



CROP UPDATE

September 9, 2021

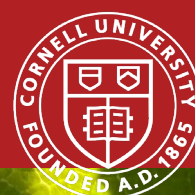
Good Morning Concords!-
Kim Knappenberger

Cornell Cooperative Extension
Lake Erie Regional Grape Program



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The Lake Erie Regional Grape Program is a Cornell Cooperative Extension partnership between Cornell University and the Cornell Cooperative Extensions in Chautauqua, Erie and Niagara county NY and in Erie County PA.

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Business Management

Kevin Martin, Penn State University, LERGP, Business Management Educator

Harvest Labor Trends

The labor market has been tight. What was once the problem of pruning labor has spread to all forms of agricultural labor and really anything that pays less than \$30 an hour. Middle and high income jobs have not seen a supply crunch, at least according to wider payroll data reports. Special unemployment insurance has boosted payments for much of COVID. Going on 18 months those benefits just expired. There has been active debate about those benefits and their impact on labor supply. One thing that I've been adamant about is that those unemployment benefits explain nowhere near 100% of the supply issues. Now that UI benefits return to their historical levels, we should not at all expect labor costs to revert to 2019. Those costs are here to stay. If you find help, particularly qualified help, consider yourself lucky. I would urge growers to hire more help than they need for this harvest. When possible split up shifts and workdays in larger operations. This should (in NY) eliminate overtime pay. If not, it will at least create an insurance policy if there is mid-season turnover. Turnover in the broader economy continues to grow. If your employees are temporary or new employees, you should expect and plan higher levels of turnover. You should also get to know your competition.

Walmart just raised pay for the third time in the last year. The three raises impacted the pay of 1.2 million employees that now receive an average wage of \$16.50. Starting wages are up 50% since 2015 for Walmart. This trend is not limited to Walmart and is measured in the wider economy. The most acute pressure, thus far, has been on retail and service industries. However, low skill jobs or lower paying jobs have generally been very difficult to fill and have seen the most growth in wages. Fed charts indicate low skill jobs are increasing pay much faster than other categories. Anecdotally, businesses locally are shutting down because of labor supply issues in retail. Large retailers illustrate where pay needs to be to attract quality help.

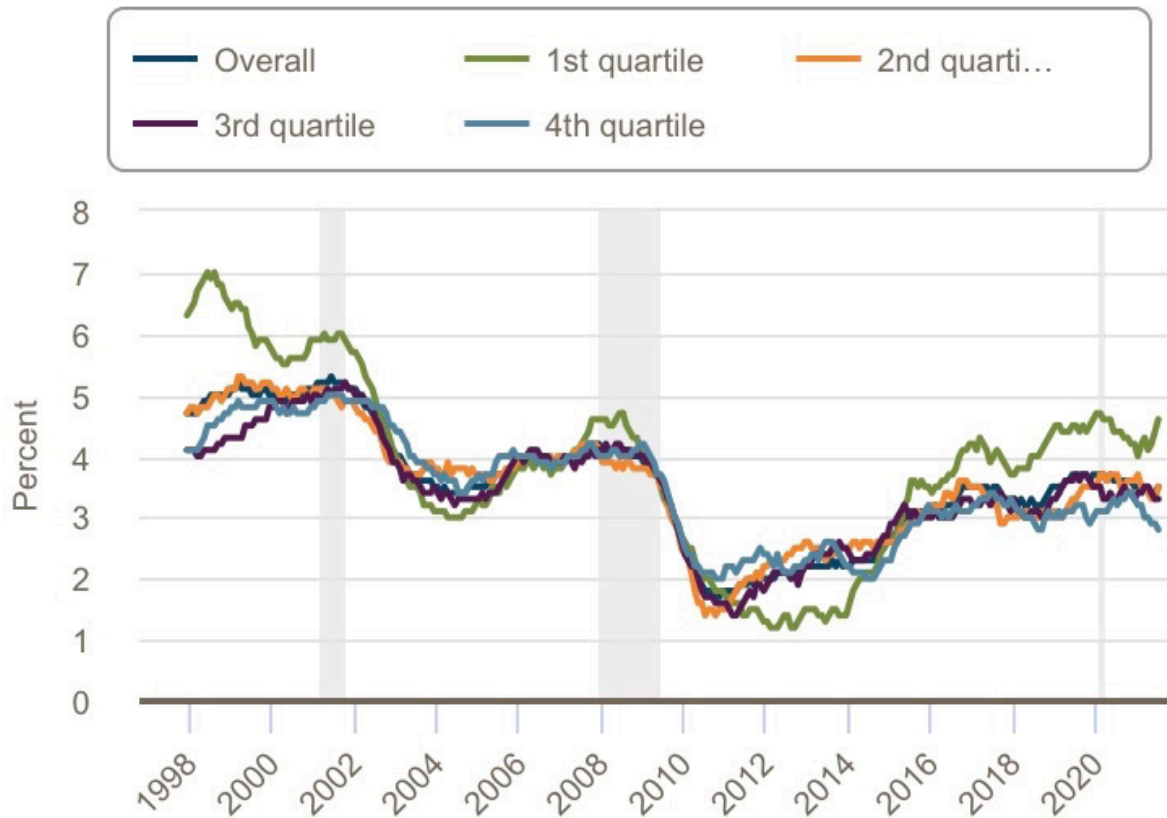
I'd encourage all growers and wineries that are attracting new labor for this season to be realistic about market conditions and be aggressive in retaining employees and very aggressive in hiring new employees.

