

VERAISON TO HARVEST

Statewide Vineyard Crop Development Update #6



Cornell University
Cooperative Extension

October 3, 2014

Edited by Tim Martinson and Chris Gerling

Around New York...

Statewide (*Tim Martinson*)

Now that we're into the second week of sunny, dry weather, the numbers have started to move. Sunlight makes soluble solids, and heat reduces acidity – and both these indicators moved a lot since our previous sample on September 23 (see Fruit Maturation Report pp. 4-6). Soluble solids rose by 1 to 2.6 (vignoles) °Brix, with many around +1.5 °Brix, and acids dropped by 1.5 g/l on most cultivars that we sample. Among the vinifera, the exceptions were Merlot and Malbec(+0.1 °Brix), but their acids dropped by about 1 g/l as well. The numbers have caught up with last year's numbers, after a slow start. Average brix on Riesling are 0.5 °Brix ahead of last year, but acids are still about 1 g/l higher. Our sample number has started to drop, as blocks get harvested (Cayuga white, Gruner Veltliner, Marquette, Niagara, Pinot noir, Sauvignon blanc, Seyval blanc, and Zweigelt).

Our Concord samples jumped to 16.4 °Brix (See Luke Haggerty and Terry Bates updates), and Concord harvest is kicking into high gear this week with a September 27 opening for National Grape Cooperative. Our Niagara sample was harvested at 15.1 °Brix. As of their Sept 29 harvest update, National Grape Cooperative had received 9,214 tons (Sept 23) of a projected 12,100 ton Niagara crop, with additional tonnage expected at Pleasant Valley in Hammondsport (thanks to Mark Amidon for sharing the National Grape Coop Update with me). Soluble solids averaged 14.1 °Brix Niagara harvest is nearing completion.

Lake Erie (*Luke Haggerty*)

The Concord harvest begins with a full week of sunshine! Niagara harvest will finish this week as processors shift to ConCORDs. The Lake Erie region is finally drying up, receiving 10 days of sunshine, and less than a 1/10th of rain. The favorable weather has helped push the °Brix in ConCORDs into a harvestable range. The dry conditions have also allowed many growers to pick low areas that will get soft if the forecast changes.

Sampling data for the 9-site study collected by Kelly Link and our CLEREL staff shows another jump in brix for 'ConCORD' this past week. The average °Brix from the region's 80 sample sites shows that the total average increased from 15.1 to 16.0 °Brix (+0.9). We are seeing high numbers for both berry weight and °Brix. Two of the nine sites averaged over 4 gram berries and four sites averaged 16.0 °Brix



September 26. Lindsay Pashow (l) and volunteer Diane Dodd (r) harvesting grapes at the Willsboro cold-hardy grape variety trial. Lindsay has done a great job managing the trial, now in its 7th cropping season. It is located near the shores of Lake Champlain, seen here in the background (bottom photo)

photo by Amy Ivy

or higher—definitely time to pick. Two area processors are also reporting some high averages. National Grape Cooperative averaged 16.02 °Brix on their first day open (9-27-14), and Growers CO-OP averaged 15.36 °Brix as of 9-30-14.

Finger Lakes (*Hans Walter-Peterson*).

The Finger Lakes has been experiencing one of the better months of September that we have seen in a while – right up there with last September. The month was significantly drier than normal, with Geneva receiving just under 1"

of rain this month while the average rainfall in September is 3.69". Disease development has been kept in check pretty well, as we continue to see only a few new downy mildew infections developing on younger leaves, and where there is botrytis activity, most of it appears to be relatively free of sour rot. We are also seeing few signs of drought stress as a result of this dry spell. Fruit appears to be in good condition for the most part, which will allow growers and wineries to let clusters hang as long as conditions will allow. We're in for a bit of a shift in our weather starting on Saturday, as it looks like it might be the end of this month-long stretch of late summer brilliance and back to a bit of a more "normal" pattern.

