



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

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PLANT DISEASES

Pine Disease Confusion

About this time of year, clients start to notice that their pines look less than perfect. Some of the chlorosis may be the result of wind burn. Salty mist from the road may account for one-sided chlorosis. Of greater concern are the necrotic stem tips, needles, or lesions on needles. Most symptoms present now are the result of infection last year. Work now to find out what caused the symptoms. Treatments for most pine diseases begin in the spring—*now*. They work to protect the new growth as it emerges.

If your pine tree is showing browning of needles, starting at the bottom and moving up, it most likely has one of the needle blight diseases (Dothistroma or brown spot). Of course it is a good idea to have this verified by someone who can see the fungal pathogen in or on needles. The Plant Clinic is a good place to seek such help. Refer to issue no.1 for details about the Plant Clinic. The newest needles are affected least, but you see some brown spots on them as well as the season progresses. Dothistroma blight is discussed with other needle blights of pine in the *Illinois Report on Plant Disease* available at <http://www.ag.uiuc.edu/~vista/abstracts/a624.html>.

If the dead tissue on your pine is at the tips of branches, then it is more likely that Diplodia blight is the cause of decline. This disease causes tips of branches to decline and often causes sappy exudate on branches, an indication of the canker phase of the disease. Entire limbs may die when Diplodia cankers girdle (strangle) the stems. You can link to more detailed information about Diplodia (Sphaeropsis) blight in the Illinois disease report at <http://www.ag.uiuc.edu/~vista/abstracts/aSPHAERO.HTML>.

Copper and mancozeb fungicides are used to protect new growth from infection with Dothistroma blight. A few more products are registered (chlorothalonil, myclobutanil, thiophanate-methyl, and fenarimol) for brown spot. Trade names of products and mobility of the products can be found in the *Illinois Commercial Landscape and Turfgrass Pest Management Handbook*.

If Diplodia is the disease of concern, much more emphasis is placed on reducing tree stress through mulching and watering. In addition, removal of dead stems is helpful. Chemical options are available but are often too late once symptoms are visible. (Nancy Pataky)

Hawthorn Rusts

Technically hawthorns are susceptible to more than eleven rust species. When you look at rust problems on hawthorns in Illinois, there are only two to consider: cedar-hawthorn rust (*Gymnosporangium globosum*) and cedar-quince rust (*G. clavipes*). Ironically, cedar-hawthorn rust is not the significant threat to hawthorns. It causes leaf spotting that may be severe on some cultivars, but it does not disfigure the tree. The rust that may limit hawthorn growth is cedar-quince rust.

Cedar-quince rust lives in the winter on *Juniperus communis*, *J. horizontalis*, *J. sabina*, and the usual *J. virginiana* (eastern red cedar). The summertime hosts include hawthorn, serviceberry, flowering quince, cotoneaster, and crabapple. The problem is that this rust infects the twigs and leaf petioles of hawthorn. Infected leaves shrivel up and die. The infected stems swell, resulting in stunted growth or dead stem tips. You might see old stem infections on your hawthorn now.

If you are considering planting new hawthorns this spring, keep this disease in mind. English hawthorn is reportedly resistant to the disease, while thornless cockspur and Washington hawthorns are quite susceptible. Chemical management of hawthorn rust is targeted at the hawthorn host. Fungicide applications begin at flowering and continue until 1 to 2 weeks past petal fall. Registered products include propiconazole, triadimefon, chlorothalonil, thiophanate-methyl, myclobutanil, and other products that are readily available to commercial applicators. Consult the *Illinois Commercial Landscape and Turfgrass Pest Management Handbook* for details. Homeowners have fewer choices but may use mancozeb or myclobutanil. Information on the rust diseases of apple, crabapple, and hawthorn can be found in *Report on Plant Disease*, no. 802, available at <http://www.ag.uiuc.edu/~vista/abstracts/a802.html> or in Illinois Extension offices. (Nancy Pataky)

New Disease Publications

There are a few new, or nearly new, disease publications that I have found very helpful and want to pass along to the readers. The book that is most helpful to me in diagnosing woody plant diseases is *Diseases of Trees and Shrubs* by Sinclair and Lyon. If you don't have the second edition, try to obtain a copy. The pictures alone are worth the cost of this book. The reference is Sinclair, W. A., and H. H. Lyon. 2nd ed., 2005. *Diseases of Trees and Shrubs*. Cornell University Press, Ithaca, NY. 660 pp.

