FINGER LAKES
VINEYARD NOTES

NEWSLETTER NO. 7 DECEMBER 23, 2013

IN THIS ISSUE

After a pretty stellar season in 2012 (if you didn't get hit hard with spring frost damage), 2013 brought us back down to earth a bit. You can read my review of the 2013 growing season, along with Chris Gerling's article on the year from a winemaker's perspective. Once again, my hat is off to all of you for successfully traversing the minefield that a growing season in the Finger Lakes can be.

This year's Harvest Issue also includes our annual summary of grape prices in the Finger lakes, as well as summaries of many of the program's extension and field activities in 2013.

Be sure to mark your calendar for Thursday, February 27 - Saturday, March 1 to attend **B.E.V. NY 2014**. B.E.V. NY is our new educational conference combining the Finger Lakes Grape Growers' Conference with the Wine Industry Workshop. The conference will feature topics on Business, Enology and Viticulture (B.E.V., get it?) over three days, featuring experts from Cornell, Penn State, and other local institutions who will present the latest research-based information on topics ranging from soil pH to tannins to social media use. Program and registration information will be available in early January.

Happy Holidays to you all!

2013: A Year of Defying the Odds

The phrase that comes to mind when I think about the 2013 growing season in the Finger Lakes is "defying the odds." From concerns about fruit set, to early season disease troubles in some varieties, to heavy crops struggling to get ripe in a relatively average year, there were a number of things that could have spelled real trouble for the 2013 grape crop in the Finger Lakes.

Fortunately, some lucky breaks from the weather later in the season combined with an extra dose of hard work on the part of growers resulted in a harvest of fruit with very good quality, while also producing some of the highest yields many growers have ever seen.

Winter 2012-13

After a brilliant growing season in 2012 with low to average crop size for the most part, vines had ample opportunity to prepare themselves for the dormant season. Cane quality looked good overall, and dormant bud hardiness looked good as we collected samples during the winter (Figure 1). Temperatures did not approach LT_{50} levels this year, but did get close to the point where we expected to see about 10% bud damage in Cayuga White at sites on Keuka Lake. Other varieties that we checked at the end of the winter generally had less than 10% bud damage (Figure 2).

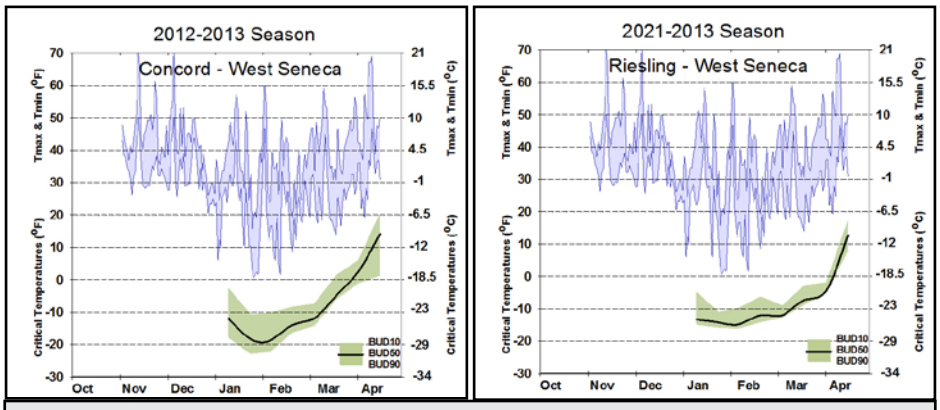

Figure 1. Results from bud hardiness testing of Concord and Riesling from a West Seneca vineyard. Temperatures last winer never really got cold enough to raise concerns about significant injury to buds.

HARVEST ISSUE

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Variety (Location)	% Bud Mortality
Concord (S. Bristol)	5%
Cayuga White (W. Seneca)	14%
Riesling (E. Keuka)	6%
Cabernet Franc (E. Keuka)	14%

Figure 2. Results of bud mortality tests taken April 15, 2013.

2013 Weather

The early warm-up and subsequent budbreak that the Finger Lakes and most of New York experienced in March 2012 was still on a lot of people's minds as we approached the 2013 growing season. Was this a new trend? Were more growers going to have to consider installing frost controls like wind machines? Fortunately, the spring of 2013 had a much more gradual warm-up, resulting in budbreak starting at the end of April and beginning of May for early varieties, which is closer to the longer term average for this stage of vine development. The slow, gradual warming that followed meant that we saw very little in the way of frost damage this year. That didn't mean, of course, that the rest of the season was uneventful.

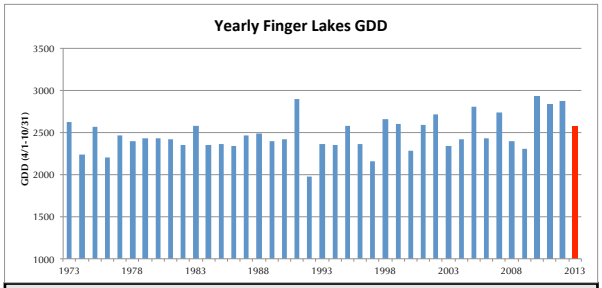

Figure 3. Yearly GDD totals at Geneva, 1973 - 2013. The long-term average for GDDs is 2456.

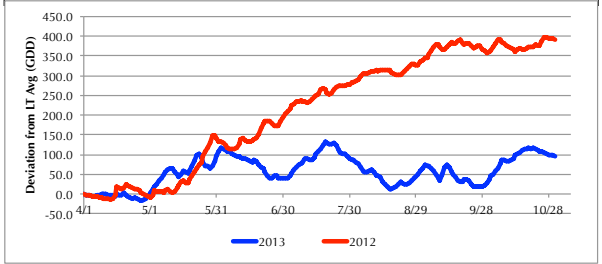

Figure 4. Cumulative deviation of GDD from long-term average in 2012 and 2013 at Geneva. Both years started in a similar fashion, but separated starting in June.

Growing Degree Days

The 2013 growing season finished with a total GDD accumulation of 2575 GDDs (at Geneva), making it the fourth year in a row to exceed the long-term average (1973-2013) for growing degree days (GDD), but not nearly to the extent that the previous three years had done so (Figure 3). If, however, we look at how the season fared compared to the average GDD accumulation over the past ten years (2629 GDD), the year was actually a little bit cooler than what we have been experiencing lately.

