UNIVERSITY OF ILLINOIS EXTENSION
HOME, YARD & GARDEN PEST NEWSLETTER
College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana-Champaign
Illinois Natural History Survey, Champaign

No. 7 • June 1, 2005

2005 Greenhouse Management Workshop

It is time to consider attending the 2005 Illinois Greenhouse Management Workshop to be held on June 8, 2005. The workshop will be in the auditorium of the Chicago District Golf Association building (a very nice complex) located at 11855 Archer Avenue in Lemont, IL 60439. It is right across the street from Cog Hill Golf Club. For directions to the workshop location, call (630)685-2303.

Registration for the workshop is $35 for Illinois Greenhouse Association (IGA) members and $50 for others. This year's schedule is provided below. The registration fee covers all handouts, lunch, and refreshments. We will be accepting walk-ins at the registration booth. Checks should be made payable to the "University of Illinois."

For more information or if you have any questions, call (217)244-7218.

8 to 9 a.m.	Registration, coffee and rolls
9 to 10 a.m	New Materials To Battle Insects and Mites; Raymond Cloyd, University of Illinois
10 to 11 a.m.	Pesticide Spray Coverage—Getting the Most from Your Pesticide Dollar; Kurt Becker, technical representative, Dramm Corp.
11 to 12 noon	New Annuals and Perennials To Add to Your Product Mix; Rudolf Sterkel, VP, Ernst Benary of America, Inc.
Noon to 1 p.m.	Lunch—sponsored by Syngenta Crop Protection, Inc.
1 to 2 p.m.	Grower to Grower—My Search for Perfect Water; Ted Biernacki, Ted's Greenhouse, Tinley Park, IL
2 to 3 p.m.	Basic Biological Control—Using Bugs To Control Bugs; Raymond Cloyd, University of Illinois
3 to 3:30 p.m.	Questions, Comments, and Conversation

(Raymond A. Cloyd)

PLANT DISEASES

Iris Rhizome Rots

Iris flowers have been beautiful this season in Illinois. Recently, however, we have had reports of plants, or individual leaves on plants, showing an abrupt decline and death. Leaves wilt and die from the tips, moving toward the base. If you pull on the affected leaves, they are often rotted at the base and easily pull from the plant.

One possible cause of this decline is **bacterial soft rot.** The causal bacterium is *Erwinia carotovora*. This bacterium is commonly found in soil and plant debris in our landscapes, and it helps speed up plant decomposition. It needs a wound to enter a plant. Iris soft rot is often associated with the wounds provided by iris borers. For information on the iris borer, refer to issue no. 2, 2003, of this newsletter. Once the bacterium enters the leaves, it causes rotting of the leaf and the attached rhizome, leaving nothing but the outer shell of the rhizome intact. Soft rot bacteria have a distinct foul smell, something that is hard to miss.

Clean up your iris beds to get rid of the soft rot bacterium. In Illinois, it is best to do this in late July. For now, remove dead foliage and mark you calendar to finish the job in late July. In fact, most rhizomatous iris plants should be divided every 3 to 5 years to reduce the incidence of soft rot. The idea is to remove unhealthy plant material and thin out the planting to make room for new growth. Dig and lift the iris clumps from the bed and then, using a sharp knife, separate the rhizomes. To avoid spreading the soft rot bacterium, dip the knife in a bleach solution (1 part bleach in 10 parts water) before each new cut. Only replant firm, healthy rhizomes with roots and a fan of leaves. The rhizome should be just slightly exposed on the soil surface when planted correctly. Deep planting also causes rhizomes to rot.

