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FACT SHEET

SEIRIDIUM CANKER OF LEYLAND CYPRESS

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Leyland cypress (× *Cupressocyparis leylandii*) is a fast-growing conifer that has been widely grown to form hedges, windbreaks, and barriers in commercial and residential landscapes. Unfortunately, Leyland cypress is very susceptible to a fungal disease called Seiridium canker-- the increased popularity of planting this conifer in the landscape has led to substantial increases in the incidence of this disease. Seiridium canker can cause branch dieback, damage to the main trunk, and may eventually kill the tree. Physical injuries, such as drought stress and winter damage, can result in Leyland cypress trees becoming more vulnerable to the disease.

SYMPTOMS AND DIAGNOSTICS

The pathogen can infect stems, limbs, and even the trunk. The first evidence of Seiridium canker is a browning or a reddening of the surface of stems. This is followed by the development of sunken, dark-brown cankers that may girdle the small branches and cause dieback (Figure 1). Seiridium cankers are often thinly elongated and show dark-brown to purplish discolorations of stem tissues. Exuding resin may also be observed on the surface of infected areas (Figure 2). Small, black fungal fruiting bodies may be visible on symptomatic tissues (Figure 3). If the pathogen grows into the main trunk and forms cankers, the entire tree can be killed.

DISEASE DEVELOPMENT

Three *Seiridium* species, *S. cardinal*, *S. cupressi*, and *S. unicorne*, are associated

Figure 1. Browning of needles above the dark-brown canker lesion on the stem.

Figure 2. Resin oozing from the infected area and discoloration of cambium tissues.

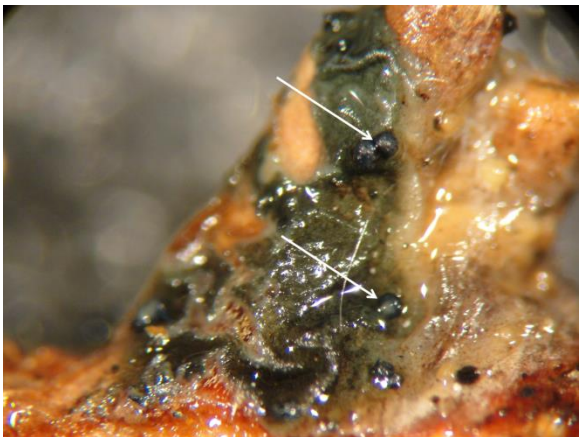

Figure 3. Spores (conidia) released from black fungal fruiting bodies (pycnidia).

with Seiridium canker diseases. They have wide host ranges that include many species in the genera *Chamaecyparis, Cryptomeria, Cupressus, Juniperus, Libocedrus, Platycladus, Taxodium, and Thuja*. The pathogens can survive in infected branches and trunks for many years. When environmental conditions are moist and wet during the growing season, spores (conidia) are released from fungal fruiting bodies (pycnidia). These spores are locally dispersed by splashing water from rain and overhead irrigation. The pathogen also can be spread by contaminated pruning tools, movement of infected plant materials, and insects. The pathogens infect stem tissues through wounds that are caused by winter damage, insects, or other mechanical injuries. The optimal temperature for disease development is 77°F. During the hottest months of the year, growth of *S. cardinal* in host tissues is slow or even arrested. Plants that are stressed by drought and freeze damage are particularly vulnerable to the disease. Severe damage is most likely on sites with dry weather and high daytime temperatures, although wet conditions are required for spore dispersal and infection.

MANAGEMENT

Alternative tree species: In areas where Seiridium canker has been a problem, resistant tree species such as *Thuja* 'Green Giant' and *T. occidentalis* 'Smaragd' should be selected for replacement of screens and hedges. Design landscapes using different tree species and cultivars to maintain genetic diversity and to prevent disease outbreaks.

Cultural practices: Plant Leyland cypress in well-drained soil. Maintain tree vigor by watering trees during periods of heat and drought. Avoid overhead irrigation to reduce the risk of disease spread. Space plants adequately to improve air circulation and to prevent rubbing between branches. Scout for the disease and correctly identify the pathogen, which is important for effective disease management. When the disease is found, prune infected branches about 3 to 4 inches below the cankered area. Disinfect pruning tools with either 10% household bleach or 70% alcohol. Severely affected trees should be removed from the area.

Fungicide application: Currently, fungicides are not effective for controlling this disease.

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