THE UNIVERSITY of TENNESSEE Extension

WHAT'S HAPPENING

Volume 25, Issue 19 September 25, 2009

ENTOMOLOGY AND PLANT PATHOLOGY—EPP#60

Green June Beetle White Grubs Out and About

By Frank A. Hale

Typically, hot, dry weather during the summer limits the survival of white grubs in Tennessee. This year has been different and white grub survival should be high. When soil moisture is adequate and the soil is warm, the white grubs will be feeding on the majority of the roots that are found within the top 0.5 to 1 inch of soil. White grubs, especially green June beetles and masked chafers, will feed some on the thatch if they are already feeding near the surface. Green June beetle white grubs tend to do more damage from churning up the soil and causing the grass roots to dry out than from actually feeding on the roots.

Green June beetle white grubs also come out of the soil at night and wiggle across the grass surface on their backs. If you have noticed these white grubs at night, a day time sampling is probably warranted. Make a square foot cut in the turfgrass and pull back the sod. Crumble the soil and count the number of white grubs. Japanese beetles have a v-shaped pattern of setae (hairs) on the raster (underside of the tip of the abdomen). Masked chafers lack these distinct setae, May or June beetles have two parallel rows "ll" of setae and green June beetle have a single thick row "l." Treatment is warranted if there are 6-8 green June beetle white grubs, 3-8 May or June beetle white grubs, 5-10 Japanese beetle white grubs, 15-20 masked chafer white grubs or 30-50 black turfgrass ataenius white grubs per square foot.

Late summer or early fall white grubs can be controlled with trichlorfon (Dylox 80, Dylox 6.2G, Bayer Advanced 24-Hour Grub Killer Plus Ready-To-Spread Granules 6.2% G). Green June beetle can also be controlled with carbaryl (Sevin Brand SL). If using carbaryl for green June beetle white grubs, apply the insecticide in the late afternoon and water in but do not flood. The green June beetle white grubs will come to the surface and die which may require cleanup of the dead white grubs.

P.S. If you have reports of bermudagrass and other grasses with the leaf blades gone, it is probably because of fall armyworms that have been very active over the past month or so.

Inside this issue:

Leek Moth Found in New York

By Beth Long (based on a news release from Kennoth L. Carnes, State Survey Coordinator NYS-Department of Agriculture and Markets, September 16, 2009)

An alert for those states that grow alliums or harvest wild ramps.

The leek moth has been confirmed in Plattsburgh, NY Clinton County, NY's northeastern county along the Canadian border and next to Vermont. Only five home gardens were confirmed infested. Rapid response and eradication efforts were completed in August on all onion, garlic, leeks, and scallions. Twenty-one Pherocon 1C traps where deployed August-September, caught 88 suspect moths, but all turned up negative for leek moth.

Plattsburgh volunteer community gardeners have collected eight larvae and four suspect pupae and these will be forwarded to Steven Passoa at Ohio State for confirmation.

Due to this New York find we will probably do a leek moth survey in Tennessee next spring in allium, onion or ramp growing areas. If any agents are interested in putting out a few traps where small plots of these crops are grown, please let me know. Surveys in previous years in Tennessee have been negative for leek moth.

Leek moth

Leek moth larvae

Leek moth damage

Leek moth damage

Leek moth photo credits – Canadian Food Inspection Agency Fact Sheet:
http://www.inspection.gc.ca/english/plaveg/pestrava/acrass/tech/acrasse.shtml

And more exotic moth news!

A short Powerpoint presentation has been developed on *Duponchelia fovealis* Zeller yet another invasive exotic moth pest (with NO common name) detected hitch-hiking on Canadian grown gerbera, cyclamen, begonia, kalanchoe, poinsettia, roses, and anthuriums. This exotic moth can also infest corn and peppers.

Stored Grain

By Russ Patrick

For those of you who read an article concerning the SLAM method in the previously published newsletter, this method still holds true whenever you put grain in bins. It is extremely important to make certain the bins are cleaned out, as much as possible. One additional control tip you may want to consider, is to apply a product called INSECTO. Insecto may be purchased over the internet. The active ingredient of this product is diatomaceous earth. It does not break down over time and should be placed under the flooring of storage structures. This product certainly aids in reducing insect infestations. Areas located under the flooring are a perfect breeding ground for stored grain insects. If you do not remove insects from this area you are inviting an active source of pests into your newly binned grain. It does not take many insects to pose a problem. I have included a URL for the Insecto label. It may be found at: http://pr-rp.pmra-arla.gc.ca/PR_SOL/pr_web.ve1?p_ukid=5695. Remember, do not apply INSECTO to the grain.

