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## INSECTS

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### Fall Webworm

Fall webworm, *Hyphantria cunea*, is appearing in southern and central Illinois as young, small nests or webs on trees and shrubs. Fall webworm has two generations per year in the southern portion of Illinois, with the first one occurring now. There is only one generation per year in the northern portion of the state. The second generation that normally occurs from late summer into fall is usually more numerous and more destructive; however, by that time, trees are preparing to shed their leaves.

Fall webworm feeds on over 120 different species of deciduous trees. Favorite hosts include ash, birch, black walnut, crabapple, elm, hickory, maple, oak, pecan, and sweet gum. Fall webworm generally doesn't feed on conifers. In June, adult females fly and lay between 200 to 500 white eggs on leaf undersides. Adults are 2-inch-wide white moths with brown wing spots on the forewings. They also have tiny spots of red or orange at the base of their front legs.

Eggs hatch into caterpillars that feed for about 4 to 6 weeks. Young caterpillars tend to skeletonize leaves (which means they remove all leaf tissue except the veins), whereas older caterpillars consume the entire leaf. The caterpillars are pale green to yellow in color, with or without black spots, and are covered with long, white hairs. Older caterpillars are from 1 to 1-1/2 inches long. They build large, protective nests (webs) that are usually found on the ends of branches, and they hide in these nests in large groups to avoid natural predators such as birds. The nests increase in size as caterpillars continue to feed, and heavily infested trees can be completely covered with nests. Severe early season feeding not only causes aesthetic injury but also weakens trees and increases their susceptibility to woodboring beetles. Fall webworm overwinters as pupae in loosely webbed cocoons.

Fall webworm management consists of physical removal and/or the use of pest-control materials. On small trees, prune out and destroy nests. Be sure to prune plants to maintain their aesthetic appeal. Scout

trees regularly so that you can detect fall webworms early; the removal of small nests has minimal impact on a tree's aesthetic quality. Treat first-generation fall webworm caterpillars with pest-control materials, including acephate (Orthene), *Bacillus thuringiensis kurstaki* (Dipel or Thuricide), carbaryl (Sevin), chlorpyrifos (Dursban), or spinosad (Conserve). *Bacillus thuringiensis kurstaki* must be applied early when caterpillars are small and before they construct large nests. Use high spray pressures to break up the nests to get the pest-control material inside to the caterpillars and the leaves that they are feeding on. Second-generation caterpillars may not warrant spray applications because, at that point, trees will be dropping their leaves. Not spraying will help preserve natural enemies such as parasitoids and predators. (Raymond Cloyd)

### Bagworms

The bagworms have hatched in southern and central Illinois. They are still very small, generally from 1/8 to 1/4 inch long, with little cases made of plant foliage. For the first couple weeks of their lives, they climb to the tops of trees and shrubs and hang on silk strands that are 1 to 3 feet long. These catch in the wind, carrying the young caterpillars to new hosts.

Insecticide applications are most effective once they have ceased this ballooning activity and settled down to feed. Treatments near July 1 of *Bacillus thuringiensis kurstaki* (Dipel, Thuricide), cyfluthrin (Tempo), spinosad (Conserve), or trichlorfon (Dylox, Proxol) should provide control. One well-timed treatment should be all that is needed. Scout the trees after a week or two to be sure that additional bagworms have not blown onto the tree and to evaluate control. (Phil Nixon)

### Japanese Beetles

Adult Japanese beetles are emerging in central Illinois. Be watchful for these insects on linden, willow, birch, crabapple, rose, and other trees and shrubs. They will be feeding on the upper surface of the top leaves of the plant. Because these insects tend to feed where previous feeding has occurred, early application can greatly reduce feeding damage later.

Carbaryl (Sevin) and cyfluthrin (Tempo), as well as other synthetic pyrethroids, should provide control for about 2 weeks. Heavy numbers of beetles are likely to be present through mid-August. (*Phil Nixon*)

### Gypsy Moth Traps

Pheromone traps for gypsy moth have now been placed throughout the state. These 6- by 3-inch cardboard, triangular traps are placed about 5 feet off the ground on tree trunks, poles, and other surfaces. Inside is a synthetic lure that draws a male gypsy moth from a mile away. Males fly into the trap looking for the female producing the scent (pheromone) and get stuck on its sticky interior.

These traps are placed through a cooperative program of the U.S. Department of Agriculture Animal and Plant Health Inspection Service and Illinois Department of Agriculture. Traps are placed grid-wise depending on the likelihood of gypsy moths being present. In many areas, the traps will be a mile apart to detect any moths present. In rural farming areas where few host trees exist, traps may be more than a mile apart. Finally, where small numbers of gypsy moths are known to occur, traps will be much less than a mile apart to assist in locating infestations.

