

The Regional Spotted Lanternfly Infestation

This invasive insect was first detected in Pennsylvania in 2014. Despite the best efforts of USDA and New Jersey Department of Agriculture, these insects are now widespread over much of New Jersey. The insect is primarily a pest on fruit crops (grapes, peaches, apples) and prefers to breed on “the tree of heaven” (*Ailanthus*). It can weaken some shade trees, but is not known to outright kill established trees. When infesting a tree, the insects will secrete a thick dark gooey substance that it deposits on the tree bark and surrounding ground. This substance is sugary and can attract other nuisance insects such as flies and yellow jackets. This insect is not known to harm humans or pets nor transmit disease.

Although much research is underway to find effective controls to eliminate this infestation, **there are no area wide treatment programs at this time.** For now, the N.J. Department of Agriculture urges homeowners to take measures on their own property to curtail and eliminate spotted lanternflies, such as to “stomp on them,” scrape off and dispose of egg masses in winter. Pesticide sprays should be used on the adult insects only if present in very heavy numbers. Application of any pesticides should be limited only to a NJ Licensed Tree Expert with the NJ Pesticide license to avoid damage to trees. For a list of licensed firms, go to the New Jersey Board of Tree Experts at: 732-534-0982 or www.njtreeexperts.org.

See additional information on this website, or click on the following NJ Dept of Agriculture, USDA, and Rutgers Extension Service websites for information and instructions to homeowners about spotted lanternflies and how to control and eliminate them:

https://www.aphis.usda.gov/aphis/ourfocus/planthealth/plant-pest-and-disease-programs/pests-and-diseases/sa_insects/slf

<https://www.nj.gov/agriculture/divisions/pi/prog/pests-diseases/spotted-lanternfly/>

<https://njaes.rutgers.edu/spotted-lanternfly/>

Township contact for any additional questions:

Jeff Cramer, Licensed Tree Expert for South Brunswick Township

CELL 609-955-0800



Pest Alert

Animal and Plant Health Inspection Service
Plant Protection and Quarantine

Spotted Lanternfly (*Lycorma delicatula*)

The spotted lanternfly is an invasive pest, primarily known to affect tree of heaven (*Allanthus altissima*). It has been detected on many host plants, including apples, plums, cherries, peaches, nectarines, apricots, almonds, and pine. It also feeds on oak, walnut, poplar, and grapes. The insect will change hosts as it goes through its developmental stages. Nymphs feed on a wide range of plant species, while adults prefer to feed and lay eggs on tree of heaven (*A. altissima*).¹ If allowed to spread in the United States, this pest could seriously harm the country's grape, orchard, and logging industries.

