Temperatures above optimum growth range can cause damage to sensitive plant species. This is commonly observed in turfgrass and various ornamentals planted within the landscape. Elevated temperature and the associated dehydration processes have been identified to accelerate senescence (aging), diminish photosynthetic activities (reduces available food), and reduce growth and quality of plants. During drought conditions, leaves of many plants turn brown, develop multiple leaf spots, and some may exhibit a scorched appearance. The pattern of plant damage or death often occurs from the top of the plant down and from the outside of the plant inward. Plants exposed to drought wilt and the plant loses turgidity (plants or plant parts become limp and droopy).

More water is used during the summer months by most plants than is replaced by summer rainfall. If supplemental irrigation is not added, some plants have mechanisms to survive the dry period. An example of a plant which has this type of mechanism is Kentucky bluegrass. It can go dormant and use very little water during hot dry periods. During dormancy, this species can stop growth of leaves and shoots, causing the existing turf to turn brown. Plants usually do not die during drought conditions, but the leaves stop growing. When adequate water returns, new growth will occur with no long-term damage. However, fescue grasses do not go dormant, but are quite drought tolerant and grow very slowly under dry conditions, thus using less water. However, depending on the species of plant, irrigation may be required for a quality landscape.

In certain circumstances, environmental conditions associated with planting sites may have a direct influence on growth and/or disease severity in selected plants. In some situations depending on the plant species, disease or insect pressure may increase or may be at reduced levels than plants planted in close proximity exposed to different conditions. So remember, location may affect growth and aesthetic appeal of plants growing during drought conditions.

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Rodenticides and Safety
Submitted by Darrell Hensley

To better protect children, pets and wildlife, the U.S. Environmental Protection Agency (EPA) announced that it is moving to ban the sale to residential consumers of the most toxic rat and mouse poisons, as well as most loose bait and pellet products. They are also requiring that all newly registered rat and mouse poisons marketed to residential consumers be enclosed in bait stations that render the pesticide inaccessible to children and pets.

Hopefully, these changes will reduce the thousands of accidental exposures that occur every year from rat and mouse control products and also to protect household pets. EPA’s action should help keep our children and pets safe from these poisons.

Children are particularly at risk for exposure to rat and mouse poisons because the products are typically placed on floors, and because young children sometimes place bait pellets in their mouths. The American Association of Poison Control Centers annually receives between 12,000 and 15,000 reports of children under the age of six being exposed to these types of products.

Over the past three years, EPA has worked with a number of companies to achieve a goal to have new products on the market with new bait delivery systems and products that are less toxic. Newly developed products are safer to children, as well as pets and wildlife, but still provide effective rodent control for residential consumers.

The EPA intends to initiate cancellation proceedings under the Federal Insecticide, Fungicide and Rodenticide Act, the federal pesticide law, against certain non-compliant products marketed by the following companies to remove them from the market:

- Reckitt Benckiser Inc. (makers of D-Con, Fleeject, and Mimas rodent control products)
- Woodstream Inc. (makers of Victor rodent control products)
- Spectrum Group (makers of Hot Shot rodent control products)
- Liphatech Inc. (makers of Generation, Maki, and Rozol rodent control products)

In addition to requiring more-protective bait stations and prohibiting pellet formulations, EPA intends to ban the sale and distribution of rodenticide products containing brodifacoum, bromadiolone, difethialone and difenacoum directly to residential consumers because of their toxicity and the secondary poisoning hazards to wildlife. These rodenticides will still be available for use in residential settings, but only by professional pest control applicators. The compounds will also be allowed for use in agricultural settings; however, bait stations will be required for all outdoor, above-ground uses to minimize exposure to children, pets and wildlife.

To help avoid rat and mouse infestations in and around homes, EPA stresses the importance of rodent prevention and identification measures such as:

- Sealing holes inside and outside the home to prevent entry by rats and mice
- Cleaning up potential rodent food sources and nesting sites
- Looking for rat and mice droppings around the kitchen
- Keeping an eye out for nesting material such as shredded paper, fabric or dried plant matter
- Finding evidence of gnawing and chewing on food packaging or structures
Continued from page 2

EPA also urges consumers to keep the following tips in mind whenever using rodenticides in their homes:

- Always place traps and baits in places where children and pets cannot reach them
- Use all products according to label directions and precautions
- Be sure to select traps that are appropriate to the type and size of rodent (e.g., rat vs. mouse)

More information on rat and mouse products that meet EPA’s safety standard:  http://www.epa.gov/pesticides/mice-and-rats

More tips and information on controlling rodents:  http://www.epa.gov/pesticides/controlling/rodents.htm

New Crop Production Mobile Tool

By Darrell Hensley

Pioneer Hi-Bred, (a DuPont company) now offers a mobile-optimized version of its website http://www.pioneer.com. The newly developed site allows growers to access crop management resources, customized information and other tools from the field. Mobile Pioneer.com is optimized for iPhone, iPod Touch, Android, Blackberry and feature phones. It uses technology that provides geography-specific content, reducing the steps required to reach useful content. To help identify pests while scouting in the fields, growers can access a robust collection of crop management guides. The site also offers a mobile growing degree unit (GDU) calculator. It asks growers to enter their location and plant date to receive accumulated GDUs and historical data on a field-level basis. In addition, Mobile Pioneer.com offers local markets, including local cash bids and commodity futures plus local weather forecasts and animated radar. To learn more about the new, mobile-optimized website, visit http://www.pioneer.com.  Source: Dupont

