FINGER LAKES GRAPE PROGRAM
RESEARCH·RELATIONSHIPS·RELEVANCE

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FINGER LAKES VINEYARD UPDATE

August 2025 - Issue, [012]

Photo Credit: Chris Kitchen (UREL)

Cornell Cooperative Extension
Finger Lakes Grape Program

UPDATE ON SPOTTED LANTERNFLY IN THE FINGER LAKES

This week, we learned that the SLF population that was discovered near Romulus, on the west side of Cayuga Lake, had dramatically increased in size. Thousands of adults could be found in the area, with many of them right where we would expect them to be – on Tree of Heaven, but also on other plants like sumac and wild grapes. At the end of our Tailgate Meeting on Tuesday afternoon, we found two individuals on sumac trees that were adjacent to one of the vineyard blocks.

While it's a shock to see how large the population has become just one year after discovering it, the situation is similar to those we have heard from other areas after it is first discovered. With the size of this population, it won't be surprising to see SLF adults move into some of the nearby vineyards as the fall progresses and they start to move from TOH and look for other food sources.

Since Monday when we learned about the extent of this infestation, we have been in ongoing conversation with multiple organizations, including Cornell IPM, Finger Lakes PRISM, Penn State University, and the Department of Ag & Markets, to answer and address the questions and concerns raised at Tuesday's Tailgate Meeting, help growers and the public understand the importance of the situation, and come up with some immediate actions everyone can do to help in both the short and long terms. We will provide you with answers as they are received, strategies as they're developed, and will continue to communicate with the industry as we start to work on these. In the meantime, here are a few things for growers to keep in mind and can start doing right now:

UPDATE ON SPOTTED LANTERNFLY IN THE FINGER LAKES

- Be sure that everyone who works in the vineyard and/or winery knows what SLF looks like, and knows what to do if they find one.
  - What Do Spotted Lanternflies Look Like? (Cornell IPM)
  - Take a picture, collect the insect, note the location, and then…
  - Report Spotted Lanternfly to Department of Ag & Markets
  - Please send an email to Hans Walter-Peterson (hcw5@cornell.edu) and/or Kyle Bekelja (kmb399@cornell.edu) about the find after reporting it to Ag & Markets.
- Identify Tree of Heaven on your property; use the "hack and squirt" or "drill and fill" method to apply concentrated glyphosate (>25% a.i.) to kill trees
  - See "Tree of Heaven" fact sheet included in this newsletter
  - Drill and Fill demonstration video (discusses beech trees, but same method for TOH)
- Scout vineyard edges closer to tree lines for SLF adults
  - SLF could be found throughout a vineyard, but tends to be more concentrated around edges
  - Insecticides currently labeled for SLF in New York
- Look for egg masses in areas where SLF adults have been seen, and destroy any that are found.
  - Egg masses can be laid on almost any surface
  - How to Destroy SLF Egg Masses (Cornell IPM)

At this point, it is probably prudent to assume that there are SLF populations in more locations in the Finger Lakes than just the three that have been identified so far (Romulus, Geneva, Ithaca), and growers throughout the region shouldn't be surprised if they see some near or in vineyards this fall.

As we learn more about these populations and develop more information about their locations and potential mitigation options, we will share them with the industry.

We've known this was coming for a while – now it's here and we will have to learn how to live with SLF. It has been in other grape growing areas in the East for years, and they are still growing grapes and making quality wines in those places. Managing another pest in our vineyards won't be fun, but it is doable, and I think we are in a much better position to manage this invasive insect than other regions were in previous years thanks to their experience and research. To paraphrase the great Gloria Gaynor, we will survive.

Please do not hesitate to reach out to Hans Walter-Peterson or Kyle Bekelja (Grape IPM Specialist) if you have questions or concerns about SLF or Tree of Heaven, and be on the lookout for follow-up communications.

