



Cornell Cooperative Extension
Lake Erie Regional Grape Program

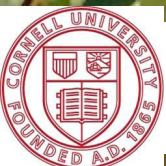


PennState Extension

Beginning to Turn....

photo -Jennifer Phillips Russo

LERGP Newsletter August 2020



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

Business Management

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

Grape Price Announcements

In NYS price announcements to growers were on August 15th. Concord and Niagara prices were good, increases from last year were highly variable but no decreases in price were observed. ConCORDs are solidly above \$250 per ton, average payments will likely exceed \$280 a ton.

As mentioned earlier this year cooperative payments are also up. While the future is largely unknown, they seem on pace to at least equal or exceed most of the cash market for the 2019 concord crop. The pace of payments on 2019 crops will allow cooperatives to continue to beat the average cash market prices if trends continue. Obviously this involves some amount of speculation as 2023 market conditions may have some indirect impacts on cooperative prices in the 2020 crop year. The speculation is based mostly on debt levels, current demand reports and 2019 cooperative payments. There is a wide spread in the cash market, it'll be tough for cooperatives to beat the highest cash market prices.



Prices, labor supply and the costs of production are often not great news for growers. I've been told that I often rain on the optimism of farmers. For many/most growers these price announcements are good news, without reservation. These kind of prices can create the same opportunities for business expansion, sustainability and succession as they did ten years ago. Unfortunately, for some growers' frost damage will require crop insurance claims to maintain gross revenue. A number of factors have created some headwinds for yields. See Jennifer's article for more detail. As a whole the crop estimates are assuming an industry wide decline in crop size of just 1.5 – 2.0 tons per acre. Higher Concord prices for most growers will leave gross revenue unchanged or increased for 2020.

The wine market is quite mixed. Pricing announcements did not tell us much. Prices of some natives at some wineries are up. Overall most prices are the same or less as the market deals with carryover and the challenges of COVID-19. More concerning than price data, were anecdotal reports of contract reductions prior to August 15th. Where tank space is available and volume is moving, the market can justify current prices. The oversupply and declining demand means that many varieties typically supplied to smaller wineries will be challenging to market.

Generally speaking, larger wineries experienced some growth early this year. That is tempered by the nature of the growth and other business factors. Growth is specific to certain varieties and styles of wine. Growth was mostly limited to distribution through grocery and similar stores. Alcohol sales in PA actually fell, due to the distribution model. The pending merger of Constellation and Gallo continues to add to general market uncertainty. Most of these issues should be resolved over the next 12 months. Long-term over supply of some varieties for smaller wineries could take significantly longer, depending on what consumer behavior looks like after COVID.

Bulk Harvest

Two major factors have changed the economics of bulk harvesting. Labor cost, availability and management is an ongoing trend that is temporarily made even worse by COVID-19. The second major factor is new to bulk harvesting. National Grape change in policy regarding a bin attendant or MOG will reduce the cost of harvest in general, including the cost of bulk harvest.



Labor

Traditional bin harvesting requires 1-2 additional laborers and 1-2 additional tractors. This remains unchanged.

Tractor costs and depreciation schedules continue to rise over the long-term but remain basically unchanged since 2019. New Costs for 2020 are as follows:

- \$1.00 - Rising trends in hourly rates approximately
- \$1.50 - PPE and sanitation protocols for Covid – 19
- Mandatory paid sick and family leave

This will be the first year of harvest since the implementation of NYS regulations relating to farm labor. These policies and costs are significant and only required in NY. Cost increases will vary as some of these requirements were already in place for large farms.

- \$.50 Over-time
- \$.90 Unemployment Insurance
- \$.25 Workers Compensation

Overtime costs will vary significantly based on management strategies of the farm. My theory is trucking overtime will be the most difficult to control. To the extent that bulk reduces truck turn time, essentially all time savings related to trucking may be at the higher over-time rate for NY growers. Average hourly rates may increase by \$.50 due to overtime. Time to tie down straps may cost growers \$40 per hour including overtime, benefits and fringe. Rising labor costs and regulation will likely quadruple the cost of tying down a truck (as compared to 2005) when crop size is large. This assumes an hourly rate of \$20, overtime payments to truckers because of labor supply and crop size, FICA, UI and WC. I would anticipate truck tie down costs to total \$4 per acre this year and up to \$10 in a large crop year.

Harvesting into bulk is faster, unloading the truck may also be faster. Delays related to slower loading and unloading times may contribute to trucker overtime that was not considered in these assumptions. It might be possible to avoid these costs most of the time with enough logistical planning. That would assume flexibility in processor scheduling and reliable equipment operation. As these costs rise, inefficiencies in logistics become very costly. I expect growers find ways to gradually improve logistics as costs demand, whether a transition to bulk happens or not.

MOG Remover

I never assumed a grower would adopt bulk without installing a mechanical MOG remover to replace the bin attendant. Apparently that was a common practice in Washington State and the potential for accidents became a liability concern. With modern harvesters removing so much MOG without additional assistance, there is no longer a requirement to have such a device to deliver to National Grape.

The following is a reprint of an article from 2017. The assumptions of the information have been adapted to the new reality of costs.

A typical bulk harvest crew may consist of four people, three tractors and a harvester. Operating with a light crew becomes even more sustainable with higher yields. A light crew would consist of three people, two tractors, and a harvester.

Either way, the transition to bulk involves the elimination of one position. It eliminates the need for a loader. While I would recommend the reduction of an additional person and tractor, if that recommendation is ignored, harvesting speed will increase in high yielding vineyards.

