



UNIVERSITY OF ILLINOIS EXTENSION

HOME, YARD & GARDEN PEST

College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana-Champaign
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NEWSLETTER

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PLANT DISEASES

Black Spot of Rose

Susceptible roses are showing moderate to heavy infection by the black spot fungus, *Diplocarpon rosae*. It causes black spots, with fringed margins on either leaf surface. As the disease progresses, foliage turns yellow, with black spots; early defoliation follows. Even the flower stems, petals, and canes may show spotting. Disfigured flowers and weak growth make this disease hard to accept in the garden.

The black spot fungus thrives on wet leaves under high humidity and warm temperatures. It overwinters on fallen leaves and rose canes, so fall and spring cleanup can help reduce inoculum. Practices that help air movement in the garden reduce disease spread because plants dry more quickly. Wet leaf surfaces are necessary for fungal infection. Even with these practices, you will likely see some black spot on susceptible plants.

If possible, use resistant rose cultivars. Fungicides may be used to supplement disease control on susceptible cultivars if used as protectants for the healthy new growth. Applications must begin when new leaves appear and weekly into the fall although often sprays can be suspended in hot, dry periods. Follow label directions of the product chosen. A spray of lime-sulfur in the dormant season (winter) may also help disease control. There are 28 products listed as options in the *Home, Yard, and Garden Pest Guide* and almost as many in the *Commercial Landscape and Turfgrass Pest Management Handbook*. Look at the end of the disease chapters in these manuals for information on mobility of the chemicals. The systemic products give longer control than the contact chemicals. Consider this when looking at options, costs, and number of applications needed. Active ingredients are listed, so you can see which products are offering the same active ingredient.

For more on black spot, consult *Report on Plant Disease (RPD)*, no. 610, available in University of Illinois Extension offices or on their VISTA web site. (Nancy Pataky)

Dogwood Anthracnose

Anthracnose has been common this year on shade trees. Details are provided in issue no. 5 of this newsletter. Most of those fungi are not a threat to plant health, and affected trees often recover by late June. Dogwood anthracnose, however, is a more damaging disease with the potential to cause dieback, decline, and possibly death if untreated. It is a potential threat to dogwoods in Illinois, so it is important to be aware of disease symptoms to make an early diagnosis and initiate the proper controls.

Dogwood anthracnose is caused by the *Discula* fungus and is usually referred to as *Discula* anthracnose to avoid confusion with a minor disease called spot anthracnose. The two are easily confused. The spot anthracnose fungus infects leaves, young shoots, and fruit, causing small spots with purple borders. *Discula* anthracnose causes leaf spots and stem cankers, and it may kill shoots. Infected leaves may have brown spots with purple borders that are usually larger than those of spot anthracnose (1/2-inch diameter versus 1/4-inch diameter). The edges of the leaves may be necrotic; the dead area may spread over the entire leaf. Brown leaves often remain attached for a month or more. If you suspect that leaf symptoms resemble *Discula* anthracnose, examine larger branches for cankers by peeling back the bark in infected areas. Look for twigs dying back, especially in the lower crown. Under very humid conditions, infected leaves and twigs produce tiny fruiting bodies with masses of spores, which are used to confirm the disease in the lab.

Spot anthracnose usually does not require fungicide sprays for control unless conditions stay favorable for prolonged periods. *Discula* anthracnose is difficult to control once it has caused significant dieback. Maintain optimum conditions for growth and recovery: water during drought stress of 2 weeks, avoid overhead irrigation, apply a mulch over the root system, and improve air movement around trees (through pruning of surrounding vegetation) to minimize infections and encourage drying. Prune and discard infected branches and shoots. Rake up fallen leaves. Avoid high nitrogen fertilization, which encourages succulent, susceptible vegetation.

We have not seen many *Discula anthracnose* problems. The disease is prevalent in moist, humid areas in dense forests where plants do not dry out quickly. In Illinois, we tend to use our dogwoods as specimen trees in the landscape. Such sites are usually exposed to sun and good air flow, so foliage dries quickly. In fact, positive cases of this disease have been found more often in wooded sites than in the landscape.

