

BACTERIAL LEAF SCORCH

Bacterial leaf scorch (BLS) is a chronic and lethal disease of several species of trees, but primarily red oak and pin oak in Readington township. The key symptom, which develops rapidly in about mid-August, is the browning or scorching of the leaf margins. Frequently there is a yellow margin or “halo” at the edge of the scorching. Leaves then typically fall prematurely, well in advance of those of healthy oaks and other species that first develop fall color and then drop.

Symptoms are usually first visible on a few leaves on a few branches. The disease then spreads over the entire crown over a period of several years, up to perhaps ten years or more, and the tree subsequently dies.

The bacterium, *Xylella fastidiosa*, infects the conductive tissue and restricts water movement, stressing the tree and causing decline and eventual death. Because it is a disease affecting water transport in the tree, drought can accelerate the decline. Leaf browning from drought can sometimes be confused with BLS.

Bacterial leaf scorch is spread by insects that feed on the xylem. They pick the disease up from infected plants and move it to healthy ones.

There is no reliable treatment to prevent BLS. Diseased trees can be removed to help prevent spread to healthy ones, but it is likely that nearby trees are already infected. Systemic insecticides can be applied in an attempt to reduce the likelihood of transmission by insects from diseased to healthy trees.

In healthy trees and trees in which the disease has not involved too much of the crown, an antibiotic (oxytetracycline) injected directly into the root flare of the tree can suppress development of the bacterium for a year and reduce symptoms. The treatment must be repeated annually. The antibiotic is not a cure. Even with annual treatment, the disease can gradually spread so that the antibiotic can no longer reach all parts of the crown, and the tree will start to decline.

It is important to create as favorable conditions for healthy trees as possible to help the trees fend off the disease. Irrigation during drought and mulching the root zone no more than two or three inches deep (and not on the root flare) are most helpful. Fertilize based only on a soil sample. Pruning makes no difference; it is better to remove the diseased tree.