The season started somewhat warmer than normal thanks to some early heat after budbreak, but for the most part, monthly GDD accumulation the rest of the season was pretty close to average. The only prolonged stretches of above average temperatures this year were in the first halves of July and October. In contrast, heat accumulation was greater than normal throughout almost the entire growing season in 2012 (Figure 4).

Rainfall

While the season was about average overall when it came to heat, it definitely was a wetter year than normal. Once again, rain totals varied a lot this year depending on locations, but at Geneva, we recorded a total of 27.13", which is about 17% higher than our annual average of 23.06". Each month had higher than normal rainfall except September (Figure 5), which is usually our

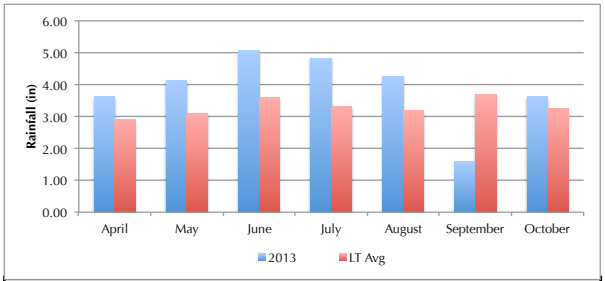

Figure 5. Comparison of monthly rainfall totals in 2013 with long-term average at Geneva, NY.

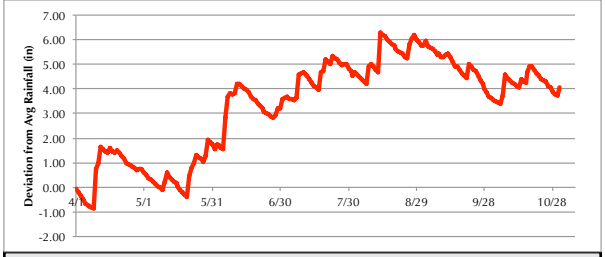

Figure 6. Cumulative deviation of rainfall in 2013 from long-term average, at Geneva NY.

wettest month. The two primary concerns that come out during wetter years are excessive shoot growth and disease development, both of which we saw this year.

After five straight months of wet weather, Mother Nature finally "defied the odds" in our favor by holding back on the rain during much of the critical ripening period, from the end of August through early October (Figure 6). The relatively high amount of rain earlier in the year resulted in large, flush canopies, even on sites with fairly shallow soils and lower water holding capacity. As soils dried out due to high transpiration levels from the large canopies and a lack of rain, it was possible to find sections of vineyards showing visible signs of drought stress by the end of September. These vineyards, as well as some others, seemed to struggle to produce sugars later in the year as well, which could also be due to the lack of rainfall.

Pest Management Issues in 2013

Insects

In 2012, steely beetles were showing up in a lot of vineyards at levels that some growers hadn't seen in years. We were also finding them in vineyards much later than we normally do. Both of these factors led to concerns that there would be significant populations emerging in 2013. Fortunately, this was not the case, and it was actually hard for us to find steely beetles in vineyards at all this spring.

Insect pressure in general was not a major factor in most vineyards this year. Grape berry moth, our most common vineyard insect pest, did not seem to be overly active this past year based on the amount of damage that we found in vineyards that we visited this year. At least some of this can be attributed to the cooler temperatures that we experienced this year compared to seasons like 2010 and 2012, when we had at least a partial fourth generation of moths emerge.

Potato and grape leafhopper were around as usual, but isolated pockets could be found where feeding damage was much higher than usual. This was especially true in the case of grape leafhopper, where those pockets of infestation tended to be found near wooded edges or in blocks where weed control was a problem.

The one unusual issue related to insect pressure this year was a higher incidence of foliar phylloxera galls. Varieties that are normally susceptible to having galls, like Baco and Foch, had even more than usual in many vineyards this year. What was surprising this year was that galls were also appearing on varieties where they normally do not appear, especially on vinifera varieties. These were not heavy infestations and did not impact growth or ripening to any extent, but it was one of those "I've never seen that before" moments that seems to come along almost every year.

Diseases

As mentioned earlier, one of the main impacts of the higher-than-normal rainfall this year was on disease development. Wet conditions early in the spring can lead to major outbreaks of phomopsis, which we saw a few years ago. Fortunately, we didn't see phomopsis infections beyond what might normally be seen in most years.

As would be expected in wetter years, the two primary diseases that most growers struggled with, especially in some hybrid and many vinifera varieties, were downy mildew (DM) and botrytis.

In many years, we would expect some potential for DM infections earlier in the year, but then those infections would go quiet for a while during the summer months as temperatures warmed up. In 2013, DM infections seemed to continually appear throughout the growing season. While it could be found anywhere in the canopy, it seemed to appear most often during the summer on new lateral shoots and leaves just emerging after hedging. The dry conditions after veraison arrived helped to keep later season development of DM in check, which kept it from causing significant defoliation prior to or during harvest.

Botrytis bunch rot and sour rot provided the biggest challenges to growers in certain locations and with certain varieties. Multiple days with rainfall during bloom provided near perfect conditions for early infections to get established on flowers, flower parts and young berries in varieties like Pinot noir, Pinot gris,

Figure 7. Early botrytis infections on green Pinot noir berries (top) and on flower stalks and parts (bottom).

Chardonnay, Seyval, Vignoles and a few other tight clustered varieties (Figure 7). Beyond their impact on fruit set early in the season, the primary concern about these infections was the potential disease pressure that they would create during ripening and harvest if we had anything even close to normal rain during that time.

However, in yet another example of how this season defied the odds, the month of September "saved our bacon." Along with good spray programs on the part of growers, the lack of rainfall kept many of these early infections from truly exploding later in the year. There were localized exceptions, of course, and in these cases wineries and growers had to make decisions about timing of harvest and sorting fruit both in the field and at the crush pad in order to keep out overly rotten clusters.

Sour rot infections were also relatively common in these areas where early botrytis infections really got a foothold. Growers responded by dropping fruit in the field and applying any number of materials that might possibly help, including captan and Oxidate. Again, judicious sorting decisions by growers and winemakers helped to keep much of the affected fruit from making it to the fermentors.