For pictures and more information, consult the University of Tennessee's Web site at <http://dogwood.ag.utk.edu/>. Work on this disease has been ongoing for many years. (*Nancy Pataky*)

Hosta Diseases Starting

Hundreds of interesting hostas are available to landscapers; and this easy-to-grow plant thrives in shade. It is no wonder it has become such a significant factor in landscape designs. Only a few diseases bother hosta, but one or two of them can be quite damaging. It is important to identify diseases early to take quick action for preventing spread to valuable plants. Disease symptoms are starting to show now.

Anthracnose is a fungal leaf disease of hosta that has been prevalent for the last several years. Infection can result in loss of aesthetics, but the plant is not killed. The pathogen is a *Colletotrichum* species that thrives in warm, wet weather. Symptoms include large, irregular spots with darker borders; the centers of spots often fall out, and leaves become tattered and torn. Little information is available about disease management, but a fungicide effective against leaf spots and having a general ornamental label should provide protection of new growth.

Fungicides are recommended on sites where this disease has been a problem. The thiophanate methyl fungicides are probably a good starting point if you are looking for fungicide help. Refer to the *Commercial Landscape and Turfgrass Pest Management Handbook* or the *Home, Yard, and Garden Pest Guide*. Read the product label to be certain it is registered for your crop and there are no toxicity warnings.

Sclerotium blight has become a serious disease of hostas in isolated situations. Initially, lower leaves wilt and brown. In a short time, upper leaves also wilt; close inspection shows a soft, brown rot of the base of petioles. The fungus, *Sclerotium rolfsii*, appears as a fluffy, white mass of mycelium on the petioles and surrounding soil. Tiny tan sclerotia (fungal structures) the size of mustard seeds can be seen in this mycelium and on the soil.

This disease has historically been a problem in the southern states but not in Illinois. It has invaded our state, probably on transplants and with the open ex-

change and popularity of hostas. It was thought that the fungus would not overwinter in our cold climate, but that too is false. The fungus overwinters when protected under mulch and snow in mild winters. Research at Iowa State University is investigating resistant cultivars. Differences in susceptibility have been found, but nothing with high levels of resistance.

Carefully inspect any hostas planted into your gardens. Do not plant those with disease symptoms. This applies to other perennials as well because this organism can also infect ajuga, anemone, daylily, impatiens, peony, vinca, and other species. Because the fungus can overwinter under mulch on the plant stems, pull the mulch back from the crown a few inches and leave a mulchfree area near the crown.

Once the fungus has invaded your planting bed, do not move soil or plants from that area to other beds. You can plant nonhost species in this area, but wash tools of soil before working other beds. Fungicides may be used to suppress *Sclerotium rolfsii*, but they will not eradicate it. PCNB, available as Terraclor, Defend, Pennstar, and Revere, is labeled for ornamentals and is available to commercial growers. It may cause some plant injury, so it is advised to treat only small areas of the bed to check your plants' reaction. A newer fungicide, flutolanil (Contrast), is another option. PCNB is not available to home growers. Prevention is still our best recommendation.

Foliar nematodes on hosta are also fairly new here and have potential to be very harmful. We are not seeing a big problem, but the possibility is real; it will likely be shipped in from warmer climates. Nematodes are microscopic roundworms that cause disease—pathogens much like a fungus or bacterium but requiring moisture to infect; they live within the plant. Foliar nematodes are in the genus *Aphelenchoides*.

On hosta, the nematode feeds in the leaf, producing brown areas between veins. It is thought to overwinter in the crown, especially where protected by mulch. You cannot see the nematode with the naked eye, so watch for brown areas between veins. Foliar nematodes may occur on other perennial hosts, including anemone, creeping phlox, ground ivy, windflower, and heuchera. Brown areas in the foliage may take on various shapes, usually limited by veins.

