Lake Erie Regional Grape Program

Concord row after harvest-
Kim Knappenberger

CROP UPDATE
October 27, 2022

Cornell Cooperative Extension
Lake Erie Regional Grape Program

PennState Extension

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Click here to watch Podcasts

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.

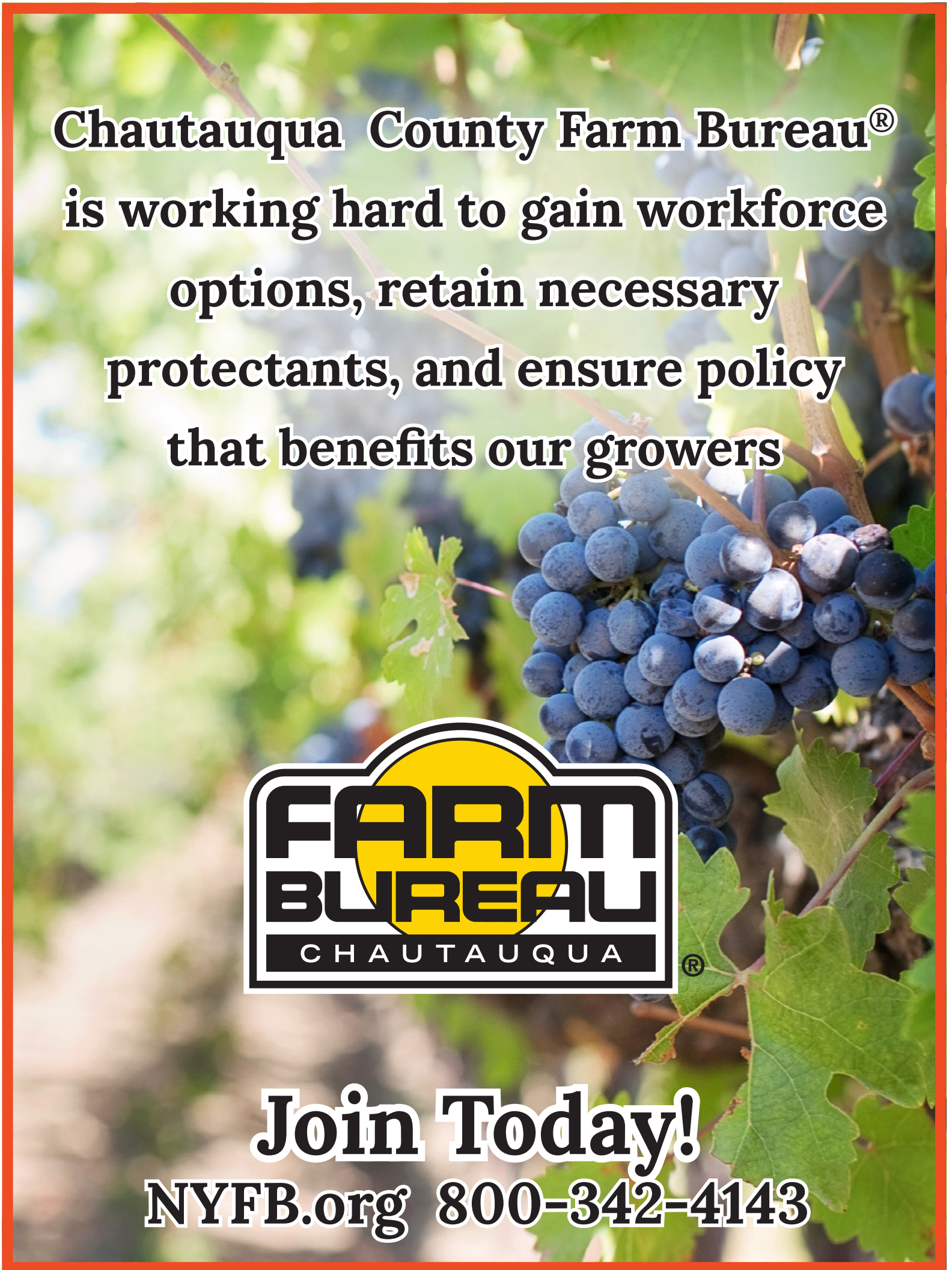
Back in the day.....

Can you help us?

We want to include a picture of an old piece of grape farming equipment or a nostalgic photo of back in the day grape farming on each month of our 2023 LERGP calendar. We would love to have your photos for our calendar!

If you would like to share a photo, email it to me at kjr45@cornell.edu

1970 -No more pulling a harvester behind the tractor. Introducing the first Chisolm Ryder - self propelled and the ability to harvest six to eight tons of grapes per hour.
posted on Pinterest by Grape Growers of Ontario


Chautauqua County Farm Bureau®
is working hard to gain workforce
options, retain necessary
protectants, and ensure policy
that benefits our growers
FARM
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Join Today!
NYFB.org 800-342-4143

Business Management

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

Concord Harvest

Concord harvest continues. The end of harvest continues with average brix falling as some processors receive acreage that struggled to ripen this year. Harvest will conclude much earlier than last year with higher brix and lower yields. Yields last year came in above estimate and this year will come in below estimate. The two years taken together show a couple of different things about why crop estimation is hard. 1. Final berry weight can differ from average and from expectation. 2. Without adequate samples and actual sampling it is particularly difficult to measure the extremes. Both this year and last year we had extreme lows and extreme highs.

