



WEST WINDSOR TOWNSHIP

DEPARTMENT OF COMMUNITY DEVELOPMENT Shade Tree Commission

Bacterial Leaf Scorch

Bacterial Leaf Scorch (BLS), caused by the bacterium *Xylella fastidiosa*, clog the xylem, the cells that transport water between the roots and the leaves of a tree and causes the leaves to scorch, which leads to branch dieback. The overall decline of an affected tree can last for several years, but the tree will eventually die.

Detection

BLS symptoms in New Jersey oaks are only visible for a few weeks in mid-summer and early fall. Although many of the symptomatic leaves remain on the tree until normal autumn defoliation, some will fall to the ground early which indicates BLS. However, BLS symptoms can be similar to those caused by drought stress and normal autumn changes.

Leaf Symptoms

In leaves affected by BLS, the outer edges will turn brown, with the discoloration moving toward the center of the leaf in an irregular pattern, as shown on the oak leaf here. Perhaps the most distinguishing visible characteristic of BLS is that the affected leaf will present a "water-soaked" region, sometimes a red band, and sometimes a yellow halo at the transitional area between the browning portion and the healthy green portion of the leaf.

Tree Effects

BLS may affect only one area of the tree before spreading, or may exhibit symptoms throughout the crown. A tree can harbor a BLS infection and re-leaf for several years, but eventually the stress of the disease and the resulting branch dieback will make the tree more susceptible to other pathogens and insects which will speed the tree's decline.

Transmission

BLS is believed to be spread by xylem feeding insects, such as leafhoppers, treehoppers and spittle bugs. These insects pick up the BLS bacteria by feeding on the xylem fluid of an infected plant and then inject the bacteria in the healthy plant leaves while they feed.

Management

Currently, there is no known cure for BLS. Injecting diseased trees with antibiotics can suppress symptom development, but cannot eliminate the bacteria. The injections are expensive, must be repeated yearly, put additional stress on affected trees, and result in only marginal success. The New Jersey Forest Service recommends that you water affected trees and prune off affected branches well below the symptomatic leaves. Monitor your trees and if necessary, seek advice from a New Jersey Certified Tree Expert or Approved Forester for pruning and removal needs.



Source: N.J. D.E.P., Division of Parks and Forestry, Forestry Service - <http://www.nj.gov/dep/parksandforests/forest/community.htm> Jan. 25, 2011

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