



UNIVERSITY OF ILLINOIS EXTENSION

HOME, YARD & GARDEN PEST

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Illinois Natural History Survey, Champaign

NEWSLETTER

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Last Issue for 2006

This is the 20th and last issue of the *Home, Yard, and Garden Pest Newsletter* for 2006. The bulk of this issue contains the index for this year's issues. Thank you for your support and interest in the newsletter. Let me know of any suggestions for improving the newsletter in 2007.

We will start the 2007 edition of this newsletter in April and are planning a similar schedule of issues as this year. The web subscription rate will remain at \$20, and the print version rate will increase from \$46 to \$48, reflecting increased costs of labor, paper, and postage. Print subscribers should receive an application to renew your subscription by April. Before the 2007 issues start, Web subscribers should receive an email reminder to check that their subscription is still active. (Phil Nixon)

New Pest Management Handbook

There will be a new *Illinois Commercial Landscape and Turfgrass Pest Management Handbook* in 2007. We revise this handbook every other year, and the current version was published in 2005. The handbook has been written and edited and is in the final stages of design. It will become available in late 2006 or early 2007. It is expected that the price will be within a few dollars of the 2005 edition price of \$15.

We will be selling the new handbook at our Pesticide Applicator Certification Clinics this winter, and it can be purchased or ordered at any University of Illinois Extension Unit office. It will also be available at University of Illinois Extension PubsPlus Web site at <https://pubsplus.uiuc.edu/> and by phone at (800)345-6087 and (217)333-2007. (Phil Nixon)

PLANT DISEASES

Invasive Pathogen Update

Invasive species are species that are nonnative to an area and whose introduction is likely to cause economic or environmental harm or harm to human health. The invasive species could be a plant, an ani-

mal, or other organisms. For more information, visit the site: <http://www.invasivespeciesinfo.gov/>.

Plant diseases are caused by pathogens, which are categorized as "other organisms" in the definition above. Ramorum blight is an example of a plant disease caused by an invasive plant pathogen. This disease is also known as sudden oak death and is a threat to the oak forests of the eastern United States. Basic facts about Ramorum blight are discussed in issue no. 1 of this newsletter. Ramorum blight is caused by a pathogen called *Phytophthora ramorum*; and issue no. 12 compares this disease with other *Phytophthora* diseases.

Ramorum blight was first confirmed in the United States in 1995, when it was found in California. In 2005, it had been identified in 22 states; but measures to prevent its establishment and spread outside of the West Coast have been intensified. The updates for 2006 have to do with a confirmation of this disease in the Midwest and changes in known hosts.

In August 2006, Ramorum blight was confirmed in Portage, Indiana, on viburnum plants shipped from Oregon. Steps were taken immediately to contain and destroy infected plants, and it has not been found elsewhere in Indiana.

Illinois Department of Agriculture inspectors participated in the national nursery survey of *Phytophthora ramorum* for the past 3 years. In 2006, 97 nursery samples were submitted to the University of Illinois Plant Clinic and tested for the presence of *Phytophthora*, using ELISA (enzyme-linked immunosorbant assays) tests. To date, *Phytophthora ramorum* has not been detected in Illinois.

A list of *Phytophthora ramorum* hosts is kept by USDA-APHIS (United States Department of Agriculture, Animal and Plant Health Inspection Service) and frequently updated. In April 2006, there were 100 host plants. As of September 11, it listed 105 plants. You can access this list at www.aphis.usda.gov/ppq/ispm/pramorum/pdf_files/usdaprlist.pdf. Review symptoms and be watchful of any plants received from the West Coast, especially lilac, rhododendron, honeysuckle, viburnum, camellia, pieris, vaccinium, Douglas-fir, white fir, and horsechestnut. (Nancy Pataky)

Bacterial Leaf Scorch (BLS) Update

This vascular disease has begun to show its effect on many tree species in the Midwest. The causal pathogen is a bacterium, *Xylella fastidiosa*. Unfortunately, this bacterium cannot be identified in the lab as easily as most other bacteria. The current diagnostic test used for confirmation of bacterial leaf scorch is an ELISA (enzyme-linked immunosorbant assay) test on the newest stem growth and leaf petioles of symptomatic tissue. Issues no. 14 and 16 of this newsletter cover most of the basic facts.