These traps do not contain any insecticide. Moths other than gypsy moths may enter the trap looking for a place to hide. Thus, moths in the trap may not be gypsy moths. Any moth catches will be recorded by the trap tender who periodically checks the traps. This is a federal pest quarantine and detection program so trap tenders and other official personnel have the right of trespass. If the trap needs to be moved, use the telephone number on the trap to contact the proper authorities. The traps will be removed in July or early August. (*Phil Nixon*)

## PLANT DISEASES

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### Dogwood Powdery Mildew

Powdery mildew is a common fungal disease problem on many perennials, as well as annuals, shrubs, and even trees and turf. In 2000, the Plant Clinic saw powdery mildew most frequently on euonymus, honeysuckle, barberry, rose, dogwood, zinnia, phlox, rudbeckia, monarda, helianthus, aster, and coreopsis. We will probably never see an epidemic of this disease in Illinois because there are so many different powdery mildew fungi and because they are host specific. For example, the powdery mildew on zinnia does not spread to sycamore. The widespread occur-

rence of powdery mildew across a broad range of hosts is not likely. Still, on one plant, the disease may spread very quickly, especially in humid weather.

Generally, we think of powdery mildew appearing in the hot, dry dog days of August. That is the case with most plants; and the disease is usually most obvious in August. Powdery mildew on dogwood is a bit earlier than on most other hosts in the landscape. Look for it now and be ready to treat it as soon as symptoms appear. Conditions have varied in Illinois. Some parts of the state had enough rain that mildew won't be showing for a while. In Champaign, everyone was smiling when we finally got a half-inch of rain last week. Powdery mildew has appeared on campus on a few hosts already this season.

The fungus grows superficially on the surface of the host and forms a white powdery growth that looks like a grayish mildew as it ages. The powdery mildew disease on dogwood is caused by *Microsphaera* species and/or *Phyllactinia* species. Although most other powdery mildews in our landscape cause symptoms in mid- to late July, the powdery mildew fungi on dogwood are active all summer. We see symptoms starting much earlier on this species.

Powdery mildew of dogwood is most severe on crowded plants, in a shaded location, or where air circulation is poor. Dogwoods in the open, as specimen trees, are less likely to be infected. Unlike most fungal diseases, powdery mildew is not as destructive when rains are frequent. High relative humidity (but not rain) is needed for spores to germinate, and mildew develops rapidly in extended periods of warm, dry weather when morning dews are heavy. Ideal disease conditions are 90 to 99 percent relative humidity at temperatures of 66° to 72°F.

Try pruning to allow better air circulation within the plant, as well as within the planting. Never handle the infected plants when they are wet. As usual, plants should be maintained in high vigor to withstand disease attack. Fungicides are available to control the mildews, and if sprays are begun at the first sign of mildew, control can be attained. On many landscape plants, damage from powdery mildew is only aesthetic, and the actual vitality of the plant is not affected. The mildew diseases of dogwood have the potential to cause more long-term damage to the tree. If you have a specimen tree that has been infected in the past, you may need to use a protective fungicide now before symptoms appear. If you decide to use a fungicide, choose a product recommended under the appropriate host in the 2001 Illinois *Commercial Landscape and Turfgrass Pest Management Hand-*

book or the *Home, Yard, and Garden Pest Guide* (formerly, *Homeowners' Guide to Pest Management*). These manuals list chemicals in a table at the end of each disease chapter. Look at these tables to get information on trade and common name and on mobility. Further information on powdery mildews is available in *Report on Plant Disease (RPD)* no. 611 and no. 617. These reports are available in Extension offices or on the Web at <http://www.ag.uiuc.edu/~vista/horticul.htm>. (Nancy Pataky)

### Gray Mold (Botrytis) of Ornamental Plants

For those of you in the wetter parts of the state, here is a disease that you may have seen or will be dealing with soon. Botrytis blight is a fungal disease, often called gray mold due to the fluffy gray mold that develops on infected plant parts in humid conditions. You can confirm the presence of this fungus by placing infected tissue in a plastic bag with wet paper toweling. Seal the bag and observe the foliage. Within 12 to 24 hours, it is covered with a fluffy gray growth (mycelium and spores) of this fungus. Infection is worst in warm, wet, and humid conditions like those we see in the summer evenings following a rain. This disease infects in the evening after plants have been watered. For this reason, we try to encourage watering early in the day so that plants dry more quickly. Flowers, foliage, and even stems may be infected. Although any plant part may be infected, tender young growth or old tissues are most susceptible. Wounds are also likely sites of infection, but this pathogen can infect natural openings as well.