Emerging trends we've seen both inside and outside of agriculture include signing and completion bonuses. While flexible scheduling is also important with seasonal help, harvest makes it difficult. Hiring multiple employees to allow flexibility is one option. Perks are also an important part of a total package for harvest. Employers might need to provide food, uniforms, and transportation. Best of luck and happy harvest.

Wage Growth Tracker by Wage Level



12-month moving average of median wage growth for each category, hourly data



Sources: Current Population Survey, Bureau of Labor Statistics and author's calculations



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Wage growth accelerates for the bottom quartile of earners.

<https://www.atlantafed.org/chcs/wage-growth-tracker>



Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

Black Leaves on Canopies

This may come to no surprise to many of you reading this that there is a large crop out there. The Lake Erie Regional Grape Program processed 182 Concord and Niagara crop estimation samples from around our region at 30 Days After Bloom (DAB) back in July. Table 1 below provides a breakdown of the percentages and Figure 1 displays the information in a visual manner. As of September 8, 2021, at the Cornell Lake Erie Research and Extension Laboratory in Portland, NY, we are 94 DAB.

Table 1. The Lake Erie Regional Grape Program Beltwide Concord Grape Crop Estimation percentage of total samples

LERGP Beltwide Concord Crop Estimation Samples			
tons/acre	percent of belt	blocks	total blocks
0-4 tons	9%	17	182
5-8 tons	37%	67	182
9-11 tons	20%	36	182
12-15 tons	15%	27	182
16-19 tons	14%	25	182
20+ tons	5%	10	182

The numbers indicate that there is a large crop out there. Hopefully you have all taken a crop estimation and know where you fall with these ranges. With that stated, it is important to improve and/or maintain vineyard health while maximizing your tonnage. If you push your vines this season, you run the risk of overcropping and reducing fruiting wood maturity for next year's crop. A vine's capacity to carry a large crop is a function of the vine's size. More than likely a block that falls in within the 20 or more tons per acre range is overcropped and the odds of making sugar for harvest are slim, not to mention that overcropping your vine will drive down your vine size. That is not to exclude that there may be a half pound vine carrying a 5 tons/acre crop out there which is also overcropped.

Driving around the belt I noticed that there are some canopies with a brownish/black hue about them. Upon further inspection, some of the color is due to old powdery mildew but those are splotchy blackened spots here and there on the leaves and can be found on different maturity leaf stages. I am noticing that the leaves that on the red fruiting varieties, have a reddened, scorched appearance along the entire leaf following the veins and are located on the older leaves. These are indications of potassium deficiencies. See Photo 1 by Dr. Terry Bates, which depicts potassium deficiency on mature Concord leaves along a shoot.

