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Online Extension Events Calendar and Publications Catalog

In November, U of I Extension will unveil a new and improved Web site to help you quickly find the information and services. In the meantime, this article describes two new features that are now available.

Extension calendar. Save yourself a trip or a phone call, and search for upcoming Extension programs anytime, day or night. From the main U of I Extension Web site (www.extension.uiuc.edu), click on "Extension Calendar." Use the keyword search feature or scan the topic areas to quickly find an educational program of interest. Narrow (or widen) your search by entering your zip code and the distance you are willing to travel. Each program includes the time, date, and location of the event, along with a program description and whom to call for more information or to register. Most regional and statewide winter programs will be posted to the calendar in early October.

Publications catalog. How many times have you said, "I wonder where I can find more information about . . .?" Hopefully, you contact your local U of I Extension office and pose the question. However, if questions like this emerge at inconvenient times, don't be discouraged and don't delay, go to their site, www.PublicationsPlus.uiuc.edu.

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PLANT DISEASES

"It Can't Be Managed with a Pesticide"

A fairly common statement indeed! You know as well as I do that it is frustrating when you have to tell someone that little can be done to prevent certain diseases other than giving the tree some TLC and promptly getting rid of the "corpse" once the pathogen wins. Does the future look brighter? I think so. A number of researchers, practitioners, and pesticide registrants are working together to do new things with not-so-new pesticides.

Abamectin. What is it? Abamectin is an antibiotic derived from the soil bacterium, *Streptomyces avermitilis*. It is well-known (examples include Syngenta's Avid and Arbor-System's Greyhound) by entomologists as effective against insect and mite pests of plants. It is also well-known by veterinarians because it is effective against nematode and insect pests of animals. I know, you may be thinking, "Why is he talking about an insecticide in this article?" Well, not all diseases are caused by fungi, bacteria, and viruses. For example, pine wilt is a devastating disease of Scotch pine that is caused by a nematode. So, if you're trying to find a pesticide that will prevent pine wilt, it makes sense to consider nematicides. That's exactly what researchers at Kansas State University are doing; they are experimenting with abamectin to prevent pine wilt.

Does it work? The short answer is that it's not perfect, but it looks quite promising. Now, for the details. First, they verified that a very low concentration of abamectin does stop the nematode in a petri dish. Second, they compared the Wedgle and STIT (systemic tree injection tubes; Helson et al. 2001. *Can Ent* 133:729-744) injection treatments in a 2002 field study and found that only the STIT treatment was effective. All field studies included treated (abamectin) and control (water) trees, and all trees were artificially infected with pinewood nematode several weeks after the injection treatments. The following data include only STIT injection treatments. In the 2002 experiment, 75% (15/20) of those injected were healthy 9 months after inoculation, versus only 50% (10/20).

for the water-controls. In a separate experiment in 2003, 83% (15/18) of those injected were healthy a month after inoculation, compared to only 42% (7/17) for the water-controls. Late-season data for the 2003 experiment and “following-year data” from the 2002 experiment are not available. However, additional publications are expected, and additional field experiments are under way to validate the results and optimize (for example, dosage, timing) the technique.

Registration status? Abamectin is labeled for the control of a variety of insects and mites on Christmas trees and other woody ornamentals. However, current labels do not address pine wilt or control of the causal nematode. Will registrants amend their labels to include pine wilt? The initial results are promising, but there is more to learn.

Source: “Prevention of Pine Wilt of Scots Pine with Systemic Injections of Abamectin.” Poster displayed during the August 2003 American Phytopathological Society meeting. Authors: R. James, L. Giesler. M. Harrell, N. Tisserat, and T. Todd. Kansas State University and University of Nebraska.

Paclobutrazol. *What is it?* Paclobutrazol is a synthetic triazole fungicide with more value as a plant-growth regulator (PGR). You’re probably more familiar with its sibling fungicides such as propiconazole, myclobutanil, triadimefon, or miconazole (ok, maybe not miconazole, which controls athlete’s foot). As a plant-growth regulator, paclobutrazol is sold under many names, including Profile (Dow), Cambistat (Rainbow Tree Care), Turf Enhancer (Andersons), and Trimmit (Syngenta). It can be applied to a range of trees and shrubs as a basal soil drench or soil injection and is also available for the turf market. Paclobutrazol affects plant growth in two major ways: (1) It reduces cell elongation by reducing the production of gibberellic acid, and (2) it helps conserve water and slows growth by reducing destruction of abscisic acid. Simply stated, paclobutrazol makes plants more conservative.

