

Spotted Lantern Flies

Across the Northeast, Spotted Lanternflies (SLFs) are invading local trees, gardens, backyards, and open spaces. This pesky species can cause widespread agricultural damage with long-lasting effects on our native ecosystems and the economy.

An invasive species, SLFs were mistakenly introduced into the Northeast from their natural habitat in East Asia. With no predators and an exploitable niche, their population rose dramatically. At Robbinsville High School, members of Envirothon have noticed the problem, taken action. Since last year, we have taken key steps to tackle the problem. We have compiled a general overview of SLFs, so residents can easily identify the species. We have also constructed traps with the help of the Robbinsville Township Recreation; our simple design (adopted by Penn State) takes advantage of SLFs' instinct to climb trunks.

Below, we outline how you can manufacture and install SLF traps. Our resources detail SLF trap construction and installation, as well as links for additional information. If you have any further questions, be sure to contact us at robbinsville.envirothon@gmail.com. Stay tuned for the next edition!

General Information on Spotted Lanternflies

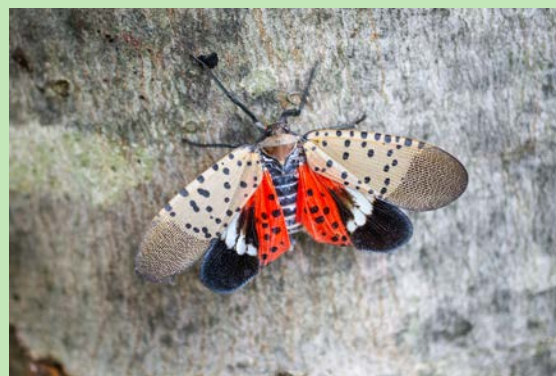
- **Origins:** SLFs are native to China, Vietnam, and some parts of India. Though not verified, it is suspected that they came to the US through egg masses attached to a shipment.
- **Description:** SLFs are about an inch long and have gray wings with black dots. Their hind wings are bright red, and they have heads and legs that are black.
- **Life Cycle:** SLFs have four stages with a life expectancy of 1 year. They start off as eggs. After hatching, they molt up to four times before reaching adulthood and laying eggs.
- **Diet:** SLFs feed on fruits, ornamental plants and woody trees.

Lanternfly Traps

There are various ways to kill SLFs, but mainstream solutions all have major environmental drawbacks. Soap-based sprays, commonly sprayed on egg masses, can kill trees and other insects. Killing SLFs at the expense of other pollinators, plants, and backyard-creatures is not the ideal solution. Chopping down infected trees and applying sticky bands to trees hosts the same problem. As a result, we have found a cheap, eco-friendly solution.

One of the most environmentally friendly ways of controlling the lanternfly population is building chemical-free lanternfly traps. We were able to manufacture several traps, proven to be effective. We used window screens, pieces of wood, staples, tape, milk jug caps, and plastic bags. Instructions to manufacture the trap are included below:

<https://extension.psu.edu/how-to-build-a-new-style-spotted-lanternfly-circle-trap>



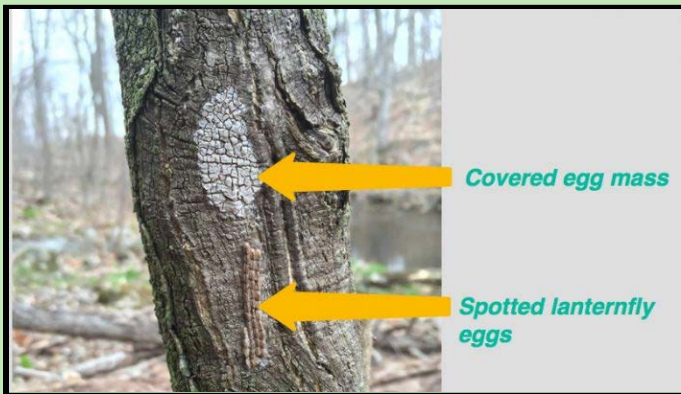
Joseph A Francese, Miriam F Cooperband, Kelly M Murman, Stefani L Cannon, Everett G Booth, Sarah M Devine, Matthew S Wallace, Developing Traps for the

Spotted Lanternfly, *Lycorma delicatula* (Hemiptera: Fulgoridae), Environmental Entomology, Volume 49, Issue 2, April 2020, Pages 269–276, <https://doi.org/10.1093/ee/nvz166>

This design exploits SLFs' natural tendency to climb trees. After hatching, they climb into the mesh cone, leading to a plastic bag. You can help control the increasing lanternfly population by constructing a SLF trap of your own and hanging it on infected trees.

Lanternfly Eggs

With winter approaching, SLFs are dying, but each produces 30-50 eggs. They will lay their eggs on any hard surface, such as plastic, wood, and metal. Particularly, trees, rocks, and fences are mass breeding grounds. SLF egg masses are usually thin, unevenly spread grayish splotches, about 1 by ¾ inches.



If you find lanternfly eggs:

1. Scrape the egg masses into a plastic bag using a flat object like a credit card.
2. Kill and dispose of the eggs by putting them in alcohol/hand sanitizer, or burning them.

Additional Resources:

How to scrape egg masses:

<https://extension.psu.edu/how-to-remove-spotted-lantern-fly-eggs>

Homeowner Resources:

<https://www.nj.gov/agriculture/divisions/pi/prog/pests-diseases/spotted-lanternfly/homeowner-resources/>

Build your own traps

<https://extension.psu.edu/how-to-build-a-new-style-spotted-lanternfly-circle-trap>

Remove SLF eggs

<https://extension.psu.edu/how-to-remove-spotted-lantern-fly-eggs>

<https://nysipm.cornell.edu/environment/invasive-species-exotic-pests/spotted-lanternfly/spotted-lanternfly-ipm/management-destruction-egg-masses/>