

Timely Viticulture

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- Mid Season
- Pre-Harvest
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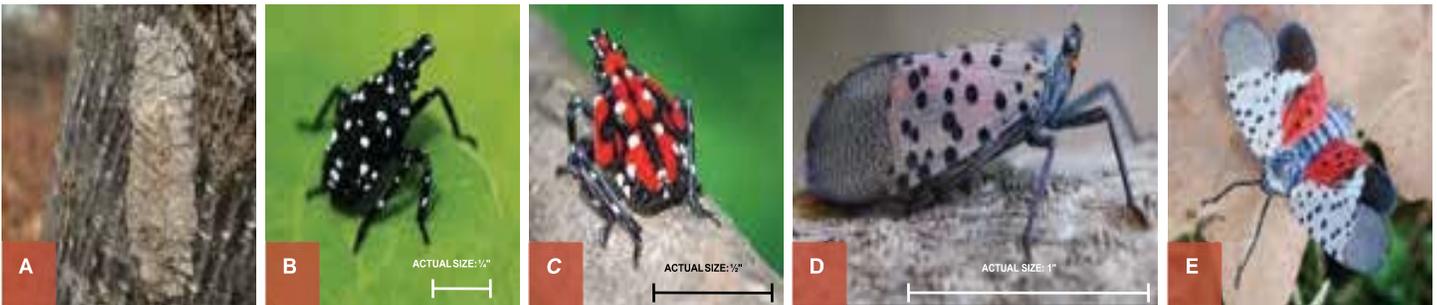
"Timely Vit" is designed to give those in the Maryland grape industry a timely reminder on procedures or topics they should be considering in the vineyard.

Joseph A. Fiola, Ph.D.
Specialist in Viticulture and Small Fruit
University of Maryland Extension

Spotted Lanternfly (SLF) II Scouting and Management

By Joseph A. Fiola, Ph.D., Specialist in Viticulture and Small Fruit
Kelly Hamby, Ph.D., Assistant Professor, Entomology

The Spotted Lanternfly (SLF) is not currently a problem in Maryland, but has the potential to be a very significant pest. For background information, please see the *TimelyVit Spotted Lanternfly (SLF) I—Background*, for basic information. This *Timely Viticulture* was created to give growers information of how to scout for the pest and some management options and strategies. Regrettably, it must be stressed from the beginning that this is a new "introduced" pest and very little is currently known of its biology and control.



Scouting SLF

- Overwintering egg masses are commonly found on grapevine trunks and Tree of Heaven (TOH) but also on objects such as rock, vehicles, etc.
- Old egg masses appear as rows of 30-50 brownish seed like deposits in 4-7 columns on the trunk, in a mass that is roughly an inch long (figure right).
- When egg masses are located, destroy by scraping into a container with 70% alcohol and removing from the vineyard.
- The emerging nymphs move from the surround woods and TOH to grape and other hosts. Young immature stages (1-3 instars) resemble a large black aphid with white spots (figure B); the final most mature immature stage (4th instar) develops bright red patches and are over 1/2" long (figure C).
- Nymphs and adults are vascular feeders (phloem and xylem) so they will primarily be found on trunks, cordons and canes; they are NOT typically found on the foliage; all 4 immature stage of SLF can feed on grape wood.



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UNIVERSITY OF
MARYLAND
EXTENSION

Western Maryland Research & Education Center
18330 Keedysville Road • Keedysville, MD 21756-1104
jfiola@umd.edu • <http://extension.umd.edu/smallfruit>

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Spotted Lanternfly (SLF) Part II

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Mid-Season Thru Harvest

- Early in the fall the adults will heavily congregate on stems of Tree of Heaven and grape (figure G).
- The adult SLF is approximately 1" long and 1/2" wide. The forewing is grey with black spots and gray tips; the hind wings have patches of red and black separated by a white band (figure E). The abdomen is yellow with broad black bands (figure E).
- Sooty mold patches on clusters and leaves can be a sign of feeding.
- In late fall, search and destroy efforts should switch to location of egg masses. Adults lay egg masses on trees and nearby smooth surfaces, like stone, outdoor furniture, vehicles, and other structures.
- Newly laid egg masses have a grey pitch like covering over the eggs (figure A).



Management

- Small populations can be crushed or swatted by hand
- Insecticides will kill adults and nymphs, but since this pest is new, there are no products labelled specifically for use against spotted lanternfly.*
- Penn State Extension is testing insecticides to determine which are most effective at controlling SLF; many insecticides are effective in killing this pest.
 - ◇ There are no formal insecticide recommendations at this time however insecticides with the active ingredients acetamiprid (Assail), bifenthrin (Brigade), dinotefuran(Venom/Scorpion), imidacloprid (Admire Pro), carbaryl (Sevin), malathion (Malathion), pyrethrin (Pyganic), and thiamethoxam (Actara), can provide effective control. (Not all products have been tested against the Spotted Lanternfly specifically, and additional research is ongoing to determine efficacy.) **Always follow the label and rotate chemical classes appropriately.**
 - ◇ Neem oil and insecticidal soap can provide some control, but soaps do not appear to control adults.
- Application of insecticides may kill SLF within the vineyard, but be aware that reinfestation of SLF from the surrounding woodlot is possible.
- Since it is such a new pest in the states, not much is known about its natural enemies.

Population Management Utilizing Tree Wraps/Banding

- The immature SLF do not fly, so they must walk up their host (vines/tree).
- There has been some success (with trees) trapping the SLF on sticky bands placed around the circumference of the tree. Insect walk onto the band and are trapped.
- This can be effective in trapping and reducing the population, although we are not sure if it will work with grapvines with irregular flakey bark.

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Spotted Lanternfly (SLF) Part II

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Mid-Season Thru Harvest

Population Management Utilizing Trap Trees

The object of trap crops (or in this case trap trees) is to selectively attract the insects to the trap tree and then apply a control tactic to that tree(s), thereby reducing the population before it can move to your crop. Trap crops/trees are most effective when there is a primary preferred host of the pest, so it should be an efficient method of targeting SLF because all life stages strongly favor the Tree of Heaven.

Specific Trap Tree Technique

- Kill 90% of the TOH on the property to concentrate the insects on the remaining 10% of the trees.
- TOH 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. (<https://extension.umd.edu/hgic/problems/tree-heaven-ailanthus>)
- Treat the remaining “trap trees” to target 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.

** 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. Always read the label carefully and follow the directions.*

Resources:

- <https://extension.psu.edu/spotted-lanternfly>
- <https://extension.umd.edu/hgic/problems/spotted-lanternfly>
- <https://extension.umd.edu/hgic/problems/tree-heaven-ailanthus>
- <http://mda.maryland.gov/plants-pests/Pages/spotted-lantern-fly.aspx>
 - ◊ MDA (410) 841-5920; DontBug.MD@maryland.gov
- <https://extension.psu.edu/tree-of-heaven>

Sources:

- Penn State University Faculty: Julie Urban, Erica Smyers, Heather Leach, Michela Centinari, Dave Biddinger, Greg Krawchek, Michael Saunders.
- Penn State University Website <https://extension.psu.edu/spotted-lanternfly>.
- University of Maryland Home Garden Information Center
- Maryland Department of Agriculture



Tree of Heaven (TOH)
Compound leaf



Tree of Heaven (TOH)
Fruit/Seed

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