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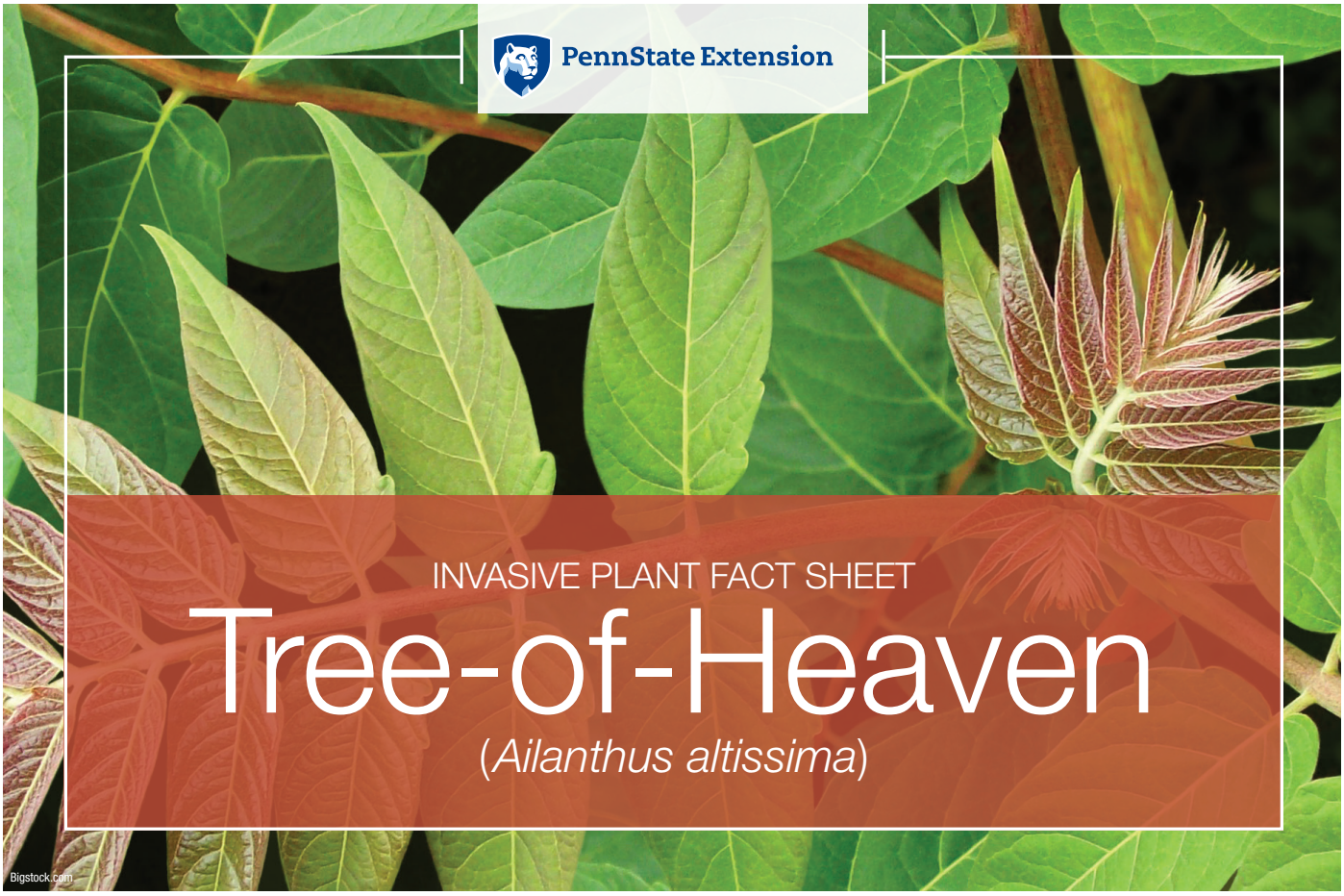


Background

Tree-of-heaven (*Ailanthus altissima*), commonly referred to as ailanthus, is a rapidly growing deciduous tree native to both northeast and central China, as well as Taiwan. It was first introduced into the United States in the Philadelphia area in the late 1700s. Immigrants later introduced tree-of-heaven to the West Coast in the 1850s.

