Kansas Department of Agriculture

Nursery Pest Newsletter

Spring 2019

Keep An Eye Out—Spotted Lanternfly

K. Taro Eldredge, State Entomologist

Fig. 1. Adult spotted lanternfly at rest. By Greg Hoover, Penn State University.

The new hot topic invasive insect in the US is the **spotted lanternfly** (*Lycorma delicatula*). They are a type of planthopper and are related to aphids, using piercing-sucking mouthparts to suck fluids from plants during feeding. Native to central and eastern Asia, the spotted lanternfly was first discovered in southeastern Pennsylvania and now has been found in 13 counties. Between 2017–2018 they have been spotted in New York state but have yet to formally establish outside of Pennsylvania.

The spotted lanternfly is a large attractive insect. The adults are about an inch long with wings held at an angle to the side of the body at rest. Unagitated, the greyish-tan fore wings cover and hide the brightly colored red hind wings, helping them blend in with the trunks of trees (Fig. 1). However, if threatened, they will display their red hind wings as a warning (Fig. 2), and further agitation will cause them to jump and flutter to a safer location nearby. They are powerful jumpers but weak flyers, and dispersal by flight is not considered their primary means for their rapid spread within the US. Instead, like the gypsy moth (*Lymantria* spp.), spotted lanternfly is undiscerning about where they lay their eggs, which are extremely inconspicuous and can be transported without notice. Females will lay 20–30 eggs in multiple rows, and typically covers them in a frothy wax-like substance that will harden, crack, and grey over time, blending into surroundings (Fig. 3).

Fig. 3. Spotted lanternfly egg mass. By Tea Kesting-Handly.

These insects have a broad range of host plants and are recorded feeding on over 70 different kinds of plants. They are a threat to grape, fruit-tree, hardwood and nursery industries (figure 4). Vineyards have been so heavily damaged that several are suspected to cease operations as early as this year (Fig. 5). The damage they cause comes from feeding, but also sooty molds that grow on the vast amounts of honeydew they secrete—a sugar-rich byproduct of phloem feeding.

Fig. 2. Adult spotted lanternfly showing hind wings. Courtesy Penn State Extension.

While the spotted lanternfly host range is extensive, as they mature, they preferentially begin to feed on tree of heaven (*Ailanthus altissima*), an introduced tree from the insect's natural range in Asia. It is unclear how important this host transition is to the insect's development, but they appear to sequester a defensive chemical that makes them toxic as older nymphs and adults. In fact, the flashing of the brightly colored hind wings is a warning to predators of their toxicity and learned birds will actively avoid eating them. Furthermore, the honeydew they secrete attract ants and wasps which will occasionally defend them, adding arsenal to their defense tactics.

Comparing environmental properties from their native range and the US, Midwest and Mid-Atlantic regions are thought to be the most suitable for spotted lanternfly (Fig. 6). Therefore, as a state, we must diligently keep a lookout for these insects to keep them from establishing in Kansas. Fortunately, like the gypsy moth, spotted lanternfly is a poor disperser and extremely easy to identify. Ideally, we will maintain a quarantine zone within PA and begin removing the non-native tree of heaven. Tree of heaven removal will help prevent adults from becoming toxic and should be an eminent goal before native predators learn to identify the flashing of bright red hind wings as a warning sign.

If you are receiving products from Pennsylvania keep an eye out for egg masses being transported into Kansas. Additionally, if

Fig. 4. Adult spotted lanternflies cover an apple tree. Courtesy Erica Smyers, Penn State University.

Keep An Eye Out—Spotted Lanternfly (Continued)

Fig. 5. Vineyard damaged by spotted lanternfly shows almost no growth. Courtesy WFMZ-TV, 69 News.

you identify a spotted lanternfly, please immediately contact the Kansas Department of Agriculture to help prevent their establishment.

