UK COOPERATIVE EXTENSION SERVICE
University of Kentucky – College of Agriculture

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KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • WEED SCIENCE
On line at: www.uky.edu/Agriculture/kpn/kpnhome.htm

Number 1137 **July 23, 2007**

WATCH FOR:

LONE STAR TICK LARVAE (SEED TICKS) picked up while in woods or overgrown areas;
GREEN JUNE BEETLES cruising over lawns and feeding on fruits and vegetables; FALL WEBWORMS on a variety of trees; SOYBEAN aphids on soybean; MILLIPEDES invading homes in some areas; FOREIGN GRAIN BEETLES should be active in newer homes soon.

TOBACCO

DISEASE UPDATE
by Kenny Seebold

Blue mold was found July 17 in Jessamine County in a 2-acre field. The disease was confined to shaded portions of the field; numerous actively sporulating lesions were observed. Weather patterns at the end of last week were favorable to some extent for development and spread of blue mold from Jessamine County into areas northeast of that location. Please advise growers to scout tobacco that has not been topped and begin applications of fungicides such as Acrobat (tank-mixed with Dithane DF), or Quadris if disease is found. Growers who wish to make preventive applications can use Acrobat plus Dithane, Quadris, or Actigard to suppress blue mold in their crops. Please see ID-160, the 2007 KY Tobacco Production Guide, for information on rates and timing of fungicide applications.

The forecast for the week of July 23 calls for daytime temperatures in the low-to-mid 80's and night temperatures in the low 60's. There is a moderate risk for the development and spread of blue mold to tobacco during this period. Please be on the lookout for blue mold, particularly east of Jessamine County, and spread the word if disease is found. You can visit the Kentucky Tobacco Disease Information page for regular updates on blue mold and other diseases (http://www.uky.edu/Ag/kpn/kyblue/kyblue.htm).

CORN

FUNGICIDE TREATMENT FOR HAIL-DAMAGED CORN?
by Paul Vincelli

In some parts of the Midwest, fungicide applications are being recommended by sales representatives for application to hail-damaged corn, even corn past silking. I don't know whether this s taking place in Kentucky, but if it is, a "yellow flag" is advisable. University corn scientists from the Midwest have communicated about this issue—we "hash it out" electronically—and there is definitely no consensus that this practice is advisable.

The diseases targeted by corn fungicides in Kentucky (and generally elsewhere) do not require wounds for infection to occur, so there is no benefit expected from the fungicide on that score. Perhaps fungicides could be useful in some circumstances, by maintaining leaf health on hail-damaged corn so that stalks are not excessively cannibalized to fill the grain. This is possible, certainly, but will it happen often? As a matter of fact, none of the plant pathologists I have communicated with think widespread use of fungicides on hail-damaged corn is justified. Yes, we all agree there is a need for continuing re-

search on this question, and some will conduct that research this season. But if a producer is tempted to spray, keep in mind that university-based plant pathologists are unaware of any research to support this practice. Also, pay attention to the pre-harvest interval for the fungicide chosen.

VEGETABLES

LEAFFOOTED BUGS ON TOMATOES
by Ric Bessin

Similar to stink bugs, leaffooted bugs are common pests of tomatoes, attacking the fruit with their piercing-sucking mouthparts in the late summer and fall. Although they also occur on many other vegetables, leaffooted bugs can be one of the persistent pests of fall-grown tomatoes. These insects also have a large number of weed hosts and can build to noticeable numbers by mid summer. Adults are mobile and gather on favorable hosts. This insect uses its piercing-sucking type mouthparts to feed on tomato fruit, causing corky areas under the skin of the fruit and distortions similar to stink bug damage.

Leaffooted bug adults are distinct in appearance. They are brown and elongate (about 3/4 inch in length) with a thin white stripe across the wings. The tibia of the hind legs is broad and flattened, giving the leaffooted bugs their name.

There several similar insects found on vegetables, the most closely related is the squash bug, but squash bugs are restricted to cucurbit crops. Squash bugs are similar in shape and color but don't have the distinctive white stripe across the wings and don't have the expanded hind tibia. Brown stink bugs are similar, but their body is not as elongate, they don't have the stripe, and their hind legs are slender.

Damage by leaffooted bugs is caused primarily by the adults, which can move into tomato fields in mid summer and fall. Sprays targeting stink bugs are generally effective against leaffooted bugs.

