



## CHERRY LEAF SPOT

Cherry leaf spot is caused by the fungus *Higginsia (Coccomyces) hiemalis*. It is one of the most serious diseases of sweet and sour cherries in the Midwest. Trees are often defoliated by midsummer and sometimes produce dwarfed, unevenly ripened, soft, and watery fruit with an insipid taste. Repeated defoliation results in: (1) devitalized trees that are more susceptible to winter injury, (2) small and weak fruit buds; (3) the death of fruit spurs; (4) a reduction of fruit set and size; (5) reduced shoot growth; and (6) tree death.

### SYMPTOMS

Cherry leaf spot generally affects the leaves, but lesions can occur on the fruit, leaf stems (petioles), and fruit stems (pedicels). During the latter part of May and the first half of June, small circular purple spots appear on upper leaf surfaces (Figure 1). These spots gradually enlarge to 1/4 inch in diameter (6 millimeters) and turn reddish brown to purple with a definite border. On sweet cherry leaves the lesions are often larger and more nearly circular than those on sour cherry. Lesions often merge, producing a large irregular spot. During damp weather, white to light pink masses of sticky spores (conidia) form on the underside of the leaves in the center of the spots. After six to eight weeks, the infected tissue drops out, giving the leaf a shothole appearance.

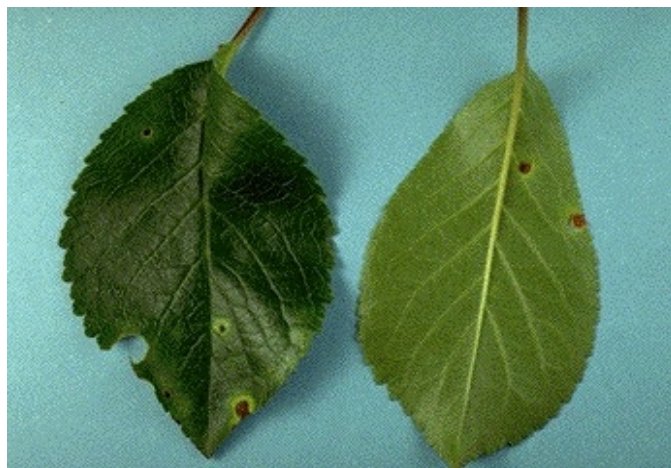


Figure 1. Spots on cherry leaves begin as discrete brown spots with a distinct border.



Figure 2. Leaves, particularly on sour cherries, turn bright yellow immediately prior to dropping.

The most conspicuous symptom of leaf spot, especially on sour cherries, is the golden yellowing of older infected leaves before they fall off (Figure 2). Only a few lesions per leaf will result in leaf yellowing and defoliation. Similar spots form on the petioles, pedicels, and fruit causing the fruit to ripen unevenly. Fruit infection may be so severe that the crop is unmarketable.

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## DISEASE CYCLE

The cherry leaf spot fungus overwinters in dead leaves on the ground. In late winter to early spring (about petal fall), fruiting structures called apothecia develop on these decaying leaves. Ascospores produced in asci within the apothecia are forcibly discharged during rainy periods for six to eight weeks, starting at about petal fall. The greatest ascospore discharge occurs at temperatures of 61°F (16°C) and above, somewhat less at 54°F (12°C), and very little at 39° to 46°F (4° to 7°C). The ascospores are carried to green leaves by wind and splashing rain. The spores attach to the lower leaf surface, germinate in a film of water, and within several hours send germ tubes through the stomata into the leaf. Small purple spots appear on the upper leaf surface after 5 to 15 days. The incubation time, from infection to the appearance of spots, varies from 1 to 3 weeks.

Conidia, another kind of spore, are produced in flesh-colored masses in acervuli in these spots during the summer and are splashed to other leaves. These secondary infections, which are very damaging, develop during rainy weather in late spring, summer, and early autumn. Infections become increasingly numerous, followed by a yellowing and dropping of the leaves.

## CONTROL

Cherry leaf spot is not difficult to control, provided that the following steps are taken.

1. Where feasible in backyard plantings, collect and destroy the fallen leaves in late autumn.
2. Apply four sprays of a suggested fungicide:
  - A. When the husks or flower remnants begin to split (shuck-split) and pull away from developing fruit;
  - B. Ten to twelve days after shuck-split;
  - C. Immediately after the fruit is picked;
  - D. Ten to fourteen days later.

The first spray is timed to prevent infection by ascospores. The next three sprays will prevent infection from both ascospores and from conidia. The postharvest sprays protect the leaves from dropping prematurely.

Commercial orchardists should follow the cherry spray schedule suggestions outlined in Illinois Commercial Tree Fruit Spray Guide. Home fruit growers should use the Midwest Tree Fruit Pest Management Handbook. Both publications are available at your nearest Extension Office or call 1-800-345-6087.

When using any fungicide, always follow the manufacturer's directions as printed on the package label. Uniform and complete coverage of the foliage with each spray is important. Parts of leaves not sprayed with fungicide are likely to become infected. Poor coverage may result from (1) poorly pruned trees or overly thick plantings, (2) an inadequate sprayer, or (3) not enough spray mixture being applied.