The tree was initially valued as a unique, fast-growing ornamental shade tree with the ability to grow on a wide range of site conditions, tolerating poor soils and air quality. It was widely planted from New York City to Washington, D.C. By the early 1900s the tree began losing popularity due to its "weedy" nature, prolific root sprouting, and foul odor. Tree-of-heaven has spread and become a common invasive plant in urban, agricultural, and forested areas.

Description

Size: Tree-of-heaven has rapid growth and can grow into a large tree, reaching heights of 80 feet and up to 6 feet in diameter.

Bark: The bark of tree-of-heaven is smooth and brownish-green when young, eventually turning light brown to gray, resembling the skin of a cantaloupe.

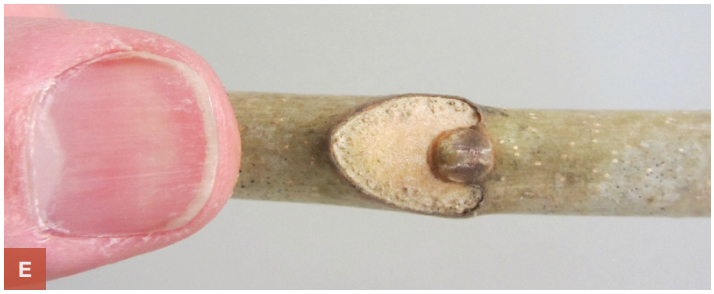
Leaves: Tree-of-heaven leaves are pinnately compound, meaning they have a central stem in which leaflets are attached on each side. One leaf can range in length from 1 to 4 feet with anywhere from 10 to 40 leaflets. The leaflets are lance-shaped with smooth or "entire" margins. At the base of each leaflet are one to two protruding bumps called glandular teeth. When crushed, the leaves and all plant parts give off a strong, offensive odor.

Twigs: The twigs of tree-of-heaven are alternate on the tree, stout, greenish to brown in color, and lack a terminal bud. They have large V- or heart-shaped leaf scars. The twigs easily break to expose the large, spongy, brown center, or pith.

Seeds: Seeds on female trees are a 1-to-2-inch-long twisted samara, or wing. There is one seed per samara. The samaras are found in clusters, which often hang on the tree through winter.

Look-Alikes

This species is easily confused with some of our native trees that have compound leaves and numerous leaflets, such as staghorn sumac, black walnut, and hickory. The leaflet edges



A. Bark
B. Compound leaf
C. Smooth leaf margin showing glandular teeth
D. Brown spongy pith
E. Leaf scar on twig
F. Winged seeds called samaras
G. Clonal patches growing along highway

Photos by Dave Jackson

of these native trees all have teeth, called serrations, while those of tree-of-heaven are smooth. The foul odor produced by the crushed foliage and broken twigs is also unique to tree-of-heaven.

Dispersal

Tree-of-heaven is dioecious, meaning a tree is either male or female, and typically grows in dense colonies, or "clones." All trees in a single clone are the same sex. Female trees are prolific seeders with the potential to produce more than 300,000 seeds annually. The single-seeded samaras are wind dispersed.

Management Calendar

The management calendar for tree-of-heaven emphasizes late season treatment to maximize control of the roots.

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Bud Break				■								
Flowering and Seed Ripening						■	■					
Foliar or Stem Treatment							■	■	■	■		
Cutting after Treatment	■	■	■	■							■	■

Treatment and Timing

Prescriptions for controlling tree-of-heaven stress proper timing of operations to maximize injury to roots. Improper timing will result in treatments that provide "top kill" (shoot injury) but little control of the roots. Product names reflect the current Pennsylvania state herbicide contract; additional brands with the same active ingredients are available.

