

RESOURCES FOR HOMEOWNERS ON SPOTTED LANTERNFLY

DO NOT REPORT SIGHTINGS OF SPOTTED LANTERNFLY IN BURLINGTON COUNTY. Our county is already quarantined and, therefore, reports are no longer necessary. Other quarantined counties include Camden, Gloucester, Hunterdon, Mercer, Salem, Somerset, and Warren.



Diagram courtesy of Cornell University. Photos: Egg Laying, Hatch and 1st Instar, 2nd Instar, Adults: Emelie Swackhamer, Penn State University, Bugwood.org; Eggs: Lawrence Barringer, PA Dept. of Agriculture, Bugwood.org; 3rd Instar: Dalton Ludwick, USDA-ARS/Virginia Tech; 4th Instar: Richard Gardner, Bugwood.org.

General

The main hub of resources on spotted lanternfly is available from Penn State and can be found at <https://extension.psu.edu/spotted-lanternfly-management-resources>, with the specific page for identification and management being here <https://extension.psu.edu/spotted-lanternfly-management-for-residents>. Individual description of these management strategies is described below, and corresponding resources are provided in each section.

(October to May) Scrape Egg Masses

Scraping egg masses is an effective way to slow the spread of spotted lanternfly by reducing the number of individuals emerging in the spring. Egg masses are laid on host plants, like tree-of-heaven, as well as an assortment of hard surfaces including rocks, cement blocks, etc. Egg masses can be either scraped away and permanently stored in an alcohol-based solution, like hand sanitizer, or they can be smashed. A brief video on the best practices for removal of spotted lanternfly egg masses can be found at <https://extension.psu.edu/how-to-remove-spotted-lanternfly-eggs>.



Photos of spotted lanternfly egg masses taken by Richard Gardner, bugwood.org (left) and Emelie Swackhamer, Penn State University, bugwood.org (right).

(May to October) Set-up Tree Traps

Sticky traps, when installed in a way that limits the risk to other insects and wildlife, are an effective and non-chemical way to catch and kill spotted lanternfly – particularly the nymphs (1st to 4th instar). Sticky traps are only recommended on trees with significant spotted lanternfly populations. The best time to place traps is from late April to June, when nymphs are most active. However, traps can be used on trees through late fall to catch adult spotted lanternfly too. Penn State Extension has detailed best practices for installing sticky bands and circle traps at <https://extension.psu.edu/using-traps-for-spotted-lanternfly-management>.



Photos of two styles of tree traps for effective trapping of spotted lanternfly. Left: sticky trap band on tree covered in chicken wire, photo by Elizabeth Finley. Right: funnel style trap wrapped around a tree, photo courtesy of Penn State.

(Year-round) Identify Tree-of-Heaven

Spotted lanternfly utilizes 70+ plant species as a host but favors the invasive tree-of-heaven (*Ailanthus altissima*). Other favored hosts include rose, grape, black walnut, river birch, willow, sumac, and silver and red maple. Spotted lanternfly is strongly attracted to tree-of-heaven so focus on these trees to have the greatest impact. If spotted lanternfly is not already present on your tree-of-heaven and removal is possible, this is the best course of action. If spotted lanternfly is present, proper identification of tree-of-heaven will allow you to target your efforts with either insecticide treatment or physical traps. Penn State Extension has an excellent resource on identifying tree-of-heaven at <https://extension.psu.edu/tree-of-heaven>. Note that it is important to distinguish between male and female tree-of-heaven if you intend to use the trap tree method, as described below.



Photos useful for identifying tree-of-heaven in fall and winter, during dormancy. Left: heart-shade bud scar visible when an entire leaf is removed from a branch, photo by Dave Jackson. Right: seeds, known as samaras or wings, found in clusters and visible on female tree-of-heaven throughout the winter, photo by Dave Jackson.



