PEST MANAGEMENT STAKEHOLDER MEETING
by Darrell Hensley

Tennessee has assisted the Southern Region Integrated Pest Management Center (SRIPMC) by connecting a diverse array of people throughout the US with an interest in pest management policy and implementation. In October 2005, members of Tennessee’s state contact program met with University of Kentucky faculty to determine the needs of Kentucky agriculture. Information obtained from attendees was posted on a website for public viewing (http://web.utk.edu/~extepp/TPMPIN/KY-Priorities.htm). Priorities for Kentucky agriculture, as provided by attendees of the meeting, included:

- Investigate and explore crop rotations with grain sorghum
- Explore markets for grain sorghum
- Establish pest management principles in grain sorghum production
- Investigate insect, weed and/or disease pressures in fields with varying plant densities
- Investigate possible cotton production in lower western counties of Kentucky
- Improve production of high quality hay

State, Federal and other organizations often fund projects using input from state stakeholders (producers, extension personnel, researchers, regulatory officials, grower groups, etc.). By having a listing of state priorities available to the public, industry and governmental agencies, and individuals interested in working in these reported areas are more likely to obtain funding for their proposed projects.

In an effort to provide current and accurate information for the SRIPMC, another stakeholder meeting is being scheduled for 10:00am (EST) on October 6, 2006. Your input is requested and we would like for you (state production specialists, growers, grower groups and extension agents) to attend. Due to the increased cost of travel, this year’s conference will be held using a teleconferencing system. Only 25 seats will be available, however we would still like for you to voice your opinion. If you are not able to attend, please contact me (Darrell Hensley) or Doug Johnson (doug.johnson@uky.edu) with any of your pest management production concerns. To attend the conference please email dhensley@utk.edu or phone 865-974-7958. A toll-free conference phone number will be provided for the first 25 individuals who express interest in attending the event.
Tobacco

Late-Season Disease Issues
by Kenny Seebold

The blue mold epidemic that has gripped much of eastern and central KY this summer has begun to taper off. Hot and dry weather has been a major factor in slowing disease development, and a good many growers have topped their burley crops. Along with blue mold, a fair amount of target spot and frogeye are being reported across the Commonwealth. Fungicide options for tobacco begin to thin out as we get later in the season, and good bit of the tobacco out there is close to topping or has been topped. We need to remember that some of the fungicides that we use have pre-harvest restrictions that must be observed to ensure that chemical residues are not present on the crop:

Dithane DF – do not apply to burley and other types within 30 days of harvest.

Actigard – do not apply to burley or dark tobacco within 21 days of harvest.

Acrobat / Forum – preharvest interval is 0 days, but must be tank-mixed with Dithane; therefore it should not be applied within 30 days of harvest because of the preharvest restriction for Dithane.

Aliette – preharvest interval is 3 days.

Quadris – can be applied up to the day of harvest for blue mold, target spot, and frogeye.

As the crop matures, we can expect susceptibility to blue mold to taper off, and hot daytime temperatures should help keep the disease from exploding over a wide area in a short time. It is critical, though, to keep an eye on the weather and take precautions where needed.

Hornworms on Tobacco
by Lee Townsend

The second brood of tobacco hornworms can be very destructive. Eggs can be laid from early August through early September with the larvae feeding through mid-September. This creates the potential for lots of feeding damage from topping time until plants are taken to the barn. One well-timed insecticide application may reduce feeding significantly but may not protect tobacco if egg-laying continues for several weeks. Check tobacco about a week before harvest so that a "clean up" spray can be applied if necessary. Be sure to check the harvest interval and restricted entry interval on the product you use. Cutting before this interval has passed can mean insecticide residues above the legal tolerance level.

The number of hornworms present can be determined by carefully examining groups of 20 plants at randomly selected locations over a field. Use a minimum of 5 locations per acre. Hornworms feed in the upper 1/3 of the plant and can be found hanging from the underside of the leaf. In August and September many of them may have small, white, football-shaped objects on their backs. These are cocoons of a tiny wasp that develops inside the hornworm and kills it. Hornworms with these cocoons should not be included in your counts because they are no longer feeding.

Two species, the tobacco hornworm and the tomato hornworm, occur in Kentucky. The tobacco hornworm, the more common of the two, has 7 oblique white stripes on each side of the body and a curved, red horn. The tomato hornworm has 8 V-shaped stripes on each side and a straight, black horn. The life cycle, damage, and activity period of both is so similar that, for management purposes, they can be lumped together.

Alfalfa

Blister Beetles
by Lee Townsend

Blister beetles are out now. They feed on a wide range of plants including alfalfa, clover, soybean, potato, tomato, and eggplant and are especially attracted to flowers. Like the Japanese beetle, feeding by a few blister beetles draws in more. Large numbers of beetles can cluster on small patches of flowering plants in an otherwise uninfested field. This can result in infested hay. Blister beetles contain cantharadin, a chemical that is very toxic to horses. Fortunately, these insects have not been a significant problem in Kentucky alfalfa fields.