Does it work? What effect does this “I’m really a PGR” fungicide have on plant disease? Paclobutrazol can control a number of pathogens in the petri dish, (K. Jacobs, Morton Arboretum). Moreover, researchers and practitioners report a reduction in apple scab of flowering crabapple, and at least one researcher (B. Fraedrich, Bartlett Tree Research Laboratories) has observed a reduction in bacterial leaf scorch of red oaks. The really odd part of this last statement is the word “bacterial.” A fungicide that reduces the effects of a bacterial disease? William Chaney (professor of tree physiology, Purdue University) helps to explain

this mystery: “The effect of paclobutrazol on bacteria is unknown at this time but may be due to increased resistance of trees to infection by bacteria through alteration in leaf surface structure or even the size of stomatal pores.” In fact, Chaney lists a number of reported or suggested physiological effects on trees, including reduction in shoot growth (20 to 90%); increased shoot-to-root ratio; enhanced fine root development; reduced cambial growth (smaller cells); greener, thicker leaves with smaller stomatal pores; and increased tolerance to environmental stress.

Because of its ease of use (for example, soil drench) and the potential for added benefits, many researchers and practitioners are experimenting with paclobutrazol. At the Morton Arboretum, early field trials against verticillium wilt, armillaria, sphaeropsis tip blight, apple scab, botryosphaeria canker, and cytospora are under way. In terms of obtaining adequate disease control, research is needed regarding dosage and timing. Furthermore, a number of individuals have expressed concerns regarding the long-term effects (for example, “poodle-shape”) of repeat applications to trees.

Registration status? As mentioned, paclobutrazol is labeled as a PGR on a wide range of plants. However, like abamectin, current labels do not address disease control. Will registrants amend their labels to include disease control? Again, most reports look promising, but there is much more to learn.

Source: Chaney, William. “Tree Growth Retardants: Arborists Discovering News Uses for an Old Tool.” *Tree Care Industry*, March 2003. www.rainbowtree-care.com/pdf/Tree_Care_Industry_TGR_Article.pdf.

Final note. This article outlines experimental research results. Experimentation often requires formal agreements with the pesticide registrant (the owner) and the U.S. EPA. When using any pesticide, carefully read and follow the label instructions. Be sure you are applying it to a legal site (that is, area and plant), using an approved application technique, and staying within the listed dose range. Off-label pesticide use is illegal and irresponsible, and may jeopardize the future availability of pesticides as an option in pest management. (*Bruce Paulsrud*)

WEEDS

New Species Added to the Illinois Exotic Weed Act

Illinois lawmakers have been hard at work lately and have legally designated seven species as “exotic,” including kudzu and six species of buckthorn. See below

for a current list of species detailed in this law. The Illinois Exotic Weed Act does *not* require control of these species but instead states that "it shall be unlawful for any person . . . to buy, sell, offer for sale, distribute or plant . . . exotic weeds without a permit issued by the Department of Natural Resources. Such permits shall be issued only for experiments into controlling and eradicating exotic weeds or for research to demonstrate that a variety of a species listed in this Act is not an exotic weed." The Act defines exotic weeds as "plants not native to North America, which when planted either spread vegetatively or naturalize and degrade natural communities, reduce the value of fish and wildlife habitat, or threaten an Illinois endangered or threatened species. . . . Violators of this Act shall be guilty of a Class B misdemeanor. When the violation is a continuing offense, each day shall be considered a separate violation." Furthermore, "exotic weeds offered for sale in Illinois . . . (to Illinois residents) are subject to confiscation and destruction by agents of the Department of Natural Resources." However, commercially propagated exotic weeds for sale outside Illinois are permissible. This amendment is this Act's first since enacted in 1985. Some may describe these newly added weeds as evil. The House bill was assigned the number 666. Coincidence?