In general, less of the region appeared to experience extreme crop loads this year. While thousands of tons struggled to reach 15.0 brix, most did. Average brix in the region are up significantly this year but still below many high brix years. While yields are down less than I expected, they're down quite a bit from estimates. In general, this should turn out to be a healthy year, financially, for the majority of growers. Simply based on yields, brix and price the gross revenue generated by those profit drivers will help overcome rising costs in the industry for 2022. Since much of the crop is marketed through cooperatives, this is partially unknown. However, so far, indications do not reveal downward price pressure on any retail sales in grocery.

So for growers that were able to harvest and contain a crop this year might actually be a profitable one. 2022 is no different than every other year. The success of most growers is always fraught with individual challenges that are not in line with industry trends. Yields for a significant amount of acreage, by no means most acreage, was disastrously low. For native varieties, crop insurance will help alleviate some of that financial challenge. Challenging yields were also seen in hybrids and vinifera. Both price and crop insurance of those wine grape varieties is failing to compensate for production challenges. Prices and success of juice and wine do apparently continue to cycle. These cycles are neither perfectly synchronous nor asynchronous. Grape varieties continue to be an important method of risk diversification. That has not been consistently clear over the last 30 years but was clear in the last 10.

There are some really good reasons to think that 2022 was mostly a good year. As harvest slowly comes to a close these indications of positive outcomes look like they translate fairly well to 2023. 2023 will not be without challenges. More on that later.

One note of challenges in NY: Over the next decade NYS will be moving to overtime pay for 40+ hours and day of rest. Farmers have changed practices since overtime rules were established for 60+ hours and day of rest. You can find results of the evolution in business and payroll practices here:

https://agworkforce.cals.cornell.edu/2022/10/19/how-new-york-farmers-adapted-to-60-hour-overtime/

NY FARM WORKFORCE IN TRANSITION October 19, 2022

How New York Farmers Adapted to New Farm Labor Overtime Requirements

Richard Stup, Elizabeth Higgins, Jason Karszes,
Bradley Rickard, and Christopher Wolf

INTRODUCTION

New York state government passed the Farm Laborer Fair Labor Practices Act (FLFLPA) in 2019, which took effect on January 1, 2020. FLFLPA required overtime pay at 1.5 times the regular rate of pay for any hours worked more than 60 hours per week. It also required a weekly day of rest and mandated overtime pay for any employees who voluntarily worked on their day of rest.

These overtime rules applied to most farm employees who were not in management positions or members of the owner's immediate family. These state employment changes occurred in the context of significant, long-term changes in the farm labor market driven by a declining supply of willing and available farm labor, and overall upward pressure on farm wages.

As part of a multi-year research project, Cornell Agricultural Workforce Development is studying how farm employers are adapting to rapidly changing labor markets and regulations. The research objectives are to help farmers adapt in ways that will support farm profitability, increase employee productivity, and encourage employee retention. This report focuses on how New York farm employers adapted to the overtime requirements under FLFLPA.

METHODS

We used a mail survey, with optional online completion, to reach a broad group of New York (NY) farm businesses. About 30 of the farms received farm visits from project researchers to complete the survey.

These farm businesses can be categorized into two broad groups:

- specialty crop farms, including fruit, vegetable, and greenhouse operations
- dairy, livestock, and field crop operations

These farm types were chosen because they represent the largest farm employers in the state by total number of employees (NASS, 2019). The vast majority of respondents in the latter group were from dairy farms, so "dairy" is used to refer to this group.

Lists of farm businesses were assembled from multiple sources: farm organization memberships, extension contacts, participating farms in the H-2A seasonal worker program, and from commercially available business lists. The lists were merged and checked for duplicates.

This survey was conducted during the COVID-19 pandemic, and multiple COVID challenges forced delays. Ultimately, the survey was distributed in the fall of 2021, during the busy harvest season for all types of New York farms. This circumstance undoubtedly depressed the survey response rate. Further, none of the farm employer lists used included an accurate way to select for larger farms that were more likely to have employees, so farms of all sizes were included in the survey. It is possible that most small farms without employees simply discarded the survey concluding it was irrelevant to them.

A total of 3,119 surveys were mailed, 110 were undeliverable, 62 responded that they had no employees, 27 indicated they were not a farm, and 21 others refused to respond to questions on this topic, leaving 2,899 farms from the initial mailing. Out of this initial group of 2,899, 162 valid survey responses were received, yielding an overall response rate of 5.6 percent.

Farmers were asked to provide information about the years 2019 and 2020 because January 1, 2020 represented the beginning of significant changes to NY farm employment regulations. This report is focused on the overtime-related questions from the survey. Response categories for these questions were based on earlier analysis by Eiholzer et al. (2019) who articulated the requirements of FLFLPA and possible management strategies that farms could use to adapt.

How did farm employers adapt to overtime?

One of our survey questions asked farm employers: "How did your farm adapt to the new overtime requirement for farm laborers implemented by New York State in 2020? This is the requirement that overtime (1.5 times regular pay) must be paid for any hours worked more than 60 hours per week." Table 1 summarizes the responses of specialty crop and dairy farms to this question, and the results are described below.

SPECIALTY CROP FARMS

By far the most frequent response from over 70 percent of specialty crop employers was that they "implemented tighter control of employee performance and hours worked." The next most common response, at 43 percent, was from farms that continued employment as usual and just paid for any overtime hours worked. It's important to note here that most specialty crop employers, even before the new overtime regulations, rarely had employees work more than 60 hours per week, so overtime pay was not typical under normal conditions (Wolf et al., 2021).

