FINGER LAKES
# VINEYARD NOTES

NEWSLETTER NO. 5 DECEMBER 19, 2012

## IN THIS ISSUE

The 2012 season was another "year to remember", with plenty of warm temperatures and sun, and not a lot of rain. This made for an early season with very low disease pressure, and that produced fruit of exceptional quality. But it wasn't perfect by any means. Early spring frosts and heavy grape flea beetle damage impacted a number of growers this year. There's lots more on the season in the two 'Year in Review' articles here.

We planted a new teaching vineyard this spring, which will be a great new resource for us to test and demonstrate vineyard management practices and technologies. It will also be used by students in the Viticulture & Wine Technology Program at Finger Lakes Community College, where they can get hands-on experience as part of their education to be the next generation of vineyard workers. Read Mike Colizzi's article in here about this new resource.

Don't forget to sign up for Viticulture 2013, which will be held February 6-8, 2013 at the Riverside Convention Center in Rochester NY. The early registration discount ends after January 15, so be sure to register before then.

On behalf of all of us at the Finger Lakes Grape Program, thank you for your support of our work this year - much of which is described in this issue. Best wishes to all of you for a happy New Year!

## 2012: The Best Year Ever - Since 2010?

*Hans Walter-Peterson*
*Viticulture Extension Specialist*

Just two years ago, the Finger Lakes had wrapped up "the best growing season in memory" according to a lot of growers and winemakers that I talked to. It was the warmest growing season in over 40 years, with ample water and sunshine at the right times, leading to an early and frenzied harvest when grapes could be picked when they were ready as opposed to trying to bring them in before rots starting taking over (a la 2011). Many of us were thinking, "This was great, but don't get used to it."

Fast forward a couple of years to 2012. In many ways, this past growing season mirrored what we saw in 2010 - very warm temperatures, vine and fruit development ahead of schedule, an early and frenetic harvest in many cases, and many people singing the praises of another "best year ever." While there were many good things to say about the year, it certainly wasn't a perfect one. Just ask almost any grower who farms Concord or Niagara in the Finger Lakes or Lake Erie regions - or Ohio or Michigan for that matter - about how "perfect" this season was.

*Winter 2011-12: Did I Miss Something?*

According to the National Weather Service, the winter of 2011-12 was the fourth warmest on record in the United States, and that certainly seemed to be the case in the Finger Lakes. Warmer than normal temperatures were the rule for the period from November 2011 to March 2012. During the entire five month period, only 20 days had high temperatures below 32°F, but we had 24 days over 50°F just between January and March. At Geneva, only one low temperature was recorded below zero this past winter.

Despite the warmer than normal temperatures, our bud hardiness sampling this past year showed that buds still had good cold tolerance overall in the Finger Lakes (Figures 1). $LT_{50}$ values did not reach quite the same level as they have in colder years like 2009, but were more than adequate to protect buds from damage this year. We also continue to see data that indicates that Cayuga White is not quite as hardy as we (or at least, I)

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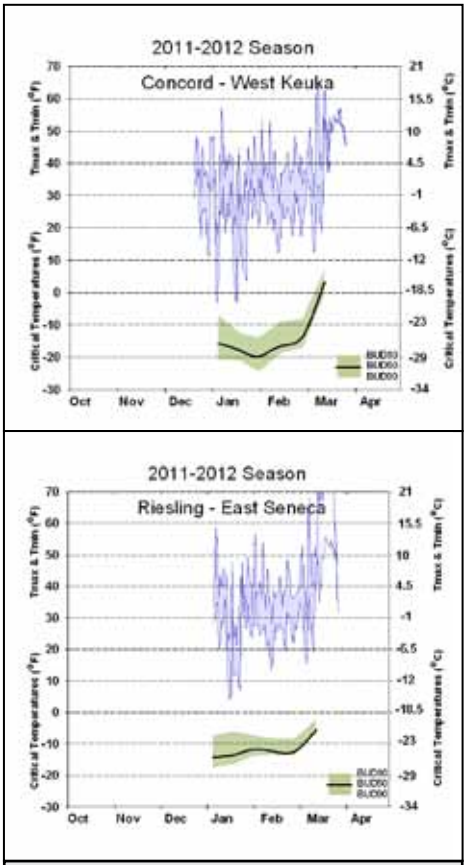



*Figure 1. Despite the warm winter, vines were only slightly less hardy this past winter. Concord's rapid deacclimation (top) made it more vulnerable to early spring frost damage.*

assumed it was. Of the four varieties that we test regularly each year - Concord, Cayuga, Riesling and Cabernet Franc - Cayuga White and Cabernet Franc are the least cold tolerant varieties with regard to their tested $LT_{50}$ values. We also continue to see that Concord deacclimates at a faster rate in the spring compared to Riesling and Cabernet Franc.

*The Spring Warm Up - and Cool Down*

Beginning on March 11, a major warm spell settled into the eastern U.S. that pushed high temperatures in the Finger Lakes over 60°F for almost two weeks straight, causing early breaking varieties like Concord, Niagara, Baco noir and Geneva Red to break bud over a month earlier than normal. By the end of this stretch of weather, many vines of these varieties had shoots that were anywhere from just at budbreak to 2-3" long. On March 26 and 27, low temperatures dropped into the low to mid 20s in most parts of the Finger Lakes, causing many of those shoots to suffer frost damage to various extent. While many shoots were killed outright, others suffered damage only to the basal leaves on the outside of the newly emerged shoots, and leaving the shoot tip


*Figure 2. Example of frost damage to leaves but not to the shoot tip.*

undamaged (Figure 2). Our initial estimates were that somewhere between 15-20% of shoots in these early varieties were killed by this first frost event. Of course, that was only March - we still had to get through April.

