Veraison to Harvest

Statewide Vineyard Crop Development Update #6

Cornell University Cooperative Extension

October 10, 2008

Edited by Tim Martinson and Chris Gerling

From the vineyard to the winery - harvest is well underway.

Photo by Chris Gerling

Around New York...

Statewide *- Chris Gerling*

To those who have reached this point relatively unscathed by everything nature has thrown thus far, congratulations. Your reward looks to be a good chance at some further ripening in the coming days. Put on your sunglasses, confident in the fact that you've earned this opportunity. The ripening curves have been starting to flatten out across the state (see table pp. 5-7) for various reasons, and we can hope that a nice bump is now in the cards. If rot has caused you to bring things in before you'd prefer, don't despair: we'll be talking about challenges presented by and ways to deal with Botrytis in this very newsletter.

Long Island *- Alice Wise and Libby Tarleton*

Harvest continued on Long Island this past week. Some of the remaining Chardonnay blocks were picked. Overall whites displayed low to moderate Brix, intense flavor and great acidity. Cluster rot was present in some blocks at low levels, enough to warrant a light sorting of fruit. This was a season where air drainage and wildlife damage figured prominently in the degree of cluster rot that developed. Our 'almost organic' trial in the LIHREC research vineyard had low levels of Botrytis but significant levels of bitter rot, as diagnosed by Wayne Wilcox. This fungal disease is usually more of a problem in warmer regions and/or on muscadine grapes. Wasps were attracted in droves to the compromised fruit, undoubtedly worsening the severity of rot. Adjacent non-trial rows of Chardonnay had very little wasp damage. In the rest of the research vineyard, we saw only an occasional bitter rot berry. A few blocks of Merlot were picked this week for rosé. Other Merlots and reds will hang another 1-4 weeks.

Finger Lakes *- Hans Walter-Peterson.*

Lemberger on Scott-Henry trellis -Cayuga Lake

Photo by Hans Walter-Peterson

The region dodged a bullet this week after freeze warnings were issued for most of the Finger Lakes region this past Monday night and Tuesday morning. Temperatures recorded at the NEWA stations located in grape growing regions generally were in the mid-30s, but a couple of stations, including Watkins Glen and Branchport, bottomed out right around 32ºF. We have received no reports of leaves being lost either, so it appears we escaped with little or no damage from the early morning cold.

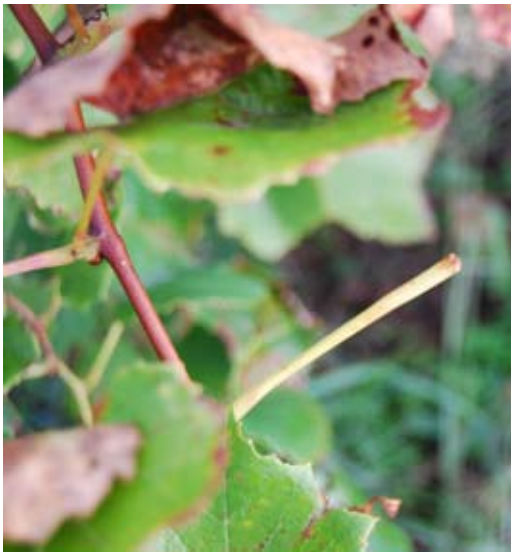
This is good news as several varieties that are still hanging in the vineyards are running a bit low in terms of Brix development and are still holding acid levels, particularly the Bordeaux red varieties, and may benefit from the warm sunny weather that is forecast for the area over the next several days. Growers have been picking Vignoles, DeChaunac, Chardonnay and some early Lemberger this week. Riesling is also trickling in from a few vineyards, but it sounds like the

preference of most growers and wineries is to let it hang a little bit longer, and perhaps pick most of it in the next week or so.

Tonnage in many cases is running higher than growers estimated. This is likely due at least in part to precipitation increasing berry size, but the excellent season last year also translated into higher fruitfulness this year. This may be another explanation for the lag in Brix development in a number of vineyards this year. Concord production in New York sounds like it will be high this year as well. One grower on Keuka Lake reported harvesting well over 12 tons/acre in one block this past week.