Other common responses indicated that farms invested in machinery or equipment to boost labor productivity (38 percent), or simply eliminated certain production tasks that were non-essential (31 percent). An "other" option was provided so that employers could write in any other strategies they used that the survey did not specifically list. Multiple specialty crop growers responded that they eliminated crops or left them in the field, and that they used "hard stops" to work to avoid paying any overtime. In other words, work stopped regardless if it was complete.

TABLE 1
Farm employer strategies to adapt to overtime

	Specialty Crop (n=65)		Dairy (n=74)	
	Count	Percent*	Count	Percent*
Implemented tighter control of employee performance and hours worked	46	71%	49	66%
Continued employment as usual and just paid for overtime hours worked as required	28	43%	25	34%
Invested in machinery or equipment to improve labor productivity	25	38%	34	46%
Eliminated or reduced non-essential production tasks	20	31%	13	18%
Hired additional employees to reduce or eliminate overtime hours worked	19	29%	19	26%
Other	13	20%	27	37%
Outsourced existing tasks to reduce labor needs	7	11%	17	23%
Reduced employee benefits to offset the cost of overtime	4	6%	6	8%
Reduced base employee pay to offset the cost of overtime	3	5%	5	7%

* Respondents could choose more than one strategy, so column adds to more than 100. Percent indicates the percent of respondents who chose that strategy.

DAIRY FARMS

Dairy crop farmers also implemented tighter management of employee performance and hours worked, with about 66 percent using that strategy, with results from 74 farms presented in Table 1. Almost half of dairy employers were able to invest in machinery or equipment to improve productivity. This is considerably more than specialty crop employers and may reflect more opportunity to use this strategy for dairy employers. Also, for both employer groups, investments in labor saving machinery and equipment may take some time to plan and implement. This survey covering the first two years of overtime may have occurred before employers could make these types of investments.

Several strategies were written in by dairy respondents with the following two appearing multiple times:

- No change was required as the farm already paid overtime or overtime was not required due to family labor
- Owners, salaried, and part-time workers picked up more work so that hourly employees could stay below the 60-hour threshold

It is important to note that a significant number of both farm employer groups (specialty crop 29 percent, dairy 26 percent) indicated that they "hired additional employees to reduce or eliminate overtime hours worked." This is the time-honored employer strategy to minimize the cost of overtime by spreading total work hours from a smaller group of employees working many hours, to a larger group working a reduced number of hours intended to stay under the overtime threshold.

Also notable is that relatively few employers attempted to offset the cost of overtime by reducing employee pay or benefits. This strategy, of course, would likely cause serious employee dissatisfaction and possibly workforce disruption.

How did overtime affect recruiting new employees?

On our survey we asked farm employers: "How has overtime affected your ability to recruit new employees for your farm?" The response options for this question included: "made it easier, made it harder, or no noticeable difference." Respondents were also asked to share any other comments about how overtime at the 60-hour threshold affected their ability to recruit new employees.

Among the 65 specialty crop employers, none indicated that overtime made recruiting easier, while 32 percent said it made it harder, and 68 percent said it made no noticeable difference. Among the 72 dairy employers, about three percent said overtime made recruiting easier, 26 percent said it made it harder, and 72 percent said it made no noticeable difference.

Specialty crop employers wrote a great number of comments about the effects of overtime on recruiting employees. The overwhelming message was that employees expect and demand to work more hours than the 60-hour overtime threshold enables. This theme was followed in frequency by comments about how farms lack the financial ability to pay overtime. One employer noted "We are not able to provide the extra hours for extra pay anymore. We must also be careful with hourly wages so we can afford the unavoidable overtime in the busy season." Another wrote "We are under extreme competition for employees with industries that can afford to pay higher base wages than farmers can."

Dairy employers also had much to write about 60-hour overtime's effect on recruiting. Their most frequent comment was that overtime had not affected recruiting because they have little turnover and little need to recruit. This was followed by comments about how employees demand to work more hours. Others noted specifically that overtime at 60 hours has little effect on recruiting, but they expected overtime at a lower threshold to make recruiting much more difficult.

How did overtime affect retaining current employees?

Another interesting question that we included asked farm employers to indicate "How has overtime affected your ability to retain current employees on your farm?" Again, respondents could choose: "made it easier, made it harder, or no noticeable difference," and they could write in other comments.

No specialty crop employers said that overtime at 60 hours made retention easier, 26 percent said it was harder, and 74 percent said it made no difference. Among dairy employers we saw a similar pattern: three percent said easier, 26 percent said harder, and 72 percent said it made no noticeable difference.

Specialty crop growers noted that overtime at 60 hours has little impact on retaining current employees, but they expect any lower thresholds to make it harder to retain employees. Another often repeated comment was that employees want and need more hours. One employer put it this way: "The H2A workers who work for us from May to November want and need to work as many hours as possible to care for their families back home. If we limit their hours, they will leave our farm and NY state to seek employment in a state without overtime restrictions." Another farmer wrote: "Two employees I've had for 20 plus years are not returning this year because they want and need more hours. Small farms like mine don't have the ability to increase wages as other fixed costs keep us strapped down."

Dairy employers had similar comments to share about employees wanting more hours: "Employees just want to know how many hours they will get before coming to work for us." Another shared this anecdote: "We attempted to slightly reduce milker's hours in 2021 and had several employees leave. We heard feedback from potential recruits that we couldn't offer enough hours. Current schedule for milkers is 66 hours per week. We had tried changing to average of 58 hours per week and met with resistance."

