

Horticulture Hotline

HORTICULTURE

July 2008

LEAF AND STEM BLIGHTS DAMAGE LANDSCAPE GROUND COVERS

by John Hartman



Kentucky gardeners often plant shade-tolerant ground covers in locations where turfgrass is difficult to grow or to provide a change in texture in the landscape. Often-used ground covers such as pachysandra, vinca and English Ivy are subject to several diseases, some of them devastating.

Pachysandra

Some pachysandra beds develop patches of dead plants which are often very visible and unsightly. The most devastating disease of Pachysandra is leaf blight and stem canker, caused by the fungus *Volutella pachysandrae*. This disease kills plants and 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. pachysandrae* is an opportunistic fungus which invades wounds and, after infection, is capable

of girdling stems within 2 weeks. 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 on the lower surfaces of infected leaves.

Volutella blight of pachysandra is often associated with plant stresses such as recent transplanting, exposure to direct 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. Fungicides such as chlorothalonil or mancozeb can be used for control if needed.

Vinca

Stem blight, caused by the fungus *Phoma exigua* var. *exigua* is a serious disease of *Vinca minor* (periwinkle, ground myrtle) in Kentucky. Symptoms begin as shoots gradually fade, wilt, and turn dark brown. Black stem blight lesions girdle the base of affected shoots and tiny black pycnidia, the fruiting bodies of the fungus, can be found in the lesions. The fungus overwinters on old infected runners, often hidden from view by the new growth. 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. Chipco 26019, Cleary's 3336, Domain, or Zyban can be used if fungicides are needed for control.

English Ivy

Summer weather brings on English ivy problems, primarily leaf spot diseases. 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 distinguish.

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*, can be especially damaging to ivy growing in many landscapes. The bacteria invade leaves, shoots, and stems through stomata and wounds causing a greenish-brown angular leaf 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, the disease is often so active that county agents or landscape industry specialists can also diagnose the disease in the field in the same way. 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.

Growers should avoid planting diseased plant material, and avoid sprinkler irrigation which splashes bacteria from diseased to healthy plants. Copper-based fungicides which also serve as bactericides can be used to slow the spread of bacterial 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 now. 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.

Cultural practices for control of anthracnose and fungal leaf spots are similar to cultural practices for control of bacterial leaf spot. The fungal diseases can be additionally managed with fungicides such as thiophanate-methyl [Cleary's 3336] (cleared for anthracnose of landscape plants) and mancozeb [Fore] (used for fungal leaf spots of ornamentals and which can be tried on unlabeled ornamental plants).



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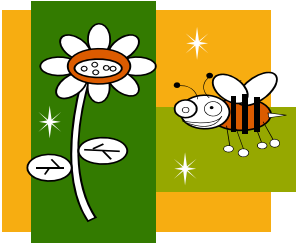
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BUG BYTES

CALICO SCALE ALERT

By Mike Potter and Dan Potter

In recent years, calico scales have become rampant on several landscape plants, including honeylocust, hawthorn, hackberry, sweet gum, yellowwood, dogwood, flowering crabapple, and sugar and Norway maples. Infestations are so heavy in some cases that entire twigs and stems are covered by the scales and the trees are in decline.



Mature calico scales, *Eulecanium cerasorum*, are large, black and white globular-looking insects about the size of a pencil eraser. They have a soft, leathery body and when crushed ooze a gummy, wax-like fluid. The immobile, adult female is the life stage observed during the spring, attached to twigs and stems. Some people mistake them for ladybugs, which are roughly the same size. Like other scale insects, the calico scale feeds by sucking plant juices. Heavy infestations can cause premature leaf drop, branch dieback and, coupled with other stresses, eventual tree death.

The mature females are now dying. Underneath them are thousands of eggs which have begun

hatching into crawlers. The crawler stage prefers to suck plant juices from the leaves (further stressing the plant), and also excretes copious amounts of honeydew. The sticky honeydew and resultant sooty mold are cosmetically unappealing and can stain patios and car finishes, and attract wasps and other nuisance pests. Another reason to take action against the crawlers is that they can become wind borne, spreading the infestation to other trees nearby.

Management It's too late to impact the mature females, which turn brown and die just before crawler hatch. However, the underlying eggs have hatched, and the crawlers are settling on the leaves. The yellowish, newly-hatched crawlers are tiny, but under close inspection their movement will be visible to the naked eye. Insecticide applications, timed to coincide with emergence of young crawlers, will break the cycle of development and help alleviate further plant stress. The most effective insecticides for crawler control are pyrethroids such as TalstarOne, Tempo (= Bayer Advanced Lawn & Garden Multi Insect Killer), and Scimitar (= Spectracide Triazicide). Sevin also can be used. So-so control of crawlers can also be achieved with 2% horticultural oil or insecticidal soaps. Thorough coverage of infested twigs, branches and adjoining leaves is important. The hatching period lasts several weeks so a second application 2 to 3 weeks after the first may provide more complete control. Calico scales overwinter on the bark as mid-sized nymphs. To further reduce the likelihood of problems occurring next year, it may help to follow up with a dormant oil application in fall or winter to trees that were heavily infested with calico scales this year.

For more information log on to <http://www.ca.uky.edu/entomology/entfacts/scaleinsectsmenu.asp> or call the Extension Office.