A new pocket guide is available for scouting perennials. I like this publication, too: Byrne, Jan, and R. A. Cloyd. 2007. *A Pocket Guide for IPM Scouting in Herbaceous Perennials*. Michigan State University Extension Bulletin E-2981. (517)-353-6740. <http://www.emdc.msue.msu.edu>. 105 pp. Many of you may know Raymond Cloyd, an entomologist at Kansas State University (formerly at U of I). Jan Byrne, a plant pathologist at MSU, is the chief diagnostician in the MSU plant clinic.

This manual is a much needed remake of a very helpful manual: *Christmas Tree Pest Manual*, 2nd ed. USDA Forest Service (originally 1983), but published by Michigan State University Extension Bulletin Office as Bulletin E-0000. 143 pages, including 250 color images. This manual covers insects, diseases, injury by animals, and abiotic problems.

New in 2007, this handbook is much more than the name implies. It includes 448 pages, with over 600 color images on vegetable diseases. Try *Vegetable Diseases: A Color Handbook* by Steven T. Koike, Peter Gladders, and Albert O. Paulus. (ISBN 978-0-12373-675-8, item no. 36758.) This can be ordered from APS press.

Finally, I often mention APS press. APS is the American Phytopathological Society, the folks who work with plant diseases. The publishing branch is called APS press. For a list of their offerings, check out their Web site at <http://www.shopapspress.org/>. Sometimes you can get discounts if you purchase through member organizations such as the Illinois Arborists Association or Illinois Nursery Association. (*Nancy Pataky*)

INSECTS

Pest Watch

European pine sawfly has hatched throughout the state. The young larvae are blackish green, developing lighter green bodies later, which allows the dark green stripes and black heads to be more obvious. They will be present in groups on Scots, mugo, and other pines. They feed on the second- and third-year needles, which is all that is present at this time. They do not feed on the expanding candles later in the spring, probably because they are finishing their feeding and dropping to the ground to pupate then. Remember that these are not

caterpillars (moth larvae) but are the larvae of wasp-like insects. Thus, they are not controlled by *Bacillus thuringiensis kurstaki*. They are easily controlled with sprays of carbaryl (Sevin), acephate (Orthene), and pyrethroid insecticides. Because they feed in groups, hand removal is also effective.

Elm flea weevil adults have emerged and are feeding on Siberian elm and other European elm species. These tiny, reddish beetles eat tiny holes in the foliage, mainly in northern Illinois. They insert eggs into the foliage, with the resulting larvae mining through the leaves, particularly near the tips, later in the spring. Typically, damage is not noticeable from a distance, so treatment may be needed only on smaller trees near doorways, patios, and sidewalks. Acephate (Orthene), bifenthrin (Onyx), carbaryl (Sevin), or imidacloprid (Merit) should provide control. Acephate and imidacloprid, being systemic insecticides, also control leafmining larvae. Insecticide application can also be made in late June to control the second generation of adults. (*Phil Nixon and Morton Arboretum*)

Horned Oak Gall Adults Present

Horned oak gallmaker adult wasps have started to emerge in southern Illinois. Adults were observed on pin oak in the Effingham area on April 23, 2008. The wasps are too small to sting humans, being about 1/8 inch long, and are reddish brown, with clear, reflective wings that overlap and lie flat across the top of the abdomen. Very few adults were observed, which probably indicates that emergence had just begun. The pin oak buds had broken and elongated, but no leaves had yet emerged.

Application of bifenthrin (Onyx, Talstar) is recommended at this time to kill the egg-laying wasps if gall infestations are severe. Trunk injections of bidrin (Injecticide-B) or abamectin (Abacide) at this time should also be effective in killing the larvae in the leaves. Foliar sprays of the translaminar systemic insecticides acephate (Orthene), abamectin (Avid), imidacloprid (Merit), or dimethoate (Cygon) should be effective in controlling the larvae in the leaves once the leaves have expanded to at least 30 to 60 percent of full size. Dimethoate is an option only for nurseries.

