



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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First Issue for 2006

This is the first issue of the *Home, Yard, and Garden Pest Newsletter* for 2006. We will have 20 issues this year, starting with biweekly issues in April. Issues will be weekly in May and June, with biweekly issues again during July, August, and September. There will be monthly issues in October and November.

Our intent is to provide you with timely information concerning commercial landscape diseases, insects, and weeds as they are occurring. New recommendations for management from the University of Illinois typically appear first in this publication. If you see unusual pest activity or have comments about this newsletter, please let us know. General comments should be directed to me, the newsletter coordinator, whereas specific comments should be directed to the author of the particular topic. Contact information is provided at the end of each issue. (*Phil Nixon*)

PLANT DISEASES

May 1 Plant Clinic Reopening

The University of Illinois Plant Clinic will open for the 2006 season on May 1. The doors are open Monday through Friday from 8 a.m. to noon and 1 p.m. to 4:30 p.m. There is a very large drop box for depositing samples in the evening or on weekends. Specimen data forms are available in the drop box. For details about the clinic services, sample submission, and fees, or for maps to the Plant Clinic, visit our Web site at <http://plantclinic.cropsci.uiuc.edu/>.

Several new ELISA tests (enzyme linked immunosorbant assays) will be available in 2006. Details will appear in future newsletter issues. If you have questions about our testing service, please call the Plant Clinic at (217)333-0519. If you call before May 1, your call will be redirected to Turner Hall.

The University of Illinois Plant Clinic is a member laboratory of the north central region of the National Plant Diagnostic Network and reports findings into the national database. Information about this network is available on the Web at <http://www.ncpdn.org>. Information about new pathogens, insects, and weed

pests is disseminated through the NPDN. Two current disease concerns in Illinois include soybean rust and ramorum blight. Instructions for submitting suspect samples can be found on the Plant Clinic home page. Watch this site for updates on other pest problems as the season progresses. (*Nancy Pataky*)

What Is Ramorum Blight and Why Should We Be Concerned?

You may have heard of this disease as SOD, sudden oak death, ramorum leaf blight, or ramorum dieback. The fungal-like pathogen, *Phytophthora ramorum*, was confirmed on oaks on the west coast of the United States in 1995 and has since been detected in 22 states. Originally named sudden oak death because it ultimately moved to oaks and caused them to die, the disease has since been shown to infect 100 hosts (and that number keeps increasing), including shrubs and trees. Because turf growers don't wish to cause a scare in the turf industry and turf is not involved, the SOD moniker has been dropped and the more appropriate name of ramorum blight has been assigned.

The new USDA APHIS Web site about *Phytophthora ramorum* programs can be found at <http://www.aphis.usda.gov/ppq/ispm/pramorom>. In March 2004, it was determined that the disease had been shipped out of California, possibly to many U.S. nurseries. APHIS issued an emergency Federal Order (http://www.aphis.usda.gov/ppq/ispm/pramorom/pdf_files/federalorder12-21-04-final.pdf) that bolstered the agency's initial *P. ramorum* restrictions by regulating the interstate movement of plants for planting, including houseplants and propagative materials, from all commercial nurseries in California, Oregon, and Washington. The Federal Order, which became effective on January 10, 2005, was enacted in response to detections of *P. ramorum* at commercial nurseries in California, Oregon, and Washington that were outside quarantined areas.

Many states, including Illinois, have conducted nursery surveys the last 2 years to monitor plants received from the West Coast. The University of Illinois Plant Clinic has been the testing agency for samples

collected by the Illinois Department of Agriculture and Illinois APHIS inspectors. *Phytophthora ramorum* has not been found in Illinois. The nursery survey will continue in 2006.

The APHIS list of hosts and associated hosts of this pathogen contains 100 plants. You can view the list (updated frequently) at http://www.aphis.usda.gov/ppq/ispm/pramorum/pdf_files/usdaprlist.pdf. Not all of these hosts will grow in Illinois, but many do. Some plants of concern include rhododendron, honeysuckle, viburnum, camellia, pieris, vaccinium, Douglas-fir, white fir, horse chestnut, and others. The pathogen forms spores on blighted tissues of leaves and stems of infected shrubs. These plants may be shipped to nurseries, purchased by landscapers, and planted near established trees. Ultimately, the main concern is that the oak forests will be threatened. The disease has killed thousands of oaks in California. This disease can cause symptoms that range from oozing cankers (on trees) to leaf blights, so it can be difficult to diagnose or to distinguish from other problems. Pictures and symptom descriptions can be found on the *Phytophthora ramorum* fact sheet produced by the North Central Region Pest Management Center and viewed at <http://www.ncpmc.org/alerts/sudde-noakdeath/index.cfm>. There are other helpful links to information on this disease at that site.