Treatment	Timing	Herbicide	Product Rate	Comments
Foliar Application	July 1 to onset of fall color	Rodeo (glyphosate) plus Garlon 3A (triclopyr 3 lb/gal) or Vastlan (triclopyr 4 lb/gal)	3 quarts/acre plus 2 quarts/acre or 1.5 quarts/acre	The combination of glyphosate and triclopyr provides a broad-spectrum treatment that is effective against tree-of-heaven and other woody species that should also be targeted during the operation. This is a nonselective mixture, but it has little soil activity and poses little risk to nontarget organisms through root uptake. Garlon 3A and Vastlan are both triclopyr formulations but have different active ingredient concentrations. A surfactant (e.g., Alligare 90) needs to be added. If using a different glyphosate product, be sure to check the product label to see if a surfactant is needed (some come premixed).
Basal Bark	July 1 to onset of fall color	Pathfinder II or Garlon 4 Ultra (triclopyr ester)	Ready-to-use or 20% by volume, 1:4 in basal oil	Pathfinder II is a ready-to-use oil-based formulation of triclopyr used for basal bark applications. Treat stems up to 6 inches in basal diameter by wetting the entire circumference of the lower 12 to 18 inches, without runoff; apply a shorter band to small-diameter stems. This technique is best suited for treating small infestations or as a follow-up to treat surviving stems after a foliar application. If stems are larger than 6 inches in basal diameter use hack-and-squirt.
Hack and Squirt	July 1 to onset of fall color	Rodeo (glyphosate) or Garlon 3A (triclopyr 3 lb/gal) or Vastlan (triclopyr 4 lb/gal)	Use either product undiluted or 1:1 with water	Glyphosate or triclopyr in water are effective for hack-and-squirt treatments. It is essential to space the cuts, leaving intact bark between them. If the stem is completely girdled, the herbicide cannot translocate to roots. A simple guideline for the number of hacks is one per inch of diameter, with a minimum of two. Spray herbicide solution into hacks immediately using a squirt bottle, filling the cuts. This treatment is best suited for low stem numbers and stems at least 1 inch in diameter.
Cut Stump	N/A			If cutting tree-of-heaven for immediate safety reasons, do so and treat the stump. However, cut stump herbicide applications are not recommended because they do not provide effective control of roots. Stump treatments will keep the stump free of sprouts, but they will not prevent root suckering. When tree removal is necessary, it is best to treat with one of the above-mentioned herbicide applications first, wait for symptoms to develop (generally 30 days), and then cut.

Established trees continually spread by sending up root suckers that may emerge as far as 50 feet from the parent tree. A cut or injured tree-of-heaven may send up dozens of stump and root sprouts. Sprouts as young as two years are capable of producing seed. Tree-of-heaven produces allelopathic chemicals in its leaves, roots, and bark that can limit or prevent the establishment of other plants.

Site

Tree-of-heaven grows almost anywhere, from mine spoil in full sun to fertile, partly shaded, alluvial soils along rivers and streams. Besides urban areas, tree-of-heaven is now found growing along woodland edges, roadsides, railways, fencerows, and in forest openings. Tree-of-heaven is intolerant of shade and cannot compete under a closed forest canopy but will quickly colonize

disturbed areas, taking advantage of forests defoliated by insects or impacted by wind and other disturbances.

Control

Due to its extensive root system and resprouting ability, tree-of-heaven is difficult to control. Treatment timing and following up the second year are critical to success. Mechanical methods, such as cutting or mowing, are ineffective, as the tree responds by producing large numbers of stump sprouts and root suckers. When cutting tree-of-heaven is necessary to remove potentially hazardous trees, it is best to treat with an herbicide first, wait for symptoms to develop (approximately 30 days), and then cut.

Hand pulling young seedlings is effective when the soil is moist and the entire root system is removed. Small root fragments are capable of generating new shoots. Seedlings can be easily confused with root suckers, which are nearly impossible to pull by hand.