Disease management is not easy. Inspect new plants for symptoms, avoid close plantings, avoid excessively wet foliage, and discard contaminated stock. It is questionable whether this nematode can survive the cold winters of Illinois, but it is possible that overwintering may occur in mild winters with protected locations that are mulched. The past winter may have provided those conditions. (*Nancy Pataky*)

INSECTS

Scouting Watch

Bagworms have hatched in central Illinois. They are about 1/4-inch long and still blowing from tree to tree. Treatment should be delayed for at least 2 weeks more in central Illinois. In southern Illinois, treatment can begin now, particularly if scouting shows feeding rather than ballooning. When ballooning, bagworms crawl to the top of the tree and drop on 2- to 3-foot silk strands. Treatment during this ballooning is inefficient because it will probably be needed again later. Waiting allows control with one application.

Bronze birch borer should be treated now in northern Illinois. If dimethoate (Cygon) or imidacloprid (Merit, Pointer, Imicide) was used, only one treatment is needed. For permethrin (Astro, Ambush, Pounce), a second application after 2 to 3 weeks is suggested.

Black vine weevil adults are susceptible to insecticidal control during the first 2 weeks after emergence, when their ovaries are maturing. This corresponds to blooming of catalpa, which is occurring in southern and central Illinois and will soon occur farther north. Verify the existence of the weevils by looking for characteristic notching of leaf margins on yew, euonymus, rhododendron, and other hosts. Spray the foliage heavily, allowing runoff beneath the plant. Adults are on the foliage at night and hide in debris beneath the plant during the day. Acephate (Orthene), cyfluthrin (Tempo), and other insecticides are effective.

Euonymus scale crawlers should also be out in southern and central Illinois. They appear as tiny yellow dots on the stems and foliage. Scout by wrapping black electricians' tape, sticky side out, on the stems. The crawlers get stuck on the tape and are easily seen against the black background. Many labeled insecticides are effective against these crawlers. (*Phil Nixon and Bill Sullivan, Peoria County Master Gardener*)

Whitemarked Tussock Moth

Whitemarked tussock moth, *Orgyia leucostigma*, eggs have hatched throughout most of Illinois, and the larvae (caterpillars) are chomping away. Their wide host range includes apple, birch, crabapple, elm, fir, hickory, horsechestnut, linden, maple, oak, pecan, poplar, rose, sycamore, and walnut.

Female moths are gray, wingless, hairy, and about 1-1/2 inch long. Male moths are brown and winged. The female lays 100 to 300 eggs in a frothy white mass, normally placed on the cocoon. In late spring, eggs hatch into caterpillars that quickly migrate to leaves. The young caterpillars skeletonize leaves—whereas older ones consume the entire foliage, leav-

ing only the main vein and petiole. Full-grown caterpillars are 1-1/2 inch long, with a red-to-orange head and a yellowish, hairy body. A black stripe runs down the middle of the back, bordered by a yellow line. Four tufts of hairs protrude from the first abdominal segment. Two long, black hairs project like horns in the front and one in the rear. Pupation occurs in a gray, hairy cocoon that is generally located in twigs and branches. This moth overwinters in the egg stage, and there are two generations in Illinois.

Whitemarked tussock moth may be managed by pruning out infestations or using a pest-control material when caterpillars are small, usually in mid-June or when mock orange and beauty bush are in bloom. Pest-control materials recommended are azadirachtin (Azatin/Ornazin), *Bacillus thuringiensis kurstaki* (Dipel, Thuricide), carbaryl (Sevin), cyfluthrin (Tempo), and spinosad (Conserve).