Crop Yield and Quality

This was the other area where we seemed to "defy the odds" this past season. Conditions during bloom and fruit set were less than ideal - cloudy and rainy conditions were the rule rather than the exception during that stretch this year. This type of weather has a tendency to impede pollination and reduce fruit set, and we were expecting to see lower yields as a result. Instead, what we ended up with was one of the largest crops that many growers had ever produced.

Some of this can probably be attributed to a couple of things that happened last year. The combination of warm, sunny and relatively dry conditions along with a relatively low crop (or none in some cases where frost damage hit hard) in 2012 allowed developing buds to create greater numbers of cluster primordia, leading to a higher number of clusters per vine.

However, what really seemed to push yields up this year, especially in the case of native varieties, was the high number of berries per cluster. For example, Concord clusters generally have about 40-50 berries per cluster on average. According to berry counts from both FLGP and National Grape Cooperative staff, Concord clusters had 70-80 berries per cluster on average this year, and it wasn't hard to find clusters with over 100 berries on them. The story was the same with other native varieties like Niagara and Catawba, hybrids including Seyval blanc and Vidal blanc, and even in many blocks with vinifera varieties like Pinot noir, Pinot Gris and Riesling.

A number of Concord growers in the Finger Lakes took mid-season mechanized crop estimates for the first time this year, using the techniques developed by Terry Bates and the staff with the Lake Erie Regional Grape Program. We heard many estimates from growers in the 13-18 tons/acre range, which was almost double the yield average of many of these vineyards. Crops that are this heavy are a struggle to ripen even in very good years like 2010 or 2012, much less a year that is not terribly warm like this year was. In response to these heavy estimates, several growers ended up mechanically thinning their Concord crops to try to get them down to a level that had a better chance of ripening by harvest.

When harvest time rolled around, many Concord blocks were still struggling to reach anything even close to minimum sugar levels required by processors. National Grape Cooperative waited to start harvest until the very end of September, and did not finish until the first week of November. At one point, Constellation Brands decided to shut down Concord harvest for one week in hopes of seeing better sugar content than what they were taking in during the first couple of weeks of the season. In the end, most loads were able to get harvested and meet minimum sugar requirements. For those vineyards that managed to carry very heavy crops through to

the end, the question will be how the stress of ripening that large crop will manifest itself next year.

As I mentioned, native varieties were not the only ones to bear heavier than normal crops this year. Many hybrid blocks set very large crops this year - Seyval blanc seemed to be the poster child for this this year, as it often looked like many vines were carrying more clusters than leaves. Many vinifera blocks ended up with higher than average yields as well, especially white varieties that tend to get less attention with regard to fruit thinning than red varieties like Cabernet Franc and Pinot noir.

Similar to Concord, the high yields meant that most blocks did not achieve high sugar levels. Most of the Riesling blocks we sampled for the Veraison to Harvest project this year did not quite reach 20° Brix, and we heard similar results from samples collected by growers and winemakers. Fortunately, sugar content is not necessarily a predictor of quality in wine varieties. Other factors like acidity levels and tannin development (in reds) seem to have been in pretty good shape when fruit was harvested.

The high yields also brought some headaches for wineries as well, who had to scramble to find tankspace to contain everything. Wineries were cleaning out older plastic tanks and steel barrels that hadn't been used in years, while others looked to purchase new tanks to accommodate this year's crop.

Market and Outlook

The large crop this year was a good news/bad news kind of thing for the industry this year. Growers had lots of grapes to sell, but in order to sell grapes you need to have enough buyers to take them all, and that wasn't always the case this year. Growers looked to find new homes for unclaimed tons - the NY Grape & Wine Classifieds site got a good workout this fall - and some were able to sell some fruit to wineries in other regions and states. The two main varieties that were left hanging on the vines at the end of the season were Catawba and Concord, which had some of the largest crops of all. Once wineries have finished fermenting and racking this year's crop, I would anticipate that we will see another surge of ads on the Classifieds site for bulk wine for sale.

The large crop, however, has not caused winemakers to be overly concerned about the quality of the fruit that was harvested. On the contrary, more than one told us that they were very pleased with what was being brought to them (see Chris Gerling's article, "Looking Back at 2013: The Virtues of Normalcy" in this newsletter for more on winemakers' assessment of the 2013 vintage). As mentioned earlier, judicious sorting was necessary in some cases in order to prevent too much fruit infected with Botrytis or sour rot from making it to the presses, but wineries still had plenty of fruit to ferment after the sorting was done. After a few years of eliminating excess inventories, wineries are likely going to be looking at some pretty full warehouses and case storage rooms again after 2013.

While it's difficult to make any real assessment about the quality of the fruit from this season before the final product goes in the bottle, the overall impression at this point is that 2013 was good for growers from the standpoint of healthy yields of fruit, and good for winemakers as the fruit that was delivered had nice flavors and good acidity levels, which should result in some very good wines being bottled next year.

WINEMAKING

Looking Back at 2013: The Virtues of Normalcy

Chris Gerling
Extension Enologist

"I think we'd know normal if we saw it."
-Hobbes, in Bill Watterson's Calvin and Hobbes

Looking back at some of my previous season recaps, they all seem to share a sort of breathlessness. Fatigue is a common condition this time of year, and fatigue certainly leads to shortness of breath. It was more than just tiredness, though. There were hurricanes and months with record rainfall or record lack of rainfall. Growing degree days accumulated like pinball scores (2012) or…didn't (2009). There always seemed to be something extraordinary happening. In 2013, the most notable meteorological feature may have been the absence of notable meteorological features. I don't mean to suggest that there was no bad weather or weather-related drama. We are still talking about agriculture, after all. It's just that after superstorms, 90 degrees in March or some of the other recent adventures, this year in New York felt almost, well, normal.

Normal is a dangerous word, of course, because normal contains all of our own experience and bias. Normal is just what the person doing the describing has come to expect. I'll define my terms, then. I expect that there will be periods of heat and periods of cool, and that sometimes it will be rainy and sometimes dry, and sometimes all of these things will happen in one afternoon. I expect we will reach September and still have very little certainty about the level of ripeness or rot to be expected. I expect that people who fool around with spray intervals have a good chance of getting burned. I expect that we will be left wishing for five more warm, sunny days, but will consider ourselves lucky to have received the sunlight we did get. To compare with recent years, I do not expect to have to mow the lawn in March. I do not expect hilltop vineyards hundreds of miles from the nearest ocean to flood. I think you get the idea.

