GROWERTALKS

Pest Management

8/29/2025

Spotted Lanternfly Management Calendar for Ornamental Growers in the Southeastern U.S.

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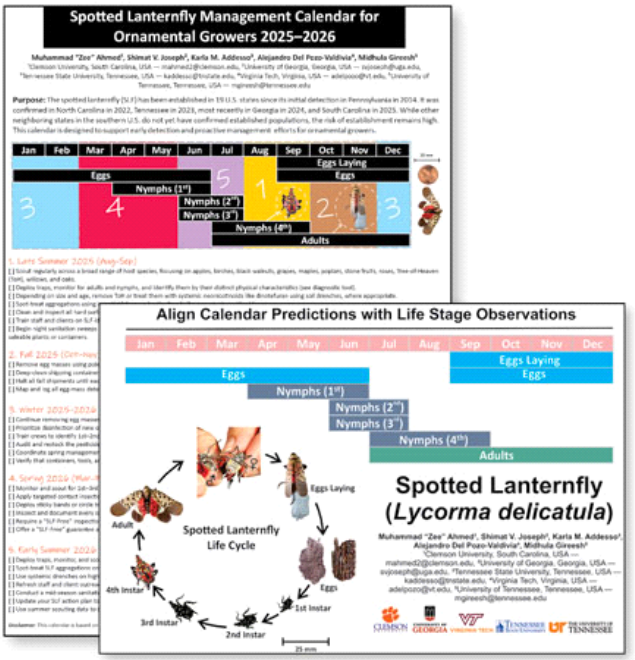

The spotted lanternfly (SLF) has been established in 19 U.S. states since its first detection in Pennsylvania in 2014. It was confirmed in North Carolina in 2022, Tennessee in 2023, Georgia in 2024 and South Carolina in 2025. While other neighboring states in the southeastern U.S. don’t yet have confirmed established populations, the risk of establishment remains high.

My colleagues—Dr. Shimat Joseph (University of Georgia), Dr. Midhula Gireesh (University of Tennessee), Karla Addesso (Tennessee State University) and Alejandro Del Pozo-Valdivia (Virginia Tech)—and I developed a management calendar to support early detection and proactive control efforts for ornamental growers in the Southeastern U.S. This seasonal framework offers practical guidance to help growers address SLF concerns proactively from late summer 2025 through summer 2026.

Top: Figure 1. SpottedLanternflyChecklistfor Growers (printable)

Middle: Figure 2. 2025–2026.Spotted Lanternfly Visual Identification Tool—Life Stages Aligned with Predicted Timeline.

Bottom: Figure 3. Step-by-step scouting guide for spotted lanternfly.

By combining daily scouting, stringent sanitation, targeted interventions and thorough documentation, ornamental growers could intercept every life stage before it threatens their stock or spreads beyond their nursery.

Seasonal overview

■ Late summer (August–September): Deploy traps such as canopy funnel, sticky-band and circle traps. Suppress adults and late nymphal stages. Treat Tree of Heaven (ToH) with systemic neonicotinoids or dinotefuran soil drenches. Spot-treat aggregations using insecticidal soaps, horticultural oils or contact pyrethroids. Begin nightly sanitation sweeps (i.e., end-of-day cleaning routine) to remove and destroy egg masses (i.e., clusters of 30 to 50 eggs in a gray, waxy matrix) and deter egg-laying, serving both curative and preventive purposes. While late nymphal stages may be visible, prioritize scouting for adults and early egg masses on saleable plants and hard surfaces to prevent regulatory action.

■ Fall (October–November): Remove and destroy egg masses where practical, deep-clean shipping materials. Ensure fall shipments are treated and inspected prior to release and document detections.

■ Winter (December–February): Conduct egg-mass surveys, continue egg-mass removal. Disinfect infrastructure to eliminate SLF egg masses and deter egg-laying further. Train on early-instar ID, restock contact insecticides and coordinate spring updates.

■ Spring (March–May): Scout 1st–3rd instars. Apply contact insecticides and integrate commercial formulations of *Beauveria bassiana* or other biorationals. Deploy traps such as sticky-band and circle traps. Document SLF-free stock and issue inspection certificates if, where and when required by state or federal SLF regulations.

■ Early summer (June–July): Deploy traps and monitor for late nymphal stages and adults. Spot-treat aggregations. Stay up to date with the latest extension and research resources. Audit sanitation and update the next cycle’s action plan.