LIVESTOCK

JULY 31 - OPENING OF CATTLE GRUB TREATMENT SEASON
by Lee Townsend

Application of a cattle grub treatment is one of the Kentucky CPH requirements. Cattle grub damage to muscle and hide requires extra trimming of carcasses and decreases the value of hides. Grubby carcasses are routinely docked by packers.
Cattle grub control is a part of producing quality steers for the feedlot. While the damage (cysts or swellings long the back line) will not show up for several months, control measures must be applied to Kentucky cattle between now and October 31 to kill the pests without harming the animal.

HOST REACTION TO CATTLE GRUBS
Depending upon the species, cattle grub larvae move either to the esophagus (common cattle grub) or spinal column (northern cattle grub)during their migration to the back. The grub larvae are in these sensitive areas during November and December. If large grubs are killed there, the surrounding tissue can become severely inflamed and additional symptoms can develop.

In animals infested with the common cattle grub, the esophagus can swell shut, and produce difficulty swallowing, drooling, or bloat. Northern cattle grubs killed in the region of the spine can put pressure on the spinal column. This results in stiffness in the hind quarters, loss of balance, or inability to lift the hind feet.

Be careful when treating for grubs. Use accurate weight estimates to determine the proper dose. Undertreating may not provide satisfactory control. At best, overtreatment will waste money; at worst, it may cause the animal to become sick.

There are a variety of formulations of cattle grub insecticides. Pour-on or Spot-On products are convenient if good handling facilities are available. High pressure sprays are an alternative when chutes or working pens are not an option. Animals must be wet to the skin when high pressure sprays are used. Products for internal parasite control, such as Cydectin, Dectomax, or Ivomec, also will control cattle grubs. When these products are applied, there is no need to treat with an insecticide, too.

LAWN & TURF

GRAY LEAF SPOT OF PERENNIAL RYEGRASS
by Paul Vincelli

Gray leaf spot, caused by the fungus *Pyricularia oryzae* (=*Pyricularia grisea*), was confirmed last week in the Philadelphia, PA area as well as in a site in Delaware. For those of you with experience fighting this disease, you know how destructive it can be on perennial ryegrass. It has not yet been found in Kentucky. However, these finds are earlier than normal, and they suggest that golf course superintendents should be watchful for this disease as the summer progresses.

Fungicide options are described in:
http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-OR-T-3.pdf
If a superintendent decides to spray something now in order to sleep better at night, I'd go with the less expensive, moderately effective choices and save the "heavy-hitters" for August or September.

Practices for reducing the risk of fungicide resistance are also described in that paper.

TRINITY FUNGICIDE
by Paul Vincelli

Trinity® turfgrass fungicide, containing the active ingredient *triticonazole*, received a federal label earlier this year. Trinity is labeled for control of anthracnose, dollar spot, brown patch of cool-season grasses, large patch of warm-season grasses, red leaf spot, red thread, rust, summer patch, take-all patch, gray snow mold, and pink snow mold. It is also labeled for suppression of algae.

I've reviewed 58 published reports on the efficacy of triticonazole against turf diseases, most of which were focused on anthracnose, brown patch, and dollar spot. Based on these results, I've assigned efficacy ratings as follows (excluding gray snow mold, as that disease is unimportant in Kentucky):

Disease	Efficacy rating
Anthracnose	3
Dollar spot	4
Brown patch	3
Large patch	3
Red leaf spot	L
Red thread	4
Rust	L
Summer patch	L
Take-all patch	L
Pink snow mold	L

Triticonazole is a member of the DMI family of fungicides (FRAC Code 3). As such, it is in the same fungicide family as Banner and other propiconazole products, Bayleton Eagle, and Rubigan. The above efficacy ratings are solid against anthracnose and brown patch in comparison to other DMI fungicides.

Resistance to DMI fungicides is a particular concern in the dollar spot fungus. Resistance to DMI fungicides typically shows up as a "reduced sensitivity" (more frequent sprays or higher rate needed to achieve control), rather than an outright failure to control the disease. Pathogen strains resistant to DMI fungicides typically exhibit some degree of *cross-resistance*, meaning that they are resistant to most or all members of the fungicide family. Thus, one would expect Trinity® to be most effective in sites with no known DMI resistance.