Over the last 5 years, the University of Illinois Plant Clinic has confirmed bacterial leaf scorch on pin, red, shingle, bur, and white oaks in Illinois. Other species that may be infected but have not yet been confirmed in Illinois include sweetgum, sycamore, planetree, hackberry, American elm, and red mulberry. Watch for scorch symptoms on these trees, and follow recommended testing practices if scorching appears in mid- to late summer, and scorching intensifies and spreads within a tree for several consecutive years.

Samples have been submitted to the University of Illinois Plant Clinic over the past 5 or 6 years. Bacterial leaf scorch has been confirmed in Illinois in the following counties: Champaign, Iroquois, Jefferson, Sangamon, St. Clair, and Vermilion. All of these confirmations involved oaks. (*Nancy Pataky*)

Tree Diseases Following Drought

Many of the tree diseases we saw at the Plant Clinic in 2006 were those known to be more common following stress. Evidently the major drought of 2005 had some influence on tree health in Illinois, as was predicted.

The Illinois drought of 2005 marked one of the most severe droughts in 112 years of records. We were 7.75 inches below normal precipitation that year. This figure is a state average, so some areas were worse and some better. Our saving graces were the normal amount of rainfall in 2004, a wet January in 2005 (sixth wettest since 1895), and near normal rainfall in 2006. Our trees have had to deal with only 11 consecutive months of drought.

Dr. Donald Schoeneweiss, retired plant pathologist with the Illinois Natural History Survey, states that drought stress and defoliation have been shown to dramatically decrease tree resistance to stem-invading insects and pathogens. Dr. Sinclair, co-author of *Diseases of Trees and Shrubs*, states that severe water deficit predisposes trees to infection by opportunis-

tic pathogens and attack by secondary pests. These statements are supported by much research. Drought predisposes plants to infection by pathogens by (1) altering plant physiology so the plant is more susceptible; (2) reducing the plant's ability to make defense chemicals; (3) causing physical injury, which allows entry of weak pathogens; and (4) making the plants more attractive to insect vectors of disease.

Examples of 2006 plant diseases that appeared to follow these trends (either at the Plant Clinic or by observation) were Armillaria root rot, pine wilt, Verticillium wilt, Dutch elm disease, and many canker diseases. At the Plant Clinic, canker disease samples totaled 63 and included *Hypoxylon*, *Valsa*, *Libertella*, *Cytospora*, *Nectria*, *Sphaeropsis*, *Botryosphaeria*, *Thyronectria*, and *Phomopsis*. It is likely that decline syndromes were also intensified, but it is difficult to quantify declines of ash, birch, maple, and oak.

It is suggested that all of these diseases might be managed by managing drought. Steps include

1. Scout drought-indicator plants, such as forsythia, to monitor irrigation needs.
2. Control weeds and grasses that compete for moisture.
3. Use organic mulches to conserve soil moisture.
4. Irrigate by priority (new transplants, young trees, sensitive plants).
5. Plant drought-tolerant species where needed.

It also appeared that drought may have helped to reduce the incidence of some diseases, such as the tip blight phase of Diplodia blight of pine (cankers were still common), summer leaf-spotting diseases, cedar rusts, and Rhizosphaera needle cast on spruce.

Although the drought of 2005 is long gone, drought stress will occur again. Be prepared to help your trees through future drought stress. The little time and water necessary will help the long-term health and value of your trees. (*Nancy Pataky*)

INSECTS

Emerald Ash Borer Update

The Illinois Department of Agriculture (IDA) has just expanded the emerald ash borer quarantine to include 64 square miles of northern Cook County. This is in addition to the 51 square miles already quarantined in Kane County. The Cook County quarantine extends north to south from the Lake County line to the north-

ernmost city limit of Chicago and east to west from Lake Michigan to Interstate 294.

More specifically, the Cook County quarantine is bounded on the west by I-294; bounded on the north by the Cook–Lake county line; bounded on the east by Lake Michigan; and bounded on the south by Touhy Avenue from Interstate 294 to East Avenue, then proceeding north on East Avenue from Touhy Avenue to Howard Street, then proceeding east on Howard Avenue from East Avenue to Harlem Avenue, then proceeding south on Harlem Avenue from Howard Street to Touhy Avenue, then proceeding east on Touhy Avenue from Harlem Avenue to the North Shore Channel, then proceeding north along the North Shore Channel from Touhy Avenue to Howard Street, then proceeding east from the North Shore Channel on Howard Street to Lake Michigan.

