

KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • WEED SCIENCE

On line at: www.uky.edu/Agriculture/kpn/kpnhome.htm

Number 1163

May 26, 2008

ARMYWORM

- Armyworm caterpillar activity
- Armyworms on the move

TOBACCO

- Disease update

FRUIT CROPS

- Strawberry leaf spots are active

HOUSEHOLD

- Ant wars
- Swarming honey bees

DIAGNOSTIC LAB-HIGHLIGHTS

INSECT TRAP COUNTS

WATCH FOR:

ARMYWORM feeding in no-till corn, small grains, and pasture and hay fields; RED MITES crawling everywhere outdoors; STRIPED CUCUMBER BEETLES on cucurbits; ROSESLUG SAWFLIES on rose leaves; MIMOSA WEBWORMS damaging mimosa and honeylocust; CORN ROOTWORM egg hatch; FUNGUS-KILLED FLIES on plant foliage; [PERIODICAL CICADA emergence](#) has been slow, this should mean a prolonged activity period for the brood; YUCCA PLANT BUGS active on landscape yuccas.

ARMYWORM

ARMYWORM CATERPILLAR ACTIVITY

by Doug Johnson

I do not yet have detailed information but considerable armyworm caterpillar infestations are now apparent. In addition to the two early reports of treatable caterpillar populations (01 May Carlisle Co. & 06 May, Henry Co.) during this past week, five other reports have arrived (16 May Logan Co., 22 May Trigg & Barren counties, 23 May Warren Co. and 27 May Wayne Co.) All but one was in corn fields, the Trigg county report was from pasture grasses. In addition I have received several reports / queries about armyworm in small grains. At present these infestations are not large enough to require treatment.

All of the infested corn treated thus far contained grass weeds including feral small grains. The armyworm populations were much larger than in the areas of fields with feral small grains than in grass-weed free areas.

It seems that these populations are appearing just about as predicted. A degree-day model run on 12 May using the Princeton, KY data, predicted noticeable populations on or about 23-24 May (See KPN No.1161, 12 May 2008,

Johnson, D. ARMYWORM: FIRST GENERATION MOTH FLIGHT DECLINES

http://www.uky.edu/Ag/kpn/kpn_08/pn080512.htm#armarm). Remember there will be caterpillars around for a considerable time. Armyworms will certainly be present for at least two more weeks in western Kentucky, perhaps longer.

Hopefully, this prediction is an indication that we will also be pretty close for the Lexington area data. The same (above mentioned) run of the model indicated caterpillars in central Kentucky about 1 June. Again, there were moths flying before and after the dates used in this prediction so caterpillars will be out before and after the predicted date.

Remember, the model uses 2008 temperatures for dates that have passed and five-year average temperatures for predictions. The data is based on the Princeton (or Lexington) weather stations. Warmer locations would be earlier with cooler locations later. This and all models have error associated with them.

The mere presence of worms does not warrant control. Although the moth counts were very large, and some fields have already been treated, there are several other factors that may affect the populations of the damaging caterpillar stage in an individual field. Both eggs and caterpillars may be eaten by predators, parasitized by wasps and flies, and infected by pathogens. Nevertheless, the situation bears careful observation.

ARMYWORMS ON THE MOVE

by Ric Bessin

Growers need to be scouting of armyworms in corn as there have been numerous reports from scattered areas across the state. This follows the intense true armyworm moth flights that were reported by Doug Johnson in western KY and record high captures in central KY.

Growers need to monitor their corn through mid June. We have had cool and wet conditions which tend to favor true armyworm and the cool temperatures have slowed corn growth.

When scouting for armyworm, look for feeding on the leaf margins. Feeding is usually confined to leaf margins, but occasionally they may strip the entire plant leaving only the midrib of the leaves. During the day, armyworms are found in the soil or underneath ground cover. Corn can usually recover from light to moderate feeding by armyworm without significant yield loss. However, severe damage, particularly if the growing bud is injured, can cause significant loss in yield. Bt corn will provide some protection, but large numbers or large larvae migrating from grassy areas may cause some loss.

Scouting is used to determine if armyworms are present, identify hot spots, and to evaluate if they are worth treating. Survey field edges that border small grains or large grassy areas, and look for damaged plants. If the characteristic armyworm damage is observed while scouting, look on the ground for armyworms or their black pepper-like droppings littering the ground. To sample for armyworms, examine 20 consecutive plants in each of at least 5 random locations in the field. Note the number of plants with the characteristic damage and the size of the larvae.