To control tree-of-heaven, target the roots with systemic herbicides applied in mid- to late summer (July to onset of fall color) when the tree is moving carbohydrates to the roots. Herbicide applications made outside this late growing season window will only injure aboveground growth. Following treatment, repeated site monitoring for signs of regrowth is critical to prevent reinfestation.

Herbicides applied to foliage, bark, or cuts on the stem are effective at controlling tree-of-heaven. Cut stump herbicide applications do not prevent root suckering and should not be utilized. There are many effective herbicides available for use on tree-of-heaven, including dicamba, glyphosate, imazapyr, metsulfuron methyl, and triclopyr. For most treatments we recommend using herbicides containing the active ingredients glyphosate or triclopyr because they have practically no soil activity and pose little risk to nontarget plants through root uptake.

Foliar herbicide sprays are used where tree height and distribution allow effective coverage without unacceptable contact with nearby desirable plants. Treatments are applied in mid- to late growing season with equipment ranging from high-volume truck-mounted sprayers to low-volume backpack sprayers.

For dense or extensive infestations, treat initially with a foliar application to eliminate the small, low growth. Then follow up with a bark or hack-and-squirt application on the remaining larger stems. The initial foliar application will control most of the stems, while the follow-up stem treatment controls missed stems or those too tall for adequate coverage.

Basal bark applications provide a target-specific method for treating tree-of-heaven that are generally less than 6 inches in basal diameter. Using a low-volume backpack sprayer, a concentrated mixture of herbicide containing the ester formulation of triclopyr in oil is applied from the ground line to a height of 12 to 18 inches, completely around the stem. To maximize translocation to the roots, apply herbicides from mid- to late summer.

Hack-and-squirt herbicide applications are highly selective with a concentrated herbicide solution applied to downward-angled cuts in the stem. For effective hack-and-squirt applications, apply the herbicide solution to cuts spaced evenly around the stem. Leaving uncut living tissue between the hacks allows the herbicide to move to the roots. Again, make applications in mid- to late summer.

Well-established tree-of-heaven stands are only eliminated through repeated efforts and monitoring. Initial treatments often only reduce the root systems, making follow-up measures necessary. Persistence is the key to success.

Human Health Concerns

Tree-of-heaven can affect human health. The tree is a very high pollen producer and a moderate source of allergy in some people. In addition, a few cases of skin irritation or dermatitis have been reported from contact with plant parts (leaves, branches, seeds, and bark) and products. Symptoms often vary and depend on several factors, including the sensitivity of the individual, the extent of contact, and the condition of the plant or plant product. There are rare reports of myocarditis (inflammation of the heart muscle) from exposure to sap through broken skin, blisters, or cuts. People who have extensive contact with the tree should wear protective clothing and gloves and be careful to avoid contact with the sap.

Prepared by David R. Jackson, forest resources educator; Art Gover, research support associate, Wildland Weed Management Program; and Sarah Wurzbacher, forest resources educator.

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IN THE VINEYARD

The first rain of August for many places finally came this week, with over an inch falling in most parts of the Finger Lakes. After three weeks of hot and dry weather, it was a welcome sight (and sound), even if it meant adding a little disease pressure to the pre-harvest mix. That said, the lack of rain this month has had an impact in many parts of the Finger Lakes – everything from minor stress symptoms like drying tendrils to significant defoliation in places with limiting soils (see photo).

This summer's drought has led to significant defoliation of vines in areas with limiting soils

Most early cultivars like Pinot noir, Baco and Marquette are through veraison at this point, but the rest are at varying stages. We tested the Marquette from the Teaching Vineyard near Dresden just out of curiosity after the prolonged heat and drought. Compared to the first sample collected for the Veraison to Harvest project last year, our sugar accumulation is comparable, but acidity is still relatively high. Berry size is smaller than last year, which is not a surprise given the lack of rainfall this summer.

	Avg berry wt (g)	pH	TA (g/L)	Brix
Aug 18, 2025	1.09	2.91	19.7	20.9
Aug 26, 2024	1.28	2.99	14	21.1

Comparison of fruit chemistry data for Marquette from the Teaching Vineyard in 2024 and 2025.

