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KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • WEED SCIENCE
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WATCH FOR

PARASITIZED HORNWORMS on tobacco and tomatoes, they will not cause any more damage; time for pre-harvest **GRAIN BIN SANITATION**; **FRUIT FLIES** infesting over-ripe fruit and vegetables; bites from **LONE STAR TICKS; FOREIGN GRAIN BEETLES AND FRUIT FLIES** become common nuisances in homes for the next few weeks.

TOBACCO

LATE-SEASON BACTERIAL STALK ROTS
by Kenny Seebold

As we head into topping time, problems with bacterial stalk rots begin to crop up. This is particularly pronounced when warm temperatures and rainfall coincide with topping operations. These types of environmental conditions favor a bacterium called *Erwinia carotovora* subsp. *carotovora* (Ecc). This pathogen, an inhabitant of soils and also common on plant surfaces, causes blackleg in transplants, hollow stalk in the stems, and bacterial soft rot/drop of leaves. All occur in the form of a slimy, foul-smelling rot that develops rapidly under ideal (warm and wet) conditions. Houseburn of tobacco can also be caused by Ecc, particularly if the pathogen is active on harvested tobacco.

Hollow stalk in the field occurs normally between topping and cutting. The bulk of infections occur during or after wounding which results from topping; however, other types of injury (hail, disease, sucker control) can also promote hollow stalk. The stalk-rot bacterium enters wounds and begins to rot the pith (the control part of the stalk), and will spread down the stalk very quickly. Leaves typically wilt and droop, beginning at the top of the plant. Most leaves on infected plants drop off before

or during cutting. Blackened areas are usually visible on the stalk.

Bacterial soft rot occurs on leaves at any stalk position, but is very likely to appear on lower leaves. Symptomatic leaves normally drop before Ecc can invade the stalk. However, under ideal conditions, Ecc will move into the stem before leaves drop, producing cankers and hollow pith in the lower parts of the plant.

Bacterial soft rots are hard to control, and no 'rescue' treatments are available. Over-fertilized plants are particularly susceptible to bacterial soft rots, as are wounded plants (as mentioned previously). Take all precautions to manage fertility properly and minimize wounding. Top tobacco in a timely manner and control sucker growth promptly. Large suckers killed by sucker control chemicals are ideal targets for Ecc. Topping when large flower heads are present normally creates a wound that can hold water. Remove older tops with a knife, an angled cut that slopes downward and towards the sunny side of the plant to promote drying. Avoid topping when weather is rainy or damp and cloudy, or in the morning when plants are wet. Workers who rub soil on their hands to remove tobacco resin are likely to spread Ecc., especially if working plants when they are wet. Avoid topping obviously infected plants to avoid spread to healthy plants. Sucker control influences the development of hollow stalk. Contact chemicals tend to increase hollow stalk in wet seasons, and bacterial soft rot of leaves has been observed on crops damaged by excessive MH-30.

VEGETABLES

CONTINUING MITE PROBLEMS IN VEGETABLES
by Ric Bessin

With the prolonged dry weather, two-spotted spider mites reports are continue throughout the state. Serious infestations have been reported on tomatoes, vining crops (cucurbits), and, to a lesser extent, other vegetables. Initial symptoms include stippling of upper leaves followed by bronzing and burning. In some extreme situations, webbing has been reported. Problems are expected to follow the weather, as hot dry conditions favor rapid increase in mite populations. Use of some insecticides that are hard on mite predators may also cause mite populations to flare.

Destruction of weeds adjacent to and in fields should be done in the fall or early spring. Growers should manage weeds around fields carefully during the season. Grass should be mowed regularly. Spraying or mowing of weeds after growth has become rank may increase the movement of mites to cultivated plants. Use of overhead-sprinkler irrigation may provide some short-term relief of mite infestations.

As with aphids, mark infestations with flags, and check them again every 3 or 4 days. Mites can easily be moved to infested plants on clothing, so always examine infested areas last during inspections. Because mites usually occur on the undersides of leaves, applications of contact miticides need to be directed at both the lower and upper leaf surfaces.

The commercial vegetable spray guide lists a number of miticides for many of the vegetable crops. Several of the miticides such as Agrimek, Acramite, and Oberon are quite expensive, but these can provide extended control. There are also pyrethroid insecticides such as Capture and Danitol that have activity against mites at the higher end of their labeled rates. As they are cheaper and tend to have less residual control, the pyrethroid miticides are often used at the end of the season when shorter term relief is targeted.