Occasionally in Illinois, iris plants are affected by a fungal disease that causes similar symptoms. This disease is **Sclerotium crown rot,** caused by *Sclerotium rolfsii*. This fungus is more common in the South, but we see it where mulch has been used around plants

over winter. Symptoms appear as they do with bacterial soft rot except rhizomes are brown, soft, and crumbly. A white mycelium of fungal strands is evident in the crown; and tan to reddish brown, mustardseed-sized fungal structures (sclerotia) can be found on the soil surface. These structures help the fungus survive adverse conditions. These structures can also be moved with the plant or soil. Beds infected with *Sclerotium rolfsii* require special help. Remove infected plants from the area. Also remove surrounding soil, putting it directly into a bag to get it out of the area. Be careful to avoid spreading sclerotia to other areas in the garden. Chemical options are available to be used as preventives but can not control this disease on their own. Consult the *Home, Yard, and Garden Pest Guide* or the *2005 Commercial Landscape & Turfgrass Pest Management Handbook* for options. *(Nancy Pataky)*

Prepare for Rudbeckia Leaf Spots

Rudbeckia is a perennial plant also known as black-eyed Susan, yellow oxeye daisy, English bulls-eye, Gloriosa daisy, and coneflower. Diseases commonly found on Rudbeckia include downy mildew, rust, and powdery mildew. In the past few years, Rudbeckias have been bothered by fungal leaf spots. The fungal leaf spots have been making an appearance in Illinois, with recent conditions favorable for infection on young succulent growth.

Septoria leaf spot caused by a fungus named *Septoria rudbeckiae,* is one concern. The dark brown leaf spots are hard to miss, starting as 1/8-inch-diameter spots but quickly merging to cause large brown areas on otherwise dark green leaves. The disease begins on lower leaves and progresses up the plant.

A problem that might look like Septoria leaf spot is a bacterial disease called **angular leaf spot.** A plant lab can easily distinguish between the two. Angular leaf spot produces bacterial streaming, easily viewed in tissue sections observed with a microscope. On the other hand, Septoria leaf spot produces fruiting bodies that are embedded in the spots. These fruiting bodies are smaller than the head of a pin. Long, narrow spores are produced in the fruiting bodies, but these can only be viewed with a compound microscope. To see two images of Septoria leaf spot on Rudbeckia, visit the Web site at http://www.ppdl.org/dd/id/septoria-rudbeckia.html.

Other fungal leaf diseases we might see on Rudbeckia could involve these fungal species: *Ramularia, Cercospora, Alternaria, Colletotrichum,* and *Phyllosticta*. The leaf spots appear similar to Septoria leaf spot; but spores are different, and they are formed in different types of fruiting structures that can be discerned in a lab. In Illinois, we most frequently see Septoria leaf spot, Cercospora leaf spot, and angular leaf spot.

Disease spread of the fungal leaf spots depends on leaf moisture. With recent rainfall in Illinois, there is not much you can do to stop spore splashing. Still, you can help prevent further disease spread by watering the soil, as opposed to syringing the foliage. Infection is more likely if leaves remain wet for long periods. When conditions are dry, remove fallen or badly infected foliage to reduce inoculum. Also try to prevent overcrowding of plants and keep weeds under control. Preventive fungicide applications will protect new growth from fungal leaf spots. These sprays should begin before symptoms begin, with the intent to protect newly forming leaves. Thiophanate-methyl can be used for this purpose. It is sold to homeowners under a general ornamental label available as Bonide Bonomyl, Dragon 3336, or Ferti-lome Halt. Read and follow label directions carefully. Heritage is a systemic product available to commercial growers. It contains azoxystrobin and is upwardly systemic (toward new growth). The fungal leaf spots can be unsightly but do not kill plants. *(Nancy Pataky)*

Rusts of Horticultural and Agricultural Plants

This article is intended to familiarize you with the rust diseases that do or may occur in Illinois on a wide range of horticultural and agricultural plants. Some of the rusts addressed are established in Illinois and quite common; others are rare, not established, or of regulatory concern. The occurrence of each rust disease listed in the table represents the collective experience of this author, Nancy Pataky (Director, University of Illinois Plant Clinic), Dean Malvick and Mohammad Babadoost (Extension Specialists, University of Illinois), and Ian Thompson (Curator, Purdue University Arthur [Rust] Herbarium). Rather than providing detailed symptom and biology descriptions for each rust disease mentioned, Table 1 provides links to specific Internet resources. This document is considered a work in progress, and we welcome any suggestions you may have for improvements.