DISCUSSION

FLFLPA initiated the 60-hour overtime threshold for most farm employees in NY. That same 60-hour threshold was maintained from 2020 until the time of this report in 2022. Farm employers were able to adapt in a variety of ways to the new 60-hour overtime requirement. By far the most common strategy to adapt, used by both specialty crop and dairy farms, was to simply adjust management practices to tighten up control of employee performance and hours worked. In this and previous research (Wolf et al., 2021), employers mentioned a variety of methods to tighten management approaches: stricter scheduling, hard stops for daily work, increased supervision, additional training, etc. Some managers also mentioned that owners and other overtime-exempt employees worked more hours to be sure that overtime-eligible employees did not exceed 60 hours per week. Despite these efforts to control labor costs, Karszes and Wolf (2021) found that labor costs per worker hour for NY farms increased by 5.7 percent from 2019 to 2020, the fastest increase they found over a seven-year period from 2014 to 2020.

Regarding the recruitment of new employees and the retention of current employees, most farm employers said that overtime at 60 hours did not make a noticeable difference. It is not surprising that most farms could adapt to 60-hour overtime without making radical changes because most farm employees already worked close to 60 hours per week. Farm employee compensation studies conducted in 2017 and 2020 (Stup, 2019; Stup, Smith, and Karszes, 2022) found that farm managers worked on average about 54 hours per week in 2017, while frontline employees worked about 56 hours per week in 2017, and 58 hours per week in 2020. A notable exception to this was some dairy farm employees who frequently worked from 60 to as much as 80 hours per week. Maloney et al. (2016) focused specifically on Hispanic dairy farm workers in NY. They found that 38 percent of this group worked 61 to 70 hours per week, 39 percent worked 71 or more hours per week, and the remainder worked less than 60 hours per week. The 60-hour overtime threshold, then, was higher than what farm employees worked on average, and not much lower than what even the group with the highest weekly hours typically worked.

The 60-hour overtime threshold had no significant impact on recruiting and retention of farm employees according to about three quarters of employers who responded to this survey. About one quarter of respondents said overtime made recruiting and retention harder. Again, this is an understandable finding given that the 60-hour threshold was close to the weekly

hours that most farm employees already worked. Employers were quite clear, however, that an overtime threshold below 60 hours would be received very differently. Assuming that employers used strategies to minimize overtime use, effectively capping employee hours at the overtime threshold, overtime thresholds lower than 60 hours would have a meaningful effect of reducing employee earning potential. Employers frequently commented that "employees want more hours." This is in reference to employers who already had problems with recruiting and retention at the 60-hour overtime threshold, and from employers who predicted such problems at lower threshold levels.

LOOKING AHEAD

The survey research discussed here took place between August 2021 and February 2022. Since that time a few important policy changes have occurred. First, NY state created a refundable tax rebate to enable farm employers to seek reimbursement from the state for the cost of farm employee overtime premiums between the state-required overtime threshold level and 60 hours per week (Stup, April 18, 2022). Second, the NY Commissioner of Labor accepted a farm laborer wage board report recommending the reduction of the farm worker overtime threshold incrementally to 40 hours per week by 2032. This will now be required employment regulation in the state. The net effect of these policy changes is that the overtime threshold will decline, requiring more overtime payments for farm employees, but farm employers will be able to claim reimbursement from the state to offset the cost of these overtime payments (Stup, October 3, 2022).

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presented by New York's Ag Workforce Development Council
Labor Roadshow VI
Online and in person options offered
Labor Roadshow programming runs from 8:30 am to 4:30 pm each day

REGISTER FOR LABOR ROADSHOW

Ag Workforce Development Council member organizations include: NEDPA, Cornell Cooperative Extension, Cornell Agricultural Workforce Development, Cayuga Marketing, AgriMark, Upstate Niagara, New York Farm Bureau, New York Vegetable Growers Association, New York Animal Ag Coalition, Agri-Placement Services, New York Horticultural Society, Dairy Farmers of America, Farm Credit East, Gray & Oscar LLC

Labor Roadshow registration is required, and payment of $65 per person is collected on site.

DATES

November 9: Genesee Community College-Batavia Campus, One College Road, Batavia, NY 14020-9704. Room T119 Lecture Hall, Conable Technology Building
November 10: Cayuga, Onondaga BOCES, 1879 West Genesee Street Rd, Auburn, NY 13021. Conference Room 1, 2, 3
ONLINE OPTION: on November 10, 2022 only, the event will be broadcast for remote audiences and recorded for paid registrants to view later
November 22: CCE Saratoga Auditorium, 50 West High Street, Ballston Spa, NY 12020

TOPICS

Labor continues to be the primary challenge for many farm businesses and Labor Roadshow VI tackles those challenges head-on with topics:

Attracting and retaining your farm workforce
Management strategies in a union eligible work environment
TN Visas: Introduction to the program and best practices for using
The H-2A Program: Accessing guest workers for all types of farms
Producer's real-world experiences with H-2A
Farm Safety: Real world tips for building a strong safety culture
Farm-provided employee housing management and development

FOR MORE INFORMATION
agworkforce.cals.cornell.edu/labor-roadshow

2022 Chautauqua County Agriculture Forum

Wednesday, November 30th

JCC—Carnahan Center

Complimentary lunch provided

****Free to attend**

Registration and Agri-partner display visitation starts at: 9:30 am

Welcome & Introductions: 10:30am - 11:00am

Keynote Address: 11:00am - 11:45am

Jenna Walczak, Ag Climate Resiliency Specialist presenting

"Climate Resilience for Chautauqua County Agribusiness"

