

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 (*Ailanthus 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



What the New Spotted Lanternfly Quarantine Means for You

Spotted Lanternfly, *Lycorma delicatula*, is a threat to both New Jersey and the United States. It lays egg masses of 30-50 eggs wherever it chooses, especially on flat surfaces. All other life stages of this insect, from nymphs to adults can fly, hop, or drop right into or onto vehicles – meaning that vehicles and equipment can easily and quickly help it spread. Therefore, a quarantine over an area found to harbor the Spotted Lanternfly means that any material or object that can spread the pest cannot be moved without taking precautions to prevent that spread.

Current Quarantine Counties:

WARREN, HUNTERDON AND MERCER COUNTIES

Examples of Regulated Articles:

- Any living life stage of the Spotted Lanternfly.
- Landscaping, remodeling or construction waste.
- Firewood of any species.
- Packing materials (e.g., wood crates, boxes).
- All plants and plant parts including logs, stumps or any tree parts.
- Outdoor household articles like RVs, lawn mowers, chairs, grills, tarps, tile, stone, deck boards, and trucks or other vehicles not stored indoors.

You Can Move these and similar Items If:

General public – complete a compliance checklist, which indicates you inspected and know that no living life stage of Spotted Lanternfly is present on the articles. The checklist is available at:

<https://www.state.nj.us/agriculture/divisions/pi/pdf/NJResidenceSLFChecklist.pdf>.

Business, Municipalities, Government Agencies –

Moving Regulated Articles Exclusively Within the Quarantine Area:

Moving regulated materials exclusively within the quarantine area shall be required to inspect these regulated articles and vehicles for any stage of the insect prior to movement. Any Spotted Lanternfly, in any life stage, found during the inspection on other debris, off-fall or by-products, shall remain within the quarantine area, be placed in a separate area away from other regulated articles and shall be processed, treated, burned or buried, in accordance with all federal, state or local laws.

Burning shall be done in accordance with laws, including but not limited to those governing air quality. Where buried, such burial shall comply with all laws, including but not limited to those governing water quality. Final disposal of regulated articles shall be in a manner

that does not leave material which may be infected or allow movement of the Spotted Lanternfly. Regulated articles must be shipped within five (5) days of inspection, processing or treatment and safeguarded in such a manner, such as storage inside an enclosed building or shrink wrapping, as to prevent infestation.

Moving Regulated Materials in and out of Quarantine Zones:

A permit is required for those located or working in and out of both the New Jersey and Pennsylvania quarantine, who move vehicles, products or other conveyances into or out of the quarantine zone. This permit may be obtained through the Pennsylvania Department of Agriculture and is recognized for use by the New Jersey Department of Agriculture, and other states.

To obtain a permit, a designated individual from an organization must receive training and pass an online test to demonstrate a working knowledge and understanding of the pest and quarantine requirements. Training of other employees, inspection of vehicles and products, and removal of living life stages of spotted lanternfly must be completed. The permit shows you have the understanding to identify the pest and can ensure the items you transport aren't carrying it.

To Obtain a Permit for Business, Municipalities, Government Agencies:

- Managers, supervisors, or persons with authority for your agency work group must receive approved training. Training is available online, or at a training session sponsored by Penn State University Extension, the Pennsylvania Department of Agriculture, or individuals who have participated in the "Train the Trainer" sponsored by the Department.
- Online permit training can be found in the right-hand menu at http://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/Entomology/spotted_lanternfly/quarantine/Pages/default.aspx
- A designated manager or supervisor taking the multiple-choice exam must receive a passing grade of at least 70 percent. The agency name, number of vehicles and/or conveyances, address, and contact information is required to complete the exam.
- The manager or supervisor taking the exam agrees to train *all* employees in the work group to identify the pest and prevent it from movement on products, vehicles and other conveyances.
- The permit will be delivered after confirmation of passing the exam.
- The permit must also be forwarded to the Department by email slf-plantindustry@ag.nj.gov.
- The permit must be kept inside the agency vehicle when working within or outside of the quarantine zone.
- Recordkeeping of training, inspection of vehicles, and control measures taken (such as vehicle washes, destruction of living lanternfly, etc.) must be maintained for a minimum of two years.
- Contractors and subcontractors working within or outside of the quarantine are required to have a permit.

Treatment of Infested Property:

- Organizations are responsible for controlling or eliminating any life stage of Spotted Lanternfly on their property, vehicles, and equipment.

- Control may include physical destruction of Spotted Lanternfly (scraping egg masses, washing vehicles, etc.), banding, pesticide application, or removing Tree of Heaven.
- All control methods must adhere to the Department's requirements.
- Organizations may treat their own property or hire a licensed pesticide applicator or other authorized agency to treat.
- The Department may, at its discretion and subject to availability of resources, provide control measures on a property.
- Organizations are responsible to continue to treat for Spotted Lanternfly as long as it exists on the property or until the quarantine is rescinded.

