

VERAISON TO HARVEST

Statewide Vineyard Crop Development Update #1

August 29th, 2008



Cornell University
Cooperative Extension

About This Newsletter...

Timothy E. Martinson

Welcome to the first 2008 issue of *Veraison to Harvest*.

This marks our second year of providing this weekly update on crop development and maturation to growers and wineries across New York and Erie County, Pennsylvania.

The content of this newsletter represents the joint efforts of Cornell/Penn State's Lake Erie Regional Grape Extension Program, and Cornell Cooperative Extension's Finger Lakes Grape Program, Long Island Grape Program (CCE Suffolk Co.), Hudson Valley Fruit Team, Statewide Viticulture and Enology Extension programs, and the NY Wine Analytical Laboratory housed at the NYS Agricultural Experiment Station in Geneva.

Each week, we will bring you analytical results of berry samples from the four major viticultural regions of NY, regional updates on factors impacting crop development and harvest timing, and updates for winemakers on timely topics and considerations related to vinification procedures. We hope this information will be timely, useful, and helpful, to assist you in making the best possible decisions to produce high quality grapes and wines.

Chris Gerling, our new Enology Extension Associate (since March) will play a major role in co-editing and producing articles for these updates, along with colleagues Alice Wise, Hans Walter-Peterson, Jodi Creasap, Terry Bates, Steve Hoying and Steve McKay.

Special thanks goes to the **New York Wine and Grape Foundation's Total Quality Focus program** for funding this newsletter and the associated sampling throughout New York.



Pre-veraison botrytis infection in Chardonnay in the Finger Lakes.

Photo by Hans Walter-Peterson

Around New York...

Last year at this time, we were talking about drought stress and reduced berry weight across NY - and the prospect of a compressed, early harvest season. This year, growers have had ample soil moisture, and have been coping with excess vigor instead of drought stress. The crop in Finger Lakes hybrid and *vinifera* vineyards looks heavy - with good fruit set, and apparently fruitful buds in many cases (higher average clusters per retained nodes) in my opinion.

Numbers for brix, berry weight, pH and acids don't look terrifically different from last year's numbers (see fruit maturation table, pp. 4-6) at this point. At 17 brix, Cayuga White in the Hudson valley looks fairly close to the traditional 18 brix harvest point for this variety (higher brix levels in Cayuga are often associated with emergence of a *Labrusca*-type note in the flavor profile). Seyval blanc and Marechal Foch are in the same range, although acids are a bit higher than last year at this point.

Several of the hybrid sample blocks (particularly Hudson Valley and Lake Erie) have paired samples with either shoot or cluster thinning side-by-side with unthinned vines. We'll explain this in future issues of *Veraison to Harvest*.

Following this week's newsletter, we'll take a break for the short labor day week and resume in two weeks. - TEM

Lake Erie (Jodi Creasap Gee). We started the season early with warm weather in April, but cool temperatures and plenty of rain in May slowed us back down to an average growing season. We've had a rather wet season with just under 30" of rain already. As a result, we have seen a lot of vigor in our vineyards across the Lake Erie and Niagara regions. Crop loads in this region ranged from excessive for our growers in Erie County, PA, to minimal for our growers in Erie County, NY, where a late April frost killed many primary and secondary buds, leaving almost no fruit on the vines. With the processors increasing standards again this year, several growers who had well-above average crop loads thinned down to more manageable yields to ensure adequate ripening. Sunny days, cool nights,

and a few days without rain have started the ripening period, with a variety or two already being picked earlier this week. The wine varieties look good where growers have been on top of disease controls, but those who were lax are seeing significant powdery and downy mildew infections. Growers are, so far, optimistic about their yields this year.