The elimination of the second position and tractor will, in many cases, eliminate the need of a tractor all together. In other cases, the tractor would still be needed by the operation but would depreciate more slowly.

Unloading time from gondola to truck is virtually eliminated. Truck tie down time is reduced from 40 minutes per load to 5 or less. Travel to and from a loading area is reduced from 40 minutes per load to 20 or 30 minutes per load. As all of these benefits reduce the time and labor required from the harvesting crew, the necessity of the third person and tractor decreases. Savings here should total \$15 per acre in NY and \$9 in PA.

Eliminating a person saves the operation \$17 per acre. Eliminating two people would save the operation \$30 per acre. Fuel savings would total \$3 per acre, per tractor. Repairs and depreciation would save an additional \$8 per acre, per tractor. If one less tractor is necessary for the whole farm operation, savings would increase by \$11 more per acre. Streamlining the crew saves a minimum of \$25 per acre.

The reconstruction of a loading area costs approximately \$3,900 and has a useful life of 10 - 15 years. The construction of loading areas for bulk would total \$1,200 per loading. The number of free loading areas, from farm parking lots to dead end roads, would double or triple and is included in this savings. Switching to bulk would save a grower \$5 per acre.

I often hear one downside of switching to bulk is the upfront capital cost. The one-ton hardwood boxes are already owned. The upfront cost of these hardwood boxes is about ½ the cost of bulk trailers. Repair costs are at least double, if not more. I would imagine cables and lids may require repair from time to time. So far, the only significant repairs I have heard on bulk containers is caused by an accident and covered by insurance. Overall, the cost per trailer will increase but eliminating boxes from harvesting will result in a gross savings of \$7 or more per acre.

The range of savings per acre would total at least \$37 but give many farms the flexibility to save between \$55 and \$72 per acre. Savings are up 15% since 2017.

The minimum upfront capital cost of switching to bulk is \$47,000. The largest operations may require an investment of \$70,000. A \$47,000 investment consists of two containers and two gondolas. This would be an appropriate investment for a grower in Westfield that harvests less than 1,000 tons per year. As a grower moves further from the Westfield area it may become necessary to have two semi-trailers, which would increase the cost to \$70,000. A third gondola would increase the cost to \$81,000 and a third road trailer would increase the cost to 105,000.

Gondolas depreciation would extend over 15 years, while containers would depreciate over 20. A smaller harvesting operation would see a gross increase in expenses of \$3,200. Spread over a 150-acre harvest operation, the costs would total \$20 per acre. A larger grower, spending \$75,000 could

spread that investment over more acreage. While one might need to make that investment to cover 175 acres, it gives one the capacity to harvest 400 acres. Costs would range from \$25 per acre to \$11 per acre.

Return on investment will depend on the operation but can be as quick as two years in NY, with new regulatory requirements and the elimination of a MOG. Smaller farms will generally take closer to 5 years. If unpaid labor is taken into account and all farm labor is unpaid, growers that wish to work their family for free will find that bulk harvest does have a long payback period. If free labor wishes to substantially reduce their workload during harvest, bulk harvesting will accomplish that goal.

For a grower harvesting 250 acres per year, an investment of \$75,000 would increase annual expenses by \$4,200 per year or \$16 per acre. Net savings would be a minimum of \$9 per acre, per year. Net savings could be as high as \$75 per acre. If a grower were to spend \$75,000 out of pocket, with no financing it would take between 3 and 9 years. Flexibility in operations and purchasing only what is needed remains key to a quick payback period. Longer payback periods remain a worthy investment for many growers. The timeframe could shrink quickly as labor and equipment costs increase. For growers that made an investment in 2017, based on 2017 assumptions, their payback period has decreased from by 1-3 years as circumstances have changed.

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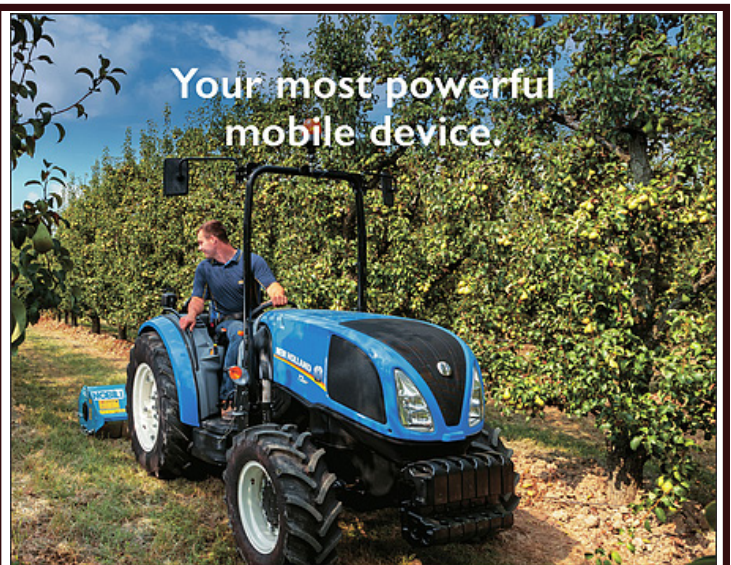


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Viticulture

Jennifer Phillips Russo, Viticulture Extension Specialist, LERGP

Veraison to Harvest

Cornell Lake Erie Research and Extension Laboratory (CLEREL) officially called veraison on August 21, 2020. Véraison is called when 5% of the berries on a majority of clusters within a vine scouting area (1' - 2' section on both sides of the vine) have changed color. Cornell's Grape Team tracks berry development from veraison to harvest and provides a statewide publication called Véraison to Harvest to our members.

