

VERAISON TO HARVEST

Statewide Vineyard Crop Development Update #8



Cornell University
Cooperative Extension

October 15, 2010

Edited by Tim Martinson and Chris Gerling

Around New York...

Statewide (Tim Martinson).

The 2010 grape harvest is close to wrapping up. We are down to 13 samples this week for the fruit maturity report (p5-7), and it is likely to be our last sample. All Riesling blocks were harvested, except one, and the bulk of the samples we harvested this past Monday were Cabernet franc and Merlot. In terms of the harvest, we're two weeks ahead of last year (see [Veraison to Harvest #8, 2009](#), October 30 issue). Average brix levels on Cab franc (average 22.3) and Riesling (18.6 in previous samples) are slightly higher than last year, but titratable acidity levels (average around 6 and 8.3 g/l for Cab franc and Riesling, respectively) are 2 to 5 g lower than last year's numbers. Sunshine through Wednesday provided some additional favorable ripening conditions, before rain yesterday. This week's issue includes an update on the Willsboro Cold-hardy grape trial by Kevin Iungerman, and a description of Richard Lamoy's SARE Grower Grant project to investigate training options for cold-hardy grapes. In our final issue next week, we will provide some overall summaries on winemakers' impression of the vintage (Chris Gerling), initial results of our YAN project (Mark Nisbet and Anna Katharine Mansfield) and summary graphs comparing this season with previous seasons. Thanks to all the growers across NY that let us use their vineyards to collect fruit samples. .

Finger Lakes (Hans Walter-Peterson).

Harvest season in the Finger Lakes will be drawing to a close within the next week or so for most growers and wineries, although some have already wrapped things up as of this week. As has been the pattern for much of this season, it's one of the earliest endings to a harvest season that many can remember here. Final blocks of Riesling, and late season reds like Cabernet Franc, Syrah, Chambourcin, Merlot and Cabernet Sauvignon are the focus of picking at this point. Some lingering Catawba blocks are still out there as well, but should also be harvested within the next several days.

The return of sunny and warmer weather this past week helped to dry out the remaining fruit and made harvest a little bit less of a dash to beat the next rain storm. The conditions also seemed to cause an increase in the number of Multicolored Asian Lady Beetles (MALB) appearing in a couple of isolated vineyards this week. Populations can change rapidly in a vineyard, so their presence one day does not necessarily mean they will be there the next. The dry weather also has kept further spread of *botrytis* infections in check.



Multicolored Asian Lady Beetle (MALB) in a Cabernet Sauvignon vineyard on Cayuga Lake. As frost dries up row crops (and their aphids), MALB adults seek out sugars to 'tank up' for the coming winter. Some of them land in grapes. 'Ladybug taint' can be the result, though rare in the Finger Lakes.

Photo by Hans Walter-Peterson

As in other parts of New York and eastern grape growing regions, 2010 has been one of our warmest growing seasons in a very long time. Growing degree day (GDD) accumulation lags behind 1991, our warmest year in 40 years, by only a few days right now. Brix accumulation and acidity degradation were well advanced compared to a "normal" year, allowing growers and wineries to pick based more on acidity and flavor development than trying to beat a frost event or a fall storm. Crop levels were not consistently high or low this year, but rather depended on location and variety. Catawba yields generally were lower than normal, while Concord's yields were all over the map, depending primarily on the level of frost damage that some vineyards experienced this spring. Hybrid and vinifera crops appeared to be near average for the most part, again depending on variety and location. Cayuga White, for example, appears to have done well for most growers based on conversations and the amount that was listed for sale on the Grapes & Wine Classifieds this year.

The 2010 growing season has been an excellent one for sure, but it has not been without its challenges. But once again, growers have used their knowledge and experience to deal with those challenges and take advantage of what Mother Nature has given them to produce some very high quality fruit this year. The growers have done their part, and now the final word on the 2010 vintage will be shaped by the area's winemakers and processors. The wines that are made from this year should continue to raise the consumer's awareness of the quality of the wines from the Finger Lakes.

Lake Erie (Tim Weigle).

