

# WHAT'S HAPPENING

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## Cucurbit Downy Mildew Alert

By Steve Bost

Tropical storm Fay brought ideal weather for cucurbit downy mildew on Monday and Tuesday. Fortunately, there is no known occurrence in the state at this time. However, the rotation pattern of Fay may have brought inoculum into our borders, as there are cases of downy mildew in western North Carolina. The risk is greatest in East Tennessee. Growers of pumpkins and other cucurbit crops may wish to spray with a specialized downy mildew fungicide as soon as possible, to slow any mildew that may have gotten started. Our usual protectants, chlorothalonil and mancozeb, will have no effect on infections present in the leaves at the time of spraying.

Apply Ranman, Presidio, Curzate, Previcur Flex, or Tanos weekly until the risk of downy mildew infection passes. These materials should be tank mixed with chlorothalonil or mancozeb.

If you see yellow to lime green spots on the leaves (see photo), please let me know, [scbost@utk.edu](mailto:scbost@utk.edu). (Caution: Powdery mildew can also cause yellow spots, but can be distinguished by the presence of white spores on the undersurface of the spot.) We are participating in a project to monitor the occurrence of downy mildew in the eastern U.S. We have sentinel plots at three of the REC's, but we need reports from the field. To see the current map of the disease, see [http://www.ces.ncsu.edu/depts/pp/cucurbit/images/dm080827\\_map.png](http://www.ces.ncsu.edu/depts/pp/cucurbit/images/dm080827_map.png)



Early symptoms of downy mildew on pumpkin leaf.

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## Reduce Your Number of Grass Cuttings

By Darrell Hensley

Did you ever think it would come to spraying your lawn to reduce the number of times you have to cut the grass? Well, SePro Corporation has just released Legacy which is a turf growth regulator. The product has just received federal registration from the Environmental Protection Agency (EPA) for use on cool- and warm-season turfgrasses. Legacy is designed to reduce stem elongation and leaf blade length, which results in a more compact and dense growth habit that can reduce grass clippings, mowing frequency, and improve turf quality and health. Visit the [Legacy product page](#) or “<http://www.sepro.com/default.php?page=legacy>” for more information.

## Private Applicator Training Reporting Procedures

By Gene Burgess

When training farmers, greenhouse and nursery operators to become Private Applicators (PA), please remember the following procedures:

**TDA's Triplicate Form:** Following the training, the PA completes the TDA triplicate form. One copy with the \$10 fee is mailed to TDA and one copy is kept by the PA. Copies of this form may be obtained from Mary Borthick's office, at 615-837-5310. This form has the PA's SSN.

**EPP Info #318A:** The Extension Agent sends my office (PSEP office) EPP Info #318A, *Extension -- Private Applicator Initial Certification & Recertification Training Report*, with 1/2 the fee.

**EPP Info #318B:** The Extension Agent keeps a copy of EPP Info #318B, *Roster for PA Initial Certification Program*, on file. This form is not to be sent to TDA in place of TDA's triplicate form. If the agent prefers to keep a copy of TDA's triplicate form on file instead of EPP Info #318B, you must destroy or black out the SSN. Extension is not allowed to keep the public's SSNs on file.

**EPP Info #318C:** The Extension Agent sends EPP Info #318C, *Extension -- Roster for Private Applicator Recertification Program*, to TDA only during the recertification year, 3rd year of the three year period.

These forms may be found at the PSEP website, <http://eppserver.ag.utk.edu/psep/psep.htm>. Please bring these revised forms to the attention your secretary. Thank you for your assistance.

## Rain, Mating Flights and Fire Ant Mound Building

By Karen M. Vail

Rain is a precursor to mating flights for many ants and subterranean termites. Two species of winged ants were turned in for identification this morning (August 28, 2008). Many ant and termite winged reproductives have waited in the nest during the prior dry weeks, but now, with a short break in the rain and a calm, warm, sunny day, the winged reproductives received the correct stimuli to initiate a mating flight. Mating flights are usually short-lived and if they occur indoors, the specimens can be removed with a vacuum. Ants or termites that have flown outdoors and are found on the outside of the house, probably aren't a concern. Winged ants or termites on the inside of the house is another story.

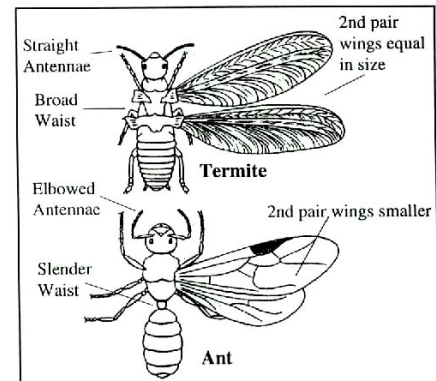
Winged termites can be distinguished from winged ants in the following ways:

Winged termites (alates or swarmers) have

- straight antennae,
- thick waists, and
- four, long, fragile wings of equal size and shape.