Lots of mid-season varieties are being brought in to crush pads around the region this week, including Chardonnay and Pinot noir for still wine, Pinot gris, and Gewürztraminer. Both Chardonnay and Lemberger will be out of the Teaching Vineyard by tomorrow afternoon. Trucks loaded up with bins full of Concord are running to Canandaigua for Constellation Brands also. Riesling still seems to be dragging its feet a bit with regard to ripening – I'm guessing it will be at least another 7-10 days before we start to see much making its way to the wineries

Long Island (*Alice Wise and Libby Tarleton*)

Every season is unique from start to finish but it is still tempting to compare one year to another. Perhaps it is an attempt to predict the weather. It might also help to understand the progression of ripening and facilitate some harvest scheduling.

Post-veraison rainfall has been very similar 2013-14. August and September in both years had 2-2.5" of rain. However, in October 2013, we received only 0.19" of rain. Given the intermittent showers the last few days, we have probably equaled that total. Max/min temperatures in August of both years were very close, 80/64 and 81/64, respectively. September however was much warmer in 2014. This allowed us to catch up a bit in growing degree days.

By the end of September, there were ~ 3000 GDD in both years. We look forward to seeing what the remainder of October brings. Harvest of white varieties continued at a moderate pace this past week. Mostly Sauvignon Blanc was picked with a bit of Chardonnay and Gewürztraminer. Chardonnay harvest will continue next week. We'll be picking Chardonnay in the Cornell research vineyard starting Monday. On the heels of Chardonnay will be Merlot as ripening is progressing nicely. Samples from an experiment in a North Fork Merlot block ranged from 20.6 – 22 Brix and 5.7-6.3 g/l TA. Note that the berry samples from Long Island were a bit wet this week as scheduling forced us to sample in drizzle

Hudson Valley (*Jim O'Connell*)

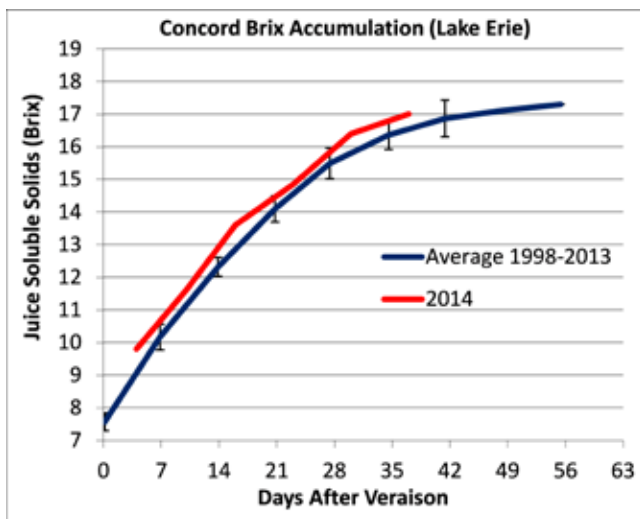
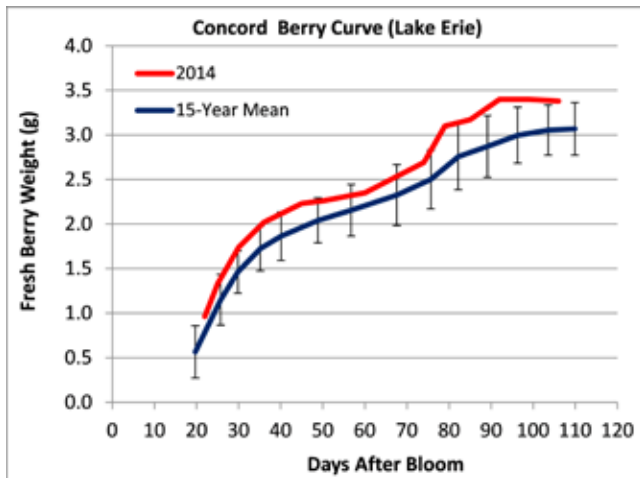
The harvest is well under way in the Hudson Valley. Around the area growers are harvesting Cabernet franc, Chardonnay, and Concord. One grower I spoke with has already harvested Riesling. A combination of young vines and a warm site may have contributed to the early harvest. This past week at the Hudson Valley Lab, we harvested Cabernet franc, Diamond, and Vignoles. We plan to pick Traminette next week and depending on pressure from birds and bees, we may pick Landot Noir as well. Merlot, Riesling, and Vidal Blanc are still maturing and depending on the weather, they may have another two or three weeks before they are ready to harvest.