For Additional Information:

- NJDA:
<https://www.nj.gov/agriculture/divisions/pi/prog/spottedlanternfly.html>
- Penn State:
<https://extension.psu.edu/spotted-lanternfly>
- For Permit Training and Testing:
<https://www.nj.gov/agriculture/divisions/pi/pdf/SLFPermitTraining.pdf>
<https://www.surveymonkey.com/r/slfpermitexam>
- Quarantine Questions: Joseph Zoltowski 609-406-4939, joseph.zoltowski@ag.nj.gov
- To report possible Spotted Lanternfly outside the quarantine area: 1-833-badbug0 or slf-plantindustry@ag.nj.gov

Checklist for Residents

Living in Spotted Lanternfly Quarantine Areas

IMPORTANT: Before you move outdoor items from the quarantine area, check for spotted lanternfly egg masses, adults, and nymphs. Make sure all items are pest free before you move them. Help keep this pest from spreading.

Check before you move

Recreational or Camping Items

- | | | |
|------------------------------------------------|------------------------------------------------|--------------------------------|
| <input type="checkbox"/> Backpacks | <input type="checkbox"/> Ice chests | <input type="checkbox"/> Tarps |
| <input type="checkbox"/> Basketball backboards | <input type="checkbox"/> Motorcycles | <input type="checkbox"/> Tents |
| <input type="checkbox"/> Bicycles | <input type="checkbox"/> Motor homes | <input type="checkbox"/> Other |
| <input type="checkbox"/> Boats/Boat trailers | <input type="checkbox"/> Recreational vehicles | |
| <input type="checkbox"/> Campers | <input type="checkbox"/> Snowmobiles | |

Outdoor Household Items

- | | | |
|----------------------------------------------------|-------------------------------------------------|---------------------------------------------------------|
| <input type="checkbox"/> Barrels | <input type="checkbox"/> Propane or oil tanks | <input type="checkbox"/> Storm/Screen doors and windows |
| <input type="checkbox"/> Cardboard or wooden boxes | <input type="checkbox"/> Trash cans | <input type="checkbox"/> Window awnings |
| <input type="checkbox"/> Outdoor poles | <input type="checkbox"/> Refrigerators/Freezers | <input type="checkbox"/> Outdoor furniture |
| <input type="checkbox"/> Plant containers | <input type="checkbox"/> Storage sheds | <input type="checkbox"/> Other |
| <input type="checkbox"/> Firewood | <input type="checkbox"/> Shutters | |

Building Materials

- | | | |
|-----------------------------------------------|----------------------------------------------|----------------------------------------------|
| <input type="checkbox"/> Bricks/Cinder blocks | <input type="checkbox"/> Roofing materials | <input type="checkbox"/> Skidsters/Forklifts |
| <input type="checkbox"/> Cement mixing tubs | <input type="checkbox"/> Tools and toolboxes | <input type="checkbox"/> Pipes |
| <input type="checkbox"/> Lumber | <input type="checkbox"/> Workbenches | <input type="checkbox"/> Other |

Yard and Garden Items

- | | | |
|-----------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Dog houses, rabbit sheds, chicken coops, etc | <input type="checkbox"/> Garden tillers | <input type="checkbox"/> Signs and posts |
| <input type="checkbox"/> Barbecue grills | <input type="checkbox"/> Yard decorations | <input type="checkbox"/> Storage sheds |
| <input type="checkbox"/> Carts | <input type="checkbox"/> Garden tools | <input type="checkbox"/> Tractors and trailers |
| <input type="checkbox"/> Cold frames | <input type="checkbox"/> Backhoes | <input type="checkbox"/> Trees, shrubs and plants |
| <input type="checkbox"/> Fencing | <input type="checkbox"/> Lawnmowers | <input type="checkbox"/> Other |

Children's Playthings

- | | | |
|---------------------------------------|---------------------------------------------|--------------------------------|
| <input type="checkbox"/> Play houses | <input type="checkbox"/> Bicycles, scooters | <input type="checkbox"/> Other |
| <input type="checkbox"/> Kiddie pools | <input type="checkbox"/> Sandboxes | |

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If you find any of these life stages of the Spotted Lanternfly, remove, devitalize, place in a sealed bag, and dispose of bag in the garbage.



Adult Spotted Lanternfly, present in autumn months.

Fresh Spotted Lanternfly egg mass (outlined in red). Egg masses are present in autumn and winter months, blending in with their surroundings.



Spotted Lanternfly nymphs, present in spring and summer months. (Images from Park et al. 2009)



By signing this checklist, I am confirming that I have inspected my vehicle and those items I am moving from the Spotted Lanternfly quarantine area, and do not see any egg masses or insects in or on anything I am moving.

Signature _____ Address _____ Date _____

Please sign, date, and keep this checklist in your vehicle with you – use it each time you need it.

For more information,
Visit the New Jersey Department of Agriculture website:
<https://www.state.nj.us/agriculture/divisions/pi/prog/spottedlanternfly.html>

