



No. 1 • April 16, 2003

New Year for HYG

Welcome to the first issue of the 2003 *Home, Yard, and Garden Pest Newsletter*. This newsletter is written by U of I Extension specialists and educators to provide professional arborists, lawn-care specialists, golf-course personnel, landscapers, and garden-center operators with a season-long report of insects, diseases, and weeds attacking landscape ornamentals, including turfgrasses. Major authors are Nancy Pataky, Extension specialist in plant pathology and manager of the Plant Clinic; Raymond Cloyd, Extension specialist and assistant professor in green-industry IPM entomology; and Phil Nixon, Extension specialist in entomology and coordinator of this newsletter. Other Extension personnel write occasional articles.

During April, issues are biweekly as the growing season gets under way. During May and June when many pest problems appear, we publish weekly. As the season matures in July, August, and September, we revert to a biweekly schedule. Finally, monthly issues in October and November finish out the 20 issues, with an index in the final issue.

This newsletter relies on observations of pest activity around the state. Donna Danielson, Karol Jacobs, and Fredric Miller of the Morton Arboretum provide pest-scouting reports that help our efforts tremendously in northeastern Illinois. Bill Sullivan provides consistent phenology information from the Peoria area. We are always grateful for additional reports that our readers submit.

We also welcome comments about the newsletter and its content. If you have comments about a particular article, contact the author whose name appears in parentheses at the end of the article. Scouting reports can also be directed to those people. Overall comments about the newsletter or pest observations on a variety of pests can be directed to Phil Nixon. Contact information for authors is listed at the end of each newsletter issue. (*Phil Nixon*)

Plant Clinic Update

The Plant Clinic will open for the 2003 season May 2. There is no mail service to the building until that date,

so please don't mail packages earlier. Although there are few changes in policies or fees from last year, the following facts may be useful as you work with clients who have need of a diagnostic clinic.

Part of U of I Extension, the Plant Clinic was instituted to provide impartial plant-problem diagnosis across a range of disciplines. Services include insect, plant, and weed identification; disease diagnosis; nematode assays; help interpreting chemical-injury symptoms and nutrient-related problems; and management recommendations. The clinic cannot handle herbicide-injury problems on ornamental plants, nor can it assess nutrient levels in tissue or soil samples.

Diagnoses are available electronically, as well as by U.S. mail. We welcome digital images of plant problems with the actual plant sample. The Plant Clinic is a distinct entity from the distance digital diagnosis system and often receives samples that could not be diagnosed by images alone. Unlike the digital diagnosis system, there is a fee for all Plant Clinic samples. It varies depending on the type of service. Fees are the same as last year and are required with the sample. There is no billing office.

General diagnosis (including cultures)	\$12.50
Specialty tests (PWN, foliar nematodes, ELISA)*	\$18.75
Complete nematode assay	\$40.00

*PWN indicates pinewood nematode analysis. ELISA is a technique used to test for various viral pathogens. ELISA fees may be higher depending on the number of tests requested.

The Plant Clinic Web site provides information such as service fees; data forms to accompany samples; directions for preparing and submitting a sample; directions to the clinic; and links to newsletters, publications, and other clinics. The Web address is plantclinic.cropsci.uiuc.edu/. Most plant specimens still arrive by mail. The mailing address (beginning May 2) is

Plant Clinic
1401 W. St. Mary's Rd.
Urbana, IL 61802

The Plant Clinic can be reached at (217)333-0519. The service is available weekdays from 8 a.m. to noon and 1 to 4:30 p.m. (*Nancy Pataky*)

PLANT DISEASES

Rust on Hawthorn?

Cedar-apple and related rusts cause considerable spotting, leaf discoloration, and defoliation of crabapples, quince, and hawthorn. Landscapers are particularly concerned about hawthorns. Although cedar-hawthorn rust causes leaf spots and early defoliation, it is cedar-quince rust on hawthorn that causes the most damage. That disease may cause fruit distortion, galls on twigs, and stem dieback. The alternate host is juniper (usually *Juniperus virginiana*, which is eastern redcedar). Damage to the juniper is usually minimal, so treatment is focused on hawthorns.

Cedar-quince rust on hawthorn rarely causes leaf spots. The fruit becomes covered with the aecial stage of the fungus, which appears as many tiny, white, cuplike structures protruding from the fruit. This stage is attractive but does not last. The fruits shrivel and drop from the tree. Next the petioles, thorns, and twigs swell and turn orange with rust spores. Twig galls can girdle stems, resulting in much dieback. Obviously, this stage is most undesirable for the landscaper.

Spores from the juniper blow to the hawthorn in the spring and cause new infection as long as juniper galls are active. In central Illinois, galls began to swell rapidly the first week of April in the abnormally warm weather. Cool temperatures the next week slowed progress. We cannot give exact dates of spore movement because this event is triggered by weather conditions. Find galls on local junipers and watch them daily if accurate timing is necessary.