The problem with any of these insecticide applications is that they greatly reduce the number of parasitic wasps that naturally keep this gall under control. Parasitic wasps and other competing insects in the galls typically provide 70 to 80 percent control of the gallmakers in leaf galls, and 20 to 100 percent of the gallmakers in stem galls. What this means is that in areas where the horned oak galls are very numerous, insecticide applications should be appropriate. However, in areas where the galls are not numerous, treating with insecticides may cause the galls to become more numerous. Where

insecticides have been applied, scout trees in nearby natural and other areas where insecticides to control these galls have not been applied. When the number of galls in these untreated areas drops, reduce or stop treating trees. This allows the rising numbers of natural enemies to control the galls on your trees as well.

Heavy infestations of horned oak gall are found from the Mattoon area on south through Illinois, particularly in the eastern half of the state. Scattered infestations are seen north to the Champaign and Peoria areas of central Illinois. Galls on trees farther north may have been brought in on the tree. Without a nearby source of additional gallmakers in these northern Illinois trees, pruning off and destroying the galls probably eliminates the infestation without the use of insecticides. For additional information, refer to 2008 issue no. 1 of this newsletter. *(Phil Nixon)*

Japanese Beetle

Application of imidacloprid (Merit and other brand names) and other systemic insecticides is effective in controlling Japanese beetle adults. Although the imidacloprid occasionally doesn't work in a tree to control this pest, it does over 80 percent of the time. However, a soil application of imidacloprid takes up to 2 months to move completely up to the leaves of large trees. With Japanese beetle emergence typically ranging from the third week of June in southern Illinois, to the fourth week of June in central Illinois, and the end of June in northern Illinois, time is quickly passing to achieve control in that manner.

Imidacloprid can be soil-applied either as a drench or by injection. Because imidacloprid is easily tied up on organic matter, mulch and other dead organic matter must be removed from around the base of the tree before a drench application is made. Removal of turf around the tree would also be required for a drench. Soil injections should be made deep enough to get below mulch, turf thatch, and other organic matter, but not deeper than 3 to 4 inches. Apply to the soil within 1 to 2 feet of the trunk, where the greatest concentration of fine feeder roots is located.

Northern Illinois had very high numbers of Japanese beetle adults last year, whereas many areas of central Illinois had very low numbers of the beetles for no obvious reason. Southern Illinois has rather typical numbers of the beetles. Last fall and winter was close to ideal for the survival of Japanese beetle grubs in the soil, so high numbers of beetles are expected this summer.

Less than 11 inches of rainfall from July through fall reduces the survival of Japanese beetle larvae, and most areas of Illinois received this much rain. Irrigated turf will have made up for any deficiencies that may have occurred. Although the winter seemed to be severe to us,

there were no extended periods of subzero temperatures to reduce insect numbers. Increased snowfall insulated Japanese beetle grubs from experiencing any long-term, deep-frozen soils, which can reduce their numbers. In addition, there were no winter thaws or early spring warm weather to possibly fool the grubs into burrowing close to the soil surface too early. The winter and spring conditions were almost ideal for most other overwintering insects in Illinois this year. *(Phil Nixon)*

Emamectin Benzoate Approved for EAB

Illinoisans will now have an effective alternative to tree removal in their arsenal against the emerald ash borer (EAB), a deadly wood-boring beetle that has plagued Illinois and North America long before discovered in 2002.

The Illinois Department of Agriculture on April 15 approved a special local need request for the use of Tree-age™, an insecticide touted as the most effective chemical weapon against EAB. Nearing 100 percent effectiveness, the product, developed by Swiss agrochemical company Syngenta and Massachusetts firm Arborjet, has an active ingredient called emamectin benzoate that is injected directly into the ash tree's vascular system, where EAB larvae feast. The direct injection affects only the beetle larvae and does not harm anything coming into contact with the tree, such as butterflies, birds, and squirrels.