April temperatures were fairly close to normal for much of the month, which would not be problematic for vineyards in the Finger Lakes in most years. Unfortunately, "normal" temperatures in April includes a few forays below freezing, which caused more damage to shoots that had already emerged and to some other varieties that also went through budbreak during the month. The weekend of April 27-29 was the final frost

event of the year, with temperatures dropping into the mid to upper 20s on one or more of those nights. By this point, varieties like Lemberger, Chardonnay, Gewurtztraminer, Pinot noir, Cayuga White and Cabernet Franc had emerged from dormancy to various degrees, and shoots with green tissue exposed were damaged or killed. The degree of damage within a vineyard, variety or area was very erratic as a result of several factors including erratic early shoot growth (shoots that were less developed experienced less injury), air drainage, and proximity to the lakes. In these earlier vinifera varieties, we estimated approximately 20-30% injury was fairly common. In some early hybrid and native varieties, particularly on the Keuka Lake Bluff, damage was over 50% in some areas. Some varieties like Baco noir and Seyval have fruitful secondary shoots, which can help make up for some of the crop loss due to primary bud injury. Other varieties like Concord and Niagara have less fruitful secondary shoots, and therefore ended up with significantly lower yields this year due to the frost damage this spring.

*The Growing Season*

Once April and the threat of frosts had finally passed, growers could adjust themselves and their schedules to the fact that the season was well ahead of schedule, and stayed that way. Bloom arrived in late May on early varieties like Foch, Baco and Concord, which was a good two weeks or more ahead of normal. And for the most part, that's where we stayed the rest of the season.

Growing Degree Days

In the 2010 growing season, the Finger Lakes accumulated about 3000 growing degree days (GDD), making it the warmest growing season since 1973 (when our recordkeeping began). The 2012 season came close to matching that total this year as well, based on the April 1 - October 31 timeframe that we use to measure GDDs (Figure 3). Every month in the 2012 season, except for April, had higher GDD accumulation than average. It's interesting to see that the only months where 2010 was warmer than this past year were April and September (Figure 4).


*Figure 3. GDD accumulation in 2011 and 2012 relative to the long-term average (average is the zero line).*

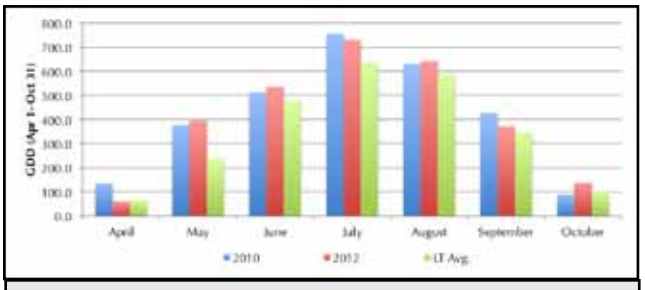



*Figure 4. 2012 GDD accumulation by month compared to 2011 and the long-term average.*

However, as several growers asked during the season, should the GDDs that we accumulated in March after the vines started to come out of dormancy be included in that calculation? While not a terribly critical measure for a lot of things that growers do, a number of them use it to determine when to make their initial crop estimates (at 1200 GDDs). If we calculate GDDs based on the actual "growing season" this year - starting around March 20 instead of April 1, and ending around October 20 instead of October 31 - the total GDDs for 2012 was 2982, which is actually greater than the 2010 total of 2924.

Rain

Besides being warm and early, the 2012 season was also drier than normal, which helped to keep disease pressure at bay for much of the season. Total rainfall from April 1 - October 31 was 20.95", which is 2" less than the long-term average of 22.95" over that period. Digging a little deeper into the monthly totals may help to explain why we saw so little powdery & downy mildew and black rot develop in many vineyards this year. After a fairly wet April, rainfall totals were well below average in May, June, August and September. The only reason July's totals were above normal was a few rain events in the last few days of the month, and over half of October's rain came after harvest was wrapped for most vineyards (Figure 5). These dry conditions, combined with plenty of sunlight, made for less hospitable conditions for fungal infections to get established early in the season.

While many areas in the midwest were experiencing historic drought conditions, most Finger Lakes vineyards did not experience significant drought stress, except in certain areas with shallow soils or low plant water availability. The most significant drought period occurred roughly from mid-June through the end of July, when the area only received about 1" of rain over a six week period. Drought conditions were actually worse in the Finger Lakes in 2011 than they were this year.

Drought conditions earlier in the season are generally less of a concern (to a point) in the first part of the season, when the vine is focused

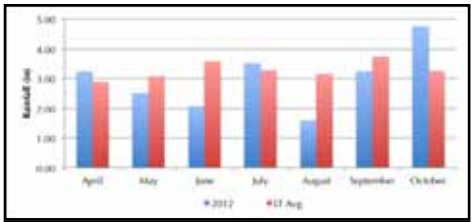


*Figure 5. 2012 monthly rainfall totals compared to the long-term average.*

on shoot growth and early disease inoculum can gain a foothold that can dictate the level of disease for the rest of the season. Dry conditions can reduce shoot growth to some extent, which is often desirable in many of our vineyards, and reduce berry size which can reduce cluster compactness and improve fruit quality in some red fruited varieties by increasing the ratio of skin to pulp. If vines experience significant water stress after veraison, their ability to fully ripen fruit and partition reserves to the permanent structures in the vine for winter can be compromised. Fortunately, we were able to get enough rain before and during harvest where we did not see any major impacts to the vines in terms of ripening ability.

*Pest Management in 2012*

Disease

As mentioned above, the dry conditions this year helped to suppress disease development. There was concern early in the season about the potential for high phomopsis pressure after heavy infections in many vineyards with native and hybrid varieties in 2011. Fortunately, we saw very few places where phomopsis levels were higher than we typically see during the season, and the disease was able to be controlled with a normal spray program.

The dry and warm conditions also helped to keep black rot, downy mildew and even powdery mildew from making much of any kind of appearance in vineyards for much of this year. During many trips through vineyards around the region this summer, we were seeing very little evidence of any of these diseases. This was particularly noteworthy with powdery mildew this year, which only requires warm temperatures and some humidity to produce new spores that can be blown by the wind to infect nearby tissues. The plentiful sunlight that we had this year likely played a role in this as well, as we know that higher amounts of UV light can suppress powdery mildew reproduction.

In some cases, growers were spacing sprays further apart than they normally would, while others didn't want to take the chance, knowing that the weather could change fairly quickly and did not want to leave their vine without protection. This question of whether or not to delay sprays came up several times at our tailgate meetings this season. Our recommendation to growers was that if they were going to delay any sprays, they needed to be more vigilant in the use of disease modeling information from NEWA and with scouting in their vineyard blocks, and be ready to react to conditions that might cause new infections to establish and spread quickly.