All Quiet on the Eastern Front
While it's not quite over yet, 2013 has been one of the least active Atlantic hurricane seasons in recent memory. In the Atlantic, our ACE is very low. 10 points for anyone who knew that ACE stands for Accumulated Cyclone Energy, and 10 more for knowing it is basically the hurricane equivalent of Growing Degree Days (GDDs). The latest data shows the 2013 ACE to be about 30% of what would "normally" have been produced by this time. The bottom line is that it's always good when we can avoid weather events with names. Producers in eastern New York, where the major damage from ocean-based storms usually occurs, may wonder if a year with no hurricanes is actually abnormal, and this is, unfortunately, probably a more accurate view. The models all expected higher than usual activity for this year, so the reasons for this season-long lull are "nothing routinely obvious," as Brian McNoldy said in The Washington Post's Capital Weather Gang blog. Wind shear apparently figures largely. Regardless, the point is that it was a year without major storms, but not without plenty of challenge.

A Wine Person Summarizes the Growing Season
<u>Spring</u>
While the 2012 spring brought thrills, chills and spills, the spring of 2013 brought mainly just chills. It stayed cool for a long time, frustrating gardeners but keeping farmers calmer than usual. The late start was a trade-off most fruit growers in the northeast were all too happy to accept, although frosts did manage to damage crops for some of our Pennsylvania neighbors. Like all politics, all weather is local. Also unlike the past couple of years, many vineyards set particularly heavy crops. The combination of high crop load and only fair heat accumulation would become one of the trends to watch.

<u>Summer</u>
It must have been a great year for landscaping services. When the grass did start growing, it never stopped. The grape connection was that there was never a period (at least in some parts of the state) where things got very dry, with all of the good and bad implications associated with fairly consistent moisture: relatively little water stress but plenty of vegetative growth and disease pressure. Vineyard folks did admirable jobs of keeping things clean throughout the summer while storms continued to wash off the spray materials. As late August approached there was trepidation and even despair. The disease pressure continued to mount and the GDDs didn't. This was the scene in the movie where all of the cars are driving toward the same intersection at high speed and here come the kids on bikes and oh, there's that lovable mutt chasing a ball and you just don't know how they're going to make it….

….and then we made it.

Fall

September saved the season. In Mark Chien's Pennsylvania summary, he spoke of a producer claiming in late August that, in order for it to still be a really good year, the rains needed to stop that very day. He got as close to his wish as you can ask for with Mother Nature, and it was a spectacular September. While GDD accumulation never did engage the turbo, the sunny, dry weather stopped the clock on most disease pressure and pushed the ripeness forward in most vineyards. The rain did return in October, and in some cases we "ran out of room," as someone who reaches the finish line on a strong sprint but still a bit behind the leader might say. It's good to use a little perspective in this case, however. Seeing as how there was a time when it looked like we were headed for a last-place finish, a huge comeback to get into the medals is not a bad result at all.

Slow Crush, Big Crush

I recall running into Derek Wilbur of Swedish Hill last October 15th or so at Wegmans, and we marveled at the fact that the harvest was pretty much over. This year was not early, but it wasn't late either, and for the first time in at least a couple of years, it wasn't particularly compressed. While the last two years have felt like three or four week sprints, in 2013 the Vinification & Brewing Lab had grapes just after Labor Day and the last lot was crushed this week. It was more a marathon than a sprint, and like a marathon, things got tough towards the end. Lots of grapes means lots of juice, and lots of juice means full tanks, and all the sudden the grape classifieds gets lots of listings. As Swedish Hill owner Dave Peterson said, "you know it's a surplus year when you even see Sauvignon Blanc and Syrah on the Cornell Classifieds site!"

Plenty of Good

The quality seems to be quite good on the whole. There are obviously exceptions and as previously mentioned it was far from a can't-miss year, but if you're looking for can't-miss, producing fruit and fruit-based beverages may not be the right occupation for you. Speaking of Syrah and Sauvignon Blanc, Rich Olsen-Harbich is really excited about Bedell's Sauv Blanc and Vinny Aliperti likes his Syrah and other big reds for Atwater & Billsboro. Is it too late to pick up some off the listing? Vinny is less high on Pinot Noir, which was "picked under duress." There were certainly a few vineyards and varieties where that description was apt, and such picking is also not something that surprises us greatly in any given year. Since heat and maturity were challenges this year, to hear that reds are among the early favorites is an especially encouraging sign, however.

The New Normal

The other problem with the word normal is that it is now all-too frequently connected with one particular adjective: new. The "new normal" has become a way to describe broken things we can't or won't fix, and in doing so it combines pessimism and apathy in an especially exasperating way. It makes me think of a teenager who won't empty the dishwasher and doesn't see a problem with the situation. Anything from the unemployment rate to the fact that every third driver you see is holding a cell phone is the new normal. I'm considering trying that term for a few unfinished projects around the house, but I doubt I'll get away with it (nor do I think I should). I have a positive spin on the new normal perfectly suited for the New York wine industry, however, and it goes like this: despite challenging conditions throughout the 2013 season, we have come to expect clean fruit and great wines. Less-than-perfect weather may be an old normal for us, but exceptional wine from pretty much every season- as well as a continuously rising quality baseline- does not surprise me in the least. And that's a new normal I support.

2013 GRAPE PRICES

2013 Finger Lakes Grape Prices: Back to the New Normal?

Hans Walter-Peterson

After a tantalizing bump up in grape prices last year, this year's prices saw a return back to a more familiar pattern - flat. It seems likely that the primary reason for this "return to normalcy" was the size of the crop over the past two years. Spring frost damage had a major impact on yields in a lot of cases, particularly in native varieties. Even in varieties that didn't suffer significant frost damage, yields were generally average to below average. While prices didn't go up enough to make up for some of the yield losses, it was an encouraging sign.