There are no commercially available hawthorn species with resistance to cedar-quince rust. If you have had a problem with cedar-quince rust on hawthorns and wish to get the disease under control, here are a few suggestions. Try to locate susceptible junipers away from hawthorns. During the winter, it is a good idea to prune out all remaining galls on hawthorn twigs infected in the past. Most of the galls will be dead, but some will still produce spores; so removal is both aesthetic and practical. It is possible to control this disease with fungicides, but keep in mind that fungicides prevent infection only for the year a chemical is applied: This is not a permanent fix. The fungus will move from the junipers and infect new shoots and fruit of the hawthorn very soon. Fungicide protection must be provided from bloom to whenever the juniper galls dry up (usually 1 to 2 weeks after petals fall). If you have found some galls on junipers in your area, you can be certain of the spray timing. The application of fungicide on hawthorn should be made when the orange galls on the juniper are gelati-

nous. This is usually when the hawthorns are in flower. Chemicals should be repeated according to label directions. A systemic product requires fewer applications. Refer to page 63 of the 2003 *Commercial Landscape & Turfgrass Pest Management Handbook* for a list of fungicide options. Refer to page 79 for information on chemical mobility to determine which have contact or systemic action. Similar information is on pages 91 and 103 of the *Home, Yard, & Garden Pest Guide*.

For more information, consult *Report on Plant Disease*, no. 802, "Rust Diseases of Apple, Crabapple, and Hawthorns," available on the Extension VISTA Web site or in local Extension offices. (Nancy Pataky)

Apple Scab Applications

Most landscapers know how to identify apple scab. If you need some help, consult *Report on Plant Disease*, no. 803, "Apple and Crabapple Scab," available in your local Extension office or on the Extension VISTA Web site. Many crabapple cultivars have resistance to scab, and resistance is definitely the long-term answer to this disease. Still, there are many susceptible crabapples in established landscapes. At this time of year, we always get questions about timing for fungicide applications to prevent infection.

The apple scab fungus infects under a wide range of temperatures but requires a wetting period to become established on a tree. Usually, midwestern weather in the spring provides just what the scab fungus needs. The minimum wetting period on the leaves is only about 6 hours if temperatures stay near the optimal 60°F. If temperatures are cooler, the wetting period must be longer for infection to occur. In a normal spring, scab symptoms might start to show on the leaves from 8 to 18 days after infection. Under cool, dry conditions, this incubation period might be longer.

If you have a susceptible variety and you are not able or willing to replace it, then spraying with fungicides might be your course of action against this disease. Fungicides are used as protectants, before infection occurs. You cannot wait until symptoms show to make the first application. Our recommendations say that the first spray should be applied at budbreak to protect new leaves. The ascospores that cause initial infection are released when edible apples are flowering, which is usually after crabapple budbreak. We use budbreak as a guide because it is easier to observe in the landscape and this gives us a grace period if sprays are late. If you had cool, dry weather in your area and you wish to spray your crabapple to protect it from the scab fungus, you may have been granted a reprieve this year due to the weather. You may still

see some protection from sprays. Each area of Illinois is a bit different, depending on local weather. A systemic fungicide provides a bit of kick-back action as well and will not be washed off by rains. Refer to the *2003 Illinois Commercial Landscape & Turfgrass Pest Management Handbook* or the *Home, Yard, & Garden Pest Guide* for chemical options. Don't forget that chemical mobility is listed at the end of each chapter. (Nancy Pataky)

INSECTS

Scouting Watch

Praying mantis egg cases are very common this spring. Most are squarish masses that appear to made out of brown styrofoam laid on the stems of flowers, trees, and other plants. They range from about 1/2 to 1 inch across. Adult Chinese mantises laid these egg cases last fall. In late spring, each case will produce about 100 hatchling mantises, each about 1/4 inch long. These mantises are not native but are the common species sold to gardeners for placing in the garden to feed on pests. As a result, they have become widespread in Illinois. As biological control agents, they are a mixed blessing because they feed on anything they can overpower, eating beneficial as well as harmful insects. In fact, many hatchlings will be eaten by their brothers and sisters.

Gypsy moth eggs hatch when saucer magnolia (*Magnolia soulangeana*) drops its petals, which will happen in a couple of weeks in northern Illinois. However, with oak being a major host for this insect and being a tree that breaks bud later in the spring, delay treatment for this insect until the leaves have expanded enough to catch insecticide spray droplets. *Bacillus thuringiensis kurstaki* (sold as Dipel, Thuricide), spinosad (Conserve), tebufenozide (Mimic)—as well as other insecticides—are effective against the larvae. Arborists, landscapers, and others should feel free to treat infestations in Lake, Cook, DuPage, and McHenry counties; but collect specimens or photograph larvae in counties other than Lake so infestations can be verified by the Illinois Department of Agriculture in Des Plaines, (847)294-4343.