The same pattern was seen with botrytis development and other bunch rots this year. There was serious concern about the potential for higher botrytis pressure in 2012 after last year, which had some of the heaviest levels of bunch rot infection that growers had ever seen. Again, the dry conditions near bloom this season, when early infections of botrytis can get a foothold in the young clusters, probably played a major role in reducing the amount of disease at harvest. More rain started to fall around the end of September, causing some more bunch rot to appear in some vineyards, but not to an extent that caused any serious concern with growers or winemakers. Most growers still applied 3-4 botrytis sprays this year, partly out of concern that the disease could raise its ugly head again quickly if conditions allowed it to.

Insects

With one notable exception, insect populations were at low to moderate levels in most vineyards this year. There was some expectation that there was very little mortality of larva and adults that overwinter in leaf litter or under the surface of the soil after a mild winter. However, there were very few reports from growers of populations of insects like Japanese beetles that were causing any real problems. Grape berry moth levels were generally low to moderate in most vineyards, however there were some "hotspots" beyond those that have high pressure most years, where damage was more significant.

*Figure 6. Grape flea beetle populations were much higher than usual this year, and were present further into the season in many vineyards.*

The one significant insect pest that growers dealt with this year was grape flea beetle, or steely beetle. Normally these pests are considered a minor nuisance pest of grapes that feed briefly on swelled buds and very young shoots before their populations disappear. After our early budbreak this past spring, cooler weather in April held back shoot growth, keeping them in the preferred feeding stages for this pest for a longer period of time, which

allowed them to cause more damage. In addition, the populations were at a level that nobody can ever recall seeing before, and for a longer period of time. We were able to occasionally find larvae feeding on shoots 12" or more in length (Figure 6). Several growers, primarily with native varieties, felt that the damage was significant enough that they applied an insecticide to some of their blocks earlier than they ever had before. It is not clear why there was the population of this insect pest exploded this year, but we will be looking to see what happens with it next year.

*Crop Yields and Quality*

Based on our own observations and feedback from growers, the overall grape crop in the Finger Lakes this year was below average. This can primarily be attributed to the loss of yields from growers of native and some hybrid varieties that suffered significant frost damage in the spring. Growers around Keuka Lake reported losses in some Concord blocks as high as 50-60%, and other varieties like Niagara, Baco and even some Catawba vineyards with similar levels of crop loss. While yields in some of the early growing vinifera varieties like Chardonnay, Pinot noir and Lemberger were also impacted by the frost this year, the losses were smaller, and in some cases growers were able to harvest an average crop. Other vinifera and hybrid varieties like Riesling, Cabernet Franc and Vidal avoided frost damage for the most part and responded well to the excellent conditions this year, producing average to even slightly above average crops.

While yields may not have been what growers were planning on from a number of varieties, there is general agreement that the 2012 crop might be one of the best that the Finger Lakes has produced, rivaling the quality of the 2010 crop which was also considered a top notch vintage for the region. The longer and warmer growing season allowed the fruit to fully develop and ripen, with sugar levels generally being higher than in most years, and acidity somewhat lower in general. The lack of late-season disease pressure also allowed growers and wineries to let fruit hang longer, whether for reasons of fruit development or tank management in the cellar, without much fear of losing it to oncoming rot. There's more about the industry's assessment of the quality of this year's crop in Chris Gerling's article in this newsletter.

Concord fruit and that from some other varieties used for high volume bulk products (e.g., Aurore and Elvira) reached higher sugar levels as well this year, but also suffered from a significant loss of acidity near harvest. This was problematic for a few of the larger processors, like Constellation and National Grape Cooperative, who purchase Concord from the region. This led buyers like these to have to make adjustments to their processing, including purchasing less ripe varieties with higher acidity to balance the lower acidity fruit.

*Market and Outlook*

The grape and wine market in the Finger Lakes appeared to regain some steam in 2012, which was welcome news to growers. Based on the FLGP's annual Grape Price Listing, grape prices were more encouraging than they have been for the past few years. Average prices for almost all varieties either held steady or increased compared to 2011 prices. Only a few varieties showed a decrease in their average price this year, but even these were down by less than 3%. More discussion on grape prices in 2012 is available in another article in this newsletter.

There was also a noticeable increase in demand for many grape varieties as well. Some of this was due to low crop levels in varieties like Concord and Niagara, while in other cases it was due to increased demand from buyers. The latter case was especially true for several vinifera varieties, including Pinot gris, Pinot noir, and the region's signature variety, Riesling. A number of growers indicated that they were having to turn away potential buyers for these varieties and several others because they had already sold their entire crop weeks before harvest had started. This increased demand was also reflected in average prices for many of these varieties, which saw significant increases this year over 2011.

As was mentioned earlier, there is near unanimous agreement among everyone that the 2012 season was an exceptional one, and there is great anticipation for the wines that will be produced from this year's crop. During harvest, winemakers were saying that the colors and flavors they were getting from the fruit that they brought to the crush pad this year was some of the best that they had ever had, including the recent banner year of 2010. In warm and dry years like this past one, there is the potential to produce ripe and well-structured red wines from varieties like Pinot noir, Cabernet Franc, Lemberger and even more challenging varieties for our climate like Merlot. Growers and wineries were also conscious of the importance of monitoring acidity levels in a warm year, which are especially critical in white varieties like Riesling, Gewurtztraminer, Traminette and Pinot gris.

Based on discussions with several wineries this fall and winter, the demand for quality wines produced in the Finger Lakes appears to be on the upswing again. Wines from many producers in the region are receiving excellent reviews and multiple awards from prestigious publications

and competitions from around the world, and consumers are starting to take more notice. A few wineries have mentioned that they will likely run out of some of their 2011 bottlings before they are able to release wines from 2012. And several have indicated that they are planning on slowly ramping up production of some wines, particularly Riesling, over the next several years to meet increased demand. This only portends well for the growers, the wineries and the communities in the Finger Lakes.

# WINEMAKING

## The 2012 Season: A Review

*Chris Gerling*
*Enology Extension Associate*

The right move here, the politic one, the appropriate action at this point is to skip to the headline (spoiler alert): from a wine standpoint, 2012 looks really, really good.

Red wines, white wines, Long Island wines, Lake Champlain wines - everyone has reason to be optimistic. The numbers and the flavors all seem to be in place, and most wines in the majority of cellars are already through alcoholic fermentation. Seeing the trouble many of our fruit-growing colleagues have encountered this season, the wine industry has much to be thankful for.