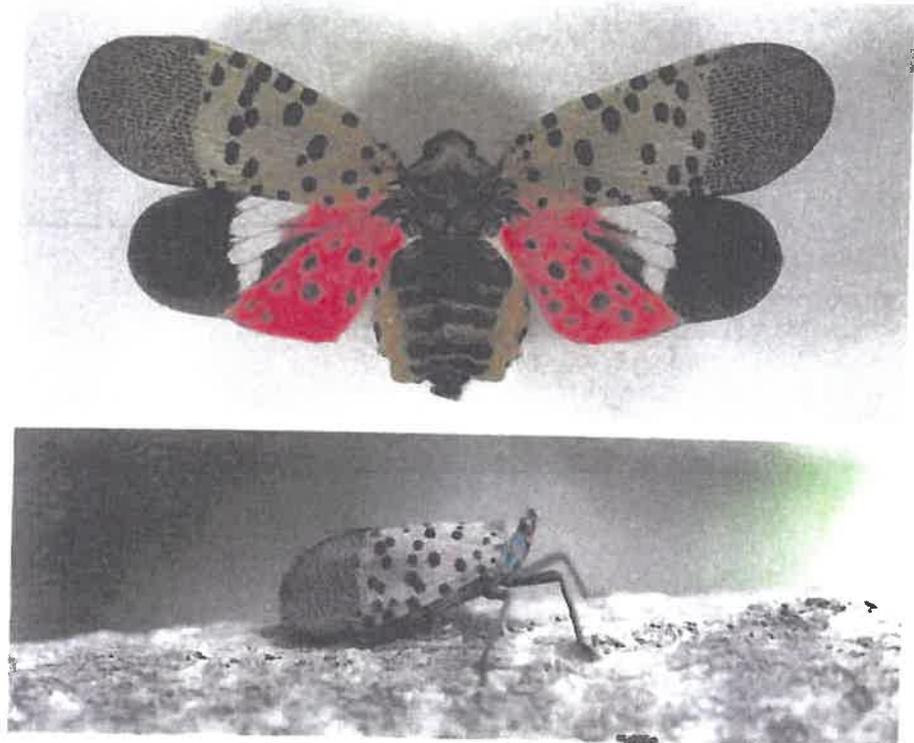
Distribution and Spread

The spotted lanternfly is present in China, India, Japan, South Korea, and Vietnam. The insect was detected in Pennsylvania in September 2014. This was the first detection of spotted lanternfly in the United States.

Spotted lanternflies are invasive and can spread rapidly when introduced to new areas. While the insect can walk, jump, or fly short distances, its long-distance spread is facilitated by people who move infested material or items containing egg masses.

Damage

Both nymphs and adults of spotted lanternfly cause damage when they feed, sucking sap from stems and leaves. This can reduce photosynthesis, weaken the plant, and eventually contribute to the plant's death. In addition, feeding can cause the plant to ooze or weep,



Adult spotted lanternfly

resulting in a fermented odor, and the insects themselves excrete large amounts of fluid (honeydew). These fluids promote mold growth and attract other insects.

Description

Adult spotted lanternflies are approximately 1 inch long and one-half inch wide, and they have large and visually striking wings. Their forewings are light brown with black spots at the front and a speckled band at the rear. Their hind wings are scarlet with black spots at the front and white and black bars at the rear. Their abdomen is yellow with black bars. Nymphs in their early stages of

development appear black with white spots and turn to a red phase before becoming adults. Egg masses are yellowish-brown in color, covered with a gray, waxy coating prior to hatching.

Life Cycle

The spotted lanternfly lays its eggs on smooth host plant surfaces and on non-host material, such as bricks, stones, and dead plants. Eggs hatch in the spring and early summer, and nymphs begin feeding on a wide range of host plants by sucking sap from young stems and leaves. Adults appear in late July and tend to focus their feeding on tree of heaven (*A. altissima*) and grapevine

¹ In Pennsylvania, adult spotted lanternflies have also been found feeding and egg laying on willow, maple, poplar, and sycamore, as well as on fruit trees, like plum, cherry, and peach.

(*Vitis vinifera*). As the adults feed, they excrete sticky, sugar-rich fluid similar to honeydew. The fluid can build up on plants and on the ground underneath infested plants, causing sooty mold to form.

Where To Look

Spotted lanternfly adults and nymphs frequently gather in large numbers on host plants. They are easiest to spot at dusk or at night as they migrate up and down the trunk of the plant. During the day, they tend to cluster near the base of the plant if there is adequate cover or in the canopy, making them more difficult to see. Egg masses can be found on smooth surfaces on the trunks of host plants and on other smooth surfaces, including brick, stone, and dead plants.

Report Your Findings

If you find an insect that you suspect is the spotted lanternfly, please contact your local Extension office or State Plant Regulatory Official to have the specimen identified properly.

To locate an Extension specialist near you, go to the U.S. Department of Agriculture (USDA) Web site at www.nifa.usda.gov/Extension. A directory of State Plant Regulatory Officials is available on the National Plant Board Web site at www.nationalplantboard.org/membership.