Disease control is similar to that for powdery mildew. Remove old blossoms and fallen plant debris, improve air circulation in the planting by pruning or thinning plants and using recommended spacings, and scout for the disease before using fungicides. The pest management handbooks list many fungicide options. Be sure to read the label of your chosen products carefully for host clearance, timing, rates, toxicity warnings, and the like. Consider alternating different chemical formulations to avoid development of resistant fungi. Botrytis was common in Illinois in 2000 on begonia, petunia, peony, rose, salvia, hosta, lilies, snapdragons, and marigolds.

For pictures of the disease, as well as details concerning the infection process, host plants, and disease management, consult *Report on Plant Disease (RPD)* no. 623, "Botrytis Blight or Gray Mold of Ornamental Plants," available on the Web or in Extension offices. (Nancy Pataky)

### Horsechestnut Leaf Blotch

Horsechestnuts are not used widely in the landscape, but we do see this disease fairly frequently. It may be known as horsechestnut leaf blotch or Guignardia leaf blotch, named for the causal fungus, *Guignardia aesculi*. We see it most commonly on horsechestnuts, but buckeye trees may also serve as hosts. There is some resistance available in Ohio buckeye and in bottlebrush buckeye. Otherwise, the disease is fairly common in the Midwest.

From a distance, infected trees appear to be severely scorched. On closer inspection, reddish brown leaf spots with bright yellow margins become obvious. The spots enlarge and cover most of the leaf surface; leaves then become dry and brittle and drop early. With some tree diseases, such as anthracnose, new leaves continue to emerge after infection. In the case of horsechestnut leaf blight, the disease does not occur until most of the season's foliage has emerged. For this reason, an affected tree does not seem to recover as the summer progresses.

You can distinguish this disease from environmental scorch (see issue no. 5) by the presence of tiny fruiting bodies formed by the fungus in the leaf lesions during moist weather. These structures, called pycnidia, appear black and about the size of a pinhead; they are embedded in the leaf. The leaf blight disease may affect all leaves. Sometimes the disease is worse at the base of the tree, where humidity may be slightly higher. Scorch symptoms are usually most severe on the tips of branches, especially on the side of the tree most exposed to sun and wind.

Rake and remove fallen leaves, prune to allow faster drying of foliage, and keep the tree well watered in drought to help manage this disease. Fungicides are available and protect new growth from infection, but the cost for large trees is prohibitive. Clients don't always understand that sprays protect for only one season and the disease can return the following year. Still, many fungicide options are listed in the 2001 Illinois *Commercial Landscape and Turfgrass Pest Management Handbook* and the *Home, Yard, and Garden Pest Guide* (formerly, *Homeowners' Guide to Pest Management*). To be effective, sprays must be initiated when buds begin to open. For new plantings, consider using a resistant species. Information about this disease may be obtained in Sinclair, Lyon, and Johnson's book, *Diseases of Trees and Shrubs*, as well as on the Web. Try this site (produced by Oregon State University) for pictures of the disease: [http://plant\\_disease.orst.edu/plant\\_index.cfm](http://plant_disease.orst.edu/plant_index.cfm). (Nancy Pataky)

## Disease Findings

At the Plant Clinic, we have certainly seen a variety of problems so far this season. This range is a direct reflection of the rain and temperature differentials over the state.

Root rots identified from water mold fungi (wet situations) include **Pythium** and **Phytophthora**. Watch for more of these in the wet areas of the state.

We've also seen dry-weather disease problems, including **powdery mildew** and **Rhizoctonia root rot**. As dry areas heat up, we can expect more Rhizoctonia problems on stems, especially near the soil line. Although **apple scab** and **anthracnose** have been seen, their incidence this year has been much lower than usual due to the dry weather when leaves emerged. Generally the leaf-spotting diseases have been less severe this year. **Fire blight** commonly infects in warm, wet seasons and has been confirmed on pear and crabapple. **Verticillium wilt** has been isolated from maple and ash. **Pinewood nematodes** have been spotted and confirmed on a few Scotch pines. **Oak wilt** has been confirmed on several oaks in the red/black oak group. The **Dutch elm disease** fungus has been isolated from many elms.

Plenty of diseases are working in the landscape, some serious and some affecting only aesthetics. Keep an eye out for problems. (*Nancy Pataky*)

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*Home, Yard, and Garden Pest Newsletter* is prepared by Extension specialists from the University of Illinois at Urbana-Champaign and the Illinois Natural History Survey. Information for this newsletter is gathered with the help of staff members, Extension field staff, and others. Karel Jacobs and Donna Danielson of The Morton Arboretum also provide information and articles.

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