Winged ants have

- elbowed antennae,
- a wasp-like body shape (narrow waist), and
- two forewings that are larger than the two hind wings.



Comparison of a winged (alate or swarmer) termite and a winged ant.

If you receive winged ants, please ask the client for specimens of the wingless workers. Most identification keys are written for the major workers. While I am familiar with many ants found in Tennessee, it is difficult to distinguish between some species because the shape of the thorax has been modified to accommodate the wings. For example, the shape of the workers' thorax is needed to distinguish the wood-destroying carpenter ant from the nuisance field ant. The winged female of the large yellow ant is also difficult to distinguish from the carpenter ant and field ant, but fortunately, it smells like lemons when crushed. So, the next time you receive an ant for identification (as long as it does not have a stinger!), give it a squeeze and add the description of the emitted odor to the specimen form. Ant management techniques are species specific. Information on managing ants can be found in our UT publication, PB 1629 *Managing Structure Invading Ants*, <http://www.utextension.utk.edu/publications/pbfiles/PB1629.pdf>



Winged *Reticulitermes hageni*, the light southern subterranean termite. Image: R. Scheffrahn, UF

This time of year the light southern subterranean termite, *Reticulitermes hageni*, is more likely to be swarming than the other two native termite species. *R. hageni* is honey brown, pale brown or reddish brown which is lighter than the other two native species. It is also smaller, ranging from 7 to 8 mm from tip of the head to the wing tip. If termites are found, see PB1344, *Subterranean Termite Control*,

<http://utextension.tennessee.edu/publications/pbfiles/>

[PB1344.pdf](#) for more information. Termite control is best left to the professional. Get referrals from trusted friends and obtain quotes from three separate companies.

Rain will also allow fire ants and other ants to rebuild their mounds, thus making the mounds more visible. In fact, I read that fire ant mounds appearing after this last rain caused athletic fields to be closed in Athens, TN (<http://www.wate.com/global/story.asp?s=8915645>). Remember, most of your questions and answers pertaining to fire ants can be found at <http://www.extension.org/fire+ants>. Many of the fire ant products registered in Tennessee and other information on fire ants can be found on our UT fire ant web site at <http://fireants.utk.edu/>.



Fire ant mound. Image: K. Vail, UT

## Managing Black Widows

By Karen M. Vail

Concern over a potential spider bite is often unwarranted as most spiders' fangs are too small or too weak to puncture human skin. Most spiders are harmless to people and are considered beneficial because they prey on insects and other arthropods. Humans are rarely bitten unless a spider is held or accidentally trapped against the skin.



Of the hundreds of spider species found in Tennessee, the most common poisonous spiders are the black widow and brown recluse. Both species have markings which can be used to distinguish them from other less threatening species. The brown recluse has a dark violin-shaped marking on the cephalothorax. Within the base of that marking are 3 pairs of eyes arranged in a semi-circle. Black widows appear velvety and an hour glass marking on the underside of the abdomen is characteristic of these species. The original reports, which suggested a 5 percent human mortality rate due to a black widow bite, were not well documented, and the true incidence is probably much lower. Cats, however, are exceptionally sensitive, with fatality rates es-

estimated as high as 90 percent. The web site, Kentucky Critter Files, Kentucky Spiders <http://www.uky.edu/Ag/CritterFiles/casefile/spiders/spiderfile.htm> is a good aid to identify spiders collected in Tennessee and to determine a spider's medical importance to humans.

Every year I receive numerous calls about black widow spiders, but in the last few years the number of callers complaining of finding multiple black widows, rather than just one, has increased. Listed below are suggestions for managing black widow spiders. More information on black widow spiders can be found in UT PB 1193, **The Black Widow Spider**, <http://www.utextension.utk.edu/publications/pbfiles/PB1193.pdf>

### **Sanitation and Habitat Modification:**

Reducing black widow populations around structures involves two steps:

1. Changing the environment so it is less attractive to spiders.
2. Finding and destroying spiders.

Use the following measures to control spiders around structures:

