Cornell AgriTech
New York State Agricultural Experiment Station

Véraison to Harvest

Statewide Vineyard Crop Development Update #7

October 12, 2018

Edited by Tim Martinson and Chris Gerling

Around New York...

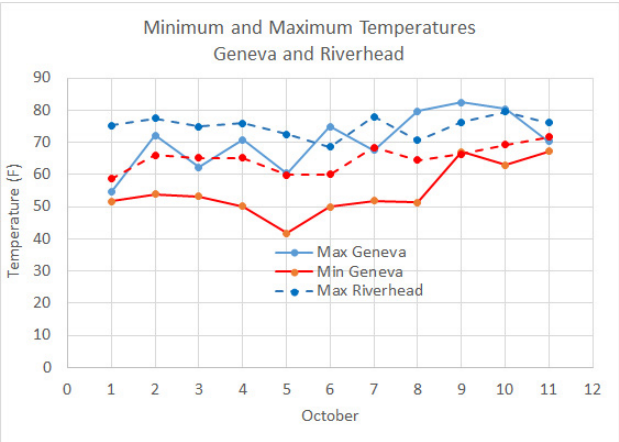
Statewide (Tim Martinson)

With 2/3 of our original blocks harvested (35 remain), harvest is on a downward swing. All but one Cabernet Franc block remains, but 6 of our 16 Riesling blocks have been harvested. Catawba, a couple of Cayuga White (why?) and Chardonnay blocks, two of four Concord blocks, Malbec and two Merlot blocks on Long Island, one Pinot Noir block in the Hudson Valley, two Traminette blocks and one Vidal blanc block are all that remains.

This week's samples have not changed very much. Despite warm and humid days and nights (more on that below) and some sunshine, Brix levels increased by 0, 0.1, 0.3 – and one 0.7° brix increase (Catawba). Acids dropped by 0 to 0.5 g/L (Cab Franc). For most varieties and blocks, its doubtful that letting grapes hang much longer is going to change much. Again, looking at numbers from 2017, acids are pretty much in line, but Brix tend to be 1-2° lower than in 2017.

One might argue that the weather conditions in October are favoring more disease development and fruit breakdown. Here are some figures from October in Geneva and Riverhead:

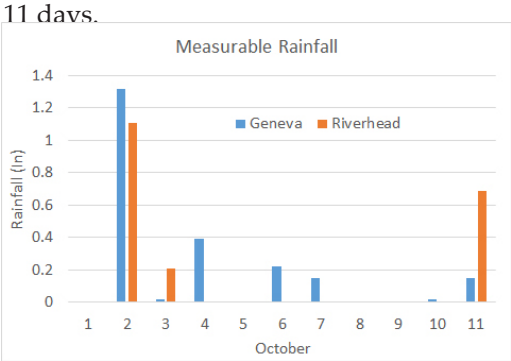
1. Temperatures. Daily maximums have exceeded 60° in the Finger Lakes (FLX), and haven't dipped below 70° on Long Island. Minimum temperatures hovered around 50° in the FLX (above 60° the last three nights), and consistently exceeded 60° on Long Island.



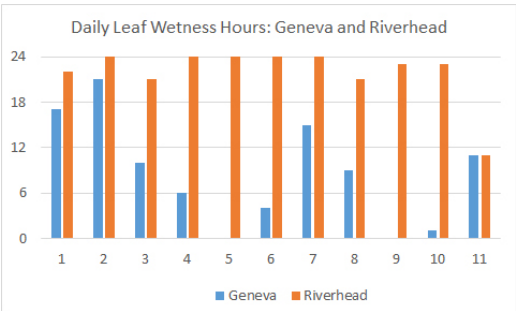
Luann Preston-Wilsey and George Howick *process Riesling from Hans Walter-Peterson's Riesling clonal fruit and wine comparison trial in the Vinification and Brewing Laboratory at Cornell AgriTech.*

Photo by Tim Martinson

2. Rainfall. Both regions got another 1 inch rainfall on Tuesday the 2nd, and Long Island had a followup of ¾ Inch yesterday. The FLX has had measurable precipitation on 7 of the last 11 days.



3. Leaf Wetness. This to me was the most surprising. If we are to believe the NEWA weather station, Long Island has had almost continual leaf wetness (22-24 h leaf wetness), up until yesterday. The FLX has clocked fewer, but has had 6 days of over 6 h leaf wetness.



Continued on page 2

Cornell CALS College of Agriculture and Life Sciences

All this points to a wet close of the harvest season in New York. The weather has been hot and humid or rainy. Fruit composition numbers are not changing. These numbers point to a week-to-two-weeks early end of the harvest season.

