

# Spotted Lanternfly



Figure 1: Adult spotted lanternfly.

## Spotted Lanternfly in New Jersey

Some people may think it is a moth but it's really the Asian plant hopper known as the spotted lanternfly (SLF), *Lycorma deliculata* (White) and is a member of the order Hemiptera, family Fulgoridae. In the USA, spotted lanternfly is an invasive species that could be very devastating to some New Jersey crops and hardwood trees.

This insect was accidentally introduced into Pennsylvania and was confirmed in the state in September 2014. At first it was only found in Berks County, however, today it has spread throughout Pennsylvania and to neighboring states, including New Jersey.

New Jersey populations were first detected in 2018 and has been detected in every county since, although populations remain most troublesome in the counties bordering PA. In response, the NJ Department of Agriculture has issued an eight-county quarantine. People and businesses travelling in and out of these counties (Burlington, Camden, Gloucester, Hunterdon, Mercer, Salem, Somerset, and Warren) should inspect vehicles for hitchhiking SLF and inspect outdoor items such as packing bins, firewood, paving stones, lawn equipment, etc. for egg masses ([see checklist \(PDF\)](#)). **Quarantine compliance will reduce the spread of SLF to new areas and counties thereby protecting New Jersey resources including forests and agriculture.**

## Plant and Pest Advisory Recommendations

- [SLF Adults Are Here \(again\)](#)
- [Spotted Lanternfly Hatch](#)
- [SLF: Current Management Recommendations in Vineyards](#)
- [Help, Spotted Lanternfly Nymphs are in my Vineyard!](#)
- [Spotted Lanternfly Updates](#)
- [Spotted Lanternfly Basics Webinars](#)
- [Monitoring for SLF Egg Masses](#)

Spotted lanternfly is distinctive from most other native insects which greatly aids in identification. In the spring, around mid-May, young juveniles hatch from the eggs and are black with white spots. At first glance, they may be confused with second instar brown marmorated stink bugs (see Figures 2 and 3). As they grow, nymphs become red and black with white spots (see Figure 4). The presence of the "polka dots" on the nymphs is distinct from most other insect species present in New Jersey. The nymphs may be found in large numbers on a wide range of hosts including landscape trees.

Nymphs mature into adults in late July-August and are quite colorful with a black head, grayish black spotted forewings, and reddish black spotted hind wings (see Figure 1). They are approximately 1" in length and a ½" in width and are present until frost. Adults feed in large congregations from August – October and are easily recognizable. Mating and egg laying is delayed and egg laying does not occur until October. Egg masses are laid on smooth surfaces and appear like a patch of mud. They spend the winter in this stage and thus are **very** likely to be accidentally transported to a new location. Because they spend at least one month as adults before laying eggs, this could be a critical time for management.

The spotted lanternfly can feed on more than 70 plant species including cultivated and wild grape, fruit trees, and hardwood trees common in woodlots and as landscape plantings. As with all plant hoppers, SLF has sucking mouthparts that it inserts into plant tissues to remove the fluids it needs to survive. During feeding, SLF excretes significant amounts of honey dew (or sugar water). Honey dew deposits provide a food source for a sooty mold fungus that can grow on plant surfaces and fruit leading to reduced photosynthesis and plant vigor.

Feeding primarily occurs on the trunk and limbs of plants, not on the fruit or leaf tissues although young nymphs may feed on the leaves, particularly along the leaf veins. Feeding and abundance on different hosts changes throughout the growing season, likely tied with sugar flow in the trees.

One tree that hosts large numbers of SLF is *Ailanthus altissima* (Tree of Heaven) (see Figure 5), which is abundant in New Jersey. Tree of Heaven typically grows in clumps in sunny areas along highways or disturbed habitats such as the edges of crop fields, open spaces, or parks. Other key tree hosts include black walnut, red maple, river birch, willow, and agricultural crops such as grapes, apples, and peaches.

Adults feed in large congregations and highly noticeable. Although there are no numbers or estimates on the economic impact of SLF, we are concerned about the impacts to our agricultural and homeowner communities.

# Relative Spotted Lanternfly Infestation on Key Hosts

	June	July	August	September	October
<b>Black Walnut</b>		Higher	Higher		
<b>Ailanthus</b>		Lower	Lower	Higher	
<b>Grape</b>	Higher	Lower			Higher

When looking for SLF, survey along the perimeters of fields and on Tree of Heaven, black walnut, red maple, willow, river birch, and wild grapevines at the edges of wood lines. Multiple egg masses can also be found on trellis posts within a vineyard. Insecticides are effective but due to the high mobility of this pest, in highly infested areas, vines should be monitored closely for the arrival of new bugs.

In Pennsylvania, adults and nymphs have caused economic injury to cultivated grapes in commercial vineyards. Populations are increasing in NJ vineyards each year both in numbers within individual farms and to new vineyards. Economic estimates of injury are unavailable but some Pennsylvania growers report direct vine losses due to reduction in cold hardiness and plant health. Populations and injury are higher along vineyard edges and in New Jersey vineyards we are seeing populations of adult moving into the vineyard in late August through September to feed.

There are two species of natural occurring fungi that can attack SLF, *Beauvaria bassiana* and *Batkoa major*. A few beneficial insects have also been observed attacking SLF, primarily in the egg stage. The impact these biological organisms will have on SLF is unknown and until that time insecticide management and removal of egg masses are the primary lines of defense. The NJDA's Spotted Lanternfly website has more information on insecticide use and efficacy for both [homeowners](#) and [licensed commercial businesses](#).

— Anne Nielsen (Associate Extension Specialist in Entomology) and George Hamilton (Extension Specialist in Pest Management)

## This vicious, tree-killing insect has been found in New Jersey



Additional information regarding this insect can be found at:

- New Jersey Department of Agriculture
- The Pennsylvania Department of Agriculture
- Penn State Extension
- Cornell University

## **May 2021 Update**

**George Hamilton at May 2021 General Meeting Master Gardeners of Somerset County.**