Long Island (Libby Tarleton). Veraison on Long Island is progressing smoothly with whites nearly finished and reds past the halfway mark. Merlot is further along than Cabernet Sauvignon. As of August 24th we are slightly behind 2007 in Growing Degree Day (GDD) accumulation, with 2331 GDD in 2008 and 2366 in 2007. Rainfall in 2007 averaged 3.1” per month for the months of June, July and August. Compared to this year where we averaged 3.7” with 3.55” of rain in August (as of August 24th). The rain this month was concentrated at the beginning and the past 10 days have been dry and cool. Bird pressure has been low so far in the research vineyard and since the entire farm was fenced last fall, deer pressure has not been an issue – unfortunately it won’t keep out the other wildlife.

Finger Lakes (Hans Walter-Peterson) It’s hard to believe that we have already reached harvest season for 2008, but here it is. Aurore harvest for Constellation Wines will begin next week, and pickers, both mechanical and human, will be out in vineyards for the next three months until harvest wraps up sometime in late October. The 2008 growing season has been a more challenging one for grape growers than last year. Above average precipitation in June and July has created significant disease pressure in vineyards. Given this year’s conditions, most growers have done a commendable job in keeping powdery mildew, downy mildew and black rot down to a dull roar, although it has come at a price – as chemical costs have escalated dramatically over the past year. Downy mildew infections, particularly on foliage, have become more prevalent over the past few weeks, however, and growers are continuing to use materials appropriate for later season control (e.g., copper, phosphorous acid products, and captan) to keep these from reaching a critical mass and defoliating vines.

The other significant disease issue at this point is *Botrytis*. There have been several observations of botrytis infections appearing prior to veraison this year, particularly in Chardonnay. This means that there is a very good potential for high levels of botrytis infection this year as fruit softens, particularly in tight-clustered varieties such as Chardonnay, Pinot Noir, Pinot Gris, and Vignoles. In years such as this where multiple botrytis sprays might be applied, growers need to remember to rotate chemistries used for botrytis control for purposes of resistance management.

Looking at this first set of fruit data, berry weight and brix

appear to be pretty close to the values obtained at this point in the season last year. The past week in the Finger Lakes has been relatively cool and dry, but warmer temperatures and dry conditions are supposed to return by the weekend.

Hudson Valley (Steve Hoying and Steve McKay).

Weather conditions in the Hudson Valley have been consistently warm and dry with cool nights the past 2 week with excellent conditions for development and ripening. Most varieties have passed veraison, and color development looks uniform on all varieties particularly the later red varieties such as Cabernet Franc and Cabernet Sauvignon. Soluble solids in the early varieties, Marechel Foch and Leon Millot are at 24.1 and 23.7 °Brix, respectively, at the Hudson Valley Lab vineyard and they will be ready for harvest soon. Disease pressure has been low although *Botrytis*, powdery mildew and downy mildew can be found—and with the predicted humidity and rain over the weekend may become a problem. Bird pressure is high and vineyards that have been netted are benefiting.

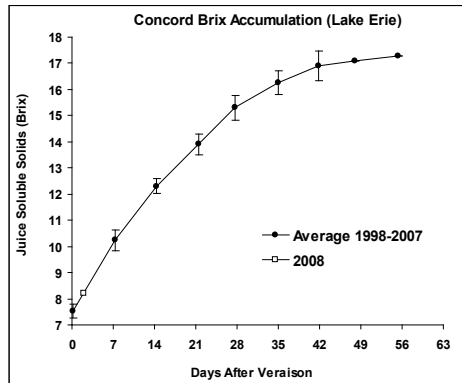
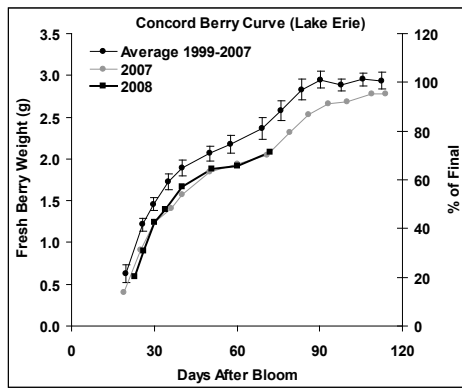
CONCORD RIPENING PROFILE AT FREDONIA -
AUGUST 25

