English Ivy Leaf Spots
There are two important English Ivy (Hedera) leaf spot diseases in Kentucky, one caused by a bacterium, and one by a fungus. The two diseases are sometimes difficult to differentiate.

**Bacterial leaf spot** is favored by periods of warm, wet weather typical of summer in Kentucky. This disease, caused by the bacterium *Xanthomonas campestris* pv. *hederae*, is especially damaging to Ivy growing in many landscapes. The bacteria invade leaves, shoots, and stems through stomata and wounds causing, on the leaves, a greenish-brown angular spot 1/4 to 1/2 inch or larger in size. The spots sometimes appear greasy and may have a yellow margin; as they age, spots turn dark brown and may crack as they dry.

The disease is diagnosed in the laboratory by observing bacterial streaming under the microscope, however, when the disease is very active in the field, it can also be diagnosed without magnification. Cut through several leaf spots with a sharp knife and place small infected leaf pieces on a glass slide. Add a drop or two of clean water to the infected tissue and cover with small glass cover slip. After a few minutes to an hour, bacterial streaming can be seen just by holding the glass slide up to the light and observing the milky color of the water near the dissected leaf spot.
Fungal leaf spot (anthracnose) appears as large, irregularly shaped tan or brown spots having numerous pimple-like fungal fruiting structures in the dead tissues. The causal fungus is *Glomerella cingulata*, however, the imperfect fungal state, *Colletotrichum* is normally observed. Close examination with a hand lens may show spine-like formations associated with the fungal fruiting structures. There are other fungal leaf spot diseases of English Ivy which also produce fungal fruiting structures; this distinguishes them from bacterial spot, which produces none. Fungal spots do not produce bacterial streaming as described above.

To control fungal and bacterial diseases of English Ivy, growers should avoid planting diseased plant material, and avoid sprinkler irrigation which splashes pathogens from diseased to healthy plants. Where ivy is being replanted, an application of mulch could reduce movement of bacteria from infested soil by splashing rain. Chemical control options, if needed, are listed in U.K. Extension Publication ID-87, “Guide for control of annual and perennial flower and ground cover diseases in the landscape.”

Vinca Stem Blights
Stem blight, caused by the fungus *Phoma exigua* var. *exigua* is a serious disease of *Vinca minor* (periwinkle) in Kentucky. Stem blight causes wilting and dieback of shoots. Black lesions girdle the base of affected shoots and tiny black pycnidia, or fruiting bodies of the fungus are found in the lesions. The fungus overwinters on old infected runners, often hidden from view by the new growth. Shoot dieback symptoms may progress to death of entire clumps or patches of vinca, resulting in an uneven ground cover.

Stem blight can be mistaken for root rot caused by *Rhizoctonia*, which can also develop black stem lesions. However, stem lesions from root rot infections do not contain the tiny black pycnidia.

Infected plants should be removed from the bed. Thinning of vinca beds and reduction of overhead shade will help reduce stem blight. Chemical control options, if needed, are listed in U.K. Extension Publication ID-87, “Guide for control of annual and perennial flower and ground cover diseases in the landscape.”

Ajuga Crown Rot
Ajuga, or Bugleweed is valued as a ground cover in Kentucky landscapes because it forms a dense mat-like cover. Ajuga is subject to one major disease, crown rot, caused by the fungus *Sclerotium rolfsii* (sometimes
referred to as *Sclerotium delphinii*). Crown rot is favored by the warm, humid weather typical of Kentucky.

In early stages of the disease, infected ajuga may show yellowing of lower leaves. Plants soon wilt and die because the causal fungus has invaded the roots and crown and cut off the water supply. Badly infected plants may be easily pulled up because the roots and crown have been destroyed. Circular patches of dead plants appear, especially in poorly drained beds.

The most revealing diagnostic feature is the presence of small spherical tan to reddish brown sclerotia of the fungus. The sclerotia, about the size of a mustard seed, survive winter or other unfavorable conditions, allowing the fungus to resume infections of nearby susceptible plants next season.

Pachysandra Leaf Blight and Stem Canker

Pachysandra, or Japanese Spurge is commonly used for beds of leafy ground cover in the landscape. Pachysandra tolerates shady locations and is sometimes used where turfgrass will not survive. The most devastating disease of Pachysandra is leaf blight and stem canker, caused by the fungus *Volutella pachysandricola*. This disease can destroy large areas in a bed.

Infected leaves first develop tan or brown blotches with dark brown margins, which expand, often with concentric lighter and darker zones. Stem and stolon cankers can become numerous, and plants start to wilt and die. Cankers appear as water soaked diseased areas, turn brown, shrivel and often girdle the stem. Infections often begin in damaged or senescent plant parts and spread into healthy plant parts.

*V. pachysandricola* is a wound parasite, capable of girdling stems within 2 weeks of infection. Under warm, humid conditions in late spring and summer, the fungus produces pink fruiting structures containing masses of fungal spores on the surfaces of cankers and undersurfaces of infected leaves.

Volutella blight of pachysandra is often associated with plant stresses such as recent transplanting, exposure to bright
sunlight, shearing, scale insects, and previous winter damage. Normally this disease does little damage to vigorous plants, so providing good growing conditions is the most important control measure. Some pachysandra beds have been aided by thinning of the plants to reduce dampness and humidity in the bed. Severely diseased plants should be lifted out and destroyed. Chemical control options, if needed, are listed in U.K. Extension Publication ID-87, “Guide for control of annual and perennial flower and ground cover diseases in the landscape.”

(Revised 9-04)