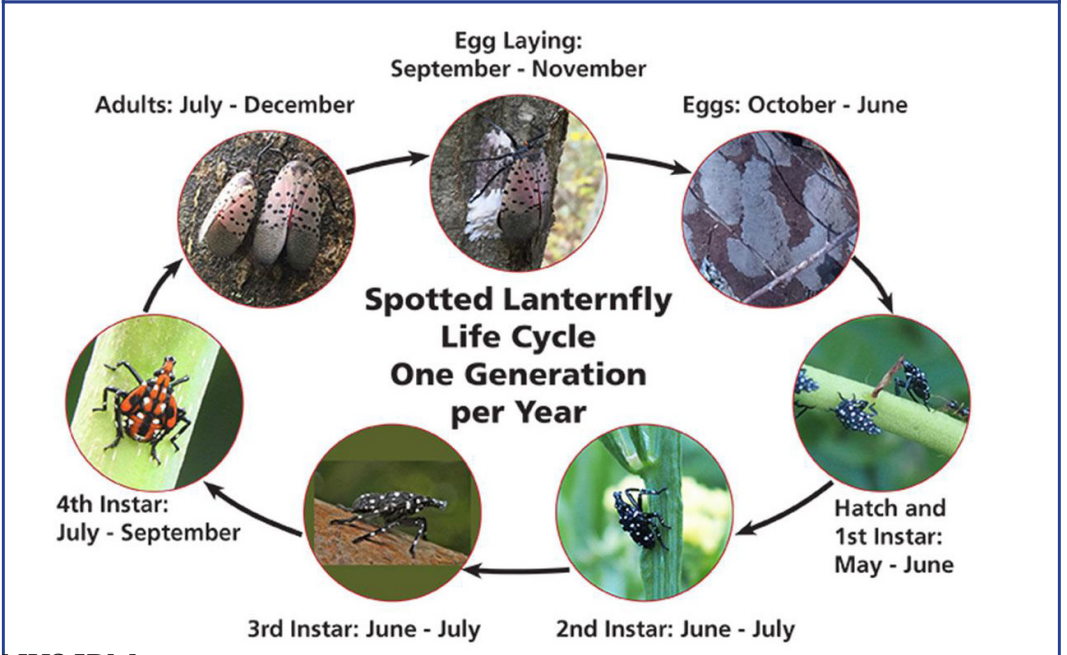
Lake Erie Regional Grape Program's

Spotted Lanternfly Pocket Guide



NYS IPM

Report sightings:

New York

Pennsylvania

1 888 4 BAD FLY(1-888-422-3359)

Keep this quick reference book so you know what to do. QR codes inside for more info.

Lake Erie Regional Grape Program

Cornell University Cooperative Extension

PennState Extension

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This grant was awarded to aid in the increase of awareness of the identification and management strategies to control Spotted Lanternfly as it makes its way into New York State and the Lake Erie Region.

Special thanks go to New York State IPM and Penn State Extension who have both built comprehensive management guides that served as useful tools in the development of this pocket guide.

Penn State Management Guide:

NYS IPM Spotted Lanternfly Fact Sheet:

Many thanks to the amazing photographers of SLF for the photos used in this publication:

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(egg mass comparison)
Emelie Swackhamer
(egg mass comparison)
Brian Walsh (nymphs on roses)
NYS IPM
Jeffrey David Ringer/Shutterstock
(first stage nymphs on cement)
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Penn State Extension
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Scouting Tips


Management Options


Scouting Timing

Icons designed by Flaticon

Egg Masses

October - June

Heather Leach

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Egg Masses

October - June

Egg masses look like a splotch of mud. Eggs are laid in 1-2 inch long segmented rows and covered with a waxy covering that start white, then change to gray or brown; egg masses may contain up to 60 eggs but average about 30.

Eggs can be laid on any hard surface, but are most common on host trees and vines, posts or other structures near fall host plants. Preferred hosts include grapes, tree of Heaven (TOH), red maple, silver maple, and willows, but eggs can be placed on any species or object.

They are often deposited in sheltered locations, be sure to look on the underside of branches and structures.

Egg masses can be scraped and destroyed by thoroughly smashing them or placing eggs into an alcohol solution. More info can be found by scanning the QR code. (PSU SLF Management Guide)

Hatched egg mass next to weathered egg mass

For agricultural purposes it is recommended to treat the nymph stage in the spring/early summer with an insecticide. This is more practical than trying to neutralize eggs on a large scale.

Nymphs

First - Third Instars

May - July

NYS IPM

NYS IPM

Brian Walsh

1/2”

1/4”

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Nymphs

First - Third Instars

May - July

Eggs begin to hatch in May. First, second and third instar nymphs are 1/8-1/2 inch long and are black with white spots. This stage is sometimes mistaken for ticks. They feed on sap from the tender new growth of herbaceous and woody plants. Nymphs ingest less volume of sap than the adults but can still damage perennials and annuals and cause dieback of individual tree branches if present in large numbers.

Nymphs can be found on new growth of shrubs and trees, they feed on sap from the tender new growth of herbaceous and woody plants. They move a lot when not feeding and are strong jumpers.

Look for honeydew, or wet spots, when scouting, early nymphs prefer roses if available.

