

## Lampshade Trap Construction for Spotted Lanternfly Egg Masses

**Materials Needed** (supplied links are suggestions and do not imply endorsement of products or companies by USDA):

- Roll of Peel and Stick [Roofing Material](#) 9" x 33'
- [Zip ties](#) (18" or longer, reusable option [here](#))
- Box cutter, DBH tape, staple gun (½" staples)
- Batting [material](#) 3.5" wide (thin cotton [alternative](#))

### Background

Our research group has been investigating SLF egg laying behavior for several years. After much trial and error, we identified an environment that encourages SLF females to lay eggs within a trap. The trapping material is flexible and allows egg masses to be collected and/or counted and disposed of. The trap is efficient, low-cost, and easy to set up.

### Methods

#### Suitable sites and trees

If egg masses are to be collected, you will want to select areas with medium to high SLF populations. Tree of Heaven (TOH, *Ailanthus altissima*) were used to develop these traps. However, the traps can be placed on other species of trees that are infested. Ideally, trees used for trapping should be 6 to 8" in DBH. Smaller (< 4 inch DBH) and larger trees (> 8" DBH) are less productive per ft<sup>2</sup> of trap area. Trap height should be at approximately 3.5 to 5 ft high on the tree for convenience. Avoid bark irregularities or wounds.

Installation \*Note: **DO NOT peel the white plastic backing off the roll of roofing material to expose the adhesive. The plastic backing helps repel moisture and makes it easier to harvest egg masses, if desired. It is most efficient to have 2 people setting up a trap.**

1. Determine the length of roofing material needed by wrapping the roll of material flush around the tree at the desired height. The textured side of the roofing material should face outwards. Allow the material to slightly overlap itself by about 1" and make a notch in the material with a box cutter so you know where to cut. Remove the roofing material, lay it on the ground, then use a box cutter to cut the material as straight as possible.

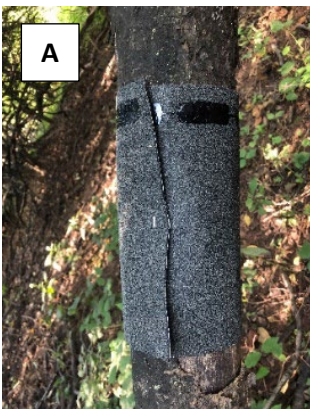
Take the cut piece of roofing material and wrap it tight and flush against the tree with the material slightly overlapping itself. The textured asphalt side will face outwards. Use a staple gun and staple the material to the tree where the material overlaps (A). Usually about 4 staples will be sufficient. Take a long zip-tie (or several zip-ties in series) and place it around the very bottom of the material. Cinch up the zip tie tightly to secure the material to the tree (B). You can cut off any excess zip-tie material.

2. To measure the length of the batting material that will be needed, wrap the 3.5" wide batting material flush against the tree trunk, right above the roofing material, so that it slightly overlaps itself. To attach the batting to the tree, fold the piece of batting material in half upwards and wrap it around the tree trunk (C). Secure it with a zip-tie (or several zip-ties in series) wrapped around the middle of the batting material (D). Cut excess zip-tie tail if it's longer than about 3".



3. Measure the length of roofing material needed for the outer portion of the trap (which looks like a lampshade). **This layer will have the textured, black side facing inwards.** To do this, wrap the roofing material around the tree just above the height of the batting material, and this time, use enough roofing material to create a 2 ½" overlap. There should also be enough material so that the bottom is flared out about 2" from the tree (E). This creates enough space for SLFs to crawl up and inside the trap. After the material is measured so there is enough for a 2" gap, use a box cutter to cut the material needed.

Take the cut piece of "lampshade" roofing material facing *inwards*. Wrap it around the tree with the top about 1" above the batting material so that it covers the portion of the roofing material already secured to the tree. Adjust the bottom of the lampshade so there is a continuous gap about 2" away from the tree, overlapping the lampshade material around itself. Use a staple gun to staple the lampshade to the tree right above the batting material, making sure to retain the gap between the bottom edge of the material and the tree (F). You may need to pull on the lampshade portion and reposition it as you staple. Start with roughly 3" between each staple. Use as many staples as necessary to secure the lampshade to the tree while still maintaining the 2" bottom gap between materials. If needed, staple the lampshade ends together at the bottom to minimize flaring. There will be ridges at the top of the lampshade due to the flaring shape. Take small pieces of batting material and fill in the gaps of the ridges on top (G). Do not remove the plastic backing from the roofing material (E-G).





### Considerations if harvesting egg masses for research

Many of the egg masses in the traps exhibited mold, so we recommend taking the following steps for mold mitigation. Care is also needed when removing the trap to prevent egg masses from dislodging.

### Materials

- Light weight tarp (4' x 6' or smaller for ease of handling)
- Flathead screwdriver
- Pure Disinfectant (spray [product](#))
- Scissors/pruning shears

### Methods

1. Use a thin tarp material to wrap around the tree starting 2" above the trap with at least 1" of tarp material overlapping itself. Use a sharpie to mark the length and then measure an additional 3"; draw a line to the edge and cut out the entire rectangle. Take the cut piece and tightly wrap it around the tree starting 2" above the trap and staple it to the tree so that it drapes over the lampshade (H). This step will help seal off the top of the trap and direct excess moisture away from inside the trap. It should also prevent animals from taking away pieces of batting material.
2. We recommend servicing the traps every 2-3 weeks. Spray Pure inside the trap area to help prevent mold growth while traps are deployed. Check to see if there are any insects and spiders inside the trap by shining a light and use a stick to gently remove them before spraying.
3. Gently disassemble the trap from tree once the tarp piece is removed; care is needed to prevent masses from becoming dislodged. Use a flathead screwdriver to pull out staples that do not come out with ease. Use scissors to cut the egg masses out of the material (I). Leave enough space around the egg masses to prevent them from dislodging during cutting. Carefully store egg masses where they are needed.



### Point of Contact

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