

Oak Leaf Blister

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Diagnosis

This infectious disease of many species of oak (*Quercus sp*) trees is caused by the fungus *Taphrina caerulescens*. Leaf blister occurs throughout North America, but it is especially prevalent in the temperate regions of the southern and southeastern states. Red and black oaks are the most susceptible to this disease; however, all oak species can develop the disease. A close fungal relative of leaf blister causes a familiar disease on peaches, called leaf curl. This disease of peaches may have a significant economic impact on fruit production. On oak, the leaf blister fungus is generally more of a cosmetic problem rather than an economic one. Under some circumstances, if the disease is severe for several consecutive seasons, overall tree health may be compromised. The leaf blister disease often goes undetected until infections have reached a severe level. The first infections begin as new leaves emerge in the spring. Disease outbreaks are favored by cool, moist conditions during the latter portions of February and March.

Symptoms

The major impact of oak leaf blister to the homeowner is premature defoliation of the shade tree following severe disease activity resulting from optimum spring weather conditions as new leaves are emerging. If disease pressure is severe enough, leaf deformity may often result. Infected leaves often become unsightly. This particular disease, which affects the foliage, is often misdiagnosed as an insect problem. Symptoms usually become evident in early summer in the South. Raised blisters or bulges appear on the upper leaf surface, and depressions appear on the underside. These depressions are often light green to yellow (**FIG.1-2**). As blisters become older, they will often become grey. Numerous blisters may merge to cause leaf twisting or other deformities. Leaf curl- affected leaves of peach often become severely distorted and pink in color (**FIG.3**). Fungus infection takes place as new leaves emerge in the spring. Spores of the fungus are usually on the leaf bud scales. Infections occur immediately at bud break if environmental conditions are conducive for disease development. As leaves mature, they tend to be more resistant to infection.



FIG. 1 Leaf blister symptoms on red oak



FIG. 2 Leaf blister symptoms on water oak



FIG. 3 Leaf curl of peach

Prescription

Chemical control of oak leaf blister is usually neither warranted nor economically justified, especially on larger landscape trees. If a specimen oak is desired in the home lawn, an appropriate fungicide may be considered, but timing is crucial since infections occur at bud break. For fungicides to be effective, they must be applied prior to bud break in the spring. Chemicals are not effective after leaves emerge because infection has already occurred. Fungicides containing the active ingredients chlorothalonil or mancozeb are labeled for this disease. For effective chemical control, complete spray coverage of the tree is important as well as spray timing. A professional applicator should be considered for spraying larger oaks in the landscape.

Good sanitation practices can also help homeowners reduce disease incidence and severity. Since the fungus is well adapted to survive on fallen leaves and twigs, raking and disposing of these during the winter and early spring, before bud swell, can help also. In order to promote and maintain tree vigor and reduce the effect of the disease, homeowners should be sure that the tree is fertilized correctly and watered well.

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