Lake Erie (Kevin Martin)

Since our last update another inch of rain has fallen. We have seen a total of 3.04" this month in addition to the 6.23" in September. With an early season, a relatively dry summer and a historically normal sized crop, this harvest season is not quite as easy as anticipated. Local processers are running below capacity as sugar accumulation has been slower than expected. Many Concord growers have brix low enough that loads cannot be harvested during rain. Some load cancellations continue even during periods of dry weather as growers report no accumulation of brix over the last seven days.

Final average brix for the region was anticipated to reach 16.7°. The current average for delivered Concords is 16.0°. To reach forecasted brix we would need to see average brix above 17.5° for the remainder of harvest. In the last week Concords delivered to processing facilitates averaged the same or less than the prior week.

Here at CLEREL and Fredonia our test plots were well ahead of commercial average as you can see in the sample results. Our harvest is thankfully complete as Concords with higher brix have not been holding up well as we observe splitting, shelling, and later season insect/disease pressure.

Despite these challenges we've reached the halfway point in the season and harvest should be wrapped up by October 28th or earlier. National Grape is scheduled to receive final deliveries on October 23rd. Here at CLEREL we are scheduled to finish Concord harvest on October 10th.

Long Island (Alice Wise)

This was another busy week of harvest on Long Island with Chardonnay and reds for rose arriving at the crush pad. Both machine and hand harvest are taking place though blocks with more than a token amount of cluster rot are being field cleaned prior to picking.

At the research vineyard, Chardonnay harvest was finished this week. Last week's Dijon Chardonnay clones (75, 76, 78, 95, 96) came in at 18.9 to 20.1 Brix and 5.6 to 6.0 g. acid. The higher acid clones (4, 5, 15, 17) were picked this week with similar Brix, 18.9-20.0, and slightly higher acids, 6.2-8.0 g/l.

Cluster rot, both *Botrytis* and sour rot, were very reasonable, only minor sorting was necessary. This is somewhat of a surprise given the earlier battle with sour rot on varieties like Sauvignon Blanc. Interestingly, Chardonnay clone 15 had substantially more cluster rot, primarily *Botrytis*, than the other clones, even those such as clone 5 that have large, compact clusters.

Downy mildew *observed on Regent leaves at the Long Island Horticultural Research and Extension Center on October 10.*

Photo by Alice Wise

We also noticed some odd, whole-cluster berry shriveling in clone 4. The rachis was intact and green. The symptoms were not scattered across the planting of clone 4. Rather, there were multiple clusters affected on only 3-4 vines. This week young (3 year-old) Saperavi vines were also picked. Fruit was hit hard by yellow jackets and sour rot was starting to set in. We also saw some berry shrivel in Saperavi; however, with the reds it has always been associated with a desiccated rachis.

Just before the remnants of Hurricane Michael arrived on Oct. 11, we quickly picked our small planting of Lemberger. While it would have been nice to leave it another 5-7 days (in dry, sunny weather), the yellow jackets and other assorted insects were degrading fruit quality and *Botrytis* was kicking in. Letting it hang through a substantial rainy period was too risky.

Last week, the disease status of 2 yr-old Regent vines was discussed. Regent falls into the loosely defined group known as the disease resistant varieties. From last week's Veraison to Harvest: 'However, over two intense downy mildew seasons, there has not been a single DM lesion on the Regent vines. No powdery this season but there was a little in 2017 in September on unsprayed vines.'

After a few substantial rains in October and likely because I made the above statement, both downy and powdery mildew popped up. Infections were first noted on Oct. 10 but had likely been around for a few days. These infections were limited to a few scattered leaves and occurred very late in the season. Nevertheless, this is a good reminder that maybe we need to view these types of varieties as 'disease tolerant' rather than 'disease resistant'.

Finger Lakes (Hans Walter-Peterson)

We all understand that ripening, as measured by increases in sugar content and decreases in acidity, slows down as we get towards the end of the growing season. Temperatures are generally cooler, and day-length is shorter, so it only makes sense that progress of these indicators would gradually slow down by this time of the season. But for the most part, those numbers hardly budged between last week and this week. So what's going on here?

As with any biological system, which is inherently complex, it's probably not just one thing but rather a combination of factors coming together. While I can't say for sure exactly why fruit didn't make much in the way of ripening progress, there are a couple of unique factors that I think are playing a significant role in the problem.

The table below shows the basic weather data at our Teaching Vineyard near Dresden for the seven-day period before this week's samples were collected.

Date	Hi Temp	Lo Temp	Rain (inches)	GDDs	Hrs of RH >90%
10/1	56.1	52.3	0.06	4.2	24
10/2	71.7	53.3	0.62	12.5	23
10/3	62.5	53.7	0.03	8.1	15
10/4	69.3	51.7	0.17	10.5	14
10/5	60.3	42.6	0.00	1.5	3
10/6	77.5	50.5	0.16	14.0	18
10/7	67.6	52.7	0.11	10.2	24

Obviously, it wasn't terribly warm last week so there was less heat and sunlight to drive photosynthesis. Over the past 5 years, we have averaged about 76 GDDs during this seven-day stretch, but this year only had about 61 GDDs, or about 20% less. We also had a fair share of rain over that time period – in this case, just over 1.1" for the week (rainfall amounts varied depending on location). We certainly would like to see less rain than that during ripening and harvest, but it isn't all that unusual either.