To many, "the rusts" are among most interesting and complicated plant diseases. The following points summarize the main sources of intrigue and confusion:

- Nearly all rust fungi are obligate parasites, which means they can not be grown apart from a living host. Thus, conducting research with rust pathogens is relatively difficult.

Table 1. Rust Diseases To Be Aware of in Illinois

Rust disease and life cycle	*Hosts*	*Occurrence in Illinois*	*Internet references**
Orange rust of brambles, caused by *Arthuriomyces peckianus* and *Gymnoconia nitens* (autoecious and demicyclic)	Raspberries and blackberries	Common	RPD 708 (http://web.aces.uiuc.edu/vista/pdf_pubs/708.pdf)
Pine-oak gall rust (also known as eastern gall rust), caused by *Cronartium quercuum* (heteroecious and macrocyclic)	Oak (chinkapin, bur, pin, red, and others) (urediniospores produced on these hosts) Pine (Austrian, jack, mugo, ponderosa, red, Scotch, others)	Rare Rare	http://www.forestpests.org/subject.html?SUB=727
White pine blister rust, caused by *Cronartium ribicola* (heteroecious and macrocyclic)	Current and gooseberry *(Ribes* spp.) (urediniospores produced on these hosts) White pine	Rare Rare	http://www.forestpests.org/subject.html?SUB=722
Pine-pine gall rust (also known as western gall rust), caused by *Endocronartium harknessii* (autoecious and endocyclic)	Pine (scotch, Austrian, mugo, jack, others)	Rare	http://www.forestpests.org/subject.html?SUB=723
Cedar-apple, hawthorn, and quince rusts, caused by *Gymnosporangium* spp. (heteroecious and demicyclic)	Juniper Apple and crabapple Hawthorne	Common Common Common	RPD 802 (http://web.aces.uiuc.edu/vista/pdf_pubs/802.pdf)
Conifer-poplar rusts, caused by *Melampsora medusae* and *M. abietis-canadensis* (heteroecious and macrocyclic)	Poplar, aspen, and cottonwood *(Populus* spp.) (urediniospores produced on these hosts) Larch, Douglas-fir, hemlock, and ponderosa pine	Infrequent Rare	RPD 605 (http://web.aces.uiuc.edu/vista/pdf_pubs/605.pdf)
Soybean rust, caused by *Phakopsora pachyrhizi* and *P. meibomiae* (apparently autoecious; only the urediniospores are known to be functional)	Soybean and other leguminous plants, including yellow sweet clover *(Melilotus officinalis),* vetch *(Vicia dasycarpa),* medic *(Medicago arborea),* lupine *(Lupinus hirsutus),* green and kidney bean *(Phaseolus vulgaris),* lima and butter bean *(Phaseolus lunatus),* and kudzu (*Pueraria lobata*)	Not reported in Illinois; of regulatory concern across the U.S.	http://soyrust.cropsci.uiuc.edu/ http://www.usda.gov/soybeanrust/
Rusts of turfgrass, primarily caused by many *Puccinia* spp. (heteroecious and macrocyclic)	Turfgrass (urediniospores produced on these hosts) Wide range of woody shrubs and herbaceous ornamental plants	Common Infrequent	RPD 412 (http://web.aces.uiuc.edu/vista/pdf_pubs/412.pdf)
Snapdragon rust, caused by *Puccinia antirrhini* (apparently autoecious; spermogonial and aecial stages are unknown)	Snapdragon *(Antirrhinum* spp.) (urediniospores produced on this host)	Common	RPD 635 (http://web.aces.uiuc.edu/vista/pdf_pubs/635.pdf)
Asparagus rust, caused by *Puccinia asparagi* (autoecious and macrocyclic)	Asparagus	Common	RPD 934 (http://web.aces.uiuc.edu/vista/pdf_pubs/934.pdf)
Crown rust, caused by *Puccinia coronata* (heteroecious and macrocyclic)	Oats (urediniospores produced on this host) Buckthorn *(Rhamnus* spp.)	Infrequent (host is not widely planted) Rare to infrequent	RPD 109 (http://web.aces.uiuc.edu/vista/pdf_pubs/109.pdf)