The weather has been great so far for this harvest season. Temperatures were mild; there has been plenty of sunshine, and not much rain (only about 2" since August 1). Rain is expected for this weekend and mid-week next week. The past couple of times I have written about potential rain events they proved to be uneventful. However, the forecast for Saturday October 4 is predicting heavy rains and winds, along with a period of cool down. For the later varieties like Riesling and Vidal blanc, as long as it's not a hurricane, and the sun shines again, the grapes should be fine. For grapes like Chardonnay, where growers are trying to hold out for a little extra sugar development, it may be a good idea to pick them before the rain comes.



2014 LAKE ERIE CONCORD UPDATE:
Terry Bates

October 1, 2014. Pick them! Commercial Concord harvest is underway in the Lake Erie Grape Belt. Mean berry weight in our phenology vines at CLEREL has settled in around 3.4 grams and 17 °Brix. Across the nine-site pruning study in the region, mean berry weight is approximately 3.5 grams and 16 °Brix. There is quite a range in final berry weight from site to site this season with the well-drained gravel and sandy soils having lower berry weight (2.7-3.4 grams) and wetter clay soils having larger berries (3.2-4.1 grams). Juice acidity at CLEREL is around 1.1-1.2% which is running a little higher than recent years. This is not surprising given the cool and wet growing season.



NOISE EXPOSURE AND HEARING LOSS
PREVENTION

Diane M. Schmitt and Anna Katharine Mansfield

Winery Health and Safety Series

How much noise do you subject your ears to every day?

Most of us lose some ability to hear over time, but hearing loss will occur much faster with repeated exposure to loud noises. Each year 30 million workers in the United States are exposed to hazardous noise levels on the job; of these, thousands will suffer preventable hearing loss (OSHA). This is in addition to non-work related hearing loss caused by the noise of lawnmowers, concerts, headphones, car radios, and power equipment. Once lost, hearing can't be naturally regained, so learning how and when to protect your ears is crucial to life-long hearing health.



The rate of hearing loss depends on sound intensity (measured in decibels or dB), and length of exposure time. Maximum exposure for unprotected ears is 8 hours per day at 85 dB, and employers are required to establish a hearing conservation program if employee noise exposure is equal to or greater than this limit, as per the National Institute for Occupational Safety and Health (NIOSH) guidelines for General Industry (including wineries). That means that if employees are exposed to 85 dB for an 8-hour period even **one** day of the year, a hearing conservation program is required. As decibels increase, safe exposure time quickly decreases; for example, hearing damage can occur after only 15 min of repeated exposure to 100dB power tools (CDC). Effective hearing conservation programs usually include employee hearing tests, the use of appropriate personal hearing protection, monitoring noise levels in the production facility, and employee training.

If you work in a noisy production environment, use earplugs to reduce the sound waves that reach your inner ear. As a last resort, cover your ears with cupped hands (see photos). This action forces sound waves to move around your hands,

diverting them away from the inner ear. Despite what you see in cartoons, you should never plug your ears with your fingers, as you can damage your eardrum if you're startled and reflexively push your fingers inward.

In addition to hearing loss, acute and chronic exposure to high noise levels can cause physical and psychological stress and negatively impact productivity, communication ability, and concentration. Hearing loss can also contribute to workplace accidents, as it reduces an individual's ability to hear alarms and other warning signals.