What has been unusual over the past couple of weeks, however, is the number of hours of high humidity (greater than 90% relative humidity, in this case) that we have had relative to the past few years. What does this have to do with ripening? It comes down to transpiration – the process of moving water out of the berry and into the outside air.

At veraison, one of the changes that occurs in grapevines is that the primary source of water moving into the berries changes from the xylem vessels to the phloem. After veraison, very little water actually makes its way from the roots to the berries. Instead, most of the water enters via the phloem, which are the vessels that carry sugars into the berries. Excess water is then transpired through the skin and out into the air, or transported back out of the berry through the xylem and back into the shoots and leaves (Keller, 2015).

Under high humidity conditions, however, less water is able to transpire from the berries and is therefore retained in the fruit. In addition, the grapes can also take up water through the skins themselves during rainfall or when heavy dews settle into the vineyard, adding to the water content in the berries.

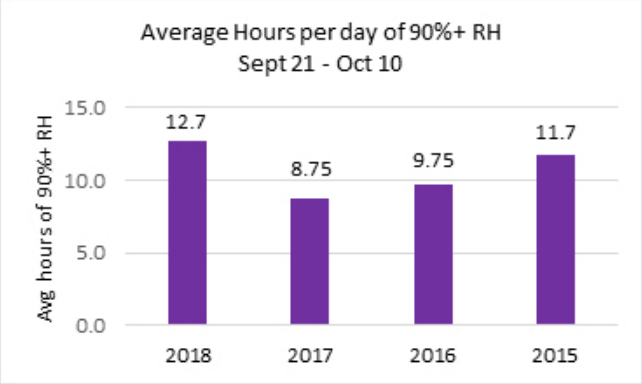
Cracking results from berries' inability to move excess water out through the xylem or transpiration across the skins.

Photo by Hans Walter-Peterson

All of this adds up to your basic dilution effect. All else being equal, if we had warm and dry conditions, we probably would have seen some more movement in these fruit chemistry measurements. As we've seen, that hasn't been the case this week.

On a related note, this is probably also part of the reason that we have been experiencing so much sour rot pressure this year. When the berries are unable to remove enough excess water because of high humidity, and then take up additional water through the skins because of rain or dew, the internal pressure of the water eventually exceeds the resistance force of the grape skin and causes cracking, allowing for infections by botrytis and the microbial complex that causes sour rot.

With this in mind, I looked back to see how the past few weeks have compared to the same period in previous years with regard to high humidity conditions. Most of the newer weather stations that are connected to the NEWA weather network record the number of hours each day where the relative humidity (RH) exceeds 90%. For the period from September 21 – October 10 this year, we averaged 12.7 hours of the day with over 90% RH. For the same period in 2017 and



2016, we averaged 8.7 and 9.7 hours per day with 90%+ RH, respectively. If you recall last season, we had significantly less sour rot develop last year, thanks in part to less rainfall but also perhaps due to lower humidity conditions which helped to reduce berry cracking. In 2015, a year with greater amounts of sour rot than normal, we averaged just under 12 hours/day of high humidity conditions.

Like I said, I'm not sure that this humidity factor is the entire answer to the ripening question (things like soil conditions, foliar infections of mildews and the like can certainly also be involved), but given the conditions that the Finger Lakes has been experiencing the past couple of weeks, it's pretty likely that this is playing a role in both our ripening and bunch rot issues this year.

Reference:

Keller, M. 2015. The Science of Grapevines: Anatomy and Physiology, 2nd Edition. Academic Press, Boston.

Hudson/Champlain (Jim Meyers)

"Anger is an acid that can do more harm to the vessel in which it is stored than to anything on which it is poured."

-- Mark Twain

Eastern New York's Marquette is out of the vineyards and into the tanks, now under the care of winemakers who are pondering how best to manage the acid levels toward a finished wine. Winemakers have a variety of tools to choose from including deacidificaiton, yeast selection, malolactic fermentation, blending, and sweetening.

But what can growers do to help prior to harvest? As demonstrated in last week's article, Marquette can be grown throughout eastern New York and ripened to a similar balance between Brix and titratable acidity (TA). However, not all of the vineyards were able to achieve optimal balance. Furthermore, two wines with the same TA values do not necessarily have the same acid profile.

The two primary acids in TA are tartaric and malic. Tartaric acid is considered to be the better of the two primarily because it is more effective at lowering pH (which reduces probability of spoilage), and that it is easier to remove when TA is too high.

