



## **Oak Root Fungus**

(Shoestring Root Rot)  
(*Armillaria*)

*Armillaria* root disease (also known as oak root fungus, or shoestring root rot) is present in native oak stands and can become a long-term chronic problem for grapevines, apple, cherry, almond, peach, plum, and apricot. Problems with oak root fungus in the foothills have been recorded since the 1880's. The fungus attacks the roots of a plant, travels up the inside of the bark, girdling the plant, then decays woody tissues.

Symptoms include poor shoot growth, premature yellowing and dropping of leaves, dieback, and eventual death of the plant. Sudden collapse of the tree can occur during the dry summer months. Symptoms generally appear on one or two limbs, then in two or three years spread throughout the tree. The roots, up to and including the crown, are killed. Between the brown dead bark and the wood are white to slightly yellow, flat, fan shaped, branching threadlike filaments of the fungus. Dark brown, somewhat shiny, root-like strands arise from the diseased areas and extend along the surface of the bark and a short distance into the soil. At the base of tree there are commonly mushroom-like sporophores.

Once established on a site, it can survive in woody debris for up to 100 years. The spread of this pathogen is slow, by growth of threadlike branches that extend beyond the roots of the host plant and infect other roots. Native oaks with dry soil during the hot summer months, are rarely affected by oak root fungus. However, watering during the summer months provides a desirable environment for the fungus, and places native oaks at greater risk. If native oaks are cut, the fungus becomes a virulent pathogen that colonizes the dying root systems and decays the wood. Under these conditions, plantings of fruit trees or vines can become infected.