Corn

By Russ Patrick

There are several insecticides which may be used for stored grain. However, each has its own application and product labels and should be reviewed by applicators before their use. Below I have listed several products commonly used for stored corn.

Pirimiphos-methyl (Actellic 5E) is a low odor insecticide used for stored corn and grain sorghum insect control. This product costs approximately 7 cents per bushel when applied at the rate of 10 ounces per 5 gallons water and applied to 1,000 bushels.

Pyronyl Crop Spray is another product used for various stored grains. This product is a combination of pyrethrins and piperonyl butoxide. The product is usually diluted at the rate of 1 pint in 3-5 gallons of water and applied to 1,000 bushels of grain. It can be mixed with other insecticides. Grain should be treated as it exits the truck, just prior to binning.

S-methoprene (Diacon II) is a growth regulator labeled for use on various types of stored grain. It can also be mixed with other insecticides.

Beta-cyfluthrin (Tempo WP or Tempo Ultra SC) are used as pre-binning insecticides that are applied to structures, perimeter areas and should not be applied to the grain.

Below are URLs for products commonly used for stored grain products.

Actellic insecticide "http://www.cdms.net/LDat/ld4FS002.pdf"
Diacon II "http://www.diacon2.com/DiaconIISp_Lbl_2424061.pdf"
Pyronyl Crop Spray "http://www.fightthebite.net/download/labels/pyronyl.pdf"
Tempo SC Ultra "http://www.indfumco.com/PDF.aspx?FileName=Tempo SC Ultra Label EPA 432-1363 8.13.03.pdf"
Tempo WP " http://www.indfumco.com/PDF.aspx?FileName=Tempo Ultra WP Label EPA 432-1304 6.15.04.pdf"

Extension Agents Pesticide Applicator Training Reports

By Gene Burgess

Because the information on the following PSEP Extension forms are available in SUPER, these forms no longer have to be used:

- EPP Info #318A, Extension – Private Applicator Initial Certification & Recertification Training Report
- EPP Info #319B, Extension – Roster for Private Applicator Initial Certification Program
- EPP Info #319C, Extension – Roster for Private Applicator Recertification Program

The information needed on these forms is already available from the SUPER Training/Registration module.

Steps in Making PSEP REPORTS FROM SUPER

1. Enroll pesticide applicators in the **SUPER Enrollment Module**. (This is a one-time enrollment.)
2. **Create** a **course/event** in **SUPER Training/Registration**.
   (For walk-in clientele who are trained at various times, just create one course/event for the last day of the month. Register participants as they complete the training.)
3. **Register participants** for the **course/event**. (To register in course/event, they must already be enrolled in the SUPER Enrollment Module)
4. After training or at the end of the month, **create** a **list of participants** using the **Run Report** feature in SUPER. (The list opens in the **Microsoft Excel** spreadsheet.)
5. When **reporting Pesticide Applicator Certification meetings**, **add two columns** on the Excel spreadsheet:
   A. One for the **pre-test scores** and
   B. A second column for the **post-test scores**.
   C. Insert the scores.
   These same instructions apply to **recertification,** with one addition. County personnel should **add** one **column** for the individual's **certification number**.
6. Send the PSEP office
   A. A copy of the Excel roster and
   B. 1/2 the registration fee.
   C. PSEP office address:
      UT Pesticide Safety Education Program
      2431 Joe Johnson Drive, 205PSB
      Knoxville, TN 37996-4560
7. The farmer, greenhouse or nursery operator will send TDA (TDA's address is on the form)
   A. A copy of TDA's triplicate form and
   B. A $10 fee.
   The agent will not need to keep a copy of TDA's triplicate form, since you will have a copy of the participants on SUPER.
8. If you have any questions contact my office by e-mail gburgess@utk.edu or phone, 865-974-7959.