Terry Bates, Cornell Vineyard Laboratory



Official Concord bloom and veraison, measured by Kelly Link at the Portland Lab phenology blocks, was June 14th and August 23rd. These dates were one day earlier than the long-term average for western New York. Interestingly, bloom and veraison predictions from May 1st based on Lake Erie spring heat accumulation were June 13th and August 21st. These close dates again illustrate the influence of Lake Erie on early season Concord development.

Concord fresh berry weights from 120 node pruned Concord with a full crop (predicted 10 tons/acre) are slightly below the 9-year average but nearly identical to 2007. (See Graphs on p. 3). Current berry weight is just about 2.0 grams at veraison. Juice soluble solids just after veraison is also on average at 8.2 Brix. With adequate soil moisture across the Lake Erie belt and fair weather conditions predicted in the 10-day outlook, berry weight and brix accumulation are predicted to progress at average to above average rates over the next week.



BERRY SAMPLING AND HARVEST DECISIONS

Chris Gerling

“Choosing the right day to harvest is as important as all the rest of the winemaking process summed up together.”

-Alessio Dorigo, Dorigo Winery, Friuli Italy



Bold words. Whether or not you entirely agree with the above statement, you have something to think about as you head out into the vineyard to try and get an idea of the maturity of your fruit. Berry sampling is the way that most of us get information about the relative ripeness of the grapes in question, and the eternal challenge is getting representative,

consistent samples. We know that the numbers are not the whole story, but the numbers are a relatively objective measure that we can all talk about. Regular measurements (weekly or at some consistent interval) are also helpful as an indicator of how ripening is progressing. Here are a few tips for getting results that might mean something:

- Consistency is key. Try to have the same person using the same method at the same time of day. Maybe you're a little high or low on numbers, but you stand a better chance of accurately reflecting the week-to-week changes.

- Morning, after dew is dry but before lots of hot sun is generally thought to be a pretty good time (it's more important to be consistent than at any particular time, in my opinion). People generally use the high precision tool kit of gallon size sealable plastic bags and coolers with some cold packs. Using sealable (zip top) bags becomes very important to the person who is squishing the samples by hand.
- Larger samples are better than smaller samples. We know that. But samples with larger berries are not better than samples with smaller berries, especially if the vineyard block doesn't skew that way (see that? This is like polling data with slightly less nausea). We want the largest sample that can be reasonably gathered in a representative way. How do we do that?
- Walk the vineyard. Skip the end rows and move around enough that the entire block is being represented. You're not looking for the ripeness of the 20 foot area closest to the car.
- Vine and cluster positioning. The position of the cluster on the vine and the berry in the cluster will have an impact. In the protocol given for the veraison to harvest project, samplers are asked to pick 3 berries top or mid-cluster for every 1 tip berry. Mark Chien at Penn State said that he prefers whole cluster sampling because now you've eliminated the cluster position problem. Definitely more squishing though.
- Many people recommend sampling blind. The idea is not to look at the vine while picking the berries (or clusters). This can be tricky in practice, and it may be just as good to consciously try to vary the locations in the vine as you go. Either way, consistency is probably the best bet. Also, watch out for yellow jackets.

As I said earlier, numbers are not the whole story. There are other considerations that will indicate that the berries are becoming mature. Visual cues like browner stems, looser, softer berries and the presence of birds and bees (they're not stupid) can complement regular tasting to determine maturity. If you'd like to get a better handle on quantifying sensory assessments, there will be a **seminar on berry sensory analysis on Friday, September 12 in Lockport**. Contact Nancy Long at npl1@cornell.edu or 315-787-2288 to register.

