

Mimosa Vascular Wilt

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Guide H-160

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Mimosa wilt is the most serious disease of landscape mimosa trees. The disease has spread rapidly throughout the Southeast and is limiting the usefulness of mimosa as a landscape ornamental in that region. This disease is also increasing in New Mexico, and has been spread throughout the mimosa's range by contaminated soil in nursery containers.

SYMPTOMS

Symptoms of mimosa wilt include chlorosis (leaf yellowing) and leaf wilt by early to midsummer, after which many leaves may yellow and drop without wilting. Some trees die within a few weeks after first wilting, but most die branch by branch over several months. Almost all infected trees die within a year of first wilting. In advanced stages, infected trees ooze a frothy liquid from cracks and grow sprouts on trunks. Brown streaks develop in the roots on the side of the tree where branches first begin to wilt.

BIOLOGY OF *FUSARIUM*

Mimosa wilt is caused by the fungus *Fusarium oxysporum* f. sp. *perniciosum*, a soil-borne fungus that invades trees through the root system. The fungus usually enters through wounds, although a weakened tree is often invaded directly. Near construction areas, tree roots suffering from soil compaction often become infected.

The fungus grows into the woody tissue and produces spores that are carried upward in the sap stream. Spores lodge at vessel end walls, germinate, and penetrate adjacent vessels and cells. Before the cells die they secrete a brown, gummy substance to aid in walling off the infection. Too often the secretion is behind the advancing fungus and the tree continues to wilt.

Once the stem is defoliated, the fungus grows from the wood into the bark and produces orange to pinkish fruiting bodies on the bark surface. Fruiting bodies can survive up to two years on a dead trunk and produce masses of canoe-shaped spores (conidia). Spores wash off in irrigation or rain water, and can be transported long distances by surface water and contaminated soil in nursery containers. This disease also can be transported via seeds produced by infected trees.

MANAGING *FUSARIUM*

A balanced fertilizer (10-10-10) may help alleviate symptoms in infected trees; never use high-nitrogen fertilizers. Infected trees should be watered frequently to decrease wilt symptoms, and dead branches should be removed and burned.

Because *Fusarium* is a vascular wilt pathogen, surface-applied fungicides are not effective. Even with systemic fungicides, chemical control of *Fusarium* wilt is not practical when treating established trees. The most economical control is to plant resistant cultivars of trees and shrubs. Some New Mexico trees and shrubs more resistant to *Fusarium* wilt include redbud, honey locust, and New Mexico locust.

ADDITIONAL READING

Riffle, J. W. and G. W. Peterson. 1986. Diseases of Trees in the Great Plains. USDA Forest Service, Technical Report RM-129.

Sinclair, W. A., H. H. Lyon, and W. T. Johnson. 1987. Diseases of Trees and Shrubs. Cornell University Press, 124 Roberts Place, Ithaca, NY 14850.

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