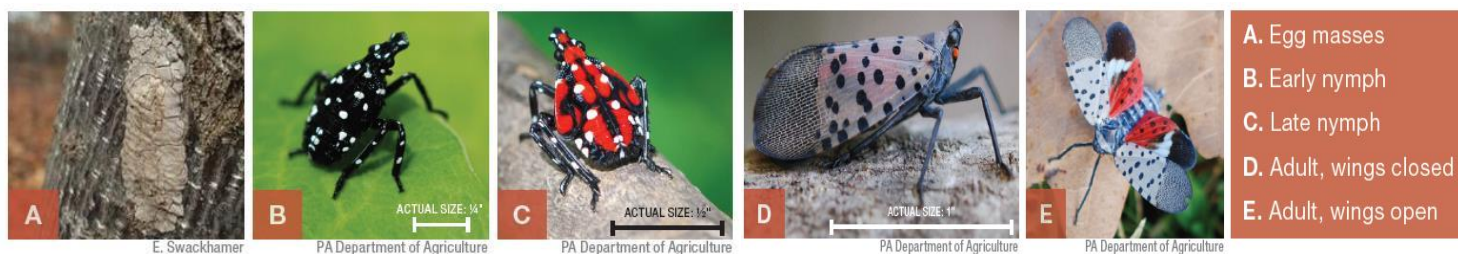


MEET THE NEW NEIGHBORS

- SLF are plant hoppers that suck tree sap, which stresses but won't kill mature healthy trees except the Tree-of-heaven
- Nymphs and adults change location frequently, so there is no way to eliminate them from your yard
- Controlling SLF will be an incremental process, but it can be done!
 - Remember we survived gypsy moth caterpillars defoliating the Northeast, brown marmorated stink bugs invading homes in droves to over winter; and still deer cause far more damage than SLF, but we adapt to their habits
- Things you can do in your yard to limit SLF impact
 - Eliminate favored hosts (Tree-of-heaven, wild grape, porcelain berries, wineberries, Asiatic bittersweet) **Read before cutting Ailanthus** <https://extension.psu.edu/tree-of-heaven> **PRETREAT AILANTHUS (TREE-OF-HEAVEN) BEFORE CUTTING DOWN**
 - Protect vulnerable plants with row covers

GOALS OF MANAGEMENT ARE TO LIMIT SLF DAMAGE AND SPREAD

- Different methods are used for different stages of the life-cycle



- Use the least toxic method to fit damage risk
- To assess risk, balance the number of SLF present (Low= occasional egg masses, nymphs, or adults; Tolerable= few egg masses, nymphs or adults; Undesirable=many egg masses, nymphs or adults, sooty mold; Intolerable=heavy adult and nymph feeding, lots of sooty mold) with kinds of plants in yard:
 - Lowest risk=Low numbers AND few SLF favorites (maples, willow, birch, ToH);
 - Moderate risk ranges across Tolerable and Intolerable numbers AND many favorites; trees already under stress (weather, diseases);
 - Highest risk= Intolerable numbers AND Proximity to young plants or vineyards.

CONTROL OPTIONS BY LIFE CYCLE STAGE

TOXICITY	Control Options	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
	 = WHEN TO USE												
LOW  HIGH	Don't move any life stage												
	Smash/squish egg masses												
	Circle traps or sticky traps with wildlife barrier												
	Contact insecticide (after SLF hatch and after plant to be treated finishes blooming)												
	Systemic imidacloprid (after plant to be treated finishes blooming)												
	Systemic dinotefuran (after plant to be treated finishes blooming)												

Egg masses-can be found on anything, so inspect materials before transporting to places currently without SLF (simple rule of thumb-outside of NJ and PA); Scrape egg masses into rubbing alcohol in sealable bag and discard in trash; treating without scraping does not work

Nymphs and Adults

- All stages can be squashed or trapped with sticky traps with wild-life shield and with circle traps
- Contact insecticides must be in contact with the insect to be effective and limited residual activity

Contact insecticide Active Ingredient	Potential Collateral Toxicity			Activity Against SLF	Residual Activity
	Birds	Fish	Bees		
Beta-cyfluthrin	M	H	H	Excellent	Excellent (Up to 2 weeks)
Bifenthrin	M	H	H	Excellent	Excellent (Up to 2 weeks)
Carbaryl	S	N	H	Excellent	Poor
Zeta-cypermethrin	S	H	H	Excellent	Poor
Malathion	M	H	H	Excellent	Poor
Neem oil*	–	H	H	Good	
Natural pyrethrins*	N	H	M	Excellent	Poor
Insecticidal soaps*	N	N	N	Good	Poor
Parafinic or horticultural spray oils*	–	–	–	Good	Poor
N- nontoxic; S=slight; M=moderate; H=high; - = no data. *Some products have organic labelling. Data shown are from completed experiments and are not necessarily comprehensive. Application may be to leaves, branches or trunk					