If there is a major problem to report, it is that there may not be enough (that's not a joke; yields were down). I'm here to write about the experience of the season, however, and I'm trying to represent the feelings of the people who made it happen, and to just leave it at that would be to leave out a lot of the story. If you look behind the smiling winemakers, you may notice what appears to be smoke coming out of the equipment, for example. 2012 was the answer to the question: what if we just crushed all the grapes in one go?

The fast and occasionally scary pace was set early on. Freak heat in March started the process, and while the April frosts meant the derailment of many of the fruit crops, wine grapes were mostly unscathed. The summer brought heat and more heat and things only accelerated. Once again potential trouble loomed as the dry heat threatened to turn into drought but most vineyards eventually saw enough raindrops here and there, and so the torrid pace continued. By Labor Day, growers were happily reporting that many varieties had already reached maturity levels not seen in November of some years. Then it was time to pick.

"In my 34 harvests in the Finger Lakes, I've never seen one that is so far ahead of typical." These are Steve DiFrancesco's first thoughts from Glenora Wine Cellars. Maybe you were ready. For Jeff Houck at Lucas Vineyards, 2012 "has been the smoothest harvest ever."

In Geneva, the best way to say it is: we weren't ready. Tim Martinson's e-mail to me with summary charts and bullet points had as point #4: "It's very apparent that we missed most of the early part of the ripening curve. We should have started sampling two weeks earlier."

In the Vinification & Brewing Lab we got messages from cooperators complaining about "the late opening," and these messages were sent on or about August 15th. At the ice cream stand (pre-Labor Day, you see) I ran into people from other wineries who knew they should be crushing, but they were still bottling. So maybe we weren't the only ones.
Last year's season was compressed for all of the wrong reasons. Picking happened when the rain would let up ever so slightly, so all the grapes came in at once.

This year was compressed for most of the right reasons, first and foremost being that the grapes were ready. There was hope the late reds might get to hang (and the cellar crew might catch a break), but as Brad Martz at Whitecliff said, "the break did not come. More rain and the constant battle with birds and other animals aside, the early season frost last week (we had several nights where the temp dropped to 25 degrees F) had everyone in the Hudson Valley rapidly picking everything that was left on the vine."

While the rain wasn't nearly as bad as 2011, it still became a much more constant companion in late September and early October. Associated botrytis outbreaks curtailed thoughts of extended hang-time for the remaining grapes.

The numbers, needless to say, are pretty encouraging, and the flavors equally so. Jeff Houck says "we have seen tons of tropical fruit flavors in most of our white wines. Red Varieties are also showing great promise with unusual concentration."

Rich Olsen-Harbich of Bedell cellars on Long Island has lots of good news to report: "All varieties came in completely ripe – with whites ranging from 21-24 brix and reds very extracted at 23-26 brix. Ripest and most mature (and most exciting) is the Cabernet franc which is the ripest I have ever seen. There's no question this is a great vintage for us – especially for our reds."

Brad Martz adds, "After alcoholic fermentation and the first rackings, things are looking, smelling, and tasting very good. We expect 2012 quality to be high."

One question on a lot of people's minds is whether this year was a freak occurrence or part of a trend.

Rich Olsen-Harbich sees the third consecutive early harvest on Long Island and thinks the warmth could be "a new normal – this is what other areas in Europe have been seeing as well for the past decade so its nothing new."

Jeff Houck chooses a little more Farmer's Almanac-type reaction: "One thing we know for certain in the Finger Lakes - next year will in some way be different."

Both of them may be right. All that matters right now is that the grapes are mostly off the vine and the wines are progressing. And with all of this activity happening so far ahead of schedule, we're sure to be ready next year…

# 2012 GRAPE PRICES

## 2012 Grape Prices Rebound

*Hans Walter-Peterson*

Grape prices in the Finger Lakes this year were more encouraging than they have been for the past several years. After a consistent pattern of flat or falling prices for most varieties since 2008, average prices for almost all varieties either held steady or increased compared to 2011.

There are a few possible reasons for this change. For some varieties, the increase in price was at least partly due to a shortage of fruit. Varieties like Concord and Niagara were in higher demand this year after spring frosts devastated the crop in most of the Eastern U.S. regions where they are grown, including Michigan, Ohio and the Lake Erie region of New York and Pennsylvania.

For a number of other varieties, the increase in price can be related an increase in demand from buyers. Many growers with varieties like Pinot noir, Riesling and Gewurtztraminer had sold their entire crop (which were less affected by frost damage) well before harvest got underway. Even lesser known varieties often used in blends like Rougeon and Noiret saw significant increases in their average price this year. Growers are hoping that this year is the start of a new upward trend in prices.

This year's Finger Lakes Grape Prices List is available on our website at http://flg.cce.cornell.edu/information/farm-business-marketing/.

*Natives*
The average price for the category overall increased 1.9% in 2012. The average price for Concord increased by 6.3%, the largest one year increase in a number of years, which can mostly be attributed to a few of the larger processors raising their prices, presumably because of the lower than average crop this year. Niagara and Diamond were two of the very few varieties that decreased in average price this year, but both varieties had less than a 3% decrease.

*Red hybrids*
Several red hybrid varieties saw significant gains in their average price this year as well. Two varieties developed at Cornell University and recently released, Corot noir and Noiret, increased in their average price by 7.0% and 8.3% respectively, among the biggest increases for any variety this year. Rougeon, an important blending variety for a number of wineries, had its average price go up by 11.8% this year. The generic 'red hybrid' category on the Price List (not shown on the table included here), which is used mostly by wineries that don't specify prices for hybrid varieties like Foch, Millot or Rougeon, also increased by 16.4% this year.

*White Hybrids*
Two varieties in this category also had their average prices move down somewhat between last year and this year. Prices for Vidal and Vignoles dropped by an average of 2.3% and 2.9%, respectively. This was the second year that the average price dropped for these two varieties. On the positive side, Valvin Muscat, another recent introduction from Cornell, and Verdelet blanc both had some of the largest increases in their average prices for the second year in a row. The two varieties with the largest acreage in this category, Aurore and Cayuga White, also had increased prices this year.