Table 1. Rust Diseases To Be Aware of in Illinois, continued

Rust disease and life cycle	*Hosts*	*Occurrence in Illinois*	*Internet references**
Stem rust caused by *Puccinia graminis* (heteroecious and macrocyclic)	Wheat, oats, barley and rye (urediniospores produced on these hosts) Barberry *(Berberis* spp.)	Infrequent Rare	RPD 108 (http://web.aces.uiuc.edu/vista/pdf_pubs/108.pdf) http://www.cdl.umn.edu/barberry/barb-tst.html
Sunflower rust, caused by *Puccinia helianthi* (autoecious and macrocyclic)	Sunflower	Infrequent (host is not widely planted)	http://www.ext.nodak.edu/extpubs/plantsci/rowcrops/pp998.pdf
Daylily rust, caused by *Puccinia hemerocallidis* (heteroecious and macrocyclic)	Daylily *(Hemerocallis* spp.) (urediniospores produced on this host) *Patrinia*	Rare, but becoming common Not reported in the U.S.	http://www.nationalplantboard.org/daylily.html
White rust of chrysanthemum, caused by *Puccinia horiana* (autoecious and microcyclic; spermogonial, aecial, and uredinial stages are unknown)	Chrysanthemum	Rare; of regulatory concern across the U.S.	http://www.ceris.purdue.edu/napis/pests/cwr/cwryod1.html http://extension.usu.edu/plantpath/exoticpests/chrysanthemum_white_rust.pdf
Hollyhock rust, caused by *Puccinia malvacearum* (autoecious and produces only teliospores)	Hollyhock *(Alcea* spp.)	Common	RPD 627 (http://web.aces.uiuc.edu/vista/pdf_pubs/627.pdf)
Geranium rust, caused by *Puccinia pelargonii-zonalis* (autoecious and produces only urediniospores)	Geranium *(Pelargonium x hortorum)* (urediniospores produced on this host)	Infrequent and only in greenhouses	RPD 658 (http://web.aces.uiuc.edu/vista/pdf_pubs/658.pdf)
Common rust, caused by *Puccinia sorghi,* and southern rust, caused by *Puccinia polysora* (heteroecious and macrocyclic)	Corn (all types) (urediniospores produced on this host) Wood sorrel *(Oxalis* spp.) is the alternate host for the common rust fungus; its role outside of Mexico is apparently not important. No alternate host is known for southern rust.	Common *(P. polysora* is infrequent) Rare	RPD 965 (http://web.aces.uiuc.edu/vista/pdf_pubs/965.pdf).
Ash rust, caused by *Puccinia sparganioides* (heteroecious and macrocyclic)	Cordgrass *(Spartina)* (urediniospores produced on this host) Ash	Rare to infrequent Rare to infrequent	http://www.forestpests.org/ash/ashrust.html
Stripe rust caused by *Puccinia striiformis* (autoecious and only known to produce urediniospores and teliospores)	Wheat, barley, and rye (urediniospores produced on these hosts)	Common	http://www.oznet.ksu.edu/path-ext/factSheets/wheat/wheat%20stripe%20rust.asp
Leaf rust caused by *Puccinia triticina, P. hordei,* and *P. recondita* (heteroecious and macrocyclic)	Wheat, barley, and rye (urediniospores produced on these hosts) Species of *Thalictrum*, *Anchusa*, *Anemonella*, *Clematis*, and *Isopyrum*	Common Not reported in the north-central U.S.	RPD 104 http://web.aces.uiuc.edu/vista/pdf_pubs/104.pdf
Hemlock-hydrangea rust, caused by *Pucciniastrum hydrangeae* (heteroecious and macrocyclic)	Hydrangea (Urediniospores produced on this host) Hemlock	Rare Rare	http://woodypestguide.cas.psu.edu/Diseases/Hydrangea.html
Rust of dry beans, caused by *Uromyces appendiculatus* (autoecious and macrocyclic)	Dry beans *(Phaseolus vulgaris)*	Rare to infrequent	http://ianrpubs.unl.edu/plantdisease/g1250.htm