European pine sawfly larvae are appearing as grayish to greenish wormlike larvae on mugo, Scotch, and other pines in southern Illinois. Realize that these are not caterpillars and not susceptible to *Bacillus thuringiensis kurstaki*. Permethrin (sold as Astro), carbaryl (sold as Sevin), and other insecticides are effective. Because the larvae feed in groups, small infestations can be removed by hand.

Spruce spider mites can be treated now in southern and central Illinois. Verify the presence of this and

other conifer-feeding mites by beating foliage over a white piece of paper. The grayish green mites will be knocked onto the paper, where they can be easily seen. Fast-moving red mites are predatory, and treatment may not be needed if they are numerous. Plant-feeding mites streak green when smashed; predatory mites streak red. Bifenthrin (sold as Talstar), insecticidal soap, and summer spray oil are effective against spider mites. Spray weekly, two or three times.

Hemlock rust mites are active throughout the state. These mites cause whitish to yellow stippling on the foliage. Heavy infestations result in yellowing and dropping foliage. These are eriophyid mites—so tiny that they are invisible to the unaided eye. Miticides as just listed for spruce spider mite are effective.

Cooley spruce gall adelgid and **eastern spruce gall** adelgid are susceptible to insecticides until saucer magnolia buds open. Only in parts of northern Illinois will these insects still be susceptible to insecticidal control efforts. (Phil Nixon)

Zimmerman Pine Moth

Throughout Illinois, it is time to be on the lookout for the larvae of Zimmerman pine moth, *Dioryctria zimmermani*, actively crawling on the bark of trees. The larvae are highly exposed and susceptible to an insecticide spray application, after overwintering in bark crevices in silken webs called a hibernacula. Zimmerman pine moth larvae feed on all pines, preferring Scotch and Austrian. The larvae bore into trees and create masses of pitch at branch whorls on the trunk or on shoots near the terminal leader. These pitch masses may resemble galls. Excessive tunneling by the larvae can kill terminal leaders. Heavily infested terminals curve downward, resembling a fishhook. Repeated trunk attacks by larvae can cause tops to break off, making the tree unsalable. Young trees are more susceptible to attack from the larvae and more attractive to adult females for egg-laying, most likely due to transplant stress.

Management of Zimmerman pine moth primarily involves sanitation and the use of insecticides. On Christmas tree plantations, scout regularly by visually inspecting trees for the larvae and then later for pitch masses on the main stem or terminal leader. Prune out damaged wood and injured shoots, or remove trees showing symptoms of Zimmerman pine moth damage. The insecticide permethrin (Astro) or dimethoate (Cygon) can be used to control the larvae by spraying the bark and foliage in April or mid-August. The optimal time to control this insect is when it is in the caterpillar stage and before it enters the bark. Once the caterpillar enters the tree, it is too late. High-volume sprays should be used to drench the stem and

bark, as a thick canopy of pine needles may prevent sprays from reaching the trunk.

Zimmerman pine moth larvae is susceptible to natural enemies, including a variety of parasites (parasitoids) and predators; however, the numbers are not sufficient to impact the population and prevent damage.

Planting resistant varieties of Scotch pine such as the short-needed varieties from Greece, Turkey, and west and south Eurasia may be a long-term alternative to minimize these problems. (*Raymond A. Cloyd*)

Eastern Tent Caterpillar

The egg masses of eastern tent caterpillar, *Malacosoma americanum*, are hatching in northern Illinois, and many of the eggs have hatched in central and southern Illinois. After hatching, the caterpillars create a white, silken tent in the branch crotches of crabapple, hawthorn, mountain ash, flowering cherry, and other trees and shrubs in the rose family. Eastern tent caterpillar is one of the earliest defoliators; and although the feeding damage may not initially kill a tree or shrub, it may reduce the plant's ability to produce food, thus increasing susceptibility to secondary pests such as wood-boring insects.

It is now easy just to pull out or destroy the silk tent(s) by hand (using gloves), or—for those that are a bit squeamish—a rake or hard spray of water can be used. Dispose of the nest as far as possible from any susceptible trees. The caterpillars generally stay in the nest during the day to avoid predators such as birds.

During the night, the caterpillars crawl out the silken tents to feed on leaves. Most of the caterpillars will be in the silk tent on cloudy or rainy days and at night.

Sprays of *Bacillus thuringiensis kurstaki* (Dipel or Thuricide) are effective when the caterpillars are young. Once caterpillars are mature (about 2 inches long), then the insecticide acephate (Orthene), carbaryl (Sevin), cyfluthrin (Tempo), or spinosad (Conserve) should be used. Research at Purdue University showed that spinosad (Conserve) is very effective at controlling mature caterpillars. (*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.

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 and typeset by Oneda VanDyke, of Information Technology and Communication Services.

For subscription information, phone (217)333-2666 or (800)345-6087, or e-mail acesnews@uiuc.edu. Web subscriptions are available (<http://www.ag.uiuc.edu/cespubs/hyg>).

Copyright © 2003, Board of Trustees, University of Illinois