Keep an eye on camellia, rhododendron, viburnum, pieris, kalmia, or lilacs planted in the last 3 years and obtained from the West Coast. If these plants develop extensive cankers, blights, or dieback, review the information above. The University of Illinois *Phytophthora ramorum* Web site, <http://pramorum.cropsci.uiuc.edu/index.cfm?id+screen>, addresses common questions about this disease and lists screening questions for determining the need to submit a plant sample for *Phytophthora ramorum* testing. Watch for more updates about this disease as the season progresses. (Nancy Pataky)

Cankers and Pink Blobs on Boxwood?

Thirty years ago, when I was a student in Michael Dirr's class on woody ornamental trees and shrubs at the U of I, I learned that boxwoods did not grow well in central and northern Illinois. At that time, a few hardy species were available but not yet well established in the landscape. Although there are now more cultivars that can offer **winter hardiness**, we still see plenty of problems on boxwoods. The **drought** of 2006 will most likely intensify all of these problems.

Most boxwood species are hardy in zones 5 to 6, but some of the cultivar selections have been developed to tolerate colder temperatures. Sensitive boxwoods suffer winter injury if planted out of their

natural zones. Even those in the correct zone sometimes show winter injury, especially on sites exposed to wind, salt damage, or other stress factors. Winter injury results in bronze to reddish brown foliage, especially on parts of the plant exposed to winter winds or winter sun. In addition, temperature extremes cause splits in the bark, and entire branches may die to the crown of the plant. Look for such injury now and prune out any dead wood.

Volutella (syn. Pseudonectria) blight is a disease we frequently see on injured boxwoods in Illinois. I have already received a call about this problem this season. *Volutella* can be confused with winter injury symptoms. The two usually go hand in hand because the fungus often infects wounds resulting from winter injury. *Volutella* blight (*Volutella buxi*) is a fungal disease of English and American boxwoods. The fungus infects leaves and/or stem tips. The leaves turn reddish to bronze and stem tips may die. *Volutella* moves down the stem, whereas winter injury happens seemingly at once and does not progress down the stem. If affected foliage is placed in a plastic bag with damp paper toweling (moisture chamber) for 24 hours, the salmon pink fruiting bodies of *Volutella* will clinch the diagnosis. Prune out dead wood and thin the plant to allow better air circulation, thereby discouraging fungal growth. The pathogen has also been reported to cause a root and crown rot. The fungal pathogen can survive in the soil, but there is otherwise not much known about disease infection and spread. To manage this disease, remove infected stem tissue, take steps to avoid winter injury, and otherwise maintain healthy plants through sound horticultural practices.

There is also a root and crown rot disease of boxwoods called **Phytophthora root and crown rot**. The foliage develops a dull green appearance, as you might expect when water is limiting. The foliage may become twisted and eventually turns brown. The crown tissue rots, becoming gray or brown, and roots turn dark brown with sloughing cortex tissues. Infection occurs in warm to hot weather, and excess water is required for infection.

Other problems on boxwoods may result due to their fairly **shallow roots**. Cultivating around boxwoods or overapplication of fertilizer may injure or kill roots, also resulting in top dieback and decline of plants. It is suggested that boxwoods be mulched but not too deeply. Two problems could result from thick mulch. Roots will grow into the mulch and will be susceptible to drought stress when the mulch dries. In addition, voles are known to live in mulch and feed on the trunk of this plant. For these reasons, keep mulch shallow and away from the trunk. (Nancy Pataky)

INSECTS

Formosan Termites in Mulch?

In mid-March, there was a series of e-mails going around the country stating that mulch was being produced from grinding up trees that had been damaged by Hurricane Katrina in Louisiana. This mulch was reported as likely to be infested with Formosan termites and was being sold in a couple of national chain home centers. These claims are not true and are addressed in the urban legend Web site: <http://www.snopes.com/inboxer/household/termites.asp>.

The Formosan termite (*Coptotermes formosanus*) is originally from mainland China. It has been a pest in Hawaii for over a century. It was discovered in the mid-1960s in the continental United States. It is now known to occur in Alabama, Florida, Georgia, Louisiana, Mississippi, South Carolina, and Texas. Considerable research has been done on this pest, and it is thought that it could not survive any farther north than Memphis, TN (35° North latitude).

It is a subterranean termite, meaning that it builds its colony underground, as does the common destructive termite species in Illinois, the eastern subterranean termite (*Reticulitermes flavipes*). From these underground nests, the worker termites spread through the soil looking for wood. When it is found, the wood is eaten by the termites and taken back to the colony, where much of it is regurgitated for use by the colony.

As with eastern subterranean termites, Formosan termites can live in aboveground nests in wall voids and other locations if there is a steady source of moisture such as a leaky roof or leaky pipes. Unlike the eastern subterranean termite, which forms its aboveground colonies in wood or wood debris, the Formosan termite colony forms a carton nest made of chewed-up wood and soil. These are common in Florida buildings, where the carton nests may be over one foot across and may cause the wall to bulge outward when built in a wall void.