Winery noise levels should be monitored throughout the year, but especially during harvest when employees are working long hours with crushers, presses, and other noisy equipment. Noise and hearing prevention programs will be different depending on the design of the winery and equipment used, but employers and employees should be conscious of noise levels and wear earplugs if sound level cannot be measured and declared safe. In the long run, it's better to err on the side of protecting your ability to hear to reduce long-term effects. Don't forget the vineyard crew, either—hearing protection is a must with tractors and other vineyard machinery.

How do you know if noise is a problem in your winery?

If any of these are true: (source:OSHA)

- You hear ringing or humming in your ears when you leave work.
- You have to shout to be heard by a coworker an arm's length away.
- You experience temporary hearing loss when leaving work.

Examples of noise sources and their corresponding decibels are shown in Figure 1.

In addition to personal hearing protection, occupational noise can be limited using engineering and administration controls. Engineering controls include the use of low-noise tools and machinery, maintaining proper equipment lubrication, and creating sound barriers with physical methods such as sound walls, curtains, or isolation of noisy equipment. Administrative controls such as quiet workspaces and break rooms, scheduling the fewest possible employees during shifts that require noisy equipment, and restricting proximity of employees to noisy equipment are also beneficial. Hearing protection devices, such as earplugs, should be used when engineering and administrative controls cannot adequately reduce noise levels. Employers are responsible for providing adequate personal hearing protection as needed.

Additional information on occupational noise and hearing loss prevention can be found on the OSHA website (<https://www.osha.gov/SLTC/noisehearingconservation/>) and the Center for Disease Control website (<http://www.cdc.gov/niosh/topics/noise/>).

If you are interested in how ears receive and transmit sound information to the brain, this entertaining video provides a brief overview of functional ear components: <https://www.youtube.com/watch?v=PeTriGTENoc>

Remember that Safety Always Comes First! Not cost savings, time optimization, profits, or ego. No Exceptions!

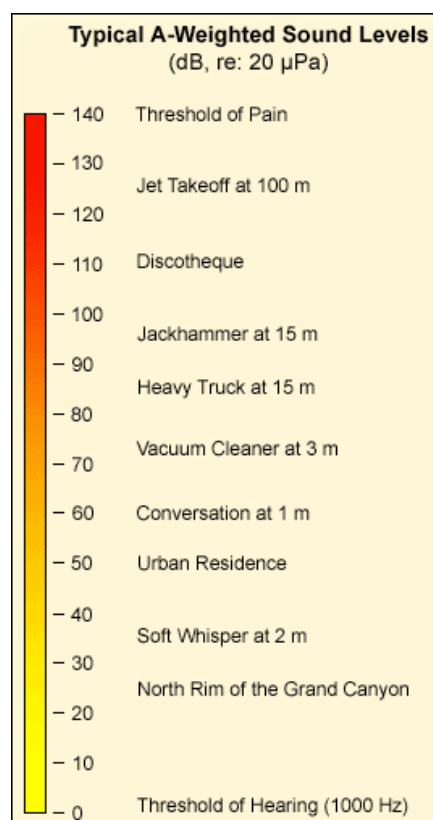


Figure 1. Typical sound levels and examples of sounds at various levels on the scale (dB).

An **interactive noise meter** is available on the Centers for Disease Control website: <http://www.cdc.gov/niosh/topics/noise/noisemeter.html>.

This tool allows individuals to determine how much exposure time at a particular sound level becomes dangerous to the human ear.

FRUIT MATURATION REPORT - 9/30/2014

Samples reported here were collected on **Tuesday, September 30**. Where appropriate, sample data from 2013, averaged over all sites is included. Tables from 2013 are archived at <http://grapesandwine.cals.cornell.edu/newsletters/veraison-harvest>

We are again reporting berry weight, brix, titratable acidity and pH, and yeast assimilable nitrogen (YAN). Graduate students Alex Frederickson and Camila Martin Tahim and Ben Gavitt are running the fruit composition and YAN assays.

