

VERAISON TO HARVEST

Statewide Vineyard Crop Development Update #2



Cornell University
Cooperative Extension

September 6, 2013

Edited by Tim Martinson and Chris Gerling

Around New York...

Statewide (*Tim Martinson*)

Ripening kicked into high gear this past week (see *fruit maturity table p. 4-6*), with brix gains ranging from 2 to 5°, and titratable acidity dropping by a whopping 3 to 6 g/liter (or more). The big story is Long Island. Things are moving so rapidly that LI varieties (Merlot, Malbec, Sauvignon blanc) have caught up or surpassed the 2012 numbers from this time last year. Sauvignon blanc (20°brix, TA 8.7), for example, is ahead (2012 had 18.6°brix, TA 9.0). Many reds and early whites are well below 10 g/l. Elsewhere, brix are 2 to 5°brix behind last year's early-ripening crop. Concords, nearing ripeness at 15.5° in 2012, still have several weeks to go (12.2° this week). But it looks like early to mid-season cultivars (Lemberger, Pinot noir, Chardonnay, Seyval blanc, Cayuga white) are going to be ready in the next few weeks.

Long Island (*Alice Wise and Libby Tarleton*)

Ripening has progressed rapidly the last few weeks. Harvest on Long Island began with fruit for sparkling wine picked this week. In the research vineyard, we will soon pick Marquette. Other early varieties such as Pinot Noir and Auxerrois will come off soon.

Bird netting update. In the 1980's as the first wave of Long Island vineyards started bearing, birds began consuming large quantities of fruit. The pecking damage also rendered fruit vulnerable to cluster rot. Scare tactics, both visual and auditory, helped but did not provide adequate control. Growers also grew weary of constantly trying to keep birds on the move. Over the row, 3/4" mesh extruded black plastic was first deployed ~ 1987. Soon the entire industry netted their vineyards. Over the row netting worked well and though there was the occasional breach, growers learned to deploy nets on a timely basis and to button up or tack down the bottom to prevent entry under the nets. Hungry birds soon discovered that they could access fruit directly through the nets, even hanging on the nets to peck at clusters. The narrow canopies and exposed cluster zones of VSP trained vines facilitated this; nevertheless, the search was on for something more effective. Some growers have adopted the use of spacers which are 12-18" and mounted on posts and help to keep nets away from the fruit zone (everything from bamboo sticks to stainless rods are used). After much experimentation, we have found that fine-mesh lock-stitched side netting (see photo) is also an effective option. We can see



'Permanet' Bird Netting on Long Island. Bird netting is a must on Long Island, with extreme bird pressure resulting from the North Fork's location in a maritime environment along the Eastern flyway for bird migration. Alice Wise's program has evaluated several netting options over the past several years (see text) - and the birds have adapted and learned to overcome early products that used to work. The 'Permanet', with very fine mesh and weave is one option that has proven effective.

Photo by Alice Wise

fruit more easily with black vs white netting. We also like the wider 1.2 m vs. narrower nets. The narrow nets sometimes do not fully cover varieties with a wider cluster zone such as Syrah and Dornfelder. Birds do peck through these nets but losses have been cut dramatically. One downside - the need to really button up both the top and bottom, very labor intensive. Upsides - many growers zip tie the gathered net along a catch wire or irrigation wire, thus eliminating the need to bring net in and put it back out the following season. Also, effective fine mesh side netting will reduce losses to critters such as raccoons and opossums. (AW)

Lake Erie (*Luke Haggerty*)

This past week has been following the wet trend we have experienced most of the year. Depending on whom you ask in the 150 mile Lake Erie grape belt, weekly totals varied from 0.5 to almost 3 inches of rain. Some locations received measurable amounts of rain 4 days in a row. These wet conditions increase the risk of fungal diseases such as botrytis bunch rot. Riesling, Vignoles, and the Pinots are generally more susceptible to botrytis bunch rot because of their tight clusters. With any luck, the weather will dry out and these infections won't cause too many problems.

Even though there has been a lack of sunshine the Concord crop is still ripening. The regional average for Concord soluble solids is ~ 12.5°Brix (as of 9/2) and has increased 2°Brix from 8/26 to 9/2. If the weather cooperates with sunshine and heat and the Concord continues to ripen at their current rate we can expect harvest to begin during the last week of September. Growers are all anxiously waiting to see this year's heavy crop load will affect this year's ripening process.