As a class, the DMI fungicides can exhibit growth-regulating effects on turfgrass through inhibition of gibberellic acid synthesis. These fungicides sometimes produce a desirable darker green color on turfgrass. Undesirable effects sometimes include a coarser appearance through a widening of leaf blades, color changes (such as yellowing, a bluish appearance, bronzing or browning of turf), and reduced growth rate. Growth-regulating effects of DMI fungicides generally are associated with high use rates and/or repeated applications, particularly on turf under stress from high temperatures or drought.

Triticonazole definitely has been shown to exhibit less tendency towards growth regulation than other DMI fungicides in research trials, though there is a small number of reports showing a darker green color and even mild injury (all on *Poa annua*) from triticonazole. Thus, be cautious when applying this product during summer if a putting green with *Poa annua* infestations is already under stress.

Interestingly, although Trinity® is labeled for algae suppression, there is one report in which algal infestation was enhanced by Trinity as well as by other DMI fungicides.

In spite of these issues, overall it is a strong product that should play an important role in management of certain turfgrass diseases.

Rating system for fungicide efficacy is as follows: 4 = consistently good to excellent control in published experiments; 3 = good to excellent control in most experiments; 2 = fair to good control in most experiments; 1 = control is inconsistent between experiments but performs well in some instances; - = no efficacy; L = limited published data on effectiveness.

SHADE TREES & ORNAMENTALS

SUDDEN DEATH OF MAPLES IN THE LANDSCAPE
by John Hartman

There have been reports pretty much statewide of landscape maple trees suddenly dying in recent weeks. A similar outbreak of rapid death of maples was also observed in 1999, another drought year. The problem most often involves well-established Norway, sugar, and red maples. Homeowners usually report the sudden wilting and death of their trees; in some cases this is true, but in

others, twig growth and tree ring analysis suggest that many of the dying maple trees have not been growing well for some years.

This report will review some of the causes of maple problems so County Extension Agents and landscape maintenance persons can better serve their clientele. In addition, Agents need to be aware of our diagnostic limits - one cannot diagnose girdling roots, mechanical injury, root rot, and usually Verticillium wilt with a sample consisting of some twigs, leaves, and small branches. However, site visits and perceptive questions of the growers are most useful, and for some of these cases of maple decline and death, would substitute for a laboratory specimen.

Although there does not seem to be a single cause for the decline and death of landscape maples this year, most of the causes would be exacerbated by drought. In addition to drought, there have been a number of factors observed that have caused death or triggered decline and death of maples, including:

- Girdling roots are probably the leading cause of decline, especially among Norway maples. Offending roots may not be visible above ground, but if the tree trunk does not have the normal buttress root flare at the base, and instead, goes straight into the ground like a telephone pole, self-girdling roots can be suspected. Trees with girdling roots may decline over a period of years, but then may collapse suddenly. Girdling roots are often a response to too-deep planting, often two or three decades or more after the tree was transplanted.
- Verticillium wilt may infect all types of maples, and can also cause disease in tuliptrees, catalpas, golden-rain trees, and redbuds. Often developing on branches on one side of the tree first, leaves progressively wilt and die throughout the tree during the growing season. Where infections occurred late in the previous season, trees may not have even leafed out this year, or if they did, they immediately died. The Verticillium fungus is often more active in stressed trees. Large trees may die over a year or two, but small trees can suddenly collapse throughout from Verticillium wilt.
- Bacterial leaf scorch can affect many kinds of maples in Kentucky, but appears to be most common on red maples. Although it is a little early to be observing scorch symptoms this season, this chronically infectious disease could weaken trees and make them vulnerable to other stresses.
- Canker and collar rot. We have diagnosed some cases of Phytophthora bleeding canker and collar rot on maples in past years and more have been observed this year. Trunks of affected trees have water-soaked bark spots. Collar rot, causing bark decay and wood staining, if well developed, can cause death of the top of the tree. Usually, collar rots and bleeding cankers lead to gradual decline of infected trees. The microbe that causes the disease, Phytophthora, is favored by high soil moisture levels, especially temporary flooding.
- Restricted rooting space. Sugar maples planted as street trees sometimes lack space for their roots to exploit. Such trees with inadequate root systems would be especially vulnerable to drought and temporary flooding stresses. Trees growing where there is plenty of open space but on shallow soils with bedrock near the surface will be vulnerable to drought.
- Soil compaction from foot traffic, construction, or other activities crushes small roots and makes soils impervious to invasion by new roots. Affected maples may decline.
- De-icing salts used the previous winters can sometimes be a factor in tree decline.
- Mechanical injuries. Construction such as laying utilities severs roots and triggers decline. Wounds to the trunk or large branches can also have negative effects on maple tree health.
- Opportunistic fungi. Root, butt, and trunk rotters such as *Armillaria mellea* and *Ganoderma lucidum* are found on some declining trees. In addition, canker and canker-rot fungi such as *Botryosphaeria obtusa, Nectria cinnabarina, Cerrena unicolor*, and *Stegonosporium pyriforme* are capable of invading weakened trees and causing branch dieback.