The quarantine prohibits the removal of such items as ash trees, ash limbs and branches, ash logs and lumber, and ash wood chips larger than one inch in diameter from the quarantine area without a permit. Specifically, ash wood will not be allowed to be moved unless it has been chipped to less than one inch in size in two dimensions. Anyone convicted of removing prohibited items from the quarantine area without a permit may be fined up to \$500.

The Emerald Ash Borer Management & Science Advisory Panel (Governor's Task Force) has recommended that plans should proceed to remove ash trees in the core area of the Kane County infestation, with the intention of eradicating that infestation. The governor's office and IDA have accepted those recommendations and are proceeding with those plans. The size of the area to be cut depends on the subsequent infested tree locations and the amount of funds available.

Along with the recommendation for the tree removal, the advisory panel also suggested that trees be destructively surveyed throughout Kane County to be reasonably sure that the infestation is contained and will be eradicated by the planned cut. IDA staff have been bark-stripping trees, and the western portion of Kane County has been surveyed, with no new finds being found outside of the proposed cut area. Work continues on the eastern portion of the county. Approximately 90 of the 260 trees selected for survey in Kane County have been felled.

If the beetle has already spread too far to be economically eradicated, the panel will re-evaluate the need for an eradication cut. However, for the proposed cut to be accomplished before the beetle emerges and

spreads next spring, plans for the cut have to proceed at the same time as the survey.

A destructive, bark-stripping survey is also being conducted to more completely determine the extent of the emerald ash borer infestation in northern Cook County. The survey involves the removal of about 500 ash trees in and around the quarantine area. Trees to be felled for the survey were identified before leaf fall occurred, making the process more efficient. In Cook County, the borer has been found in Wilmette, Evanston, and Winnetka.

Surveys for the emerald ash borer are also being conducted using trap trees throughout Illinois. Dr. Fredric Miller and the Morton Arboretum are surveying northern Illinois; and Dr. James Appleby, University of Illinois, is surveying the rest of the state. In addition, IDA is planning on destructively surveying trees in each county north of Interstate 80. To accomplish all of this, IDA is currently in the process of filling 18 new positions.

The Emerald Ash Borer Management & Science Advisory Panel has also recommended that the movement of firewood be restricted statewide. Not only do emerald ash borer, Asian longhorned beetle, and gypsy moth move into new areas on firewood, but many more destructive pests could do so in the future.

Recommendations for the insecticidal management of emerald ash borer from University of Illinois Extension were published in the previous issue of this newsletter. Realize that so far insecticide application has not saved a single tree from emerald ash borer but that insecticides can extend the life of the tree in many cases, allowing clientele to adjust to the loss of the trees and plan for replacement trees. It is estimated that the emerald ash borer has killed 20 million ash trees in North America. (*Phil Nixon*)