Winemakers overall are pleased with the quality of fruit that has been coming into wineries so far. While sugars will not be as high as last year, the fruit seems to still be developing good flavors. It will be interesting to see, and taste, the impact of these next several days of "Indian summer" on fruit quality.

Lake Erie - Jodi Creasap Gee



Downy mildew defoliation in Western NY.
Photo by Jodi Creasap-Gees

The weather is getting colder, with frost warnings for the past few nights, and some of the weather sites are calling an end to the growing season for several counties. Luckily, the sun has come out for a few days in the Lake Erie Region, and we are grateful. Most of the fruit is still looking good, despite the downpour last week, and harvest continues for the wine grapes and the juice grapes. Downy mildew infections have been running rampant in many vineyards, thanks to the wet weather and multiple infection periods this year, and early defoliation continues. More of the hybrids – such as Traminette – are coming in this week, a few of the vinifera varieties, such as Pinot Gris, have already been harvested. The Concord harvest is rolling along, although extreme variability among vineyards and blocks within vineyards has made harvesting challenging this year. Due to the extent of hail damage through this region, processors are aware that some damaged fruit may not look pretty, but still have at least minimal sugar levels and no secondary fungal infections. Sugar levels in Concords are all over the board, based on what I have seen and heard, and range from 12° to 16° Brix and up. Obviously, vineyards with heavy crop-loads are struggling to reach the minimal sugar levels this year; however, those with average or slightly-above average levels appear to be right on or above the general target of 15° Brix for most of the processors in this area, and processors are pleased with overall fruit quality, including acids and color.

Hudson Valley - Steve Hoying and Steve McKay

This week's light frost was not killing in the lower valley, and canopies have remained sound. Cooler, wet weather is giving way to warmer weather with the next threat of frost not predicted until October 16th. This is allowing ripening to continue. Disease has not been a big problem in reasonably managed vineyards.

Valvin was picked this week and it had great flavor with 23 degrees brix. Traminette and Gewurtztraminer will be picked this weekend, with Noiret and Frontenac planned for next week. The good news is that ripening is continuing normally, and grapes have good flavor and little disease thus far.

Something Rotten This Way Comes...

Chris Gerling, *Statewide Extension Enology Associate*

Botrytis cinerea is the cause of both "noble" and "less noble"- (grey, sour, vulgar, you get the drift) rot. What type of rot you see in the fruit depends on a lot of things, but in some ways it may to think that we are dealing with a progression. If Botrytis appears but then high humidity is not maintained, the berries will shrivel and dessicate (but not split), the fungus will lose activity and you have noble rot. If conditions allow it to spread, however, eventually the berries will swell and burst and now a variety of other organisms (i.e. acetic acid bacteria) will have access and the more sinister rots will proliferate. Botrytis is therefore the cause but not the agent of these nastier problems.

Because Botrytis is such a complex and interesting organism, it's easy to get lost in all of the vineyard issues and forget that there will come a time when we'll have to deal with it. Depending on the rot you've got, there will be different resulting

changes in the fruit and different potential challenges to deal with. It's also common in situations with lots of Botrytis present to see a continuum of the rot forms, from noble on down to unmentionable. Increased variability in your fruit is an unwelcome addition to the list of issues Botrytis will cause. Here are some things to think about and some possible actions to take:

Sugar

We all know that noble rot means primarily higher Brix, right? These are the sugars with which Sauturnes and Trockenbeerenauslese are made. Now, a berry afflicted with noble rot does have more sugar *by volume* than its "normal" neighbor, but this is primarily because of the drying and shriveling action. Less water means more concentration. Botrytis, like most living things, will be consuming some sugar (35-50% even) but since the berry is losing more volume, we have a net increase in the g/L of various sugars. This may seem like a technicality, but where I'm going is that if the situation is not a noble rot one, Botrytis carries on and the berries are not drying out, you're not getting that Brix increase.

