

**Olive Leaf Spot (Peacock Spot)** Steve Sibbett, U.C. Farm Advisor Emeritus

Olive leaf spot, peacock spot, and bird's eye spot are names for the disease caused by the fungus *Spilotea oleaginea* (Cast.) Hughes. Worldwide, it is known as olive leaf spot; in California, it usually is referred to as peacock spot. The disease occurs in all olive-growing regions of the state. Cultivars vary in susceptibility, but all are subject to infection. Outbreaks are sporadic, and the disease may take several years to become serious enough to cause alarm.

**Symptoms.** Leaves, fruit, and fruit stems may be attacked, but lesions are observed most often on the upper leaf surfaces. Lesions first appear as small sooty blotches 1/16 to 1/4 inch (2 to 6 mm) across; these later become muddy green to black spots (color plate 18.2). Some lesions develop a yellow halo and remind people of the "eye" spot on a peacock's tail feathers; hence, the vernacular names peacock spot and bird's eye spot. Many lesions may occur on a leaf. Most infected leaves fall prematurely, which weakens and kills small wood and eventually reduces productivity. New infections are first seen in late winter and early spring; by summer, most affected leaves have fallen, leaving partially defoliated shoots with healthy leaves on the tree. The disease is usually most severe in the tree's lower part and north side. Old lesions become crusty and whitish and seldom produce many conidia (fungus).

**Disease cycle.** Not all infected leaves fall, and the fungus survives on those that remain in the tree. These holdover lesions produce very few conidia during summer, and in fall, the lesion margins expand and a new crop of conidia is produced. In Spain, young leaves were found to be very susceptible in spring. Many young leaves infected in spring remained symptomless until fall when they became the main sources of inoculum through autumn and winter. The conidia are picked up and spread by moving water, which is why the lower parts of trees are most commonly infected. Lateral spread is very limited and even adjacent trees may exhibit vastly different amounts of disease. Conidia germinate only in the presence of free moisture, and germination, infection, and mycelial growth proceed readily over a wide range of temperatures, 70oF (21oC) being optimal. Most infections take hold during the coldest part of California winters; temperatures above 86oF (30oC) restrict germination of the spores. Infections established in winter take longer to become visible as lesions than do those initiated in spring. Inoculum buildup appears to play a major role in the severity of olive leaf spot. It may take several years for this disease to cause economic loss.

**Control.** Olive leaf spot is controlled by a copper-containing fungicide applied once in late fall before winter rains begin. A second application is of questionable value; if used, it must be applied before mid-January. Later treatments, as recommended for olive knot, offer no protection against olive leaf spot.