



Diplodia Tip Blight

Diplodia is a fungal disease of pines in landscape plantings and pines grown outside of their natural range. No species of pine is immune; however, many are somewhat resistant. In the Midwest, Austrian, Scots, Mugo, and Ponderosa pines are most often affected.

Symptoms

The fungus responsible for this disease cause both needle blight and cankering of the branches. Symptoms often start on the lower half of the tree and progress upwards. The most obvious symptom is the browning of needles at the branch tips (or shoots.) As infected new needles are expanding, they become stunted, turn yellow, eventually turning tan or brown; entire new shoots are killed rapidly. Cankers may form on affected branches appearing as distorted wood and may produce a white, sticky exudate. Branches that become girdled due to canker infection will die. Repeated infection results in deformed tree growth, loss of vitality, and if allowed to continue for several years, tree death may occur.

Life Cycle

The fungus overwinters in infected cones, shoots, and needles. Although spores are produced from spring to early fall, they are especially abundant in spring and early summer when new shoots are expanding. New needle growth can only be infected while they are elongating in the spring. After the needles have fully expanded, they can no longer be infected by the fungus. Spores are released during rainy spring days and scattered by wind, splashing rain, animals or pruning equipment. High relative humidity is required for infection to occur; therefore, the disease is usually more severe in wet springs.

Management

The best prevention is to keep trees growing as vigorously as possible; disease is more severe on trees that are under stress. Maintain tree vigor by providing supplemental water when hot/droughty periods persist. Mulch under the trees to conserve moisture. Avoid overhead watering, watering at night, and do not allow lawn sprinklers to spray the needles. Annual deep root feedings may also be beneficial. Good sanitation practices will help in reducing disease outbreaks and its subsequent severity; remove and properly dispose of fallen infected needles and fallen cones that may be inadvertently harboring the pathogen. During dry weather, prune out infected branch tips and cankered branches. Because the fungus can also infect wounded tissues, avoid pruning trees from late spring to early summer when they are most susceptible. Pruning tools should be disinfected between each cut. Avoid planting new/young pines near old or infected trees that may be harboring fungal pathogens. Good air circulation will help reduce outbreaks; maintain adequate spacing between trees and keep surrounding vegetation mowed and pruned. Fungicide sprays are recommended in conjunction with cultural controls. Three applications should be completed in a season to achieve good control. Effectiveness of the treatments and severity of the disease are affected greatly by weather conditions at time of shoot emergence. Two to three consecutive years of spray applications may be necessary to obtain control. Trees in "high disease pressure" locations may benefit from seasonal applications annually.

