



## Recommended Best Management Practices

### Preventing Spread of Spotted Lanternfly

### For the Trucking Industry

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**Note:** *This document will be modified and adapted as research is done and our knowledge base evolves relating to this invasive pest. This document was last revised on October 2019*

## **Purpose of this Document**

The trucking industry in Pennsylvania is committed to doing everything possible to minimize the threat and reduce the risk of spreading Spotted Lanternfly (SLF) during the course of normal operations in the industry. All members of the trucking industry in Pennsylvania are strongly encouraged to voluntarily comply with the following best management practices – both within and outside the quarantine areas. These practices have been developed by an industry work group in conjunction with Penn State Extension, research scientists and the Pennsylvania Department of Agriculture (PDA).

For all businesses operating within and interacting with the trucking industry in PA, it is vital that we work together to assure that all persons are knowledgeable about and able to identify Spotted Lanternfly egg masses, nymphs (all instars) and adults. Additionally, training regarding the removal of egg masses and recommended processes to minimize the movement of living insects during the spring, summer and fall are essential. Employees should be trained to watch for signs not only at their workplace but also their homes and in the community. Finally, all persons should feel empowered and obligated to report any sign of this pest.

Anyone that encounters SLF or who needs further training should contact PDA or Penn State Extension to request information and aid from available staff.

## **BMPs for Company Management**

- Take SLF and any invasive insect threat seriously. If your operation becomes infested with SLF, it could have serious economic impact and severely restrict your ability to operate.
- If your business is in a quarantine zone or moves regulated articles in and out of the quarantine zone, you must obtain an SLF permit in order to ship your products and/or perform services. In some situations, a compliance agreement may be needed (logging, mulching, etc.).
- If your operation becomes infested with swarming SLF, it may require limiting production and/or operations for periods of time. It is imperative that egg masses are not moved, and the likelihood of moving adults and/or egg masses becomes much greater when high populations are present.
- Demonstrate to the public, all employees, and all persons interacting with your business that you take SLF BMPs seriously.
- Train all employees to look for signs or the presence of SLF including egg masses and various life stages of the insect. Require them to report any sign of the insect to company leadership. Additionally, empower them to teach others who are less knowledgeable about the insect. Provide photos and references materials to help employees positively identify the insect.
- Train employees on the requirement to check all equipment/materials prior to transportation.
- Inform all outside companies with whom you work that you expect them to have and to comply with all SLF BMP protocols, quarantine order, and necessary permits.
- Communicate with your customers your dedication to a safe product and your commitment to ship only products that are SLF-free.
- Communicate with PDA your company's decision to implement these BMPs for SLF. This information will be extremely helpful to demonstrate the strong commitment of the trucking industry in Pennsylvania to USDA and other states as additional quarantines are considered.

## **BMPs for Property Owners**

- Monitor information about SLF in your county and neighboring counties, especially if your property is in or adjacent to a quarantine area.
- Work with PDA and PSU Extension to stay in the know about predicted emergence, egg hatch, and life stage maturation of the insect each year.
- Understand the SLF life cycle, learn to identify its egg masses and watch for potential egg masses on any surface in, on or around your property. If found, remove and destroy all egg masses, if possible, and alert PDA.
- Remove all female Ailanthus trees from property. This dioecious species is easy to identify in the late summer when the seed clusters can be easily seen clinging to the female trees. These trees are generally located along the tree line of forested areas or

highway rights of way where the soil has been disturbed. These trees must be chemically killed as any other means rarely succeeds at getting all plant tissue out of the ground.

- Treatment information for herbicide applications may be found at: <https://plantscience.psu.edu/research/projects/vegetative-management/publications/state-parks-invasive-species-management-quick sheets/5.-tree-of-heaven-ailanthus-altissima> and at [www.agriculture.pa.gov/spottedlanternfly](http://www.agriculture.pa.gov/spottedlanternfly).
- Reduce populations of and monitor male Ailanthus trees for early signs of SLF.
- Consider banding or treating with insecticide remaining male Ailanthus trees, and/or banding other high-risk trees (maple, walnut, apple, etc.) with adhesive tree bands – May to August. This is an excellent monitoring tool for SLF and can kill all walking-life stages in infested areas.
- Make sure all employees under your leadership understand and comply with the industry's BMPs.
- Remove tree-of-heaven from the tree line surrounding loading and parking areas if possible.
- Place signage in the parking lot as a reminder for employees and visitors.