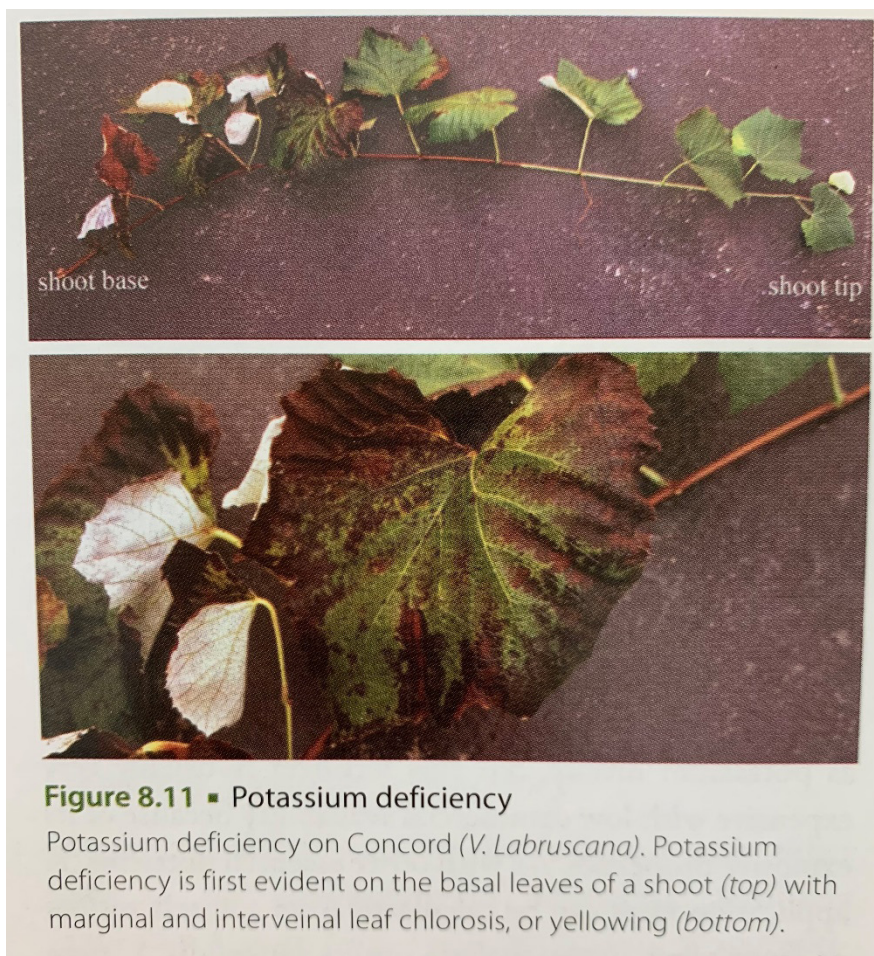


Figure 8.11 ■ Potassium deficiency

Potassium deficiency on Concord (*V. Labruscana*). Potassium deficiency is first evident on the basal leaves of a shoot (*top*) with marginal and interveinal leaf chlorosis, or yellowing (*bottom*).

photo 1. Figure 8.11 from the *Wine Grape Production Guide for Eastern North America* by Dr. Terry Bates depicts Potassium deficiency on mature Concord leaves along a shoot

The regulatory role of potassium can be found in many of the biochemical processes in the vine from carbohydrate production, protein synthesis, solute transport, and assists in the maintenance of plant water status. High crop levels require higher potassium levels. It is not surprising that given the large crop we have hanging around the belt, late summer potassium deficiency is beginning to show; the more fruit you pull out of the vineyard, the more potassium was needed for that fruit. Research in NYS has shown that late-summer tissue sampling was superior to bloom sampling when determining the vines' potassium status. Sampling procedure for late-summer vines' potassium status call for the collection of the petioles from matured leaves (about the 5th to 7th leaf from the shoot tip). The mature leaves on the vines that I have observed with reddening are in this area. It is important to your vine health to ensure adequate potassium levels. Per the *Wine and Grape Production Guide for Eastern North America* (Wolf *et al.* 2008), if your late-summer tissue samples reveal potassium levels less than 0.80% and there are deficiency symptoms, then apply a heavy K fertilizer rate (600 pounds/acre K₂O) for the best results apply two weeks before bloom and up to six weeks after during active shoot growth. If your results are less than 1.20% and it is excessively dry or excessively wet, the apply a maintenance rate of 150-200 pounds/acre. If it is 1.20-2.00% and a large crop, also apply the maintenance rate, but if a normal size crop, then no action is necessary.