In issue #3, a small bit of data was presented showing the ratio of tartaric to malic acid. The wine analysis lab graciously ran an extra test for me that week for the purpose of facilitating a segue to a later conversation about acid profiles.

The previously presented data is too limited (only three vineyards on a single day) to draw any broad conclusions about GDD accumulation and acid profiles, but it sufficient to notice that the ratio of tartaric to mailc acid can be quite different in two different vineyards at the same day of the year. It is also worth noting that the data showed that the coldest of the three vineyards had the highest tartaric/malic ratio.

That is an unexpected result because malic acid is metabolized as ripening continues, therefore it is expected that tartaric/malic ratios should increase with more GDDs.

Perhaps the three vineyards which all finished with similar Quality Index scores have substantially different acid profiles? The answer to that is not known, and worthy of future study.

But something is known about the effect of sunlight exposure on acid profiles in Marquette when grown in a northern NY climate. Tim Martinson and Chrislyn Particka studied this as part of the Northern Grapes Project (http://northerngrapesproject.org/wp-content/uploads/2016/02/NY-shaded-vs-exposed-Year-4.pdf).

They found that fruit that was exposed to higher levels of sunlight had lower acid and higher tartaric/malic ratios in both Frontenac and Marquette. This effect was shown to not simply be a reduction in tartaric/malic ratios due to decreased malic. The exposed clusters were found to contain more tartaric acid than shaded, so the improved ratio was due to a double effect (Figure 1).

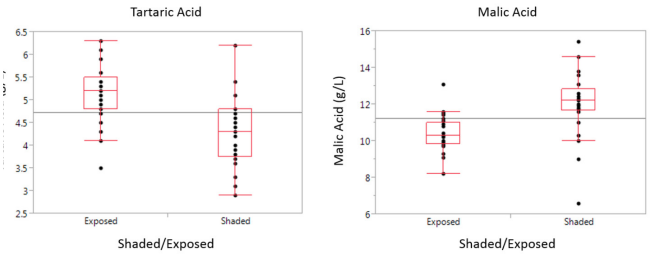


Figure 1. *Tartaric and malic acid composition of shaded and exposed Marquette clusters at harvest in 2015.*

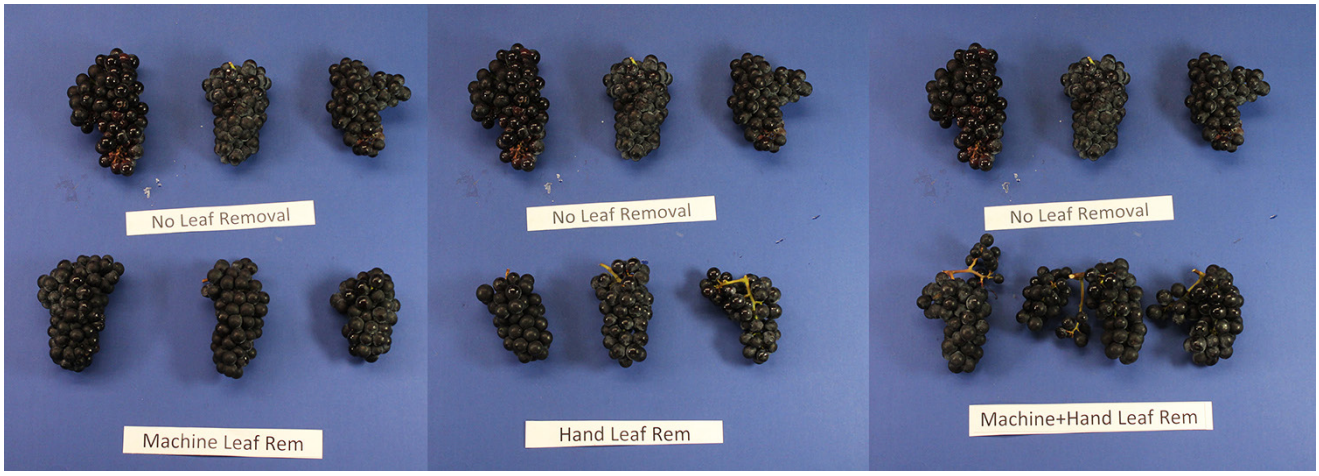
Figure by Tim Martinson and Chrislyn Particka

The authors also determined that choice of training system, comparing VSP cordon, high-wire cordon, and umbrella Kniffen had no direct effect on fruit chemistry. Thus, any of these three training system could improve fruit chemistry of the canopy is managed to increase cluster sunlight exposure.

