5/2012*		*1.30*	*25.5*	*3.09*	*11.5*	*171*
'11 Sample	*9/13/2011*		*1.37*	*20.4*	*3.05*	*12.4*	*165*

Viticulture, enology and marketing for cold-hardy grapes

Fruit samples collected at Northern Grapes Project trials in Clayton, NY

Chrislyn Particka and Tim Martinson

As part of the USDA-funded *Northern Grapes Project,* we have set up two training trials and a 'crop load adjustment' trial in a vineyard near Clayton New York. Fruit chemistry results collected from these trials are summarized below, with averages across different treatments in shaded areas as appropriate. We are comparing three different training systems (VSP, Top Wire Cordon, and cane-pruned umbrella kniffen) in both Marquette and Frontenac, and have attempted to also try crop thinning (Frontenac) at different times in the season, to look at how this might influence juice chemistry - in particular to manage the often-high acids in these varieties. 2012 has given us a season with plenty of heat to bring the acids down, and sunlight to ramp up the sugars. We have seen modest differences in these treatments to date. We'll be harvesting the Marquette on Sept 14, with the Frontenac to follow on Sept 21. - TEM & CAP.

		Avg berry wt				pH				° Brix				TA			
Cultivar	Treatment	Aug 13	Aug 20	Aug 27	Sept 7	Aug 13	Aug 20	Aug 27	Sept 7	Aug 13	Aug 20	Aug 27	Sept 7	Aug 13	Aug 20	Aug 27	Sept 7
Marquette	HWC	1.11	*	1.17	*	2.79	*	2.88	*	19.9	*	25.6	*	18.6	*	16.3	*
Marquette	UK	1.11	*	1.21	*	2.81	*	2.90	*	19.3	*	25.2	*	17.4	*	16.0	*
Marquette	VSP	1.10	*	1.19	*	2.87	*	2.93	*	20.4	*	25.6	*	18.5	*	16.1	*
Average	**n/a**	**1.11**	*****	**1.19**	*****	**2.82**	*****	**2.90**	*****	**19.9**	*****	**25.5**	*****	**18.2**	*****	**16.2**	*****
Frontenac	HWC	1.09	*	1.12	1.07	2.86	*	2.95	3.11	15.2	*	20.6	22.5	19.3	*	17.4	13.6
Frontenac	UK	1.10	*	1.14	1.14	2.83	*	2.98	3.16	15.5	*	20.9	23.0	19.1	*	17.6	14.5
Frontenac	VSP	1.08	*	1.13	1.15	2.85	*	3.03	3.12	15.0	*	20.5	22.4	20.3	*	17.7	14.6
Average	**n/a**	**1.09**	*****	**1.13**	**1.12**	**2.84**	*****	**2.98**	**3.13**	**15.2**	*****	**20.7**	**22.6**	**19.6**	*****	**17.6**	**14.2**
Frontenac	Control	*	1.14	1.09	1.16	*	2.86	2.96	3.12	*	18.2	21.1	22.4		17.5	16.9	13.9
Frontenac	Green harvest	*	1.07	1.02	1.02	*	2.83	2.99	3.15	*	17.6	20.9	22.7	*	17.6	16.7	13.2
Frontenac	Heavy fruit set	*	1.10	1.05	1.08	*	2.88	2.98	3.14	*	18.4	20.4	22.5	*	17.6	17.1	13.7
Frontenac	Heavy pre bloom	*	1.05	1.04	1.04	*	2.85	2.94	3.15	*	18.0	20.7	22.9	*	17.7	16.7	13.8
Frontenac	Mod fruit set	*	1.09	1.07	1.06	*	2.88	3.00	3.05	*	17.8	21.0	21.4	*	18.0	17.1	14.2
Frontenac	Mod pre blooom	*	1.20	1.09	1.14	*	2.88	2.96	3.11	*	18.4	21.0	23.3	*	18.0	16.7	13.8
Average	**n/a**	*****	**1.11**	**1.06**	**1.08**	*****	**2.86**	**2.97**	**3.12**	*****	**18.1**	**20.8**	**22.5**	*****	**17.7**	**16.9**	**13.8**
La Crescent	n/a	1.08	*	1.24	*	2.91	*	3.02	*	19.0	*	24.0	*	18.6	*	14.4	*

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