If the dry conditions persist into harvest, ripening may be hindered on sites like the one pictured above, and even on less impacted sites. In years like this, I think it would be a good strategy for growers and winemakers to do more frequent and widespread sampling in vineyards where there are differences in canopy structure and stress symptoms (it's a good strategy every year, but especially in ones like this), as maturity could be very different in areas with higher variation in soil types and water holding capacity. Younger vines (<7-8 years old) could be sampled separately from older ones as well, due to their smaller root system which can also result in greater water stress and ripening capability.

MEET RACHAEL MUNROE !

I'm very happy to announce that, as of August 6, Rachael Munroe has joined the Finger Lakes Grape Program as our new program technician, replacing Don Caldwell who took a position in New Mexico this spring. Rachael is a native of Vermont and just completed her undergraduate degree at the University of Vermont, where she majored in environmental science, with a minor in soil science. Rachael has worked with the US Forest Service and the Natural Resources Conservation Service. She is new to the world of grapes and viticulture, but she has been enthusiastically absorbing information over her first two weeks on the job..

Rachael will be working on our Veraison to Harvest project starting next week, collecting soil health samples for our project in cooperation with the Soil Health Program at Cornell, as well as helping with data collection and other activities at the Teaching and Demonstration Vineyard. We are excited to have Rachael as part of the FLGP team, and I'm sure many of you will get to know her over the next several years as you see her out and about helping us in our support of the grape industry

2025 GDD & Precipitation

FLX Teaching & Demonstration Vineyard – Dresden, NY					
Date	Hi Temp (F)	Lo Temp (F)	Rain (inches)	Daily GDDs	Total GDDs
8/14/25	83.7	66.7	0.00	25.2	2090.6
8/15/25	85.6	60.8	0.00	23.2	2113.8
8/16/25	87.3	64.8	0.00	26.1	2139.8
8/17/25	84.4	63.5	0.01	24.0	2163.8
8/18/25	73.2	57.2	0.00	15.2	2179.0
8/19/25	79.9	53.2	0.00	16.6	2195.5
8/20/25	69.6	60.3	1.71	15.0	2210.5
Weekly Total			**1.72"**	**145.1**	
Season Total			**19.27"**	**2210.5**	

GDDs as of August 20, 2024: 2288.7

Rainfall as of August 20, 2024: 20.81"

Seasonal Comparisons (at Geneva)

Growing Degree Days

	2025 GDD [1]	Long-term Avg GDD [2]	Cumulative days ahead (+)/behind (-) [3]
April	86.3	63.9	+5
May	216.9	257.2	-2
June	585.7	486.3	+5
July	776.9	648.5	+10
August	444.3	596.7	+15
September		362.5	
October		114.3	
TOTAL	2110.0	2529.4	

1 Accumulated GDDs for each month.
2 The long-term average (1973-2024) GDD accumulation for that month.
3 Numbers at the end of each month represent where this year's GDD accumulation stands relative to the long-term average. The most recent number represents the current status.

2025 GDD & Precipitation

Precipitation

	2025 Rain [4]	Long-term Avg Rain [5]	Monthly deviation from avg [6]
April	2.81"	2.86"	-0.05"
May	5.23"	3.04"	2.19"
June	1.75"	3.58"	-1.83"
July	1.72"	3.48"	-1.76"
August	0.95"	3.19"	
September		3.43"	
October		3.39"	
TOTAL	12.46"	22.97"	

4 Monthly rainfall totals up to current date
5 Long-term average rainfall for the month (total)
6 Monthly deviation from average (calculated at the end of the month)

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Finger Lakes Grape Program

The Finger Lakes Grape Program is a partnership between Cornell University and the Cornell Cooperative Extension Associations in Ontario, Seneca, Schuyler, Steuben, Wayne and Yates Counties.