Table 1. Rust Diseases To Be Aware of in Illinois, continued

Rust disease and life cycle	*Hosts*	*Occurrence in Illinois*	*Internet references**
Alfalfa rust, caused by *Uromyces striatus* (heteroecious and macrocyclic)	Alfalfa (Urediniospores produced on this host) Cypress spurge and leafy spurge *(Euphorbia* spp.)	Rare to infrequent Not reported in the U.S.	http://www.ipm.uiuc.edu/diseases/series300/rpd301/
*RPD refers to publications in the *Report on Plant Disease* series, available online at the VISTA site.			

- Rust fungi may produce as many as five different stages in their life cycles:
  - Stage 0: Spermogonia bearing spermatia (sexual recombination occurs here)
  - Stage I: Aecia bearing aeciospores
  - Stage II: Uredinia bearing urediniospores (summer, or repeating spores)
  - Stage III: Telia bearing teliospores
  - Stage IV: Basidia bearing basidiospores
- For some rust fungi, all five stages of the life cycle have been observed (macrocyclic); however, other rust fungi lack one or more stages and may be referred to as microcyclic (which produce only teliospores and basidiospores), demicyclic (which do not produce urediniospores), or endocyclic (which produce only spermatia and aeciospores).
- Some rust fungi (such as hollyhock rust and pine-pine gall rust) are autoecious, meaning they can survive and complete their life cycle on a single host species.
- Some rust fungi (such as cedar-apple rust) are heteroecious, meaning they can only complete their life cycle and survive by alternating between two very different host species. In these cases, the signs and symptoms on the two plant species can be radically different, causing observers to wrongly conclude that there are two distinctly different pathogens at work.
- Some heteroecious rust fungi (such as common rust of corn and wheat leaf rust) appear in Illinois each year even though the alternate host(s) is absent or rarely infected in our region. These rusts don't overwinter in our northern climate but arrive as wind-blown (or via infected plants) urediniospores from southern regions of the United States.

In terms of managing rusts, it is important to know how and when the pathogen arrives and whether or not it produces a repeating/summer spore (urediniospore) stage. For example, the cedar-apple rust pathogen does not produce urediniospores. This means that the springtime infection of crabapple will not lead to later reinfections of the same plant. By the time you notice rust lesions on crabapple, it is too late to apply a fungicide to the crabapple because these lesions produce only aeciospores that infect juniper.

For a more detailed explanation of the rust fungi, technical terms used, and their history, consider visiting the following Web sites: www.cals.ncsu.edu/course/pp318/intros/rusts/rusts.htm, www.botany.hawaii.edu/faculty/wong/BOT135/Lect08.htm, and www.apsnet.org/education/IllustratedGlossary. *(Bruce E. Paulsrud)*

INSECTS

Honeylocust Plant Bug

Honeylocust plant bug is present throughout the state. It is even present in the Morton Arboretum, an area that is far enough north normally not to have this insect away from Lake Michigan. This insect is reliably found throughout southern and central Illinois at least to Peoria. North of there, it is primarily found along Lake Michigan, where lake effect moderates winter temperatures. It does become numerous in other areas of northern Illinois after a series of less-severe winters.

Honeylocust plant bug overwinters as eggs in the first-year twigs of honey locust. The eggs hatch about a week after honey locust bud break. The first two nymphal instars are small and not very mobile, making them less likely to be noticed. Third through fifth instars are larger, about 1/16 to 1/8 inch long, and actively run up and down the twigs and leaf rachises when disturbed. They are oval and light green, with a small yellow spot in the middle of the back.