This year was kind of a classic example of a rebound year when it came to yields, and the lack of movement in the prices reported to us seems to reflect that. Average prices for each of the categories below, as well as their average high and low prices, didn't move all that much overall. In the case of some specific varieties (e.g., Syrah, Pinot blanc, Castel), there

Variety	2012			2013			% Change (2012-2013)			# of 2013 Buyers	# of 2012 Buyers
	Average	Low	High	Average	Low	High	Average	Low	High		
Native											
Catawba	338	275	400	334	270	400	-1.2%	-1.8%	0.0%	11	10
Concord	324	275	450	318	275	450	-1.7%	0.0%	0.0%	10	10
Delaware	414	270	600	403	225	675	-2.7%	-16.7%	12.5%	7	5
Diamond	462	450	475	478	450	550	3.5%	0.0%	15.8%	4	3
Elvira	292	290	295	280	250	300	-4.0%	-13.8%	1.7%	3	3
Niagara	326	235	450	332	240	400	1.8%	2.1%	-11.1%	12	12
Average	**359**	**299**	**445**	**358**	**285**	**463**	**-0.7%**	**-5.0%**	**3.1%**		
Red Hybrid											
Baco noir	569	325	650	555	280	650	-2.4%	-13.8%	0.0%	8	8
Castel	700	700	700	595	385	700	-15.0%	-45.0%	0.0%	3	2
Chambourcin	789	700	885	799	700	885	1.3%	0.0%	0.0%	6	5
Chancellor	667	600	700	667	600	700	0.1%	0.0%	0.0%	3	3
Chelois	788	675	900	788	675	900	0.1%	0.0%	0.0%	2	2
Colobel	667	600	700	606	425	700	-9.1%	-29.2%	0.0%	4	3
Corot Noir	631	600	700	585	425	700	-7.3%	-29.2%	0.0%	5	4
De Chaunac	491	450	630	484	450	630	-1.4%	0.0%	0.0%	6	5
GR7	602	525	650	585	510	650	-2.8%	-2.9%	0.0%	4	3
Leon Millot	635	600	700	635	600	700	0.0%	0.0%	0.0%	5	5
Marechal Foch	642	600	700	675	625	700	5.2%	4.2%	0.0%	3	3
Noiret	680	500	860	626	425	860	-7.9%	-15.0%	0.0%	9	7
Rougeon	552	500	650	526	425	650	-4.7%	-15.0%	0.0%	7	5
Vincent	590	525	625	595	525	625	0.8%	0.0%	0.0%	6	5
Average	**643**	**564**	**718**	**623**	**504**	**718**	**-3.1%**	**-10.8%**	**0.0%**		
White Hybrid											
Aromella	NA	NA	NA	750	750	750	NA	NA	NA	1	0
Aurore	385	300	440	360	285	440	-6.5%	-5.0%	0.0%	4	4
Cayuga White	570	500	650	548	415	600	-3.9%	-17.0%	-7.7%	15	13
Seyval blanc	613	550	700	608	415	700	-0.7%	-24.5%	0.0%	8	6
Traminette	866	700	950	846	700	950	-2.3%	0.0%	0.0%	7	8
Valvin Muscat	865	740	1000	753	415	1000	-12.9%	-43.9%	0.0%	5	6
Verdelet blanc	550	400	700	505	400	700	-8.2%	0.0%	0.0%	3	2
Vidal blanc	607	500	700	625	500	700	2.9%	0.0%	0.0%	7	7
Vignoles	718	525	850	772	600	900	7.5%	14.3%	5.9%	9	7
Average	**647**	**527**	**749**	**627**	**466**	**749**	**-3.0%**	**-11.5%**	**0.0%**		

Variety	2012			2013			% Change (2012-2013)			# of 2013 Buyers	# of 2012 Buyers
	Average	Low	High	Average	Low	High	Average	Low	High		
Red Vinifera											
Cabernet Franc	1263	800	1750	1317	800	1750	4.2%	0.0%	0.0%	12	13
Cab Sauvignon	1648	1200	1850	1645	1200	1850	-0.2%	0.0%	0.0%	10	10
Lemberger	1417	1300	1500	1417	1300	1500	0.0%	0.0%	0.0%	6	6
Merlot	1808	1500	2025	1810	1500	2000	0.1%	0.0%	-1.2%	10	10
Pinot noir	1677	1400	2000	1682	1550	2000	0.3%	10.7%	0.0%	11	11
Syrah	1750	1750	1750	1875	1750	2000	7.1%	0.0%	14.3%	2	1
Average	**1594**	**1325**	**1813**	**1624**	**1350**	**1850**	**1.9%**	**1.9%**	**2.1%**		
White Vinifera											
Chardonnay	1248	1100	1550	1271	1100	1550	1.8%	0.0%	0.0%	14	13
Gewurztra-miner	1503	1000	1700	1510	1000	1700	0.5%	0.0%	0.0%	10	10
Pinot blanc	1413	1300	1525	1300	1300	1300	-8.0%	0.0%	-14.8%	1	2
Pinot gris	1619	1500	1725	1604	1500	1725	-0.9%	0.0%	0.0%	7	8
Riesling	1477	1300	1750	1479	1300	1750	0.1%	0.0%	0.0%	14	13
Average	**1452**	**1240**	**1650**	**1433**	**1240**	**1605**	**-1.3%**	**0.0%**	**-2.7%**		

were significant changes to the average price because of one more or one less reported buyer for the variety than the previous year, which can have a larger influence on the price when there is a small number of buyers for that variety already. In a few other cases, including Valvin Muscat, Cayuga White and Rougeon, the number of buyers remained the same or even increased, so the changes in those prices is more likely the result of a change in the market (again, likely tied at least somewhat to the supply of fruit this year).

While growers always like to see rising grape prices, the higher yields this year more than made up for the lack of price increases - assuming of course that growers could sell all of their fruit, which not everyone was able to do this year.

This year's Finger Lakes Grape Price list can be found on our website at http://nygpadmin.cce.cornell.edu/pdf/submission/pdf70_pdf.pdf.

Natives

Average prices for the major players in this category - Concord, Catawba and Niagara - were fairly flat this year, with average prices for first two dropping by less than 2%, and that for Niagara increasing by less than 2%. All three of these varieties yielded significantly higher than normal crops in most cases this year, so as long as growers were able to sell them, their revenue per acre was in pretty good shape. In one case, however, a buyer said that this year's price included a trucking allowance, as opposed to previous years when a separate payment for transportation was made - in effect, cutting the price per ton by that amount.

