



Arkansas Plant Health Clinic Newsletter

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Ornamental Trees

Xylella fastidiosa is the causative agent for Bacterial Leaf Scorch (BLS) of shade trees and other ornamentals, and fruit crops. *Xylella fastidiosa* is transmitted through grafting, or by insects commonly known as spittlebugs and leafhoppers. The tree's water conducting tissues become clogged with the bacteria, disrupting the transport of water within the tree. The tree tries to wall off the bacteria by shutting down plugged areas, further impeding water transport and eventually killing the tree. Symptoms are marginal leaf lesions, or browning, bordered by a halo separating the dead or scorched tissue from the green tissue. The discoloration begins at the leaf margin and moves inward toward the midrib. Slower growth and limb dieback are common in affected trees. Symptoms reoccur each year until the tree cannot support itself and dies. Over 30 families of plants are reported as hosts, including almonds, citrus, coffee, American elm, ginkgo, grapes, red maple, sugar maple, mulberry, oak, peaches, plums, sweetgum, and sycamore. In grapes, the disease is called Pierce's Disease. In peaches, it is known as Phony Disease. Alternative weed hosts may carry the bacterium without showing symptoms. There is no cure for

Bacterial Leaf Scorch once acquired. With proper watering, mulching, and fertilization however, death may be delayed. Trunk injections of the antibiotic oxytetracycline in May and June may suppress bacterial scorch but do not provide a cure for the disease. Bacterial Leaf Scorch is easily confused with abiotic leaf scorch which most often affects young trees during hot weather when the leaves lose moisture through evaporation faster than the roots can replace the water lost. This causes marginal browning that looks very much like BLS. Other problems such as root diseases and borer injury can closely resemble the symptoms caused by *Xylella*. In oak, disease symptoms caused by Oak wilt and various cankers can also resemble the symptoms of Bacterial Leaf Scorch. Diagnostic tests are available at the Plant Health Clinic to identify Bacterial Leaf Scorch.

Redbud Bacterial Leaf Scorch- *Xylella fastidiosa*



Photo by Sherrie Smith, University of Arkansas
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Elm Bacterial Leaf Scorch-*Xylella fastidiosa*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Oak Bacterial Leaf Scorch-*Xylella fastidiosa*



Photo by John Hartman, University of Kentucky, Bugwood.org

Maple Bacterial Leaf Scorch-*Xylella fastidiosa*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Ginkgo Bacterial Leaf Scorch-*Xylella fastidiosa*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Oleander Bacterial Leaf Scorch- *Xylella fastidiosa*



Photo by Sherrie Smith, University of Arkansas
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Grape Bacterial Leaf Scorch (Pierce's Disease)-*Xylella fastidiosa*



Photo by Sherrie Smith, University of Arkansas
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Onion/Garlic

Onion Thrips, *Thrips tabaci*, are the most serious insect pest of Onions and Garlic and can be a problem wherever these crops are grown. Thrips feed on plants using their rasping-sucking mouthparts. They prefer to feed on the newly emerging leaves. As the damaged leaves continue to grow, the previous thrips damage enlarges, leaving empty spaces on the leaf surface. The resulting silvery patches and streaks can cover the entire leaf. This leaf scarring can reduce both yield and quality. Control of Thrips is problematic due to some insecticide resistance, their habit of feeding in protected places within the foliage, and their rapid reproductive cycle. Scouting is highly recommended in economically important fields. A threshold of 30 Thrips per plant at mid-season is a guide for determining treatment. A



minimum of five plants from four separate areas of the field should be sampled. Insecticides in order of toxicity to non-target insects are products containing insecticidal soap, spinosad, permethrin, Malathion, zeta-cypermethrin (Mustang Maxx), or lambda-cyhalothrin (Karate Z).

Onion Thrips damage-*Thrips tabaci*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Onion Thrips damage-*Thrips tabaci*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Onion Thrips damage-*Thrips tabaci*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Artichoke

Artichoke is a tender perennial that is grown as an annual in climates where temperatures fall below 20°F. They grow best with 75°F daytime temperature and 55°F nighttime temperatures. Artichokes prefer deep, fertile, well-drained soils. On heavy wet soil, they may succumb to Pythium Root Rot. Symptoms are stunting, yellowing, wilting, and plant death. Roots will be soft, brown, and slimy. Arkansas has no chemical recommendations for artichokes. Provide excellent drainage.

Artichoke Pythium Root Rot- *Pythium* spp.



Photo by Raven Bough, University of Arkansas Cooperative Extension

Artichoke Pythium Root Rot- *Pythium* spp.



Photo by Raven Bough, University of Arkansas Cooperative Extension



This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

"This work is supported by the Crop Protection and Pest Management Program [grant no. 2017-70006-27279/project accession no. 1013890] from the USDA National Institute of Food and Agriculture."