

Spotted lanternfly



Plant Health
AUSTRALIA

EXOTIC PEST – CALL THE EXOTIC PLANT PEST HOTLINE IF SUSPECTED

What is the spotted lanternfly?

The spotted lanternfly (*Lycorma delicatula*) is an invasive planthopper pest from Asia. The feeding of spotted lanternflies impacts crop quality, yield and the survival of grapevines. It has caused significant impacts to grape production overseas.

The spotted lanternfly feeds on at least 70 species of crops, trees and woody ornamentals including tree of heaven (*Ailanthus altissima*), grapevine (*Vitis vinifera*), apple, hops, pine, stone fruit, almond, oak, walnut, maple, poplar and willow.

What does it look like?

Spotted lanternfly adults are up to 27 mm long and approximately 12 mm wide with large, visually striking wings. The forewings are predominantly grey with black spots which transition into a grey network of veins with black cells towards the wing tips. Contrasting patches of bright red and black with a white band are distinctive features of the hind wings. The head and legs of the spotted lanternfly are predominantly black. The abdomen is a bright yellow with horizontal black stripes.

Nymphs typically range in size from 3.1 mm to 12 mm throughout their developmental stages. Nymphs in their early stages of development appear black with white spots (1st to 3rd instar) and turn red on the upper body (4th instar) before becoming adults. Newly laid egg masses are yellowish-brown in colour and are covered in a waxy, brownish-grey secretion. Egg masses are approximately 25 mm long. Older egg masses lose the waxy secretion to expose the 'seed-like' eggs, often aligned in 4 to 7 vertical rows.

What can it be confused with?

The symptoms of spotted lanternfly could be confused with many sap-sucking insects and diseases. Australian planthoppers in the Fulgoridae family could be mistaken for spotted lanternfly. These include *Birdantis mouldsi*, *Desudaba* spp. (e.g. *D. maculatus*, *D. circe*, *D. danae*, *D. psittacus*), *Desudaboides* spp. and *Erilla turneri*.



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Adult spotted lanternfly specimen with distinct wing and abdominal patterns and colouration

Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org



5522641

Adult spotted lanternfly on a host plant

Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org



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Spotted lanternfly nymphs causing wilting, leaf curling and dieback on a branch of black walnut (*Juglans nigra*)

Eric R. Day, Virginia Polytechnic Institute and State University, Bugwood.org

What should I look for?

The spotted lanternfly overwinters in egg masses that are deposited on smooth surfaces including host plant surfaces, non-host materials and man-made structures (e.g. vehicles, machinery, shipping containers and garden furniture). Nymphs emerge and begin feeding in the spring or early summer by sucking sap from young stems and branches. Adults appear during summer and tend to inhabit a narrower range of preferred hosts including the tree of heaven and grapevine.

Large numbers of spotted lanternfly adults and nymphs frequently gather within the canopy or at the base of the host plant. Spotted lanternflies are easiest to locate at dawn and dusk when they are migrating up or down the plant. Spotted lanternfly feeding causes wilting, leaf curling and dieback and reduced resilience to other stresses. Communal feeding results in wounds on the plant and the discharge of sugar-rich liquids along the stems, branches or trunk of the host. This sugary discharge attracts other insects (e.g. bees and wasps) and promotes fungal growth (e.g. sooty moulds). Large patches of fungal growth occurring on leaves or at the base of the tree may produce a fermented odour and cause the eventual death of the plant.

How does it spread?

The spotted lanternfly can be spread long distances through human-assisted transport of all life stages, especially egg masses. Once established, spotted lanternfly can disperse short distances by walking, jumping and flying.

Where is it now?

The spotted lanternfly is native to China, Taiwan, and Vietnam. It was accidentally introduced into South Korea and Japan where outbreaks have been reported since the mid-2000's. Spotted lanternfly was first discovered in Pennsylvania, USA in 2014. Since then its range has steadily expanded to neighbouring states. Spotted lanternfly is not known to be present in Australia.



Fourth instar spotted lanternfly nymphs are red and black with white spots

Stephen Ausmus, USDA-ARS



Early instar spotted lanternfly nymphs are completely black with white spots

Colin Purrington

How can I protect my vineyard from spotted lanternfly?

Monitor your vines for reduction in plant health or yield and any associated symptoms (sugary excretions from host plants, elevated insect activity or fungal growth) which should prompt further inspection of the crop for pest activity. Check your crop, property and any new equipment for egg masses, nymphs and adult stages of spotted lanternfly throughout the year. Make sure you are familiar with common pests and crop symptoms, so any unusual observations will alert you to the possible presence of exotic pests. Manage the risk of spotted lanternfly by controlling the associated and preferred host plants including tree of heaven.

If you see anything unusual, call the **Exotic Plant Pest Hotline** on **1800 084 881**.

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Egg masses on a tree trunk

Emelie Swackhamer, Penn State University, Bugwood.org



Communal feeding behaviour of spotted lanternfly

Richard Gardner, Bugwood.org