

# WHAT'S HAPPENING

Volume 25, Issue 5

May 22, 2009

ENTOMOLOGY AND PLANT PATHOLOGY—EPP#60

## Death of the Dogwoods

**By Darrell Hensley**

I have had several calls this year concerning dogwoods and possible problems. This year we have received an abundance of rainfall and with the rain has increased the amount of one major problem, which is the common dogwood anthracnose. We generally see this disease during the spring, however with the increased amount of rainfall, it has generated more problems than usual. Common dogwood anthracnose does not cause death of the tree however the leaves and blooms will begin to have numerous unsightly pin sized spots. Several fungicides may help control this problem, however they are generally not necessary.

Another problem has been mechanical injury due to line weed trimmers cutting through the tender bark of young trees. In several instances, lawn crews have totally cut through the bark on all sides of the tree, which will block water and nutrient flow, therefore killing the tree within a few days to several weeks.

I have not had any reports concerning dogwood borer damage to date, however this is another culprit that may be observed this time of year. Generally, when a tree has been infested by one or more borers the tree may start turning color and in some instance may eventually die, depending on damage inflicted by the borer. Dogwood borer control (application of an insecticide), must be conducted prior to infestation, however if you observe any holes in the main trunk, you may be able to kill the larvae by inserting a small wire into the hole and hopefully damaging the feeding larva.

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## New Emerald Ash Borer find in Minnesota

**By Beth Long**

Excerpt from USDA Press Release of May 14, 2009, St. Paul, Minn. -- The Minnesota Department of Agriculture today announced the discovery of an emerald ash borer infestation in St. Paul just northeast of the intersection of Interstate 94 and Highway 280. This is the first detection of the destructive tree pest in Minnesota.

**EAB History in the United States:** In 2002 Michigan State University scientists studied an unidentified green shiny beetle that was emerging from beneath the bark of sickly ash trees in southeastern Michigan. It was identified as an Asian insect, *Agrilus planipennis*. This foreign species had likely hitched a ride from China to Michigan in the 1990s in wooden crates or pallets carrying imported goods. Scientists proposed the name "emerald ash borer" or EAB, in recognition of its jewel-like appearance, host and its behavior.

In 2003, foresters found the insects in Ohio. The following year, EAB showed up in Indiana. They were detected in Illinois and Maryland in 2006, in Pennsylvania and West Virginia in 2007. In the summer of 2008, EAB infestations were detected for the first time in Missouri, Virginia, and in a Wisconsin site located in Wayne county to the northwest of Lake county, Tennessee. No EAB has been found in Tennessee to date.

**Life Cycle:** The emerald ash borer starts out as a flat, rust-colored egg, each female will lay 80 or so at a time on the bark of an ash tree in summer. Then a white larva emerges, burrows into the bark, and begins eating the living wood under the bark. In the process, it cuts off the conduits that carry water and nutrients up and down the tree. In the spring, the larva changes into a pupa, then in early summer the pupa develops into an adult beetle. Two to three weeks later, the insect bores out of the bark, leaving a telltale D-shaped escape hole. The emerald-colored adult flies off to mate and begin the cycle again.



Emerald Ash Borer. Photo courtesy of bugwood.org

Trees can survive for two to three years until enough borer larvae tunneling and creating serpentine trails in the wood under the bark, slow and stop the flow of water and nutrients inside the tree causing it to decline and die.

## New Emerald Ash Borer find in Minnesota-Cont'd

Regulatory agencies and the USDA have established quarantines (Michigan, Illinois, Indiana, Maryland, Missouri, Ohio, Ontario, Pennsylvania, Quebec, Virginia, West Virginia, and Wisconsin) and fines to prevent potentially infested ash trees, logs or hardwood firewood from moving out of areas where EAB occurs. While there is some natural spread of the insect, most documented spread has been from movement of infested plants, logs or firewood. Therefore, the best way to stop the spread of this devastating insect is to **not move ash firewood, logs or plant material** from the quarantined areas to EAB free areas like Tennessee.