!Kids Corner!

Summer Night Lights

by Genny Fannucchi

<http://www.dnr.state.wi.us/org/caer/ce/eeek/critter/insect/fir-fly.htm>

Lightning bugs....Have you ever wondered about the small, blinking creatures that light up summer nights? Lightning bugs, also called fireflies, are not simply bugs and are not flies.



They are beetles and part of a scientific family that contains the largest order of living things—290,000 species at last count. In fact, there are about 136 different species of fireflies illuminating earth's summer nights.

Fireflies are easy to locate. Go outside at different times during the evening and watch for small twinkling lights in the air. Good places to find fireflies are over meadows or lawns and at the edge of woods or streams. Fireflies are carnivorous. They eat other insects, small animals in the soil, and snails. Fireflies overwinter as larvae buried in the soil and emerge in the spring to feed. In summer, they pupate for about 2½ weeks within a small earthen cell before emerging as adults. The adult fireflies signal each other with their lights and mate. The female's eggs are laid a few days after mating, on or slightly under soil. The eggs hatch in 4 weeks. The larvae, once hatched, begin to feed until fall. They burrow underground and overwinter. The summer evening light shows that you see are performed by male fireflies. They flash patterns of light to females. The females signal in response from perches in or near the ground. When the male sees the female's flash he continues to signal and moves closer. Eventually, through a series of flashes, they find each other and mate. Each species of firefly sends different mating signals. In fact, a beetle specialist or a keen observer can recognize most species by the number, duration, and time lapses between flashes.

The male firefly of the species *Photinus pyralis*, beams a single half-flash during a forward rising

flight movement. It looks like the letter "J." The female responds with a single flash. Another species, *Photinus consumilis*, signals his mate with a rapid succession of flashes. She responds with two beams. In general, males will not fly down to a female that sends the wrong species signal. But, some females of differing species have evolved the ability to mimic the response flashes of species other than their own. As the male flies down to a mimicking female, he is captured and eaten, gulp! The light given off by fireflies during their abdominal flashes is called bioluminescence. It happens when oxygen and the organic compound luciferin react together in the presence of the enzyme, luciferease. This creates light. Although other insects can produce light, fireflies are the only insects that can flash their light on and off in distinct signals. Even the eggs and larvae of some firefly species glow. That's where the name "glow worm" comes from.

Fun on a Mid-summer's Night

Here's a way for you to learn about your local fireflies.

1. Gently catch and observe lightning bugs in a jar. Make sure that air is provided for the fireflies. Get an adult to help you punch air holes in your container.
2. Observe the flashing in the jar. Count the number of flashes, how long they last, and the time between flashes. Do this for 5 minutes. Record your data.
3. Return to your capture site and gently release your insects. Wait 1 hour and return to your site. Recapture fireflies and repeat your observations. If you notice a different flashing sequence, you probably have a different species.

You can experiment by growing another necklace using different seeds, combinations of seeds or by adapting different containers (egg crates, plastic eggs, etc.), trying different growing media, or allowing the plants to grow in warmer or brighter conditions.



Send me pictures of your neck pet, and I will put them in the next newsletter!

Check this out on the web:

http://www.jmgkids.us/media/lit_sample_neck_pet.pdf

~Note from Kim~

Summer is finally here! Tomatoes, corn and all the goodies of the garden are available at the Franklin County Farmers Market. Be sure to watch for insect pests, diseases and other problems in your home garden and landscape and head them off early.

Happy Gardening!
Kim

On Another Note:

It is with a sad heart that I inform you that our Staff Assistant, Ann Gill, will be leaving the Extension Office on July 30th. Ann's smiling face, many talents, great organizational skills, and sense of fun in the office will be greatly missed. We wish Ann the best in her future endeavors!!



Kim Cowherd, Franklin County Extension Agent for Horticulture

Useful Web Links



<http://www.pickyourown.org/KY.htm> Find out where to go in KY to pick your own fresh from the farm fruits and veggies!

<http://bugguide.net> An online community of naturalists who enjoy learning about and sharing our observations of insects, spiders, and other related creatures.

<http://www.dnr.state.wi.us/org/caer/ce/eeek/index.htm> EEK!! Environmental Education for Kids- LOADS of great activities and information.

<http://www.kyisatree.org/> Kentucky Arborist Association. Find out information on Ky's Trees and those who care for them.

www.ca.uky.edu/agc/pubs/id/id128/id128.pdf This is THE publication on how to raise a garden in Kentucky. It's long (the paper version is 55 pages!) but it's jam-packed with good gardening information.

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Quibbles 'n' Bits

All good work is done the way ants do things: Little by little.

- Lafcadio Hearn

Only God can make a tree, but I'm in charge of seeds and weeds!

- Author Unknown

Any garden demands as much of its maker as he has to give. But I do not need to tell you, if you are a gardener, that not other undertaking will give as great a return for the amount of effort put into it.

- Elizabeth Lawrence

**My green thumb came only as a result of the mistakes
I made while learning to see things from the
plant's point of view.**

- H. Fred



Al
Contact the Extension Office at 695-9035 if you would like to receive our newsletter via email or email requests to ann.gill@uky.edu or kim.cowherd@uky.edu

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