Concord harvest is wrapping up across the Lake Erie region. The frost events that occurred in late April brought about lower estimates for many vineyards in the region as well as a lower estimate for the overall Concord crop. The excellent growing conditions in 2010 combined with good fruiting potential of the buds appears to have wiped away at least some of the early season fears of lower yields. Rains finally came into the picture over the past few weeks and has resulted in some berry splitting that has led to fruit flies and the various rot complexes getting into berries in Concord, hybrid and Vinifera vineyards. While there are still some late season reds that are hanging along with some of the standard wine grape varieties the season is winding down. The last of the Cabernet Sauvignon was harvested at the Fredonia Vineyard Lab on Wednesday bringing the 2010 harvest for the Lake Erie Regional Grape Program at CLEREL to come to a close. The 2010 growing season will be remembered as being more similar to a 'west coast' season with sunny skies, warm temperatures and some unusual harvest glitches such as lack of color development in ConCORDs.

Long Island (Alice Wise and Libby Tarleton).

Continued harvest of Merlot took place the week of Oct. 11. More advanced blocks were faced with the decision to harvest or leave fruit out through heavy rain predicted for Oct. 14-15. The forecasts have not always been accurate this summer, so the rainfall may not be as significant as predicted. However for many growers it came down to whether they were happy with flavors and phenolics as well as the integrity of the fruit. Merlot blocks ranged from whistle clean to some *Botrytis*.

The research vineyard fell into the latter category, thus we picked this week (Table 1, at right). An extended period of rainfall several weeks ago – more than predicted – led to the development of some rot. We field sorted as we picked, with maybe a $\pm 10\%$ loss overall. Though we have yet to analyze data, the infections seemed fairly random. The one consistent thing we did notice is the link between *Botrytis* and bird and wasp damage. Unfortunately, we were hit pretty hard with both. Being an opportunistic fungus, *Botrytis* preferentially colonized damaged berries and sometimes spread from there. However, we have been very pleased with fruit quality, fruit flavors and the season in general. It was a great pleasure to harvest ripe red fruit in mid-October. As harvest activities wind down, we will analyze and organize the data. It will eventually make it to our web page. For those interested in last year's results, go to www.ccesuffolk.org/viticulture.

Table 1. Merlot clonal trial 2010, LIHREC research vineyard, harvested 10/11/10

All clones/C3309	Brix	TA, g/l	pH
Merlot 1	21.2	4.35	3.56
Merlot 3	21.8	4.35	3.49
Merlot 6	21.9	4.50	3.40
Merlot 8	22.0	4.35	3.40
Merlot 181	23.3	3.75	3.53
Merlot 314	23.2	3.75	3.45

Hudson Valley (Steven McKay & Steve Hoying).

The weather has cooled over the past week, but harvest has drawn to a close. Cabernet Franc was just harvested with brix ranging from 21.2 to 22.5, pH 3.57, and acids at 7.5. Flavors and maturity are good. The only fruit reported by Whitecliff Vineyards to be left hanging is Frontenac, but it is mature and ready to bring in. Lack of fermentation space is causing the harvest delay. The year in general was described as tremendous for whites and good to fair for reds because of the late rains. Flavors are good, and in the end, some reds only ended up ripening only a little ahead of normal, even though they seemed to start a couple of weeks ahead.

Disease was not a problem until in September and October when it rained and *Botrytis* and sour rot built up to some extent. Canes seem to be well seasoned with healthy canopies that still appear to be photosynthetically active. Plants appear to be in healthy condition to enter the winter.



Alan Lakso's group placed these temperature sensors in individual Cabernet franc clusters at NYS Ag Exp. Station in Geneva. Alan's comments: We are measuring cluster temps of Riesling and Cab Franc clusters with East, West exposures, fully shaded clusters and air temp. We have done this from veraison to harvest for 2 years. The peak temps on clear days are often 15F higher than air, but over the long period the accumulated degree hours may only differ by 8-10% since we have a lot of cloudy conditions and exposed clusters only get hotter for a few hours a day. Also exposed clusters tend to get colder at night due to radiative heat loss.

Photo by Tim Martinson

WILLSBORO WINE TRIAL COMPLETES 6TH GROWING SEASON

Kevin Iungerman
 Northeast New York Fruit Program
 Cornell Cooperative Extension

Much has been written over the past several *Veraison to Harvest* issues regarding the 2010 season: the extraordinary earliness, the virtually unparalleled heat unit accumulation, and the early and contracted harvest window in most New York growing regions. Our situation in the Champlain echoed this chorus. It has been a warm year – advancing both the apple harvest and grape harvest.

Seasonal variation in the Lake Champlain Region. Wearing my other hat as a tree-fruit specialist, earlier this summer I computed the last pick day for McIntosh controlled atmosphere (CA) Storage in my region against 16 years of data. For the Champlain valley, 2010 would likely be 5 days earlier than the prior earliest year of 1998. For the Upper Hudson (north of Albany) 2010 was tracking with 1998, the prior earliest year for budburst. Both projections - coming before much of the summer heat - proved conservative.

