

WHAT'S HAPPENING

Volume 25, Issue 16

September 4, 2009

ENTOMOLOGY AND PLANT PATHOLOGY—EPP#60

Problems with Atrazine Herbicide Abound

By Darrell Hensley

The Natural Resources Defense Council (NRDC) recently issued a report reminding residents of Indiana that many of their watersheds and much of their drinking water are contaminated with atrazine, and recommended the use of home water filters. The environmental action group is also calling on the U.S. Environmental Protection Agency (EPA) to phase out the use of atrazine, an endocrine disrupter that has been reported to turn male frogs into females and that also has been tied to poor sperm quality in humans. As a result of concern that corn growers were not following label requirements, the Indiana state chemist's office several years ago launched outreach programs that informed more than 20,000 Indiana pesticide applicators who use atrazine or might use it to control weeds in corn crops. Applicators were reminded that atrazine behaves one way when applied to the soil and a different way when it makes its way into a water body.

Source: <http://www.thestarpress.com/article/20090831/NEWS01/908310318/1002>

An attorney representing water districts throughout Illinois has filed a class action lawsuit in the Third Judicial Circuit of Illinois against the manufacturers of the herbicide atrazine (Journal Star, Aug. 22. online issue). The plaintiffs' attorney, contends atrazine found in drinking water is unsafe at any level, even at levels well below the U.S. Environmental Protection Agency requirement. The suit has been filed on behalf of the rural Holiday Shores Sanitary District near Edwardsville, IL and other water districts throughout the state. It names atrazine manufacturer Syngenta Crop Protection Inc., with headquarters in Switzerland, and Growmark Inc., with principal offices in Bloomington, IL, as defendants. The lawsuit asks Syngenta to compensate water districts for the cost they incur in removing atrazine. This was estimated at a cost that could run over \$1 billion nationwide on an annual basis. Atrazine is banned in a number of European countries, including Switzerland, because of the potential for groundwater contamination, but it is widely used in the United States in corn production.

Source: http://watertechonline.com/news.asp?N_ID=72506

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New Pyrethrins and Pyrethroid Information

By Gene Burgess

Three new items on EPA's website will enhance the public's access to information about pesticides in the pyrethrin/ pyrethroid class of insecticides.

These items are 1) a new consolidated Web page on these chemicals, 2) a paper and related fact sheet on the Agency's analysis of whether an association exists between pyrethrin/ pyrethroid exposure and asthma and allergies, and 3) a description of new environmental hazard and general labeling for non-agricultural outdoor use pyrethroid products, including tips for consumers to use in reducing the potential for pesticide runoff and drift. The new items are described further below.

On the website related to pyrethrins and pyrethroids, you can access information about EPA's reevaluation of these pesticides, assessment of pyrethrin and pyrethroid incidents, and other related topics and issues. Pyrethrins and pyrethroids are insecticides included in over 3,500 registered products, many of which are used widely in and around households, including on pets, in mosquito control, and in agriculture. The use of pyrethrins and pyrethroids has increased during the past decade with the declining use of organophosphate pesticides, which are more acutely toxic to birds and mammals than the pyrethroids. This new website is available at <http://www.epa.gov/oppsrrd1/reevaluation/pyrethroids-pyrethrins.html>.

Included on this website is a new paper on pyrethrin/pyrethroid products and asthma/allergy effects. Differing from previous reviews, this review uses a "weight of the evidence approach" to determine whether there is a clear and consistent association between pyrethrins/pyrethroid exposure and asthma and allergies. From this analysis, the Agency has concluded that there is no clear evidence of an association. For more information on this paper, visit <http://www.epa.gov/oppsrrd1/reevaluation/paw-factsheet.html>.

Also included on the new website is a page on Environmental Hazard and General Labeling for Pyrethroid Non-Agricultural Outdoor Products. This page describes the revised "Environmental Hazard Statements" and general "Directions for Use" language for pyrethroid pesticide products used in non-agricultural outdoor settings, which affects over 2,000 end-use pyrethroid pesticides. The revised label language will reduce the potential for pesticide runoff and drift of pyrethroid pesticides, ultimately providing better protection to aquatic habitats and the environment. Consumers can begin using these improved practices to protect water resources.