(*Michelle Wiesbrook*)

Exotic weeds of Illinois

Japanese honeysuckle (*Lonicera japonica*)
 Multiflora rose (*Rosa multiflora*)
 Purple loosestrife (*Lythrum salicaria*)
 Common buckthorn (*Rhamnus cathartica*)
 Glossy buckthorn (*Rhamnus frangula*)
 Saw-toothed buckthorn (*Rhamnus arguta*)
 Dahurian buckthorn (*Rhamnus davurica*)
 Japanese buckthorn (*Rhamnus japonica*)
 Chinese buckthorn (*Rhamnus utilis*)
 Kudzu (*Pueraria lobata*)

INSECTS

Multicolored Asian Lady Beetle

During this time of year when the weather is cooler, the multicolored Asian lady beetle, *Harmonia axyridis*, congregates on the south side of buildings and enters homes. The beetle does this because in their native China they inhabit tall cliffs to overwinter. Because Illinois does not have an abundance of tall cliffs, the next best thing is a building.

The multicolored Asian lady beetle is a native of Asia (hence the common name) and was introduced

into the southeastern and southwestern portions of the United States to deal with aphids on pecan trees. It spread rapidly to other portions of the country. It is an arboreal (tree-dwelling) lady beetle, more so than the native species, and a very efficient predator of aphids and scales. In fact, this beetle has been responsible for regulating populations of the soybean aphid, which was introduced into Illinois about 2 years ago. Adults may also feed on ripening peaches, apples, grapes, and other fruit, creating shallow holes. This damage may be easily controlled with the use of common insecticides registered for fruit. Large numbers of beetles feeding on fruit may cause enough injury that the fruit is less appealing for consumption.

This lady beetle can be easily distinguished from other species of lady beetles by a pair of white, oval markings directly behind the head, which forms a black, M-shaped pattern. Adults are 1/4 inch long, 3/16 inch wide, and vary in color from yellow to deep orange (almost red). In addition, their bodies are usually (not always) covered with 19 black spots. The adults can live up to 3 years. Female beetles lay yellow, oval-shaped eggs in clusters on the underside of leaves.

The eggs hatch into larvae that are red-orange and black, shaped like an alligator. The larvae primarily feed on soft-bodied, plant-feeding insects, such as aphids, psyllids, and scales. They eventually undergo a pupal stage. The pupae can be seen attached to plant leaves. Adults emerge from pupae and start feeding on prey. The adults can be found on a wide variety of trees, including apple, maple, oak, pine, and popular. There may be multiple generations per year.

The multicolored Asian lady beetle is a nuisance pest because the adults tend to congregate and overwinter inside buildings in large numbers (literally giving meaning to the phrase "ladybug, ladybug fly away home"). They release a pheromone that attracts more beetles to the same area. Although they may bite (and they do), the beetle does not injure humans. Additionally, the beetle does not carry or transmit diseases. The beetle does not breed or reproduce indoors because it is primarily looking for a place to spend the winter. They are attracted to lights and light-colored buildings, especially the south side where it is warm. The beetles work their way into buildings through cracks and crevices. Dark-colored buildings are generally less attractive to the beetles.

Beetles can be prevented from entering homes by caulking or sealing cracks and crevices. Beetles that are already in the home can be removed by sweeping or vacuuming. Be sure to empty the vacuum bags

afterward. Avoid killing the beetles. Simply release them outdoors beneath a shrub or tree away from the house. If the beetles are crushed, they emit a foul odor and leave a stain that can be difficult to remove. The dust produced from an accumulation of dead multi-colored Asian lady beetles behind wall voids may trigger allergies or asthma in people. Insecticides are not recommended for use indoors.

Homeowners who want to avoid dealing with overwintering beetles entering their homes can hire a professional pest-control company to treat points of entry on the building exterior with a pyrethroid-based insecticide. The treatments should be made in late September or early October, before the beetles enter the building to overwinter.

The beetle has been able to spread rapidly throughout portions of the United States because it was introduced into the country without its native natural enemies. However, beetle populations may decline as cosmopolitan natural enemies start attacking them.

(Raymond A. Cloyd)

Fungus Maggots

Several areas of the United States are reporting large numbers of fungus gnat maggots crawling across turf and sidewalks. These insects feed on decaying organic matter in the soil. When full grown, they are about 3/8 inch long, slender, wormlike, and clear with black head capsules. They are coming up onto the surface where they migrate to pupate. These masses are

reported as being round and 2 to 6 inches across, or more commonly as masses up to 2 inches wide and several inches long.

These larvae are not likely to cause any damage and can be ignored or washed away with heavy streams of water. As adults, they are known as dark-winged fungus gnats, which are frequently very common in the spring and fall in Illinois, flying as large swarms up to several feet across. (Phil Nixon)

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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