STINK BUG DAMAGE TO TOMATOES AND PEPPERS COMMON
by Ric Bessin

There has been an unusually high levels of stink bug damage to fruiting vegetables. Stink bug damage causes a light colored corky area just underneath the skin of the fruit. These damaged areas are visible through the skin. Generally, stink bug numbers and their damage on various crops have bene common the past several years across the state. Damage was common early in the season on corn. The same species of stink bugs, the brown and green stink bugs, attack fruiting vegetables, with the brown being more difficult to control. Stink bug damage to tomatoes picked in the breaker stage is not readily discernable.

Adult stink bugs migrate from weedy areas into pepper fields, particularly when the weedy plants begin to decline. Continual weed management throughout the season around fields helps to reduce stink bug immigration into fields. In terms of insecticidal control, endosulfan (Thionex, Endosulfan) and the pyrethroid insecticides (Ambush, Asana, Baythroid, Pounce) are the most effective insecticides registered for peppers against stink bugs, but they provide only fair to good control of stink bugs. When scouting peppers for stink bugs and their damage in order to make control decisions, keep in mind that the presence of fruit damage does not mean that stink bugs are necessarily still active.

SHADE TREES & ORNAMENTALS

EMERALD ASH BORERS – NEW INDIANA SITE
by Lee Townsend

According to Indiana officials, an emerald ash borer (EAB) adult was collected in mid-July from a purple trap placed in a wooded area near Georgetown (Floyd County), Indiana- about 12 miles west of Louisville, Ky. Prior to this finding, EAB infestations were known in 19 Indiana counties, mostly in the northeastern part of the state.

With EAB just across the Ohio River in two spots now (Cincinnati, also) there are questions about preventive treatments to protect Kentucky ash trees. Guidelines for making decisions on EAB treatments in Kentucky are given in Entfact 453 http://pest.ca.uky.edu/EXT/EAB/EAB%20FAQ.pdf. Here are main questions with some additional thoughts.

Should I begin to use insecticides to protect my ash trees from the EAB?

Treatment is an individual decision based on specific conditions at your location. However, insecticide applications generally are not recommended if your county is not under an EAB quarantine. If there is no quarantine for your county, identify ash trees on your property and keep them as healthy as possible through proper fertilization and watering. Watch trees closely for signs of EAB infestations. Stay informed about the situation in your area.

The Floyd County Indiana finding represents a significant jump from the nearest known infestation in Indianapolis. The flight range for the EAB is about 0.5 miles. Because of large jumps in distribution, it is not possible to predict with any confidence where EAB will be detected next. In many cases, infestations apparently have been active for some time before they are detected so they tend to be more extensive that first thought. The nearer you are to a confirmed infestation, the greater the chance that the beetles are near or already present.)

Are insecticide applications worthwhile if your area becomes quarantined (or very nearby)?

Treatments for EAB are expensive and products currently available must be applied every year. In addition, no products are 100% effective and trees in poor health are not likely to benefit from treatments. Treatments may be worthwhile to protect very valuable trees or to keep individual trees alive until non-susceptible replacement trees are large enough to provide satisfactory shade. If many nearby trees become heavily infested, control probably will be much less effective.

The key at this point is to keep realistic expectations – do not expect complete success with preventive control. New, more effective products are coming along but most are available only to certified commercial applicators or arborists. Consider the cost of several years of treatment versus eventual removal and replacement costs for dead trees. Preventive treatments in Kentucky were not encouraged when infestations were relatively far away. The recommendation is to assess ash populations and make informed choices based on individual situations. Currently, there is no plan to make insecticide applications or intense tree removal when infestations are detected in Ky.

Michigan State University has a very good treatment guide for homeowners on line at - http://www.emeraldashborer.info/files/E2955.pdf. The Michigan situation is different in that the infestation level is very high over much of the state.

HOUSEHOLD

AUGUST IS FOREIGN GRAIN BEETLE MONTH
by Mike Potter

The foreign grain beetle is a common pest in Kentucky from late July through September and can be found in tremendous numbers inside buildings. The small (about 1/16-inch long) reddish brown beetles frequently pose temporary problems in new houses (up to about 4 years old) or where there has been remodeling. They belong to the "fungus beetle" group; larvae live in wall voids and feed on the molds and fungi that grow on poorly seasoned lumber or wet plaster and wall board. When new homes are built, damp wood is often covered with molds or mildew which attracts the beetles. The beetles may also be attracted to accumulations of sawdust which often occur behind walls as a byproduct of construction. Eggs are laid on this food material and the larvae develop on the surface fungi. The adults usually become a problem in late summer when they move out of wall voids and are attracted to windows and lights. Foreign grain beetles can also be associated with plumbing leaks, condensation problems, or poor ventilation. Occasionally, the source is stored products, grains, meal, etc. that are moldy or in poor condition.