Visit: <http://www.epa.gov/oppsrrd1/reevaluation/environmental-hazard-statment.html> to find out more information on this labeling initiative.

Adapted from: EPA Pesticide Program Updates, EPA's Office of Pesticide Programs, 06/19/09.

Armyworms

By Russ Patrick

Be aware that we have had some damage earlier this year with armyworm infestations in pastures. After planting, watch for armyworms just after the grass emerges from the soil. New grass is very attractive and susceptible to armyworm attack.



Fall Armyworm

The most common armyworm observed this time of the year will be fall armyworm. Please keep your eyes open, because this pest can destroy a field of grass within a few days.

Stored Grain

By Russ Patrick

Temperatures in West Tennessee have recently cooled down, so it would be extremely beneficial to any and all producers to aerate their grain bins by turning on their fans. If grain is kept at temperatures as cool as it is outside and then insects should not be reproducing within the stored grain. The current weather conditions are perfect for aeration of corn and wheat, especially if any wheat was held over. Run the bin fans overnight as temperatures drop to 60F or lower. Also, remember to remove all old grain prior to binning any new grain and treat the empty bin prior to loading.

Within the next few weeks, I plan to use a CO₂ detector to determine if any excess CO₂ is being generated within the stored grain stored in grain bags in Crockett, Haywood and Fayette counties. CO₂ generation can be caused by any type of biological activity, such as insect infestations or wet and rotting grain. I do not believe anyone else in the Southeast is doing this type of research. It is quite new and I hope to get some very good data. The CO₂ detector is being donated to this project by one of the grain bag companies. CO₂ detectors are not cheap, but are a fantastic tool. I will have more photos of these devices placed into one of the next issues of "What's Happening". Following are the types of gases that can be detected at LEL & PPM levels; O₂, CO, H₂S, NH₃, AsH₃, CO₂, Cl₂, F₂, HF, HCl, NO₂, O₃, PH₃, SiH₄, or SO₂. All data obtained from on-farm demonstrations will be available to counties at a later date.



CO₂ Detector

Soybean Rust in Tennessee

By Beth Long, Melvin Newman and Angela Thompson

TN Status Update: On Friday, September 4, soybean rust was confirmed on soybean leaf samples collected from several Shelby county field locations by UT Extension soybean sentinel plot scouts on Wednesday, September 2. These leaf samples were incubated and visually identified with a microscope at the UT Extension lab at Jackson. The samples were then tested with the "QuickStix" method by Dr. Melvin Newman, UT Department of Entomology and Plant Pathology, in Jackson.

SE Status Update: On Thursday, September 3rd, soybean rust was reported in Prairie, Pulaski, St. Francis, and Woodruff Counties in Arkansas; and in Lafayette and Pike Counties in Mississippi. On Tuesday, September 2nd, soybean rust was reported in South Carolina for the first time in 2009 in a soybean sentinel plot in Berkeley County. South Carolina is the 8th state to report the disease this year. Soybean rust was also detected in four counties (Arkansas, Ashley, Lonoke, and Monroe) in Arkansas. On Monday, September 1st, soybean rust was reported on soybeans in Jefferson and Phillips Counties, Arkansas; Panola County, Mississippi; Macon and Miller Counties, Georgia; and Lee, Macon and Crenshaw Counties, Alabama

Implications for TN: According to Dr. Melvin Newman, University of Tennessee soybean plant pathologist and Dr. Angela Thompson, UT soybean agronomist, the level of rust spores in the field are low right now. If field conditions continue to be favorable for rust development (high humidity, cloudy and rainy), it may still take 30 days before we are at 1% severity in most fields.

Control Recommendations: FOR WEST TENNESSEE GROWERS ONLY

Soybeans before R1 growth stage: No sprays needed

From R1-R5 growth stages: Could be sprayed IF they haven't been sprayed recently

If past R5 growth stage: Might get some rust, but should not get any yield damage, no spray should be needed.

If spraying for soybean rust: use a premix or a tank mix with a strobilurin plus a triazole. If the beans have already been recently been sprayed with strobilurin fungicide, they should be OK. No chemical control is needed nor recommended in any other part of the state at this time, only west Tennessee.

