Spotted Lanternfly in West Virginia

The spotted lanternfly (*Lycorma delicatula*, SLF) is an invasive insect native to Southern Asia that has rapidly become a nuisance pest in the United States. It was first detected in Pennsylvania in 2014 and since then, has spread across Pennsylvania and to many neighboring states, including West Virginia.

Background

The spotted lanternfly has the potential to infest over 70 species of trees and vines, but its preferred host is the equally invasive tree-of-heaven (*Ailanthus altissima*). You may also find this invasive pest on a wide range of fruit, ornamental and forest trees and vines, including grape, apple, birch, poplar, maple and walnut. Spotted lanternfly damages plants in three ways:

1) Sucking out the sap and weakening the plant so that its yield (ex.grapes) is reduced.

2) Secreting "honeydew" which increases the occurrence of sooty mold that blocks sunlight and inhibits photosynthesis - a vital process for trees and vineyard vines to grow and produce fruit and timber.

3) Stressing plants which allows other insects and pathogens to potentially damage and kill the plant.

They are also a nuisance when they hop and fly into people and aggregate in high populations. There is a lot that is unknown about this relatively new pest, but we do know that spotted lanternfly has the potential to cause severe economic and ecological damage to the urban landscape environment, agricultural industry and our native forests.

Key Identification Features of SLF

The spotted lanternfly has several different life stages that look different as the insect matures:

- Around April or May, the insect hatches from gray, putty-like egg masses that are laid on smooth surfaces like tree bark, landscaping materials and vehicles.
- Very small, black nymphs with white spots emerge from the eggs and molt two times before they develop into slightly larger red nymphs with white spots in mid-July.
- From July to September, adults can be found which are over an inch long and have spotted, tan wings with red wings hidden underneath. The adults aggregate in large groups where the slightly smaller males will flick their wings around females as they entice them to mate.

Fresh SLF egg mass showing the rows of eggs laid underneath the protective putty-like covering.

The fourth instar nymph of SLF which lacks wings and has a red body with white spots.

Adult SLF showing its red spotted hindwings which are usually folded and hidden underneath its tan forewings.

How to Identify the Tree-of-Heaven

Tree-of-heaven is large tree that grows very quickly. It can grow up to 60 to 80 feet in only a few years with some trees rapidly growing to 10 feet tall in only three years. The pinnately compound leaves can be over two feet long and contain between 10 to 40 oppositely arranged leaflets. The margins of the leaflets are smooth with a distinct notch at the base of the leaflet called a gland. When injured the tree smells like rotten peanut butter. Branches are alternate and start out as green succulent tissue before maturing and turning grey. Mature tree-of-heaven trees have distinct grey “cantaloupe skin” bark and will drop their leaves in fall. Their leaves turn bright yellow and drop before our native species’ do.

Management & Prevention

Check your property for spotted lanternfly, especially on tree-of-heaven. The insect will crawl up and down the trunk and likes to lay its eggs on the underside of branches in the canopy. Sticky paper bands can physically trap the insect at all active life stages. If you can reach them, you can scrape the eggs with a hard object to kill them. Chemical control with systemic insecticide applied to trees can kill large numbers of the insect and slow the spread.

Removal of tree-of-heaven might slow the spread of this new insect pest in our state. To remove tree-of-heaven, safely apply approved herbicides as a basal application or foliar spray while following the safety protocols on the pesticide label. Mechanically cutting down tree-of-heaven or using the cut stump method to apply herbicide will only produce more trees via root suckering.

Check plants, especially trees, purchased in areas with SLF before transporting them home. Spotted lanternfly can spread rapidly when introduced to new areas, especially if major highways or railways are in proximity. If visiting infested counties or states, check your vehicle for SLF before returning to non-infested areas. Avoid moving infested materials by burning or chipping yard waste on site.

Tree-of-heaven is the preferred host of spotted lanternfly. It has long compound leaves and colorful seed clusters.

Report it then Kill it!

If you have a sighting of spotted lanternfly, please report it to the WVDA invasive species detection email at bugbusters@wvda.us. Please take a photo and include as much detail about the location, date and insect activity as you can. You can also call to report SLF at 304-558-2212.

Sticky bands are an example of one of the trap types that can be applied to trees to capture spotted lanternfly at all active life stages as they crawl up and down the tree.

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304-558-2212 | bugbusters@wvda.us | https://agriculture.wv.gov/divisions/plant-industries/forest-health-protection/