Please feel free to contact me if you have any questions about soil and petiole sampling.

Veraison to Harvest Tables (corrected)

Last week the information that was posted in my Crop Update Table was out of order. I apologize for the confusion. Here is the updated table and the entire state's data can also be found on our website: [Click Here for NYS Veraison to Harvest Info](#)

Table 2. Lake Erie Region Veraison to Harvest Sample Data

Variety	Date	Grower	100 Count			
			Berry Weight	Brix	pH	TA
Cabernet Franc	8/23/2001	Portland	1.25	6.9	2.6	28.94
	8/30/2021		1.28	10.9	2.81	19.23
	9/7/2021		1.46	13.8	2.94	14.64
Concord	8/23/2001	Portland	2.96	8.2	2.73	21.03
	8/30/2021		3.55	10.6	2.98	14.38
	9/7/2021		3.69	12.3	3.11	14.22
Frontenac	8/23/2001	Sheridan	1.04	13.5	2.97	21.74
	8/30/2021		1.14	16.1	3.06	18.67
	9/7/2021		1.09	17.4	3.12	17.48
Marquette	8/23/2001	Fredonia	1.56	17.4	2.95	15.27
	8/30/2021		1.67	20	3.11	12.61
	9/7/2021		1.51	22.3	3.09	12.48
Niagara	8/23/2001	Portland	3.89	10.2	2.93	13.19
	8/30/2021		4.09	12.9	3.05	8.11
	9/7/2021		4.48	15	3.21	7.74
Noiret	8/23/2001	Sheridan	1.47	11.4	2.89	18.01
	8/30/2021		1.57	11.7	3.03	15.75
	9/7/2021		1.55	14.1	3.11	11.5
Riesling	8/23/2001	Portland	1.6	12.4	2.93	17.37
	8/30/2021		1.66	14.9	2.93	13.25
	9/7/2021		1.74	16.5	3.05	11.44
Seyval blanc	8/23/2001	Portland	1.64	13.3	2.98	10.98
	8/30/2021		1.72	15.2	3.02	9.13
	9/7/2021		1.71	17.2	3.09	8.32
Traminette	8/23/2001	Portland	1.25	9.3	2.69	21.96
	8/30/2021		1.36	10.5	2.79	16.18
	9/7/2021		1.50	12.6	2.89	13.37
Vignoles	8/23/2001	Portland	1.41	13.3	2.87	21
	8/30/2021		1.66	15.9	2.97	17.95
	9/7/2021		HARVESTED			

PA Update

Andy Muza, LERGP Extension Team & Penn State Extension- Erie County

In the Vineyard (9-9-21) –

Grape Berry Moth

As usual, grape berry moth (GBM) injury is evident in Severe/High Risk sites that were checked this Tuesday (9/7). The severity of injury is dependent on your GBM spray program (i.e., timing and number of applications, coverage and choice of materials used) and GBM population levels at your sites. Larvae are feeding inside injured berries and can be observed by splitting open these berries (Figure 1).

Now is a good time to scout your blocks and record GBM injury levels on your vineyard maps in preparation for developing a management strategy for next season. During the winter months, compare your recorded injury levels to your spray program to determine if adjustments are needed for management of GBM for next season. Feel free to contact me if you need assistance in developing a program for managing GBM for next season.

Fruit Flies

Fruit flies (i.e., several *Drosophila* species) are abundant in areas with high GBM injury levels (Figure 2). Fruit flies are attracted to injured fruit and will lay their eggs in injured berries. Their larvae (maggots) feed inside injured berries. Research has shown that these insects play a major role in the development and spread of sour rot. However, sour rot is not a major concern in Concord, and we do not advise spraying for fruit flies in Concord vineyards. **But control of these insects is important in the management of sour rot in susceptible wine varieties.** (For more information concerning sour rot and insecticide options for fruit flies consult the **2021 New York and Pennsylvania Pest Management Guidelines for Grapes**, pages 24, 55, 122 and 127).



Figure 1. Grape berry moth larva and feeding injury on a Concord berry. Photo – Andy Muza, Penn State.