Brown Marmorated Stink Bug Trap

By Karen Vail

Brown marmorated stink bugs (BMSB) have made their presence known in Knox County and have also been reported from Davidson, Hamblen, Hamilton and Loudon counties. Several versions of BMSB traps have been developed to lure the BMSB from infested homes. As we await scientific evaluations of these traps, one that is fairly inexpensive, such as this $7 trap (http://www.wpxi.com/video/27942903/index.html), may be worth exploring yourself. While trapping rarely removes an entire population of insects, these traps have some potential especially if they are used in a dark, confined space such as an attic.
Stored Grain Insects

By Russ Patrick

For those of you who may be new to stored grain insects, I have provided some helpful information for identification. In this article, I am including information for two of the more damaging pests commonly found in stored grain.

The rice weevil (Sitophilus oryzae) and granary weevils (Sitophilus granarius) are serious stored grain pests. They are usually found in grain storage facilities or processing plants, infesting wheat, oats, rye, barley, rice, and corn. Although not often found in the home, sometimes they infest table beans, acorns, chestnuts, birdseed, sunflower seeds, and ornamental corn. They are rarely found in macaroni and spaghetti. Granary and rice weevils do not bite or sting humans or pets, spread disease, or feed on or damage the house or furniture. Both weevils have chewing mouthparts at the end of their snouts or prolonged heads. They are approximately 1/8- to 3/16-inch long and may vary in size depending on the size of the grain kernel. In small grains, such as millet or milo maize, weevils are small in size, but are usually larger in corn. The adult granary weevil is shiny reddish-brown with elongated pits on the thorax, whereas the adult rice weevil is dull reddish-brown with round or irregularly shaped pits on the thorax and four light spots on the wing covers. These deep round punctures and light spots are lacking on the granary weevil. Also, the granary weevil cannot fly, whereas the rice weevil can fly. Both weevils in the larval stage are legless, humpbacked, white to creamy white, with a small, tan head. Weevils in the pupa stage have snouts like the adults. The maize weevil (Sitophilus zeamais) is similar to the rice weevil, but larger.

The adult weevils damage grain by creating a hole in the grain and depositing an egg inside the grain. The egg hatches and larva forms and then eats out the inside of the grain kernel. Both weevils do the same type of damage, however, remember the adults but do not look alike. The rice weevil has 4 spots on the top.
Emerald Ash Borer Found in Blount County

By Beth Long

The TN Department of Agriculture (TDA) has given a news release regarding a new emerald ash borer (EAB) find that occurred last week in Blount County, TN. The press release is at: http://news.tn.gov/node/7306 along with a photo and audio clip.

USDA has placed 4,300 rectangular purple sticky traps in ash trees in a 50 mile radius of the Summer 2010 original find in the Knox and Loudon county area with additional traps placed across the state. This year’s first USDA-confirmed EAB adult was found in Blount County, which resulted in a new county record. Intensive survey and detection trapping for EAB will continue throughout the summer.

EAB attacks only ash trees. It is believed to have been introduced into the Detroit, Mich. area 15 to 20 years ago on wood packing material from Asia. Since then, the destructive insect has been found in Illinois, Indiana, Iowa, Kentucky, Maryland, Minnesota, Missouri, New York, Ohio, Pennsylvania, Virginia, West Virginia and Wisconsin and was found in Tennessee in 2010.

In response to last week’s find, TDA is adding Blount County to the Emerald Ash Borer quarantine. Knox and Loudon counties were put under EAB quarantine in August 2010. The quarantine prohibits the movement of hardwood firewood, ash nursery stock, ash timber and other material that can spread EAB.

Typically, the Emerald Ash Borer beetles can kill an ash tree within three years of the initial infestation. Adults are dark green, one-half inch in length and one-eighth inch wide, and in Tennessee, most EAB adults are thought to fly during May and June. Larvae spend the rest of the year beneath the bark of ash trees. When they emerge as adults, they leave D-shaped holes in the bark about one-eighth inch wide.

TDA officials urge area residents and visitors to help prevent the spread of EAB:

- **Don’t transport firewood, even within Tennessee.** Don’t bring firewood along for camping trips. Buy the wood you need from a local source. Don’t bring wood home with you.

- **Don’t buy or move firewood from outside the state.** If someone comes to your door selling firewood, ask them about the source.

- **Watch for signs of infestation in your ash trees.** If you suspect your ash tree could be infested with EAB, visit www.tn.gov/agriculture/regulatory/eab.html for a symptoms checklist and online report form or call TDA’s Regulatory Services Division at 1-800-628-2631.

Emerald Ash Borer pest information and additional links are on the Entomology and Plant Pathology EAB web page located at: http://eppserver.ag.utk.edu/EmeraldAshBorer.html
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

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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