(May to October) Use Tree-of-Heaven as a trap tree

Spotted lanternfly is strongly attracted to tree-of-heaven and we can use this to our advantage. From late summer through winter you can easily distinguish female tree-of-heaven trees from male trees by the presence of seeds (known as samaras) which grow in clusters and hang throughout the tree. Use spray paint or other means to mark female trees. From July to September, apply systemic herbicides to these marked trees. Simply cutting them down will not kill the tree and will only encourage new growth from the base of the tree. Be prepared to treat the tree more than once to fully kill it. Do not hesitate to contact a professional pesticide applicator for help with applying these materials. A list of licensed tree experts in Burlington County is available at

<https://www.njtreeexperts.org/directory/showall-burlington.php>.

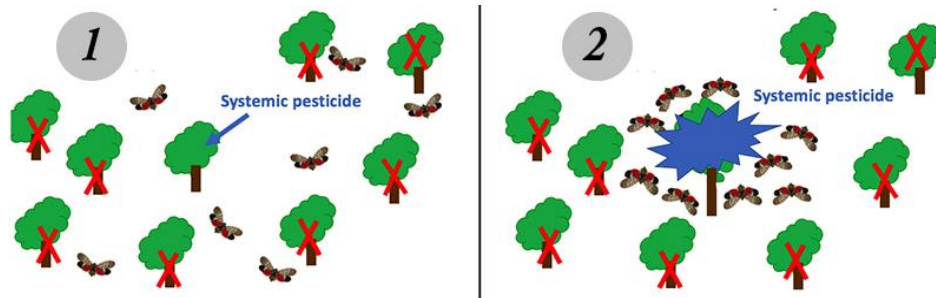


Diagram of the trap tree method courtesy of Cornell University and New York State IPM. 1) Female TOH are removed, male TOH are thinned, and systemic insecticide applied to remaining male trees. 2) Spotted lanternflies feed on the treated male tree and die after ingesting the insecticide. Image redrawn from illustration by E. Swackhamer and A. Corman.

environment, by targeting treatment to one or a few trees. Specific guidance on controlling tree-of-heaven can be found at <https://extension.psu.edu/tree-of-heaven> and guidance on the trap tree method is available on the second page of this document

https://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/Entomology/spotted_lanternfly/Documents/What%20to%20do%20if%20you%20find%20spotted%20lanternfly%20on%20your%20property%20fact%20sheet%20February%202017.pdf. Again, do not hesitate to reach out to a professional pesticide applicator for help with applying these materials.



Additional photos for help with identifying tree of heaven. Top: one leaf of tree-of-heaven. Bottom: textured bark of tree-of-heaven, photos by Dave Jackson.

By removing nearly all tree-of-heaven from a given area, adult spotted lanternfly will be attracted to the only remaining tree(s) – the trap tree(s). The trap tree(s) can then be treated with insecticides, as described in the diagram above and the link below. This method limits the use of insecticides in the



Treat preferred hosts with contact (May to October) or systemic (May to September) insecticides

If an area is infested with spotted lanternfly, host plants can be treated with insecticides. **Contact insecticides** will kill spotted lanternfly when it touches them. Some products have short residual activity and are most effective when contacting spotted lanternfly at the time of treatment; other products have longer residual activity and can kill spotted lanternfly over an extended period of time such as when they walk over a treated area. Alternatively, **systemic insecticides** are taken up and distributed throughout the plant and will kill spotted lanternfly when it feeds on any part of the plant (i.e. including areas that were not directly treated like the top of a tall tree).

It is possible for homeowners to safely apply materials as bark sprays, soil drenches, or direct sprays but should contact a professional applicator for products requiring tree injection. A list of licensed tree experts can be found here <https://njtreeexperts.org/index.php/directory-search>. Penn State Extension offers this table with contact and systemic insecticide options for homeowners to control nymphal and adult spotted lanternfly <https://extension.psu.edu/spotted-lanternfly-management-for-residents>. Note that imidacloprid, a systemic insecticide, should be applied from May to July and after bloom; dinotefuran, another systemic insecticide, should be applied July to September, also after bloom.

Important note: THE LABEL IS THE LAW. If you choose to apply insecticides and/or herbicides to manage tree-of-heaven or spotted lanternfly, you **MUST** only use the material on approved plants and for approved pests and follow the label instructions for personal protective equipment, application rate, and timing of application.