Continued on page 3

FRUIT MATURATION REPORT

Samples reported here were collected on **Monday, August 25, 2008**. Where appropriate, sample data from 2006, averaged over all sites (mostly Finger Lakes), is included. Tables from 2007 are archived at: : <http://blogs.cce.cornell.edu/grapes/07-veraison-to-harvest-archive/> Next samples will be collected **Monday, September 8**.

Cabernet Franc

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	8/25/08	FL-9	1.00	11.9	2.60	26.2	9.5	12.4	0.0
Finger Lakes	8/25/08	FL-10	1.10	11.3	2.62	25.4	8.6	12.6	0.0
Finger Lakes	8/25/08	FL-11	1.40	13.2	2.87	18.6	7.8	8.8	0.6
Hudson Valley	8/25/08	11-HV-CF-4	1.02	14.6	2.74	19.4	7.4	9.0	0.0
Long Island	8/25/08	1-LI-CF	1.50	12.9	2.85	18.8	6.8	9.5	0.0
Long Island	8/25/08	5-LI-CF	1.43	13.8	2.86	19.0	6.7	9.8	0.1
Lake Erie	8/25/08	12-LE-CF	1.45	12.1	2.61	25.0	8.4	12.4	0.0
Average			1.27	12.8	2.74	21.8	7.9	10.6	0.1
07 Average	8/27/07		1.11	11.7	2.73	23.6	8.6	11.4	0.1
'06 Average	8/29/08		1.32	12.3	2.82	21.5	7.1	11.5	0.1

Cabernet Sauvignon

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Lake Erie	8/25/08	9-LE-CS	0.93	11.9	2.65	27.4	9.5	13.9	0.1
Long Island	8/25/08	2-LI-CS	1.15	14.4	2.84	21.8	7.9	11.0	0.1
Average			1.04	13.2	2.75	24.6	8.7	12.5	0.1
07 Average			1.07	15.6	2.75	22.0	8.6	10.5	0.02

Chardonnay

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	8/25/08	FL-21	0.90	13.2	2.77	18.7	6.6	9.2	0.0
Hudson Valley	8/25/08	12-HV-C-4	1.28	17.1	2.90	15.6	5.9	7.5	0.2
Long Island	8/25/08	7-LI-CH	1.36	15.1	2.91	17.5	6.3	9.0	0.0
Average			1.18	15.1	2.86	17.3	6.3	8.6	0.1
'07 Average			1.35	14.8	2.94	15.4	6.3	7.3	0.07

Lemberger

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	8/25/08	FL-12	1.40	15.6	2.71	17.1	8.2	6.4	0.0
Finger Lakes	8/25/08	FL-13	1.40	13.1	2.83	18.3	8.1	8.4	0.6
Average			1.40	14.4	2.77	17.7	8.2	7.4	0.3
'07 Average	8/27/07		1.50	14.9	2.79	16.8	7.8	6.7	0.1
'06 Average	8/29/06		1.60	14.7	2.9	17.2	7.4	7.7	0.1

Merlot

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Long Island	8/25/08	3-LI-M	1.54	15.2	2.91	14.3	6.4	6.2	0.0
Long Island	8/25/08	6-LI-M	1.44	14.9	2.94	14.5	6.1	6.7	0.1
Average			1.49	15.1	2.93	14.4	6.3	6.5	0.1
'07 Average			1.55	14.2	2.89	16.3	6.7	7.6	0.1

Pinot Noir

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Hudson Valley	8/25/08	15-HV-PN-4	1.19	16.4	2.95	13.5	6.3	5.6	0.3
Hudson Valley	8/25/08	16-HV-PN-5	1.57	14.6	2.80	20.0	6.9	10.4	0.0
Average			1.38	15.5	2.88	16.8	6.6	8.0	0.2

