



UNIVERSITY OF ILLINOIS EXTENSION

# HOME, YARD & GARDEN PEST

College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana-Champaign  
Illinois Natural History Survey, Champaign

NEWSLETTER

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## Educational Meetings

Following is a partial list of educational meetings being offered by University of Illinois Extension and others during this winter for professional landscape horticulturists. (*Phil Nixon*)

Illinois Landscape Contractors Association Institute; several topics and various days available at various sites in northeastern Illinois. For information, contact <http://www.ilcainstitute.com> or (630)472-2851.

University of Illinois Extension Pesticide Applicator Training Clinics; 18 1- and 2-day clinics will be held throughout Illinois from January to May 2006. The schedule of dates and locations will be released at the end of October 2005. For information, contact <http://www.pesticidesafety.uiuc.edu/training/training.html> or (800)644-2123.

November 29 to December 1, 2005: Illinois Professional Turf Conference, Pheasant Run Resort, St. Charles, IL. For information, contact [www.illinoisturfgrassfoundation.org](http://www.illinoisturfgrassfoundation.org) or (630)243-9483.

January 5, 2006: Southern Illinois Bedding Plant School, Southwestern Illinois College, Belleville, IL. For information, contact (618)650-7050.

January 18 to 20, 2006: Mid Am Trade Show, Lakeside Center at McCormick Place, Chicago, IL. For information, contact <http://www.midam.org/> or (847)526-2010.

February 21 and 22, 2006: Southern Illinois Grounds Maintenance School, Gateway Center, Collinsville, IL. For information, contact (618)650-7050.

February 28 and March 1, 2006: Pro Hort '06, Ashland House, Morton, IL. For information, contact <http://www.ina-online.org> or (888)525-3900.

## PLANT DISEASES

### Stinkhorns

Stinkhorns are mushrooms. We received a sample in late September at the U of I Plant Clinic. When searching for information on the stinkhorn, I found that the Purdue Plant Clinic had received a similar sample and posted pictures on their Web page. It may still be at <http://www.ppd1.purdue.edu/ppdl/weeklypics/10-10-05.html>. If not, a wonderful site can be found on a University of Wisconsin Web page by mycologist Tom Volk: [http://botit.botany.wisc.edu/toms\\_fungi/july99.html](http://botit.botany.wisc.edu/toms_fungi/july99.html).

Stinkhorns are members of the Phallaceae family of fungi. When fresh, they smell terrible, thus the name stinkhorn. Mushrooms are the fruiting bodies of fungi. The vegetative stage of the fungus is the threadlike mycelium that grows in its food source, some type of organic matter. You may recognize mycelium as the mold growing on leftover food in the refrigerator or the white growth that spreads across rotting logs in the forest. Stinkhorns are saprophytic fungi, meaning they live off dead plant material. They do not parasitize healthy plants. The mycelial phase of the fungus is beneath the finger-shaped fruiting structure and grows throughout wood chips, rotting roots, or any other organic matter in the soil, helping with decomposition. Stinkhorns are often found in parks, wood chip areas, field crops, and composted soil. They usually appear in wet conditions on fertile soil. Students working in corn or soybeans at the U of I usually find these between rows in periods of wet weather. We also have reports of the stinkhorns growing in lawns.

The stinkhorn we received at the Plant Clinic was one of the *Phallus* species. Identification is based on the location of the spore-forming area and the lack of a veil. Those details can be seen on Volk's page, referenced above. Stinkhorns are fingerlike, with an egg stage (gleba) at the base and mycelium below that, growing in the organic matter. Often the horn is red or white but varies with species.

Probably the most asked question is, "How do I get rid of these things?" There is nothing you

can do to eradicate these foul-smelling fungi. You can remove the egg stage, but more will form from the mycelium present in the organic matter. If there were no organic matter, there would be no stinkhorns; but then your landscape would be unattractive, as plants need organic matter to thrive. Dr. Volk's advice is to try to enjoy these wonders of nature. (*Nancy Pataky*)

### Honeylocust Knot

Not a great deal of information available on this problem; but as it has been seen in the Midwest, I thought you might want to keep an eye out for affected trees. Honeylocust knot was discovered in Ohio in 2000 by Hannah Mathers, Ohio State University Extension state specialist for commercial nursery and landscape. It has since been reported in Michigan, Maryland, Kentucky, Illinois, Indiana, and Iowa.