Formosan termites are more aggressive feeders than eastern subterranean termites. Formosan termites in Hawaii can cause severe damage within 6 months and almost completely destroy a house in 2 years. The winged reproductives, called swarmers, emerge from colonies in huge numbers on warm evenings and are highly attracted to lights at night. They are about ½-inch long, with pale, yellowish brown bodies; whereas eastern subterranean termite swarmers are about ¼-inch long, with dark brown bodies that appear blackish. Eastern subterranean termites typically emerge in early spring before the warmer days of summer.

Formosan termites have been transported to other areas in the United States through the movement of infested wood, particularly landscape timbers and

telephone poles. Although these items are treated with creosote and other preservatives that are toxic to termites, they are too thick for the preservative to penetrate completely through the wood. This leaves a small core in the center of the pole or timber where termite colonies can develop.

In Louisiana and surrounding areas, there have been quarantines since October 2005 to prevent the movement of wood and wood products out of the hurricane-damaged areas. Regulatory and enforcement personnel are monitoring clean-up activities to be sure that these quarantines are followed. Severely damaged trees and other wood are reduced to wood chips. This process disrupts nests and kills essentially all of the termites, which are soft bodied and easily smashed. These wood chips are then hauled to local landfills. Trucks and other vehicles leaving the hurricane-damaged area are inspected for prohibited articles.

Mulch is a low-priced product for its bulk, making it prohibitively expensive to transport very far. No matter how inexpensive the mulch might be in Gulf Coast areas, the cost to transport it into Illinois would make it too expensive to be competitively priced with locally derived materials. Bagged mulch is compressed to reduce bulk; this compression would kill termites and disrupt colonies in the mulch, killing the termites a second time after the chipping process.

Southern termite species, such as drywood and dampwood termites, are occasionally found in large foliage plants and building materials, but they do not become established, probably due to the cold winters and other climatic conditions. For all of these reasons, the likelihood of Formosan termites coming into Illinois and becoming established as pests is very small. (Phil Nixon)

Time To “Weigh In” on Scales

Although it may be “early” in the season to discuss scales, it is important to understand, at this point, the major differences between soft, or bark, and hard, or armored, scales and how this relates to management.

The characteristics of **soft scale** include

- There is generally one generation per year
- Produce honeydew
- Typically overwinter as immature fertilized females
- Appear convex in shape or resemble a helmet
- Females typically can lay >1,000 eggs

The characteristics of **hard scale** include

- There are generally two or more generations per year
- Do not produce honeydew
- Typically overwinter as either second-instar males or females, or as eggs underneath the female’s body
- Appear circular or rounded in shape
- Females typically lay <100 eggs.

Common soft and hard scales are listed in Table 1.

Soft scales produce honeydew because the food canal carries large quantities of plant sap from the phloem tissues. Hard scales do not produce honeydew because the food canal contains various kinds of cells. As a result, they don't transport large quantities of plant sap. In addition, hard scales use their long stylets to explore large areas within plant tissues to obtain nutrients—not just the phloem tissues. This is the primary reason why systemic insecticides are not effective on hard scales.

When managing scales with insecticides, which are listed in Table 2, it is important to understand the following points:

- Repeat applications may be needed, as the eggs don't all hatch simultaneously.
- Crawlers are most susceptible to insecticides because they have not formed a protective covering.

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. 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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- Systemic insecticides are generally effective on soft scales but not hard scales.
 - Dormant oils are targeted at overwintering immatures and females.
 - Contact insecticides are typically less effective on adult female hard scales.
- (Raymond A. Cloyd)

Table 1. Common scales found in landscapes and nurseries

Soft scales

- Cottony maple scale (*Pulvinaria innumerabilis*)
- European elm scale (*Gossyparia spuria*)
- Fletcher's scale (*Parthenolecanium fletcheri*)
- Magnolia scale (*Neolecanium cornuparvum*)
- Pine tortoise scale (*Toumeyella parvicornus*)
- Tuliptree scale (*Toumeyella liriodendrii*)
- Spruce bud scale (*Physokermes picdae*)

Hard scales

- Hemlock scale (*Abragallaspis ithacae*)
- Obscure scale (*Melanaspis obscura*)
- Oystershell scale (*Lepidosaphes ulmi*)
- San Jose scale (*Quadraspidiatus perniciosus*)
- Winged euonymus scale (*Lepidosaphes yanangicola*)
- Euonymus scale (*Unaspis euonymi*)
- Pine needle scale (*Chionaspis pinifoliae*)
- Scurfy scale (*Chionaspis furfura*)
- Juniper scale (*Carulaspis juniperi*)
- Black pineleaf scale (*Nuculaspis californica*)

Table 2. Common insecticides for control of soft and hard scales

- Acephate (Orthene)
- Carbaryl (Sevin)
- Dinotefuran (Safari)
- Imidacloprid (Merit): for soft scales only
- Malathion
- Paraffinic oil (horticultural/summer oil)
- Petroleum oil (dormant oil)
- Potassium salts of fatty acids (insecticidal soap)
- Pyriproxyfen (Distance)

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