Break Out Sessions (three sessions) : 12:45pm - 3:00pm

Break Out Session Topics	Speaker
Stress Management on the Farm	Sarah McCumiskey & Teresa McMahon, NY FarmNet Family Consultants
Getting Money For Your Business	Jennifer Clifford
Advocacy—A Bigger Part Of Your Farm's Business Plan	Timothy Bigham; Farm Bureau
Legal Resiliency	Kevin Martin; Lake Erie Grape Team
Overtime; Adapting Your Management Strategies	Richard Stup, Agricultural Workforce Specialist
Hogs, Hops, and Honey – Oh My! Farm Diversification and Enterprise Analysis	Katelynn Wally, Stoll, Team Leader and Farm Business Management Specialist

If you are interested in more information and/or registering to attend the upcoming 2022 Chautauqua County Agriculture Forum please visit our website below or scan the QR code:

https://chautauqua.cce.cornell.edu/events/2022/11/30/2022-chautauqua-county-agriculture-forum

If you would like any additional information or need help registering to attend please feel free to reach out to Cassandra Skal, Agriculture Program Coordinator, at 716-664-9502 ext 202 or cks83@cornell.edu

Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

In the Vineyard

Harvest is wrapping up all around the belt with some of processors already finished and others planning on finishing up in the coming week. One can still find trucks with full loads on the road. I have been traveling around the belt this last week and the fall colors are unbeatable in my opinion, but it is not necessarily good news if red leaves are on grapevines and particularly in wine varieties. Red leaves on grapevines can be a symptom of serious diseases, such as grape leafroll associated viruses and red blotch. The New York State Integrated Pest Management Program produced an article written by Elizabeth Cieniewicz and Marc Fuchs in 2014, and it can be found by clicking here. Below is the introduction paragraph:

> "Grapevine red blotch disease (GRBD) is a recently recognized viral disease. It was first described on Vitis vinifera cv. Cabernet Sauvignon at the University of California Oakville Research Field Station in 2008, but the causative agent was not characterized until 2012. The disease, GRBD, is caused by a DNA virus named Grapevine red blotch-associated virus (GRBaV). Infected red wine grapevines exhibit symptoms similar to those associated with leafroll disease, with red blotches forming on leaves during the later summer months. Fruit ripening issues have been reported in grapevines diagnosed with GRBD. The symptom similarity to leafroll disease and abiotic factors such as nutrient deficiencies, insect damage, or physical injuries makes visual diagnosis difficult and explains the delay in recognition and characterization of the disease."

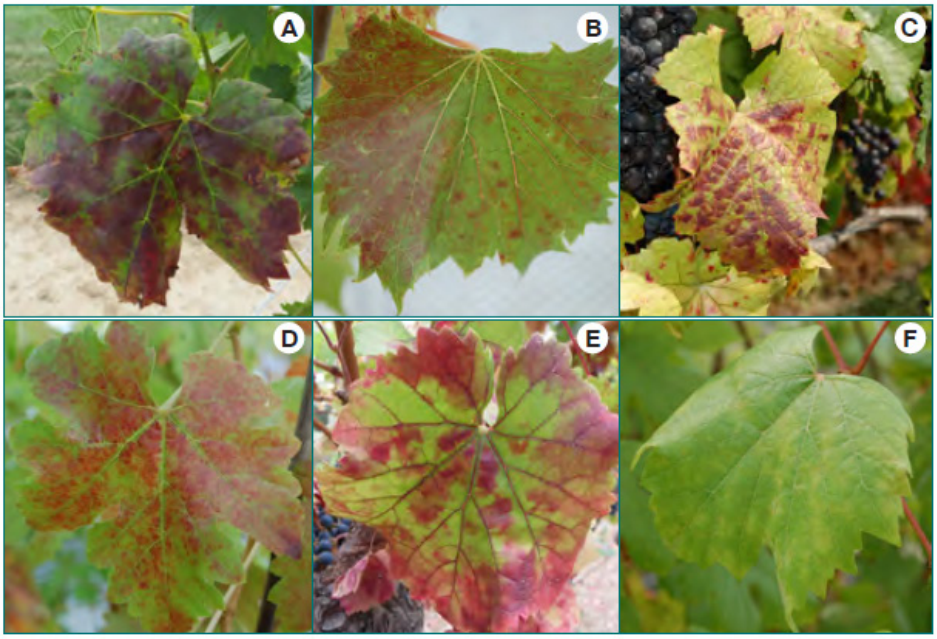

photo 1. Foliar symptoms of red blotch on 'Cabernet franc' (A), 'Chambourcin' (B), 'Pinot noir' (C), 'Cabernet Sauvignon (E), and 'Chardonnary' (F). Photos by M.Fuchs.

I have noticed that different vineyard blocks are at different stages of senesce. One can find blocks with mostly green leaves that are just starting to yellow to others that leaf fall is almost complete. Leaf fall signals the beginning of the dormancy period of the grapevine. We will begin to collect woody tissue next week to monitor cold hardiness in varieties across the belt. Stay tuned for more information on how to access that data.

MyEV

Now that the growing season is wrapping up, we will be revving up efforts to educate those of you interested in incorporating MyEV platform in your vineyard operations. There will be classes held to learn how to use the platform for spatial maps that can guide management decision in a more efficient and productive way. Please watch for updates for upcoming classes. In the meantime, I try to include a tutorial or article about uses of this platform in my crop updates. This week, I would like to draw your attention to a blog post on August 12, 2022, written by Nicholas Gunner. Please click here to watch the tutorial. This blog is a step-by-step on **Improvements Added to Farm Block Management** - It's now easy to import blocks in bulk, adjust headers, export block data, and re-import new data.

