NC STATE EXTENSION

Spotted Lanternfly

Installing Lampshade Traps

Introduction

Figure 1. Adult spotted lanternfly (A. Ratcliff, NC State)

Spotted lanternfly (SLF) (Figure 1) 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.

Life Cycle

SLF survive the winter as egg masses and hatch in early spring (Figure 2). In North Carolina, nymphs are present and feeding from late March through the end of July.

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).

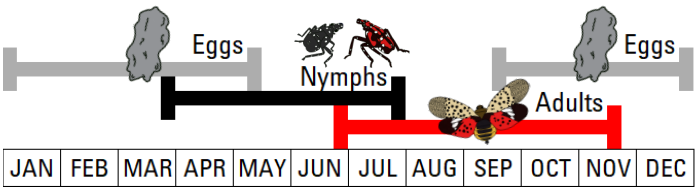


Figure 2. SLF life stages throughout the year (A. Ratcliff, NC State)

Egg Masses

- Rows of eggs covered in a tan-grey waxy coating (Figure 3a)
- Freshly-laid egg masses are shiny and dull over time (Figure 3b)
- Size varies, most are around 1 inch long and 1/2 inch wide

Figure 3. SLF egg masses (A. Ratcliff, NC State)

- Laid on any textured surface (i.e. trees, plants, firewood, stone, landscaping materials, patio furniture), allowing them to be moved easily

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.

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. Although the egg masses are fragile and easy to **crush or scrape**, SLF are able to lay them at any height, making them hard to reach.

Lampshade Traps

Figure 4. LST installed on red maple (A. Ratcliff, NC State)

Lampshade traps (LSTs, Figure 4) are an artificial SLF egg-laying habitat that do not use a lure or bait of any kind. LSTs are a low-cost, non-chemical method for reducing SLF populations in your yard. LSTs are a two-part structure made of asphalt shingles and installed at breast height (4 to 5 feet). The rough texture and refuge they provide from predators make LSTs an attractive spot for egg-laying, while the height and materials make them easy to remove and destroy.

Updated 05/2025

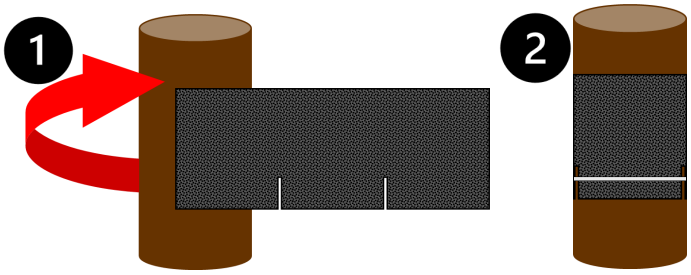
Materials

- 3-tab asphalt shingles or adhesive shingle starter roll
- Manual staple gun with staples or 36-inch duct zip ties
- 1-inch polyester batting, cut into 3-inch-wide strips
- Knife or shears

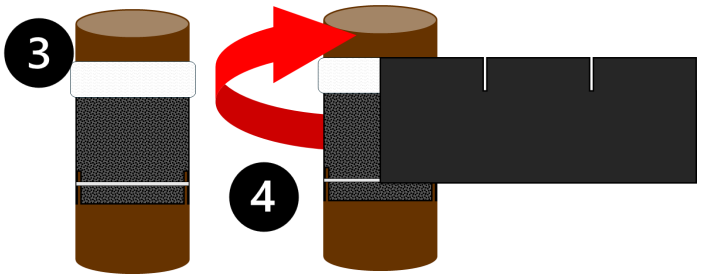
Installation

Traps should be installed after adults have emerged, but before egg-laying begins (Independence Day to Labor Day). Select trees with SLF activity with preference for tree-of-heaven. Trees 6-10 inches in diameter, with no low branches make for easy installation.

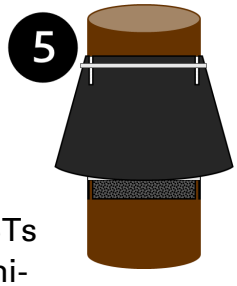
1. Rough-side out, wrap a shingle snugly around the tree at a comfortable height, cut excess material
2. Fasten at the bottom with staples or a zip tie



3. Wrap batting snugly around the top of the shingle, cut excess material. Tuck the tail of the batting between itself and the shingle to secure
4. Rough-side in, wrap a second section of shingles around the batting, allowing it to tent away from the first layer, remove excess



5. Secure the top of the outer layer with staples or a zip tie



Monitoring

Due to a lack of lure or bait, LSTs can be used without close monitoring. If you are interested in tracking egg-laying, check traps every few weeks by shining a flashlight into the open space between the layers to look for egg masses.

Take-Down

LSTs should be left up until the end of the egg-laying season (mid-November) but taken down before the egg masses hatch the following year (end of March).

Figure 5. Asphalt from LST covered in SLF egg masses (A. Ratcliff, NC State)

LSTs can be taken down by removing the zip ties with scissors or staples with a staple-remover or flathead screwdriver.

After removal (Figure 5), crush or scrape the egg masses to destroy the eggs before properly disposing of the shingles. Many county waste centers accept building material drop-off from county residents and a growing number of counties have resources for recycling shingles into asphalt for North Carolina roadways.

Notes

Do not dispose of your LST materials without first destroying the egg masses. Doing so can spread SLF outside of its current distribution.

Bag LST materials before disposal as added protection from undamaged eggs

Do NOT burn asphalt shingles. Burning shingles releases toxic chemicals into the air and is prohibited.

Want to learn more?

Visit forestry.ces.ncsu.edu

- OR -

Contact your County Extension Agent at

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