*Red Vinifera*
After several years of decreases in the prices of some of these varieties, it was good to see the direction change this year, even if most of the increases were not that large. Lemberger prices increased the most in the category, going up by 6.9% this year, while Pinot noir increased by 4.5%. Cabernet Franc prices have

| Variety | 2011 | | | 2012 | | | % Change (2011-2012) | | | # of 2012 Buyers | # of 2011 Buyers |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average | Low | High | Average | Low | High | Average | Low | High | | |
| ***Native*** | | | | | | | | | | | |
| Catawba | 337 | 255 | 400 | 338 | 275 | 400 | 0.3% | 7.8% | 0.0% | 10 | 11 |
| Concord | 304 | 255 | 450 | 324 | 275 | 450 | 6.3% | 7.8% | 0.0% | 10 | 9 |
| Delaware | 394 | 235 | 600 | 414 | 270 | 600 | 5.2% | 14.9% | 0.0% | 5 | 7 |
| Elvira | 283 | 265 | 295 | 292 | 290 | 295 | 2.9% | 9.4% | 0.0% | 3 | 3 |
| Niagara | 334 | 240 | 450 | 326 | 235 | 450 | -2.4% | -2.1% | 0.0% | 12 | 12 |
| Diamond | 467 | 450 | 490 | 462 | 450 | 475 | -1.1% | 0.0% | -3.1% | 3 | 3 |
| **Average** | **353** | **283** | **448** | **359** | **299** | **445** | **1.9%** | **6.3%** | **-0.5%** | | |
| | | | | | | | | | | | |
| ***Red Hybrid*** | | | | | | | | | | | |
| Baco noir | 557 | 280 | 650 | 569 | 325 | 650 | 2.1% | 16.1% | 0.0% | 8 | 9 |
| Castel | 595 | 385 | 700 | 700 | 700 | 700 | 17.6% | 81.8% | 0.0% | 2 | 3 |
| Chambourcin | 785 | 700 | 850 | 789 | 700 | 885 | 0.5% | 0.0% | 4.1% | 5 | 5 |
| Chancellor | 667 | 600 | 700 | 667 | 600 | 700 | 0.0% | 0.0% | 0.0% | 3 | 3 |
| Chelois | 788 | 675 | 900 | 788 | 675 | 900 | 0.0% | 0.0% | 0.0% | 2 | 2 |
| Colobel | 606 | 425 | 700 | 667 | 600 | 700 | 10.0% | 41.2% | 0.0% | 3 | 4 |
| Corot Noir | 590 | 425 | 700 | 631 | 600 | 700 | 7.0% | 41.2% | 0.0% | 4 | 5 |
| De Chaunac | 491 | 450 | 630 | 491 | 450 | 630 | 0.0% | 0.0% | 0.0% | 5 | 5 |
| Geneva Red | 579 | 510 | 650 | 602 | 525 | 650 | 4.0% | 2.9% | 0.0% | 3 | 4 |
| Leon Millot | 625 | 600 | 650 | 635 | 600 | 700 | 1.6% | 0.0% | 7.7% | 5 | 4 |
| Marechal Foch | 638 | 600 | 700 | 642 | 600 | 700 | 0.7% | 0.0% | 0.0% | 3 | 6 |
| Noiret | 628 | 425 | 850 | 680 | 500 | 860 | 8.3% | 17.6% | 1.2% | 7 | 7 |
| Rougeon | 494 | 252 | 650 | 552 | 500 | 650 | 11.8% | 98.4% | 0.0% | 5 | 6 |
| Vincent | 585 | 435 | 650 | 590 | 525 | 625 | 0.9% | 20.7% | -3.8% | 5 | 6 |
| **Average** | **616** | **483** | **713** | **643** | **564** | **718** | **4.3%** | **16.8%** | **0.7%** | | |
| | | | | | | | | | | | |
| ***White Hybrid*** | | | | | | | | | | | |
| Aurore | 370 | 300 | 440 | 385 | 300 | 440 | 4.1% | 0.0% | 0.0% | 4 | 4 |
| Cayuga White | 560 | 415 | 620 | 570 | 500 | 650 | 1.7% | 20.5% | 4.8% | 13 | 14 |
| Seyval blanc | 613 | 550 | 700 | 613 | 550 | 700 | 0.0% | 0.0% | 0.0% | 6 | 6 |
| Traminette | 858 | 700 | 1000 | 866 | 700 | 950 | 0.9% | 0.0% | -5.0% | 8 | 9 |
| Valvin Muscat | 763 | 415 | 1000 | 865 | 740 | 1000 | 13.4% | 78.3% | 0.0% | 6 | 5 |
| Verdelet blanc | 472 | 400 | 600 | 550 | 400 | 700 | 16.6% | 0.0% | 16.7% | 2 | 3 |
| Vidal blanc | 621 | 500 | 700 | 607 | 500 | 700 | -2.3% | 0.0% | 0.0% | 7 | 7 |
| Vignoles | 739 | 575 | 850 | 718 | 525 | 850 | -2.9% | -8.7% | 0.0% | 7 | 7 |
| **Average** | **625** | **482** | **739** | **647** | **527** | **749** | **3.5%** | **9.3%** | **1.4%** | | |