This blog is for the intermediate user, do not let this make you nervous about learning more about the platform. In future outreach, we will break it down into easily understandable and useful chunks of information for those just starting.

Update on the Spotted Lanternfly, Our Newest Insect Pest in the Hudson Valley

Posted on October 25, 2022 by ct478Dan Donahue, CCE-ENYCHP, Hudson Valley, New York
Click here for original blog post.

The Spotted Lanternfly (SLF*), Lycorma delicatula*, is an invasive pest species first discovered in Northeastern Pennsylvania in 2014.

While the state of Pennsylvania and the USDA reacted quickly to establish a quarantine to prevent its spread, the insect is an accomplished traveler, managing to escape the region by hitchhiking on cars and trucks. Eradication efforts were attempted, but ultimately not successful. Active colonies (infestations) of SLF has been found in the Hudson Valley (see map below).
SLF is an insect with sucking mouthparts who feeds by inserting those mouthparts into the trunk and branches of trees, looking to tap into the plant's vascular system (specifically the phloem for our botanist readers out there!). The sap in the phloem is rich in nutrients and serves as the food source for our nemesis. On the bright side, those sucking mouthparts are akin to a "straw" and the very large adult cannot bite humans and animals, or sting with its abdomen like a bee or wasp. SLF isn't a direct feeder on fruit tissue so it's feeding won't cause direct physical injury to fruit, say like the half-moon shaped oviposition (egg laying) scar that can be easily found on apples at harvest in abandoned orchards. However, the potential problem for orchardists and vineyardists is the cometic damage to the fruit caused by microorganisms that thrive on the nutrient-rich "honeydew" excreted in volume while the insect feeds. The honeydew accumulates on the fruits and the microbes that capitalize on the opportunity will produce a "sooty" substance that effectively discolors the fruit, preventing it from being sold.

photo 2. Photo credit: NYS Integrated Pest Management Program Staff

photo 3. This "cheeky" character landed on the hood of a tractor operating in an Orange County, NY, orchard this summer. Rumor has it that words were exchanged, but we cannot find any independent confirmation of this. Photo Credit: A grower (anonymous).

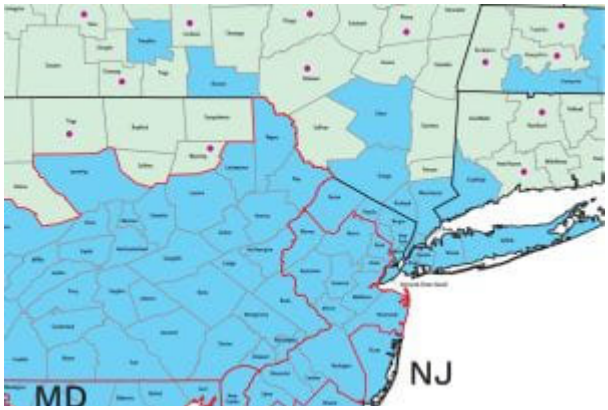

photo 4. Known distribution of Spotted Lanternfly in and around the Hudson Valley of New York State as of September 21, 2022. Blue shading shows the counties with active infestations (Ulster, Orange, Rockland and Westchester in the Hudson Valley). Purple dots show the counties where individual SLF has been found, but no active infestations. Map provided by the NYS Integrated Pest Management Program.

photo 5. SLF attacking a grape vine. The large number of individuals is striking and note that they are feeding on the vine itself, not the fruit. The nutrient-rich "honeydew" excrement produced is what coats the fruit underneath encouraging the development of microbes that ruin the fruit for sale.

A real challenge for commercial orchardists and vineyardists in the Hudson Valley and elsewhere will be how to manage this new pest so that populations remain below the level where they cause economic losses. To this end, research is underway in the Hudson Valley to better understand the biology of this invasive species. Being new to our region, agriculturalists are essentially at square one in understanding how well SLF will survive in our region, how significant the threat, and what steps commercial producers can take to reduce populations below the level of economic significance.

To that end, researchers at the Cornell Hudson Valley Laboratory in Highland, NY, has learned how to successful maintain a research colony of SLF in a confined laboratory setting. Roberto Regalado, field technician, working with Ken Wise, both affiliated with the Cornell Cooperative Extension NYS Integrated Pest Management Program are busy convincing their captured SLF to feed and reproduce in their artificial ecosystem as if still in the wild. No easy task as the insects will respond to environment stimuli such as temperature, light, humidity, and the quality of the food source, and sometimes not in a good way. The natural ecosystem is complicated and it's a real challenge to duplicate it well enough to convince the caged SLF to go about their lives in a natural manner.

photo 6. The interior of the Cornell Hudson Valley Laboratory SLF colony showing the potted "Tree of Heaven" which are an invasive species in of itself and the preferred food source from the insect's original home in Asia. Tree of Heaven (Ailanthus altissima) is now widely distributed in the Hudson Valley. Photo Credit: Roberto Regalado, NYS IPM Program.

photo 7. Spotted Lanternfly adult females laying eggs (ovipositing) on a "Tree of Heaven" log in the Cornell Hudson Valley Laboratory SLF colony. Two egg masses can be seen within the red ellipse. Note how well camouflaged they are, very difficult to notice at a glance if affixed on cargo or a vehicle. Photo Credit: Roberto Regalado, NYS IPM Program.