- Eliminate spiders and discourage their return by routinely cleaning the house. Spiders, webs and egg sacs can be removed effectively with a vacuum cleaner, broom or duster such as a *Webster*.
- Reduce clutter in closets, garages, basements, attics, crawl spaces and out-buildings to make these quiet, undisturbed areas less attractive to spiders. During this cleanup, it is helpful to wear protective clothing such as long sleeves, long pants, boot, gloves and a hat. A pest control technician was bitten when a spider ran under his glove and upon reaching a tight spot, stopped and bit the technician. A situation like this could possibly be avoided if gloves are taped to the sleeve and socks taped to the pants.
- Use glue boards or sticky traps placed against edges near entry points into the structure (doors, windows, garage doors and crawlspace vents) to catch and detect spiders.
- Spiders often congregate around the outdoor perimeter of a structure and tend to move indoors, especially as winter approaches. Either inspect and clean outdoor areas close to the house that may harbor these spiders and remove spiders as they are found, or move potential harborage sites away from the structure. Shutters should be inspected with an emphasis on the areas behind the shutters. Look under large rocks for spiders, especially when the rocks are stacked. Landscape timbers may also provide harborage. Meters and other equipment housed below ground are another preferred harborage spot for black widows and should be inspected regularly. Firewood, building materials and debris should be moved away from the foundation. Trim or remove trees, vines or tree limbs from touching the side of the structure to prevent spiders from using this as shelter and then entering the home.
- Black widows prefer closed, dark places such as water meter compartments and crawl spaces, so barriers constructed to inhibit entrance to these areas are of value. Seal possible entry points into the structure. Pipe penetrations through the

foundation can be sealed with steel wool or copper mesh followed with an expandable foam. Caulking can also be used in these locations. Doors and windows can be sealed with weather stripping or door sweeps. Ensure window, crawlspace and vent screens are tight-fitting and without holes. See Extension PB1303, **Managing Pests Around the Home**, <http://utextension.tennessee.edu/publications/pbfiles/pb1303.pdf> for more suggestions on pest-proofing the home.

- Try switching to a yellow bug light or a sodium vapor light for outdoor lighting. Yellow is less attractive to insects and thus the spiders that feed on them.

### **Chemical Control:**

Vacuuming is usually sufficient to remove a spider found indoors. Insecticides can be applied into areas where spiders are living, but every effort should be made to contact the spiders and webs with the treatment. Because the vast majority of spiders and other arthropods are either harmless or beneficial, treat only if you have a black widow or brown recluse infestation. Apply insecticides to the habitats frequented by these spiders when you detect an infestation. Repeat the applications at intervals specified on the label as needed to eliminate the spider infestation. To further impede spider entry into the home, a barrier spray of insecticide can be applied around the base of the house and possible entry points such as door thresholds, garage and crawlspace entrances and foundation vents. Synthetic pyrethroids (bifenthrin, cypermethrin, cyfluthrin, deltamethrin, lambda-cyhalothrin,) can be applied and may need to be reapplied throughout the summer. See the UT Extension PB 1690 **Insect and Plant Disease Control Manual** at <http://eppserver.ag.utk.edu/redbook/sections/structural.htm> for specific products to manage spiders.

### **Modified from**

Potter, M. 1999. AND ALONG CAME A SPIDER. Kentucky Pest News 8/02/99.

[http://www.uky.edu/Ag/kpn/kpn\\_97/pn970728.htm](http://www.uky.edu/Ag/kpn/kpn_97/pn970728.htm)

Vail, K., C. Jones and H. Williams. 2003. The Black Widow Spider. UT Extension PB 1193 <http://www.utextension.utk.edu/publications/pbfiles/PB1193.pdf>

## Corn

By Russ Patrick

Corn is drying down rapidly and some fields have been harvested, however due to recent rains the moisture content increased and harvest has stopped. Dry your corn down before putting it in the bins, because we do not want insects or molds to infest the grain. You can really get in trouble with too high content grain if you bin it. I would like to see about 15-16% corn placed in the grain bins. Low moisture levels are very critical when using the bagged system for storage. In about a week, I would expect more corn will be binned. Treat the empty bin with Tempo SC Ultra before putting any new grain inside it. Keep it aerated as much as possible. This will go a long way to keeping your bins free of insect problems.

## Soybean

By Russ Patrick

Soybeans have been reported as having infestation of pod worms (corn earworms) in them. If they reach threshold, you should treat the crop. It doesn't take much damage to cause yield losses due to pod infestation feeders.

## Plant & Pest Diagnostic Highlights

By Bruce Kauffman

We received 112 samples from August 9 to August 25, 2008 including 62 samples via the UT Diagnostic Web Site.

**FIELD CROPS :** Possible magnesium deficiency, soil pH problem, potassium deficiency and downy mildew on soybeans.

**FRUIT & VEGETABLES :** Powdery mildew on zucchini squash; leaf mold fungus (*Fulvia fulva*), leaf blight disease, yellow shoulder of fruit (possible potassium deficiency, a pH problem and reduced organic matter), spray burn by fungicide mixture of several products, tomato spotted wilt virus and bacterial leaf spot on tomato; thread blight (*Corticium stevensii*) of pear fruit; leaf spot disease, low pH and spider mites of green beans; snap bean rust and rhizoctonia seedling blight of snap beans; gumming of trunk associated with stress of pear; suspected fusarium crown rot of pumpkin; possible basal bulb rot (*Fusarium oxysporium f.sp. cepae*) of onion; leaf feeding insect damage to Japanese maple; spruce spider mite causing needle drop on Norway spruce; possible root disease and/or graft incompatibility of apple; crown gall of roots and mycosphaerella (*Septoria* sp.) leaf spot of thornless blackberry.