However, they also found that VSP yields were substantially lower than both high-wire cordon and umbrella Kniffen -- something seemingly corroborated by Alice Wise in issue #2 of this year's *Veraison to Harvest.*

Mechanical and Hand Leaf removal in Pinot noir reduced incidence and severity of cluster rots

Tim Martinson



Representative Pinot Noir clusters *harvested from vines subjected to mechanical or hand leaf removal. Clusters from untreated vines at top.*

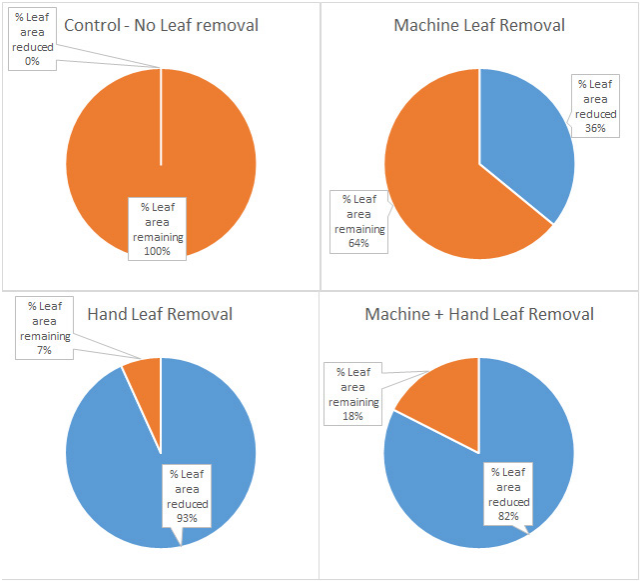
Photo by Tim Martinson

This year we repeated a trial with the Collard mechanical leaf removal machine, which uses pulsed air (instead of suction and cutting blades) to shred leaves in the cluster zone. Several trials have demonstrated that removing leaf nodes 1-5 (from base of shoot) can reduce cluster compactness and thereby reduce fruit rots.

The trial took place this year at a Pinot Noir vineyard near Geneva. We worked with the grower-cooperator to apply mechanical leaf removal to two 153-vine rows. The Collard "Raptor" machine was set at 0.8 bar pressure, with the PTO at 540 RPM, and a tractor speed of 2.4 km/hour. We turned the machine off or on every 4th post length (5 vines per panel) to establish thinned and unthinned areas. On three 'count' vines in both the machine-thinned and unthinned areas, we manually removed leaves 1-5 in the cluster zone.

So there were four treatments: 1) Control – no leaf removal, 2) Machine only; 3) Hand leaf removal only, and 4) Machine + Hand leaf removal. Leaf removal treatments occurred on June 13 at trace bloom.

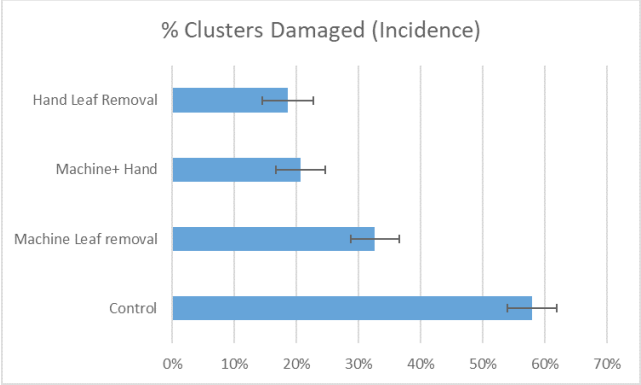
1. Area of leaves removed. On count vines, we estimated how much leaf area each treatment removed. Control vines retained 100% of their leaf area. One pass with the Collard removed 36% of the leaf area. Hand leaf removal reduced leaf area by 93%, and the Machine+Hand treatment removed 82% of the leaf area.



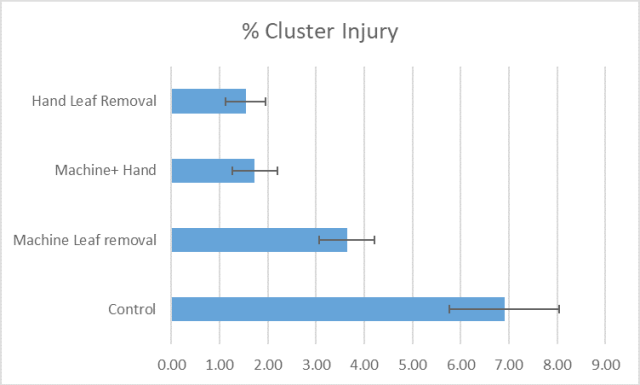
2. Cluster compactness: We measured cluster weight and rachis length to come up with an estimate of grams of fruit per centimeter of rachis. These data are not yet entered and analyzed, but photos of typical clusters (see photo previous page) would indicate that there was some change in cluster compactness in thinned fruit.