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Emerald Ash Borer. Photo courtesy of bugwood.org

For more information and the Minnesota press release, go to <http://www.emeraldashborer.info/>

## Soybean Rust Update

**By Beth Long**

Soybean rust scouting continues in the Southern U.S. and Mexico. Soybean sentinel plots continue to be established in the Gulf Coast states, including in Tennessee where we plan to have 15 sentinel plots again this year. So far in 2009, soybean rust has been found in 17 counties in five states (Alabama, Florida, Georgia, Louisiana and Texas) and 17 counties in United States, and in two states and five municipalities in Mexico.

In 2008, soybean rust was found in 16 states representing 392 counties in the United States. Rust was also reported in 14 municipalities (counties) across four states in Mexico. Last fall in Tennessee, rust was confirmed on soybeans in 5 west and middle TN counties in October. Fortunately, soybean rust spores do not overwinter in Tennessee due to our freezing temperatures, a situation which has not happened in states to our south this year, possibly due to a more mild winter than usual.

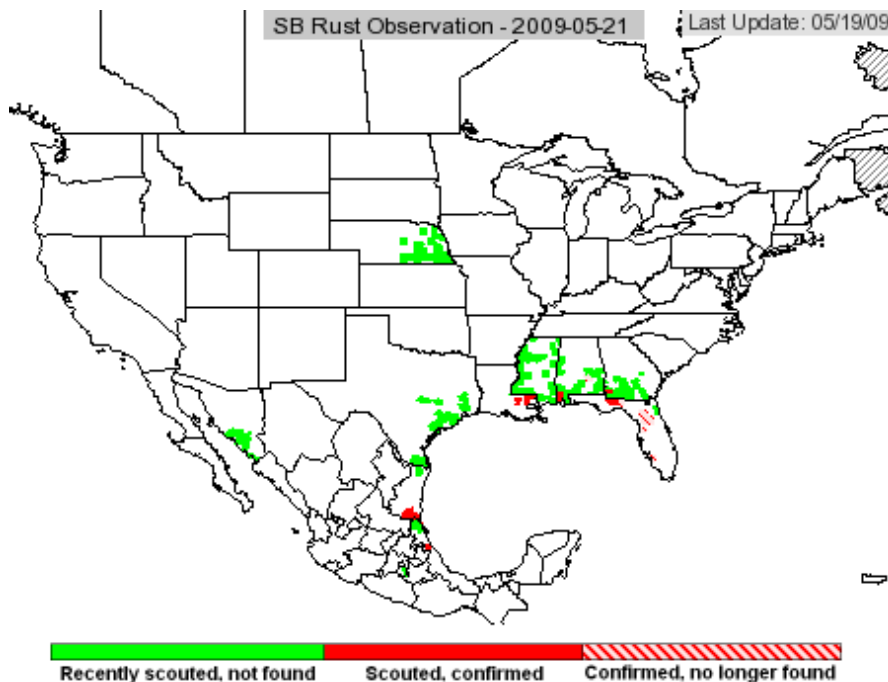
The following is an excerpt of an excellent summary of the current situation by Dr. Don Hershman, Soybean Plant Pathologist at the University of Kentucky from the May 11, 2009 edition of the Kentucky Pest News:

“This is the first year that soybean rust (SBR) has successfully overwintered in Alabama, Georgia and Louisiana, without a break in detection. Weather conditions have been favorable to highly favorable for SBR development in those states, plus Arkansas, Florida, and Mississippi for much of this spring. There has been some new SBR activity in Florida and disease incidence is increasing on Kudzu in positive sites in Louisiana, but there has

## Soybean Rust Update-Cont'd

been no spread to new Kudzu patches or to soybean to date. Specialists in many southern states are expecting SBR to begin spreading into new areas soon, provided conditions remain favorable for disease development. Delayed planting of soybean in many states, due to wet conditions, may push crop maturity back a few weeks. This, plus the potential for earlier disease development due to successful overwintering in the mid-Gulf region, could increase the potential for SBR to cause more crop damage than we have seen to date. Of course, if conditions turn drier, this increased disease potential may translate into nothing. We all hope this is the case. In any event, it would be prudent to keep tabs on this developing situation."

