



Oak Leaf Blister: *Taphrina caerulescens*

Introduction

Oak leaf blister or Taphrina blister, caused by the fungus *Taphrina caerulescens* is a common disease affecting many species of oaks. Members of the red oak group are particularly susceptible to infection. Disease development is favored by cool, wet springs and, in years when such conditions occur, noticeable leaf deformity results. White oaks are rarely infected, even in years with cool, wet springs. Heavy infections of red oaks impair their appearance but do not endanger the tree health.



Figure 1: Oak leaf blister symptoms on upper and lower leaf surfaces.

Symptoms and Signs

Symptoms appear in early summer as yellow, blister-like, circular, raised areas, 1/16 to 1/2 inch in diameter. The blisters are scattered over the upper leaf surface with corresponding gray depressions on the lower surface. They turn from yellow to reddish

brown with age. Several blisters may merge and cause the leaves to curl.



Figure 2: Oak leaf blister symptoms.

Disease Cycle

By midsummer, microscopic ascospores are produced by the fungus on the upper epidermis of the leaf. Expelled asci and ascospores sometimes cover the upper and lower surfaces of the blister giving them a white or light tan, powdery appearance. Some of these spores are carried by wind and rain to the buds and become lodged under the bud scales. Here they overwinter. The following spring, they germinate and cause new infections. Infection occurs in the spring when tender, young leaves are exposed. Cool, wet weather is required for ascospore germination on young leaves, and if these conditions prevail, severe infection can occur. If weather conditions are not favorable for spore germination shortly after bud break, only minor infection will occur. As the leaves mature, they become more resistant to infection.

This disease does not pose a threat to tree health but can mar the tree's appearance. In special cases where it is highly desirable to prevent the unsightly infections, a single pesticide application in early spring just before the buds begin to swell will effectively manage this disease. Fungicides will not be effective if applied after bud break.

Homeowners are strongly discouraged from trying to treat large landscape trees. If treatment of large specimens is required, consider hiring a professional applicator. For small specimens, if needed, several pesticides containing the active ingredient chlorothalonil may be available for this use. Some products registered for managing this pest for home garden use in New York State include: Ortho Max Garden Disease Control Concentrate, Bonide Fungonil Multipurpose Fungicide Concentrate; Fruit Tree, Vegetable & Ornamental Fungicide (Monterey); and Gardentech Daconil Fungicide Concentrate. Additional home garden products may be available.

Additional products may also be available for commercial use. Commercial applicators should refer to the appropriate commercial pest management guidelines, or contact their local Cooperative Extension Office for more information on currently registered products. In all cases, read and follow pesticide label directions, and be certain any formulation(s) of pesticide(s) you purchase are registered for the intended use.

READ THE LABEL BEFORE APPLYING ANY PESTICIDE! Changes in pesticide regulations occur constantly. All pesticides distributed, sold, and/or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional DEC office.

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