Spotted Lanternfly

This publication is about a new invasive pest. The information provided here is current as of the publication date (Spring 2018) but may not reflect more up-to-date information.

The spotted lanternfly (*Lycorma delicatula*) is a sap-feeding insect pest native to eastern Asia. A shipment of stone contaminated with spotted lanternfly egg masses was imported from Asia to Berks County Pennsylvania, where inspectors observed them in 2014. Despite quarantine efforts, spotted lanternfly became established and has continued to spread, and in 2018, the quarantine includes 13 Pennsylvania counties. Specimens have been detected in New York and Delaware, and at least one population has become established in Frederick County, Virginia.

Spotted lanternfly feeds in large groups on a wide range of vines and trees including grapes, peaches, apples, walnut oaks and pines. Unlike the brown marmorated stink bug (*Halyomorpha halys*), the spotted lanternfly does not feed on fruits; instead it feeds on the stem or trunk, weakening the whole plant.

In addition, it produces a large amount of waste, called honeydew, which is very sugary. The honeydew sticks to leaves and fruits where it attracts other pests and promotes the growth of sooty mold, which contaminates and reduces the value of the fruit. The favorite host for the spotted lanternfly is tree of heaven (*Ailanthus altissima*), an invasive weedy tree that grows in disturbed areas on field edges and roadsides. Early research suggests that spotted lanternfly must feed on tree of heaven to reproduce and to gather the chemicals which make it poisonous. Tree of heaven has large compound leaves which release a strong unpleasant smell when crushed.

Figure 2. The adult spotted lanternfly at rest covers its brightly colored hind wings with its grey and black front wings. Photo by MTSOfan on Flickr.

Figure 3. Grey-brown spotted lanternfly egg mass. Photo by M. J. Raupp

Wounded Host Trees will Weep Sap, Leaving Wet, Dark Trails along the Trunk

In late fall, adult spotted lanternflies lay egg masses on host trees and nearby smooth surfaces including stone, furniture, structures, and vehicles. Freshly laid egg masses are about an inch long and have a grey mud-like covering which cracks over time. The covering eventually flakes off revealing 30-50 brown eggs which resemble seeds set in 4-7 rows.

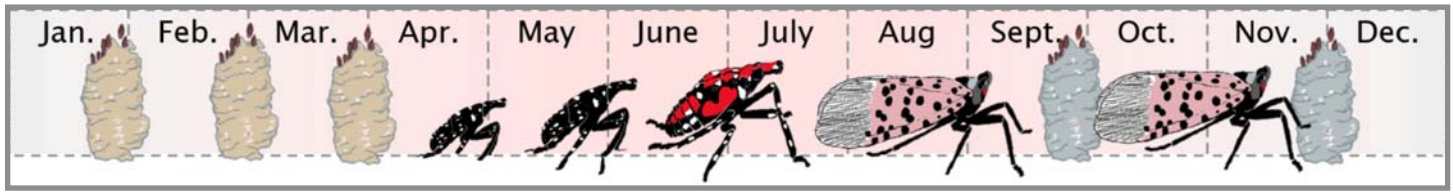

Figure 1. Spotted lanternfly life cycle. Nymphs appear in April and develop through midsummer, when they begin to molt into adults. Adults will lay egg masses throughout fall, and will die by the start of winter. Egg masses will last through winter and hatch the following spring.

Young immature stages resemble a large black aphid with white spots, and develop bright red patches in the last mature stage. Adults have four wings which they fold across their back while resting (Figure 1). The outer wings are grey with black spots and have a brick-like pattern at the wing tips. The hidden underwings have brightly contrasting large patches of red, black, and white. The legs, head, and body of the adults are black, with a pronounced yellow belly and sides that is visible by late September (figure2).

What do you do if you Find a Spotted Lanternfly?

Spotted lanternfly has not been detected in Maryland, and early detection will aid in quarantine and management efforts. If you believe you have identified a spotted lanternfly in Maryland, collect a specimen of any life stage and bring it to your local University of Maryland Extension Office or the Maryland Department of Agriculture for confirmation. If you cannot collect a specimen, submit a high-quality photograph to your local extension office. If you find a spotted lanternfly in Maryland, you should attempt to kill it.

Control Options Range from Crushing to Insecticides

If there are only a few insects, you can kill them by crushing them. Insecticides will kill adults and nymphs, but since this pest is new, there are no products labelled specifically for use against spotted lanternfly. Federal law requires that insecticides and other pesticides list the sites where they can be used, and it is legal to use these products on the listed sites to control spotted lanternflies in Maryland. When selecting an insecticide, choose one labelled for the site where you will be applying it. Take the time to read the label carefully and follow the directions. You are required by law to apply insecticides according to the directions on the label. This increases your safety, the safety of the environment, and the effectiveness of the insecticide.

Penn State Extension is testing insecticides to determine which are most effective at controlling adult spotted lanternflies. Preliminary results show insecticides with the active ingredients *dinotefuran, imidacloprid, carbaryl, pyrethrin, and bifenthrin* can provide effective control. Neem oil and insecticidal soap can provide some control, but soaps do not appear to control adults. The University of Maryland does not endorse any product or manufacturer. Not all products have been tested against the spotted lanternfly specifically, and additional research is ongoing to determine efficacy.

Establishing Trap Trees is an Efficient Method of Targeting Spotted Lanternflies

Because all life stages of the spotted lanternfly strongly favor tree of heaven, treating these trees with a systemic insecticide is an effective way of providing prolonged control. Killing 90% of the tree of heaven on a property will concentrate the insects on the remaining 10% of the trees. Treating these remaining “trap trees” targets the insects that gather there. Apply the insecticide to trap trees between May and August. Pennsylvania Department of Agriculture uses bark spray products containing Dinotefuran. When the adult spotted lanternflies start visiting the trap trees to feed in August, the insecticide will kill them. Tree of heaven can be very difficult to remove, and may require repeated efforts and monitoring. Contact your local Extension Office for recommendations on removal. The targeted trees solution has the potential for long-term control.

Peter Coffey
plcoffey@umd.edu

This publication, Spotted Lanternfly (EB-44), is one of a series of publications of the University of Maryland Extension and the Agriculture program.

The information presented has met UME peer review standards, including internal and external technical review. For more information on related publications and programs visit: http://extension.umd.edu/topics/agriculture

For more information on this and other topics, visit the University of Maryland Extension website at extension.umd.edu