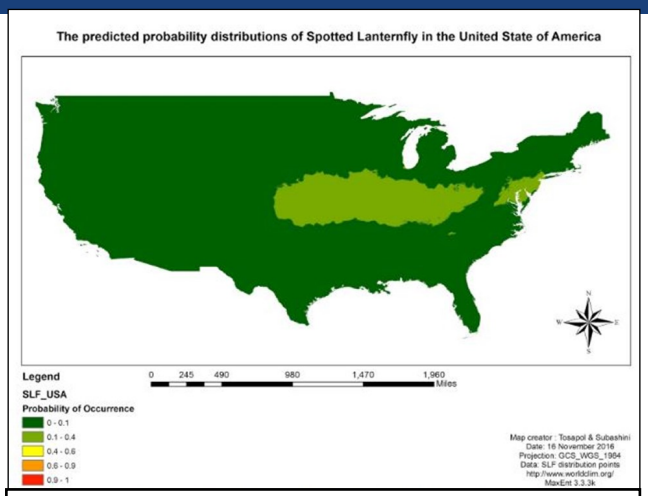


Fig. 6. Estimated environmental preference of spotted lanternfly. Light green = more preferable. Courtesy Colorado State University.

Watch For Boxwood Blight In Greenhouse Boxwood Plantings

Boxwood blight is a devastating fungal disease of boxwood species (*Buxus spp.*) that can cause rapid defoliation and plant die-back. Pachysandra and Sarcococca species are also susceptible. It has been found mainly in the east and along the west coast of the United States and has been found in 28 states, most recently in Michigan in 2018. It has not been detected in Kansas since 2014 but could cause significant financial damage if it were re-established in the landscape. Because of this, it is important to scout for it regularly in your boxwoods.

Figure 1: Black lesions from boxwood blight Photo credit: Mary Ann Hansen, Virginia Polytechnic Institute and State University, Bugwood.org

Figure 2: Black leaf spots and defoliation Photo credit: Mary Ann Hansen, Virginia Polytechnic Institute and State University, Bugwood.org

The most recognizable symptom of this disease is characteristic black stem lesions, typically in long streaks along the stem, but it also causes dark leaf spots, defoliation, and shoot blight (Fig. 1, 2). It prefers cool to slightly warm temperatures, in a range of approximately 64 to 81 degrees. It is most likely to start showing in spring or fall, during prolonged periods of wetness such as rain, high humidity or fog, overhead irrigation, or dew. It may easily be confused with winter damage, but that occurs earlier in the year and produces no characteristic black streak lesions. It may also be confused with Volutella blight, but that causes stem bark to slough off, stem lesions are not black streaks, and frequently there is little to no defoliation.

Boxwood blight is spread short distances by splashing water and wind-driven rain and spread longer distances on tools, equipment, and clothing. It survives for long periods, as long as 1 to 3 years, in plant debris and in the soil as resting structures called microsclerotia. To manage this disease:

- Inspect plants for symptoms upon arrival at your facility.
- Quarantine the newly arrived plants for several weeks if possible to ensure they aren't symptomatic.
- Avoid overhead irrigation to minimize the amount of time the plant leaves are wet.
- Scout regularly for emerging symptoms.
- Destroy infected plants and surrounding plants promptly after discovery.
- Sanitize tools and equipment frequently (between plants or between blocks of plants).
- Fungicides may be used but are preventative, not curative, and shouldn't be the only management option employed.

If you suspect a plant has boxwood blight, contact KDA at kda.ppwc@ks.gov or 785-564-6698, or contact the KDA plant protection inspector for your county.

Hemp In Kansas
Scott Marsh, State Weed Specialist

With the passage of the Alternative Crop Research Act (K.S.A. 2-3901) in 2018, Kansas joined several other states in developing an industrial hemp research program. Kansas was a large producer of industrial hemp during the early part of the 20th century and, but no hemp has been grown in Kansas since World War II. The research that will be generated from the industrial hemp research program will be valuable information about the role of industrial hemp in modern Kansas agriculture.

Regulations were developed in 2018 and became effective on February 8, and KDA is accepting applications for licenses to participate in the industrial hemp research program. Those wishing to grow, distribute or process industrial hemp in 2019 must apply for a license, and the deadline for submitting research license applications is March 1.