Between the rain showers growers have been planting cover crops, mowing between the rows, and a few have ventured out to start the regions harvest. The first varieties through the harvesters were Edelweiss last week and Seyval, Elvira, and Marquette this week. Wineries are expecting to bring in other early hybrids (Cayuga White, Baco noir, La Crescent, and Marechal Foch) next week.

Hudson Valley (Steve Hoying)

Weather this week was a mixed bag with rain, partly cloudy skies, warm temperatures, and continued development of all grape varieties. September 3rd saw 2.83 inches of precipitation washing off all fungicides applied the previous week. Epidemic downy mildew outbreaks are now under control after a thorough spray. With Monday's rain, vines should be watched carefully for a reoccurrence of the fungus. Surprisingly there was little berry cracking on early varieties.

Brix levels continued to advance from earlier in the week moved to 16 plus for Riesling, Noiret, and Traminette and to 18.2 for Merlot. Cabernet franc not surprisingly is lagging behind at about 15. Pinot gris (20.5) and Pinot noir (21) and Chardonnay (17.7) are also approaching harvestable numbers.

Early varieties Marechal Foch (21.9) and Leon Millot (23.1) in the HVL block now must be picked. This year we set up pruning trials assessing spur versus cane pruning for yield. One vine in a set was not pruned or crop load adjusted. The difference among Brix levels of vines with very heavy crop load and those with reasonable crops is startling. Heavily laden vines are several Brix points below vines with adjusted crop loads.

Be sure and carefully measure Brix as well as assess other factors for suitability to pick before harvest. Even small differences in crop load can make a big difference in harvest maturity. Other common maturity indices include acidity, pH, varietal flavor, seed color and maturity. Also take into account the style of wine to be produced.

Bird damage has subsided somewhat. Scare eye balloons are virtually worthless in our situation where vineyards are surrounded by woodland.

Noisemakers are more effective but impossible to use in populated areas. The "bird cry" devices work but need to be constantly moved to be most effective and the chips must be for the proper bird species causing the problem. We have not invested in or tested the "new" laser devices. Netting for us, although time consuming to install, continues to be the best method for bird protection provided they are installed on time!

Finger Lakes (Hans Walter-Peterson).

The first hints of fall are making brief appearances this week, including the threat of low temperatures getting near the freezing mark in some spots further away from lakes on Thursday night, unfortunately.

Harvest has moved on to Elvira around here, with growers reporting some pretty good-sized crops being picked so far. Early red hybrids like Baco noir, Marechal Foch and Leon Millot will start coming off any day now, if they haven't already. Grapes for sparkling wines will start coming off next week, starting with Chardonnay on Monday for a few growers.

Disease pressure seems to be keeping in check right now. Downy mildew infections can be found here and there, but there doesn't seem to be as many active lesions on leaves as we were seeing a few weeks ago. *Botrytis* infections are kind of in the same boat - they're around, but don't seem to be spreading rapidly like they are capable of, and have in past years (2011, anybody?). Growers are all aware, of course, that a season can change quickly, but right now, things are looking pretty good.

We recorded about 4" of rain in August (our monthly average for August is about 3.2"), but almost 3" of that fell in a six-day period between August 8 and August 13. The last half of the month, however, saw only about one inch of rain, and so far we've had about 0.5" of rain at our Teaching Vineyard in the first few days of September. Hopefully the weather will resemble the latter period more than the former the rest of the way this year.



Viticulture, enology and marketing for cold-hardy grapes



FRUIT CHEMISTRY AT NORTHERN GRAPE PROJECT TRIALS IN CLAYTON NY

Chrislyn Particka and Tim Martinson



La Crescent at Clayton

Photo by Chrislyn Particka

Grape maturity continues to progress in the north country, with La Crescent harvest slated for next week. We will be harvesting our 'crop load/fruit thinning' plots there on Tuesday. Fruit chemistry is going to be different this year due to more normal temperatures. Last year's early start and ample heat led to an early harvest and relatively low acids. Comparing this weeks' samples to 2012 samples, titratable acidity is 7 g/L higher and Brix 5° lower in Frontenac and 6 g/L higher and 3° lower in La Crescent. For Marquette, acids are nearly similar between the two years and Brix are 4° higher. We're looking forward to analyzing yield data and fruit chemistry data from harvest to see if our treatments resulted in any significant effects. As part of the *Northern Grapes Project*, we have a similar 'crop load' study in Frontenac, and training trials in both Frontenac and Marquette.