Variability in the cluster.
Photo by Tim Martinson

Furthermore, Botrytis will create new and especially larger sugar complexes that can cause a couple of problems. First, these remaining sugars may be ones that yeast will have difficulty fermenting, leading to stuck fermentations or problem compounds and aromas arising from yeast stress. Second, by consuming the compounds it chooses and leaving the ones it doesn't consume (i.e. lots of pectin), Botrytis can cause all sorts of clarification issues in the juice and filtration challenges down the line. The further the fungus progresses, the worse these problems can become.

Acid

Botrytis will consume organic acids as the infection progresses. Even in noble rot situations there will likely be a drop in TA (increasing pH). Botrytis seems to prefer tartaric acid and will then move to malic later. If you bring in botrytized fruit that still has a high TA and you want to reduce acid, keep in mind that there is probably not very much tartaric there so a standard potassium bicarbonate (which will not react with malic acid) addition may not work. One thing to keep in mind, however, is that for at least noble rot situations you will probably want a relatively higher amount of acid to balance the higher sugars, and a higher TA number is not necessarily a bad thing in itself. The pH rise may be a concern, though, and as Botrytis progresses more acid is degraded. Once pH 3.5 is fading in your rearview mirror I don't have to tell you microbial stability is compromised and tartaric additions to the juice may be necessary.

Nitrogen

Nitrogen is a great example of the diabolical genius of Botrytis. Increased N additions in the vineyard are often associated with increased prevalence of the fungus, possibly because of increased vigor. Botrytis will consume N in the berries, however, and this deficiency can lead to stuck or stressed fermentations in the cellar. Obviously the relatively straightforward solution is to be ready for increased additions in the winery, but it's frustrating to have an attempt to fix a problem in the vineyard be so effectively sabotaged.

You may have to smell to know what you've got. Or you may not.
Photo by Tim Martinson

Flavor, color, other compounds

Botrytis brings with it an impressive toolkit to help it gain access to the berry, break down the compounds it needs and destroy any plant defenses or other competing organisms. The most important, or potentially destructive, of these tools may be the laccase enzyme. This enzyme can oxidize lots of phenolic compounds and cause browning in white wines and all sorts of color stability problems in reds. Other enzymes also hydrolyze terpenes, destroying the varietal aromas of aromatic varieties in particular. While noble rot can replace typical fruit flavors with its characteristic honey and apricot, the breakdown products caused by further rot and especially the addition of other fungi tend to give us much nastier aromas. The 'wet ground' geosmin character is a product of Botrytis in concert with any of a number of Penicillium strains. This is probably as good a time to remember acetic acid bacteria as a primary member of the Botrytis entourage. While slightly elevated in noble rot situations, acetic acid in large concentrations is not going to help bring about the wine you're after. Good that you have people to point that out for you, right?

SO2

Once again Botrytis presents us with more than one potential challenge. We know that the fungus is oxidizing things and creating all sorts of strange compounds (that's technical chemistry talk there) and it's not too hard to imagine that these will be binding SO2 more than in a typical must. Furthermore, as the pH is elevated we recall that the proportion of molecular SO2 (the part that has antimicrobial power) is decreasing relative to the amount of free SO2. We can get into a lot of theory and speculation here, but the gist is that we're going to need a lot more SO2 to do the same job. The standard soapbox warning from researchers that multiple small additions do not one good large addition make goes double here. The small additions will be bound, microbial and oxidative (and probably acetaldehyde) activity will continue and you'll never achieve protection.

What to do:

1. Pre –harvest- Separate the rot. Not easy, not cheap, not fun, but effective. There are a few options: cut it out before machines or hands come through, hand harvest only clean fruit, or sort the fruit post-harvest. These things can all be done in degrees, of course. Even in a noble rot situation, separating out enough fruit to make a special wine can be exciting and profitable, and also give more consistency to the 'regular' wine.

2. Pressing- If you've got a lot of noble rot, a bladder press is not the best way to press the juice from a yield standpoint. You may have to get the use of a basket press or some people with clean feet. If you've got a lot of other rot, now is not necessarily the time to be going for full extraction and whole-berry or some other gentler method may be advisable.

3. Juice clarification-You may have to get a little rough here. There are things many winemakers don't like to do to juice at this stage, but we're kind of past our ideals at this point. Bentonite, PVPP and DE filtration are all options to consider as well as pectinases and possibly even lysozyme. Heat, if that's an option for you, is another way to denature enzymes. These methods can remove or destroy enzymes and potentially ease filtration down the road.