Scout the field margins of conventional fields first, particularly adjacent to small grains or grassy strips. If armyworms or damage is found, then determine how far the infestation extends into the field. Often armyworms can be controlled by treating just a portion of the field.

Before deciding whether to treat for armyworms with an insecticide, there are a few things to consider. First, what sizes are the armyworms. If the armyworms are longer than about 1-1/4 inch they have completed most of their feeding. Controlling larvae of this size is not profitable because the damage is already done. Control actions in corn are recommended when armyworms average between 1/2 and 3/4 inches and the entire field averages 35% infested plants or 50% or more defoliation is seen on damaged plants.

TOBACCO

DISEASE UPDATE by Kenny Seebold

As of May 26, 2008, blue mold has not spread northward from north-central Florida. Conditions over the past week were, in general, not favorable for development of blue mold. The North American Plant Disease Forecast Center (www.ces.ncsu.edu/depts/pp/bluemold) predicts that

potential movement of inoculum from the two known sources (Cuba and FL) over the next few days will not affect our production areas.

We continue to see a significant amount of Pythium root rot and target spot on tobacco transplants around the state. The number of cases of Sclerotinia collar rot has dropped, and should continue along this path as we head into a period of very warm weather. The arrival of warmer temperatures, though, has increased the likelihood of seeing black leg (bacterial soft rot) on tobacco seedlings. I've seen two minor cases of this disease over the past week on older transplants. As with other diseases in the float system, proper management goes a long way in preventing problems with black leg. Adequate ventilation and fertility are crucial – keep air moving in greenhouses and outdoor beds to reduce leaf and stem wetness and also to keep temperatures relatively low. Make sure that N levels do not exceed 125 ppm, and avoid clipping plants when foliage is wet. Agricultural streptomycin can be applied at 100 to 200 ppm (1 to 2 tsp per gallon of spray) can be used to suppress black leg; use 6 to 9 gallons of spray solution per 1000 sq. ft. to achieve adequate coverage and protection.

For up-to-date reports on the status of blue mold and other tobacco disease information, check the KY Blue Mold Warning System online at www.uky.edu/Agriculture/kpn/kyblue/kyblue.htm.

FRUIT CROPS

STRAWBERRY LEAF SPOTS ARE ACTIVE by John Hartman

As strawberry harvest season comes to a close, growers need to turn their attention to strawberry leaf spot and blight diseases. The following information was adapted from a Purdue University Cooperative Extension Service "Facts for Fancy Fruit" newsletter article entitled "Three Big Foliar Diseases of Strawberry," authored by Dr. Janna Beckerman, Purdue University Extension Plant Pathologist.

Strawberry leaf spot is caused by *Mycosphaerella fragariae*. This fungus infects leaves, petioles, runners, and even fruit stalks (pedicels), berry caps or calyxes. Small, dark purple to reddish-purple, round spots, 1/8 to 1/4 inch in diameter develop on the upper leaf surfaces. As the lesion develops, the center of the spots becomes tan, eventually turning gray or even white, while the margins remain dark purple. Later in the season, dark pepper-like specks appear in older lesions. These black specks are either sclerotia, tiny fungus balls that allow the fungus to survive inclement conditions, or perithecia, that

contain the sexual spores of the fungus. Long wet periods (several days) and warm temperatures (over 50° F) favor disease development in the spring and in summer after renovation. During conditions such as these, the fungus can also infect fruit, causing what is called “black seed disease.” Berries usually have one or two spots but more can develop. Fruit does not decay but discolors under the spot.

Strawberry leaf scorch disease is caused by the fungus, *Diplocarpon earliana*, and affects the above ground portions, including the leaves, petioles, runners, pedicels, and calyxes of strawberry plants. The fungus most frequently infects strawberry leaves at any stage of development. The symptoms of leaf scorch are very similar to the early stages of leaf spot in that small, round to angular dark purple spots about 1/4 inch in diameter develop on upper leaf surfaces. Unlike leaf spot, the leaf spots of leaf scorch remain dark purple, and never develop a dying or dead center. As the spots gradually enlarge, they resemble small drops of tar due to the production of large numbers of minute, black, fungal fruiting bodies called acervuli. Spots have an irregular outline and may run together, causing the entire leaf to develop a reddish or light purple color. In severe cases, foliage is reduced considerably, and plants may be stunted. Fruit may become infected, as well. Infected fruit has elongated, slightly sunken, reddish areas or streaks; these lesions usually disappear as the fruit ripens.