Marquette training study

Region	Harvest Date	Treatment	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Jefferson County	9/3/2013	High cordon	1.25	21.1	2.89	16.5	-
Jefferson County	9/3/2013	VSP	1.16	23.0	2.93	16.4	-
Jefferson County	9/3/2013	Umbrella	1.23	20.7	2.87	17.2	-
Average			1.21	21.6	2.90	16.7	-
Prev Sample	8/26/2013		1.10	18.8	2.88	18.1	-
'12 Sample	8/27/2012		1.19	25.5	2.90	16.1	-

La Crescent crop load study

Region	Harvest Date	Treatment	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Jefferson County	9/3/2013	Control	1.06	21.2	2.92	16.9	-
Jefferson County	9/3/2013	Thin @ fruit set	1.06	22.6	2.93	17.8	-
Jefferson County	9/3/2013	Thin @ pre bloom	1.07	22.9	2.93	17.8	-
Average			1.06	22.2	2.93	17.5	-
Prev Sample	8/26/2013		0.96	20.7	2.82	18.6	-
'12 Sample	9/7/2012 (harvest)		1.25	25.1	3.16	11.6	231

Frontenac general sample

Region	Harvest Date	Treatment	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Jefferson County	9/3/2013	-	1.29	17.5	2.90	20.1	-
Average			-	-	-	-	-
Prev Sample	8/26/2013		1.09	15.9	2.87	22.3	-
'12 Sample	9/7/2012		1.10	22.5	3.12	13.9	-

FRUIT MATURATION REPORT - 8/30/2012

Samples reported here were collected on **Tuesday, September 3** Where appropriate, sample data from 2012, averaged over all sites is included. Tables from 2012 are archived at <http://grapesandwine.cals.cornell.edu/cals/grapesandwine/veraison-to-harvest/2012.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. - TEM

Cabernet Franc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/3/2013	E. Seneca	1.29	17.2	2.94	9.9	18
Finger Lakes	9/3/2013	W. Seneca	1.35	15.9	2.92	11.9	53
Finger Lakes	9/3/2013	Cayuga	1.51	14.9	3.00	10.6	114
Finger Lakes	9/3/2013	W. Seneca	1.40	14.2	2.95	13.0	66
Hudson Valley	9/3/2013	HVL	1.68	15.9	3.23	10.6	170
Lake Erie	9/3/2013	Portland	1.46	12.4	2.98	14.3	113
Long Island	9/3/2013	LI-05	1.97	17.0	3.20	9.4	71
Long Island	9/3/2013	LI-07	1.35	16.7	3.05	10.6	38
Average	9/3/2013		1.50	15.5	3.03	11.3	80
Prev Sample	8/28/2013		1.24	13.2	2.82	17.0	92
'12 Average	9/5/2012		1.49	18.2	3.13	8.7	69

Catawba

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/3/2013	Keuka	1.99	12.1	2.62	23.9	92
Prev Sample	8/28/2013	Keuka	1.70	7.4	2.44	41.7	112
'12 Sample	9/5/2012	Keuka	2.09	15.7	2.76	15.1	69

Cayuga White

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/3/2013	Keuka	2.96	14.7	2.95	11.5	157
Finger Lakes	9/3/2013	Cayuga	2.47	16.0	3.04	10.1	199
Average	9/3/2013		2.71	15.4	3.00	10.8	178
Prev Sample	8/28/2013		2.47	15.0	2.85	15.1	174
'12 Average	9/5/2012		2.52	18.8	3.18	8.7	284

Chardonnay

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/3/2013	Cayuga	1.35	14.7	3.00	11.6	176
Finger Lakes	9/3/2013	W. Seneca	1.51	16.1	3.01	10.7	104
Finger Lakes	9/3/2013	W. Seneca	1.49	14.8	3.05	11.5	110
Long Island	9/3/2013	LI-03	1.69	19.8	3.32	8.5	206
Average	9/3/2013		1.51	16.4	3.10	10.6	149
Prev. Sample	8/28/2013		1.33	14.6	2.98	13.6	166
'12 Average	9/5/2012		1.45	19.6	3.31	7.9	229