4. Fermentation-Be ready with more nitrogen and a take-no-prisoners yeast strain. You may be dealing with everything from higher sugar (and later alcohol) to the whole laundry list of issues we talked about already. It could be a bumpy ride. Products like Go-Ferm could help on this end, especially considering the Nitrogen issue. When it comes to malolactic fermentation, things can be complicated. Since there may be a lot of malic (at least compared to tartaric), ML may be attractive to soften things. The catch is that you are potentially looking at another pH bump that you may not be able to afford. In red wines there are those who advise against frequent, aggressive punch-downs to minimize extraction of bad stuff.

5. Post-fermentation- Handle with care. Depending on the situation, you may have a high RS (residual sugar), high pH concoction that is extremely sensitive to oxygen. Good hygiene regarding full tanks and SO2 management is extra-important and you may need further enzyme or fining work to get the wine to go through a filter. Planning to skip the filter because it's a hassle? Reread the part about high sugar, high pH and so forth.

Summary: Lots to think about. As always, it's your wine and only you can decide the best course for it to take. Hopefully there are a couple of tools or thoughts here that will give you some ideas for dealing with rot. I don't think I have to tell you that you can't make a silk purse from a sow's ear, and when your rot is prevalent and not noble you should probably hold off on the big order of "Extra Premium Cellar Reserve Limited Editon" labels. Good luck out there.

Sources:

Botrytis: Biology, Pathology and Control, edited by Y. Elad, B. Williamson, P. Tudzynski and N. Delen 2004 Kluwer Academic Press

Handbook of Enology, Volume 1, 2nd Edition, The Microbiology of Wine and Vinifications, edited by Pascal Ribéreau-Gayon, Denis Dubourdieu, B. Donèche, A. Lonvaud 2006 John Wiley & Sons, Ltd.

Ribereau-Gayon, P. 1988. Botrytis: Advantages and Disadvantages for Producing Quality Wines. Proceedings of the Second International Cool Climate Viticulture and Oenology Symposium. Auckland, New Zealand, pp. 319-323

Wilcox, W. 2002 Controlling Botrytis: A Perspective from the Eastern USA. Austral. & N.Z. Grapegrower & Winemaker, September 2002:22-27.

Fruit Maturation Report

Samples reported here were collected on **Monday, October 6,2008.** 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, October 13.**

Cabernet Franc

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	10/6/2008	FL-9	1.59	20.1	3.12	9.9	5.2	3.4	0.3
Finger Lakes	10/6/2008	FL-10	1.73	19.4	3.16	9.7	5.1	3.7	0.2
Finger Lakes	10/6/2008	FL-11	1.67	18.4	3.38	9.8	4.9	5.4	0.7
Hudson Valley	10/6/2008	11-HV-CF-4	1.25	21.1	3.25	8.0	4.4	2.9	0.5
Lake Erie	10/6/2008	12-LE-CF-X-5-6	2.02	21.2	3.30	8.3	4.2	3.4	0.3
Long Island	10/7/2008	LI-CF-1	1.64	18.7	3.37	7.5	4.2	2.7	0.6
Long Island	10/7/2008	LI-CF-5	1.81	19.5	3.40	8.1	4.6	3.5	0.9
average	10/6/2008		1.67	19.8	3.28	8.8	4.7	3.6	0.5
Previous sample	*9/29 &10/1*		*1.73*	*19.2*	*3.23*	*8.6*	*4.9*	*3.1*	*0.6*
07 Average	10/08/07		1.53	21.3	3.36	7.9	4.4	2.6	*
'06 Average	10/09/06		1.66	19.4	3.16	11.0	4.2	5.2	*