Contact insecticides can be used to control nymphs after hatch with consideration to protect pollinators. Blooming plants should not be sprayed.

Sticky bands and circle traps can be used for monitoring, but are only effective if the nymphs are moving up that particular tree and can be harmful to beneficial insects, birds and mammals.

More info on possible insecticides for the nymph stage can be found using this QR code.

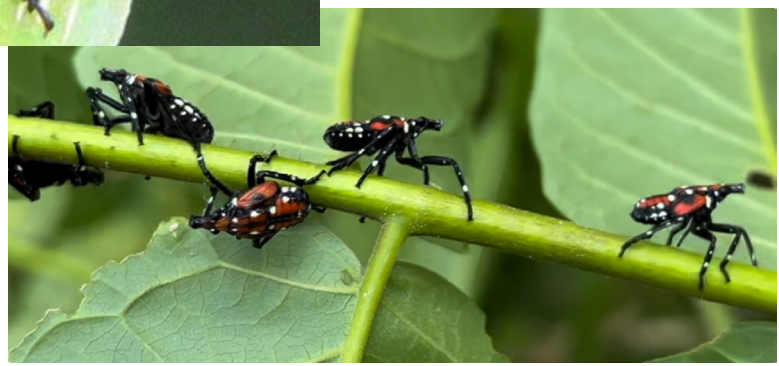
Nymphs

Fourth Instars

July - September

NYS IPM

Stephen Ausmus, USDA-ARS



3/4”

1/2”

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Nymphs

Fourth Instars

July - September

Fourth instar nymphs differ from the earlier stages by size and color. They are 1/2-3/4 inch long, are red with white spots and black stripes, and are capable of and more likely to feed through the bark of trees and cordons.

Can be found on new tender growth and the more woody portions of plants. Tree of Heaven is a preferred host for all stages, but the black walnut becomes more strongly preferred for this stage.
They are strong jumpers and tend to congregate when feeding.

Contact insecticides can be used to control 4th instar nymphs with consideration to protect pollinators. Blooming plants should not be sprayed.

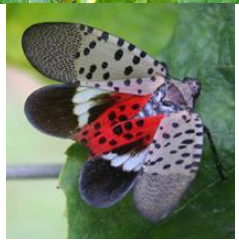
Sticky bands and circle traps can be used for monitoring this stage as well.

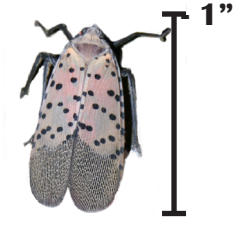
More info on IPM for the nymph stage can be found using the QR code.

Adults

July - December

underside of SLF adult





1”

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Adults

July - December

Adults present a threat throughout United States agriculture. The greatest concern falls on grapes and to a lesser degree, hops.

Although all stages of SLF are voracious feeders using specialized mouthparts that pierce the plant and suck up sap, adults are much larger and excrete copious amounts of honeydew while feeding. This sticky sweet substance attracts other insects and may encourage the growth of sooty mold.

Adults are the only stage with wings and can fly. They have hind wings with red patches, and gray forewings with black spots and veins. Adults are about 1" long and are good jumpers but clumsy flyers.

Look on twigs, branches and trunks of woody plants (trees, vines and shrubs). Preferred host plants are TOH, grape vines, Black Walnut, Butternut, River Birch, Willow, Staghorn Sumac, Red and Silver Maple. This list is not exhaustive - scouting trees is recommended.
Locating honeydew - wet areas on leaves, or leaves blackened by sooty mold - can be a tell tale sign.

Circle and sticky traps can be used to monitor for SLF adults. People have used backpack vacuums to suck up adults and nymphs but it does not offer a large impact.
Contact and systemic insecticides are approved for treatment.
Always read the entire label of the specific insecticide you intend to use and follow the directions. Be sure that the pest and the crop are listed. More information can be found by using the QR code.

Tree of Heaven

Year Round

Tree of Heaven

Invasive species once widely planted as an ornamental shade tree. It has become very widespread and is a preferred host of all life stages of SLF.

Tree of Heaven (TOH) spreads by sending up root suckers as well as by seed distribution which can make it difficult to destroy. It produces allelopathic chemicals in its leaves, roots, and bark that can limit or prevent the establishment of other plants. It has very distinguishing characteristics that make it possible to identify in any season.

Leaves: pinnately compound - central stem with leaflets attached on each side that range from 1-4' in length with 10-40 leaflets with smooth edges and a bump or "thumb" at the base. When crushed they have a strong odor often compared to rancid peanuts.

Twigs: are alternate on the tree, lack a terminal bud, have large heart shaped leaf scars.

Seeds: female trees have 1-2" long twisted samara (wing) that are found in clusters. These are yellowish and as they mature have a pink hue so are easily recognized from a distance.

Bark: smooth and light brown to gray that resembles the rind of a canteloupe.

Tree: grows rapidly and can reach heights of 80 feet with a diameter up to 6 feet.

Mechanical methods of removal need to be either preceeded by a systemic herbicide treatment or followed by one due to the extensive root system.

Herbicides should be applied in mid to late summer to be taken into the root system. A comprehensive plan from Penn State Extension can be found at this QR code. This has method and chemical suggestions. Please remember to read all labels before using. The label is the law!