Align your practices with the guidelines from state extension services and regulatory agencies, and train your team to identify and report SLF promptly.

Use the printable checklist as a combined effort of Clemson University, University of Georgia and University of Tennessee (Figure 1) to help organize and support key actions—scouting, treatments, sanitation sweeps, egg-mass removals, inspections and record keeping—so you maintain compliance and protect your operation year-round. For example, use our management calendar to align survey timing with potential adult emergence and early egg-laying timing.

The team has also developed visual identification tools for SLF life stages (Figure 2) that align with its predicted timeline and an eight-step field guide for SLF to support ongoing efforts (Figure 3).

Step 1: Look for potential sites

■ SLF spreads via human-assisted movement (hitchhiking), especially along rail lines, highways and through horticultural trade.

■ Common scouting locations: Botanical gardens, natural areas close to railroads, nurseries, public parks, stone yards, urban forests, vineyards

■ Egg-laying surfaces include: Boats, building structures, campers, equipment, firewood, metal containers, outdoor furniture, posts, rocks, stones, trailers, train tracks, vehicles, walls, etc.

Step 2: Look for potential hosts

■ SLF is a polyphagous, phloem-feeding planthopper feeding on 103 plant species across 33 families and 17 orders.

■ Feeding behavior by stage:

- 1st to 3rd instars: Fleshy herbaceous plants (succulent tissues)
- 4th instar and adults: Woody plant tissues

■ Common host examples:

- Orchards: Apricots, apples, cherries, figs, peaches, plums, walnut
- Ornamentals: Tree of Heaven*, hydrangea, maple, oak, pine, roses, sycamore, tulip tree, willows
- Vineyards: Grapes, muscadines
- Other crops: Hops

*Tree of Heaven is the most preferred host—other listed hosts should also be examined

Step 3: Look for Tree of Heaven

■ Key identification features:

1. Pinnately compound leaves
2. Circular granular teeth at leaflet bases
3. Light brown to gray trunk bark
4. Large V-shaped or heart-shaped leaf scars on twigs
5. One seed per samara

Step 4: Look for damage symptoms

■ SLF feeds on plant sap and secretes honeydew.

■ Heavy feeding results in:

- Honeydew raining down on trees and surfaces below
- Sooty mold growth (blackened leaves, trunks, surfaces)
- Unpleasant odor and slippery surfaces

■ Signs of damage: Honeydew, sooty mold, oozing sap, wilting, branch dieback

Step 5: Look at life stages according to calendar

■ Use seasonal calendar (Figures 1, 2 and 3) to anticipate life stages and scout accordingly.

Step 6: Look for life stages

■ Eggs: 30 to 50 per mass, covered in white waxy substance, yellowish-brown or hardened gray ootheca (mud-like patches)

- Eggs may be uncovered; remnants can persist for over a year

■ Nymphs:

- Instars 1 to 3: Black with white spots
- Instar 4: Red patterning

■ Adults:

- Grey forewings with black spots and reticulated tips
- Hind wings: Red and black patches with white band
- Black legs/head; yellow abdomen with black bands
- Males: Black caudal end
- Females: Paired red valvifers

Step 7: Look for potential biological control agents

■ Egg parasitoids:

- *Anastatus orientalis* (not in the U.S.)
- *Ooencyrtus kuvanae* (in the U.S.)

■ Nymphal parasitoid:

- *Dryinus sinicus* (not in the U.S.)

■ Fungal pathogen:

- *Beauveria bassiana* (naturally occurring)

Step 8: Look for chemical control options

■ Contact insecticides:

- Carbamates (carbaryl), organophosphates (malathion), pyrethroids (bifenthrin, beta-cyfluthrin, cyfluthrin, cypermethrin, fenpropathrin, pyrethrin)
- Oils (horticultural, neem, botanical), soaps (insecticidal)

■ Systemic insecticides:

- Neonicotinoids (dinotefuran, imidacloprid) via drenching, injection or trunk spray

(Note: Always read and follow label instructions before application.)

Paired with our 2025–2026 management calendar (Figure 1), the diagnostic tool (Figure 2) and eight-step field guide aims to equip growers with the knowledge needed to monitor and recognize SLF life stages and implement timely interventions. **GT**

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