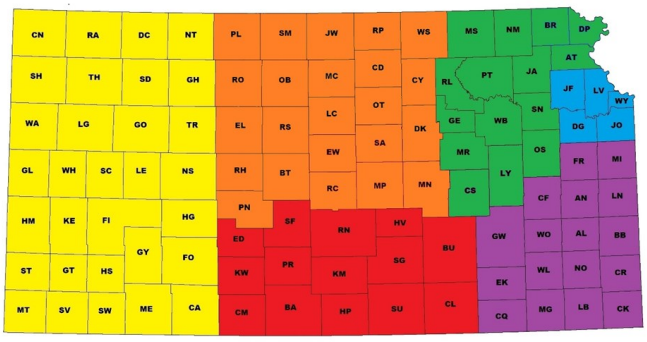
The research conducted under this act will be invaluable for helping those who will choose to grow industrial hemp commercially in the future. Some of the information that will most likely be developed through the research program will be: which varieties will produce the best industrial hemp while still remaining below the 0.3% THC level required by law, how much water is required to develop various types and varieties of industrial hemp, and what are the best ways to develop and access different markets for industrial hemp and the products derived from it.

Photo: cascadianow.org

There is currently a bill in the Kansas Legislature that would allow for the development of a commercial industrial hemp program in line with the 2018 Farm Bill. If that bill becomes law, KDA would have to submit a plan to the USDA for developing the commercial program and, if approved, Kansas would be on our way to returning to our roots of being a leading state in the production of commercial industrial hemp.

Photo: mdfarmbureau.com

Plant Protection Specialist



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Trapping and Survey Programs

Emerald Ash Borer

The national trapping survey, which is contracted out by USDA, deployed 785 traps for emerald ash borer in 2018. All were negative. As of 2019, USDA will no longer be deploying traps only supporting biocontrol efforts. For information on the emerald ash borer, visit: www.emeraldashborer.info.

The Kansas Department of Agriculture girdled 14 trees in 7 counties – Brown (1), Cherokee (2), Crawford (1), Labette (3), Miami (3), Osage (2) and Riley (2). Tree removal and peeling will took place in October and November. No EAB was found.

EAB Quarantine counties

Kansas Department of Agriculture
Plant Protection and Weed Control
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04611

Corn Commodity survey

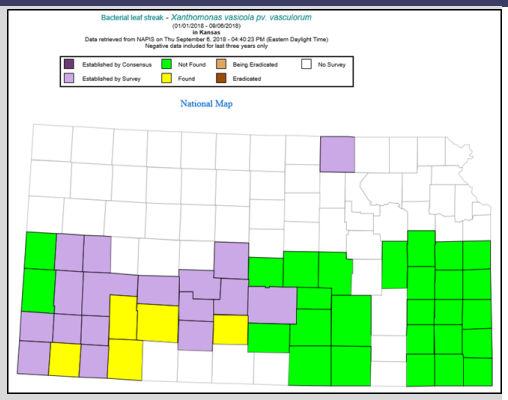
Pests Surveyed

Insects: Egyptian Cottonworm (*Spodoptera littoralis*), cotton cutworm (*Spodoptera litura*)

Diseases: late wilt (*Harpophora maydis*), Java downy mildew (*Peronosclerospora maydis*), Philippine downy mildew (*Peronosclerospora philippinensis*), Brown stripe downy mildew (*Sclerophthora rayssiae* var. *zeae*), Bacterial leaf streak, tar spot, Goss' blight

Nematode: Mexican corn cyst nematode (*Punctodera chalcoensis*)

In 2018, 89 sites in the southern part of the state were surveyed. One site/field for every 25,000 acres of corn in 48 counties were surveyed. The survey was conducted from May–October of 2018. No positive disease was identified except bacterial leaf streak (see map). Pests and nematode results were negative.



Bacterial leaf streak/*Xanthomonas vasicola pv. vasiculorum*

Thank you

We always appreciate the live plant dealers and land owners who let us put traps and survey on their property. This type of work is of great importance in protecting Kansas. Early detection will improve the odds of eradication and containment success if the pests are found.