Cabernet Franc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	E. Seneca	1.70	21.0	3.07	8.7	60
Finger Lakes	9/30/2014	W. Seneca	1.69	18.1	3.03	9.4	26
Finger Lakes	9/30/2014	Cayuga	1.68	19.9	3.27	7.2	46
Finger Lakes	9/30/2014	W. Seneca	1.83	19.7	3.09	8.7	35
Finger Lakes	9/30/2014	Teaching Vyd	1.55	19.6	3.25	6.8	45
Hudson Valley	9/30/2014	HV Lab	1.80	22.1	3.52	6.0	89
Long Island	9/30/2014	LI-05	2.03	22.1	3.36	6.3	37
Long Island	9/30/2014	LI-07	1.42	20.3	3.20	7.9	22
Average	9/30/2014		1.71	20.4	3.22	7.6	45
<i>Prev. Sample</i>	<i>9/23/2014</i>		<i>1.70</i>	<i>18.7</i>	<i>3.13</i>	<i>8.4</i>	<i>39</i>
<i>'13 Average</i>	<i>9/30/2013</i>		<i>1.62</i>	<i>20.5</i>	<i>3.31</i>	<i>7.2</i>	<i>77</i>

Catawba

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	Keuka	2.95	15.6	2.81	18.9	158
<i>Prev Sample</i>	<i>9/23/2014</i>	<i>Keuka</i>	<i>1.5</i>	<i>14.7</i>	<i>2.70</i>	<i>22.3</i>	<i>83</i>
<i>'13 Sample</i>	<i>9/30/2013</i>	<i>Keuka</i>	<i>2.32</i>	<i>16.5</i>	<i>2.89</i>	<i>12.7</i>	<i>102</i>

Cayuga White

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	Keuka	2.86	18.7	3.03	10.2	143
Finger Lakes	9/30/2014	HARVESTED					
Finger Lakes	9/30/2014	HARVESTED					
Average	9/30/2014		2.86	18.7	3.03	10.2	143
<i>Prev Sample</i>	<i>9/23/2014</i>		<i>2.78</i>	<i>17.4</i>	<i>2.92</i>	<i>13.1</i>	<i>138</i>
<i>'13 at Harvest</i>	<i>9/16/2013</i>		<i>2.82</i>	<i>18.5</i>	<i>3.05</i>	<i>9.0</i>	<i>170</i>

Chardonnay

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	Cayuga	1.63	20.6	3.10	9.5	98
Finger Lakes	9/30/2014	W. Seneca	1.57	19.8	2.99	10.1	45
Finger Lakes	9/30/2014	W. Seneca	1.78	20.5	3.16	8.7	97
Finger Lakes	9/30/2014	Teaching Vyd	1.50	20.7	3.20	6.6	46
Long Island	9/30/2014	LI-03	1.80	21.7	3.43	6.3	117
Average	9/30/2014		1.66	20.7	3.18	8.2	81
<i>Prev. Sample</i>	<i>9/23/2014</i>		<i>1.63</i>	<i>18.9</i>	<i>3.05</i>	<i>9.4</i>	<i>80</i>
<i>'13 Average</i>	<i>9/30/2013</i>		<i>1.61</i>	<i>20.4</i>	<i>3.35</i>	<i>7.4</i>	<i>135</i>

Concord

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	Keuka	3.61	16.4	3.14	10.4	149
Finger Lakes	9/30/2014	W. Canandaigua	3.67	16.6	3.12	8.3	93
Lake Erie	9/30/2014	Portland	3.55	16.3	3.16	8.3	193
Average	9/30/2014		3.61	16.4	3.14	9.0	145
<i>Prev Sample</i>	<i>9/23/2014</i>		<i>3.54</i>	<i>14.7</i>	<i>3.03</i>	<i>10.7</i>	<i>135</i>
<i>'13 Sample</i>	<i>9/30/2013</i>		<i>3.06</i>	<i>16.1</i>	<i>3.28</i>	<i>8.3</i>	<i>252</i>