Concord

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/3/2013	Keuka	2.33	11.3	2.88	13.1	127
Finger Lakes	9/3/2013	W. Canandaigua	2.80	12.6	2.94	11.6	113
Lake Erie	9/3/2013	Portland	3.28	12.6	3.06	12.5	332
Average	9/3/2013		2.80	12.2	2.96	12.4	191
Prev Sample	8/28/2013		2.60	10.3	2.73	21.0	176
'12 Sample	9/5/2012		2.99	15.6	3.23	9.1	243

Lemberger

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/3/2013	Keuka	1.71	18.4	2.99	8.4	36
Prev Sample	8/28/2013	Keuka	1.67	16.7	2.85	12.4	45
'12 Sample	9/5/2012	Keuka	1.67	22.8	3.08	7.1	40

Malbec

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Long Island	9/3/2013	LI-06	2.39	16.4	3.13	12.6	155
Prev Sample	8/28/2013	North Fork	2.12	13.8	2.93	21.1	209
'12 Sample	9/5/2012	North Fork S	2.34	15.4	3.25	12.0	248

Merlot

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Hudson Valley	9/3/2013	HVL	1.41	16.9	3.40	7.2	155
Long Island	9/3/2013	LI-04	1.92	17.8	3.31	7.7	104
Long Island	9/3/2013	LI-08	1.71	17.0	3.25	7.9	133
Average	9/3/2013		1.68	17.2	3.32	7.6	131
Prev. Sample	8/28/2013		1.50	14.2	3.08	11.7	125
'12 Average	9/5/2012		1.79	18.1	3.42	8.3	127

Niagara

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Lake Erie	9/3/2013	Portland	3.95	12.5	3.07	9.9	270
Prev Sample	8/28/2013	Portland	3.56	11.2	2.88	17.1	272
'12 Sample	9/5/2012	Portland	3.84	16.6	3.26	7.2	205

Noiret

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Hudson Valley	9/3/2013	HVL	1.54	14.0	3.22	10.6	173
Lake Erie	9/3/2013	Fredonia	1.88	14.2	3.02	14.8	297
Average	9/3/2013		1.71	14.1	3.12	12.7	235
Prev Sample	8/28/2013		1.51	11.9	2.91	18.3	300
'12 Sample	9/5/2012		1.53	18.1	3.18	9.3	265

Pinot Noir

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/3/2013	E. Seneca	1.45	17.2	3.05	8.9	43
Prev Sample	8/28/2013	E. Seneca	1.17	17.6	3.00	10.2	114
'12 Sample	9/5/2012		1.43	20.6	3.41	7.6	219

Riesling

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/3/2013	E. Seneca	1.36	15.5	2.84	10.9	38
Finger Lakes	9/3/2013	E. Seneca	1.26	16.2	2.84	12.0	27
Finger Lakes	9/3/2013	W. Seneca	1.07	15.2	2.83	13.9	30
Finger Lakes	9/3/2013	E. Seneca	1.35	14.7	2.92	12.7	134
Finger Lakes	9/3/2013	CL 90 Cayuga	1.33	13.6	2.89	14.1	120
Finger Lakes	9/3/2013	Keuka	1.32	14.4	2.87	12.6	73
Finger Lakes	9/3/2013	W. Seneca	1.30	16.1	2.90	14.3	139
Finger Lakes	9/3/2013	W. Seneca	1.42	14.3	2.89	9.6	127
Finger Lakes	9/3/2013	W. Canandaigua	1.37	11.5	2.88	17.0	218
Hudson Valley	9/3/2013	HVL	1.45	15.1	3.23	12.1	167
Lake Erie	9/3/2013	Fredonia	1.58	13.2	2.96	11.3	154
Long Island	9/3/2013	LI-01	1.25	14.9	3.07	10.6	121
Average	9/3/2013		1.34	14.6	2.93	12.6	112
Prev Sample	8/28/2013		1.14	12.5	2.79	18.5	132
'12 Sample	9/5/2012		1.42	17.9	2.97	10.5	98