More information and updates can be found on the USDA Soybean Rust IPM web site located at <http://sbr.ipmpipe.org/cgi-bin/sbr/public.cgi>



The Tennessee Soybean Rust Hotline is active and can be reached at (877) 875-2326.

## Insect and Plant Disease Manual Updates

**By Beth Long**

The 2009 Updates to the Insect and Plant Disease Control Manual, PB1690, also known as the Redbook, have been completed on the Entomology and Plant Pathology web site, located at <http://eppserver.ag.utk.edu/redbook/redbook.htm>

CD-ROMs will be sent out to all agents and area specialists in the next few days and one spiral bound, printed copy will be sent to each agriculture agent when it is finished in graphic arts in a few weeks. Copies will also be available for purchase through UTIA eMarketplace located at: <https://web.dii.utk.edu/agstore/c-26-insects-pests-plant-diseases.aspx>

## Moisture-Associated Pests Abound

**By Karen Vail**

If my strawberry pot is any indication, moisture-associated pests are quite numerous right now. In Knoxville, it has rained 13 out of 19 days this month. Mulch, rocks and other ground debris will retain moisture and provide harborage for moisture-loving pests. I've found hundreds, maybe thousands, of pillbugs, as well as several millipedes, slugs and earwigs in or under my one strawberry pot.

Reducing moisture and pest-proofing are important ways to managing these pests and to prevent them from entering the home. Besides those pests mentioned above, other pests associated with moisture, decaying vegetable matter and mulch include fungus gnats, springtails, plaster beetles, centipedes and booklice. The millipede article which follows will describe management techniques for millipedes and will apply to most moisture-loving pests. Mechanical control worked in this instance; I crushed them against the pot, once I realized the pests were present.

Additional information on and images of pests of mulch and moisture can be found at <http://edis.ifas.ufl.edu/IN030>



Hundreds, maybe thousands, of the pillbugs were found in or under a strawberry pot (A). Other moisture-loving pests, such as earwigs, millipedes and slugs (not pictured) were present too (B). The pillbugs were active during the night and day and fed on fresh vegetation, including basil (C) and parsley (D).

## Millipedes - Those Little Brown "Worms"

**By Karen Vail**

Millipedes or "thousand-leggers" are not insects and belong to a class of arthropods called Diplopoda. Millipedes are worm-like, cylindrical animals with many body segments. Most of their body segments bear two pairs of legs, unlike centipedes which have only one pair of legs per body segment. Millipedes will coil up tightly when disturbed and some species secrete a foul-smelling fluid to protect themselves. Female millipedes can lay from 20 to 300 eggs singularly or in clusters in the soil. The eggs hatch in a few weeks, and the young molt seven to eight times before maturing to adults. Millipedes feed on decaying vegetable matter and are often found under stones, flower pots, heavily mulched shrub or flower beds, rotting logs, boards or similar debris where there is abundant moisture. Occasionally after rains, or during hot and dry weather or prior to cold weather, large numbers of millipedes may migrate into buildings. They can climb foundation walls and enter houses through any small opening. These pests are generally more troublesome in wooded or newly developed areas where decaying vegetation provides excellent food and breeding conditions.

### Management

*Reducing Moisture and Removing Debris* - A large indoor population usually indicates large numbers of millipedes or centipedes surrounding the structure. The most effective, long-term measure for reducing entry of millipedes and many other occasional invaders is to reduce moisture and hiding places near the foundation and to pest-proof the structure.

One study reported reducing millipede invasions into a structure by 93 percent using non-chemical procedures. Several techniques were used to reduce moisture levels in the lawn and areas surrounding the structure:

- lawns were dethatched,
- lawns were closely mowed and edged to allow it to dry more quickly,
- debris and mulch were pulled away from the structure to reduce hiding places, and
- grass was watered early in the morning to allow it to dry out later in the day.

There are other ways to reduce moisture and debris around structures.

- Move leaves, grass clippings and compost piles away from the structure because they provide food and habitat.
- Boards and rocks provide protection and moisture and should be moved away too.
- Prune tree limbs to increase air movement and sunlight penetration which dries their habitat.
- Make sure water drains away from the foundation and that down spouts and gutters are free of debris.
- Repair water spigots and prevent water from accumulating under drip lines from air-conditioning units.
- Reduce moisture in crawl spaces by adequately ventilating, and using polyethylene soil covers, dehumidifiers, drainage systems, sump pumps, etc.

