

## Oak leaf blister

The fungus *Taphrina caerulescens* causes oak leaf blister.

### **Host plants:**

*Taphrina caerulescens* infects many oak (*Quercus*) species, but members of the red/black oak subgroup are typically most susceptible.

### **Description:**

Rounded pale-green bulges develop on leaves soon after infection, while adjacent, healthy, leaf tissue remains flat.



**Upper surface of blistered oak leaves**



**Underside surface of blistered oak leaves**

Photos: E. M. Dutky, *Diseases of Woody Ornamentals and Trees*. APS Press.

As the fungus grows in the leaf blisters, it utilizes materials in the cells as a food source, which kills them. The dead blisters turn gray-green and then brown.

### **Disease cycle:**

*Taphrina* spores germinate and infect immature leaves, if conditions are wet. Fully expanded leaves resist infection. The fungus produces growth-regulating hormones that induce infected leaf cells to enlarge and proliferate, which results in the development of blisters. The fungus lives in a single layer of leaf tissue for about a month after infection. During that time, the production and release of spores occurs. The spores disperse onto the surface of twigs and under bud scales from late spring to early summer. The following spring these spores are available to infect the developing leaves.

### **Management strategies:**

Oak leaf blister can make oaks look unsightly but the impact to the vitality of the tree is minimal in New England. Irrigate when dry, fertilize as needed, prune to maintain sound branch structure, and maintain 2-3 inches of composted mulch over as much of the root zone as possible to enhance tree vitality. Consider the use of fungicides to maintain the appearance of high value trees, especially if there was a severe outbreak the previous season. During wet springs, apply fungicides to dormant trees a week or so before leaves begin to appear.

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