Verticillium Wilt

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Fig. 1. Development of symptoms: (a) leaves on infected branch wilt, (b) turn brown, and (c) branch dies.

Verticillium wilt, one of the most widespread and destructive soil-borne diseases of plants, attacks a large number of woody and herbaceous species throughout the world. The causal fungus, *Verticillium dahliae*, infects susceptible plants through the roots and invades and plugs the water-conducting tissues.

Symptoms vary somewhat with the kind of plant and the environment, but some symptoms are common to most situations. Plants often are affected first on one side. The leaves may wilt and turn yellow, first at the margins and between the veins, then they turn brown and die upward from the base to the tip of the plant or branch. Dead leaves usually fall; in a few cases they remain attached. Affected branches of woody plants often die. The water-conducting tissues (sapwood) of infected plants are often discolored; discoloration varies with the species but frequently is an olive green, dark brown, or black. There is little or no discoloration in some plants (including olive, ash, roses, and tomatoes). Symptoms are most severe when infected plants are stressed for water.

The fungus forms microscopic, black, resting structures (microsclerotia) capable of surviving in soil for many years. When a susceptible plant is planted in soil infested with the fungus, the microsclerotia germinate and infect the plant. Long rotations with nonsusceptible plants are not effective in controlling the disease.

Mildly affected trees may recover from a Verticillium attack. Their recovery is aided by irrigation. It is best to delay removal of affected branches until it is certain that regrowth will not occur. Severely affected trees should be removed and replaced with nonsuseptible species.

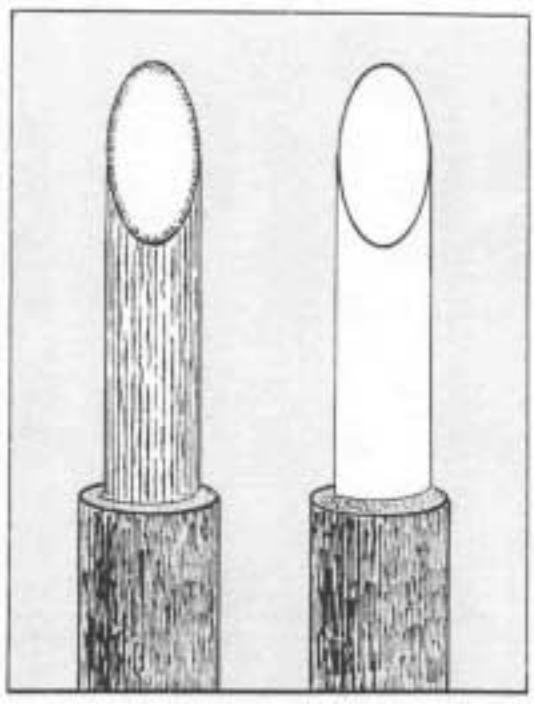

Fig. 2. Branches with bark removed from upper portion. Infected branch on the left has brown streaks in the water-conducting tissue. Branch on right is healthy.

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