By late May, they have matured into adults, which are light green and about 1/8 inch long. They also run actively on the twigs and foliage, easily flying when disturbed. A person brushing the foliage or even walking close to the tree will likely have several of these insects on their clothes and in their hair. By late June, the insects have inserted their eggs into the new, green, first-year twigs, where they spend the rest of the summer, fall, and winter.

Honeylocust plant bug feeds on the developing foliage, causing stippling on the leaflets, distorted leaflets, and leaflet drop in severe infestations. Branches or trees that drop all their leaves will releaf within a few weeks with no obvious effects. Stippled and distorted leaflets stay on the tree until fall leaf drop. There is typically a leafhopper present at the same time, but this insect feeds primarily on the leaf rachis, causing no noticeable damage.

Control these insects with sprays of acephate (Orthene), bifenthrin (Talstar), cyfluthrin (Tempo), or summer oil. *(Phil Nixon and Morton Arboretum)*

Plant Galls

Many plants growing throughout Illinois are susceptible to attack from gall-forming organisms. A number of organisms cause plant galls, including viruses, bacteria, fungi, nematodes, mistletoe, mites, and insects. Insects, without a doubt, produce the most galls. Gall-forming insects include beetles, wasps, moths, flies, midges, sawflies, thrips, scales, adelgids, aphids, psyllids, and twig borers. A wide range of plants are hosts of insect gall-formers; however, the most susceptible are oaks, cottonwood, poplar, and willow. Oaks *(Quercus* spp.) are susceptible to a wide diversity of gall-forming insects. A gall is an abnormal swelling caused by a gall-forming insect, which lives part of its life in the gall, feeding inside the gall on the surrounding contents of plant cells.

The insect feeds on plant cells that are abundant in carbohydrates, protein, and fats. As the insect feeds, it injects growth-inducing chemicals into the plant tissues. These injected chemicals cause plant cells to discontinue their normal growth pattern, which results in the creation of enlarged cells that divide until an abundance of reorganized tissue surrounds the insect. Gall-forming insects may modify plant development in different ways, including directly disrupting the plant's hormonal balance or altering the cells' DNA. In addition, insect feeding or egg-laying by females may result in the formation of galls.

The primary groups of insects that form galls on oaks are cynipid wasps. These wasps are responsible for 80% of the oak galls, which are typically located on leaves and branches. Cynipid wasp adults are 1 to 6 mm in length, antlike, and deep black in color. Galls formed by cynipid wasps can range in size from 1 to more than 50 mm in diameter, and they are often round or irregular in shape. Many oak galls are large and very apparent. Female cynipid wasps lay eggs into actively growing meristematic tissue. Feeding by the wasp larvae causes a growth reaction in oak leaves, which results in the formation of galls. The wasp larva feeds on gall tissue and pupates within the gall, and then the adult chews an exit hole, which allows for emergence. The life cycle of gall-forming wasps may be complex—involving alternations between generations of sexual and asexual individuals. Galls of these generations may differ in appearance and may be found on different plant parts. In fact, a single cynipid wasp species may contain members that cause two distinctly different types of galls, which has led to confusion in determining the many types of oak galls.

In general, oak galls are not considered a problem as the galls cause minimal, if any, apparent reduction in plant vigor and growth. It is my personal opinion (although biased) that oaks look more attractive and "aesthetically pleasing" when galls are present. However, two galls that may damage oaks are the horned oak gall, *Callirhytis cornigera,* and the gouty oak gall, *Callirhytis quercuspunctata*. Cynipid wasps are responsible for both galls. These galls can girdle plant stems, causing branch dieback by cutting off the flow of water and nutrients to the portion above the gall. The best—and really only—way to deal with oak galls (or galls in general) is by simply pruning them out, because once the gall is formed, then options are limited. *(Raymond A. Cloyd)*

Fourlined Plant Bug

Fourlined plant bug *(Poecilocapsus lineatus)* is a pest each year on a variety of herbaceous plants. Damage appears as contorted leaves with brown to black spots. Frequently, the spots are numerous enough to coalesce into large areas that may consume half or more of the leaf. Plants that are attacked include mint, chrysanthemum, coreopsis, dahlia, veronica, Artemisia, salvia, astilbe, cranesbill geranium, black-eyed Susan, and penstemon.