Cabernet Sauvignon

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Lake Erie	10/6/2008	9-LE-CS-Not Thinned	1.45	19.4	3.17	11.5	5.4	5.4	0.5
Lake Erie	10/6/2008	9B-LE-Late Clus Thin	1.65	19.5	3.20	11.1	5.1	5.4	0.6
Long Island	10/6/2008	LI-CS-2	1.47	18.8	3.16	9.6	5.2	3.6	0.8
Average	10/6/2008		1.52	19.2	3.17	10.7	5.2	4.8	0.6
Previous sample	*9/29/2008*		1.49	18.5	3.12	11.0	5.5	4.7	0.8
07 Average	10/8/2007		no data	20.9	3.23	10.8	5.7	4.3	*

Chardonnay

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	Harvested	FL-21							
Hudson Valley	Harvested	12-HV-C-4							
Long Island	Harvested	LI-CH-7							
Average	*9/29 &10/1*		*1.56*	*20.2*	*3.23*	*8.9*	*4.3*	*3.6*	*0.6*
'07 Average	10/1/2007	Harvested	Harvested						*

Lemberger

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	Harvested	FL-12							
Finger Lakes	10/6/2008	FL-13	2.02	20.4	3.16	10.4	5.6	4.2	0.6
average			2.02	20.4	3.16	10.4	5.6	4.2	0.6
Previous sample	9/29/2008		2.10	21.1	3.03	10.2	5.8	3.4	0.5
'07 Average	10/08/07		1.99	20.4	3.12	9.3	5.4	2.7	*
'06 Average	10/01/06		2.40	20.0	3.16	10.2	4.3	3.7	*

Merlot

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Long Island	10/6/2008	LI-M-3	1.72	21.2	3.35	7.0	4.7	1.5	0.7
Long Island	10/6/2008	LI-M-6	1.74	21.6	3.47	6.9	4.6	2.0	0.8
average			1.73	21.4	3.41	7.0	4.7	1.8	0.8
Previous sample Ave	10/1/2008		1.69	20.5	3.43	6.3	4.2	1.4	0.9
'07 Average	10/10/07		1.70	21.9	3.52	7.5	4.4	2.9	*

Pinot Noir

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Hudson Valley	Harvested	15-HV-PN-4							
Hudson Valley	10/6/2008	16-HV-PN-X5	1.26	22.8	3.37	9.3	4.7	4.3	0.4
average	10/6/2008	*Only one block*	1.26	22.8	3.37	9.3	4.7	4.3	0.4
Previous Sample	*9/29/2008*	*Only one block*	*1.30*	*21.5*	*3.27*	*9.4*	*4.9*	*4.2*	*0.7*

Riesling

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	10/6/2008	FL-14	1.56	19.4	2.93	12.9	6.5	4.6	0.1
Finger Lakes	10/6/2008	FL-15	1.70	18.8	2.88	13.7	6.9	4.9	0.1
Finger Lakes	10/6/2008	FL-16	1.56	18.2	2.95	14.9	7.4	5.9	0.1
Finger Lakes	10/6/2008	FL-17	1.45	18.9	2.89	12.7	6.9	4.1	0.0
Finger Lakes	10/6/2008	FL-18	1.67	17.7	2.87	12.7	6.9	4.1	0.1
Lake Erie	10/6/2008	10-LE-Leaf Pull	1.68	17.6	3.06	10.2	5.7	3.6	0.6
Lake Erie	10/6/2008	11-LE-R-No leaf pull	1.87	17.4	3.00	11.5	5.7	4.5	0.5
Average			1.64	18.3	2.94	12.7	6.6	4.5	0.2
Previous Sample	9/29/2008		1.67	17.6	2.89	12.9	6.8	4.7	0.4
'07 Average	10/8/2007		1.50	17.9	3.08	10.0	6.1	2.6	*
'06 Average	10/2/06		1.77	18.6	2.97	13.2	5.6	5.2	*

Sauvignon blanc

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Long Island	Harvested								
Last sample	9/22/2008	LI-SB-4	1.77	20.1	3.03	10.8	5.3	4.0	0.0

Marachel Foch

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Final Average	9/22/2008		1.02	24.1	3.18	12.8	5.3	6.2	0.2
Previous sample	9/15/2008		1.09	23.3	3.17	13.0	5.5	6.1	0.3

