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Last Biweekly Issue

This is the last biweekly issue of the Home, Yard, and Garden Pest Newsletter for 2009. We have two issues remaining, which will be published in the second half of October and November, respectively.--*Phil Nixon*

Scouting Watch

Magnolia scale crawlers should be present throughout the state. These first-stage nymphs, or crawlers, are oval and gray, with a reddish brown ridge running down the back. Each crawler has two white, waxy spots, one on each side. Crawlers mass on the undersides of 1- and 2-year-old twigs for the winter. From the time that they emerge from the female until they molt to the second nymphal instar in late April or early May, they are vulnerable to insecticide sprays.

White grub reports continue to be few and far between. There was a reduced emergence of Japanese beetle adults in central and northern Illinois. We also experienced timely, periodic rainfall. These caused eggs to be laid in smaller numbers and to be scattered over wide areas, making widespread, damaging infestations less likely.

Keep alert for small areas of damage, scout to determine the extent of the

infestation, and treat only areas with damaging grub numbers. Keep an eye on soil temperatures. Japanese beetle grubs descend deeper into the soil when the turf root zone temperature drops to 60 degrees F. Masked chafer or annual white grubs and May beetles or true white grubs descend deeper into the soil when the turf root zone drops to 50 degrees F. At root zone temperatures above that level, insecticide treatments will still be effective.

Japanese Beetle adults continue to be present in small numbers. Generally, these numbers are not large enough to cause serious damage. Ohio has reported late season damaging beetle numbers for several years, indicating an apparent late emergence of some beetles. So far, I have not heard of this happening in Illinois. Let me know if you have seen high, damaging numbers of beetles after August. --*Phil Nixon*

Soybean Aphid

Large numbers of "gnats" in the air in northern and central Illinois are soybean aphids, *Aphis glycines*. High infestations are present this year as far south as Interstate 70. Close examination will reveal a one-sixteenth inch long insect with a translucent green abdomen, black head and thorax, black antennae, and large oval transparent wings.

When aphids land on something, they probe it with their sucking mouthparts to see if it is good to eat. People with sensitive skin may feel a slight prick, but it is unlikely to leave a mark. Others are unlikely to feel anything at all.

These insects are migrating from soybean to buckthorn to lay eggs for the winter. Although this migration occurs over a six-week period, heavy migration typically lasts for one to two weeks. Control efforts against these winged migrants are not practical, nor recommended.

Soybean aphids pass through 15-18 generations during the summer on soybean, where they feed on the sap of the soybean plant. They live on the leaflet undersides as similar-sized, yellow to cream insects. At the end of summer, they migrate to buckthorn. Buckthorn, *Rhamnus* spp., is a glossy-leaved, thorny shrub common along the edge of forests and in disturbed areas such as fencerows and along streams. On buckthorn, these migrants give birth to another generation of females that mate with arriving, winged males. They then lay overwintering eggs on buckthorn. These eggs will hatch in the spring, the aphids will complete a couple of generations on buckthorn, and then fly to soybean for the summer. --*Phil Nixon*

Mole Crickets

Mole crickets are occasionally reported as being associated with turf damage in Illinois. These are the northern mole cricket, *Neocurtilla hexadactyla*. Our climate is too cold for the subtropical tawny mole cricket or others in the

genus *Scapteriscus* that are serious turf pests from the Carolinas to eastern Texas on south.

The northern mole cricket, which is native to Illinois, feeds on plant material in high moisture situations. They appear to be primarily scavengers, feeding on grass and other plant material that is dying or rotting. I have collected them several times in the mud and debris under water at the edge of ponds and streams. They are considered to be a semi-aquatic insect.

Adult northern mole crickets are medium to dark brown, elongate, somewhat cylindrical, and about one and one-quarter inch long. They have the enlarged hind legs associated with jumping in other crickets, but their most obvious characters are widened, spade-like tarsi at the end of the front legs. These crickets use their mole-like front legs to dig through the soil. Much of their tunneling is near the soil surface, resulting in winding, mole-like tunnels that are one-fourth to one-half inch high and wide. Adults have wings, allowing them to leave their burrows to fly at night. They are attracted to lights at night, which is where the average person is likely to see them.

They have one year life cycles. Males construct an enlarged amplification chamber at their burrow openings. They then sit in these chambers and sing to attract females to them for mating. Different species of mole crickets can be distinguished readily by their song.

I have had golf course superintendents and others contact me a few times over the years about damage to turf by northern mole crickets. In each case, it

has been turf growing at the edge of water hazards or ponds where the roots were trying to grow in water-saturated soil, and the turf was barely alive as a result. It was hard to tell whether the mole crickets were feeding on live grass or dying grass.