Separately, I ran through various pest and disease forecasting models and saw a data pattern I have previously suspected anecdotally. Using the NEWA Grape Berry Moth model to forecast emergence south and north, moth emergence was earlier north. I went back and looked at monthly temperature summaries for the season too and found the following (Table 1):

Table 1. Early Season Temperatures, Upper Hudson - Champlain 2010.

NEWA Stations	Monthly Summaries - Average Temps.				
	Mar	Apr	May	Jne	Jly
Clifton Park NEWA (Upper Hudson)	40.5	51.7	61.3	66.8	74.4 (thru7/7)
Chazy Grower NEWA (North Champlain)	38.8	51.5	62.7	67.4	79.4 (thru7/7)



Minnesota cold-hardy variety 'Marquette' at the Willsboro grape trial.

Photo by Kevin Iungerman

Once you move beyond the bud break period, heat units appeared to accumulate more rapidly over the northern portions of the region than in the south. This has been my “sense” of things over the years: the Champlain starts later but then it picks up the pace and equals or surpasses the more southerly portions in heat unit accumulation over the growing season.

Willsboro Trial in 2010. At our Willsboro Wine Grape Trial, our summer was both warmer and wetter, but thanks to excellent air movement on the site - and timely fungicide applications - there was little that would have interested Wayne Wilcox. We had no issues with downy mildew infections or *botrytis* and other bunch rots. Generally, we were very pleased with our projected yields and fruit quality.

Undoubtedly, consistency improved considerably by benefit of our warm season but pruning, canopy management, and vine maturity (6th growing season) helped make the most of it. Table 2 primarily shows harvest information for the Swenson and MN hybrids from among our 25 varieties at Willsboro, with harvest samples of most coming in at respectable Brix levels and



A dedicated group of volunteers from the Champlain region helps out with harvest at the Willsboro trial. Lake Champlain in the background

Photo by Kevin Iungerman



Volunteers weighing grapes at Willsboro. Vineyard manager Richard Lamoy at left.

Photo by Kevin Iungerman

many TAs at single digits.

All vines were harvested by September 24 as compared to early- to mid-October in past years. Could we have kept them on longer? Perhaps, but some raisining was beginning and wasp mining too; the fruit was clean, chemistry was respectable. Successive weekend weather was superb. As all our harvesting is accomplished by a wonderfully eclectic collection of volunteers, it was time! We now look forward to the efforts of our 12 collaborating wine makers in a critical blind tasting evaluation and review next year.

The Willsboro Grape project is also supported by the volunteer help, the fruit growers and the CCE County Associations of Clinton, Essex, Washington, Saratoga, and Albany Counties, and by the Northern New York Agricultural Development Fund.

COLD CLIMATE CULTIVARS: TRAINING SYSTEM AND CANOPY MANAGEMENT TRIAL

Richard Lamoy
Hid-In-Pines Vineyard, Morrisonville
www.hipvineyard.com

[Ed. note: Richard Lamoy, vineyard manager for the Willsboro trial, also has a separate project funded by a SARE grant at his vineyard in Morrisonville. This article describes his results. - TEM]

Can we influence the amount of a high quality crop we get from hybrid grapes through choosing different training systems and canopy management combinations? That was the question I had two years ago as I applied for a Northeast Sustainable Agriculture Research and Extension (SARE) grower grants program. I received a one-year grant to compare two training systems with three varieties of hybrid grapes – Frontenac, Leon Millot and LaCrosse. I also had three canopy management treatments of each – shoot thinning, cluster thinning and a control(check).

In spite of a horrendous growing season in 2009, there were significant differences in most cases. The most significant was a 60 percent yield increase with higher quality in the Frontenac variety trained to the four-arm kniffen training system compared to the VSP training system. Because it was a small trial on one site I decided to repeat the trial this year and reapplied for another grant, adding two more replications of the Frontenac. It was funded.

Table 2. 2010 harvest data from cold-hardy grape trial, at Cornell's Baker Research Farm in Willsboro, NY.