Red Hybrids

Prices for both red and white hybrids had the largest change of all categories this year. Unfortunately, that change was down. Of the red hybrids, only Foch and Chambourcin had any real increase in their average prices this year. Most other varieties lost some ground. Two of Cornell's recent releases - Corot noir and Noiret - saw their average prices fall by 7.3% and 7.9%, respectively. In these two cases, it's hard to say if this was a reflection of much higher yields or there is still some indecision about just what the market price should be for these new varieties. Both Baco noir and Rougeon, two important bulk varieties in this category, had smaller decreases in their prices this year as well.

White hybrids

In general, white hybrids fared about the same as reds. The two bright spots in the category were average prices for Vidal and Vignoles (not late harvest fruit), which increased by 2.9% and 7.5%, respectively. The average price for Aurore fell by 6.5% as a result of two buyers

who dropped their prices, while the two others (including Constellation, the largest buyer of the variety) held prices steady from 2012. Cayuga White also saw a bit of a price decrease this year (3.9%), likely due in large part to large crops in most blocks this year. And Valvin Muscat, released by Cornell at the same time as Corot Noir and Noiret, also had a significant drop in its average price this year, due mainly to a new buyer for the variety coming in with a significantly lower price that other buyers, shifting the average. Prices for the variety from other buyers, however, remained the same as last year.

Red vinifera

Prices for red vinifera varieties remained essentially flat except for Cabernet Franc, which continues to recover from the price drop that it experienced from 2007-2011. The increase in the average for Syrah was due to a second buyer reporting a price this year that was higher than the single price reported last year. Low and high prices for all varieties were virtually unchanged as well, except for the lowest price reported for Pinot noir, which increased by just over 10% this year.

White vinifera

Prices for white vinifera varieties in 2013 performed similar to the reds, with virtually no change. The only real notable change was the average price for Chardonnay, which saw a small bump up this year (1.8%). The shift in prices for Pinot blanc is attributed to one less buyer reporting their price this year, and does not necessarily reflect demand. The one buyer who purchased Pinot blanc both years paid the same in 2013. Riesling prices were virtually unchanged from last year.

EXTENSION & RESEARCH ACTIVITIES

FLGP Extension Activities

Viticulture 2013

This year's version of "Viticulture 20XX" was held at the Rochester Riverside Convention Center on February 6-8, 2013. Over 930 people attended the conference, and 94 vendors took over most of the large exhibit space in the Convention Center with information about equipment, services and more. FLGP staff were heavily involved in planning this year's conference program, including the viticulture keynote speaker for the meeting, Dr. Stefano Poni from the Università Cattolica del Sacro Cuore, Piacenza, Italy. The conference covered a vast array of topics in viticulture, enology, business & marketing, legal and much more. The conference also featured the Northern Grapes Symposium, with consisted of a series of sessions focused on grape growing, winemaking and business topics related to grape varieties created for cold climates.

Spring IPM Field Meeting

The annual Spring Grape IPM Field Meeting was held on Thursday, May 16 at Clearview Farm in Branchport. Over 80 growers attended this year's meeting, which featured a discussion with Marc Fuchs about the newest viral disease in grapes, Red Blotch, and updates on insect, disease and weed management from Greg Loeb, Wayne Wilcox and Robin Bellinder, respectively. Andrew Landers also educated and entertained with some of the latest examples of sprayer technologies that his lab is working on, as well as his witty English quips. Special thanks to the Tones family for hosting this year's meeting at their farm. *Cooperators: Wayne Wilcox (Dept. of Plant Pathology and Plant Microbe Biology), Greg Loeb (Dept. of Entomology), Andrew Landers (Dept. of Entomology), Robin Bellinder (Dept. of Horticulture), Marc Fuchs (Dept. of Plant Pathology and Plant-Microbe Biology), Clearview Farms*

Grower Tailgate Meetings

Our series of grower "tailgate" meetings during the growing season have quickly become a very popular way for growers to interact with FLGP staff and to discuss issues or problems that they are having in their vineyards. The meetings are held every other Tuesday afternoon during the growing season. We hold meetings at various vineyards around the Finger Lakes to discuss topics relevant to that time of year or anything else that growers wanted to discuss. These meetings are designed to be informal gatherings, with no formal agenda to allow for grower-to-grower discussion. Prior to each meeting, FLGP staff visit vineyards in the area

Over 140 growers attended FLGP Tailgate Meetings this season. They have quickly become a very popular way to communicate information with growers.

where the meeting is being held to get a sense of what's happening in that area and what might be useful to discuss later on that afternoon.

The FLGP held nine tailgate meetings during the 2013 growing season. Over 140 growers attended these meetings. Several growers attended multiple meetings around the region, not just those near their farm. One grower who attended a meeting commented, "Good Meeting! This is the kind of activity and interaction with farmers that extension should be doing." Thanks to all of our hosts for this year's meetings. *Hosting Farms/Growers: Robert Morse (Yates County), Sawmill Creek Vineyards (Schuyler County), Jim Hicks (Ontario County), Hosmer Vineyards (Seneca County), Dr. Frank's Vinifera Wine Cellars (Steuben County), Hermann J. Wiemer Winery (Yates County), Roy and Gordon Taft (Steuben County), Atwater Vineyards (Schuyler County), Goose Watch Winery (Seneca County)*

Crop Estimation & Thinning Field Demonstration

In response to the heavy crop in Concord vineyards this year, the FLGP held a field meeting on Monday, July 22 to demonstrate how to estimate and thin a large Concord crop using a mechanical harvester. Large crops struggle to ripen in most seasons and can cause unnecessary stress on the vines. The impacts of this extra stress can carry over to subsequent years and impact vineyard health and productivity. At the meeting, the sample that was collected was equivalent to a yield of 18 tons/acre. A couple of growers who attended had used this technique in the past, but most had not. About 15 growers attended the meeting, and most ended up using the technique on some of their blocks. *Cooperators: Don, Harold and Jim Tones*

New Grower/New Winery Workshop

This workshop was presented jointly by the FLGP and the Enology Extension program on August 22-23 at the Agricultural Experiment Station in Geneva. The two day workshop was an opportunity to learn about key aspects grape growing and winemaking for those interested in starting a new vineyard or winery business. Attendees learned about the decisions that need to be made in preparation for planning or starting a winery, and also once production has begun.