Veraison to Harvest, is a weekly electronic newsletter put out by Cornell University viticulture and enology extension personnel from Lake Erie, Long Island, the Hudson Valley and the Finger Lakes. Each issue provides accurate and up-to-date regional data while giving a statewide perspective as well. Véraison to Harvest begins in early September and concludes in late October.

The Véraison to Harvest newsletter has been a joint effort of grape and enology extension programs throughout New York for the past twelve years. Since 2007, this weekly newsletter has provided growers, industry stakeholders, and winemakers with timely information on fruit ripening metrics sampled from 60-80 vineyards throughout New York state, as well as regional updates on harvest issues. This publication also provides suggested adjustments to winemaking practices due to the weather in a given season, and brief articles highlighting current research projects and activities as they happen. The information is presented in a format that makes it easy for growers to compare the current season with the previous year – and with long-term averages. The sampling results also form the basis for the regional and statewide commentaries and articles addressing harvesting and winemaking decisions, as affected by seasonal weather and viticultural practice.

Veraison to Harvest is distributed via email link to approximately 1,600 growers, winemakers, and industry personnel that are enrolled in regional extension programs – and it is accessible to others through online web access. For these growers, it has become a trusted, reliable source of objective information about New York's grape harvest. The archived issues serve as a reference for the industry to track seasonal development in comparison with previous years. In addition, the newsletter has generated interest from the general public, including news organizations, and the New York Wine and Grape Foundation. It has served as a way to communicate detailed information to media outlets, colleagues in other states, and bloggers interested in 'the state of the vintage'.

For startup growers and wineries, it provides information and context for understanding and interpreting juice analysis numbers, criteria for harvest, and different winemaking techniques they may need to use to cope with variable weather, varieties, and fruit chemistry. In short, it helps them through their 'steep learning curve'. For experienced winemakers and vineyard managers, it provides a point of comparison for their own vineyards.

For experienced growers of traditional varieties, this newsletter educates them on vineyard management issues that impact our industry and goes beyond the traditional focus on 'tonnage and brix'. Finally, by providing information on a diverse set of cultivars for juice and wine and regions, this publication emphasized common issues that cut across markets, cultivars, and regions.

If you are interested in our Véraison to Harvest newsletter, your membership in the Lake Erie Regional Grape Program qualifies you to receive it. Please contact our office to update your membership and you can access past information [here](https://grapesandwine.cals.cornell.edu/newsletters/veraison-harvest/): The URL to type in is: <https://grapesandwine.cals.cornell.edu/newsletters/veraison-harvest/>

The Three Stages of Berry Growth

As of August 21, 2020, the berries are tracking below the 21-year average berry size. We are seeing variations in berries/cluster development across the belt this season. Per conversations with Terry Bates and from our crop estimates, the lower berries/cluster is translating into about a (ballpark estimate) 2 tons/acre reduction from where we would expect the crop size (i.e. a normal 8 tons/acre is estimating out at 6 tons/acre). Along with the freeze and frost events that occurred this spring, we also need to consider 2020 spring as a low temperature “chilling” damage period. Extended hours close to but not at freezing may have had an effect on the latter stages of flower development causing the variation that we have seen in clusters this season. We are seeing the low berry set sort of across the board, even where we know vines are well balanced with adequate water and nutrients. The weather and vine water status during bloom and fruit set was very good in 2020 so we don’t think that is a factor either. The issues do seem to be worse in cold pockets and where vines that have been overcropped the last several seasons.

The growth rate of a grape berry is the shape of a double sigmoid curve (Figure 1). This Concord growth curve can be broken down into two growth stages and one lag phase. The following information is taken from an Appellation Cornell article, Grapes 101 - What Happens from Véraison to Harvest? By Raquel Kallas & Tim Martinson, that was published in Issue 34 in August 2018. The most recent Concord Berry Curve that is tracked by Dr. Terry Bates and the staff at the CLEREL is graphed below (Figure 1).