Although some infectious diseases are involved in the current wave of maple declines and death, much of the problem lies with urban stresses. In addition, recent hot, dry weather, dry spring conditions, and weather extremes such as the early April freeze could be involved. In almost all cases, there is no reversing the decline. For those with still-healthy maples, continue to provide good growing conditions and be observant for the first indications of maple distress such as leaf scorch, premature fall color, and branch tip dieback.

PESTS OF HUMANS

LONE STAR TICKS – TURKEY MITES, ETC.
by Lee Townsend

Outdoor activity can bring you in contact with lone star tick larvae – also called seed ticks, turkey mites, and a variety of other more colorful epithets. Tiny six-legged larvae (left), about the size of a freckle, hatch and climb vegetation to sit with outstretched front legs waiting

to latch on to passing "meal tickets". They will settle on ankles, behind knees, and other spots, insert their long mouthparts, cement themselves in place, and engorge on blood. The saliva injected as they feed can cause intense itching at the bite site that will continue for a week or longer.

The red skin spots in the picture at the right are the result of multiple tick bites from seed ticks. The long mouthparts of the lone star tick make it stick securely to the skin once it has attached.

1. Use fine-tipped tweezers or protect your fingers from direct contact with a tissue, paper towel, or rubber gloves.

2. Grasp the tick as close to the skin surface as possible and pull upward with steady, even pressure. Don't twist or jerk the tick; this may cause the mouthparts to break off and remain in the skin. (If this happens, remove mouthparts with tweezers. Consult your healthcare provider if infection occurs.)

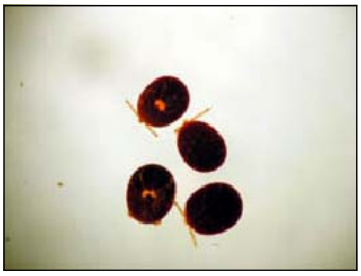
3. Do not squeeze, crush, or puncture the body of the tick because its fluids (saliva, hemolymph, gut contents) may contain infectious organisms.

4. Do not handle the tick with bare hands because infectious agents may enter through mucous membranes or breaks in the skin. This precaution is particularly directed to individuals who remove ticks from domestic animals with unprotected fingers. Children, the elderly, and immunocompromised persons may be at greater risk of infection and should avoid this procedure.

5. After removing the tick, thoroughly disinfect the bite site and wash your hands with soap and water.

6. You may wish to save the tick for identification in case you become ill within 2 to 3 weeks. Your doctor can use the information to assist in making an accurate diagnosis. Place the tick in a plastic bag and put it in your freezer. Write the date of the bite on on a piece of paper with a pencil and place it in the bag.

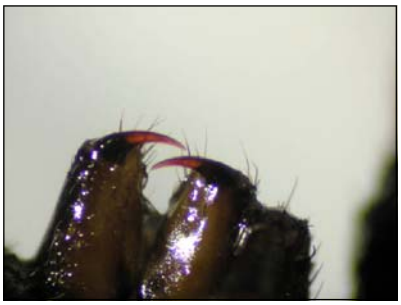
Note: Folklore remedies such as petroleum jelly or hot matches do little to encourage a tick to detach from skin. In fact, they may make matters worse by irritating the tick and stimulating it to release additional saliva, increasing the chances of transmitting the pathogen. These methods of tick removal should be avoided. In addition, a number of tick removal devices have been marketed, but none are better than a plain set of fine tipped tweezers.