Mole crickets are controlled with the same insecticides as those used for white grubs, but if they are feeding on turfgrass that is already in decline due to high soil moisture levels, treatment should not be warranted. If you have situations where mole crickets are damaging turf that is not water-saturated, I would welcome the chance to visit the site. --*Phil Nixon*

Dogwood Sawfly

There have been a few cases of dogwood sawfly reported recently. Dogwood sawfly feeds on the leaves of gray dogwood and other dogwood species from mid-summer to early fall. Although they can cause defoliation, they are not likely to cause serious harm to the health of the tree.

Dogwood sawfly overwinters as a larva in a cavity chewed out of rotting wood. It pupates and emerges as a wasp-like insect from May to July. This extended emergence period results in an extended feeding period. Eggs are laid on dogwood leaves. These eggs hatch into translucent yellowish larvae that eat the leaf lamina, leaving the veins intact.

Older larvae are covered with a white powder-like material that is easily rubbed off. They are obvious on the leaves, eating all of the leaf except the midvein. In their last molt, the larvae

lose their white covering, being yellow with dark green backs. Fully grown larvae are about one inch long.

Being sawflies, the larvae have more than five pairs of prolegs and are not controlled with *Bacillus thuringiensis* kurstaki. Because the larvae are large and obvious, it is easy to hand-pick the larvae. A spray of carbaryl (Sevin) or a labeled pyrethroid such as cyfluthrin (Tempo, Bayer Multi-insect Killer) or permethrin (Astro, Eight Insect Spray) is also effective. --*Phil Nixon*

Hosta Problems

Hostas are popular shade plants, easy to grow, and relatively disease free. Here are some problems you may see on your hostas and tips on what to do about it now.

If hostas are grown in full sun, especially in soil with low organic matter, they will develop yellow foliage with scorched margins. Under drought conditions leaves will become pale or dull and leaf margins scorched. This is not an infectious disease. Sometimes you will find anthracnose in these scorched areas. Watering the soil early in the day will help temporarily, but planting in a semi-shaded or shaded site in high organic matter soil is the best long range management.

The only disease that might be confused with environmental scorch is anthracnose. This disease is caused by a species of the *Colletotrichum* fungus. It thrives in warm, wet weather, so it may appear on irrigated hostas. I would not expect to see it in drought conditions where plants have not been irrigated.

Symptoms include large irregular spots with darker borders. The centers of spots often fall out and leaves become tattered and torn. Fruiting bodies are small (pin-head sized) masses of clear spores with small, black, hair-like structures (setae) sticking out of the spore mass. Obviously the symptoms are a bit different than scorch symptoms. Scorch is not caused by a pathogen and does not have spores or fruiting bodies.

Fusarium root and crown rot is a problem we have seen a few times, especially in production areas. This disease causes leaf yellowing, stunting, rotting of roots, and death of crown tissues. It can be distinguished from scorch by inspecting roots. Plants with environmental scorch will have white roots or roots with white growing tips.

Sclerotium blight has become a serious disease of hostas because it is persistent and causes collapse of the foliage.

Initially, lower leaves wilt and brown. In a short time the upper leaves also wilt; and 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, mustard seed-sized sclerotia (fungal structures) can be seen in this mycelium and on the soil. Research at Iowa State University has shown that this fungus will survive over winter in the crown of mulched plants. If you see this disease, remove all plant debris and pull back the mulch before winter. An Iowa web site with very good images of this disease can be found at

<http://www.extension.iastate.edu/Publications/SUL8.pdf>. That publication refers to the disease as a crown rot, but

Iowa research has since shown the disease to rot petioles.

Foliar nematodes on hosta are also relatively new to our area. Nematodes are microscopic roundworms that cause disease. They are pathogens much like a fungus or bacterium but they require moisture to infect; and they live within the plant. On hosta, the nematode feeds in the leaf, causing brown areas between veins. The brown areas in the foliage may take on various shapes, usually limited by veins as seen in the image. Scorch may also occur between veins, but unlike foliar nematodes, it will also involve leaf edges and leaf tips.

Viruses that infect hostas cause mottling of the foliage, crinkling, stunting, and some necrosis. An article on hosta viruses can be found in 2008, issue 5 of this newsletter. --*Nancy Pataky*

Spruce Canker

The most common disease problem we see on spruce in Illinois is caused by a stress pathogen. We generally cause the stress by planting spruces in the wrong place. According to Michael Dirr in [Manual of Woody Landscape Plants](#), spruces have shallow, spreading root systems and “prefer a moderately moist, well-drained soil”. Some spruce species are more tolerant of dry conditions than others, but as a whole, spruces do not grow well in hot, dry conditions. Throw in a soil with low organic matter and put the tree in an exposed site, possibly in a new housing development, and you have a stressed tree. Drought stress also will predispose the tree to infection.