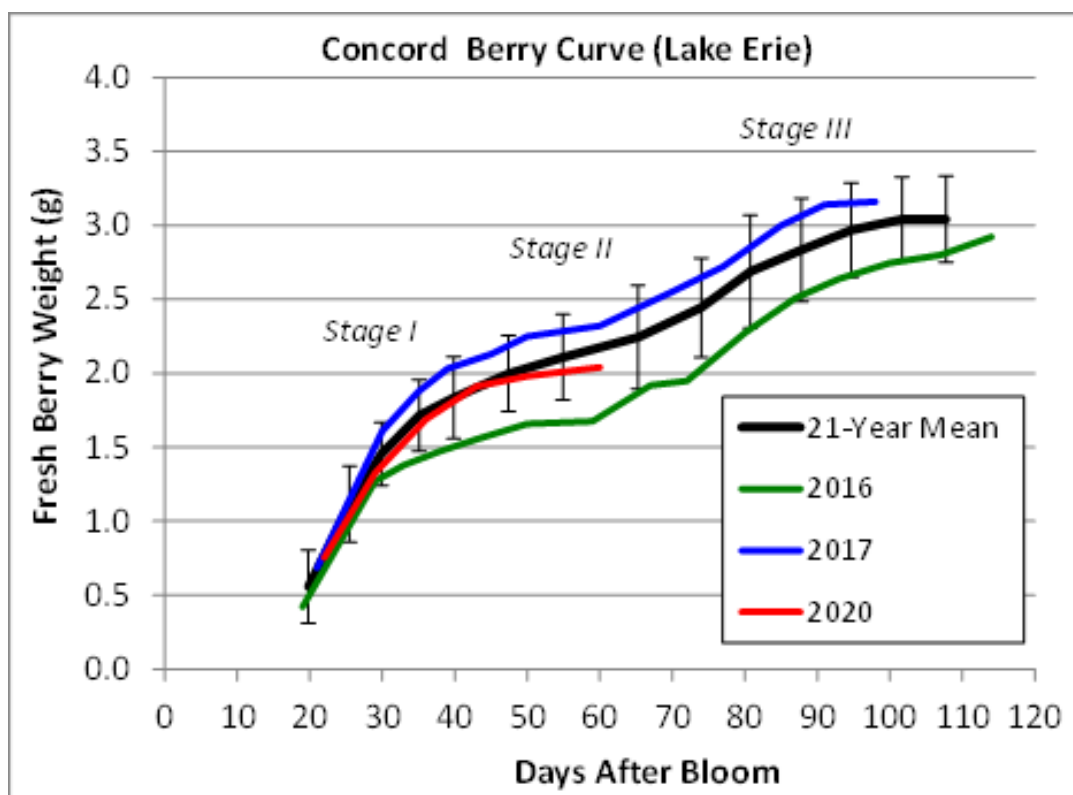


Figure 1. Berry growth curve for Concord grapes, showing the ‘double sigmoid’ curve encompassing three stages of growth (courtesy of Terry Bates updated 2020)

- “Stage I, or the *cell division phase*, is when berry formation occurs. There is rapid cell division, and the berry accumulates acids (primarily tartaric and malic), and ultimately achieves half of its final weight and size.
- Stage II, or the *lag phase* is when berry growth pauses, and the primary focus is on seed growth and chemical signaling to prepare the berry for softening and expansion in the next stage. The duration of the lag phase is variety-specific — varieties with long lag phases tend to be later ripening, while varieties with relatively shorter lag phases ripen earlier.
- Stage III, or *véraison to harvest*, is characterized by cell expansion in the berries and a transition from photosynthetic activity to heterotrophic metabolic activity as the berries change color at véraison. In other words, the berries go from being a partial “source” to a large “sink”. This sets the stage for accumulation of sugars, proteins, anthocyanins, tannins, and flavor and aroma compounds, and metabolism of acids and an increase in pH. The entire process is brought about by the expression and repression of hundreds of thousands of genes. The changes during this time heavily influence the final quality and composition of the fruit at harvest.”

At veraison, the berries soften and accumulate sugars at the same time. This is the vine’s natural way of calling in seed dispersers, such as birds and other animals (including humans), to eat the berries and drop the seeds elsewhere to continue to spread its DNA. This is the point in the grapevine’s annual cycle when the vine shifts focus from energy creation using photosynthesis for vine and berry growth to energy consumption, using photosynthesis to create sugars instead of tissue growth. The changing color and development of phenolic, flavor, and aromatic compounds also occur at this time. For a more in-depth discussion on sugar accumulation, acid changes, phenolic compounds, and flavor and aroma compounds please see the Appellation Cornell article previously mentioned.

Before veraison, the berries are green, small, hard, and full of malic and tartaric acids. The pre-veraison berries are green due to the pigment called chlorophyll. The days are longer in July and August and provide more sunlight for the green tissue on the grapes to utilize. The chlorophyll absorbs and traps light energy from the sun, which is then used to combine carbon dioxide and water into sugars in the process of photosynthesis. Through this photosynthesis process, the vine uses the stored energy to convert carbon dioxide from the air and water from the roots into glucose, a type of sugar. Grapevines use glucose combined with nutrients from the soil (taken up by the roots) to make buds, shoots, leaves, and other necessary plant parts.

Around veraison, as the berries begin to change color and soften, the chlorophyll is replaced by anthocyanins in red grape varieties and carotenoids in white grapes, sugars, and other nutrients. The timing of the season coincides with a decrease in the daylight hours and a decrease of chlorophyll within the berry. And after veraison, the berries begin to accumulate sugar (measured in Brix) and decrease in acids. The amount of sugar accumulation is a quality standard that juice processors look for and also determines the resulting alcohol content in wines.

With veraison, it’s time to dust off the refractometer and start sampling your different blocks. Here is a general protocol for berry sampling provided by Tim Martinson, Cornell Statewide Viticulture Specialist:

Collect a 100-berry sample (random sample, stratify among ‘top to mid cluster’ and ‘cluster tip’ in about 3:1 ratio)

In commercial vineyards - best way to do it randomly (yet cover the vineyard) is to sample down one row, stopping at pre-determined panel intervals (eg. every 3 panels) and sticking your arm into the canopy (without looking) until it lands on a cluster. Collect equal amts of berries from each side of the row, and it shouldn't be necessary to sample more than one or two clusters per vine. Try to vary where in cluster you pick grape - (e.g. top to mid cluster - 3 berries for every 1 from near shoot tip).

From veraison to harvest is an ideal time to look for signs of nutrient deficiencies in the foliage. To fully understand what is causing a deficiency you can take a petiole sample from the vines and see exactly what the vines are pulling up from the soil or test the soil. If you see symptoms and would like petioles or soil tested, bring samples into the Cornell Lake Erie Research and Extension Laboratory (CLEREL) at 6592 West Main Road Portland, NY 14769. For information on how to collect petiole and or soils for testing go to our website.

