



LEAF SPOT DISEASES OF ENGLISH IVY

The English ivy (*Hedera helix*) is a hardy evergreen vine that is grown widely as a ground cover under trees and in other areas where it is difficult to grow grass. English ivy is a decorative plant on walls, rocks, and other rough surfaces, or trained to cover a trellis. Window boxes and hanging baskets are also attractive settings for ivy. English ivy grows best in shade and on the surface of buildings where the walls are in at least partial shade. The plants have woody stems and climb by aerial rootlets that cling readily to brick or masonry and less so to wood.



Figure 1. Bacterial leaf spot of English ivy. Note light colored, translucent halo around lesion.

In Illinois, the English ivy is commonly attacked by one or more leaf spot diseases. In some cases, stem cankers are produced by the same organisms that cause leaf spots. The more common leaf spot diseases and their controls are described in this report.

BACTERIAL LEAF SPOT AND STEM CANKER

Bacterial leaf spot and stem canker, caused by *Xanthomonas campestris* pv. *Hederæ* (*X. Hederæ*), is the most common disease of English ivy. It is first seen as small, circular, dark green, water-soaked (oily) lesions on the leaves. As the disease develops, the spots enlarge into roughly circular to angular areas with greenish brown, water-soaked margins and reddish brown to black centers. The margins of lesions on older leaves are reddish or reddish purple, but the water-soaked appearance is evident on the underside of the leaf, especially when it is held up to the light. Frequently, a yellow (chlorotic) halo surrounds older lesions (Figure 1). With alternating wet and dry periods, the centers eventually become dry and cracked.

Under warm, wet conditions, extensive black cankers develop on the stems and petioles. Infections may cause the portion of the plant that extends beyond the infected area to crack, girdle, and wither along the length. When cankers develop on the stem, the plant fails to grow normally and remains dwarfed and unthrifty, with yellowish green foliage. Stem infections may occur directly through the susceptible new growth. A soft, dark brown-to-black decay occurs rapidly in the stem tissues and advances until the older tissue is reached. Twig tips turn black and die back into the old wood.

Bacterial leaf spot and stem canker is most common on leaves that are shaded and close to the ground, especially near water spigots and other wet areas. The bacterium enters the vine through natural openings,

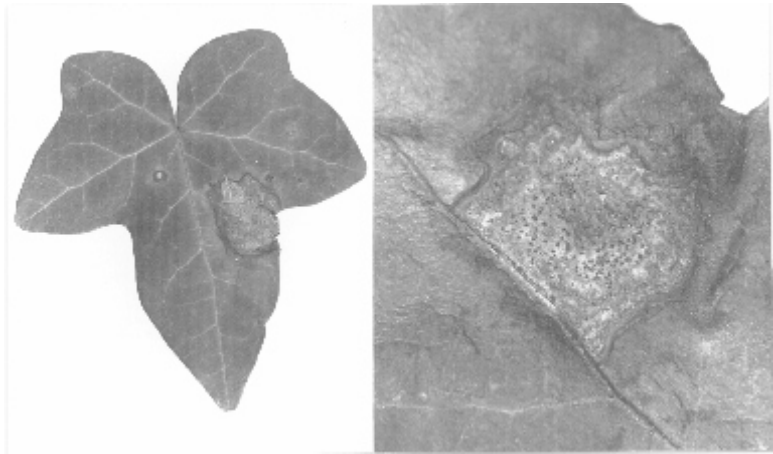
For further information contact Nancy R. Pataky, Extension Specialist and Director of the Plant Clinic, Department of Crop Sciences, University of Illinois, Urbana-Champaign.

such as stomates or hydathodes, and wounds and is spread principally by splashing water and persons working among wet plants. The organism survives between growing seasons in the soil and in plant refuse.

FUNGAL LEAF SPOTS

All fungal leaf spot diseases of ivy, although caused by different organisms, have one major factor in common: they require a film or droplet of water on the leaf surface for the spores to germinate, grow, and invade the plant tissue. Thus, the most important control measure for these diseases is to keep the foliage as dry as possible. In greenhouses, avoid overhead watering; water only to the potting media and roots. Proper sanitation is important to eliminate these causal fungi from growing areas.

These fungi all produce spores that are disseminated by splashing water (rain or irrigation) and by persons working among infected plants when they are wet. The spores of certain fungi are also windborne or transmitted from one plant to another by sticking to the bodies of insects and mites. The spores germinate in water and invade leaves through natural openings as well as directly. These fungi overseason in diseased leaf and stem tissues.



1. *Colletotrichum* leaf spot, caused by the fungus *Colletotrichum trichellum*, appears as irregular, generally dry, brown to reddish brown spots up to about 3/4 inch (2 cm) in diameter (Figure 2, left). Many of the spots spread inward from the margin of the leaf. Black specks (fungus fruiting bodies or acervuli), containing black, needlelike structures (setae), commonly appear within the lesions on the upper leaf surface (Figure 2, right). Lesions on the petioles and stems may result in premature defoliation, dieback of the stems, or even death of plants in scattered patches.
2. Scab or *Sphaceloma* leaf spot, caused by *Sphaceloma hederiae*, appears as small, raised, round to irregular spots with reddish brown margins and grayish white, slightly depressed centers that are later sprinkled with dark fungus fruiting bodies (sporodochia). The spots are often numerous and may merge to form irregular blotches.
3. Minor fungal leaf spots reported on English ivy include those caused by *Phyllosticta concentrica*, *P. hedericola*, *Cercospora hederiae*, species of *Coniothyrium* and *Corynespora*, *Sphaeropsis hedericola* (*S. hederiae*), and *Ramularia hedericola*. These uncommon to rare diseases appear as small to large, round to irregular spots of various colors, often with conspicuous margins or concentric rings. Infected leaves may occasionally wither and fall prematurely, giving the plants a ragged appearance.

Control (for all leaf spot diseases)

1. Select and plant only vigorous, disease-free plants in new beds.
2. Remove and burn diseased plant parts, or haul them away with the trash as soon as you notice them.
3. Remove dead leaves, stems, and other accumulated dead plant debris very early in the spring before new leaf growth commences.
4. Thin the stand periodically to prevent dense growth.
5. Water early in the day on a rising temperature so that drying occurs before evening. Avoid excessive splashing of water or syringing while irrigating.
6. Keep water off the foliage and space the plants well. Avoid high humidity and high temperatures in the greenhouse and indoors.
7. If leaf spots have been severe in the past, apply fungicide sprays, starting when the new leaf growth begins in the spring. Sprays are needed during rainy spring and early summer weather at about 7- to 10-day intervals. Refer to Illinois Homeowner's Guide to Pest Management, Circular #1354.