NC STATE EXTENSION

Spotted Lanternfly

Homeowner Management Guide

Introduction

Spotted lanternfly (SLF) is an invasive insect native to southeast Asia. Although SLF prefers to feed on tree-of-heaven—an invasive, non-native species—SLF also poses a significant threat to grapes, hops, stone fruit trees, ornamental trees, and a wide range of other agricultural and landscape plants. SLF was first detected in North Carolina in 2022.

Identification

Adults

- Large bodies (approx. 1 inch in length)
- Wings covered in black spots (Figure 1)
- Upper wings are light tan, lower wings are bright red (Figure 2)

Figure 1. Adult SLF (A. Ratcliff, NC State)

Figure 2. Adult SLF with hindwings exposed (A. Ratcliff, NC State)

Nymphs

- When small, black with white spots (Figure 3a & 3b)
- Older stages black and red with white spots (Figure 3c)

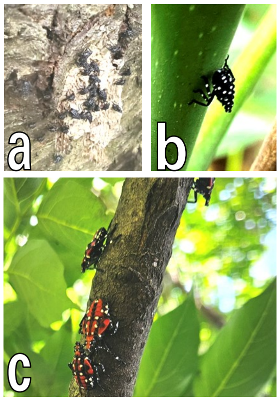

Figure 3. SLF nymphs at various stages of development (A. Ratcliff, NC State)

Egg Masses

- Rows of eggs covered in a tan-grey waxy coating (Figure 4)
- Freshly-laid egg masses are shiny and become dull over time (Figure 5)
- Size varies, most are around 1 inch long and 1/2 inch wide
- Laid on any textured surface (i.e. trees, plants, firewood, stone, landscaping materials patio furniture)

Figure 4. Freshly-laid SLF egg mass (A. Ratcliff, NC State)

Life Cycle

SLF survive the winter as egg masses and hatch in early spring (Figure 6). In North Carolina, nymphs are present and feeding from late March through the end of July.

Figure 5. Older, hatched SLF egg mass (A. Ratcliff, NC State)

Adult SLF emerge at the end of June. This is the most obvious of its life stages due to their size and dense aggregation on trees.

Egg-laying begins mid-September and continues until late fall (around mid-November).

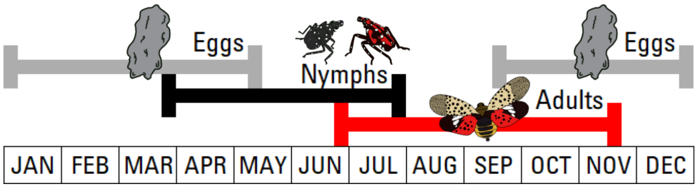

Figure 6. SLF life stages throughout the year (A. Ratcliff, NC State)

Management

Unmanaged SLF populations can reduce fruit production, kill grapevines, and stress trees making them susceptible to other pests. In addition, SLF are an extreme nuisance. They aggregate in large numbers and produce sticky honeydew which attracts stinging insects and can cause the growth of sooty mold.

Methods for managing SLF vary based on the life stage present. At any life stage, prevent spreading SLF by checking for hitchhikers on vehicles and outdoor equipment and supplies when entering or leaving an area with SLF.

Updated 05/2025

Egg Masses

Management of egg masses should take place from September to March before they hatch. Destroying egg masses will reduce the number of SLF the following year.

Crush egg masses to pop the eggs.

Scrape egg masses off surfaces with a knife or credit card into a tub of soapy water or rubbing alcohol.

Spray **horticultural oil** onto egg masses to reduce gas exchange through the outer coating. This smothers the nymphs developing inside the eggs. Oil should completely coat the egg masses. This treatment also works for nymphs and adults.

Install **lampshade traps** (Figure 7) to encourage egg laying. This may seem counter-intuitive, but these traps consolidate a large number of egg masses into one, easy-to-access area that can be removed and destroyed.

Figure 7. Lampshade trap (A. Ratcliff, NC State)

Nymphs & Adults

Management of nymphs and adults should take place from March to November with knowledge of what life stage to look for (black nymph, red nymph, adult).

Stomp SLF on the ground or at the base of trees.

Install **sticky bands** (Figure 8) on tree trunks. Sticky bands trap SLF with adhesive but can also catch other animals. Using bird scare tape can prevent birds and lizards from getting stuck. Change tape regularly for the highest effectiveness.

Figure 8. Sticky band with stuck SLF (A. Ratcliff, NC State)

Capture individuals using a **vacuum** and empty them into a bucket of soapy water. Any wet/dry vacuum or household vacuum with a hose attachment will work.

Spray **insecticidal soap** onto individuals. Insecticidal soap disrupts the cell membranes of the insect. They work best when the insect is coated completely.

The use of **contact pesticides** by a licensed applicator as a "knockdown" treatment will reduce SLF populations temporarily. The treatment may need to be repeated.

Host Plants

SLF populations can also be controlled by limiting access to host plants.

Identify and **remove** tree-of-heaven trees and other hosts.

Treat trees with **systemic insecticides.** A trap tree is a tree–often tree-of-heaven–intentionally left to lure SLF away from other plants. When they feed, the pest dies, reducing their population. The application of systemic pesticides should be performed by a licensed professional.

Notes

Apply all chemical control methods according to the rates, sites, and information on the label. Pesticide labels aren't just guidelines—they're legal requirements. Always read and follow them carefully.

Want to learn more?

Visit

https://forestry.ces.ncsu.edu/forestry-health/spotted-lanternfly/

- OR -

Contact your County Extension Agent at

https://www.ces.ncsu.edu/local-county-center/?ask

Have you seen SLF?

Submit a sighting to the NCDA&CS Reporting Tool

- OR -

Email badbug@ncagr.gov

Scan to Report Sightings