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CORONA
SEASON AFTER SEASON

PA Update

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

Spotted Lanternfly – (Reminder and Update)

As harvest approaches, I just want to remind growers to be on the look-out for the presence of adult spotted lanternflies. Although there have been no reports, yet, of SLF in the Lake Erie Region, this is the time in the season where this insect will have reached the adult stage. I believe that it is not a matter of IF but WHEN SLF will reach our region. Early detection is key, when this insect arrives, to preventing/delaying this pest from establishing a foothold in the region. If not contained, spotted lanternfly potentially could drain Pennsylvania's economy of at least \$324 million annually, according to a study carried out by economists at Penn State. Growers should know: how to identify all life stages of SLF, life cycle of the insect, current location of this pest and how to report sightings. This article provides information and relevant resources to educate farmers, businesses and the general public about this destructive pest.

Spotted Lanternfly – a new invasive pest

Spotted lanternfly, *Lycorma delicatula* (White), is a new invasive insect that is native to Asia. This planthopper was first discovered in the United States in Berks County, Pennsylvania in September 2014. It is suspected to have been introduced into southeastern PA on shipments of stone from China that were infested with egg masses.

The spotted lanternfly uses its piercing-sucking mouthpart to feed on sap from over 70 different plant species. It has a strong preference for economically important plants including grapevines, apples, hops, hardwoods and ornamentals. The feeding damage significantly stresses the plants which can lead to decreased health and potentially death. Consequently, SLF poses a serious economic threat.

It is important to note that tree-of-heaven, *Ailanthus altissima* is a highly preferred host plant of this insect and these trees provide ideal sites for monitoring for the presence of this invasive insect. Tree-of-heaven is a fast growing, invasive tree that is native to China and was introduced in the late 1700's in America for use as an urban tree (For information concerning tree-of-heaven refer below to: **Resources**).

Spotted lanternfly: Life Cycle, Description and Feeding

In Pennsylvania, SLF has 1 generation/year and develops from an egg to a wingless nymph to a winged adult.

Eggs – SLF overwinter in the egg stage. Egg masses are comprised of about 30-50 eggs and are covered with a waxy secretion resulting in a gray-brown coloration which looks like a smear of mud on the surface where they are laid (Figure 1).



Figure 1. SLF egg mass. Photo – Emelie Swackhamer, Penn State.

Nymphs – The nymphal stage has 4 instars. The 1st instar is less than ¼” long. The coloration of the first 3 instars is black with white spots and has been described as looking “tick-like” (Figure 2). The fourth instar is red and black with white spots and about ½” long (Figure 3). In southeastern PA, nymphs begin hatching in late April or early May.

Adults – The head and legs of the adult are black and the abdomen is yellow with black bands. The wings cover the body “tent-like” while the insect is feeding or resting on a surface (Figure 4). The forewings are gray with black spots (near the wing base), with black and gray markings near the tips. The hindwings are colorful and comprised of a red area with black spots, with a white band and black area near the tips. The hindwings are only visible when the insect is alarmed or in flight (Figure 5).

In southeastern PA, SLF reach adulthood around late July and are about 1” in length. SLF adults begin mating in early fall and will aggregate in large numbers most commonly on tree-of-heaven. Females begin laying eggs in late September or early October. Egg laying continues until females are killed by cold temperatures. SLF females lay at least 2-3 egg masses with about 30-50 eggs/mass. Females will deposit eggs on tree trunks, limbs or **any smooth surface** (e.g., vehicles, farm equipment, rusty metal, outdoor furniture, etc.).

Feeding - The spotted lanternfly has a piercing-sucking mouthpart which is used to extract phloem sap from plants. Feeding by large aggregations of this insect can reduce grapevine vigor, brix levels, cold hardiness (cv. ‘Riesling’) and can result in mortality of the host. In addition, the copious amounts of “honeydew” excreted from feeding SLF results in extensive sooty mold growth which covers leaves and contaminates fruit (Figure 6). Younger SLF instars typically prefer to feed on the more succulent parts of plants (e.g., stems, leaf veins). Older nymphs (fourth instar) and adults can feed on woody tissue such as trunks, limbs, and canes.

Spread of Spotted Lanternfly

SLF has spread to at least 26 Pennsylvania counties, as well as to New Jersey, Delaware, Maryland, West Virginia and Virginia. Extensive surveys by PDA for detection/evidence of SLF are continuing throughout Pennsylvania. Monitoring for SLF is also being conducted in New York and many other states. As of August 14, 2020, it was confirmed that spotted lanternfly has been found on Staten Island, New York. Several live, adult insects were discovered in Clay Pit Ponds State Park Preserve (see article **Confirmed Spotted Lanternfly in New York** in this newsletter).



Figure 2. Early nymph (actual size = 1/4"). Photo credit: PA Department of Agriculture.

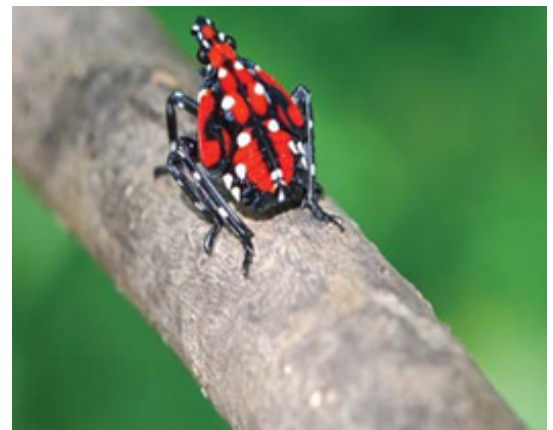


Figure 3. Late nymph (actual size = 1/2"). Photo credit: PA Department of Agriculture.