Nymphs are black with white spots in early stages of development. (Credit: itchydogimages)



Nymphs turn red just before becoming adults. (Credit: itchydogimages)



Hatched and unhatched egg masses

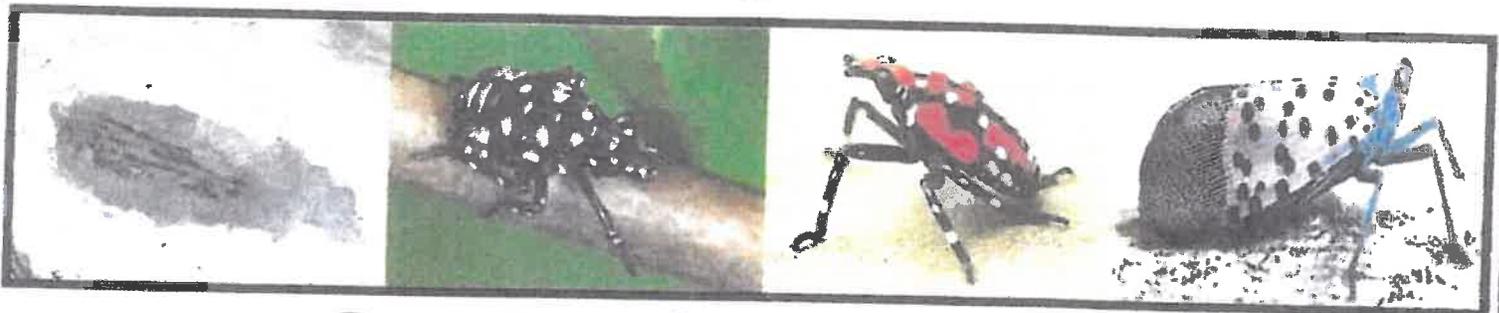
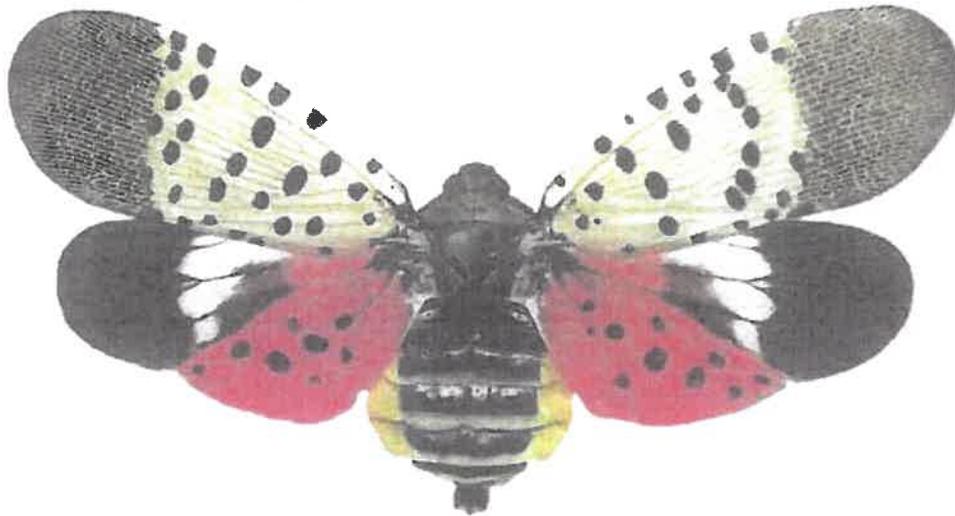