These engorged larvae (right) were found on a couch. Apparently, they had finished feeding, perhaps on a pet dog, and dropped off. In this case, they will not feed again and should be vacuumed up and discarded. Engorged ticks will remain inactive as they digest their meal and molt, in this case to an 8-legged larva, find another host and feed again, then molt to the adult stage. Three feedings, generally several weeks apart, makes these called three-host ticks. They attach and drop off in areas where animals bed down or are abundant, frequently in overgrown areas.

Information on repellents and personal protection from ticks is available in KPN 1125, April 30, 2007. http://www.uky.edu/Ag/kpn/kpn_07/pn070430.htm#humlon

BLACK WIDOW SPIDERS
by Lee Townsend



The fangs of the black widow spider (right) aren't very long but they can inflict some pain if they are given the chance to puncture the skin. These shy spiders naturally hide away in undisturbed spots so they are not out looking for trouble. Most encounters with humans come when someone accidentally disturbs or squeezes the spider when inadvertently reaching into the spiders' lair. That provokes a defensive response by the spider, especially if she is guarding an egg sac.

Black widow venom is a nerve toxin and its effects are rapid. The victim suffers painful rigidity of the abdomen and usually a tightness of the chest. Blood pressure and body temperature may rise, and sweating, localized swelling, and nausea may occur. In about 5% of the bite cases, the victim may go into convulsions in 14 to 32 hours and die if not given medical attention. First aid for black widow spider bites involves cleaning the wound and applying ice packs to slow absorption of venom. Victims should seek medical attention promptly. Most black widow spider envenomizations respond to intravenous

administrations of calcium gluconate or calcium salts. An antivenin is also available for severe cases.

DIAGNOSTIC LAB-HIGHLIGHTS
by Julie Beale and Paul Bachi

Agronomic samples over the past week included Phytophthora root rot and potassium deficiency on soybean; black shank, sore shin, tomato spotted wilt virus, alfalfa mosaic virus, frogeye leaf spot, brown spot, temporary phosphorus deficiency, potassium deficiency, manganese toxicity, frenching and weather fleck (ozone) on tobacco. On fruit and vegetable samples we have diagnosed cedar-apple rust and frogeye leaf spot on apple; black rot and anthracnose on grape; anthracnose on bean; Pythium root rot on cabbage transplants; bacterial wilt and cucumber mosaic virus on melon; Alternaria leaf spot on pumpkin; gummy stem blight on watermelon; bacterial leaf spot on pepper; early blight, Septoria leaf spot, Fusarium wilt, buckeye rot, bacterial canker, tobacco mosaic virus, and tomato spotted wilt virus on tomato; and spider mite infestation on numerous vegetable crops in commercial fields and home gardens.

On ornamentals and turf we have seen Pythium and Rhizoctonia root rots on petunia and zinnia; daylily leaf streak; rosette on rose; Botryosphaeria dieback on rhododendron; scab on crabapple; anthracnose on hickory; powdery mildew on oak; Verticillium wilt on redbud; brown patch on bluegrass; and black layer (abiotic) on bentgrass.

TRAP COUNTS
UKREC, Princeton KY
Kentucky — Tennessee
July 13-20, 2007

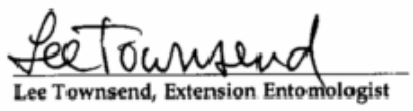
►***Jackson, TN***
Black cutworm....3
True armyworm....0
Corn earworm....0
European corn borer....0
Southwestern corn borer....4
Fall armyworm....0

►***Milan, TN***
Black cutworm....4
True armyworm....0
Corn earworm....0
European corn borer....0
Southwestern corn borer....25
Fall armyworm....0

►***Princeton, KY***
Black cutworm....4
True armyworm....5
Corn earworm....6
European corn borer....0
Southwestern corn borer....107
Fall armyworm....0

►***Lexington, KY***
Black cutworm....20
True armyworm....104
Corn earworm....2
European corn borer....0
Southwestern corn borer....0
Fall armyworm....0

This season insect trap counts will be provided for locations in Kentucky and Tennessee.
View trap counts for past seasons and the entire 2007 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/
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

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.

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UNIVERSITY OF KENTUCKY
College of Agriculture

Cooperative Extension Service

University of Kentucky
Entomology
S-225 Ag. Science Center North
Lexington KY 40546-0091