| Variety | 2011 | | | 2012 | | | % Change (2011-2012) | | | # of 2012 Buyers | # of 2011 Buyers |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average | Low | High | Average | Low | High | Average | Low | High | | |
| ***Red Vinifera*** | | | | | | | | | | | |
| Cabernet Franc | 1250 | 800 | 1700 | 1263 | 800 | 1750 | 1.1% | 0.0% | 2.9% | 13 | 12 |
| Cab Sauvignon | 1620 | 1200 | 1800 | 1648 | 1200 | 1850 | 1.7% | 0.0% | 2.8% | 10 | 10 |
| Lemberger | 1325 | 1000 | 1500 | 1417 | 1300 | 1500 | 6.9% | 30.0% | 0.0% | 6 | 8 |
| Merlot | 1783 | 1500 | 2000 | 1808 | 1500 | 2025 | 1.4% | 0.0% | 1.2% | 10 | 9 |
| Pinot noir | 1605 | 1400 | 1850 | 1677 | 1400 | 2000 | 4.5% | 0.0% | 8.1% | 11 | 12 |
| Syrah | 1750 | 1500 | 2000 | 1750 | 1750 | 1750 | 0.0% | 16.7% | -12.5% | 1 | 2 |
| **Average** | **1556** | **1233** | **1808** | **1594** | **1325** | **1813** | **2.5%** | **7.4%** | **0.2%** | | |
| | | | | | | | | | | | |
| ***White Vinifera*** | | | | | | | | | | | |
| Chardonnay | 1169 | 1022 | 1400 | 1248 | 1100 | 1550 | 6.8% | 7.6% | 10.7% | 13 | 12 |
| Gewurztra-miner | 1444 | 1000 | 1600 | 1503 | 1000 | 1700 | 4.0% | 0.0% | 6.3% | 10 | 9 |
| Pinot blanc | 1400 | 1300 | 1500 | 1413 | 1300 | 1525 | 0.9% | 0.0% | 1.7% | 2 | 2 |
| Pinot gris | 1572 | 1450 | 1700 | 1619 | 1500 | 1725 | 3.0% | 3.4% | 1.5% | 8 | 9 |
| Riesling | 1362 | 1100 | 1500 | 1477 | 1300 | 1750 | 8.5% | 18.2% | 16.7% | 13 | 11 |
| **Average** | **1389** | **1174** | **1540** | **1452** | **1240** | **1650** | **4.5%** | **5.6%** | **7.1%** | | |

fallen approximately 20% in just 5 years, and now average $1,273/ton, but this year's price is at least somewhat higher than it was last year. If warm seasons like 2010 and 2012, which are generally beneficial for red vinifera varieties, become more common in the future, it is possible that varieties like Cabernet Franc will become more important and prices will strengthen again.

*White Vinifera*

Over the past few years, the average price for Riesling did not seem to be keeping up with the rapid expansion of the variety's reputation in the Finger Lakes. This year, however, the high demand for Riesling fruit, along with a quality growing season, drove the average price up by 8.5%, which helped to alleviate recent declines in the price over the past couple of years. There was also an increase in the number of buyers reporting that they were purchasing Riesling this year. Pinot gris and Gewürztraminer, two other varieties that are gaining in both reputation and production in the Finger Lakes, also saw healthy increases in their average prices, as did Chardonnay.

We thank the following processors and wineries for providing us with copies of their price list this year:

Anthony Road Wine Company
Bully Hill Vineyards
Constellation Brands
Cott Corporation
Fall Bright Winemakers Shop
Fox Run Vineyards
Fulkerson Winery
Glenora Wine Cellars
Hazlitt 1852 Vineyards
Heron Hill Winery
Hunt Country Vineyards
Inspire Moore Winery
King Ferry Winery
Lakewood Vineyards
Lucas Vineyards
Royal Wine Company
Swedish Hill Vineyards

# TEACHING VINEYARD

## Finger Lakes Teaching & Demonstration Vineyard Established

*Mike Colizzi*
*Viticulture Community Educator*

In 2012, the Finger Lakes Grape Program embarked on a new project to establish a teaching and demonstration vineyard. This project is a partnership between the Finger Lakes Grape Program and the Viticulture & Wine Technology program at FLCC with funding from The Genesee Valley Regional Market Authority. This vineyard will be used to educate prospective growers and students as well as current growers on all aspects of viticulture.

Planning and site preparation for the two and a half acre vineyard started in November of last year. Tom Eskildsen from the Yates County Soil and Water Conservation District designed a tile drain system for us. Around this time the FLCC students took extensive soil samples of the site and observed the digging of a soil pit. We identified different soil layers and talked about how to locate a compaction zone if there were one. Lastly the field was plowed to allow for decomposition of the native vegetation.

Once the field was passable in the spring we had it field cultivated. The students were then kept busy with one of their favorite tasks, rock picking. On the day of planting several students were on hand to help prep plants and learn about how a laser planter works. The vineyard includes fourteen different varieties that were chosen to represent the diversity of the Finger Lakes grape and wine industry. We have some popular Finger Lakes varieties like Catawba, Cayuga White, and Riesling. We also planted some less well-known varieties like Gruner Veltliner, Marquette, and NY81.0315.17, which is a Cayuga by Riesling cross from Bruce Reisch's breeding program at the Geneva Experiment Station. Marquis and Jupiter were chosen to highlight the Finger Lakes ability to grow premium table grapes. All of our vines were sourced from New York State nurseries.

Right after the vineyard was planted we installed posts with a vibrating post pounder mounted on a mini excavator. Once the posts were in we started running wire and installing irrigation. Everything is drip irrigated using pressure-compensating emitters. Water is supplied from a five thousand gallon black poly tank that is trickle filled from a well. The tank supplies enough water to irrigate half of the vineyard for just over three hours, putting down a total of about 1.7 gallons of water per emitter. We put a fruiting wire in throughout the whole vineyard to give us a good training point for all plants. In the coming months we will be finishing the trellis. To highlight some different ways of constructing a trellis we used a mix of screw-in Earth Anchors and Gripple Anchors. Students helped with much of the labor during the summer especially our intern, Jamie Tucker, who put in countless hours hoeing weeds and staking up plants.

The vines were recently hilled up and we held our first class at the vineyard this fall. The class, geared towards new and prospective growers, focused on site selection, site preparation, and the in's and out's of vineyard drain tile. The attendees also learned how to prune young vines.

We would like to extend our gratitude to Peter Martini and Anthony Road Wine Company for agreeing to let us plant the vineyard at their site and for all of their hard work to help us get the vineyard planted this year. We also want to thank the following business for their generous donations and discounts on services, equipment and materials for the vineyard (see next page):

Anthony Rd. Wine Company
Belle Terre Irrigation
Double A Vineyards, Inc.
Doyle Vineyard Management
Finger Lakes Trellis
Genesee Valley Regional Market Authority
Grafted Grape Vine Nursery
Hermann J. Wiemer Nursery
H&W Equipment

# EXTENSION & RESEARCH ACTIVITIES

## Extension Activities

*Finger Lakes Grape Growers' Conference & Trade Show/Wine Industry Workshop*
*March 1-3, 2012*
This year's Grape Growers' Conference & Trade Show was held in conjunction with the annual Wine Industry Workshop at the Holiday Inn in Waterloo, NY. Over 250 people attended this year's conference and trade show. The goal of holding the two meetings together was to give winemakers and grape growers more of an opportunity to interact together and hopefully gain some new understanding of issues that are important to both. The program on Thursday was focused on enology topics, while Saturday was all about viticulture. Friday's program focused on "cross over" topics that were important to both growers and winemakers. The trade show was also moved to Friday, in order to make it available both to grower and winemakers.