## **BMPs for Trucking Industry Workers**

- Talk with your supervisor about the presence of SLF.
- Understand the SLF life cycle, learn to identify its egg masses and watch for potential egg masses on any surface in, on or around the property. If found, remove and destroy all egg masses if possible and report to your supervisor.
- Understand:
  - The SLF life cycle and how to identify and differentiate each stage.
  - The significance of this pest and *why* it's important to understand it and inform your supervisor about it if seen.
  - Understand how the SLF life stage present at any given time impacts the operation throughout the year.
  - Feel empowered to take action – either directly or through channels within the company to limit the spread and mitigate the presence of this invasive species.
- Egg hatch occurs in the spring. Nymphs go through four instars before finally maturing into winged adults in July/August in PA. As nymphs, the insects walk up and down trees every day. They also become strong hoppers.
- Monitoring and awareness is essential. Nymphs can be easily controlled with insecticides when detected.
- Egg laying begins in the fall and continues until an extended freeze kills the adults and ends the egg-laying period. For this reason, workers must be able to detect the presence of both adults and egg masses in the course of daily work during this period. Property and products should be inspected after egg-laying season to confirm no egg masses are present.

- If either adults or egg masses are seen, rapid, clear communication within the organization is necessary so decisions can be made to apply insecticides to kill the adults present. Egg masses must be destroyed.

## **BMPs for Truck Drivers & Equipment Operators**

- Confirm if trucking industry workers or supervisors in the course of their daily activity have seen any signs of any stage of SLF.
- If SLF have been observed, inspect cargo and materials prior to loading them on the truck to be sure living insects and egg masses are removed and destroyed.
- Visually inspect any and all equipment every day before travelling within or from the quarantine.
- Inspect your truck, trailer body and tires for egg masses or other life stages before leaving a site within the quarantine and be sure you are not moving SLF inside the cab of the truck. Take whatever time is necessary to assure that you are moving safe cargo and equipment.
- Close trailer doors as soon as possible after pulling away from a loading dock to prevent entry of SLF into hold.
- If possible move all loaded trucks inside once inspected.
- If you see or know of Ailanthus nearby, inspect those trees for signs of SLF. If SLF are seen, inform company management immediately.
- Check your clothing and body for SLF before leaving the area. Be sure to kill all live SLF.
- When moving product in or out of the quarantine zone, consider using closed or covered trucks, where practical.
- Keep doors and windows closed to prevent SLF from entering the vehicle. Once equipment is inspected do not open any doors or hatches until you arrive at the destination.
- If any SLF are found – of any life stage – immediately contact your supervisor. Never travel or transport cargo where live specimens or egg masses have been found.
- Do not move trucks, materials or equipment from the property if high populations or swarming activity is observed and it is not possible to ensure no SLF are on the vehicle, trailer or cargo.
- In winter, work with your supervisor and local extension agents to confirm that adult SLF are dead. After that time, inspect tractor/equipment/trucks used in trucking industry operations. Remove and destroy any egg masses present.
- Do not park trucks under tree lines.
- If populations are high, avoid stopping for fuel in those areas, especially if SLF are flying.

## **SLF Inspections**

Inspections should be completed before moving within the quarantine zone, leaving the quarantine zone and entering PA from another area that has an SLF population.

No need for an inspection if the vehicle was not used that day.

There is no required template for vehicle inspections, but documentation is required and must identify the person conducting the inspection and demonstrate an inspection was performed to prevent spread of the pest.

It is recommended that employers and employees incorporate SLF inspections into existing activities, such as daily inspections or safety checks. Document the inspection was done, and the control measures taken if live SLF were found (destruction of SLF, etc.).

Examples of driver checklist/inspection logs can be found as a resource in the online permit course and on the PDA SLF Permitting web page:

[https://www.agriculture.pa.gov/Plants\\_Land\\_Water/PlantIndustry/Entomology/spotted\\_lanternfly/Pages/Permitting.aspx](https://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/Entomology/spotted_lanternfly/Pages/Permitting.aspx)

## Egg Mass Identification and Egg Laying

Egg-laying begins in September and continues until an extended freeze kills the adults and ends the egg-laying period. The egg masses can be found on smooth surfaces such as tree bark; fence posts; outdoor equipment such as ATVs, trailers, boards, lawn tractors, grills and covers, etc.; pool covers and tarps; tile; smooth stone; deck boards; and rusty metal or siding. They are often laid in protected spots, such as underneath peeling bark or in crevices between rocks.