- Systemic insecticides are delivered to the sap and kill when the insect feeds

Systemic insecticide Active Ingredient	Potential for Collateral Toxicity			Application Method	Application Timing	Activity Against SLF	Residual Activity
	Birds	Fish	Bees				
Dinotefuran	S	S	H	Soil drench, trunk spray, or trunk injection	July to September	Excellent	Excellent
Imicloprid	M	M	H	Soil drench	After flowering to protect pollinators through June	Variable	Variable
				Trunk injection	July to September	Variable	Excellent

N- nontoxic; S=slight; M=moderate; H=high. * Data shown are from completed experiments and are not necessarily comprehensive.

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

Materials

TRAP - Two-gallon zip-type bag

FUNNEL-2 tops of plastic milk jugs, trimmed and glued together with one side flat and secured with tape

SKIRT-rectangle of fiberglass or other screening

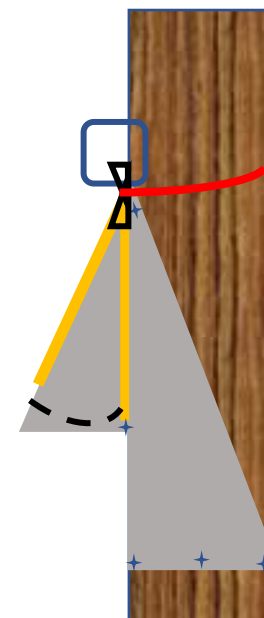
- Horizontal dimension should be $\leq$ circumference of the tree
- Vertical dimension should be 30 to 36 inches

SHORT PIECE OF WOOD-attach to outer part of skirt

LONG PIECE OF WOOD - attach to tree-side of skirt

WIRE HEM – any sturdy but bendable wire

Hot glue gun and finger protection; Scissors; Rubber band or zip tie; Push pins; string; office stapler (opens flat)



SLF menu selections change through the seasons- Place traps according to where you see them or on a seasonal favorite!

Host	Nymphs			Adults		
	May	June	July	Aug	Sept	Oct
Rose (wild and cultivated)	on the menu	on the menu				
Perennials	on the menu	on the menu				
Grape (wild and cultivated)	on the menu	on the menu	on the menu	on the menu	on the menu	on the menu
Tree-of-Heaven	on the menu	on the menu	on the menu	on the menu	on the menu	on the menu
Black Walnut Butternut		on the menu	on the menu	on the menu	on the menu	on the menu
River Birch			on the menu	on the menu	on the menu	on the menu
Willow			on the menu	on the menu	on the menu	on the menu
Sumac			on the menu	on the menu	on the menu	on the menu
Red and Silver Maples	on the menu			on the menu	on the menu	on the menu

= on the menu

Useful Websites

- NJ Dept Agriculture information for homeowners: <https://www.nj.gov/agriculture/divisions/pi/prog/pests-diseases/spotted-lanternfly/homeowner-resources/> (Main reference for this handout)
- Ailanthus trees identification and elimination: <https://extension.psu.edu/tree-of-heaven>
- Instructions for building circle traps: <https://extension.psu.edu/how-to-build-a-new-style-spotted-lanternfly-circle-trap>
- What does quarantine mean for residents? <https://www.nj.gov/agriculture/divisions/pi/prog/pests-diseases/spotted-lanternfly/assets/documents/Quarantine%20Plain%20Language%20for%20General%20Audience.pdf>
- Rutgers Publications and Fact Sheets <https://njaes.rutgers.edu/pubs/>
- Rutgers Soil Testing Laboratory <https://njaes.rutgers.edu/soiltestinglab/>

Contact the Master Gardener Helpline

- We answer gardening questions, identify insects and weeds, diagnose plant pests and diseases, and test soil pH
- You can purchase Rutgers Soil Laboratory soil test kits for \$20 (cash or check) to mail your soil sample
- You can reach us by email, phone or visiting the office:

Email: mgarden@co.monmouth.nj.us

Phone: 732-303-7614

Location: Rutgers Cooperative Extension
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PO Box 5033
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