Noiret

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	10/6/2008	FL-1 Leaf Rem/Shoot th	2.19	17.2	3.02	12.0	5.9	5.1	0.3
Finger Lakes	10/6/2008	FL-2 No LR/no Sh Th	1.88	17.3	3.05	12.5	5.8	5.6	0.2
Hudson Valley	10/6/2008	14-HV-N-4	2.05	19.5	3.14	8.0	4.3	2.4	0.1
Lake Erie	10/6/2008	5-LE-N-8-1-3	1.87	17.1	3.05	10.9	5.3	4.3	0.2
Lake Erie	10/6/2008	6-LE-N-3-1-3	1.81	18.3	3.18	10.1	5.5	4.2	0.5
average	10/6/2008		1.96	17.9	3.09	10.7	5.4	4.3	0.3
Prev Sample	*9/29/2008*		*1.88*	*17.3*	*3.02*	*11.0*	*5.5*	*4.3*	*0.4*
'07 Average	10/1/2007		1.82	18.9	3.22	9.6	5.2	3.7	*

Cayuga White

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Hudson Valley	10/6/2008	3-HV-CW-Not thinned	3.29	22.8	3.36	8.1	4.7	2.9	0.0
Hudson Valley	10/6/2008	4-HV-CW-Cluster-thinned	3.26	22.7	3.30	8.1	4.4	2.6	0.0
average	10/6/2008		3.28	22.8	3.33	8.1	4.6	2.8	0.0
Prev Sample	*9/29/2008*		*3.23*	*21.4*	*3.25*	*7.9*	*4.6*	*2.5*	*0.2*

Corot Noir

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	10/6/2008	FL-22	2.47	17.8	3.41	6.8	3.6	2.7	0.1
Finger Lakes	10/6/2008	FL-23	2.16	15.5	3.36	6.0	3.5	1.8	0.1
average			2.32	16.7	3.38	6.4	3.6	2.3	0.1
Previous sample	*9/29/2008*		*2.28*	*16.2*	*3.25*	*7.0*	*4.0*	*2.5*	*0.2*

DeChaunac

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	
Hudson Valley	Harvested	9-HV-D-Not thinned							
Hudson Valley	Harvested	10-HV-D-Cluster Thinned							
Final Average	9/29/2008		2.80	17.9	2.87	14.8	6.9	6.0	0.0

Seyval blanc

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Hudson Valley	Harvested	5-HV-No Thin							
Hudson Valley	Harvested	6-HV-SB-Clust Thin							
Hudson Valley	Harvested	7-HV-SB-No Thin							
Hudson Valley	Harvested	8-HV-SB-Clust Thin							
Final Average	9/22/2008		*2.16*	*21.5*	*3.04*	*9.0*	*4.2*	*2.4*	*0.2*

Traminette

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Hudson Valley	10/6/2008	13-HV-T-4	1.70	21.6	3.05	8.7	4.4	2.4	0.0
Lake Erie	10/6/2008	3-LE-Shoot Thin	1.93	19.5	3.00	11.1	5.5	4.0	0.0
Lake Erie	10/6/2008	4-LE- Not thinned	2.08	19.3	2.98	11.4	5.5	4.2	0.0
Lake Erie	10/6/2008	7-LE-T-Shoot Thin	2.04	21.0	3.05	10.4	5.2	3.6	0.0
Lake Erie	10/6/2008	8-LE-T-Not Thinned	1.98	21.6	3.07	9.9	5.3	3.3	0.0
Average	10/6/2008		1.95	20.6	3.03	10.3	5.2	3.5	0.0
Prev Sample	*9/29/2008*		*1.88*	*17.3*	*3.02*	*11.0*	*5.5*	*4.3*	*0.4*
'07 Average	10/01/2007	(Final Sample)	1.68	22.0	3.02	9.9	5.2	3.1	*

Vidal Blanc

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Hudson Valley	10/6/2008	1-HV-V-Not thinned	2.30	21.4	3.21	10.1	4.8	4.2	0.2
Hudson Valley	10/6/2008	2-HV-V-Clust Thin	2.14	23.7	3.23	10.6	5.1	4.4	0.1
Average	10/6/2008		2.22	22.6	3.22	10.4	5.0	4.3	0.2
Previous Sample	9/29/2008		2.19	20.5	3.14	10.5	5.3	4.3	0.4