Honeylocust knot is a problem that may be easier to see now that leaves are beginning to fall. Still, symptoms first appear in the spring or early summer. Honeylocust appears to be the only host; and so far, 'Skyline', 'Shademaster', and 'Imperial' cultivars have been affected. The condition causes small, knotlike galls at the nodes of stems. Not all stems are affected. Given the normal swelling of honeylocust nodes, there may be some confusion over symptoms. We saw one case at the U of I Plant Clinic in 2004 (none in 2005), and it was easy to see that something was amiss. There were abnormally large nodes with swellings on both sides. Some research has been done on this disease at the Ohio State University by Pierluigi (Enrico) Bonello and others. If you visit his 2002 report, you will find pictures of symptoms at [http://ohioline.osu.edu/sc189/sc189\\_55.html](http://ohioline.osu.edu/sc189/sc189_55.html). He states that besides the galls, symptoms include shepherd's-crooks on stem terminals, wiltlike leaflet cupping, yellowing of the canopy, defoliation, and sometimes death of the tree. Often, the stem tips have a fire blight look. The knots that give the disease its name are 1/4" to more than 2" in diameter on the nodes of twigs and branches.

This disease is thought to be caused by a bacterium because of reasons stated in the Bonello report. Future research should help confirm this suspicion. Once the bacterium is positively identified, we can provide information on control. If the pathogen is a bacterium, strict sanitation with regard to any pruning is important to avoid spreading the disease. Michigan State specialists suggest "spraying all pruning tools between cuts with Lysol, dipping them in Greenshield,

10 percent household bleach (one part household bleach to nine parts water) or other disinfectant to help keep bacteria from spreading on pruning tools. Applying 70 percent alcohol to disinfect tools works if the tools are flamed; it's the flaming that kills bacteria more than the alcohol itself."

If you find any suspicious-looking galls on honeylocust trees, and you are an Illinois resident, samples can be sent to Nancy Pataky, Plant Clinic, N533 Turner Hall, 1102 S. Goodwin, Urbana, IL 61801. Do not send samples from out of state; contact a plant lab in your state. (*Nancy Pataky*)

### Time to Clean Up the Landscape

Over the years, we discuss plant disease problems and talk about the fact that stressed plants are more susceptible to insect and disease problems. Now that gardening demands have slackened, why not spend some time improving plant health? Plant health is a very important management tool for disease and insect problem prevention. Taking the part of the devil's advocate, I suppose we won't ever really know our actions did any good. If we don't see the disease or insect, then we assume it must never have been a threat. Research has shown over and over again that stressed plants are more susceptible to disease, more likely to be injured by insect infestations, and more likely to decline than vigorous plants that are not under stress.

Many disease problems are best controlled with preventive measures. Chemical rescue treatments may act as temporary Band-Aids but are usually not the answer for long-term disease control. These fall lawn and garden cleanup procedures will help prepare plants for winter while discouraging development of disease problems.

1. Keep grass mowed until it stops growing. This helps prevent winter injury and damage from fungal snow mold diseases. If you don't have a mulching mower, remove leaves from grass in the fall, also to prevent fungal snow mold development.
2. Prune oak trees in the dormant season to reduce the risk of oak wilt. Pruning from September to early March is recommended because pruning during the growing season causes sap flow, attracting bark beetles, which in turn may transmit the oak wilt fungus.
3. Prune trees and shrubs to remove all dead and seriously cankered wood, as well as any crossing and interfering branches. Opening up the center of woody plants helps promote faster drying, lets in more light, and reduces foliar and

stem diseases. This is a common practice to help prevent fire blight on rosaceous hosts, anthracnose and fungal leaf spots of trees, bacterial leaf spot of *Prunus* species, as well as many other diseases.

4. Provide winter protection for roses, evergreens, thin-barked young trees, and other sensitive plants. Winter injury causes wounds that become infected with secondary canker fungi. Many of the rose cane cankers infect such injuries. Check with local Extension specialists about timing for applying winter protection.
5. Prune tree and bush fruits according to recommendations by Extension horticulturists. Pruning at the wrong time can cause more cankering and dieback.
6. Remove and burn (where possible), compost, or bury plant debris to help reduce foliar and stem disease next year. It is usually safe to compost any leaf material; but diseased stem and root tissues should be burned or buried, not included in a compost pile. A tree infected with *Verticillium* wilt should not be chipped or composted. It should be burned or removed from the site.
7. Look over a variety of seed and nursery catalogs. Select resistant varieties and plant them where you've had problems in the past but have no rotation options. Choosing disease-resistant hybrids, varieties, and species is usually the least expensive and best long-term method of disease control. If you have had problems with scab on crabapple, consider replacement with a scab-resistant variety showing flower and fruit color that you prefer as well. Try to obtain a variety that is also resistant to powdery mildew and rust.
8. Make a map of your flower and vegetable gardens. Rotate annuals to another area of the garden to reduce soil-borne pathogens that cause *Rhizoctonia* and *Fusarium* root rots. Now is also a great time to make soil amendments to improve soil drainage. *Phytophthora* and *Pythium* root rots are known problems in poorly drained areas.
9. Divide perennial flowers (where appropriate), remove rotted or diseased parts, and replant in a new location. Let the cut edges dry a day before replanting to avoid soft rot bacteria and other soil-borne root rots.
10. Water stressed trees and shrubs periodically until hard frost. Much of Illinois experienced severe drought this summer, and we will be