Monitor the USDA Soybean Rust web site for any additional finds or new information. This is located on the web at: <http://sbr.ipmpipe.org> or call the toll free UT Soybean Rust HOTLINE Number which is 1-877-875-2326.

The Soybean Rust Press Release can be found online at <http://www.agriculture.utk.edu/news/releases/2009/0909SBrust.html>

Managing Fire Ants with IPM in and Around Schools—Second Bait Treatment Needed Now!

By Karen Vail

I. Long Term Suppression - Two-step method

A. Step 1. Broadcast Bait Application (see additional references for equipment, baits, techniques, etc.). Use an ATV-mounted or handheld spreader to apply an IGR fire ant granular bait, such as Award, Distance, Extinguish, etc., to large areas (where mound densities are high) once or twice a year (spring and **late summer/early fall**, as long as conditions are appropriate for foraging [see boxes]).

Advantages of Broadcasting Baits

Broadcasting baits allows the fire ants from all-sized mounds to pick up the bait and transfer the toxicant back to the colony members including the queen. Small mounds are often overlooked with individual mound treatments. Insect growth regulator (IGR) baits are often slow acting and may require 8 to 12 weeks to reduce populations to acceptable levels, but control may be extended to 6 months. Faster-acting baits can kill colonies from 3 days (Advion) to one to several weeks (AmdroPro, Maxforce, etc.) but reinfestation will usually occur more quickly.

B. Step 2. Individual Mound Treatments (IMT) should be applied to mounds located in high traffic areas 3 - 10 days after broadcasting a bait

1. Fast-acting granular baits (Advion, Amdro, Ascend, etc.) but don't leave bait in piles so it is attractive to kids or
2. Pyrethrin or pyrethroid drench (restrict access to treated area until risk of pesticide exposure is removed)

(Note: IF possible, apply treatments on a Friday afternoon after school is dismissed if school is still in session. If mounds are located under slabs, sidewalks and other heat sinks, baits are the best option as long as temperatures are between 70 and 90F. Drenches may not contact parts of the colony that are under these objects. Some schools have chosen to apply a nonbait granular fipronil product called TopChoice. TopChoice usually takes 4 weeks to reduce populations to acceptable levels, but may remain active for a year. Some concerns with using TopChoice are that it is more expensive than bait applications, may have more negative effects on nontarget insects, and leaves a chemical residue where students can contact it for over a year.)

II. Immediate Solutions in Sensitive Areas

A. Indoors

1. Notify pest manager of fire ant infestation.
2. Check premises for ant food sources and remove.
3. Use ant bait in a station* or wipe ant trails with soapy water to kill ants and remove trail pheromone or vacuum to remove existing ants (place vacuum bag in sealed plastic bag and place outside in dumpster).
4. Note where fire ants enter the building and provide this information to the pest manager
5. Seal ant entry point into structure with appropriate crack sealers or caulk.

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Getting the Most from Fire Ant Baits

- Baits should be applied between 70 and 90 degrees F when maximum fire ant foraging occurs.
- In summer, apply baits in the evening. During the cooler evening, ants will quickly discover and carry off baits. If applied during the day, in extreme heat, baits quickly lose their effectiveness. Also, ants do not forage much during the day when it is too hot (>90 degrees F).
- To see if ants are active, place a small amount of food (hot dog or potato chip) next to a mound. If ants begin removing the food within 30 minutes, it's a good time to treat.
- Use only fresh bait, preferably from an unopened container. Once opened, baits should be used within a few weeks. Unopened containers may stay fresh for up to two years.
- Test baits for freshness before using. Sprinkle a small amount next to an active mound. If the bait is fresh, ants will begin removing it within 30 minutes. If ants do not remove the bait, but feed on the potato chip, then the bait is spoiled.
- Apply baits when no rain or dew is expected for at least five hours. Once the baits become soggy, they are not as attractive to the ants.
- Broadcast the bait, or apply it as directed around, NOT ON, the mound.
- Avoid disturbing the ants right before applying the bait.
- Do not contaminate baits by storing them or applying them with fertilizer or other pesticides.

(*Note: Inside schools, pesticides must be applied by a certified technician under the supervision of a licensed operator). Do not apply pesticides when children are present.