Natural enemies of whitemarked tussock moth include both parasitoids and predators, but they don't cause enough mortality to impact the population dynamics of the insect. (*Raymond Cloyd*)

Maple Petiole Borer

Maple petiole borer has been reported in northeastern Illinois. The larva of this sawfly eats through the petiole of maple leaves 1/4 to 1/2 inch from the lamina. The ground becomes littered with leaves with short, ragged petiole stumps. The main part of the petiole stays on the tree for a time before dropping. Homeowners get excited and upset about the number of leaves on the ground, but it is a small percent of those remaining on the tree. This insect is not a health threat or even an aesthetic threat to the tree. Control is not needed, which is good because little can be done.

Eggs are laid in the spring into the petiole near its base, where it joins the twig. The egg hatches into a grublike larva that tunnels up the petiole, eating the insides. Near the leaf blade, the larva eats most of the way through the petiole, causing the petiole to weaken, turn brown and then black in that area. Wind may cause the petiole to break in the weakened area, causing the leaves to fall. The sawfly larva stays in the part attached to the twig. A few days later, the petiole drops; the larva leaves it, tunnels into the soil to pupate, and emerges the next spring. There is one generation per year. (*Phil Nixon and Morton Arboretum*)

Periodical Cicada—Early Emergence

Periodical cicada continues to occur as expected in southeastern and southwestern Illinois. They have also been reported as being numerous in Weldon Springs State Park in DeWitt County, where members of this 13-year brood, Marlatt's Brood XXIII, would

be expected. However, there has also been a cicada report from northeastern Illinois.

In 2004, the Great Eastern Brood, Marlatt's Brood X, emerges in Clark, Edgar, and Vermilion counties. The partial emergence of the Northern Illinois Brood, Marlatt's Brood XIII, occurs in 2004 in northeastern Illinois, affecting Cook County, including the western edges of Chicago, the eastern half of DuPage County, southeastern Lake County, and northeastern Will County. The main emergence of the Northern Illinois Brood occurs in 2007, covering most of the northern half of Illinois. Being more northern, the Great Eastern Brood (as well as both emergences of the Northern Illinois Brood) emerges every 17 years.

Particularly in the year preceding and that following an emergence, a few adults emerge. Both early and late-emerging individuals are called stragglers. Even fewer emerge 2 years before or after a major emergence, and that is probably the source of the cicada report from northeastern Illinois. To give an idea of the relative numbers of stragglers, Henry S. Dybas of the Field Museum in Chicago reported in 1969 that about a dozen periodical cicadas had been collected since the previous emergence in 1956. In 1956, he found 133,000 to 1.5 million per acre in various forest habitats.

Adult cicadas do little feeding, but the females insert their eggs through slits they make in stems up to 2 inches across. In high-emergence areas, egg-laying may weaken stems, causing them to wilt and snap in the wind. On established trees and shrubs, this causes aesthetic damage but is no real threat to overall plant

health. However, oviposition into trunks up to 2 inches across can cause the trunk to snap, severely damaging or killing young trees.

We recommend against planting small transplants the year before emergence to avoid damage. Trunks of susceptible trees can be wrapped or caged to reduce egg-laying damage. Emergence will not be heavy in housing developments and other areas where the trees and shrubs were all removed within the past 50 to 100 years; such activity kills the root systems and thus the cicada nymphs feeding on them. [*Phil Nixon, Carol Thompson (Weldon Springs State Park), and Joerg Schmidt-Bailey*]

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Major authors are Phil Nixon, (217)333-6650, Fredric Miller, (708)352-0109, and Raymond Cloyd, (217)244-7218, entomologists; Nancy Pataky, (217)333-0519, plant pathologist; Bruce Paulsrud, (217)244-9646, pesticide applicator training; and Tom Voigt and David Williams, (217)333-0350, and Michelle Weisbrook, (217)244-4397, horticulturists. Phil Nixon is the executive editor of the *Home, Yard, and Garden Pest Newsletter*. This newsletter is written by faculty in the Department of Natural Resources and Environmental Sciences and the Department of Crop Sciences. The newsletter is edited by Mary Overmier, typeset by Oneda VanDyke, and proofread by Phyllis Picklesimer, all of Information Technology and Communication Services.

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