Control is best accomplished by drying out the wood and/or eliminating the moisture source. Most new homes dry out naturally within the first few years, and the fungi and molds disappear along with the beetles. Drying time can be enhanced by increasing ventilation, e.g., by use of fans and air conditioning. Rapid relief can be obtained with directed applications of aerosol sprays containing pyrethrins, but such treatments must be applied frequently. A vacuum cleaner works just as well in terms of removing any visible beetles which are present. More permanent control can be achieved by locating the infested wall areas or source of dampness (usually next to where the beetles are most abundant) and injecting residual aerosols or dusts into cracks and crevices along baseboards and into the wall voids.

If the homeowner can tolerate the beetles during the period when they are most active (late summer) the problem will usually resolve itself. Some comfort can be taken in the fact that foreign grain beetles are only a nuisance by their presence, i.e., they do not bite or damage wood, fabric or stored food in sound condition.

A fact sheet on this insect can be found at http://www.ca.uky.edu/entomology/entfacts/entfactpdf/ef610.pdf

FRUIT FLIES
by Mike Potter

Hot weather and over-ripe fruits and vegetables can mean fruit flies. Here are the basics for those who have thriving infestations that need immediate attention:

1. All potential breeding areas must be located and eliminated. Unless the breeding sites are removed or cleaned, the problem will continue no matter how often insecticides are applied to control the adults. Finding the source(s) of attraction and breeding can be very challenging and often will require much thought and persistence. Potential breeding sites which are inaccessible (e.g., garbage disposals and drains) can be inspected by taping a clear plastic food storage bag over the opening overnight. If flies are breeding in

these areas, the adults will emerge and be caught in the bag.

2. After the source of attraction and breeding is eliminated, a pyrethrum-based, aerosol insecticide may be used to kill any remaining adult flies in the area.

A better approach, however, is to construct a trap by placing a paper funnel (rolled from a sheet of notebook paper) into a jar which is then baited with a few ounces of cider vinegar. Place the jar trap(s) wherever fruit flies are seen. This simple but effective trap will soon catch any remaining adult flies. Information on this common pest is available in Entfact 621 http://www.uky.edu/Ag/Entomology/entfacts/struct/ef621.htm.

DIAGNOSTIC LAB-HIGHLIGHTS

by Julie Beale and Paul Bachi

During the past week, the PDDL received samples of gray leaf spot on millet; potassium on soybean; black shank, Fusarium wilt, root knot nematode, manganese toxicity, frenching, bacterial soft rot (stalk rot) and tobacco streak virus on tobacco.

On fruits, vegetables and herbs, we diagnosed black rot on grape; scab, bitter rot and cedar-apple rust on apple; brown rot and nitrogen deficiency on peach; anthracnose on bean and cucumber; bacterial spot, anthracnose and blossom end rot on pepper; bacterial wilt on squash; spider mite injury on watermelon; bacterial spot, tobacco mosaic virus, blossom end rot and spider mite injury on tomato; Alternaria leaf blight on ginseng; and wet feet on sage.

On ornamentals and turf, we have seen Pythium root rot and Fusarium wilt on chrysanthemum; black root rot on vinca; Phoma twig blight on arborvitae; Volutella canker on boxwood; Gloeosporium leaf spot on birch; spot anthracnose on dogwood; anthracnose on maple and oak; tip blight and brown spot on pine; Verticillium wilt on yellowwood; Pythium root dysfunction, anthracnose and take-all patch on bentgrass; and Pythium root rot on bermudagrass.

INSECT TRAP COUNTS

August 1-8, 2008

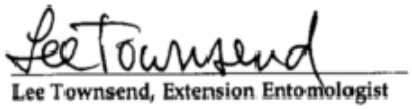
►***Princeton, KY***

Black cutworm....14
True armyworm....31
Corn earworm....43
European corn borer....2
Southwestern corn borer....17
Fall armyworm....13

►***Lexington, KY***

Black cutworm....2
True armyworm....44
Corn earworm....24
European corn borer....3
Southwestern corn borer....6
Fall armyworm....4

Graphs of insect trap counts are available on the IPM web site at -http://www.uky.edu/Ag/IPM/ipm.htm. View trap counts for Fulton County, Kentucky at - http://ces.ca.uky.edu/fulton/anr/



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