The first day focused on developing a new vineyard. Staff from the FLGP, NY State Integrated Pest Management program and the Agricultural Experiment Station in Geneva covered topics including site selection and preparation, appropriate varieties to plant, essential equipment for new vineyards, and pest and weed management.

The winery workshop on the second day covered basic tenets of winemaking, analysis, equipment and more. Sam Filler from the Empire State Development agency's "one stop shop" for wine beer and spirits gave a presentation and answered questions related to licensing and other legal aspects of starting a winery. *Cooperators: Chris Gerling, Anna Katharine Mansfield (Dept. of Food Science)*

Compaction Field Meeting

On July 30, we held a compaction workshop at Doyle Vineyard Management's Dresden Farm. At the meeting we demoed a double shank ripper, spader and single shank ripper. Four weeks before the meeting we ran those three machines through some rows. We were looking to see what effects settling and tractor traffic had on the alleviation. Preliminary measurements showed several different compaction layers. As suspected the wheel tracks were the most compacted. There we found compaction at 3, 6 and 9-10 inches. For this site we found the double ripper to be the most effective. It has a maximum working depth of 18 inches and can be adjusted to work right in the wheel tracks. When we checked the double shank treatment from four weeks ago it was still free of compaction.

The spader provided compaction relief however it was only working about 6-8" deep. We found this machine to be hard to set up and hard to operate. When we adjusted it to run deeper we found it was bringing up too many roots and hitting a lot of rocks. The single shank ripper did a great job eliminating compaction in the row middles however we found little compaction in the middle anyways. *Cooperator: Matt Doyle, Doyle Vineyard Management*

Dr. Ian Merwin from the Department of Horticulture discussed research on ground cover management and soil characteristics at the Compaction Field Meeting this summer.

Pruning Workshop for New Growers

This past spring we held a class to teach attendees how to prune grapevines. The first part of the class was an indoor session going over the parts of a grape vine, and how they grow. We also demonstrated some electric pruning shears. Electric shears are a great tool to help reduce worker fatigue. We then went outside and participants were able to prune vines on top wire cordon,

umbrella, and VSP trellises.

New York Grape and Wine Classifieds

The New York Grape and Wine Classifieds webpage continues to be an essential tool for local growers and wineries. The website is free to use and connects sellers of local grapes, juice, wine, and equipment, with potential buyers across the country. From April to December of 2013, 357 ads were posted to the site. A brief survey of users in 2012 showed that the site generated $1,113,344.00 in economic activity. A recent email from a grower stated "We were able to sell about $10,000 worth of grapes on the (classifieds) website, this is a great tool for us to use."

FLGP Field Activities

Cooperative Agriculture Pest Survey (C.A.P.S.)

Tim Weigle (LERGP), Hans Walter-Peterson and Mike Colizzi (FLGP), Stephen Hoying and Steve McKay (Hudson Valley Laboratory), Alice Wise and Libby Tarleton (Long Island Horticultural Research and Extension Center), Marc Fuchs (Dept. of Plant Pathology and Plant-Microbe Biology).

This was the fourth year that the Finger Lakes Grape, Lake Erie, Hudson Valley, and Long Island grape extension programs partnered with NYS Department of Ag and Markets to monitor invasive insect pests in vineyards across the state. This year's trapping work was focused on nurseries and targeted four moths - European Grape Vine Moth, Summer Fruit Tortix Moth, European Grape Berry Moth, and the Egyptian Cotton Leafworm. For the 2013 growing season, 106 traps were placed around the Finger Lakes both in nurseries and vineyards adjacent to nurseries. Two sets of leaf samples were taken at different times during the season to test for a wide variety of grape viruses, including Grapevine Leafroll, Grapevine Fanleaf, and Tomato and Tobacco Ringspot. None of the targeted moths was found in any of the monitored regions this year. Positive results for viruses were obtained in 75 out of 2,197 samples analyzed. *Cooperators: Multiple growers across New York.*

Different types of traps were deployed in vineyards to monitor for four invasive insect pests as part of the statewide C.A.P.S. project this year. Bucket traps (above) were used to monitor for Egyptian Cotton Leafworm.

Investigating Materials to Manage Frost Injury Risks

Mike Colizzi and Hans Walter-Peterson (FLGP), Tim Martinson and Bill Wilsey (Statewide Viticulture Extension Program)

This spring we continued our work with soybean oils as way to delay bud break. This year we explored a more cost effective product, Bakers and Chefs oil available at Sam's Club. We applied the oil to Concord, Foch, and Chardonnay. The applications to Concord and Chardonnay were performed on 1 acre with an airblast sprayer while the Foch was applied on a smaller scale with a backpack sprayer. We applied the oil during the first week of April. The vines were then checked twice a week from April to the beginning of June. On May 5th treated concord vines were at Eichorn-Lorenz stage 7, while untreated vines were at E-L stage 10. By our final evaluation on June 6th there were no differences between treatments. No differences were detected in Brix levels or berry weights at harvest.
Cooperators: Bill Dalrymple, Prejean Winery, Lamoreaux Landing Wine Cellars.

Impacts of Late-Season Fungicide Applications on Wines

Hans Walter-Peterson and Mike Colizzi (FLGP), Chris Gerling and Anna Katharine Mansfield (Enology Extension, Dept. of Food Science).