Concord

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Finger Lakes	9/29/2008	FL-19	3.64	17.5	3.38	5.7	2.7	2.0	0.1
Finger Lakes	9/29/2008	FL-20	3.73	17.2	3.38	5.7	2.8	1.9	0.1
Average	9/29/2008		3.69	17.4	3.38	5.7	2.8	2.0	0.1
Prev Sample	9/29/2008		3.65	16.8	3.29	5.8	3.0	1.8	0.2

Diamond

Location	Harvest Date	Samples	Av Berry Wt	% Brix	pH	g/L TA	g/L Tartaric Acid	g/L Malic Acid	g/L Lactic Acid
Final Average	*9/15/2008*	Final	*>2.00*	*17.4*	*3.02*	*10.0*	*5.0*	*2.9*	*0.2*

Let the sun shine, let the sun shine...
Photo by Tim Martinson

This newsletter was made possible through a grant from the New York Wine and Grape Foundation's Total Quality Focus program.

Veraison to Harvest is a joint publication of:

Cornell Enology Extension Program

Statewide Viticulture Extension Program

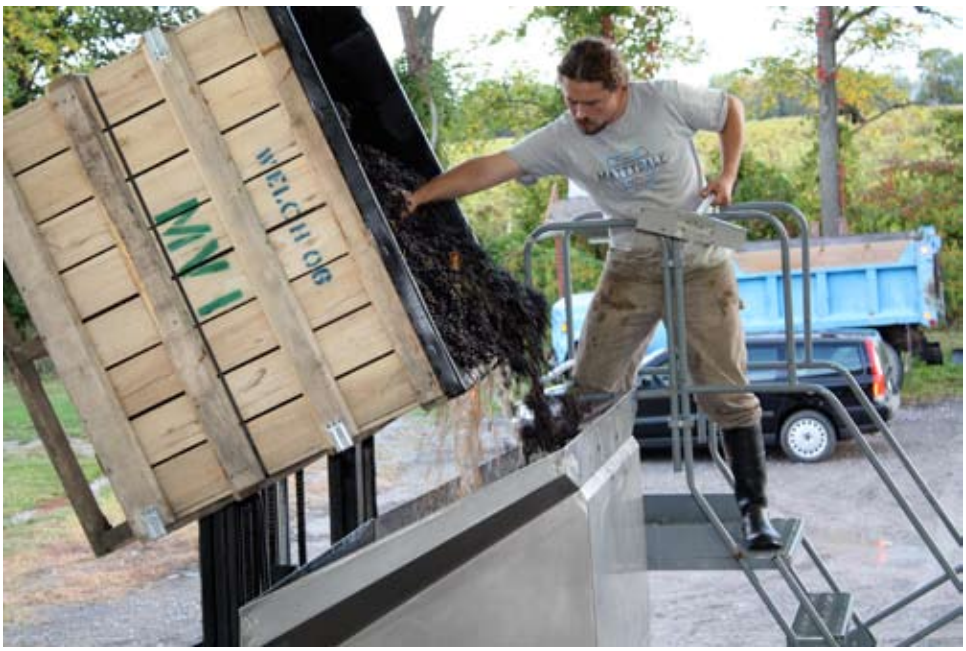
Long Island Grape Program

Finger Lakes Grape Program

Lake Erie Regional Grape Program

Hudson Valley Regional Fruit Program

Copyright 2008 © Cornell University



Pinot Noir after sorting at Anthony Road Wine Company.
Photo by Chris Gerling

Cornell University Cooperative Extension

The information, including any advice or recommendations, con-tained herein is based upon the research and experience of Cornell Cooperative Extension personnel. While this information constitutes the best judgement/opinion of such personnel at the time issued, neither Cornell Cooperative Extension nor any representative thereof makes any representation or warrantee, express or implied, of any particular result or application of such information, or re-garding any product. Users of any product are encouraged to read and follow product-labeling instructions and check with the manu-facturer or supplier for updated information. Nothing contained in this information should be interpreted as an endorsement expressed or implied of any particular product.