Strawberry leaf blight is caused by the fungus *Phomopsis obscurans*. Although infections occur earlier, symptoms often do not become visible until after harvest. The disease can weaken strawberry plants through the destruction of older foliage. Weakened plants can result in reduced yields the following year. *Phomopsis* leaf blight symptoms begin as circular spots that also appear similar to leaf spot disease of strawberry. However, as the disease progresses, irregular, zoned lesions may form. In later stages of disease development, lesions, especially ones along veins, may become V-shaped, with the widest part of the V toward the margin of the leaflet. These V-shaped lesions are characteristic of the disease.

Strawberry leaf diseases need to be managed to maintain the health and productivity of the strawberry bed. The following suggestions should be helpful in reducing foliar diseases.

- Choose disease resistant cultivars. The Cornell University Tree Fruit and Berry Pathology web site provides a comprehensive list of commonly used strawberry cultivars, and their known disease susceptibilities and resistances. This table can be found at: <http://www.nysaes.cornell.edu/pp/extension/tfabp/factshts/smallfr/stbapx.html>. It is important to note that

due to the presence of different races of the pathogens, strawberry cultivars rated as resistant in one location may be susceptible in another.

- Purchase only certified, disease-free plants from a reputable nursery.
- Locate the strawberry bed in full sun in well-drained soil with good air circulation.
- Reduce competition and increase air circulation by properly spacing plants and preventing weed growth by cultural or chemical methods.
- Limit nitrogen fertilizer applications to renovation time after harvest. Nitrogen fertilizer increases tender, susceptible leaf growth, encouraging disease.
- In plantings with severe disease incidence, destroy (mow, rake, and burn) all diseased strawberry debris at renovation time immediately after harvest.
- If necessary, apply fungicides to prevent strawberry leaf diseases. Consider fungicides such as Nova 40WP, Abound 2.08F, Cabrio 20EG or Pristine 38WG. To avoid fungicide resistance development, the above chemicals should be alternated with Captan 80 WDG or a fixed copper fungicide such as Champ Formula 2, Cuprofix Disperss, Kocide DF or Nu-Cop 50 DF. When using fixed copper fungicides, monitor plants and discontinue use if signs of phytotoxicity appear.

For timing and rates of fungicides to use, consult U.K. Cooperative Extension Publication ID-94, *Midwest Commercial Small Fruit and Grape Spray Guide 2008*, available at County Extension Offices statewide.

HOUSEHOLD

ANT WARS by Mike Potter

Ants are the most frequent and persistent pests encountered around homes and buildings. Besides being a nuisance, they contaminate food, build unsightly mounds on clients' property, and cause structural damage by hollowing out wood for nesting.

To most householders, all ants look pretty much the same. In truth, dozens of different species occur around homes and buildings, each having unique characteristics, which may influence the method of control. In Kentucky, the most common household-invading ants include pavement ants, carpenter ants, acrobat ants, and odorous house ants. The latter ant species has become a huge problem in recent years, causing fits to householders and pest control professionals alike. Knowing which ant(s) you have often requires the help of an entomologist or knowledgeable pest control firm. Collecting a few of the non-winged worker ants in a plastic bag or vial will help with subsequent identification.

Dealing with ants can be very frustrating. The following recommendations pertain to all common structure-invading ants in Kentucky except carpenter ants, which will be discussed in a subsequent newsletter. For additional information, see entomology publication, Ant Control for Homeowners (Entfact- 619).

THE BATTLE PLAN

The mistake most people make when trying to control ants is only spraying the ones they see. This approach usually fails because the ants seen foraging over exposed surfaces is only a small portion of the colony. Typically, there will be thousands of additional ants, including one or more egg-laying queens hidden somewhere in a nest. Eliminating queens and other colony members within nests is often the key to effective control.

Ants Nesting Indoors- Buildings contain many favorable hiding and nesting sites for ants. Preferred sites include spaces behind walls, cabinets, or appliances; behind window and door frames; or beneath floors and concrete slabs. Most of these areas are hidden, making it difficult to determine their precise location. When the location of the nest cannot be determined or are inaccessible, insecticide baits often are a good option, especially for homeowners. The advantage in using baits is that foraging ants take the insecticide back to the nest and feed it to the queen(s) and other colony members. As a result, the entire colony often is destroyed.

Most baits sold to homeowners come pre-packaged with the insecticide and food attractant confined within a plastic, child-resistant station. Some of the more effective ant baits sold in grocery, hardware and retail stores are Combat Quick Kill® Formula bait stations and Combat Ant Killing Gel; Raid Ant Bait II, and Terro® Ant Killer II.