This project is designed to examine the impacts of late-season fungicide applications on fermentation and sensory characteristics. As harvest nears, growers want to continue protecting their fruit from fungal infections like botrytis and downy mildew after substantial investment has already been made in the crop. On the other hand, winemakers are often concerned about the impacts that residues from these fungicides might have on fermentation and sensory characteristics of their wines. No differences were found in the amount of time to finish alcoholic or malolactic fermentation for any of the treatments. Wines from 2011 and 2012 were presented to consumers for difference and preference testing this year. Fermentations from this year's crop will again be analyzed for any signs of inhibition of yeast or malolactic bacteria activity, and will be subjected to sensory analysis next spring. The information from this trial will help viticulture and enology extension staff to make better recommendations to growers and winemakers regarding the use of fungicide materials near harvest when weather conditions may require them. *Cooperators: Ravines Winery*

Bud Hardiness Monitoring

Tim Martinson and Bill Wilsey (Statewide Viticulture Extension Program), Hans Walter-Peterson and Mike Colizzi (FLGP), Tim Weigle (LERGP), Stephen Hoying and Steve McKay (Hudson Valley Laboratory)

This project has been ongoing for several years and provides growers with valuable information about the cold hardiness of grape buds from important varieties in each region. Bud samples are collected every two weeks from January through April and analyzed at Geneva. Graphs are developed comparing bud hardiness to recent low temperatures, which gives growers an indication about the potential for any injury to primary buds, and the need to make any adjustments in their pruning strategy. This year was the first time we collected buds from growers on Canandaigua Lake. The most current information is published on the project's webpage (http://grapesandwine.cals.cornell.edu/cals/grapesandwine/outreach/viticulture/weather.cfm). *Cooperators: Multiple growers throughout New York.*

Finger Lakes Teaching & Demonstration Vineyard

Hans Walter-Peterson and Mike Colizzi (FLGP), Paul Brock (Finger Lakes Community College), Peter Martini (Martini Vineyards/Anthony Road Wine Company)

The Finger Lakes Teaching Vineyard was planted in May of 2012 and has been educating students and growers since before it was planted. Students from the Viticulture and Wine Technology program at FLCC have been busy helping with the establishment and maintenance. New and prospective grape growers had the opportunity to learn that there is a lot more to starting a vineyard than they may have thought. A row of Chenin Blanc, an aromatic white vinifera variety, was planted at the Teaching Vineyard in 2013. This past fall FLCC students took the first harvest from the vines.
The teaching vineyard is located at Anthony Road Wine Company and is funded by a grant from the Genesee Valley Regional Market Authority.

Students from FLCC's Viticulture & Wine Technology Program harvested a small crop this year from most varieties in the Teaching & Demonstration Vineyard. Some of the fruit from this Vineyard will eventually be used at FLCC's new Viticulture Center in Geneva.

Riesling Clonal Trial

Hans Walter-Peterson and Mike Colizzi (FLGP)

The intent of this trial is to identify viticultural, chemical and enological differences between Riesling clones that are currently available in the U.S. The plant material is being purchased by the cooperator directly from Foundation Plant Services (FPS) in Davis, CA, who maintains the official collection of grape clonal materials in the United States. Five clones (FPS 1, 9, 12, 17 and 20) were planted in 2011, and two more clones (FPS 23 and 24) were added in 2012. One more clone (FPS 21) will be planted next year. Plantings of each clone are randomized and replicated three times, and all clones are grafted to 3309C rootstock. Vines will be evaluated for both growth and production characteristics such as vigor, cluster size and structure, berry size and yield potential. The first five clones will bear their first crop in 2014, and we anticipate beginning data collection on vine performance, fruit characterisitics and yields. We will also be working with enology faculty to begin trying to characterize chemical and sensory differences as well. *Cooperator: Hermann J. Wiemer Vineyards.*

Veraison to Harvest

Tim Martinson and Bill Wilsey (Statewide Viticulture Extension Program), Hans Walter-Peterson and Mike Colizzi (FLGP), Luke Hagerty (LERGP), Stephen Hoying and Steve McKay (Hudson Valley Laboratory).

Veraison to Harvest is a weekly electronic newsletter put out by viticulture and enology extension personnel from the Finger Lakes, Lake Erie, Long Island, and the Hudson Valley. In 2013 samples were collected nine times and ten issues of the electronic newsletter were published. This was the first year that data from Canandaigua Lake was included in this project. Growers can use the data from this to assess how varieties in their vineyard may be developing in order more efficiently manage picking schedules. *Cooperators: Multiple growers throughout New York.*

GIS Mapping of Finger Lakes Vineyards

Mike Colizzi and Casey McManus (FLGP)

This was a very successful year for our vineyard-mapping project. Casey McManus worked with the FLGP during the growing season to continue adding information about the region's vineyards. Over 1000 acres of vineyards were added to our mapping database in 2013. According to our maps, Riesling is now the second most widely planted variety in the Finger Lakes behind Concord. Casey worked with National Grape Cooperative to develop maps for

their growers that are now available to them online. If you have ripped out or planted anything recently, please let us know so we can keep our maps up to date.

Accelerating grape cultivar improvement via phenotyping centers and next generation markers (a.k.a, VitisGen)

Project Leads: Bruce Reisch (Horticulture), Lance Cadle-Davidson (USDA-Agricultural Research Service, Geneva), Hans Walter-Peterson (FLGP), Anne Fennell (South Dakota State University), Julian Alston (UC-Davis).

This project will help to speed up the process to develop genetic markers that can be used to identify important traits in the grape breeding process. Without good genetic markers, it can take years for scientists to know whether a new grapevine has a certain characteristic or not. By developing new markers that are strongly correlated to these desired traits, the process to determine if new grapevines possess those desired characteristics can be sped up dramatically. Industry surveys and scientist-stakeholder workshops have repeatedly identified three traits as being very important to U.S. grape growers - powdery mildew resistance, cold tolerance, and fruit quality - and these will be the traits focused on for this project. The FLGP is leading the extension and outreach effort for this project. Outputs from our efforts so far include a new project website, two videos posted to YouTube that demonstrate various aspects of the project, and a newsletter. *Cooperators: Multiple scientists from Cornell, USDA-ARS and other research institutions.*

UPCOMING EVENTS

2014 Becker Forum:
Building the Agricultural Workforce of the Future
January 20, 2014
Doubletree Hotel
6301 Route 298, East Syracuse NY
Visit http://nysvga.org for program and registration information.

Unified Wine & Grape Symposium
January 28-30, 2014
Sacramento Convention Center, Sacramento CA
The largest trade show devoted to grapes and wine in North America.
Visit www.unifiedsymposium.org for registration, housing and program information.

B.E.V. NY 2014
Febuary 27 - March 1, 2014
Holiday Inn
2468 Route 414, Waterloo NY
Drink Local, Learn Local. Business, Enology and Viticulture information all in one event!
Program and registration information will be announced soon.

finger lakes grape program

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