Time to Prepare for Occasional Invaders/Overwintering Pests!

By Karen Vail

As cooler weather approaches, structures need to be pest-proofed before pests attempt to use homes as an overwintering site. Many pests, including boxelder bugs, multicolored Asian Lady beetles, ground beetles, clover mites, brown marmorated stink bugs and other stink bugs, root weevils, soldier beetle larvae and various flies, such as cluster, blue bottle and face flies, will try to spend the winter in homes. I suggest that pest-proofing should be completed by the third week in September.

Earlier this week, I presented information on occasional invaders to the Chattanooga Pest Control Association meeting. Listed in the table below are the most common occasional invaders indicated by an informal survey, i.e. raising of hands, conducted at the end of the meeting. Pests are listed from the most common to the least common occasional invader.

Occasional Invaders	Chattanooga Pest Control Association Responses
boxelder bug	48
silverfish	46
earwig	42
multicolored Asian lady beetle	30
scorpion	29
carabid or ground beetle	25
springtails	22
clover mites	19
millipede	15
pillbug	10
centipede	5
booklice	4
stink bug	4
root weevils	3
soldier beetle larva	1
pseudoscorpion	0

For a summary on occasional invaders with excellent photos, please see http://www.idph.state.il.us/envhealth/pcoccasional_invaders.htm. Information on pest-proofing can be found at http://www.utextension.utk.edu/publications/pbfiles/pb1303.pdf. Specifics on choosing a sealant and other pest-proofing equipment and materials can be found at http://eppserver.ag.utk.edu/School%20IPM/SchoolIPMsite/wwwroot/School%20Sample%20Site/Pests%20and%20Pesticides%20vol%203%20issue%201%20August%202009.pdf.

Changes for Pesticide Tolerances

By Darrell Hensley

The Environmental Protection Agency (EPA) is revoking certain tolerances/tolerance exemptions for the fungicides pentachloronitrobenzene (PCNB) and triadimenol (Baytan); the herbicides ametryn (Evik), fluazifop-p-butyl (Fusilade), and prometryn (Caparol, Prometrex, Primatol Q); the insecticides amitraz (Taktic) and mineral oil; the defoliant/desiccant sodium chlorate; and the fungicide/algicide/herbicide coppers. Also, EPA is modifying certain tolerances for the fungicide bitertanol (Baycor) and the insecticide malathion. In addition, EPA is establishing new tolerances/tolerance exemptions for the fungicides coppers and pentachloronitrobenzene; the herbicide prometryn; the insecticide malathion; and the defoliant/desiccant sodium chlorate; and revising the tolerance expression for the ammonium salts of higher fatty acids (ammonium soap salts). Posted in the Federal Register on 9-16-09. Please visit: http://eppserver.ag.utk.edu/Extension/TN-PMIN/FYI/Pesticide-Information.html for more information concerning pesticide tolerances.

Asian Wooly Hackberry Aphids

By Frank A. Hale

The Asian woolly hackberry aphid has become a major nuisance pest. They now occur on many of the hackberry and sugarberry trees across the state. I have noticed these tiny fluffy white aphids flying about the neighborhood this week between rains. What most people have been noticing up until now is the copious amounts of sticky honeydew they produce. The tiny droplets fall on leaves and anything below such as bedding plants, outdoor decks, furniture, toys, sidewalks, driveways and automobiles. Sooty mold fungi will grow on the sugary substrate and over time turn leaves, bark and the aforementioned items black. Leaves are not killed but their ability to produce carbohydrate through photosynthesis is reduced.

It is too late to control Asian woolly hackberry aphids this year. Next spring, drench around the base of hackberry or sugarberry with imidacloprid (Merit 75 WSP, Merit 2F, or Bayer Advanced Tree & Shrub Insect Control) or thiamethoxam (Flagship 25 WG). This systemic insecticide will move up into the plant and to the leaves. It should provide season-long control and may possibly give some level of control through the following spring.