Place the baits next to wherever ants are seen, preferably beside ant "trails" – invisible odor trails that worker ants follow between food and the nest. Do not spray other insecticides or cleaning agents around the baited locations as this will deter ants from feeding on the bait. Initially you should see an increase in the number of ants around the bait station. Do not spray them. This indicates that the ants are feeding on the bait and transporting the insecticide back to the nest. Ant activity often will subside in a matter of days as the number of ants in the colony declines. Continue to place additional baits wherever ants are seen.

Ants are rather finicky in their food preferences and may alter them throughout the year. If one bait product isn't attractive or doesn't seem to be working, try another. Optimal results usually require a sustained period of

feeding, not just a brief visitation by a few ants. Professional pest control firms have a wider selection of products to choose from, and can usually provide relief when homeowner efforts are unsuccessful. Retail baits usually will not control carpenter ants, although the Combat® Ant Killing Gel or Terro® baits may be worth a try.

Ants Nesting Outdoors- Ants noticed inside the home may actually be nesting outdoors in the yard. Try to trace the ants back to the point where they are entering from outside; this may be along a windowsill, beneath an entrance door, or where the exterior siding meets the foundation wall. Ants usually prefer to trail along lines and edges. When tracing ant trails indoors or outdoors, pay particular attention to seams and edges created by baseboards, the tack strip beneath perimeter edges of carpeting, mortar joints, foundation/siding interface, etc. Nests often will be located in the ground, marked by a mound or anthill. Other times, the nest will be concealed under stones, mulch, landscaping timbers, pavement, or beneath grass adjoining the foundation wall. Some kinds of ants prefer to nest behind exterior siding or wood trim that has been damaged by moisture. While it takes patience to locate an ant colony outdoors, results will be more permanent than if you spray only where ants are seen trailing. One way to entice ants to reveal the location of their nest(s) is to place small dabs of honey or jelly next to where ants are observed. After the ants have fed, they will head back to the nest.

When a belowground nest is discovered, the colony can often be eliminated by spraying or drenching the nest location with a liquid pyrethroid insecticide such as Spectracide Triazicide®, Ortho Home Defense Max®, or Bayer Advanced® Lawn & Garden Multi-Insect Killer. Large colonies will require greater amounts of liquid to move the insecticide throughout the network of underground galleries within the nest (using a bucket to apply the diluted insecticide is an effective method). Follow label directions for treating ant mounds, paying attention to precautions for mixing and application. Another effective and convenient way to control some species of outdoor and indoor-nesting ants is with a granular bait product, such as Combat® Ant Killing Granules. Sprinkle the bait in small amounts beside outdoor ant mounds, along pavement cracks, and other areas where ants are nesting or trailing.

Ant entry into homes can be reduced by caulking around door thresholds, windows, and openings where utility pipes and wires enter buildings. Ant entry can be further reduced by spraying one of the above-mentioned liquid insecticides around the outside perimeter of the building. Consider applying a 2-to 6-foot swath along the ground

adjacent to the foundation, and a few feet up the foundation wall.

Also treat ant trails and points of entry into the home, such as around doors and where utility pipes and wires enter from outside.

In Kentucky, spraying or applying granular insecticides to the entire yard is not recommended, and will seldom if ever, solve an ant infestation indoors. Whole-yard treatments also eliminate beneficial ants, which help to keep other damaging pests of lawns and gardens in check.

BATTLING ODOROUS HOUSE ANTS

The odorous house ant has become the most common and difficult ant species to control in Kentucky and throughout much of the United States. The ant is small (1/8-inch), darkish, and forms distinct trails along outdoor and indoor surfaces. It is often mistaken for the pavement ant, which can readily be controlled with most baits. The most accurate diagnostic difference, visible under magnification, is the absence of a noticeable “bump” (node) along the constricted area between thorax and abdomen of the odorous house ant. Pavement ants have two obvious nodes, and fine grooves or striations along the head and thorax. Pavement ants also are more likely to displace bits of soil from their typical nesting location under sidewalks, driveways and other paved areas. Odorous house ants emit what’s been described as a rotten coconut or pine scent when crushed with the finger and sniffed.