Our featured viticulture speaker this year was Dr. Tony Wolf from Virginia Tech, who spoke on his research focused on controlling excessive vine vigor, which is an issue that many winegrape vineyards in the Finger Lakes struggle with as well. Other speakers included Terry Bates and Kevin Martin, both from the Cornell Lake Erie Regional Extension Laboratory, Alan Lakso, Miguel Gomez, Wayne Wilcox and Tim Martinson from Cornell, and Juan Micieli-Martinez from Martha Clara Vineyards on Long Island. Attendees were positive overall in their assessment of this new format as well as the content of the meeting, saying that the chance to interact with growers and winemakers was valuable.

*Grower Tailgate Meetings*
The FLGP initiated a series of grower "tailgate" meetings this year, which were held every other Tuesday afternoon during the growing season. We held 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 were intended to be informal with no formal agenda to allow for grower-to-grower discussion. Prior to each meeting, FLGP staff visited vineyards in the area where the meeting was 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 ten tailgate meetings throughout the 2012 growing season. Over 120 growers attended these meetings. Several growers attended multiple meetings around the region, not just those near their farm. After each meeting, a brief survey was sent to participants to ask how useful they found the meeting. Based on the survey responses we received:

*The FLGP held ten grower tailgate meetings around the region this season to discuss information relevant to what was happening at that time of year.*

- 96% of those who came found the meetings informative and came away with answers to questions they had when they came;
- 92% said that they would change a practice on their farm because of what they learned at a meeting;
- 100% would attend another tailgate meeting in the future.

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: Rich Jerome (Ontario County), Louis & Donna Gridley (Yates County), Lakewood Vineyards (Schuyler County), Thirsty Owl Wine Company (Seneca County), Matt Doyle (Steuben County), Harry Humphreys (Yates County), Randall Standish Vineyards (Ontario County), Don Tones (Yates County), Hazlitt 1852 Vineyards (Schuyler County), Sheldrake Point Vineyards (Seneca County)*

*Spring Grape IPM Field Meeting*
*May 16, 2012*
The annual Spring Grape IPM Field Meeting was held at Grape Ridge Farm, operated by David Summerson, in Himrod. In addition to a few of our regular speakers like Wayne Wilcox and Greg Loeb, this year's

meeting featured guest speakers Dr. Wendy McFadden-Smith from Brock University in Ontario, who spoke on some of her work on controlling late-season bunch rots, and Jay Boulanger from Cornell who addressed deer control measures for vineyards. Special thanks to David Summerson for hosting this year's meeting at his farm. *Cooperators: Wayne Wilcox (Dept. of Plant Pathology and Plant Microbe Biology), Greg Loeb (Dept. of Entomology), Wendy McFadden-Smith (Brock University, Ontario Canada), Jay Boulanger (Dept. of Natural Resources)*

*New/Small Grower Meetings*
This year, the FLGP held three new grower workshops designed to educate new growers on vineyard plantings of all sizes. Some participants were interested in putting in a few vines of seedless table grapes for eating, while others wanted to put in a couple acres with the idea of commercially selling grapes to local wineries.

One of the workshops this year was in Steuben County and focused on backyard growers. We talked about table grapes, wine grapes, and varieties for jams, jelly, and pies. As the trend towards locally produced foods and growing what you eat continues I suspect to get more of these inquiries.

If you are going to be growing vines it is important to know how to take care of them, so we also held a pruning class this spring. The four-hour class was held at the New York State Agriculture Experiment Station in Geneva. It seemed like we chose the only snowy day last year to put this on. The first part of the class was an indoor session going over the parts of a grape vine, and how they grow so that everyone was speaking the same language. We then moved outside to one of the older research vineyards where attendees were able to prune vines and top wire cordon, umbrella, and VSP trellises.

The final and most recent workshop was at our new Teaching and Demonstration Vineyard. Here we talked about site selection, site preparation, and the importance of drain tile installation in new vineyards.

*Veraison to Harvest*
Veraison to Harvest is a weekly update produced by Cornell Cooperative Extension Enology and Viticulture programs for growers and winemakers. It runs weekly during the harvest season, and lists results of maturity sampling from over 40 vineyards in four of the grape growing regions of NY. It also includes short articles featuring current, timely information for winemakers and growers throughout New York. It is sent electronically to over 800 subscribers to regional extension clientele throughout New York through lists maintained by regional extension programs and the Enology program at Cornell. Past issues of Veraison to Harvest can be found at http://grapesandwine.cals.cornell.edu/cals/grapesandwine/veraison-to-harvest/index.cfm. This project funded by USDA Federal Formula funds distributed through Cornell's FFF grants program, the J. M. Kaplan foundation, and New York Wine and Grape Foundation. *Cooperators: Multiple growers throughout New York.*

*"The PressPad" Podcast*
"The PressPad" is a podcast created by Hans Walter-Peterson of the Finger Lakes Grape Program and Chris Gerling of the Cornell Extension Enology Lab. The areas of viticulture and enology necessarily focus on different topics - vine nutrition vs. yeast nutrition, for example- but these topics are often related, sometimes in ways we're just discovering. This podcast is a discussion about issues we think are important to

*Hans Walter-Peterson and Chris Gerling are the hosts of "The PressPad", a podcast focused on grape growing, winemaking, and where they meet in the middle.*

both grape growers and winemakers. We're also trying to find the places where academia and industry are most closely aligned. The PressPad tries to connect grape growing to winemaking, and also research to practice.