Corot Noir

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	Teaching Vyd	2.34	18.2	3.22	7.9	73
<i>Prev Sample</i>	9/23/2014	Teaching Vyd	2.17	17.3	3.10	9.2	65

Gruner Veltliner

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes		HARVESTED					
<i>Final Sample</i>	9/16/2014	Teaching Vyd	1.63	18.0	3.20	6.8	139

Lemberger

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	Keuka	1.77	21.6	3.04	8.7	23
Finger Lakes	9/30/2014	Teaching Vyd	2.24	21.0	3.25	7.9	169
Average	9/30/2014		2.00	21.3	3.15	8.3	96
<i>Prev. Average</i>	9/23/2014		1.99	20.4	3.08	8.7	97
<i>'13 Sample</i>	9/30/2013	Keuka	1.83	22.1	3.13	7.6	42

Malbec

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Long Island	9/30/2014	LI-06	2.58	20.9	3.38	6.5	59
<i>Prev Sample</i>	9/23/2014	LI-06	2.73	20.8	3.29	7.4	64
<i>'13 Sample</i>	9/30/2013	LI-06	2.33	21.2	3.46	7.8	134

Marquette

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
<i>Final Sample</i>	9/2/2014	Teaching Vyd	1.09	22.7	2.98	12.9	

Merlot

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Hudson Valley	9/30/2014	HV Lab	1.83	21.1	3.53	6.3	137
Long Island	9/30/2014	LI-04	2.18	19.3	3.52	5.1	60
Long Island	9/30/2014	LI-08	1.80	19.6	3.35	6.1	47
Average	9/30/2014		1.94	20.0	3.47	5.8	81
<i>Prev. Average</i>	9/23/2014		1.95	19.9	3.38	5.7	69
<i>'13 Average</i>	9/30/2013		1.76	21.1	3.46	6.0	87

Niagara

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Lake Erie	9/30/2014	HARVESTED					
<i>Prev Sample</i>	9/23/2014	Portland	4.40	15.1	3.21	6.6	172
<i>'13 Final Sample</i>	9/23/2013	Portland	4.01	14.8	3.28	6.8	335

Noiret

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Hudson Valley	9/30/2014	HV Lab	1.87	19.8	3.25	6.9	102
Lake Erie	9/30/2014	Fredonia	1.92	18.5	3.20	10.1	223
Average	9/30/2014		1.90	19.2	3.23	8.5	163
<i>Prev Sample</i>	9/23/2014		1.88	18.0	3.17	9.9	159
<i>'13 Sample</i>	9/30/2013		1.78	17.9	3.49	9.6	252

Pinot Noir

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	HARVESTED					
<i>Prev Sample</i>	9/23/2014	E. Seneca	1.39	20.5	3.12	8.9	88
<i>'13 at Harvest</i>	9/23/2013	E. Seneca	1.58	20.6	3.13	8.0	94

Riesling

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	E. Seneca	1.52	19.5	2.96	11.7	74
Finger Lakes	9/30/2014	E. Seneca	1.78	18.0	2.95	11.2	66
Finger Lakes	9/30/2014	W. Seneca	1.40	19.0	2.88	12.5	34
Finger Lakes	9/30/2014	E. Seneca	1.80	18.3	3.04	10.4	132
Finger Lakes	9/30/2014	CL 90 Cayuga	1.56	19.3	3.05	10.1	98
Finger Lakes	9/30/2014	Keuka	1.34	18.4	2.97	10.8	64
Finger Lakes	9/30/2014	W. Seneca	1.67	18.6	2.98	11.4	112
Finger Lakes	9/30/2014	W. Seneca	1.68	18.2	2.99	11.5	100
Finger Lakes	9/30/2014	W. Canandaigua	1.79	17.2	2.93	12.4	93
Finger Lakes	9/30/2014	Teaching Vyd	1.51	17.8	2.97	8.7	34
Hudson Valley	9/30/2014	HV Lab	1.76	18.3	3.28	6.6	99
Lake Erie	9/30/2014	Portland	1.87	18.9	3.11	9.1	148
Long Island	9/30/2014	LI-01	1.45	18.5	3.13	7.4	71
Average	9/30/2014		1.62	18.5	3.02	10.3	87
<i>Prev Sample</i>	<i>9/23/2014</i>		<i>1.59</i>	<i>17.5</i>	<i>2.96</i>	<i>11.6</i>	<i>87</i>
<i>'13 Sample</i>	<i>9/30/2013</i>		<i>1.52</i>	<i>17.9</i>	<i>3.08</i>	<i>9.2</i>	<i>97</i>