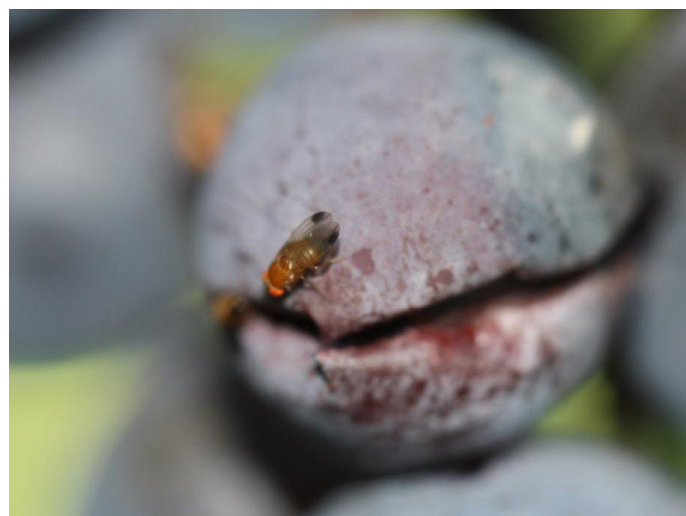


Figure 2. Spotted Wing Drosophila (male) on injured Concord berry. Photo – Andy Muza, Penn State.

Photo of the day- submitted by Heather Chess, Ripley NY



PA Update

Bryan Hed, Research Technologist, Lake Erie Grape Research and Extension Center

Weather: At our location by the lake, our monthly total rainfall stands at 0.6 inches for the first nine days of September; on the dry side. Our growing degree day total for the month of September is currently about 143, and we have accumulated 2545 gdds from April 1. High temps will be in the low to upper 70s with lows in the 60s to upper 50s over the next few days. There is a 20% chance for rain on Friday and a 30% chance on Sunday.

Phenology: Our Concord was at 11.3 brix about a week ago. Niagara harvest for us begins next week.

Diseases: brief rain periods keep generating downy mildew infection periods across the belt, enabling this disease to linger on after veraison. Continue to scout your susceptible vineyards for this disease in order to know just how much you have; it's easy to identify downy mildew on leaves, especially early in the morning after a heavy dew or a rain during the night. We're not concerned about this disease on Concord, but wine varieties that are susceptible can be very vulnerable to leaf loss from downy mildew (especially vinifera) and may need continued protection. After harvest, you can resort to mancozeb or captan products for downy mildew if the need arises, in order to ensure good cane ripening and optimum winter hardiness, while avoiding concerns regarding the development of fungicide resistance. Late season copper and lime can also be used.

Powdery mildew: mildew colonies resulting from infections occurring after Labor Day generally don't have time to produce mature chasmothecia (the tough, overwintering structures of the pathogen), before the first hard frost takes the leaves off. If you've controlled powdery mildew well up to Labor Day, you have greatly reduced the 'bank' of overwintering inoculum for this disease to start from the following spring. This can be an important part of an effective program for controlling this disease on susceptible varieties (especially vinifera), from year to year.

For Concord growers with huge crops, the weather is the remaining card left to play, and it's always wild. If you've got a huge crop and you've played your cards well until now at controlling mildew, you've tipped the odds greatly in your favor, in spite of the weather. If instead, you have a raging case of powdery mildew on your canopies and an enormous crop, there is no way now to spray your way to a successful harvest; you're at the mercy of the weather at this point. This season has definitely seen an uptick in powdery mildew disease when compared to the past two to three seasons, particularly on leaves. Our powdery mildew spray programs have really been put to the test this year, and we've seen that in all of our unsprayed plots in our trials on Concord and wine varieties here at the North East lab. We've also seen how using some of the newer FRAC 7 and FRAC 3 materials has made a huge difference in maintaining cleaner fruit and a cleaner, more productive canopy into September, in spite of the higher mildew pressure. Where the older materials, like Vivando, Quintec, and tebuconazole products were relied on, canopies are in much worse shape, and I can't help but think that it's not just the weather that's produced this uptick in mildew this year. Our continued reliance on older chemistries may also have contributed to this uptick, and changes in our spray programs may need to be made (?) For next year, avoid relying solely on these older products, especially where it really counts: around bloom through the 2nd post bloom spray. We now have alternatives like Endura, Gatten, and Cevya (if the price is right) that can be rotated into your programs next year, to improve your powdery mildew control. We've been pushing the use of