Riesling

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	8/25/08	FL-14 -Cl 90	1.20	11.6	2.59	25.8	9.0	12.5	0.0
Finger Lakes	8/25/08	FL-15- Cl 90	1.20	10.9	2.59	27.6	9.7	13.6	0.0
Finger Lakes	8/25/08	FL-16	1.10	12.2	2.78	21.8	8.1	10.6	0.0
Finger Lakes	8/25/08	FL-17-Cl 239	1.00	11.8	2.61	23.9	9.2	11.1	0.0
Finger Lakes	8/25/08	FL-18 -Cl239	1.10	11.0	2.56	26.1	9.5	12.5	0.0
Lake Erie	8/25/08	10- Leaf Pull	1.25	9.9	2.59	28.0	9.2	14.4	0.0
Lake Erie	8/25/08	11-No Leaf Pull	1.43	10.0	2.58	25.2	9.3	12.3	0.0
Average			1.18	11.1	2.61	25.5	9.1	12.4	0.0
'07 Average			1.14	12.4	2.73	23.4	9.3	11	0.07
'06 Average			1.22	12	2.79	24.2	8.8	12.4	0.04

Sauvignon blanc

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Long Island	8/25/08	4-LI-SB	1.57	14.9	2.69	22.8	7.8	11.3	0.0

Marachel Foch

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	8/25/08	FL-7	0.90	19.0	3.00	16.9	6.4	8.2	0.0
Finger Lakes	8/25/08	FL-8	0.90	19.0	2.95	17.2	6.3	8.3	0.0
Average			0.90	19.0	2.98	17.1	6.4	8.3	0.0
'07 Average			0.94	18.2	3.04	14.0	5.8	6.3	0.09

Noiret

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	8/25/08	Leaf rem/Shoot th	1.30	12.7	2.75	23.7	7.7	12.6	0.0
Finger Lakes	8/25/08	No LR/no shoot th	1.50	12.4	2.71	25.9	8.7	13.4	0.0
Hudson Valley	8/25/08	14-HV-N-4	1.55	15.2	2.69	18.7	7.5	8.2	0.0
Lake Erie	8/25/08	6-LE-N-3-1-1	1.35	13.8	2.72	20.6	8.8	9.0	0.1
Lake Erie	8/25/08	5-LE-N-8-1-1	1.41	11.9	2.63	22.7	8.6	10.6	0.0
Average			1.42	13.2	2.70	22.3	8.3	10.8	0.0
'07 Average			1.44	14.6	2.87	17.9	7.6	8.1	0.01

Cayuga White

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Hudson Valley	8/25/08	3-HV-CW-Not thinned	3.13	16.5	2.95	13.4	6.0	5.8	0.0
Hudson Valley	8/25/08	4-HV-CW-Cluster-thinned	3.13	17.4	3.02	13.6	6.1	6.3	0.0
Average			3.13	17.0	2.99	13.5	6.1	6.1	0.0

DeChaunac

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Hudson Valley	8/25/08	10-HV -Cluster-thinned	2.04	12.5	2.59	30.6	10.4	15.3	0.0
Hudson Valley	8/25/08	9-HV - Not thinned	2.09	11.7	2.56	32.2	10.7	16.2	0.0
Average			2.07	12.1	2.58	31.4	10.6	15.8	0.0

Seyval blanc

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	8/25/08	FL No Cl/sht thin	1.60	16.7	2.86	15.8	5.9	7.4	0.0
Finger Lakes	8/25/08	FL-4-Cluster thin	1.60	18.2	2.93	16.0	5.5	7.8	0.0
Finger Lakes	8/25/08	FL-5-Shoot Thin	1.50	16.3	2.89	15.6	5.8	7.4	0.0
Finger Lakes	8/25/08	FL-6- Cl+Sht thin	1.60	17.6	2.93	16.0	5.5	7.7	0.0
Hudson Valley	8/25/08	5-HV-3 No Thin	1.92	17.4	2.82	15.5	5.7	7.5	0.0
Hudson Valley	8/25/08	6-HV-3 Clust-thinned	1.95	16.3	2.84	16.4	5.8	8.1	0.0
Hudson Valley	8/25/08	7-HV-1 No Thin	1.69	18.1	2.86	16.6	5.6	8.2	0.0
Hudson Valley	8/25/08	8-HV-1 Clust-thinned	1.65	17.1	2.87	15.7	5.4	7.9	0.0
Average			1.69	17.2	2.88	16.0	5.7	7.8	0.0