Sauvignon Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Long Island		HARVESTED					
<i>Final Sample</i>	<i>9/16/2014</i>	<i>LI-02</i>	<i>1.44</i>	<i>19.5</i>	<i>3.16</i>	<i>7.5</i>	<i>63</i>
<i>'13 at Harvest</i>	<i>9/9/2013</i>	<i>LI-02</i>	<i>1.23</i>	<i>22.1</i>	<i>3.23</i>	<i>8.1</i>	<i>141</i>

Seyval Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
<i>Final Sample</i>	<i>9/9/2014</i>	<i>HARVESTED</i>	<i>1.82</i>	<i>18.2</i>	<i>3.04</i>	<i>9.0</i>	<i>148</i>
<i>'13 at Harvest</i>	<i>9/9/2013</i>	<i>Cayuga</i>	<i>1.77</i>	<i>19.9</i>	<i>3.22</i>	<i>6.4</i>	<i>126</i>

Traminette

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	Keuka	2.02	19.0	2.98	10.3	109
Hudson Valley	9/30/2014	HV Lab	1.90	21.3	3.15	8.1	50
Lake Erie	9/30/2014	Portland	2.00	21.1	3.12	9.4	247
Average	9/30/2014		1.98	20.5	3.08	9.3	136
<i>Prev Sample</i>	<i>9/23/2014</i>		<i>2.03</i>	<i>18.9</i>	<i>3.01</i>	<i>11.3</i>	<i>91</i>
<i>'13 Sample</i>	<i>9/30/2013</i>		<i>1.91</i>	<i>20.6</i>	<i>3.15</i>	<i>8.8</i>	<i>109</i>

Vidal Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	Teaching Vyd	2.18	21.0	3.16	9.6	75
<i>Prev Sample</i>	<i>9/23/2014</i>	<i>Teaching Vyd</i>	<i>2.05</i>	<i>19.0</i>	<i>3.08</i>	<i>10.5</i>	<i>61</i>

Vignoles

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/30/2014	High Wire Keuka	1.85	22.9	2.98	17.2	260
Finger Lakes	9/30/2014	W. Seneca	1.90	22.2	2.95	15.0	154
Average	9/30/2014		1.88	22.6	2.97	16.1	207
<i>Prev Sample</i>	<i>9/23/2014</i>		<i>1.85</i>	<i>20.0</i>	<i>2.94</i>	<i>16.5</i>	<i>203</i>
<i>'13 Sample</i>	<i>9/30/2013</i>	<i>W. Seneca</i>	<i>1.67</i>	<i>23.9</i>	<i>3.16</i>	<i>12.9</i>	<i>179</i>

Zweigelt

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
<i>Final Sample</i>	<i>9/16/2014</i>	<i>Teaching Vyd</i>	<i>1.82</i>	<i>17.0</i>	<i>3.17</i>	<i>7.3</i>	<i>149</i>

IRON DEFICIENCY IN CATAWBA: HIGH pH SOILS



What happens to a low-pH adapted grapevine when planted in soils that are neutral (pH around 7) in acidity? These Catawba vines, planted as part of the Finger Lakes Grape Program Teaching Vineyard, are exhibiting symptoms of Iron Chlorosis - yellow leaves that are associated with iron deficiency. Catawba and other native Labrusca -type vines have a limited ability to access iron at higher soil pH levels, but do fine when the soil pH is around 5.5.



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