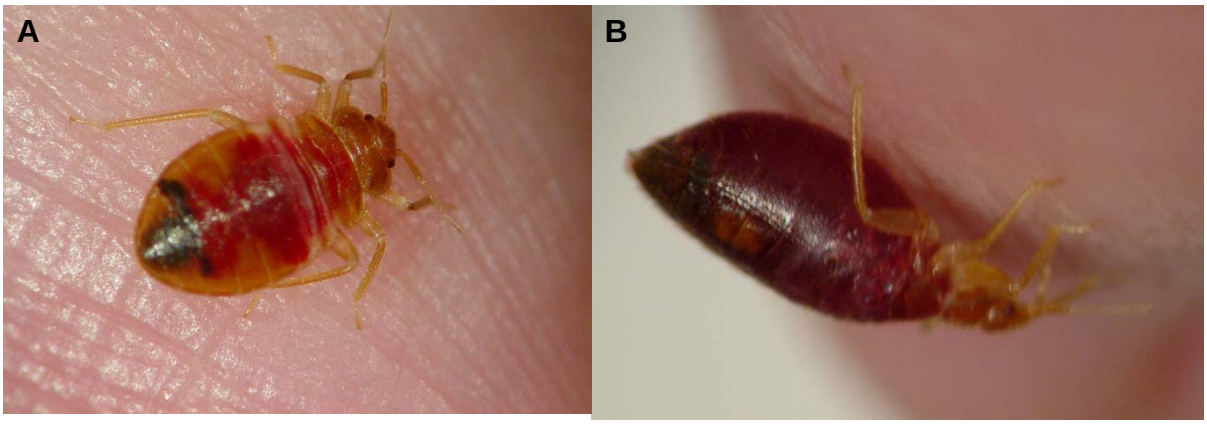
On smaller trees that can be easily sprayed, Merit, imidacloprid plus beta cyfluthrin (Bayer Advanced Rose & Flower Insect Killer), dinotefuran (Safari 20 SG), thiamethoxam (Meridian 25 WG), acetamiprid (TriStar 30 SG - not for homeowner use), pymetrozine (Endeavor - not for application by homeowners) can be used in the landscape. Imidacloprid plus cyfluthrin (Discus), Safari, TriStar 30 SG, and thiamethoxam (Flagship 25 WG) can be used in commercial nurseries.

Bed Bug Tips

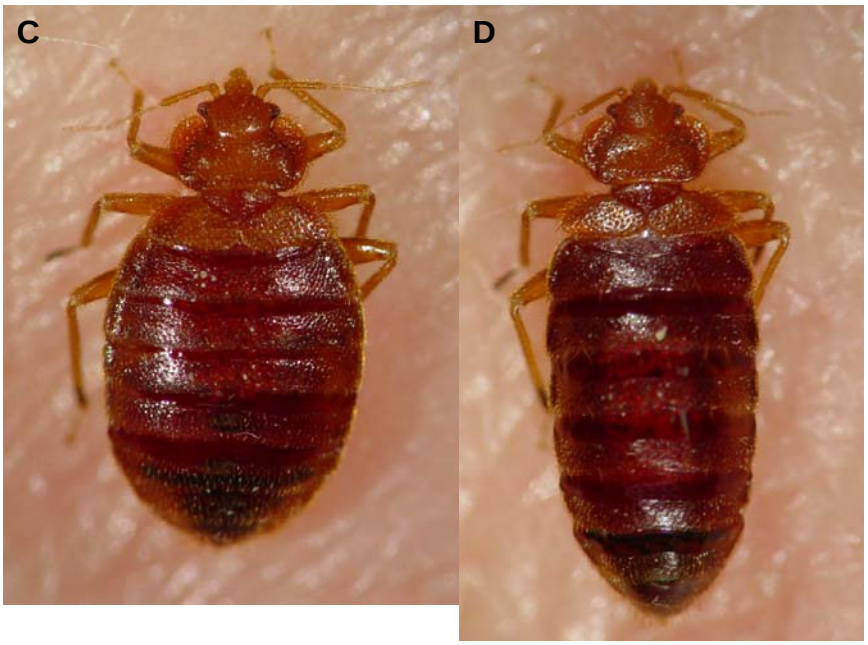
By Karen Vail

Paul Bellow, an independent pest management consultant, has developed a list of 101 useful things to know about bed bugs. His article can be found at http://www.mypmp.net/pestcontrol/Web+Exclusive/WHAT-WORKS-Bed-Bug-101/

Bed bugs aggregate. Seen here are the adult male and female with several first instar nymphs.