We published nine episodes in 2012. PressPad guests this year included Wayne Wilcox from Cornell, Debbie Inglis of Brock University, Eric Stafne (Mississippi State) and Ed Hellman (Texas A&M) of the eViticulture project, Michael Jones from Scott Labs and Cornell regional viticulture specialists across New York State. The intent with the podcast format is to allow people to listen while they drive a tractor or run a filter instead of having to choose between "working" and "reading." The podcast discussions are more about ways of thinking than facts and figures, so no one need keep a pencil and paper handy while listening. All episodes from 'The PressPad' can be found at http://blogs.cornell.edu/presspad/. *Cooperator: Chris Gerling, Cornell Enology Extension Program*

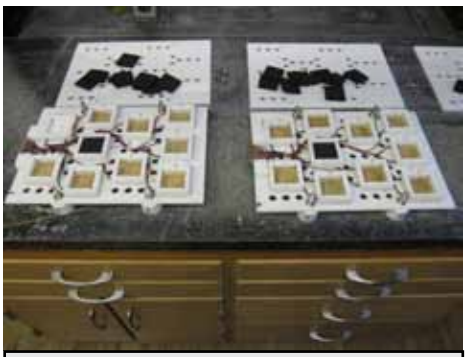
*'Navigating the Labor Maze' Workshop*
*December 7, 2012*
This workshop was developed based on suggestions from growers during the FLGP's strategic planning process that they needed better information on labor management options and regulatory requirements. The workshop included guidance on programs

like H-2A that can help provide a stable farm workforce, described programs designed to help farm laborers and their families, as well as helped growers understand some of the rules and requirements that they need to follow when managing their labor force on the farm. While only a small number of growers ended up attending, there was very positive feedback from those who did participate, and suggested that more workshops and resources be developed on this topic. *Participants: Mary Jo Dudley (Cornell Farmworker Program), Alison DeMaree (Lake Ontario Fruit Program), Chris Verrill (Harvest Ridge Farm), Parker Filer (NY Dept. of Labor)*

## FLGP Applied Research Activities

### Bud Hardiness Monitoring

*Tim Martinson and Bill Wilsey (Statewide Viticulture Extension Program), Hans Walter-Peterson and Mike Colizzi (FLGP), Jodi Cresap-Gee (LERGP), Stephen Hoying and Steve McKay (Hudson Valley Laboratory).*
This project has been ongoing for the past few seasons 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. 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.*



*Trays used to hold individual buds during testing for bud cold hardiness at the Geneva Experiment Station.*

### Investigating Materials to Manage Frost Injury Risks

*Mike Colizzi and Hans Walter-Peterson (FLGP)*
This spring we looked at ways to delay budbreak in several vineyards across the Finger Lakes. We chose to use Amigo, which is a vegetable oil concentrate surfactant from Loveland Products. There has been work done using different oil based products to try and achieve the same results however some have resulted in phytotoxicity. We sprayed this treatment on Concord, Foch, and Chardonnay. The spray was applied on March 15 in anticipation of an early budbreak. Concord showed very little response because it was likely already starting to deacclimate. An evaluation of the vines on April 18th showed that treated Foch vines averaged Eichorn-Lorenz stage 3 and untreated Foch vines were at E-L stage 7. On May 7, treated Foch vines were at E-L stage 9, while untreated Foch vines were at stage 12. By our final evaluation on May 24 there were no discernible differences between the treatments.

In response to several reports and inquiries we received, we also tested a product called KDL from Agro-K, which was reputed to prevent frost injury to exposed green tissue when applied prior to a frost event. We applied this product to several vineyard blocks across the Finger Lakes immediately before the start of our spring frosts at the rate specified on the label. We then evaluated bud survival both in the field and in the lab using a programmable freezer and saw no real difference between treated and untreated vines. We are planning to do further evaluations of both materials in the coming spring. *Cooperators: Bill Dalrymple, Prejean Winery, Don Tones, Matt Doyle, Bill Wilsey (Dept. of Horticulture).*

### Finger Lakes Teaching and Demonstration Vineyard

*Hans Walter-Peterson and Mike Colizzi (FLGP), Paul Brock (Finger Lakes Community College)*
Please see the article on the new Teaching & Demonstration Vineyard in this newsletter for details about this project. *Cooperators: Peter Martini*

### Impacts of Late-Season Fungicide Applications on Wines

*Hans Walter-Peterson and Mike Colizzi (FLGP), Chris Gerling (Enology Extension)*
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. Informal, non-scientific tastings with industry members did not show any preference for any treatments. We will be subjecting the 2011 and 2012 wines to more rigorous sensory evaluation this winter. 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: White Springs Winery.*

**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. Once the vines reach production, we will invite enology faculty and extension staff to assist with evaluating differences in fruit chemistry and sensory characteristics of the clones. *Cooperator: Hermann J. Wiemer Vineyards.*

*Second year vines in the Riesling clonal trial, planted on the west side of Seneca Lake.*

**Invasive Pest Species Monitoring**

*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).*

With cooperation from the Finger Lakes, Lake Erie, Hudson Valley, and Long Island grape extension programs, NYS Department of Agriculture and Markets monitored New York vineyards for a third consecutive year for early detection of four exotic insect pests that could potentially become established in New York. The Cooperative Agricultural Pest Survey (CAPS), funded by the USDA and run by Ag & Market's Division of Plant Industry, seeks to provide early detection of exotic plant pests before they become established in New York. In 2012, the FLGP placed 148 pheromone traps in 27 vineyards starting in the first week of June. Traps were serviced every other week until harvest. The four target moths involved in the survey are: European Grapevine Moth, False Codling Moth, Silver Y Moth, and the Light Brown Apple Moth. None of the moths targeted in this project was found in any of the monitored regions this year. *Cooperators: Multiple growers across New York.*

**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. *Cooperators: Multiple scientists from Cornell, USDA-ARS and other research institutions.*

# UPCOMING EVENTS

**2013 Becker Forum**
**Managing Human Resources in Agriculture:**
**Creative Steps When Public Policy Fails**
*January 21, 2013*
*Doubletree Hotel*
*6301 Route 298, East Syracuse NY*
Visit www.beckerforum.org for registration and program information.

**Viticulture 2013**
*February 6-8, 2013*
*Rochester Riverside Convention Center, Rochester NY*
Early registration deadline is **January 15**.
Registration, exhibitor and program information can be found at vit2013.com.

**Eastern Winery Exposition**
*March 6-7, 2013*
*Marriott Hotel and Conference Center, Lancaster PA*
Go to www.easternwineryexposition.com for program, exhibitor and registration information.

**Finger Lakes Grape Program**
**Cornell Cooperative Extension**
**417 Liberty Street**
**Penn Yan, New York 14527**

Cornell University
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**Helping You Put Knowledge to Work**