INDEX 2006

General

Cloyd, Raymond, to Kansas, 16:2

Coincide by Don Orton, 4:3

Home, Yard & Garden Pest Newsletter, 1:1, 18:1, 20:1

Illinois Commercial Landscape and Turfgrass Pest Management Handbook, 20:1

Illinois Cooperative Agriculture Pest Survey (CAPS), 18:1

Illinois Professional Turf Conference, 19:1

Invasive species, 18:1, 20:1

Phenology, 2:2, 4:3, 5:3

Plant Clinic, 1:1, 4:1, 16:2

Insects

Alder woolly aphid, 14:3
 Anthomyiid flies, fungus-attacked, 8/9:6
 Aphid, 19:4
 Bagworms, 6:3, 8/9:5, 17:2
 Beetles, elm leaf, 4:3; green June, 14:3; Japanese, 3:3, 7:3, 11:3, 13:3, 15:2, 17:2; May, 7:3, 16:3
 Black cutworm, 8/9:7
 Borer, apple tree, 4:3, 5:3; bronze birch, 4:3; emerald ash, 10:2, 13:3, 14:3, 17:3, 19:3, 20:2; lilac/ash, 4:3; maple petiole, 6:4; peach tree, 4:3, 5:3, 8/9:6; Viburnum, 4:3, 5:3
 Boxelder bug, 12:4
 Boxwood psyllid, 3:3
 Caterpillar, eastern tent, 2:3, 3:2, 5:3; (various) late-season, 17:4
 Cicada killer, 15:3
 Cicada, periodical, 8/9:6, 18:3
 Cooley spruce gall adelgid, 2:3
 Eastern spruce gall adelgid, 2:3
 European pine sawfly, 2:3, 4:3
 European pine shoot moth, 2:4
 Formosan termites in mulch, 1:3
 Gall, ash flower, 12:2
 Gypsy moth, 3:3, 4:3
 Honeylocust plant bug, 5:3
 Leaf miners, birch, 4:3
 Leafhoppers, 5:3; potato, 8/9:7, 12:3
 Masked chafer, 7:3, 13:3, 15:2
 Pine sawfly, 3:2
 Pine spittlebug, 5:3
 Repellents, 16:2
 Research update, does pruning attract insects? 13:4; fertility and scales, 7:3; ornamentals in urban areas, 12:3
 Scale, cottony maple, 8/9:6, 10:3; euonymus, 5:3; hard, 1:3; magnolia, 18:3; oystershell, 4:3, 11:3; pine needle, 3:3, 4:3; pine tortoise, 8/9:7; soft, 1:3
 Scouting report/watch, 2:2, 3:2, 4:3, 5:3, 8/9:6, 14:3
 Spruce spider mite, 3:3, 8/9:6
 Twospotted spider mite, 14:3
 Webworm, fall, 15:4; mimosa, 8/9:6, 14:3
 Weevil, black vine, 8/9:6; elm flea, 3:3, 5:3; northern pine, 2:2; Pales, 2:2; white pine, 2:3
 White grubs, 7:3, 12:3, 15:2, 16:3, 17:2
 Zimmerman pine moth, 2:3, 15:3

Plant Diseases

Anthracnose, ash, 5:1; dogwood, 10:2; on ivy, 4:1; on sycamore, 3:1
 Arborvitae blight, 19:2
 Ash problems, 8/9:1
 Bacterial leaf scorch, 14:1, 20:2; testing, 16:1
 Bacterial leaf spot and stem canker, 4:1
 Black spot of rose, 12:2
 Boxwood, 1:2
 Canker, diseases, 20:2; and fruiting bodies, 19:1; of trees, 15:1; of spruce, 7:2 [aka *Leucostoma* (Cytospora)]
 Chlorosis of trees, 11:2
 Crown gall, 18:1
 Daylily leaf streak, 11:1
 Deep planting and girdling roots, 4:2
 Diplodia blight, 19:2
 Drought stress of trees, 1:2; 20:2
 Dutch elm disease, 10:1, 18:2
 Elm disease concerns, 18:2
 English ivy, spots on, 4:1
 Environmental scorch, 14:1
 Fire blight, 8/9:3
 Fungal pathogens on English ivy, 4:1
 Galls, hawthorn, cedar–quince rust, 14:2; pine–oak (rust), pine–pine (rust), 6:2
 Honeylocust knot, 17:1
 Hosta nematode problem, 10:1
 Hosta viruses, 13:2
 Hosta virus X, 13:2
 Irrigation, turfgrass, 8/9:2
 Leaf spot diseases of turfgrass, 8/9:2
 Leaf tatters, 5:2
 Lichens on trees, 8/9:4
 Oak leaf blisters, 8/9:4
 Oak wilt, 2:2; pruning, 2:2; testing, 12:2
 Pachysandra problems, 8/9:3
 Peach leaf curls, 8/9:4
 Peony leaf disease (aka red spot, leaf blotch, measles, or *Cladosporium*), 17:2
 Phoma blight, 11:1
 Phomopsis blight of juniper, 5:2
Phytophthora diseases, 12:1
Phytophthora ramorum blight: See sudden oak death.
 Phytophthora root and crown rot, 1:2
 Pine wilt/decline, 13:1
 Powdery mildew, 13:2; on turfgrass, 3:1
 Ramorum blight, 1:1, 15:1, 20:1
 Rose downy mildew, 5:1
 Rose rosette, 7:1

Rusts, cedar–apple, cedar–hawthorn, cedar–quince,
3:2; Mayapple, 3:1; pine–oak, pine–pine, 6:2
Slime flux, 15:2
Sphaeropsis blight of pine, 7:2, 16:1, 19:2
Spruce, environmental stress, 2:2; Leucostoma (Cy-
tospora) canker, 2:1; needle rust, 2:1; Rhizosphaera
needle cast, 2:1
Sudden oak death (SOD), 1:1, 15:1, 20:1; Web site,
1:1
Summer patch, 6:1
Tubakia leaf spot of trees, 17:1
Verticillium wilt, on ash, 8/9:2; of trees, 14:2, 18:2
Vinca stem blight, 11:1
Volutella (syn. Pseudonectria) blight, 1:2
Wetwood, 15:2
Witches' -brooms, 16:2

Weeds

Roundup, 7:3