

ORNAMENTALS

• H O T L I N E •

INSECTS

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Issue 24

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SHARPSHOOTERS (Cicadellidae), a type of leafhopper, and SPITTLEBUGS (Cercopidae) are associated with vectoring bacteria leaf scorch (*Xylella fastidiosa*) to host plants. The spittlebugs are less often associated as vectors of this disease. Both groups of insects use piercing-sucking mouthparts to feed on xylem fluid and inadvertently obtain bacteria from an infected host plant. The bacteria become lodged within the foregut of the insect and within an hour or two could be vectored to a new host plant. Adult insects in these groups will be vectors for the remainder of their life; however, nymphs shed their foregut during molting, and need to reacquire the bacteria from an infected host. The threshold population of bacteria in an insect's foregut before transmission occurs is known for Pierce's disease (same bacteria) in grapes, but it is not known for shade trees.

Shade trees affected by bacteria leaf scorch (BLS) include, American elm, flowering dogwood, sweet gum, many oaks, red maple, boxelder, and London plane tree among others. Alternative hosts include goldenrod, Bermuda grass, buckeye, English ivy, Oriental bittersweet, mugwort, wild grape and others. The role these alternative hosts play in the spread of the disease or source of inoculum for vectors is unknown. Vectors of BLS in shade trees is also unknown; however, it is known that some of the insects capable of vectoring *X. fastidiosa* diseases in other crops (e.g., grapes) have been found in shade trees during the growing season.

DISEASES

Nancy Gregory
Plant Diagnostician

FOLIAR NEMATODES are very small non-segmented roundworms common in soil, usually in the genus *Aphelenchoides*. Symptoms on leaves include yellow to brown to purple spots that may look water-soaked or greasy, bounded by the leaf veins. Many different plants are susceptible to damage from foliar nematodes, including hosta, peony, ferns, columbine, begonia, Cyclamen, gloxinia, Dahlia, Gerbera, Hibiscus, Lantana, geranium, and iris. The nematodes have a fine, needle-like mouth part called a stylet; a structure characteristic of plant parasitic nematodes and lacking in free-living and animal parasite nematodes that is inserted into plant cells. Enzymes go through the stylet into the cell where components are digested and nutrients drawn back into the nematode. Free water on the stems and leaves provides an environment for nematode movement and infection. Splashing water during irrigation or rain moves nematodes from leaf to leaf and plant to plant. Plants with symptoms occur in patches because of the splashing of nematodes to neighboring plants. Certain types of begonias can develop large populations without

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What's Hot!

Bacterial Leaf Scorch on red oak and pin oak is showing more subtle symptoms in the landscape now, with a dark zone next to the scorch, not a typical yellow zone! See the pictures at the blog post: <http://extension.udel.edu/ag/hot-topics-plant-disease/> BLS testing costs \$25. A kit is required and it is a 2-day test.

The UDBG Fall plant sale is around the corner. This sale features perennials, but trees and shrubs will also be available. For a complete list of plants visit the UDBG website.

The sale is open to UDBG members on Sept. 8 (3-6 PM) and the general public on Sept. 9 (3-6 PM) and Sept. 10 (9:30 AM - 2PM).



Redbanded leafhopper (sharpshooter example). Photo credit: Susan Ellis, bugwood.org

For more information

on pests & practices covered in this newsletter, call your County Extension Office

Helpful numbers to know:



Garden Line (for home gardeners only)	831-8862
New Castle County Extension	831-2506
Kent County Extension	730-4000
Sussex County Extension	856-7303

View more pictures at <http://sites.udel.edu/ornamentals/>

UNIVERSITY OF DELAWARE

COOPERATIVE EXTENSION

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Diseases (Continued)

showing any symptoms. Optimum temperatures for foliar nematode development are between 21 and 24C (70-75F), and they reproduce by laying eggs that hatch to release a larva. Management of foliar nematode is mostly cultural because chemicals will not penetrate the leaves to reach the nematodes. Use clean planting



Foliar nematode symptoms on hosta. Photo credit: N. Gregory

material, discard any infected plants, avoid overhead water on leaves, and maintain good spacing between plants. Mixed species of plantings avoid monocultures, which allow spread through susceptible species.



Foliar nematode symptoms on peony. Photo credit: N. Gregory

Editor: Susan Barton
Extension Horticulturist

GROWING DEGREE DAYS
AS OF August 30, 2016

- Swarthmore College (Delaware County, PA) = NA ('15 = NA)
- Fischer Greenhouse (New Castle County) = ('15 = 2924)
- Research & Educ. Center, Georgetown (Sussex County) = ('15 = 3025)



Black-winged sharpshooter. Photo credit: Susan Ellis, bugwood.org.