Figure 4. Adult, wings closed (Actual size = 1 inch). Photo credit: PA Department of Agriculture.

Confirmed Spotted Lanternfly in New York in this newsletter).

{Note: The most likely long-distance dispersal of SLF is by movement of egg masses and adults on vehicles (e.g., cars, campers, railway cars) or contaminated materials from sites with SLF}.

Quarantine/Management/Research

Quarantine – In 2014 the Pennsylvania Department of Agriculture (PDA) initiated a quarantine in 5 townships in eastern Berks County, PA.

In subsequent seasons, due to the spread of SLF, the quarantine was expanded to include 13 counties in southeastern, PA. In 2020, 12 additional counties in PA were added to a state-imposed quarantine. The closest counties to Erie County, PA under quarantine include Beaver and Allegheny counties which are only 4 counties south of Erie County (see map in PA where SLF is currently found at the Penn State Extension [spotted lanternfly website](#)). The quarantine is in place to stop the movement of SLF to new areas within or out of the current quarantine zone and to slow its spread within the quarantined areas. The quarantine affects vehicles and other conveyances, plant, wood, stone products and outdoor household items.

Quarantine Compliance and Permit Training: “Penn State Extension (see: [spotted lanternfly website](#)) worked with PDA in developing a self-paced, “train the trainer” online course to train designated employees - usually an owner, manager, or supervisor - within a company on how to comply with the quarantine regulations. Once a designated employee passes the course, they will receive from PDA the requested number of SLF permits for company vehicles. For more information regarding whether your company needs a permit, please visit the [PDA website](#).”

“Penn State Extension has also partnered with surrounding states in the mid-Atlantic region to offer an online permit training course for their state. The courses follow the same “train the trainer” format as Pennsylvania, but the content is tailored to the particular state’s SLF regulations. Upon successful course completion, permits are then issued by the state’s Department of Agriculture. Choose to take the permit training for the state in which your business is headquartered, or, if located outside the available states, choose the state in which you operate most business. **A permit is required from only one of the available states, and reciprocity between states is honored.**”

Management – PDA is using an IPM strategy targeted against all life stages of the SLF. This includes:
1) Locating and destroying egg masses;



Figure 5. Adult, wings open. Photo credit: PA Department of Agriculture.



Figure 6. Sooty mold on upper surface of grape leaf. Photo – Erica Smyers, Penn State.

2) Locating sites where tree-of-heaven (*Ailanthus altissima*) are growing and treating the majority of these trees with herbicides; 3) Treating remaining *Ailanthus* trees (trap trees) at the site with a systemic insecticide (i.e., dinotefuron) to kill feeding SLF; and 4) Using a large scale Tree Banding Program (sticky bands) targeting sites with SLF populations. In addition, Volunteer Programs (Egg Mass Scraping & Tree Banding) to incorporate the assistance of homeowners and the general public.

2020 Research Plans - Currently, extensive research on SLF is being conducted on many fronts. Heather Leach (Extension Associate – Spotted Lanternfly <https://extension.psu.edu/heather-l-leach>) has provided a list below of some of the research being conducted in 2020. (Also, see **Resources** below for more information provided by Heather Leach).

- Feeding trials to evaluate the damage that SLF causes to vines will continue.
- Additional insecticide trials, including testing new active ingredients, evaluating residual efficacy in-field, and application methods will be investigated.
- Landscape-scale control of SLF utilizing the biopesticide containing *Beauveria bassiana* is being evaluated in large trials in natural areas and in smaller trials adjacent to vineyards.
- Exclusion netting, flight-intercept traps, and utilizing tree-of-heaven will also be investigated for their use in vineyards.

Reporting

Early detection is vital for the management of SLF. Therefore, if you observe an insect or egg masses that you suspect is SLF then **TAKE PICTURES** (include something for scale such as a coin or ruler). Record the location of the find (address, intersecting roads, landmarks or GPS coordinates) and **immediately report it**. In addition, commercial grape growers in the Lake Erie Region, should also contact any member of the LERGP Extension Team.

PENNSYLVANIA

To **report a sighting**, go to: **Have you seen a Spotted Lanternfly? Let's Check!** <https://extension.psu.edu/have-you-seen-a-spotted-lanternfly> ; OR use the **PDA SLF Reporting Tool** <https://services.agriculture.pa.gov/SLFReport/> OR **call the hotline at 1-888-422-3359**.

NEW YORK

Report a sighting to: **NYS Dept. Agriculture and Markets**, using the [Spotted Lanternfly Public Report](#) OR email to spottedlanternfly@agriculture.ny.gov .

Resources

Extensive information about SLF (e.g., how to identify, how to report an infestation, how to comply with quarantine regulations, etc.) is available below.

Spotted Lanternfly

Spotted Lanternfly: detection and management in vineyards (from The Penn State Wine and Grape Team, June 17th webinar):

See this link for a PDF copy of the presentation [leach_slf_grape_2020junewebinar_psugrape_online-4](#)

Spotted Lanternfly Management in Vineyards 2020 - June 17 Webinar recap

<https://psuwineandgrapes.wordpress.com/2020/06/29/spotted-lanternfly-management-in-vineyards-2020-webinar-recap/>

Spotted Lanternfly Management in Vineyards (factsheet) <https://extension.psu.edu/spotted-lanternfly-management-in-vineyards>

Penn State Extension - Spotted Lanternfly website <https://extension.psu.edu/shopby/spotted-lanternfly>

Penn State Extension [spotted lanternfly website](#).