**INSECTS, CRUSTACEANS & MITES :** White grub of a masked chafer or Asian garden beetle in bermudagrass; spring leaf feeding insect damage to ornamental cherry leaves; suspected redshouldered bostrichid borer of dying or dead apple twigs; ivory-marked longhorned beetle on Osage-orange trunk; sugarcane beetle feeding in a golf course of bermudagrass; leafminer caterpillar feeding on four o'clocks; sassafras weevil feeding on tulip poplar leaves; Asian woolly hackberry aphid on hackberry; cone-worm attack on Norway spruce trunk; possible borer on dogwood; ailanthus webworm on ailanthus leaves; yellowstriped armyworms on tomato leaves; spring leaf skeletonizing caterpillar on white oak; periodical cicada damage to Bradford pear and weeping cherry; possible peachtree borer of 'Otto Luken' English laurel; flatheaded borers on declining red oak; mites on elaeagnus; aphids on African violets; twospotted spider mites of euonymus; spring feeding caterpillar damage to weeping cherry; unidentified ambrosia beetles on Japanese maple; unidentified bark beetles on cankered branch of elm; twospotted spider mite of 'New Guinea' impatiens; cane borers of thornless blackberry; aphids and spring leafminer damage of sugar maple; fall webworm infesting birch; insect root feeding on soybeans.

Insects and other pests around the home : Wasp parasite of other insects; grass-carrier wasp; subterranean termite swarmer; ichneumonid wasp parasitic on horntails in wood; entomobryid springtail; red flour beetle; seed bug (Family Lygaeidae) in mulch; Indian meal moth; larder beetle; green lynx spider; cicada killer wasp; common earwig; drug-store beetles; furniture carpet beetle; acrobat ant; darkwinged fungus gnats; brown recluse spiders.

ORNAMENTALS & TREES : Suspected bleeding canker (*Phytophthora* sp.) of willow oak; leaf scorch of azalea caused by over watering or under watering; actinopelte and anthracnose leaf spots of white oak; possible root problem, leaf scorch , botrytis leaf spot, early coloration and leaf curling of dogwood leaves as a symptom of stress; powdery mildew of tulip poplar leaves; possible cankers killing individual branches due to plant stress and over watering or under watering causing dieback of Japanese holly; crab apple decline caused by suspected fire blight and/or botryosphaeria canker; tomato spotted wilt virus or impatiens necrotic leaf spot virus of Jerusalem cherry; leucostoma canker of Norway spruce; hypoxylon canker on declining red oak; botrytis leaf and stem blight of purple coneflower; phytophthora root rot of coreopsis; poor root structure and root decline of Mugo pine; stress due to growing conditions causing twig dieback of elaeagnus; possible nutrient deficiency of rose; phomopsis tip blight and botryosphaeria canker of eastern redcedar; phomopsis foliage blight , mechanical damage, phytophthora root rot and twig dieback due to stress on arborvitae; leaf scorch moisture stress symptoms, anthracnose leaf disease, phyllosticta leaf spot, phoma twig canker and branch decline symptoms of sugar maple; plant stress symptoms due to possible glyphosate misuse on overcup oak; current foliage dying due to stress, over watering or under watering of hemlock; botryosphaeria canker of 'October Glory' red maple; some phytophthora root rot , mechanical damage and pestalotiopsis needle blight of juniper; phytophthora root rot of ornamental cherry; pythium root rot of chrysanthemum; possible bacterial leaf scorch of northern red oak; phyllosticta leaf spot of English ivy; leaf curl due to hot, dry weather on weeping cherry; phomopsis canker of Japanese maple; leaf yellowing and drop of elm due to moisture stress and restricted rooting area; black root rot (*Thielaviopsis* sp.) of 'Hoogendorn' holly; leaf drop and possible twig canker (*Botryosphaeria* sp. or *Cytospora* sp.) of willow; branch dieback of old canes of spirea due to hot, dry weather; possible bacterial leaf spot of 'Disco Belle' hibiscus; leaf spot of maple leaf viburnum; branch canker and/or root dieback of heather.

TURF & FORAGE : Purple leaf spot (stagnospora leaf spot) of orchardgrass; anthracnose and decline of zoysiagrass due to shade; nematodes, head smut and some root decline fungi (*Gaeumannomyces graminis* var *graminis*) of bermudagrass; pythium root rot, curvularia and anthracnose foliage blight, summer stress and thick organic mat causing oxygen starvation of bentgrass; pyricularia leaf spot (gray leaf spot) of German millet.

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**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>

**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>

**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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