Why make the effort to establish a laboratory colony? The first step in managing any pest is to understand the intricacies of its life cycle so biologists can identify ways to exploit it for management purposes. A second point is developing the capability to produce large numbers of immature and adult insects as well as viable eggs to provide our scientists with adequate populations of test subjects. These captive SLF can be used to evaluate the efficacy of both biological and synthetic pesticides under controlled laboratory conditions while not releasing experimental chemicals into the environment. If certain biologicals and synthetics are identified as showing potential, then the appropriate steps can be taken in accordance with federal and NYS regulations to further evaluate their use under realistic field conditions. If you're interested in seeing a live view of the Spotted Lanternfly in action, **please follow the link here** to watch a YouTube video Public Service Announcement produced by Cornell Cooperative Extension. In the meantime, keep an eye out for this insect and if found, report it too your county's Cornell Cooperative Extension office. All NYS counties have an extension office, simply search the web for "Cornell Cooperative Extension" and include the name of your county for your local contact information.

Posted in Grapes, Tree Fruit, UncategorizedTagged Hudson Valley, SLF, spotted lanternfly

Zoom opportunity:

Michela Centinari – Exploring grapevine responses to phloem feeding by the spotted lanternfly
Date: 10.31.22 Time: 12:25pm

Seminar Zoom Link
https://cornell.zoom.us/j/95740166793?pwd=ZmdpNk5jRkd5WllYZE1weW53S1p3UT09

Seminar Zoom Info
Meeting ID: 957 4016 6793 Passcode: 445725

Fall entrepreneur...

PA Update

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

October weather and 2022 recap: Here at the North East lab we have recorded about 145 growing degree days so far in October, with a rainfall total of 5.24". With the short term forecast, it looks like we'll probably finish out October just a little cooler and drier than average.

In our view on the world from North East PA, this year of grape growing was marked a bit by extreme weather. From May through September, each month was warmer than average. That's only happened one other time in at least the past 20 years or so….though average is a moving target. We started out the season warmer and wetter than average in May (although not too extreme yet), followed by a June that was extremely dry, followed by a hot, dry July. On the bright side, this made for an easy season for disease control around bloom and early fruit development…when the crop is most susceptible to all the major diseases. On the other hand, dry, hot weather favors insect development, in our case grape berry moth and leaf hoppers. In general, issues with powdery and downy mildew and black rot, were few and far between. However, *If you had a problem with black rot this year*, it's because black rot has been building in your vineyard during previous years and you haven't made yourself aware of it. In our disease management trials, we could barely get black rot at all this season, even where mummies were 'planted' in unsprayed plots of susceptible grapes. *If you had a problem with black rot this year*, you need to be mindful of its presence in your vineyard and keep it under tight control in 2023. That means begin to spray for it early, prebloom (at 8-10" shoots or even earlier), and continue on a 10-14 day schedule at least through the second post bloom spray. You don't have to spend a fortune controlling it. One of the most potent materials for black rot is tebuconazole, and its 'dirt cheap'.

In August, the rain turned back on and we continued to have above average growing degree day accumulations (warmer and wetter than average). The extra water was a welcome change for parched juice grape vines and things were looking up going into the ripening period. After all, many juice grape growers were looking to ripen very large crops to make up for damage sustained in 2021 by late frosts in spring. But hot, dry weather earlier in summer encouraged the growth of populations of leaf hoppers and berry moth, which presented a drag on the crop and wallet. The first 4 weeks of the ripening period were favorable enough for getting those large crops moved closer to the finish line. And, canopies were generally looking good, 'firing on all cylinders', so to speak. After all, powdery mildew pressure was low this year and many growers were making good use of some of the newer, more effective fungicides for mildew, which will improve control of this disease belt-wide as more growers adopt the use of them. But weather conditions in the back third of September took a turn for the worse and persisted for weeks into October. At our location, we recorded 5.33" of rain during the final 12 days of September. Adding to the problem, growing degree day accumulations slowed to a crawl during the final week of September and then nearly died in early October. Heavily cropped vineyards struggled hard to accumulate that last bit of sugar needed to cross the finish line. Nevertheless, there was still hope during the first half of October, with a two week stretch of nearly bone-dry weather and the potential for rising sugar levels due to desiccation. That was put on hold again on October 13, with the return of heavy, prolonged periods of rainfall. All in all, we recorded over 11" inches of rain from veraison through the middle of October, after which there is very limited potential for any further sugar accumulation. By end of October, we'll have accumulated about 17.5 inches of rainfall since the beginning of ripening…yowsa!

Next, I want to relate a summary of some of our research trials here at the North East lab. I'll plan to have this re-posted for our newsletter in early November.

2022 trials at the Lake Erie Regional Grape Research and Extension Center

Funding/support from the Lake Erie Regional Grape Program/New York Wine and Grape Foundation and chemical companies like BASF and Gowan, enabled us to set up Concord grape trials to examine a variety of fungicide programs for control of powdery mildew on clusters and leaves. We compared:

- Rotations of "older" to "newer" fungicides
- Fungicide spray intervals (10 day versus 14 day versus 18 day intervals)
- Fungicide program length (2 sprays versus 3 sprays versus 4 sprays versus 5 sprays)

What we found was not too surprising for the most part, but it enabled us to strengthen/tweak our recommendations for the future. It turns out that rotations of the "newer" materials (Endura (not a new product, but new to Concord grape growers), Cevya, Gatten) provide better control of mildew than rotations of the "older" materials (Quintec, Vivando, Torino)!!! It turns out that 10 and 14-day intervals work better than 18-day intervals (shock!!!) And finally, spray programs that extend out longer into the mid-summer period provide longer lasting control of mildew on leaves (!!!) But wait, there's more.