II. Immediate Solutions in Sensitive Areas

B. Outdoors

1. Treat fire ant mound with a liquid drench
 - a. botanical insecticide (pyrethrins, d-limonene, etc.) or
 - b. pyrethroid insecticide (bifenthrin, cypermethrin, permethrin, etc.) labeled for a fire drench
2. Apply a residual insecticide to the ant entry point into the building and seal the entry point, if possible.
3. Restrict access to pesticide-treated areas until risk of exposure is removed from treated area.

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Additional references for spreaders, baits, and other fire ant control information:

Managing Imported Fire Ants in Urban Areas

[http://www.extension.org/pages/
Managing Imported Fire Ants in Urban Areas Printable Version](http://www.extension.org/pages/Managing_Imported_Fire_Ants_in_Urban_Areas_Printable_Version)

The Two Step Method for Managing Fire Ants Around Homes and in Neighborhoods

<http://www.utextension.utk.edu/publications/spfiles/sp419.pdf>,

[http://www.extension.org/pages/Fire_Ant_Control: The Two-
Step Method and Other Approaches](http://www.extension.org/pages/Fire_Ant_Control:_The_Two-Step_Method_and_Other_Approaches)

Fire Ants and the Texas IPM School Program

http://fireant.tamu.edu/materials/factsheets_pubs/pdf/FAPFS020.2002rev.pdf

New fipronil products prove popular, but do they fit IPM programs?

http://schoolipm.tamu.edu/Newsletter_upload_files/Newsletter_14.pdf

Fire Ant Products registered in Tennessee

<http://fireants.utk.edu/Webpages/Products.htm>

Imported Fire Ant Websites:

<http://fireants.utk.edu>

<http://www.extension.org/fire+ants>

Plant and Pest Diagnostic Highlights

By Bruce Kauffman

We received 140 samples from August 10 to August 31, 2009, including 76 samples via the UT Diagnostic Web Site.

FIELD CROPS : Pesticide and/or surfactant injury, frog-eye leaf spot, southern stem canker, herbicide damage and sudden death syndrome disease on soybeans; low pH of tobacco causing leaf yellowing.

FRUIT & VEGETABLES : *Cercospora* leaf spot of bell pepper; tomato spotted wilt virus of tomato; canker and/or plant stress of blueberry; early blight and possible potassium deficiency of tomato; powdery mildew and paraquat injury and genetic coloration of pumpkin leaves; anthracnose leaf spot and possible cane blight of raspberry; fusarium crown rot of pumpkin; pH and/or nutrient deficiency of snap beans; transplant shock and possible nutrient deficiency of blueberry causing feeder root death and basal cankering; enlarged lenticels of potato tubers due to wet soil conditions; mammal feeding on potato tubers; peach scab (*Cladosporium* sp) of peach fruit; phytophthora crown rot of strawberry.

INSECTS, CRUSTACEANS & MITES : Southern pine sawyer and/or Ips beetles on Virginia pine and eastern white pine; borer damage to red maple; lilac borer on lilac; leaf beetle damage to sugar maple and white birch leaves; white-marked tussock caterpillar and hag caterpillar feeding on various hardwood leaves; tomato fruitworm or beet armyworm feeding on tomato fruit; tupelo leaf miner on blackgum; spider mites on juniper; azalea leaf miner and Japanese beetle feeding on azalea leaves; eastern tiger swallowtail caterpillar on various hardwoods; azalea lace bug on azalea leaves; Asian woolly hackberry aphids feeding on hackberry leaves; sycamore lace bug on sycamore leaves; wasp parasite (*Megarhyssa* sp) of wood-boring horntail larvae; lady beetles on *Prunus subhirtella*; fall webworm feeding on leaves of 'Forest Pansy' redbud; possible borer damage to Chinese dogwood; boxwood mite and boxwood psylla on boxwood; triangulate orbweaver spider on white ash; elongate scale on Canaan fir needles; aphids on tomato leaves; twobanded Japanese weevil feeding on leaves of English laurel; possible fruit tree roller pupae and leaf feeding damage on English laurel; dusky sawfly or yellow-necked caterpillar leaf feeding on river birch; armored scale feeding on branches of 'Kwanzan' cherry; light infestation of jumping oak gall on post and white oak; possible eriophyid mite damage to buds of red oak; possible borer damage to ornamental cherry; buprestid borer of hackberry roots; shoot boring caterpillar and possible pitted ambrosia beetle damage to red maple; possible peachtree borer partially girdling English laurel; eriophyid mites and spider mites of hibiscus; thrips on impatiens and chrysanthemums; leaf mite gall of birch; white apple leafhopper on commercial apples; possible citrus mealybug on mandevilla.