Cluster of adults on the trunk of a tree at night

SLF Homeowner Treatment Options

Active ingredient	Mode of exposure	Available products	Legal use	Activity against SLF	Residual activity
bifenthrin	contact	Talstar P	Ornamental and landscape plants and trees	Excellent	Excellent
carbaryl	contact	Garden Tech Sevin Ready-to-Spray Bug Killer (note: new formulation is sold with the active ingredient zetacypermethrin)	Vegetable and ornamental plants and trees under 10 ft tall	Excellent	Good
dinotefuran	systemic/contact	Safari, Transtect	Ornamental and landscape plants and trees	Excellent	Excellent
malathion	contact	Spectracide Malathion Insect Spray	For use on flowers and bushes, fruit, and vegetables	Excellent	Poor
Neem oil*	contact	Bonide Neem Oil	Flowers, ornamental trees and shrubs, fruit, nuts and vegetables.	Good	Poor
Natural pyrethrins	contact	Garden Safe MultiPurpose Garden Insect Killer, Natria Insect Mite and Disease Control	Vegetables, ornamentals, trees, shrubs and flowers	Good	Poor
Insecticidal soaps*	contact	Garden Safe Insecticidal Soap	Vegetables, fruit trees, ornamentals, shrubs. flowers and gardens.	Good	Poor
spinosad*	systemic	Bonide Captain Jack's Deadbug Brew	Outdoor ornamentals, fruit and vegetables.	Good	Poor
tau fluvalinate, tebuconazole	contact/systemic	BioAdvance 3 in 1, Insect, Disease and Mite control	Non-edible plants only, ground covers, vines, ornamentals, shrubs and trees	Excellent	Good
Zetacypermethrin	contact	Amdro Quick Kill Outdoor Insect Killer Concentrate	Lawns, trees and shrubs, roses and flowers.	Excellent	Excellent

SEE IT, REPORT IT!



Spotted Lanternfly

What to do:

If you see egg masses, scrape them off, double bag and throw away.
You can also place the eggs into alcohol, bleach or hand sanitizer to kill them.

Collect a specimen:

Specimens of any life stage can be turned in to the New Jersey Department of Agriculture's lab for verification.

Take a picture:

With your GPS function turned on your smartphone or a camera with GPS, take a photograph of **ANY** life stage (including egg masses)

Submit picture to: SLF-plantindustry@ag.nj.gov

Report a site:

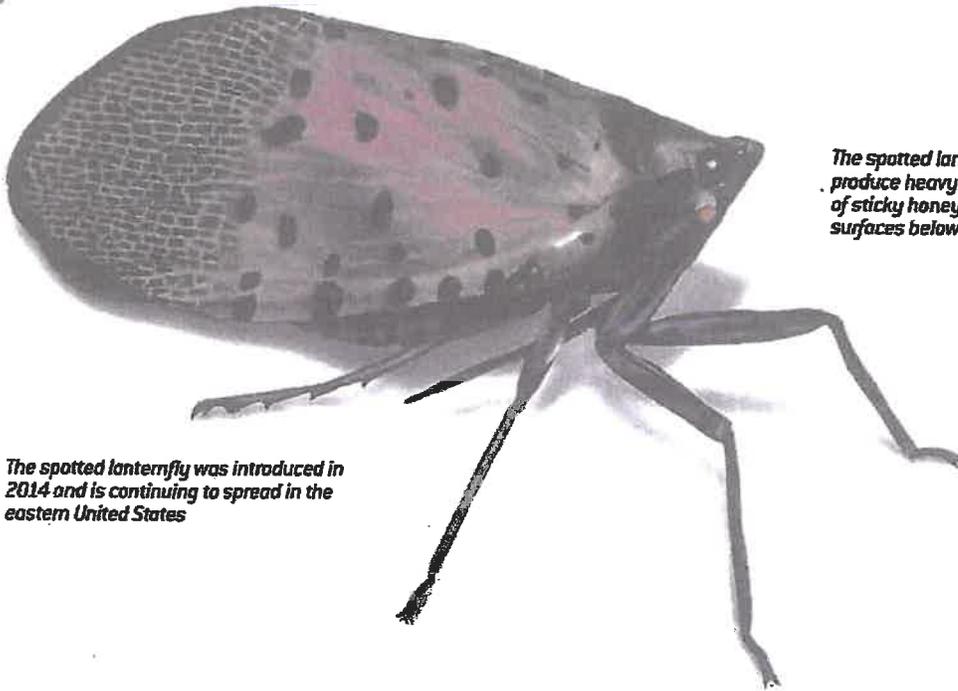
If you can't take a specimen or photograph, call and leave detailing your sighting and contact information