Grape Variety	Projected Yield Tons/Acre	°Brix	pH	Titrateable Acidity (g/L)	Berry Wt (g)
Edelweiss	7.5	21.0	3.39	9.1	1.44
ES 6-16-30	3.7	19.4	3.40	8.1	2.27
Frontenac	6.8	22.0	3.53	13.3	1.33
Frontenac Gris	8.3	23.0	3.18	15.4	1.27
GR7	9.8	20.2	3.53	5.5	1.61
LaCrescent	6.1	23.6	3.30	12.5	1.43
LaCrosse	7.0	18.4	3.23	7.2	1.82
Louise Swenson	8.9	17.2	3.27	5.2	2.68
Marquette	8.1	23.0	3.08	10.9	1.42
MN 1200	5.9	21.8	3.08	7.9	1.14
NY 76.844.24	7.0	22.0	3.28	7.5	1.78
Petite Amie	6.9	22.0	3.39	5.8	Na
Prairie Star	9.0	18.6	3.55	9.6	2.51
Sabrevois	6.0	18.6	3.51	9.9	2.21
St. Croix	5.5	19.2	3.27	7.1	1.79
St. Pepin	6.7	20.4	3.21	10.1	1.49



'Frontenac' trained to VSP (left) or 4-arm Kniffen (right) at Hid-in-Pines vineyard in Morrisonville, west of Lake Champlain

Photo by Richard Lamoy

This year I compared VSP and 4 arm kniffen on Leon Millot and Frontenac. For LaCrosse, I utilized Top Wire Cordon instead of VSP because it has a more trailing habit – and also compared it to VSP. All three varieties were pruned back initially to 5 or 6 buds per foot of canopy. The 4 arm kniffen received 3-4 per foot on the upper wire and 2 per foot on the lower arm. Spur-pruned VSP was pruned to 3] 2-bud spurs on the main cordons, for a total of 6 buds per foot of canopy

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FRUIT MATURATION REPORT - 10/11/2010

Samples reported here were collected on **Monday, October 11, 2010**. Where appropriate, sample data from 2009, averaged over all sites is included. This is likely to be the final report for 2010. 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	10/11/2010	W Seneca	1.46	23.3	3.30	8.1	47
	10/11/2010	E Seneca	1.44	23.0	3.34	6.8	47
	10/11/2010	W Cayuga	1.57	22.1	3.45	6.9	91
	10/11/2010	E Seneca	1.59	22.0	3.63	5.9	87
	10/11/2010	W Cayuga	1.50	20.7	3.38	8.5	102
Hudson Valley	10/11/2010	HV Lab	Harvested				
Lake Erie	10/11/2010	Fredonia	1.59	23.2	3.60	5.0	76
Long Island	10/11/2010	N Fork	1.64	21.7	3.03	5.9	71
<i>Average</i>	10/11/2010		1.54	22.3	3.39	6.7	75
<i>Prev Sample</i>	10/4/2010		1.56	22.1	3.61	6.1	63
<i>'09 Average</i>	10/12/2009		1.49	19.8	3.24	11.6	

Cabernet Sauvignon

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Lake Erie	10/11/2010	Fredonia	1.40	21.2	3.46	6.6	92
<i>Prev Sample</i>	10/4/2010	Fredonia	1.42	20.9	3.46	6.2	89

Catawba

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/11/2010	W Cayuga	2.35	19.1	3.32	8.5	162
<i>Prev Sample</i>	10/4/2010	W Cayuga	2.27	19.5	3.32	9.3	153
<i>'09 Sample</i>	10/12/2009		2.81	16.5	3.29	4.7	

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	-	-	-	-
<i>Final Sample</i>	8/30/2010		2.91	15.4	3.30	12.1	201
<i>'09 Final Sample</i>	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				
	9/27/2010	W Seneca - No Thin	Harvest				
	9/27/2010	W Cayuga	Harvest				
Hudson Valley	10/4/2010	HV Lab	Harvest				
Long Island	9/27/2010	N Fork	Harvest				
	9/27/2010	N Fork	Harvest				
<i>Final Sample</i>	9/20/2010		1.42	21.6	3.59	6.8	246
<i>'09 Average</i>	10/12/2009		1.75	19.6	3.42	8.6	

Concord

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes			Harvest				
<i>Final Sample</i>	9/27/2010	W Keuka	3.22	17.1	3.61	6.6	157
<i>'09 Sample</i>	10/12/2009		3.29	15.6	3.37	6.0	

Corot Noir

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/11/2010	W Cayuga	2.25	18.0	3.50	7.1	143
<i>Prev Sample</i>	<i>10/4/2010</i>	<i>W Cayuga</i>	<i>2.53</i>	<i>17.2</i>	<i>3.67</i>	<i>5.5</i>	<i>189</i>
<i>Average</i>	<i>10/12/2009</i>		<i>2.17</i>	<i>15.9</i>	<i>3.34</i>	<i>7.9</i>	

