



Best Management Practices for Spotted Lanternfly in Yards and Landscapes

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Introduction

Spotted lanternfly (SLF) can be successfully controlled with best management practices in yards, landscapes, and other public areas where it is a nuisance. The key to success depends on the use of effective chemicals or biological controls and the proper timing of application. Since SLF is highly mobile and can easily move from tree to tree, or from the ground up into trees, it is important to monitor SLF populations throughout the year. Be aware that SLF will likely move from unsprayed areas into treated areas after the treatments dissipate.

Identification and Detection

November through early April Look for SLF egg masses (Fig. 1) on branches and trunks of trees. Egg masses are also laid on rocks, logs, lawn furniture, and any object outdoors. Female spotted lanternflies may lay their egg masses close together.



Figure 1. Spotted lanternfly egg masses on tree trunk (Eric Day, Virginia Tech).

Mid-April to mid-July Check for SLF nymphs. Young SLF nymphs are black with white spots (Fig. 2). Mature nymphs develop their red coloration in June (Fig. 3). Look for SLF nymphs on tree of heaven, maples, walnuts, and grapes, but SLF can be found on many different host plants.



Figure 2. Young spotted lanternfly nymph (Eric Day, Virginia Tech).



Figure 3. Mature spotted lanternfly nymph with red coloration (Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org).

The adult spotted lanternfly (Fig. 4) has large black spots on the front part of the wings and broken dark lines at the wingtips. It measures about 1" (2.54 cm) long with 1.5" (3.8 cm) wingspan. At rest, the wings are folded tent-like over the body.



Figure 4. Adult spotted lanternfly (Emellie Swackhamer, Penn State University, Bugwood.org).

SLF Control by Time of Year and Life Stage

November through early April Scrape and destroy all the egg masses within reach. Apply dormant oil or horticultural oil directly on egg masses higher up in tree canopies from mid-February to early April, beginning when overnight temperatures do not go below freezing the first night after application. Do not use after budbreak in the spring. Oil sprays are considered organic insecticides.

Mid-April to mid-July From May through early July, apply contact insecticides or biological controls as spot sprays to trunks, branches, and foliage of ornamental and shade trees where SLF nymphs are found using the materials listed below. Treating the entire tree or yard is not recommended. Repeat treatments in the fall if necessary.

Contact sprays (organic options in *italics*):

- Bifenthrin
- Carbaryl
- Zeta-cypermethrin
- Malathion
- Tau-fluvalinate + tebuconazole
- *Neem oil*
- *Natural pyrethrins*
- *Insecticidal soap*

Fungal preparations such as *Burkholderia* spp. strain A396 (Venerate XC), an organic, biological control option, can be applied from early May to early June.

Mid-July to September Apply systemic insecticides such as dinotefuran or imidacloprid as a

soil drench or trunk spray from the middle of July to September. Only use systemic insecticides after the treated plant is done flowering for the year.

Notes on Control

Contact insecticides should be used as a spot spray for clusters of SLF nymphs or adults found on trees, shrubs, or other vegetation. The products listed above are effective, but SLF is highly mobile and will likely move from untreated areas into treated areas after the insecticide wears off.

Systemic insecticides, regardless of the application method, should be used after the tree or shrub has finished flowering to protect pollinators.

Neither contact nor systemic insecticides are recommended for egg masses, which are physically protected against chemical treatments.

Some horticultural oils and paraffinic oils can be used as spot sprays on egg masses in the growing season, but these materials should be tested on a few tree branches first to make sure it will not harm the tree. Wait two weeks and retreat the entire tree if no damage is observed. Oil sprays cannot be used as a preventative application to a tree against egg-laying by SLF; this is not effective.

Fungal preparations such as *Burkholderia* are limited by environmental conditions such as moisture levels and temperature. Fungal preparations are slow-acting, and control may not be apparent for several weeks. Also, SLF is highly mobile and will likely move from untreated areas into the treated areas over time.

For more information on recommendations for spotted lanternflies, see the [Virginia Cooperative Extension Pest Management Guide to Home Grounds and Animals](#).

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