Harvest management is an important means of reducing the generally low potential for blister beetle contamination. Cutting on a schedule that keeps alfalfa and weeds from producing the flowers is effective. This results in high quality hay and keeps beetles at a minimum. However, if fields with lots or feeding blister beetles are cut and the hay is crimped or crushed, dead beetles in the hay can make it highly toxic to horses.

Fields can be checked visually for blister beetles before harvest. All areas with flowering plants must be visited because of the clumped nature of blister beetle aggregations. Sickle bar mowers and some circular or rotary
mowers lay the hay down without crushing many beetles. Blister beetles have a behavioral characteristic that may be used against them. When plants are disturbed, they fall to the ground. As the hay dries and cures, the beetles will leave the drying hay.

Blister beetles have long (3/4" to 1-1/4"), narrow bodies, broad heads, and antennae that are about 1/3 the length of the entire body. The front wings are soft and flexible in contrast to the hard front wings of most beetles. The black blister beetle (jet black) and the margined blister beetle (black with thin gray stripe around wing covers) are common species in Kentucky.

Female blister beetles lay clusters of eggs in the soil in late summer. The small, active larvae that hatch from these eggs crawl over the soil surface entering cracks in search for grasshopper egg pods which are deposited in the soil. After finding the eggmass, blister beetle larvae become immobile and spend the rest of their developmental time as legless grubs. Blister beetles will not lay eggs in hay and the larvae do not feed on or develop in hay bales.

SOYBEANS

APPLICATION OF SOYBEAN SECTION 18 FUNGICIDES: THINGS TO CONSIDER
by Don Hershman

Most of you are aware that numerous fungicides have been granted a section 18 emergency use label for soybean rust management in Kentucky. These section 18 fungicides include: Bumper, Domark, Folicur, Headline SBR, Orius, Propimax, Quilt, Stratego, Tilt, and Uppercut. Others are in the works, but as of this writing (August 7, 2006), no additional section 18 products have been approved for use in Kentucky soybean.

By definition, section 18 fungicides are to be used when the specific approved emergency situation exists. In simple terms, this means that section 18 fungicides approved for managing soybean rust should only be used when the soybean rust risk is significant. So far this season, the soybean rust risk for the state of Kentucky has been very low. As a result, there has not been a time this summer when it has been appropriate to use a section 18 fungicide for soybean rust management. I say “appropriate” and not “illegal”, because it is my understanding that the Kentucky Department of Agriculture has given the producer leeway to use soybean rust section 18 products according to their perceived soybean rust risk. So, technically, using a soybean rust-targeted section 18 fungicide, while not violating the law, is inconsistent with the intent of the label.

Ironically, many of the soybean rust section 18 products are triazoles, and data suggest that triazoles, while highly effective against soybean rust, are frequently inferior to strobilurin-based fungicides in controlling most common late-season diseases of soybean. Therefore, it may not be in a soybean producer’s best (economic) interest to apply a triazole in the absence of a significant soybean rust risk. If other late season diseases are the target, better disease control results will be achieved by spraying a strobilurin, such as Headline or Quadris, or chlorothalonil (i.e., Bravo or Echo). These fungicides also have section 3 labels and may be freely applied, following label directions, of course.

Many soybean producers may be tempted to “kill two birds with one stone” and apply a section 18 premix (i.e, Quilt, Stratego) or co-pack (i.e., Headline SBR) in an effort to control late season diseases and hedge their bets against the possible appearance late season soybean rust. To that I would simply say, the soybean rust risk is very low at this time, and all evidence suggests that it will continue at that level (in Kentucky) into the foreseeable future. Most full-season soybean fields are beyond the point where soybean rust could inflict significant damage. I hasten to add that in a matter of a 2-3 weeks, the same will be true of most doublecrop soybean fields in the state.

VEGETABLES

MANAGING CORN EARWORM IN TOMATOES
by Ric Bessin

As the corn crop beings to mature and dry down, we can expect increased corn earworm activity in tomatoes. Corn earworm traps counts in Prince have increased, so growers should pay attention to this destructive pest during the next few weeks. The corn earworm is also known as the tomato fruitworm and the soybean podworm. It is potentially the most damaging insect pest of tomato.