Cytospora (Leucostoma) canker is one of the most common diseases in Illinois landscapes. It is definitely the most common one we see on spruce. Although it will occur on young trees, it is more common on trees at least 15 years old.

Cankers are dead areas on branches or trunks. They may girdle and kill the branch or they may only partially limit movement of water and nutrients. On spruce there is usually a sappy exudate associated with the canker, but this sap is a thin layer, not the large blobs of sap associated with some insect pests such as pine moths. The wood under the bark of a tree with Cytospora canker is brown (dead) rather than green or white. The disease infects lower limbs first, slowing moving up the tree, killing branches as it moves. The entire branch is killed, usually killing tips of the branch first. The image shows a tree with dead branches as a result of Cytospora canker. Disease progression is slow. Most trees lose a limb each year to the disease. Species affected include mostly Colorado blue and Norway, but other spruce species, as well as Douglas-fir, balsam fir, hemlock, larch, and red and Eastern white pine may have this canker disease. A University of Illinois fact sheet, *Cytospora or Leucostoma Canker of Spruce*, RPD No. 604, is available on the internet at <http://www.aces.uiuc.edu/~vista/abstracts/a604.html>.

This pathogen is thought to move into roots and then progress up the tree. It may also enter on wounds in the top of the tree. You cannot eradicate it from an infected tree. Management of Cytospora canker involves removing dead branches and trying to improve tree vitality. Do some sleuthing to find out

what conditions are stressful to the tree. Correct as many of these conditions as possible. Fungicides are usually of little value in control of this disease. --Nancy Pataky

Clean up Tree Cankers Now

Now is the time to prune out dead wood and cankers from trees and shrubs. If you can get the task done before leaves fall, it is much easier to see the dead areas that need to be removed.

A canker is a dead area on the stem or trunk of a tree or shrub. The vascular tissue under the canker is dead and usually brown or black as described in the previous article on Cytospora canker. The term "canker" is a general term referring to a symptom on the plant, but does not indicate cause. Cankers on plants may be caused by injuries (hail, mowers, insect feeding, etc.), environmental stress (cold, heat, scald, etc), chemicals, or pathogens that invade stressed plants. They are common on a wide range of trees and shrubs, typically occurring on trunks, older branches, or injured plant areas on smaller twigs. Bark on the younger twigs may lose color or blacken, depending on the canker or plant involved. The cankers produced by fire blight are often black on pear and brown on apple. The images show two common cankers. If a canker girdles the stem, the twig will die from that point to the tip. If the stem is not girdled, the stem may show one-sided death or some leaves will be affected while others are green. Cankers usually take months, sometimes years, to enlarge enough to girdle twigs, branches, and trunks. Canker appearance may be swollen, sunken,

cracked, discolored, or may bleed sap or moisture.

Fungi are usually the causal organisms involved in canker development, but occasionally we find a bacterial canker. The fungal cankers often contain fruiting bodies of the fungus. These appear as pinhead sized black specks embedded in the bark. Often these fruiting bodies will appear as small bumps covering the cankered area. Bacterial cankers will not contain fruiting bodies.

Remove cankered wood, cutting until you leave only healthy wood on the branch. If cankers occur on the trunk you may opt to leave them alone or remove as much of the decayed wood as possible so that the tree can more readily callous over the injured area. Prune out stem cankers where aesthetically unappealing or where it is obvious that they will soon girdle the stem. Some cankers, such as anthracnose on sycamore, cannot be removed without removing most branches. Leave these on the tree and take measures to promote tree health.

Keep in mind that cankered wood is infected with a pathogen. Remove affected wood from the site. Disinfect pruning shears between cuts where possible, or at least prune diseased wood last. Always try to prune in dry

weather to prevent pathogen spread. With oaks, we only prune in the dormant season to avoid attracting beetles that might bring the oak wilt fungus to the tree.

Once pruning is completed, consider how to avoid cankers and dead wood in the future. Since stress is the actual predisposing factor for cankers, the first step toward disease management is identification of the source of stress. Once the stress is identified, correct or modify the site, soil, or surrounding plants to make the conditions less conducive to cankers. This might involve diverting drainage away from the plant, pruning surrounding plants to allow better air flow, fertilizing the tree, providing water in drought, etc. Reduce risk of cankers by using plants adapted to your area. Buy vigorous, healthy looking plants. Plant at the proper depth. Space plants based on mature size. Grow plants in well-drained, fertile soils with the needed soil pH for best plant growth. In other words, avoiding cankers is one of the major reasons for following all of those good horticultural practices we have all learned. Report on plant disease no. 636 discusses canker and dieback of woody plants. This publication is available on web at <http://www.aces.uiuc.edu/~vista/abstracts/a636.html>.--Nancy Pataky