3. Fruit Rot ratings: We rated 10 clusters on each count vine for the presence of fruit rots, and estimated the percentage of the cluster that was diseased. This block was amazingly clean, due to aggressive canopy management, fruit thinning, and post-bloom leaf removal that was applied at fruit set – a few weeks after we applied our treatments

4. Incidence (Percentage of clusters with ANY disease). The 'Control' vines had 55% of the clusters with at least some visible disease (sour rot or botrytis, even on 1 berry). Machine leaf removal at trace bloom reduced the incidence almost by half (33%), and hand leaf removal reduced it by about two-thirds.



5. Severity (% of cluster area diseased). Botrytis and sour rot levels were pretty low at 7% even in the 'Control' vines that hadn't been thinned. Yet both mechanical leaf removal alone (3%) and both the hand removal (1.5%) treatments dramatically reduced cluster area with Botrytis and/or sour rot – cutting it by one-half (Mechanical alone) to three-quarters (Both the hand and mechanical + hand treatments).



Is Mechanical leaf removal at trace bloom worth it? This and other trials (see Vineyard scale leaf removal reduced fruit rot in Pinot Gris in last year's Veraison to Harvest #8) have demonstrated that trace-bloom leaf removal can reduce cluster compactness and incidence and severity of fruit rots. The air-pulse type mechanical leaf removal machines make it more economically feasible – especially for high-value varieties with tight clusters that are prone to fruit rots.

Fruit Composition Report - 10/08/2018

Samples reported here were collected on Monday 10/08. Where appropriate, sample data from 2017, averaged over all sites is included. Tables from 2017 are archived at http://grapesandwine.cals.cornell.edu/newsletters/veraison-harvest. Next samples will be collected on **Monday, October 15**. Brown text indicates final sample for each variety.

Baco Noir

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Hudson Valley	9/10/2018	Southwest HV	HARVEST				
Final sample	9/10/2018	Southwest HV	1.18	18.4	3.38	11.0	418
'17 Final Sample	9/11/2017		1.61	16.9	2.78	15.4	

Cabernet Franc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/8/2018	W. Seneca	1.42	20.2	3.22	6.9	
Finger Lakes	10/8/2018	Cayuga	1.42	19.8	3.28	6.6	
Finger Lakes	10/8/2018	Keuka	1.47	20.9	3.30	6.5	
Finger Lakes	10/8/2018	Lansing	1.54	19.6	3.33	6.6	
Finger Lakes	10/8/2018	Wayne County	1.56	20.1	3.22	7.9	
Finger Lakes	10/8/2018	E. Seneca	1.63	19.8	3.33	6.9	
Hudson Valley	10/8/2018	Southwest HV	1.69	18.5	3.65	6.2	
Hudson Valley	10/8/2018	East Central HV	1.72	17.2	3.44	7.4	
Long Island	10/8/2018	LI-09	1.71	17.3	3.60	6.0	
Long Island	10/8/2018	LI-05	2.14	17.5	3.61	5.5	
Finger Lakes	10/8/2018	Dresden	HARVEST				
Average	**10/8/2018**		**1.63**	**19.1**	**3.40**	**6.6**	
Prev Sample	10/1/2008		1.60	19.0	3.36	7.2	142
'17 Average	10/9/2017		1.42	21.0	3.35	7.0	135

Catawba

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/8/2018	Keuka	2.64	17.8	3.02	8.4	
Prev Sample	10/1/2018	Keuka	2.68	17.1	3.05	9.0	96
'17 Sample	10/9/2017	Keuka	3.28	15.5	2.94	8.6	36

Cayuga White

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/8/2018	Dresden	3.05	21.0	3.37	6.6	
Finger Lakes	10/8/2018	Keuka	3.33	18.3	3.29	7.3	
Finger Lakes	9/17/2018	Cayuga	HARVEST				
Finger Lakes	10/1/2018	Ithaca	HARVEST				
Average	**10/8/2018**		**3.19**	**19.7**	**3.33**	**7.0**	
Prev Sample	10/1/2018		3.05	19.4	3.31	7.0	266
'17 Final Sample	10/2/2017		2.92	20.1	3.12	7.9	146

Chardonnay

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/1/2018	Cayuga	HARVEST				
Finger Lakes	10/8/2018	W. Seneca	HARVEST				
Finger Lakes	10/1/2018	Lansing	HARVEST				
Finger Lakes	9/24/2018	Dresden	HARVEST				
Lake Erie	10/8/2018		1.61	19.6	3.38	6.9	
Long Island	10/8/2018	LI-03	1.92	18.5	3.52	7.3	
Average	**10/8/2018**		**1.77**	**19.1**	**3.45**	**7.1**	
Prev sample	10/1/2018		1.61	18.2	3.40	8.8	271
'17 Final Sample	10/2/2017		1.62	19.7	3.12	9.2	199