The larvae are variable in color, ranging from pale yellow, to red, to green, to brown with pale stripes running lengthwise. The larvae have four pairs of prolegs and are densely covered with microscopic spines that make the larvae feel rough. The moths lay eggs at night on leaves near green fruit at the outer edges of the plant. The dome-shaped eggs are white when first laid and develop a reddish brown band before hatching. After the egg hatches, the larva feed for a short period of time on the foliage before attacking the fruit. They prefer to feed on green fruit and usually do not enter ripe fruit. Damage consists of deep watery cavities frequently in the stem end of the fruit. During its development, one larva may injure several fruit.
In a previous KPN article on the corn earworm on sweet corn, I discussed the issue that there may be resistance to pyrethroid insecticides with corn earworm populations. Because this is the same insect, the same hold true for tomato fruitworm on tomatoes. Growers should monitor the effectiveness of their sprays and switch to new modes of action if control is not satisfactory.

GRAY LEAF SPOT ACTIVITY IN PERENNIAL RYEGRASS
by Paul Vincelli

Jay Charnes, a golf course superintendent in Louisville, reported finding gray leaf spot in his unsprayed rough of perennial ryegrass on July 31. This is a credible report, as he has a compound microscope and has been trained by me in recognition of the spores of the causal fungus.

Weather since then generally has been hot and stressful, which is often associated with gray leaf spot activity. Although conditions were often dry in the past week, irrigation probably has allowed continued disease activity in high-maintenance turf swards.

Turf managers who maintain perennial ryegrass in Kentucky should be on guard, as this disease is likely to flare up sometime during the next 8-10 weeks. Management suggestions relating to fungicides can be found at http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-OR-T-3.pdf.

WHAT ARE THOSE BIG YELLOW, ORANGE & BLACK THINGS?
by Mike Potter

Cicada killers have been flying about and burrowing into lawns, prompting calls from homeowners. Despite their menacing appearance (up to 2 inches long with rusty red head/thorax, amber-yellow wings, and black and yellow striped abdomen), the wasps seldom sting unless provoked.

Biology - Cicada killers do not live in communal nests like hornets or yellowjackets. They overwinter as larvae within cocoons deep in the soil, emerging as adults during July. The females feed, mate, and excavate burrows in the ground about ½ inch in diameter, ending in a series of brood chambers. Bare ground or sand are especially prone to infestation. Excess soil is pushed out of the burrow, leaving a mound of dirt at the entrance. Each female excavates numerous burrows and provisions them with adult cicadas which she ambushes, paralyzes with her venom, and stuffs into individual brood chambers. She then lays an egg on top, backs out, and seals the cell behind her. The egg hatches within a few days and the hungry larva devours the offering, eventually transforming into an adult the following summer.

Management - Cicada killers seldom sting and the females normally do not defend their burrows. The males, while incapable of stinging, sometimes dive-bomb passers-by, or hover menacingly nearby. Insecticide treatment may be warranted where the soil burrows become unsightly,

LAWN & TURF

PCNB USE ON TURF IS ON THE “CHOPPING BLOCK”
by Paul Vincelli

The US Environmental Protection Agency issued its Re-registration Eligibility Decision for PCNB fungicide on August 2, 2006. In this document, the scientists and policymakers reviewed benefits as well as risks to health of consumers and agricultural workers, and risks to the environment. As a result of this comprehensive review, they concluded that many of the uses of PCNB needed to be canceled, including turf uses.

With respect to turfgrass, there is evidence in the RED that the manufacturers of PCNB would not likely support re-registration of turf uses. Furthermore, the EPA concluded that an adequate selection of fungicidal alternatives to PCNB exists (a valid conclusion, in my mind, at least for diseases of concern in Kentucky), and that PCNB has the potential to cause phytotoxicity to turf in certain circumstances, a risk not known to be present with the alternatives available. Thus, EPA’s decision to cancel turf uses of PCNB seems to be founded on solid ground. However, EPA is accepting comment on the RED for a 60-day period. Thus, if an organized group of golf course superintendents felt strongly about responding, now is the time. Note that GCSAA already submitted input, prior to the publication of the RED.

For a copy of the RED and instructions on how to submit public comment, go to http://www.regulations.gov/. To find the correct docket and documents associated with it, select the Advanced Search function (from the light brown menu bar), and then select Docket Search. Enter the Docket Number OPP-2004-0202 in the Docket ID field and submit. Click on the Docket ID link, and icons for viewing and downloading the supporting documents will appear. Your computer’s “pop-up blocker” function must be turned off for you to view or download documents in the docket.

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or the wasps are digging in a high-traffic area such as along a sidewalk, playground, or sand trap on a golf course. Individual burrows can be effectively sprayed or dusted with most lawn & garden insecticides (Sevin, Bayer Advanced Lawn & Garden Multi-Insect Killer, Spectracide Triazicide Soil & Turf Insect Killer, etc.), or a wasp & hornet aerosol. Multiple nests may need to be treated with a broadcast application to the ground surface, using a pump up or hose-end sprayer.

