

Keithia Blight

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Keithia blight, a disease caused by the fungus *Didymascella thujina*, leads to blighting, twig dieback, and branch death on species of *Thuja* and *Juniperus* (Figure 1). The pathogen is most damaging on western red cedar, *Thuja plicata*. The cultivars ‘Atrovirens’ and ‘Excelsa’ are the most commonly and severely affected. This disease is found throughout North America but is most common in the Pacific Northwest and Western Canada. Small trees, lower branches of larger trees, and hedges are most likely to be affected. The reason is due to shaded and crowded conditions which impede drying of the foliage favoring infection.

Figure 1: Keithia blight on juniper



Symptoms

Symptoms begin as yellowing or browning of the individual infected leaf scales, usually in sharp contrast to the adjacent healthy tissue. One to several dark brown or black fruiting structures develop on the

Figure 2: Infected leaf scales (tan) exhibiting pit-like fruiting structures



infected scales in late spring and by fall, the infected scales turn completely brown. Diseased foliage will either turn gray or drop off. Fruiting structures (apothecia) embedded in the tissue are clearly visible, but may eventually fall out leaving characteristic holes or pits (Figure 2). Affected scales are usually scattered amongst healthy tissue because the fungus is unable to grow from one scale to the next. Infection is primarily restricted to the current year’s foliage.

Disease Cycle

The principle means of infection is the sexual spores (ascospores), which are forcibly discharged from the fruiting structures and spread by wind and rain. Spore production begins in late spring and reaches a peak between August and November. Infection is favored by conditions that cause foliage to remain moist for extended periods of time.

Management

Cultural practices, such as proper spacing at planting, will promote foliage drying and reduce the likelihood of infection. Shading can increase the severity of this and other foliage diseases. Pruning any over-story or adjacent plants to improve light and air penetration to lower foliage will help suppress disease. On trees that have lost foliage or branches due to this disease, good cultural practices including fertilization based on soil analysis, proper mulching, and irrigation during dry periods in the growing season will aid recovery. Chemical control of this disease requires the proper application of preventative fungicides.



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