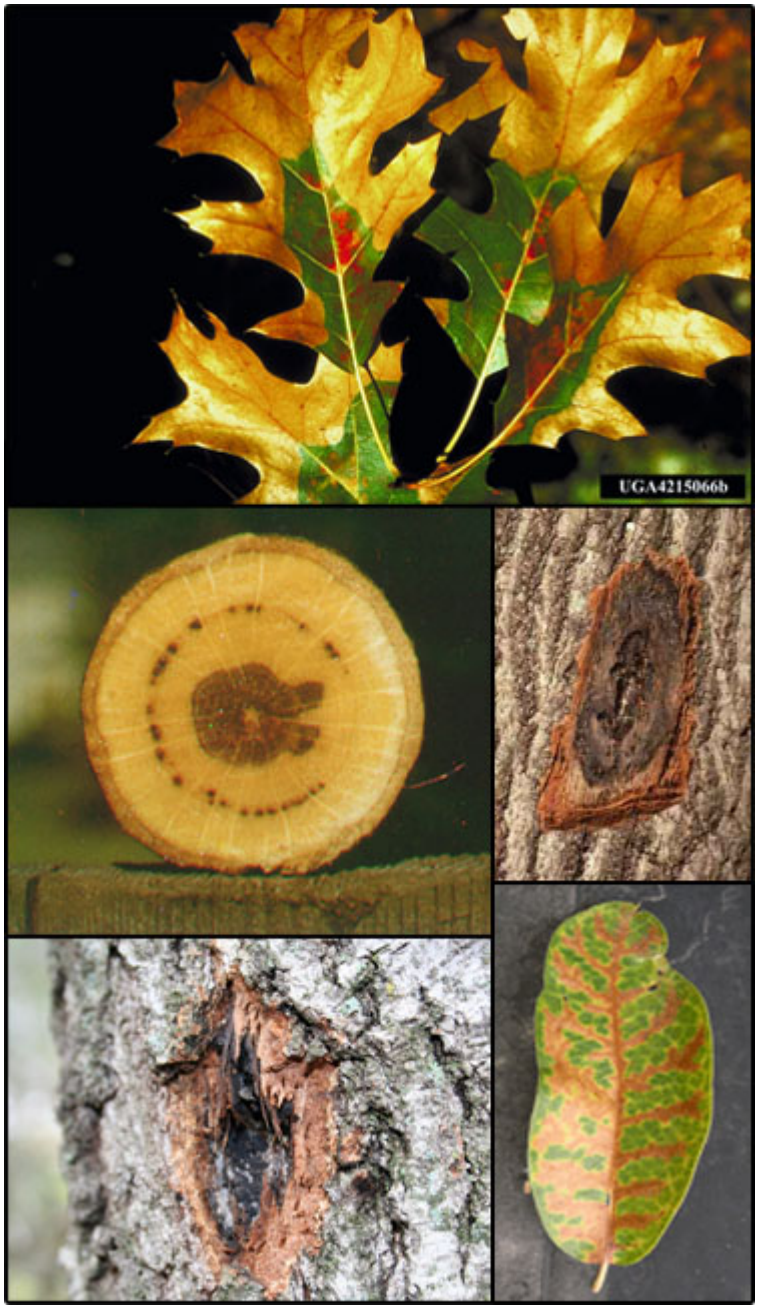
MISIN Midwest Invasive Species Information Network

Oak wilt

Bretziella fagacearum



Description

It was first recognized as an important disease in 1944 in Wisconsin where, in localized areas (less than 100 acres), over half the oaks had been killed.

Identification

Moves from diseased trees to healthy trees via root grafts. Also, above ground, by sap-feeding beetles. At this time, fungal mats develop under the bark of oaks that have died the year before. These mats force the bark to crack open allowing the fungus to release an odor that attracts sap-feeding beetles. After feeding on a mat, the beetles fly to other oaks in the area with fresh wounds. The sap flowing from fresh wounds also attracts these beetles which then infect the wounded tree.

Hosts

Attacks all species of Oak. So far, no known species is immune to this vascular disease.

Source: MISIN. 2024. Midwest Invasive Species Information Network. Michigan State University - Applied Spatial Ecology and Technical Services Laboratory. Available online at https://www.misin.msu.edu/facts/detail.php?id=239.

Infections have been found in 16 native oak species, including most of those of commercial importance. Species of red oak get the disease more frequently and succumb more readily than white oak.

Reproduction

Impact

Oak wilt blocks water movement within the tree by forming fungal plugs called tyloses. . As water movement inside the tree is blocked, apparently healthy leaves are shed and litter the ground in mid-summer. This is unique to oak wilt. Some of the shed leaves with have brown and green areas which are sharply divided.

Monitoring and Rapid Response

Once infected, all red oaks will succumb to oak wilt, usually within the year or sooner. White oaks can linger for years and some seem to survive. To prevent the spread of oak wilt to neighboring trees through root grafts, a trencher or vibratory plow can be used to cut tree roots to a depth of 5 feet (1.5 m). To prevent above ground spread, avoid pruning oaks from April 15 to July 15.

Credits

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