WJ Spotted Lanternfly Hotline at 1-833-223-2840 (BADBUG0)



Understand and Manage

Spotted Lanternfly



The spotted lanternfly will produce heavy volumes of sticky honeydew on surfaces below the tree

The spotted lanternfly was introduced in 2014 and is continuing to spread in the eastern United States

A New Invasive Pest

The spotted lanternfly, *Lycorma delicatula*, is an invasive plant hopper native to China, Vietnam, and India. The spotted lanternfly was confirmed in Pennsylvania in September, 2014. Adults can lay eggs on any smooth surface like rocks, siding, or bricks which make them extremely easy to spread. If left unchecked, this pest can result in the major decline of many ornamental trees.

While the tree of heaven (*Ailanthus*) is the most common host tree, adult insects are known to feed on around 70+ species of plants including trees, shrubs, and agricultural crops.

Damage to Trees

Adults and nymphs feed by sucking sap from the leaves and stems of their host plants, causing the wounds to ooze and leaving a foul odor. Weakened plants are open to attack from other pests and diseases which can further stress or kill the plant.



Photo: Bay Journal

Winged adults and nymphs of the bark of an *ailanthus* tree

Infested trees will exhibit weeping wounds that leave a dark gray trail along the trunk. Smooth gray egg masses can be seen on the trunk of the tree or other smooth surfaces near the tree. The spotted lanternfly can gather in large groups on the tree which can sometimes be seen migrating up and down the tree during dawn and dusk.

On tree of heaven, its preferred host, trees typically die within 2-4 years after initial attack.

A Nuisance to People

Along with the physical damage these insects cause, they secrete a sticky substance (called 'honeydew'), which spreads over anything underneath the attacked tree. Surfaces covered by the honeydew will subsequently be covered in a black sooty mold, resulting in a dirty appearance to patio furniture and other infrastructure as the mold grows.



Photo: Virginia Tech

Ailanthus or 'Tree of Heaven' is the preferred host of SLF

MANAGING SPOTTED LANTERNFLY

Reduce the Spread

If you spot egg masses or the insect itself the best option is to contact your local Extension agency or your State Plant Regulatory Official. If you spot egg masses, make sure to follow these three steps: 1. Scrape them off 2. Double bag them 3. Throw them away or soak them in alcohol. These egg masses can be found on the bark of host plants or any smooth surface such as cars, trailers, siding, brick, stone, and so on. Make sure to inspect vehicles before taking trips. Adults are easiest to spot at dusk when they congregate on host plants moving up and down the trunk.

Protecting Trees

A Special Local Need label has been approved in Pennsylvania for Transtect 70 WSP to treat Tree of Heaven as a basal trunk spray. Trees should be treated between mid-late May and August. Transtect can be used as an annual treatment to protect high value trees.

Transtect is a soil applied, systemic insecticide that provides season long control of a broad spectrum of pests. Its unique properties provide rapid uptake and efficacy. Transtect can be used for a variety of situations where fast results are needed including recovery treatments on infested trees.

Transtect can be applied in a variety of ways such as: soil drench, soil injection, or systemic basal bark spray. All three of these application methods will yield the same results and they are determined by preference and site specifications.

Other Tree Health Recommendations

- Adequate water is a key factor in maintaining healthy trees. A slow, deep watering event once per week during dry conditions will help maintain soil moisture levels and minimize stress.
- Mulch is very beneficial for trees because it reduces competition with turf and moderates soil temperature and moisture levels. The addition of 2-4 inches of wood chips or shredded bark under the drip line can have a beneficial effect.
- Avoid compacting the soil, changing the soil grade or water drainage pattern, damaging the bark, allowing significant amounts of defoliation by insects or anything else that may stress the tree.



Photo: UMASS

Spotted lanternfly egg masses should be scraped off and reported



Transtect can be applied by a soil application at the base of the tree



Transtect can also be applied by a bark spray treatment