

Mimosa Wilt

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The mimosa or silk-tree, *Albizia julibrissin*, is a desirable lawn tree prized for its rapid growth rate, relatively small size at maturity, adaptability to a wide range of sites, colorful flowers and delicate foliage. The mimosa was imported into the United States from Asia in the mid-18th century and has since become naturalized along much of the East Coast. A disease known as mimosa or Fusarium wilt has become entrenched throughout much of the mimosa's range, severely restricting its use in many areas and threatening its survival in others.

Symptoms

Initial symptoms of mimosa wilt appear as yellowing and wilting of the foliage on one or more branches. The affected foliage soon becomes brown and falls, followed shortly by death of the affected branches. These symptoms steadily progress throughout the entire crown, and death of the plant usually occurs within a year following infection.

Internally, symptoms of mimosa wilt appear as a brown discoloration of the cambial area or outer-wood (Figure 1). This discoloration is most pronounced on the lower stems and branches of infected trees.

Figure 1: Vascular discoloration due to infection with *Fusarium oxysporum* f.sp. *perniciosum*



Causal Agent

This disease is caused by *Fusarium oxysporum* f.sp. *perniciosum*, a soil-inhabiting fungal pathogen. The fungus enters the host through the roots followed by invasion of the vascular or water conducting system. As a result, the vascular system becomes blocked, inhibiting the upward movement of water and nutrients and resulting in wilting and death.

The fungus is spread from diseased to healthy trees via the movement of infected soil, seeds and other plant parts from infected trees, and by the fungus itself. The physical actions of wind and water, and the action of animals such as birds, have been implicated as primary dispersal agents. Human actions, primarily with respect to the movement of soil, undoubtedly play an important role in the spread of the disease.

Control

Once a tree is infected, death is imminent. Infected trees should be removed at once and destroyed, preferably through burning. Neither chips nor any other part of the diseased plant should be used as mulch. Replant with a non-Fabaceae species. If a susceptible host must be replanted, the soil should be chemically sterilized before planting. Two cultivars, 'Charlotte' and 'Tryon,' have been selected for resistance to mimosa wilt; however, they are not immune.