## Millipedes - Those Little Brown "Worms" -Cont'd

### *Pest-Proofing*

- Seal cracks and openings in foundation walls, doors and windows, especially basement windows.
- Install door sweeps on exterior entry doors, and apply caulk along the bottom outside edge and sides of door thresholds.
- Seal around pipe and utility penetrations into the structure.
- Other pest-proofing methods can be found in PB1303, *Managing Pests Around the Home* (<http://www.utextension.utk.edu/publications/pests/default.asp#home>)

### *Inside - Pest Removal*

Remove individuals found indoors with a vacuum, or broom and dust pan. As with other pests requiring high moisture, millipedes should die after being indoors for several days.

### *Outside - Pesticide Applications May Reduce Indoor Invasions*

Apply pesticides to the perimeter of the structure and around potential entry points such as doors, windows, vents, pipe and utility penetrations. After heavy rains, such as when an inch of rain falls within an hour, one has to wonder how much of the insecticide from the perimeter treatment is left in place.

Pesticides should not be relied upon for primary control of millipedes, but rather used as a supplement to pest-proofing and habitat manipulation. Wettable powders (WP) and microencapsulated (ME) products tend to have a longer residual on outside surfaces than emulsifiable concentrates or flowables. Most homeowners don't have access to MEs or WPs and thus may need to rely upon over-the-counter products that contain synthetic pyrethroids such as beta-cyfluthrin (Bayer Advanced Home Indoor and Outdoor Insect Killer), bifenthrin (Ortho Home Defense Max Perimeter and Indoor Insect Killer) or lambda-cyhalothrin (Spectracide Bug Stop Indoor Plus Outdoor Insect Killer).

### **Modified from:**

Oi, F. and A. Appel. 1998. ANR-1075 IPM Tactics for Millipede Control. Auburn University, Cooperative Extension Service.

Vail, K.M., G. Burgess, R. Gerhardt and C. Harper [eds.]. 2001. PB 1673 General Pest and Rodent Control Pesticide Applicator Licensing Manual (GRC). pp. 130. The University of Tennessee Extension. (<http://eppserver.ag.utk.edu/psep/secondlevel/thirdlevel/GRC/GRCindex.htm>)

Vail, K. 2007. Millipedes - Those Little Brown "Worms". UT E&PP "What's Happening" Newsletter EPP Info #60, 8 June 2007. <http://eppserver.ag.utk.edu/Whats/wh2007/Issue-8-2007.pdf>

Waldvogel, M. 2004. Controlling Millipedes in and Around Homes. Insect Note - ENT/rsc-18. North Carolina Cooperative Extension Service.

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PATHOLOGY—EPP#60

**OTHER UT NEWSLETTERS WITH PEST MANAGEMENT INFORMATION**

**Fruit Pest News**

<http://web.utk.edu/~extepp/fpn/fpn.htm>

**Tennessee Crop and Pest Management Newsletter**

[http://www.utextension.utk.edu/fieldCrops/cotton/cotton\\_insects/ipmnewsletters.htm](http://www.utextension.utk.edu/fieldCrops/cotton/cotton_insects/ipmnewsletters.htm)

**Ornamental Pest and Disease Update**

<http://soilplantandpest.utk.edu/publications/ornamentalnwsltr.html>

**School IPM Newsletter**

<http://schoolipm.utk.edu>

**Tennessee Soybean Rust Hotline - 877-875-2326**

**USDA Soybean Rust Web Site**

<http://www.sbrusa.net>

**This and other "What's Happening" issues can be found at**

<http://eppserver.ag.utk.edu/Whats/whatshap.htm>

**Entomology and Plant Pathology Web Site**

<http://eppserver.ag.utk.edu>

**Pesticide Safety Education Program, PSEP**

<http://PSEP.utk.edu>

**Precautionary Statement**

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label.

**Disclaimer**

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others that may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product. The author(s), the University of Tennessee Institute of Agriculture and University of Tennessee Extension assume no liability resulting from the use of these recommendations.

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