Concord

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/8/2018	Keuka	HARVEST				
Finger Lakes	10/8/2018	W. Canandaigua	HARVEST				
Lake Erie	10/8/2018	Fredonia	3.00	16.4	3.15	10.1	
Lake Erie	10/8/2018	Portland	HARVEST				
Average	**10/8/2018**		**3.00**	**16.4**	**3.15**	**10.1**	
Prev. Sample	10/1/2018		2.92	17.3	3.27	7.7	191
'17 Sample	10/9/2017		4.20	16.2	3.44	3.9	92

Corot Noir

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/8/2018	Dresden	2.44	18.8	3.33	6.3	
Prev Sample	10/1/2018	Dresden	2.31	18.8	3.38	6.0	96
'17 Sample	10/9/2017		2.43	18.0	3.19	7.4	66

Frontenac

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Champlain Valley	9/24/2018	Central Champlain	HARVEST				
Hudson Valley	10/1/2018	Northeast HV	HARVEST				
Champlain Valley	10/8/2018	Cent Champlain (gris)	HARVEST				
'18 Final Sample	**10/1/2018**		**1.21**	**24.0**	**3.08**	**12.6**	**194**
'17 Final Sample	9/25/2017		1.21	22.4	3.31	9.7	

Gruner Veltliner

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/24/2018	Dresden	HARVEST				Finger Lakes
Final Sample	9/17/2018	Dresden	1.79	20.3	3.33	5.5	133
'17 Final Sample	9/25/2017	Dresden	1.65	17.8	3.11	6.9	

La Crescent

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Champlain Valley	9/10/2018	Central Champlain	HARVEST				
Champlain Valley	9/24/2018	'Northern Champlain	HARVEST				
Finger Lakes	9/24/2018	Geneva	HARVEST				
Hudson Valley	9/24/2018	Northwest HV	HARVEST				
Final Sample	9/17/2018		1.17	23.6	2.99	13.7	84
'17 Final Sample	10/2/2017		1.45	24.8	3.08	13.5	105

Lemberger

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/8/2018	Keuka	HARVEST				
Finger Lakes	10/8/2018	Dresden	HARVEST				
'18 Final sample	10/1/2018		2.01	20.3	3.21	7.6	143
'17 Final Sample	10/9/2017		2.09	20.5	3.13	8.5	112

Malbec

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Long Island	10/8/2018	LI-06	2.32	18.6	3.72	6.9	
Prev. sample	9/24/2018	LI-06	2.59	17.2	3.50	8.2	
'17 sample	10/9/2017	LI-06	2.26	20.6	3.57	7.3	161

Marechal Foch

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Hudson Valley	9/24/2018	Northeast HV	HARVEST				
'18 Final sample	9/17/2018	Northeast HV	1.39	22.7	3.50	10.8	204
'17 Final Sample	10/2/2017	Northeast HV	0.86	23.0	3.32	9.0	160

Marquette

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Champlain Valley	10/8/2018	Northern Champlain	HARVEST				
Champlain Valley	9/24/2018	Central Champlain	HARVEST				
Finger Lakes	9/24/2018	Dresden	HARVEST				
Finger Lakes	9/24/2018	West Keuka	HARVEST				
Hudson Valley	10/8/2018	Northwest HV	HARVEST				
Hudson Valley	9/24/2018	Northeast HV	HARVEST				
Hudson Valley	9/10/2018	Northeast HV	HARVEST				
Lake Erie	9/17/2018	Fredonia	HARVEST				
'18 Final Sample	**10/1/2018**		**1.48**	**22.9**	**3.15**	**11.4**	**226**
'17 Final Sample	10/2/2017		1.38	23.8	3.05	12.2	286

Merlot

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Hudson Valley	10/8/2018	East Central HV	1.56	16.9	3.46	8.8	
Long Island	10/8/2018	LI-04	1.88	18.0	3.66	5.5	
Long Island	10/1/2018	LI-10	HARVEST				
Average	**10/8/2018**		**1.72**	**17.5**	**3.56**	**7.2**	
Prev sample	10/1/2018		1.71	19.0	3.38	8.5	200
'17 Sample	10/9/2017		2.00	19.6	3.70	5.9	244

Niagara

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Lake Erie	9/24/2018	Portland	HARVEST				
'18 Final Sample	9/17/2018	Portland	3.60	14.2	3.21	7.5	210
'17 Final Sample	9/11/2017	Portland	3.35	14.2	3.15	6.1	Lake Erie

Pinot Noir

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/1/2018	W. Cayuga	HARVEST				
Finger Lakes	9/24/2018	E. Seneca	HARVEST				
Finger Lakes	10/1/2018	Ontario	HARVEST				
Hudson Valley	10/8/2018	East Central HV	1.22	19.2	3.80	8.0	
Hudson Valley	9/24/2018	Southwest HV	HARVEST				
Average	**10/8/2018**		**1.22**	**19.2**	**3.80**	**8.0**	
Prev sample	10/1/2018		1.40	18.7	3.80	6.7	236
'17 Final Sample	10/2/2017		1.44	20.5	3.25	7.6	79