Pennsylvania Department of Agriculture - Spotted Lanternfly website

https://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/Entomology/spotted_lanternfly/Pages/default.aspx

NYSIPM Spotted Lanternfly website

[NYSIPM Spotted Lanternfly website](#)

Spotted Lanternfly – Understanding its Ecology and the Threat (Tim Weigle, NYS IPM Program, Oct 17, 2019, 1:21:59) <https://www.youtube.com/watch?v=qlYWS7arsPE>

Spotted Lanternfly – LERGP Podcasts: #136, #122, #110, #104, #96, #87, #82, #72, #70, #59, # 58 <https://lergp.com/podcasts>

Spotted Lanternfly Identification and Concern (Emelie Swackhamer, Penn State Extension, Mar. 28, 2018, 19:35)

https://www.youtube.com/watch?v=M73t_orZjN0

Spotted Lanternfly Identification and Life Cycle (Emelie Swackhamer, Penn State Extension Jan. 5, 2017, 6:28)

<https://www.youtube.com/watch?v=JK0VMVOMzDM>

Tree-of-Heaven

Tree-of-Heaven: Accurate Identification (Dave Jackson, Penn State Extension, Jan. 10, 2019, 3:46)

<https://www.youtube.com/watch?v=vlhyFt2wW9U>

Identifying Tree-of-Heaven: Native Look-alikes (Dave Jackson, Penn State Extension, Sep. 18, 2019, 5:05)

<https://www.youtube.com/watch?v=rm0fwoTdc9I>

Controlling Tree-of-Heaven: Why it Matters (Dave Jackson, Penn State Extension, Jan. 10, 2019, 3:52)

<https://www.youtube.com/watch?v=ttBdl6OWFq4>

Tree-of-Heaven: Control Strategies (Dave Jackson, Penn State Extension, May 8, 2019, 6:36)

<https://www.youtube.com/watch?v=AKLW2TXS1jg>

Confirmed Spotted Lanternfly in New York

Author jec3@cornell.edu Juliet Carroll

Published on [August 21, 2020](#) [Leave a comment on Confirmed Spotted Lanternfly in New York](#)

New York State Agencies encourage the public to report findings of the invasive pest, spotted lanternfly. As of August 14, 2020, it was confirmed that spotted lanternfly (SLF), an invasive pest from Asia, has been found on Staten Island. The New York State Departments of Agriculture and Markets (AGM), Environmental Conservation (DEC), and Office of Parks, Recreation and Historic Preservation (OPRHP) confirmed that **several live, adult insects were discovered by OPRHP staff in Clay Pit Ponds State Park Preserve.**



Spotted lanternfly adult on the trunk of a tree.

AGM urges New Yorkers to report potential sightings using the [SLF web reporting tool](#) found here: <https://survey123.arcgis.com/share/a08d60f6522043f5bd04229e00acdd63>

This destructive pest feeds on more than 70 plant species, including tree-of-heaven, and plants and crops that are critical to New York's agricultural economy, such as sugar maple, apple trees, grapevines, and hops. Adults are out now and are strikingly large with black polka dots. They'll be mating, laying eggs, and feeding on sap from August through October and even into December, depending on the onset of frosts.

State Agriculture Commissioner Richard A. Ball said, "The Department is working closely with its partners at the Department of Environmental Conservation, the State Office of Parks, Recreation and Historic Preservation, and the U.S. Department of Agriculture (USDA) to mitigate the impacts of this destructive pest, which can weaken plants and have a devastating impact on agriculture. While this find on Staten Island is concerning, New York State has taken strong actions to combat the

establishment of SLF since 2017. We will continue our work to survey and inspect high-risk areas and implement targeted management plans. ***We also urge the public to be vigilant and report any suspected sightings of SLF to help slow the spread of this invasive.***

DEC Commissioner Basil Seggos said, “Since spotted lanternfly was first discovered in neighboring states, DEC has worked aggressively with the State Department of Agriculture and Markets, Office of Parks, Recreation and Historic Preservation, USDA and other partners to educate New Yorkers and take steps to prevent this invasive species from establishing itself in New York State. This invasive pest has the potential to severely impact and stress New York’s forests, agricultural crops, and tourism industries. ***The first live find on Staten Island is concerning, but our goal remains to find spotted lanternfly early and prevent it from further entering New York State and limiting any serious threats to our natural resources.***”

State Parks Commissioner Erik Kulleseid said, “Spotted Lanternfly poses a troubling threat to the environment and agriculture of New York State but also to the quality of recreational opportunities and experiences we offer in our State Parks and public lands. I applaud our Parks’ environmental stewardship staff for identifying this pest, so New York State can quickly begin taking steps to slow its spread. ***Park visitors across the state can help in identifying and reporting this destructive pest, and I urge them to familiarize themselves with its signs.***”

Following the finding by OPRHP, AGM, working with DEC, OPRHP, and the USDA, immediately began extensive surveys throughout the area. Crews will continue to survey areas on Staten Island, develop management plans to slow SLF’s spread, and minimize the damage and impact from this invasive species. AGM urges New Yorkers to report potential sightings using the [SLF web reporting tool](https://survey123.arcgis.com/share/a08d60f6522043f5bd04229e00acdd63) found here: <https://survey123.arcgis.com/share/a08d60f6522043f5bd04229e00acdd63>

SLF feedings can stress plants, making them vulnerable to disease and attacks from other insects. SLF also excretes large amounts of sticky “honeydew,” which attracts sooty molds that interfere with plant photosynthesis, negatively affecting the growth and fruit yield of plants, and impacting forest health. SLF also has the potential to significantly hinder quality of life and recreational activities due to the honeydew and the swarms of insects it attracts.