Traminette

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Hudson Valley	8/25/08	13-HV-T-4	1.92	14.2	2.67	20.8	8.0	9.6	0.0
Lake Erie	8/25/08	3-LE-Shoot Thinned	1.43	10.2	2.50	30.9	9.7	15.7	0.0
Lake Erie	8/25/08	4-LE-T-Not thinned	1.54	9.6	2.49	31.3	9.4	16.1	0.0
Lake Erie	8/25/08	7-LE-Shoot Thinned	1.52	10.2	2.56	31.7	9.8	16.6	0.0
Lake Erie	8/25/08	8-LE-Not thinned	1.23	9.7	2.56	30.6	10.2	15.3	0.0
Average			1.53	10.8	2.56	29.1	9.4	14.7	0.0
'07 Average			1.34	11.5	2.67	23.8	8.9	11.2	0.15

Vidal Blanc

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Hudson Valley	8/25/08	1-HV-V Not thinned	1.57	12.3	2.80	24.4	9.3	12.5	0.3
Hudson Valley	8/25/08	2-HV-V Cluster-thinned	1.64	14.0	2.80	24.0	8.8	12.4	0.1
Average			1.61	13.2	2.80	24.2	9.1	12.5	0.2

Concord

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	8/25/08	FL-19	1.20	9.4	2.62	25.9	9.2	12.5	0.0
Finger Lakes	8/25/08	FL-20	1.40	9.0	2.65	26.4	9.3	13.4	0.0
Average			1.30	9.2	2.64	26.2	9.3	13.0	0.0

Diamond

Location	Harvest Date	Samples	Av Berry		pH	g/L TA	g/L		
			Wt	% Brix			Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Lake Erie	8/25/08	1-LE shoot-thinned	2.16	13.3	2.62	18.2	7.4	7.3	0.0
Lake Erie	8/25/08	2-LE not thinned	2.00	12.9	2.61	18.3	7.5	7.4	0.0
Average			2.08	13.1	2.62	18.3	7.5	7.4	0.0

Upcoming event...

BERRY SENSORY ANALYSIS SEMINAR

Day: Friday, September 12, 2008

Time: 1:00pm-5:00pm

Location: Niagara County Cooperative Extension Large Meeting Room

Niagara Cornell Cooperative Extension Association is located in Lockport, NY

Cost:

Lake Erie Regional Grape Program

Members: \$100

Non-Members: \$180

Exciting news! We have managed to convince Dr. Gianni Trioli during his visit to North America to present his Berry Sensory Analysis Seminar in Niagara County.

The specifics:

The 4 hour seminar lead by **Dr. Gianni Trioli** of Vinidea Italy will cover several aspects of Berry Sensory Analysis (BSA) as developed by the Institut Coopératif du Vin (ICV). While the session takes place in a classroom environment, elements for field evaluation will be covered including proper sampling procedures using the BSA Score Sheet and how to use the data collected.

When following the simple field evaluation rules, the BSA method allows for comparison among data obtained over weeks or years on the same vineyard. Participants will come away with a common language for characterizing grape maturity consistently and in great detail.

Contact Nancy Long (NPL1@cornell.edu or 315-787-2288) for registration information.



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Veraison to Harvest is a joint publication of:

Cornell Enology Extension Program

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Long Island Grape Program

Finger Lakes Grape Program

Lake Erie Regional Grape Program

Hudson Valley Regional Fruit Program

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