Close observation reveals the red nymphs hiding in the leaf axils. At this time, they are about 1/8 inch long but will continue to feed and grow to about 1/4 inch long. They will then molt into the 1/4-inch-long adults that are greenish yellow, with four black stripes running the length of the body. The adults are very active runners and fly readily when disturbed. The adults are obvious on the plants because they do not hide. By the end of June, they will have mated and inserted their eggs into plant stems where they will remain until hatching next spring.

Insecticide sprays are effective against these insects, but good coverage is essential. Avoid spray-

ing when the plants are in flower to avoid killing pollinating insects. Acephate (Orthene), bifenthrin (Talstar), carbaryl (Sevin), and cyfluthrin (Tempo) are effective. Insecticidal soap will also be effective with very good coverage and is probably the only option if the bugs are on mint that is used in food. Because the eggs overwinter in the stems, removing plant debris in early spring should reduce their numbers. *(Phil Nixon)*

Rose Slugs

Rose slugs are numerous in central Illinois, causing rose foliage to be lacelike. The green larvae are more numerous on the undersides of the leaflets. Although causing window-feeding when young, the larvae are now large enough to eat holes in the leaflets and even cause defoliation.

The bristly rose slug is green, with fine, hairlike spines, and grows to about 1/2 inch long. Rose slug looks like bird manure when young but when older looks like the bristly rose slug without the bristles. Both are present at this time of year.

Realize that although these insects look superficially like caterpillars that they are sawfly larvae and B.t.k. will not be effective against them. Acephate (Orthene), bifenthrin (Talstar), carbaryl (Sevin), and cyfluthrin (Tempo) are effective. Insecticidal soap will also be effective with very good coverage. Avoid getting the insecticide on flowers, although most rose varieties have had the nectar and pollen bred out of them and are not attractive to pollinating insects. Species roses and particularly some single-flowered varieties will attract pollinators. *(Phil Nixon)*

Allectus: A New Insecticide for Turfgrass and Landscape Ornamental Pests

Allectus, an insecticide from Bayer CropScience (Montvale, NJ), has received federal registration and is now commercially available. This insecticide contains both imidacloprid and bifenthrin as the active ingredients. There are two formulations of Allectus: a granular (GC) with 0.20% imidacloprid and 0.16% bifenthrin, which is registered for use in golf courses and sod farms; and a soluble concentrate (SC) with 5.0% imidacloprid and 4.0% bifenthrin, which is labeled for use in turfgrass and landscapes of residential lawns, commercial, industrial, institutional, and recreational areas including athletic fields and parks (but not labeled for use on golf courses and sod farms). Allectus is a systemic insecticide, primarily due to the presence of imidacloprid, which is translocated upward through the plants' vascular system. This insecticide can be applied either as a foliar spray or a soil drench. Foliar sprays offer local systemic activity against many insect pests. For woody plants, applications should be made before pests are present to achieve optimum control.

Allectus is labeled for a wide range of turfgrass and ornamental pests. Turfgrass pests on the GC label include black turfgrass ataenius, Japanese beetle, northern masked chafer, oriental beetle, southern masked chafer, armyworm, cutworm, and sod webworm. Ornamental pests on the SC label include scale crawlers, plant bugs, flea beetles, thrips, bagworms, fall webworms, aphids, Japanese beetle (adults), lace bugs, whiteflies, and leafhoppers.

For more information, consult the Bayer CropScience Web site (BayerProCentral.com). *(Raymond A. Cloyd)*

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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