First discovered in Pennsylvania in 2014, SLF has since been found in New Jersey, Maryland, Delaware, West Virginia and Virginia. Given the proximity to the Pennsylvania and New Jersey infestations, New York State is at high risk for infestation.

Since 2017, AGM, DEC, and OPRHP have taken an aggressive approach to keeping SLF from establishing in New York State, conducting surveys of high-risk areas across the State; inspecting nursery stock, stone shipments, and commercial transports from quarantine areas; and launching a comprehensive education and outreach campaign to enlist the public’s help in reporting SLF.

Life stages of SLF - look for egg masses during winter and early spring, nymphs during spring and summer, and adults in late summer and fall.

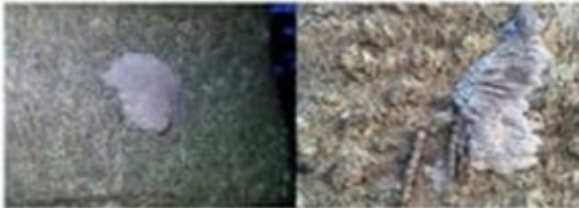
While these insects can jump and fly short distances, they spread primarily through human activity. SLF can lay their eggs on any number of surfaces, such as vehicles, stone, rusty metal, outdoor furniture, and firewood. Adult SLF can hitch rides in vehicles, on any outdoor item, or cling to clothing or hats, and be easily transported into and throughout New York.



Spotted lanternfly nymphs
Photos: L. Barrineer



Spotted lanternfly adults
Photos: R. Parker



New egg masses
Photo: R. Parker

Old egg masses
Photo: E. Swackhamer

The public is encouraged to thoroughly inspect vehicles, luggage and gear, and all outdoor items for egg masses and adult SLF before leaving areas with SLF, particularly in the counties of states in the quarantine area—Pennsylvania, New Jersey, Maryland, Delaware, West Virginia and Virginia. If SLF adults are found, residents should remove them and scrape off all egg masses.

Residents can also help by allowing surveyors access to properties where SLF may be present. Surveyors will be uniformed and will always provide identification.

Identifying SLF

Adult SLF are active from July to December. They are approximately one-inch long and half an inch wide at rest, with eye-catching wings. Adults begin laying eggs in September. **Signs of an SLF infestation may include:**

- Sap oozing or weeping from open wounds on tree trunks, which appear wet and give off fermented odors.
- One-inch-long egg masses that are brownish-gray, waxy and mud-like when new. Old egg masses are brown and scaly.
- Massive honeydew build-up under plants, sometimes with black sooty mold developing.

AGM urges New Yorkers to report potential sightings using the [SLF web reporting tool](https://survey123.arcgis.com/share/a08d60f6522043f5bd04229e00acdd63) found here: <https://survey123.arcgis.com/share/a08d60f6522043f5bd04229e00acdd63>

Learn More About SLF

For more [Information on Spotted Lanternfly](https://agriculture.ny.gov/spottedlanternfly), visit <https://agriculture.ny.gov/spottedlanternfly>. The NYSIPM program, with AGM and DEC, has been monitoring and preparing for SLF since 2014. Find educational resources, pictures, distribution and quarantine maps, life cycles, guidance for travelers, etc., on the [NYSIPM Spotted Lanternfly website](https://nysipm.cornell.edu/environment/invasive-species-exotic-pests/spotted-lanternfly/), <https://nysipm.cornell.edu/environment/invasive-species-exotic-pests/spotted-lanternfly/>.

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Safe Harvest 2020: COVID-19 Office Hours

Office hours to help farmers and packers with COVID-19 questions Tuesdays at 4:00 PM. Please [sign up here](#).

Panelists on the call will include:

Brian Miner, NYS Department of Health

Hector Gonzalez, NYS Department of Ag and Markets

John Luker, NYS Department of Ag and Markets

Mark Wiltberger, CCE's Lake Ontario Fruit Team

Richard Stup, Cornell Ag Workforce Specialist and host of the event

Beginning on Tuesday August 25th at 4:00 PM EST, Cornell CALS and CCE will host office hours for farmers and packers to answer any questions they might have about managing and responding to protect the farm workforce during COVID-19. Participants will be able to log in from a computer or call in from a phone to ask questions or just to listen. A panel of experts will be available to answer questions immediately, questions that the experts cannot answer right away will be recorded, studied and answered later. The next 6 weeks are a critical time for the farm workforce as seasonal harvest ramps up, so the office hours will repeat every Tuesday at 4:00 PM EST through the end of September. [Register online](#) to receive a link to all office hours dates and watch the Ag Workforce website for more information. Registration is free but required.



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If you are still in need of hand sanitizer and masks before harvest starts please [sign up for your free product](#). Kim will be in contact with you to set up a time to pick it up.



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Contact the Lake Erie Regional Grape Program if you have any special needs such as visual, hearing or mobility impairments.

CCE does not endorse or recommend any specific product or service.

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