Odorous house ants will nest in almost every imaginable location. They commonly nest outdoors under pavement, stones, mulch, woodpiles, flowerpots, and house siding, foraging indoors for food and moisture. Nests also occur indoors within wall cavities, appliances, potted plants, etc., especially near sources of moisture. The nests tend to be mobile; colonies relocate fast and often in response to changes in weather and disturbance. Odorous house ant colonies usually have numerous, egg-laying queens and the primary colonies may split into smaller ones for no apparent reason. Ants foraging indoors feed on all manner of foods, ranging from the trash can to the cereal bowl.

This particular ant is VERY DIFFICULT to control, especially by householders. The better baits to try are often syrupy ones, such as Combat® Ant Killing Gel or Terro® Ant Killer II. As with all ants, activity indoors can sometimes be reduced by removing ready access to food and moisture (water leaks, spillage, trashcans, pet food dishes, etc). Temporary relief can sometimes be had by wiping away the invisible odor trails with a kitchen cleanser or mild detergent. Do not disturb foraging trails, however, if you are using bait. Caulking obvious ant entry

points also may be helpful, along with trimming back shrubs and limbs touching the building. In nature, this ant feeds extensively on plant nectar and honeydew excreted by plant-sucking insects such as aphids.

When odorous house ants are the problem, homeowners may be better off calling a professional, although they, too, are challenged by this ant. Some products used by professionals (e.g. Termidor®/Phantom® sprays, certain baits) can be effective, but are not available to the public.

SWARMING HONEY BEES

by Lee Townsend

Years ago honey bee swarms were a relatively common spring occurrence; they are natural events in the lives of healthy, flourishing colonies. Unfortunately, the tremendous reduction in US honey bee populations over the years, associated with parasitic mites and other factors, has made swarms “rare”. A strong nectar flow associated with this rainy spring has produced an increase in swarming activity and raises questions on how to deal with bee swarms.

Swarming, a means of colony reproduction, can result from crowding in a nesting space that has become too small for the numbers of bees present. Production of a new queen within the colony can prompt the old queen to leave with about half of the bees. The departing bees engorge themselves with honey, carrying along enough food to allow the new colony to become established and productive.

The swarm flies as a cloud of workers and a queen. It will settle and form a cluster that hangs from a tree limb, bush, or other convenient site. A chemical signal from the queen keeps them together during the move. Most of the workers hang together to protect the queen while some search for a suitable nesting cavity – usually, the void in a hollow tree but sometimes in a building. Once a site is found, usually in less than 24 hours, the swarm takes flight and most of the bees disappear. Abandoned stragglers may remain for a few days but cannot survive long or start a colony on their own.

Swarming honey bees usually are docile because they are full of honey and have neither a food store nor developing brood to protect. Their defensive instinct is on hold unless they are disturbed so the chances of being stung are low. Here are some tips to follow if a swarm lands on your property:

- Do not disturb it and keep people, children and pets away.
- If the swarm is safely “out of the way”, just wait – they will fly away on their own.

- If the swarm poses a real risk to people or animals, you may find a local beekeeper who will remove it.

DIAGNOSTIC LAB-HIGHLIGHTS

by Julie Beale and Paul Bachi

During the past week, the PDDL received samples of wheat streak mosaic virus and take all on wheat; Sclerotinia collar rot, target spot, and Pythium root rot on tobacco seedlings.

On fruits, we diagnosed anthracnose and Phomopsis cane and leaf spot on grape; leaf curl on peach; fire blight, cedar-apple rust, frog-eye leaf spot, and burr knot on apple.

On ornamentals and turf, we have seen Cladosporium (red spot) on peony; rust on hollyhock; four-lined plant bug injury on oregano; Pythium root rot and bacterial spot (Xanthomonas) on greenhouse hydrangea; Coniothyrium canker and sawfly injury on rose; Phomopsis twig blight on juniper; Volutella canker on boxwood; scab on crabapple; fireblight on serviceberry and pear, as well as Pseudomonas blossom blight on pear; anthracnose on oak and maple; winter injury on holly; Rhizosphaera needle cast on spruce; Phyllosticta leaf blotch on witch hazel; Pythium root dysfunction on bentgrass; and red thread on fescue.

INSECT TRAP COUNTS

May 16-23, 2008

► Princeton, KY

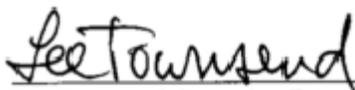
Black cutworm	13
True armyworm.....	46
Corn earworm.....	0
European corn borer	0
Southwestern corn borer	0
Fall armyworm.....	0

► Lexington, KY

Black cutworm	17
True armyworm.....	389
Corn earworm.....	0
European corn borer	0
Southwestern corn borer	0
Fall armyworm.....	0

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/>


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.