As a deterrent to future nesting, clients should be advised to eliminate bare-ground areas. Cicada killers generally do not prefer burrowing into well-managed turf, gravel, pebbles or mulch. In situations such as playgrounds, camping areas, or commercial landscapes, these materials may be substituted for sand or bare soil. Another option is to wait and do nothing — in a matter of weeks the adults will die off and there's a chance the problem will not reoccur next year.

Disease management. Raking up and destroying diseased leaves, the source of primary inoculum for next year should be all that is needed to manage tar spot. It is possible that one might worry if tar spot disease disappeared from the landscape. The tar spot fungi are said to be sensitive to low levels of sulfur dioxide air pollution, thus tar spot is uncommon in certain urban and industrial areas. Perhaps the presence of tar spot could be considered a good thing as it may be an indicator of clean air.

**SHADE TREES & ORNAMENTALS**

**MAPLE TAR SPOT IS VISIBLE, BUT NOT VERY DAMAGING**

**by John Hartman**

Tar spot disease is appearing in Kentucky now. In most cases it is obviously visible as thick, crusty black splotches and spots on the leaves of maple trees. The leaves of red, silver, sugar, and other maples and box-elder may show symptoms and signs of infection by either of two species of the fungus *Rhytisma*, *R. americanum* and *R. punctatum*. Norway maples are subject to tar spot caused by *R. acerinum*. Other species of *Rhytisma* may cause tar spots on andromeda, elm, holly, mountain laurel, rhododendron, tuliptree, and willow.

Symptoms and disease cycle. New infections begin on emerging leaves in spring from spores produced on diseased leaves from last season. Wet weather this spring and early summer was conducive to disease development. There is no secondary cycle of disease during the growing season. Tar spot symptoms appear in early summer as light green or yellow spots on the leaves. The disease becomes very noticeable in late summer when the raised, tar-like fungal stroma develop on the upper surface of the leaves. *R. americanum*, found more frequently in Kentucky, causes a black splotch approximately 1/4 - 3/4 inch across, while the fungus *R. punctatum* appears as a cluster of tiny black spots (speckled tar spot). Withered leaves with many spots may drop from the tree, but normally they are too few and appear too late to affect the health of the tree.

Quick guide to a few common species

- Cecropia caterpillar - light blue-green body - pairs of yellow knobs down back.
- Polyphemus caterpillar - light green body with short, narrow white vertical bar on each segment.
- Promethea caterpillar - pale green body with pairs of red knobs on two segments behind head and yellow peg at end of body.
- Luna moth caterpillar - green-body with yellow stripe along the body and distinct fine setae (hairs).

**MISCELLANEOUS**

**BIG CATERPILLARS ALWAYS A CUROSITY**

**by Lee Townsend**

Why is this large caterpillar crawling slowly but purposefully across the ground? Where did it come from? Where is it going? Can it hurt someone?

Ornate caterpillars of several species of large moths have finished feeding on tree leaves and are moving to protected sites where they will spend the winter in custom-spun silken bags. These "wandering stage" caterpillars will crawl until their physiology allows them to stop, spin, pupate, and remain hidden through the winter. We didn't notice them while they were feeding for several weeks in the trees but we can't miss them as they crawl across the yard. The coloring, spines, and spiked ornaments on their bodies can be intimidating enough to keep them from becoming bird food but most are not harmful. However, there are some stinging caterpillars, so it is best to let them go on their merry way if you have doubts.

Recent samples in the PDDL have included gray leaf spot (*Cercospora*) and Diplodia leaf streak on corn; sudden death syndrome and soybean cyst nematode on soybean; frogeye leaf spot on tobacco; iron deficiency on blueberry and oak; Phoma dieback and Botrytis blight on vinca; Fusarium root/stem rot on bean; anthracnose on cucumber.

**DIAGNOSTIC LAB-HIGHLIGHTS**

**by Julie Beale and Paul Bachi**

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NOTE: Trade names are used to simplify the information presented in this newsletter. No endorsement by the Cooperative Extension Service is intended, nor is criticism implied of similar products that are not named.

INSECT TRAP COUNTS
UKREC, Princeton KY

July 28-August 4, 2006
Black cutworm ................................................................. 1
True Armyworm ............................................................... 42
European Corn Borer ....................................................... 1
Southwestern Corn Borer .................................................. 33
Corn Earworm ................................................................. 133
Fall Armyworm ............................................................... 2

View UKREC trap counts for the entire 2006 season at –
http://www.uky.edu/Ag/IPMPrinceton/Counts/2006trapsfp.htm

View trap counts for Fulton County, Kentucky at –
http://ces.ca.uky.edu/fulton/anr/Insect%20Trap%20Counts.htm

For information on trap counts in southern Illinois visit the Hines Report at –
http://www.ipm.uiuc.edu/pubs/hines_report/comments.html

The Hines Report is posted weekly by Ron Hines, Senior Research Specialist, at the University of Illinois Dixon Springs Agricultural Center.

Lee Townsend, Extension Entomologist

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