Endura over the past 3 years now because the price of Endura has dropped dramatically and it's a very effective powdery mildew material. And even though Endura is a 20+ year old chemistry, it comes from a FRAC group (7) that juice grape growers simply have not applied much over the years; no resistance issues...yet. Consider that for the third year we have directly compared Quintec (5 fl oz), Vivando (the highest rate), and Endura (4.5 oz) for powdery mildew control on Concord fruit and leaves. Every year, Endura has been the clear winner. We also compared Endura, with and without a surfactant, and saw little or no benefit with the use of a surfactant. Other, newer FRAC 7s (Luna Experience, Aprovia/Aprovia Top, Miravis Prime) should perform equally or even better than Endura, for powdery mildew control. But alas, these latter materials will be more expensive.

Our 2nd year of trials with Cevya (mefentrifluconazole) have confirmed its strong efficacy against black rot, providing excellent control of black rot even when applied 5 days after infection. And even though it's a FRAC 3 material, it appears to be much more active than tebuconazole at controlling powdery mildew: about 80% control of leaf infections with Cevya, compared to 15% control with tebuconazole, when leaves were examined about 5-6 weeks after the last spray. Cevya is slated to come out with a new label for 2022 product, which will remove the varietal restriction and enable use on native and hybrid grapes next year. Stay tuned for information on price and keep your fingers crossed; it's a really good material.

And then there's Gatten, a relatively new fungicide for powdery mildew that is unrelated to anything else we've used. I have not had the opportunity to test it myself, but Cornell University (Wayne Wilcox and now Katie Gold) has run several field tests with it and it looks good.

So, for next year, stay away from the strobilurins (FRAC 11; Abound, Sovran, Flint) for powdery mildew control. We've been using strobies for almost 25 years now, and for the past few years, we've been 'preaching' that this class of fungicides is on its way out for powdery control; stop using them for that purpose! Last year we had several isolates of powdery mildew - collected from commercial vineyards along the lake in PA - tested for resistance to strobies. Every powdery mildew isolate tested, had the genetic mutation conferring resistance to strobilurins! Abound may still be providing good control of downy mildew and all of them will still be effective black rot materials, but don't rely on them for powdery mildew control.

And, if you're getting tired of seeing mediocre control of mildew from Quintec and Vivando, consider working these "newer" materials into your spray program next year. I think you'll see a difference. In our latest trial with Quintec and Vivando, pre and post bloom sprays of Vivando at 15.4 fl oz, provided zero control of mildew on Concord fruit - and Quintec was not much better - when compared to completely unsprayed. About 2 months after the last spray (applied on June 30), control on Concord leaves was only about 15% for Quintec or Vivando...almost indistinguishable from the unsprayed check (much like the level of control with tebuconazole in another, nearby Concord trial detailed above). On the other hand, control with Endura was about 65% on fruit and still about 60% on leaves (two months after the last spray), when compared to unsprayed; quite a difference.

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Updates and Information

Kimberly Knappenberger, Viticulture Assistant, LERGP

NEWA Update:

There are no big changes to announce this week as far as the stations and how they are functioning. As always, if you notice something is not quite right on your favorite weather station please send an email to ksk76@cornell.edu.

The big news this week is that I just realized that the website is officially switching over at the end of this month! If you are still using the original NEWA website (I'm guilty most of the time!) you will notice a difference at the beginning of October. The web address for the old site will soon take you to the new site. Once there you can create an account that allows you to customize your dashboard with the stations and tools that are most important to you. To learn more about creating your profile you can click this link to [Get Started with NEWA](#).

Vineyard Improvement Program Reminder

The time is now! If you or someone you know has been wanting to apply for this program but is unable to prove that it is/was a Concord vineyard, veraison to fruit maturity is the perfect time! Concord grapes have a distinctive smell and taste that make it easy to confirm and we are happy to come take a look. We realize that most of you probably don't have those neglected vineyards that can be found driving around the area, but you might have a neighbor, friend or relative that does. Feel free to send them to the website at lergp.com and click the big purple button that says Vineyard Improvement Program, or have them contact Kim at ksk76@cornell.edu. This is only for New York state and only for Concord vineyards at least 1 acre in size.



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