Riesling

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/8/2018	CL 90 Cayuga	1.49	17.6	3.00	10.2	
Finger Lakes	10/8/2018	W. Seneca	1.50	18.6	3.05	8.3	
Finger Lakes	10/8/2018	Cl 90, E. Seneca	1.58	18.5	3.03	7.7	
Finger Lakes	10/8/2018	Cl 239, E. Seneca	1.59	18.4	3.10	7.3	
Finger Lakes	10/8/2018	Lansing	1.60	17.3	3.09	7.6	
Finger Lakes	10/8/2018	Wayne County	1.62	16.6	3.08	9.1	
Finger Lakes	10/8/2018	Keuka	1.66	17.7	3.03	8.7	
Finger Lakes	10/8/2018	E. Seneca	1.70	17.4	3.13	8.7	
Finger Lakes	10/8/2018	W. Canandaigua	HARVEST				
Finger Lakes	10/8/2018	Cl 198, E. Seneca	HARVEST				
Finger Lakes	10/8/2018	Dresden	HARVEST				
Hudson Valley	10/8/2018	East Central HV	1.28	15.5	3.26	9.6	

Hudson Valley	10/8/2018	East Central HV	1.55	15.3	3.21	10.5	
Hudson Valley	10/1/2018	Southwest HV	HARVEST				
Lake Erie	10/8/2018	Portland	HARVEST				
Long Island	10/8/2018	LI-01	HARVEST				
Average	**10/8/2018**		**1.56**	**17.3**	**3.10**	**8.8**	
Prev Sample	10/1/2018		1.53	17.4	3.10	9.1	118
'17 Sample	10/9/2017		1.62	18.5	3.10	8.8	110

Sauvignon Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Long Island	9/24/2018	LI-02	HARVEST				
Final Sample	9/17/2018	LI-02	1.59	17.6	3.37	8.9	122
'17 Final Sample	9/18/2017	LI-02	1.68	19.7	3.29	8.6	198

Seyval Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/10/2018	Cayuga	HARVEST				
Hudson Valley	9/10/2018	Southwest HV	HARVEST				
Lake Erie	9/10/2018	Portland	HARVEST				
Final Sample	9/10/2018		1.81	17.3	3.22	7.1	
'17 Final Sample	9/18/2017		1.69	19.5	3.15	8.1	137

Tocai Friulano

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Hudson Valley	9/24/2018	Block B E Central HV	HARVEST				
Hudson Valley	9/24/2018	Block A E Central HV	HARVEST				
'18 Final Sample	9/24/2018		1.65	17.3	3.44	6.4	

Traminette

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/8/2018	Keuka	1.87	17.5	3.01	9.7	
Finger Lakes	10/8/2018	Ithaca	1.89	18.4	3.06	9.9	
Average	**10/8/2018**		**1.88**	**18.0**	**3.04**	**9.8**	
Prev Sample	10/1/2018		1.84	17.9	2.99	10.1	170
'17 Sample	10/9/2017		2.01	20.8	2.94	9.9	107

Vidal Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	10/8/2018	Dresden	2.02	21.8	3.27	7.5	
Prev Sample	10/1/2018	Dresden	1.97	21.5	3.28	7.8	176
'17 Sample	10/2/2017	Dresden	2.30	17.8	3.06	10.8	184

Vignoles

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	9/24/2018	VSP Keuka	HARVEST				
Finger Lakes	9/24/2018	W. Seneca	HARVEST				
Finger Lakes	9/24/2018	R53V30	HARVEST				
Finger Lakes	9/24/2018	R62V78	HARVEST				
Finger Lakes	9/24/2018	R59V25	HARVEST				
Lake Erie	9/24/2018	R53V30	HARVEST				
Lake Erie	9/24/2018	R59V25	HARVEST				
Final Sample	9/17/2018		1.30	23.2	3.22	12.7	288
'17 Final Sample	9/25/2017		1.67	22.8	2.92	19.9	

Early Selections from Reisch Breeding Program Showing no Cluster Rots

Tim Martinson and Bruce Reisch

In photos taken recently, a few selections from Bruce Reisch's breeding program were standouts. In spite of a challenging season for fruit rots, these selections incorporating marker-assisted selection for downy mildew (*Rpv1* gene) and powdery mildew (*Run1* and *Ren2*) and grown without fungicide applications, also showed little evidence of fruit rots.

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

Veraison to Harvest is a joint publication of:

Cornell Enology Extension Program
Statewide Viticulture Extension Program
Long Island Grape Program - Suffolk CCE
Finger Lakes Grape Program
Lake Erie Regional Grape Program
Eastern NY Commercial Horticulture Program