An immature bed bug at the beginning (A) and end of a feeding session (B). Second through fourth instar nymphs can eat 4 to 5 times their body weight.



An adult bed bug at the beginning (C) and end of a feeding session (D). Adult females can drink 2 times their weight in blood. Twenty-eight thousand bed bug females would be needed to consume a cup of blood. Photos by UT E&PP.

Soybean Rust Continues to Spread

By Beth Long, Melvin Newman and Angela Thompson

TN Status Update: To summarize the current status for Tennessee, on Friday, September 4, soybean rust was confirmed on soybean leaf samples collected from several Shelby County field locations. On Wednesday, September 16th, two positive counties, Tipton and Coffee, were confirmed, and Monday, September 21st, three more counties were confirmed, McNairy, Hardeman and Fayette. On Tuesday, September 22nd, three more counties were positive, Giles, Lauderdale and Lincoln, and on Wednesday, September 23rd, Gibson and Hardin were added. On Friday, September 25th, a field of commercial soybeans at the R4 to R5 growth stage in Lake County was determined to be positive for soybean rust.

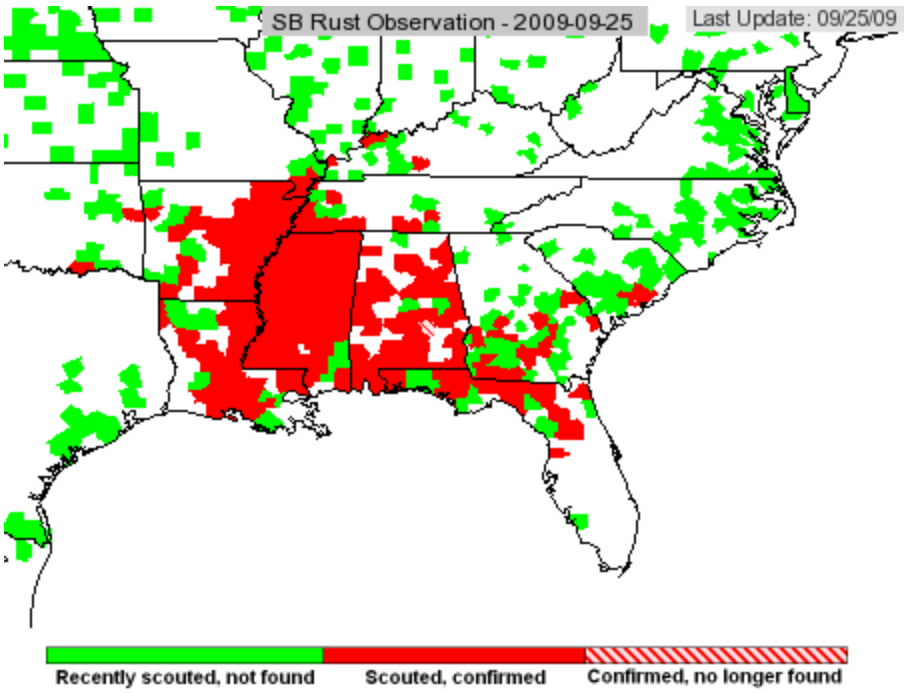
This brings Tennessee to a total of twelve counties positive for soybean rust during 2009.

SE Status Update: On September 24th, for the first time in 2009, two counties (Bryan and Sequoyah) in Oklahoma were confirmed to have soybean rust. In addition, three counties in Arkansas and one in Georgia were reported to have soybean rust. Also in the last few days, soybean rust was reported in two new counties in Alabama, four counties in Arkansas, one in Georgia, and six in Tennessee. As the soybean crop matures, more soybean rust reports are expected north of the current distribution.

Thus far in 2009, soybean rust has been found in 12 states (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, Oklahoma, South Carolina, Tennessee and Texas) in 233 counties in the United States.

Implications for TN: Same as last week. See Issue 18 of the *What's Happening Newsletter* for Spray Control recommendations.http://eppserver.ag.utk.edu/Whats/wh2009/Issue-18-2009.pdf

Continue to 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 free UT Soybean rust hotline at 1-877-875-2326.



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Visit the UT Extension Web site at http://www.utextension.utk.edu

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.