Insects and other pests around the home : Horsehair worm; European hornet; book lice; black carpet beetle larva; possible nursery web spider; warehouse beetle larva; flesh fly larva; cicada killer wasp; field ant; red imported fire ant; eastern yellowjacket; black widow spider; grain mites; brown recluse spider; eastern hercules beetle.

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ORNAMENTALS & TREES : Dry weather and/or possible bacterial leaf scorch of red oak and sycamore; early leaf drop of redbud due to dry weather; hollyhock rust on hollyhock; canker and/or wound of red maple; possible overly wet site causing feeder root dieback and elevated pH on oak; possible southern blight of forsythia; fusarium or phytophthora crown rot and anthracnose leaf disease of liriopse; fungal leaf spot of 'Yoshino' cherry and 'Needlepoint' holly; dodder parasitizing clematis and chrysanthemums; lepiota mushroom on floor of hardwood forest; possible phomopsis of azalea; botryosphaeria or seiridium canker of arborvitae; cylindrosporium leaf spot of weeping mulberry; powdery mildew and dry weather leaf drop of sycamore; symptoms of plant leaf stress due to borers and/or root death on Bradford pear; possible canker of Chinese dogwood; crown gall of *Prunus cerasifera* 'Krauter Vesuvius'; powdery mildew, nutrient deficiency and moisture stress of Chinese and flowering dogwood; anthracnose leaf spot of hydrangea; macrophoma leaf disease of boxwood; cercospora leaf spot of oakleaf hydrangea; possible black stain root disease (*Leptographium* sp) and poor site for eastern white pine; botrytis and powdery mildew leaf diseases of verbena; possible virus symptoms and edema of hibiscus leaves; possible pH and/or nutrient deficiency of coleus; anthracnose (*Elsinoe* sp) leaf spot of pin oak; improper planting level for viburnum causing plant death; leucostoma canker, mechanical damage, possible viral symptoms, older leaf loss, shothole leaf disease and possible soil compaction of English laurel; non-specific leaf blotch of flowering dogwood; symptoms of leucostoma canker on 'Kwanzan' cherry; tubakia leaf spot of white and post oak; compacted soil and low pH of boxwood; possible oak decline of white oak; phomopsis and botryosphaeria cankers of ornamental cherry; possible dry weather symptoms and powdery mildew on leaves of pin oak; possible herbicide injury to hackberry roots and stem; phytophthora root rot of petunia; possible pythium root rot and low pH of 'Grosso' lavender; transplant shock and plant stress causing branch dieback of 'Nellie Stevens' holly; possible bacterial leaf scorch and tubakia and anthracnose leaf spot diseases of pin oak; powdery mildew and stress-related dieback of flowering dogwood; transplant shock and stressed root system of swamp white oak and red oak; possible partial girdling of English laurel by root ball twine combined with root disease; pH and/or nutrient deficiency of 'Katelli Bronze' chrysanthemum; powdery mildew and fusarium crown rot of hibiscus; loss of all leaves due to sudden plant stress of roots on red maple; girdling roots and bleeding canker caused death of sugar maple; anthracnose-caused defoliation of Norway maple; possible leucostoma canker of eastern white pine; possible mycosphaerella leaf spot of tulip poplar.

TURF & FORAGES : Brown patch disease of fescue; pythium or fusarium growing on weeds in hay field; herbicide root stunting and take-all disease (*Gaeumannomyces* sp) of stressed zoysiagrass.

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

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>

Pesticide Safety Education Program, PSEP

<http://PSEP.utk.edu>

IPM & Pest Management

<http://eppserver.ag.utk.edu/Extension/TN-PMIN/FYI/FYI.html>

Entomology and Plant Pathology Web Site

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

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

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

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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