Delaware

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Lake Erie			Harvested				
<i>Prev Sample</i>	<i>10/4/2010</i>	<i>Portland Lab</i>	<i>1.49</i>	<i>24.8</i>	<i>3.68</i>	<i>5.8</i>	<i>185</i>

Lemberger

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes			Harvested				
<i>Final Sample</i>	<i>9/27/2010</i>	<i>W Seneca</i>	<i>2.30</i>	<i>21.8</i>	<i>3.35</i>	<i>7.6</i>	<i>70</i>

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				
<i>Final Sample</i>	<i>9/7/2010</i>	<i>Harvested 9/10</i>	<i>0.76</i>	<i>27.9</i>	<i>3.40</i>	<i>12.4</i>	<i>116</i>
<i>Final '09 Ave.</i>	<i>9/21/09</i>	<i>Final sample</i>	<i>0.9</i>	<i>22.3</i>	<i>3.12</i>	<i>15.4</i>	

Merlot

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Hudson Valley	10/4/2010	HV Lab	1.42	20.6	3.94	4.3	116
Long Island	10/5/2010	N Fork	1.92	22.0	3.82	4.8	105
	10/5/2010	N Fork	1.93	19.9	3.79	5.8	164
<i>Average</i>	<i>10/4/2010</i>		<i>1.76</i>	<i>20.8</i>	<i>3.85</i>	<i>5.0</i>	<i>128</i>
<i>Prev Sample</i>	<i>10/4/2010</i>		<i>1.76</i>	<i>20.8</i>	<i>3.85</i>	<i>5.0</i>	<i>128</i>
<i>'09 Average</i>	<i>10/12/2009</i>		<i>1.93</i>	<i>19.4</i>	<i>3.48</i>	<i>8.9</i>	

Noiret

Region	Harvest Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/4/2010	W Seneca	2.32	16.2	3.41	7.7	73
	10/4/2010	W Seneca	Harvested				
Hudson Valley	10/4/2010	HV Lab	1.61	20.7	3.72	5.3	199
	10/4/2010	W HV	Harvested				
Lake Erie	10/4/2010	Fredonia	1.70	20.7	3.42	6.6	122
<i>Average</i>	<i>10/4/2010</i>		<i>1.85</i>	<i>19.6</i>	<i>3.60</i>	<i>6.1</i>	<i>111</i>
<i>Prev Sample</i>	<i>10/4/2010</i>		<i>1.85</i>	<i>19.6</i>	<i>3.60</i>	<i>6.1</i>	<i>111</i>
<i>'09 Average</i>	<i>10/12/2009</i>		<i>1.97</i>	<i>17.1</i>	<i>3.25</i>	<i>10.5</i>	

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	10/4/2010	HV Lab	Harvested				
	9/20/2010	Hudson Valley					0
<i>Final Sample</i>	<i>9/20/2010</i>		<i>1.44</i>	<i>23.6</i>	<i>3.95</i>	<i>7.0</i>	<i>266</i>
<i>'09 Average</i>	<i>10/12/2009</i>		<i>1.59</i>	<i>21.0</i>	<i>3.39</i>	<i>11.1</i>	

Riesling

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes		W Seneca - leaf rem, shoot thin	Harvested				
		W Seneca - no leaf rem, no thin	Harvested				
		E Seneca	Harvested				
		E Seneca-shoot thin	Harvested				
		E Seneca - no thin	Harvested				
		W Cayuga	Harvested				
	10/11/2010	W Cayuga	1.78	19.2	3.37	9.2	147
Hudson Valley		HV Lab	Harvested				
Lake Erie		Fredonia	Harvested				
Long Island		N.Fork	Harvested				
<i>Average</i>	No Average						
Prev Sample	10/4/2010		1.57	18.6	3.29	8.3	98
<i>'09 Average</i>	<i>10/12/2009</i>		<i>1.97</i>	<i>17.1</i>	<i>3.25</i>	<i>10.5</i>	

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				
<i>Final Sample</i>	<i>9/7/2010</i>	<i>N Fork Riverhead</i>	<i>1.84</i>	<i>19.8</i>	<i>3.64</i>	<i>8.0</i>	<i>242</i>
<i>'09 Sample</i>	<i>10/12/2009</i>		<i>1.82</i>	<i>21.1</i>	<i>3.18</i>	<i>12.7</i>	