seeing the effects of that drought this fall, winter, and next spring. Trees and shrubs suffer root injury in those times but may not show wilting. Plants that exhibited early fall color, leaf rolling, or dieback are stressed plants. Water these to promote root growth now. Late-fall or early-spring fertilization with a balanced fertilizer will help promote growth on these stressed plants.

Of course, these measures will not guarantee no plant disease in your garden, but they will help reduce disease incidence. (*Nancy Pataky*)

## INSECTS

### Eriophyid Mites

This month, we received samples of coneflower, *Echinacea* spp., that were "heavily" infested with eriophyid mites—over 500 mites per flower head. (I have to admit I was in entomological heaven!!) These mites were primarily concentrated in the flower heads, where they were causing distorted flower growth; the flowers were not marketable. It is interesting to note that the mites were only present on the coneflowers, regardless of cultivar, despite an assortment of other perennials surrounding the crop.

Eriophyid mites are extremely tiny (less than 0.3 mm in length), microscopic worm- or spindle-shaped mites with elongated bodies. They resemble cigars with the head and legs located on one end. They have two body regions: mouthparts (gnathosoma) and the remainder of the body (idiosoma). The idiosoma is similar to the abdomen of insects. Eriophyid mites have only two pairs of legs, which is unique among mites (all other mites have four pairs). Eriophyid mites cannot be detected with the unaided eye.

These mites are a specialized group of plant feeders. In general, many eriophyid mites feed on a few closely related species or genera of plants. At the tip of the idiosoma is a sucker, which allows the mite to hold on to the plant surface. Eriophyid mites feed deep within the plant tissues, sucking out plant juices with their styletlike mouthparts and transferring a substance, which causes deformation of plant growth. Feeding generally results in densely packed or distorted growth to both the flowers and foliage that appears "rough" looking. However, eriophyid mite feeding can result in a variety of symptoms, including galling, clustering or "witches'-broom," swollen or thickened growth, leaf blistering, and russetting or bronzing of leaves. Eriophyid mites are the only group

of mites known to transmit plant viruses.

Eriophyid mites tend to live together in large numbers and reproduce within the folds of plant tissues. With the aid of a dissecting microscope (set at 100x), the mites and eggs can be seen. The eggs are spherical and generally laid in groups. They hatch in less than 2 weeks into young mites that may take about 2 weeks to a month to mature into adults. The reproductive potential of eriophyid mites is very similar to twospotted spider mite, *Tetranychus urticae*. Each female mite may lay up to 100 eggs. Several generations may occur throughout the growing season.

Eriophyid mites attack a variety of outdoor and greenhouse-grown crops including carnation, chrysanthemum, delphinium, hibiscus, and some ornamental cacti. They feed on all plant parts. Eriophyid mites can easily come in on plant material from a supplier.

Once damage is evident, it is too late because the mites are already established within the plant. As a result, preventive spray applications of pest-control materials are needed to prevent damage. However, the number of effective pest-control materials for controlling eriophyid mites is limited, and efficacy data is minimal. Pest-control materials with translaminar properties are your best choices for “managing” eriophyid mites. These would include abamectin (Avid) and chlorfenapyr (Pylon). Additional pest-control materials that may be “active” on eriophyids are pyridaben (Sanmite), fenpyroximate (Akari), and endosulfan (Thiodan). Several of these products may be harmful to beneficial insects and mites, in particular endosulfan (Thiodan). Be sure to read the label carefully in order to deter-

mine whether the above-mentioned pest control materials can be used outdoors and/or in greenhouses.

An important management strategy, even if applying pest-control materials, is to dispose of plants/plant parts that are showing symptoms. Also, it is generally advisable to dispose of plants surrounding the infected plants; they may also be infested, but symptoms are not evident. It is beneficial to send suspected plants to a university diagnostic clinic for verification. Controlling eriophyid mites for the next season generally involves applying pest-control materials prophylactically, that is, before damage is noticeable because once plants show visible symptoms—it is too late!!

Biological control of eriophyid mites is difficult because they live and feed in buds or galls, which protects them from large predators. In addition, there are no effective natural enemies currently available for use in commercial greenhouse production systems. (*Raymond A. Cloyd*)

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*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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