The egg masses resemble 1-2-inch-long gray mud smears with 30-50 brown eggs beneath the gray matter. They often appear waxy. Later the egg masses will turn dark brown and appear cracked and scaly or like dried mud. The young nymphs will hatch in the spring (May) and feed on various plants. It is imperative that egg masses be removed whenever you see them, and properties should be inspected early winter and again in early spring before the eggs hatch.

Egg Identification Tips:

[http://www.agriculture.pa.gov/Plants\\_Land\\_Water/PlantIndustry/Entomology/spotted\\_lantern\\_fly/program-information/Pages/default.aspx](http://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/Entomology/spotted_lantern_fly/program-information/Pages/default.aspx)

### **TO REMOVE and DESTROY EGG MASSES:**

Scrape egg masses into a plastic bag from trees and other surfaces with a knife, credit card, or egg mass scraper. If permitted, the egg masses should be scraped into alcohol or hand sanitizer, double bagged, and thrown away. If alcohol or hand sanitizer is not permitted you can squash the egg masses with the flat side of a knife, credit card, or egg mass scraper.

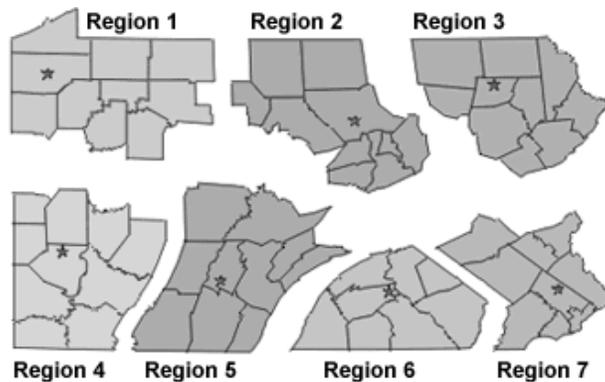
Once the SLF adults have died from winter weather, inspect and clean your vehicles and/or equipment thoroughly. Removing all areas of mud will help you identify any possible egg masses for removal.

Egg Mass Removal:

[http://www.agriculture.pa.gov/Plants\\_Land\\_Water/PlantIndustry/Entomology/spotted\\_lantern\\_fly/program-information/Pages/default.aspx](http://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/Entomology/spotted_lantern_fly/program-information/Pages/default.aspx)

## For SLF Compliance Agreements:

For information and questions regarding compliance agreements related to Spotted Lanternfly, please contact your Pennsylvania Department of Agriculture Regional Office and speak with the Bureau of Plant Industry Supervisor (listed below).



PA Department of Agriculture Regions

**Region 1:** Clarion, Crawford, Elk, Erie, Forest, Jefferson, McKean, Mercer, Venango, and Warren

Lisa K. Candelore Phone: (814) 332-6890

**Region 2:** Cameron, Clinton, Columbia, Lycoming, Northumberland, Montour, Potter, Snyder, Tioga, and Union

Jay P. Bagley Phone: (570) 433-2640 ext. 206

**Region 3:** Bradford, Carbon, Lackawanna, Luzerne, Monroe, Pike, Sullivan, Susquehanna, Wayne, and Wyoming

Richard J. Malak Phone: (570) 836-2181 ext. 111

**Region 4:** Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington, and Westmoreland

Lisa K. Candelore Phone: (724) 832-1073 ext. 125

**Region 5:** Bedford, Blair, Cambria, Centre, Clearfield, Fulton, Huntington, Juniata, Mifflin, and Somerset

Kate Zeigler Phone: (814) 793-1849 ext. 213

**Region 6:** Adams, Cumberland, Dauphin, Franklin, Lebanon, Lancaster, Perry and York

Jeff Miller Phone: (717) 772-5206

**Region 7:** Berks, Bucks, Chester, Delaware, Lehigh, Montgomery, Northampton, Philadelphia, and Schuylkill

Howard Walker Phone: (610) 489-1003 ext. 108

## **FOR MORE INFORMATION:**

### SLF Permitting Information:

PA Department of Agriculture

<https://www.agriculture.pa.gov/slfpermit>

### SLF Quarantine Information:

PA Department of Agriculture

[https://www.agriculture.pa.gov/Plants\\_Land\\_Water/PlantIndustry/Entomology/spotted\\_lanternfly/Pages/default.aspx](https://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/Entomology/spotted_lanternfly/Pages/default.aspx)

### SLF management or to report a sighting:

Penn State Extension

<https://extension.psu.edu/spotted-lanternfly>

1-888-422-3359

### Online permitting course:

<https://extension.psu.edu/spotted-lanternfly-permit-training>

### Questions about SLF permits:

[slfpermit@pa.gov](mailto:slfpermit@pa.gov)