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				
	9/27/2010	W Cayuga - no cluster, no thin	harvest				
Hudson Valley	10/4/2010	HV Lab	Harvest				
	9/27/2010	W HV	Harvest				
<i>Average</i>	No Average						
Final Sample	9/20/2010		1.17	18.1	3.35	8.2	166
'09 Final 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		W Keuka - Shoot Thin	Harvest				
		W Keuka - No Thin	Harvest				
Hudson Valley		HV Lab	Harvest				
		W HV	Harvest				
Lake Erie		Fredonia	Harvest				
<i>Final Sample</i>	<i>10/4/2010</i>		<i>1.68</i>	<i>20.5</i>	<i>3.31</i>	<i>8.3</i>	<i>137</i>
<i>'09 Average</i>	<i>10/12/2009</i>		<i>1.95</i>	<i>18.1</i>	<i>3.10</i>	<i>13.1</i>	

Vidal blanc

Region	Sample Date	Description	Ber. Wt. g.	° Brix	pH	TA g/L	YAN (ppm)
Finger Lakes			Harvested				
<i>Final Sample</i>	<i>9/27/2010</i>	E Seneca	<i>1.61</i>	<i>21.7</i>	<i>3.45</i>	<i>8.6</i>	<i>108</i>

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				
<i>Final Sample</i>	<i>9/20/2010</i>		<i>1.65</i>	<i>23.2</i>	<i>3.19</i>	<i>13.3</i>	<i>231</i>
'09 Average	10/12/2010		1.47	20.4	3.13	14.7	

(or [number] buds per foot of canopy.

After fruit set, I removed secondary and tertiary shoots on all treatments. I delayed additional shoot thinning and cluster thinning until mid July to allow the fruit set to be heavy and slow these vigorous vines down. As the mid- summer heat arrived, the shoot-thinned treatment was further thinned to five shoots per foot of canopy. This opened the canopy up better than the cluster thinned and control treatments. For the cluster-thinned treatment, I reduced the number of clusters to two per shoot on Leon Millot and LaCrosse and one to two for Frontenac, depending on vigor of individual shoots.


After veraison, I monitored fruit composition (brix, pH and TA) every week to 10 days as the weather allowed, and collected a final sample at harvest. My overall impression is that the shoot thinned 4-arm kniffen system provided the best quality, yield, and canopy openness for both Frontenac and Leon Millot. I noted a huge difference with the Leon Millot this year as the upper cordons were better developed – since it was their second year after conversion from VSP. The LaCrosse showed similar numbers throughout the trial with a yield advantage in the 4 arm kniffen and a slightly higher brix on the Top Wire Cordon. The TWC was definitely more open and that is undoubtedly what led to the higher sugar levels.

A quick summary table follows. For a more complete report on the project, see the SARE website for the final report later this autumn or early winter.

Table 1. Crop weight, brix, pH and TA in SARE Grower Grant-funded Trial at Morrisonville, NY in 2010.

Variety/Training	Shoot Thinned				Cluster Thinned				No Shoot or Cluster Thinning			
	Crop (lb/vine)	brix	pH	TA (g/L)	Crop (lb/vine)	brix	pH	TA (g/L)	Crop (lb/vine)	brix	pH	TA (g/L)
Frontenac 4 Arm	16.4	23.5	3.28	13.5	23.5	23.0	3.27	13.2	24.2	22.8	3.32	14.1
Frontenac VSP	16.1	22.7	3.27	13.8	17.0	22.4	3.29	15.0	18.1	22.2	3.35	14.9
Leon Millot 4 Arm	28.5	21.2	3.57	5.4	29.6	19.4	3.55	6.6	30.8	21.0	3.51	6.1
Leon Millot VSP	18.5	20.6	3.47	5.2	14.8	20.8	3.50	5.9	14.9	20.6	3.50	6.4
Lacrosse TWC	25.9	19.2	3.50	6.9	21.7	18.0	3.35	7.6	21.4	18.0	3.45	7.2
LaCrosse VSP	25.0	18.6	3.59	8.6	24.1	18.0	3.61	9.2	32.2	18.6	3.61	8.2

Note: Frontenac numbers are average of data obtained from 3 separate rows.



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Note: All the shoot thinned treatments of the 4 Arm Kniffen of the rows of Frontenac matured much more quickly than the other treatments. All were harvested at the same time as the other treatments in the rows. By then significant shelling losses had occurred resulting in lower yields than they would have had if harvested when ripe.