With respect to spray intervals/old vs new materials, 10-14-day intervals generally lead to better powdery mildew control than 18-day intervals. Again, no surprise here. We've been preaching this FOREVER. However, for fruit/cluster protection, this was more critical if you're using "older" materials. In other words, spray interval made more of a difference in the level of fruit/cluster protection (better control with 10-14-day intervals than with 18 day intervals), when using the "older" materials than when using the "newer" materials. The newer materials, being more effective, rendered spray interval less important, less critical, for achieving comparable powdery mildew control.

This was also generally true for leaves. We found little to no difference between the efficacy of old and new materials, when applied at 10 day intervals. But, as intervals were stretched to 18 days, the difference in efficacy became more apparent; newer materials were more effective than older materials. While no one seems to question the importance of shorter intervals around bloom for fruit protection, many growers will stretch spray intervals to 21 days or more, later in the season for powdery mildew control on leaves. Our 2022 results indicate that this is NOT a good idea, especially if you're using the older fungicides. For example, when we rated leaves about 4 weeks after veraison, we found that 3 sprays of older materials at 14-day intervals, were significantly more effective than 3 sprays of older materials at 18 day intervals, even though the 14 day schedule ended about a week earlier than the 18 day schedule. Interestingly, this was not the case when we compared intervals of 3 sprays of the newer materials: 10, 14, and 18-day intervals, using newer materials, provided similar/same control of mildew on leaves at 4 weeks after veraison.

Part of the reason for this is that you more quickly lose control of mildew on leaves when you stretch intervals beyond 14 days, later in the season, especially if using less effective materials. The best policy is to stick to 14-day intervals, even when only targeting mildew on leaves in late July/early August. When you stretch intervals well beyond 14 days for leaf mildew control in mid-summer, you provide a larger window of opportunity for mildew to become established on leaves. This simply enables the pathogen population to increase more rapidly, increasing disease pressure, increasing the "challenge" to your next spray. The best policy is still (and always has been) to keep

grape tissues as CLEAN as you can, as long as you can (within reason), regardless of whether we're talking about fruit or leaves. A clean vineyard is a vineyard where pathogen inoculum levels are as low as possible and subsequent fungicide sprays are most effective. Give the pathogen population an opportunity to increase (by stretching intervals) and your next spray becomes less effective, no matter what you apply; you're fighting higher pathogen population pressure and your canopies have become more compromised. This is especially unwise, if you're using modestly/minimally effective materials, like a tebuconazole product (or any old sterol inhibitor), a potassium salt/soluble fertilizer (like Harvest More, Nutri leaf, Nutrol), OSO/PH-D, Serenade, etc. If you're going to resort to these less effective materials for mildew control in mid-summer that offer little in the way of residual control, they work best when applied often. Stretching intervals of these modestly effective materials only renders them less effective than they already are. It's also a recipe for the development of resistance if you're using a resistance prone material (like tebuconazole). Overall…all things considered…the best program for fruit protection against mildew was: **new materials, 14 day intervals.** If you insist on using the old materials around bloom, 10-14 days is still best.

What about the effects of the length of the spray program?

- There was no benefit to adding a powdery mildew material to the 8-12" shoot spray. Programs with one pre bloom powdery mildew spray (at immediate pre bloom) were no less effective on clusters and leaves, as programs with two pre bloom powdery mildew sprays (8-12" shoots *plus* immediate prebloom), regardless of whether we used rotations of old or new materials.

- Within each program, rotations of "newer" materials (Endura, Cevya, Gatten) provided superior powdery mildew control to rotations of "older" materials (Quintec, Vivando, Torino).

- Within programs of "older" or "newer" materials, 4 sprays performed superior to 2 or 3 sprays (no surprise).

- On the other hand, 3 applications of "newer" materials performed better (on fruit at end of July and on leaves at veraison and 2 weeks later) or equal to (on leaves at 4 weeks after veraison) than 4 applications of the "older" materials. This last observation is perhaps the most appealing. It implies that if you use rotations of the newer materials, you may be able to eliminate a trip through the vineyard without sacrificing control. However, if you still go with the 4 applications of newer materials, your mildew control will be even better. If growers do this on a concerted/cooperative level, mildew levels will be lower belt-wide…at least as long as these newer materials remain highly effective.

While none of this is too surprising, what we can take away from this is that there may be little reason (outside of resistance management) for continuing to use the older materials, especially if prices are comparable. We also found that you may be able to get as good, or better disease control with fewer sprays of the "newer" materials compared to using the "older" materials. This could represent a substantial savings; fewer trips through the vineyard without sacrificing control. To add to this, better mildew control can buy some "forgiveness" if you miss a spray or accidentally stretch an interval ("oh no, its been 18 days since my last spray"!). It can also mean that better mildew control in 2022 or 2023, will likely lead to better mildew control in 2024 (or more "forgiveness for missing a spray and/or exceptionally bad weather at critical points in the season) and beyond…etc. As I hinted at above, the older materials may still have their place as useful to resistance management. They can be rotated in, here and there, perhaps at less critical times…outside bloom and early fruit set. But this is only the case if they still appear to be working reasonably well.