Sauvignon Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Long Island	9/3/2013	LI-02	1.31	20.0	3.19	8.7	143
Prev Sample	8/28/2013	North Fork	1.19	18.6	3.04	12.1	173
'12 Sample	9/5/2012		1.63	18.8	3.35	9.0	125

Seyval Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/3/2013	Cayuga	1.51	18.4	3.15	7.1	91
Prev Sample	8/28/2013	Cayuga	1.52	17.2	2.98	10.7	109
'12 Sample	9/5/2012		1.59	19.3	3.28	6.7	211

Traminette

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/3/2013	Keuka	1.86	15.7	2.76	13.2	89
Hudson Valley	9/3/2013	HVL	1.79	15.5	3.14	11.7	56
Lake Erie	9/3/2013	Fredonia	1.85	13.0	3.00	11.2	127
Average	9/3/2013		1.83	14.7	2.97	12.0	91
Prev Sample	8/28/2013		1.47	12.1	2.80	18.1	88
'12 Sample	9/5/2012		1.68	19.1	3.02	9.0	79

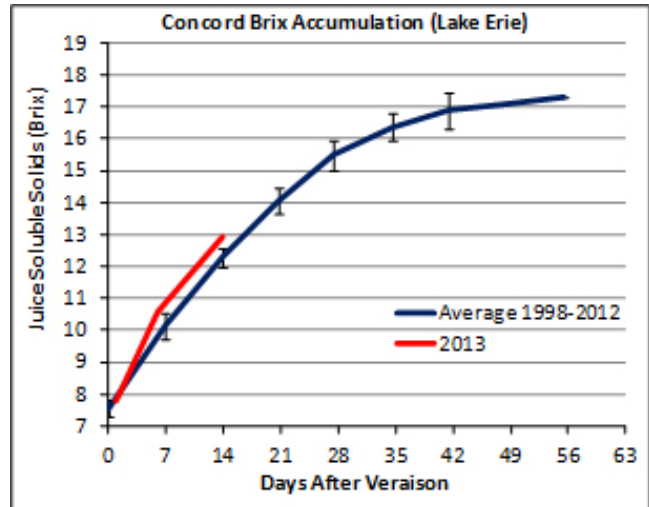
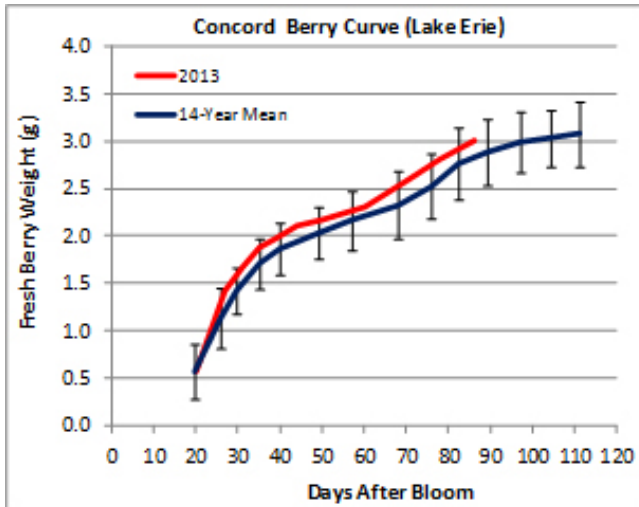
Vignoles

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/3/2013	VSP Keuka	1.51	18.7	2.94	15.4	166
Finger Lakes	9/3/2013	W. Seneca	1.76	21.5	3.07	14.0	144
Average	9/3/2013		1.63	20.1	3.01	14.7	155
Prev Sample	8/28/2013		1.64	17.2	2.87	18.5	184
'12 Sample	9/5/2012		1.30	25.5	3.09	11.5	171

2013 LAKE ERIE CONCORD UPDATE

Terry Bates

The Concord berry curve and juice soluble solids accumulation continue to increase at a fairly average rate for the time of season and current weather conditions. We continue to measure slightly larger than average berry weight because of the high vine water status during berry cell division earlier in the season. Juice soluble solids increased by approximately 2 °Brix in the past week.



Concord berry weight (left, red line) and brix (right) compared to long term average for standard concord vines at the CLEREL laboratory in Portland, NY.



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