After yearlong preliminary studies, Michigan—and most recently, Indiana—officials have approved the chemical. Based on results in Michigan, preliminary evidence suggests that a single treatment could provide up to 2 years of control.

Ideally intended as a preventive treatment for healthy, non-EAB-infested trees, Tree-age™ is most suitable for trees in close proximity to EAB-infested areas.

"IDA encourages property owners to consult with a certified arborist or tree-care company to discuss treatment pricing and other options suitable for their situation," says Warren Goetsch, bureau chief of Environmental Programs. "Cost will be a factor for most homeowners. This tool will most likely be used by golf courses and other landscape areas where entire canopies will be devastated, affecting local commerce." *(Phil Nixon, adapted from Illinois Department of Agriculture news release.)*

HORTICULTURE

Scotts Products: Stopped Sales, Recalls

Recently, the US-EPA ordered Scotts Miracle-Gro Co. and a few affiliate companies, including Scotts Lawn Service, to stop selling and distributing some products. Although the product labels displayed EPA registration numbers, EPA contends that these numbers were never given to Scotts and registration never granted. These

pesticides, commonly used in lawns by home gardeners, are Garden Weed Preventer + Plant Food (62355-4) and SLS Fertilizer With .28 Halts (538-304). Other product names include Miracle-Gro Shake 'n Feed All Purpose Plant Food Plus Weed Preventer, Scotts Lawn Service Fertilizer with .28% Halts, Scotts Lawn Service Fertilizer 0-0-7 Plus .28% Halts Pro, Scotts Lawn Service Fertilizer 14-2-5 Plus .28% Halts Pro and Scotts Lawn Service Fertilizer 22-0-8 Plus .28% Halts Pro. The key is to check for the presence of the registration number.

Then EPA issued stop-sale, -use, or removal orders on two additional products, Scotts Bonus S Max Southern Weed & Feed And Fire Ant Killer (538-301), and Scotts Turf Builder Max Plus 2 Weed & Feed And Crabgrass Preventer (538-299). Reasons cited for these latter products are that they are misbranded, with false or misleading claims, and one product lacks safety instructions. Again, due to extensive marketing, these may be available under different names. One must check for the above mentioned registration numbers.

The cause of all of this has not been released, if it has even been determined. Scotts is certainly not new to the registration process. EPA is, of course, erring on the side of caution. It is EPA's duty to ensure that public health and the environment are protected from the unknowns of unregistered pesticides. The registration process guarantees this safety, and during such the manufacturer must make certain to EPA that the pesticide meets the claims made on its label. Under the Federal Insecticide, Fungicide and Rodenticide Act, all pesticides must be submitted to EPA for review, evaluation, and registration to ensure that they do not pose an unreasonable risk to human health or the environment. This federal law requires that accurate product information be stated on pesticide labels. It also prohibits the distribution or sale of unregistered pesticide products.

Currently, EPA is conducting laboratory analyses

on the products to determine what exactly they are—if indeed they are not what they say they are. EPA has the responsibility of preventing false, misleading, or unverifiable product claims. Currently, if there are risks associated with the use of these products, they are unknown.

If you have purchased these products with the above mentioned registration numbers, EPA recommends you do not use them. Instead, store them in a cool, dry place such as a garage or utility shed and contact Scotts or your retail outlet. Scotts has recalled the products from retail locations and is setting up processes for consumers to return affected products. Currently, they ask that you do not dispose of these products. More information is still needed as to the proper disposal procedure.

Keep in mind that Scotts also sells many other fertilizers and fertilizers that do not contain a pesticide or do not need to be registered. Therefore, no registration number will be present on the label.

For further information and updates, check out <http://www.epa.gov/reg5rcra/ptb/news/> and <http://thescottsmiraclegrocompany.com/mediacenter/recall.html> (*Michelle Wiesbrook. Source: EPA press releases and Web site, <http://www.epa.gov/reg5rcra/ptb/news/>.*)

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, and Fredric Miller, (708)352-0109, entomologists; Nancy Pataky, (217)333-0519, plant pathologist; 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. It is edited by Mary Overmier, 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>).

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