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University of Kentucky – College of Agriculture

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KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • WEED SCIENCE
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WATCH FOR:
COLORADO POTATO BEETLE ADULTS leaving overwintering sites and moving to potatoes and related plants; CODLING MOTH flight begins; almost time to control PINE BARK ADELGIDS, a follow-up treatment may be needed in July; SLUG activity increases; MAPLE PETIOLE BORERS may cause leaf drop of maples; EARTHWORM castings in lawns; EUROPEAN PINE SAWFLY larvae may be found feeding on conifers; GIANT BARK APHIDS on oaks and other shade trees; feeding by SASSAFRAS WEEVILS on magnolia, poplars, tuliptrees and sassafras; SPRUCE SPIDER MITES can cause yellowing of spruce, hemlock, arborvitae, and other hosts.

ARMYWORMS

ARMYWORM MOTH CAPTURE REACHES RECORD NUMBERS
by Doug Johnson

Capture of armyworm (aka "True" armyworm) moths, in the UK-IPM pheromone trap system have set record levels. For the week ending Friday 25 April 2008 capture of moths in the Princeton trap increased to 600 moths / trap-week. This is a larger peak than in any first generation flight since we have been keeping records, and a substantially larger number than in the outbreaks years of 2001 and 2006.

Capture in the UK-IPM traps in Lexington for the same week has also drastically increased. In fact, the increase over last week (Apr. 18) is much larger in Lexington (27 to 660 moths / trap-week) than in Princeton (322 to 600 moths / trap-week), though Princeton has the larger total number captured over time.

It is difficult to know what this means for central Kentucky as we do not have an historic set of data. We only have last year with which to compare. Certainly the current 2008 captures are much larger than the first generation in 2007.

See the current year counts displayed graphically at: http://www.uky.edu/Ag/IPMPrinceton/counts/taw/tawgraph.htm

I can not tell you if the moth flight will result in a large population of caterpillars. There are many other factors, particularly disease, predation and parasitism that impact how well the eggs and caterpillars will survive. Nevertheless, I do think that we are at an increased risk of economically important infestations compared to most years. Certainly you should be scouting your grass crops (small grains, corn, grass hay & pastures).

We can use a degree-day model to estimate when the caterpillars resulting from these moths might appear. Calculation on Monday 28 April 28, 2008, and using the captures for the week of April 19-25, 2008 to represent the peak flight for the first generation this year then we could expect to see peak caterpillar activity for the first generation to occur around 20 May in Princeton and 25 May in Lexington. Certainly caterpillars will be present before this date, because moths were flying before this last week. The moths that flew the previous week (See KPN 1158) should be present by May 17 in Princeton and May 23 in Lexington. Remember these are only estimates. The model uses 2008 temperatures for those dates that have

passed, but uses the average temperature for the past five years, for future dates. Thus the estimates should get better when we use more data from 2008. Also, the traps are only sampled weekly so we can come no closer than + / - one week.

If, after having read this, if you find infestations of armyworms, even if you do not have to treat, I would appreciate your notifying me at doug.johnson@uky.edu. Thanks!

TOBACCO

DISEASE UPDATE
by Kenny Seebold

As of April 28, 2008, blue mold has been confirmed in western Cuba (Pinar del Rio) and north-central Florida. Conditions were not favorable last week for transport of inoculum from the two known sources into our production area. The threat to production areas in KY is low at this time, according to the North American Plant Disease Forecast Center (www.ces.ncsu.edu/depts/pp/bluemold).

Reports of Pythium root rot, Rhizoctonia damping-off, and Sclerotinia collar rot began to trickle in last week. Please urge your producers to check their float beds regularly, and follow good management practices. Proper control of temperature, adequate ventilation, and maintenance of fertility within recommended ranges will go a long way in keeping many problems at bay. Also, as mentioned in previous articles, timely applications of Terramaster and mancozeb (Dithane DF or Manzate Pro-Stick) will aid in control of Pythium root rot as well as foliar/stem diseases (Rhizoctonia damping-off, target spot, and blue mold), respectively. Refer to the "2008 KY Tobacco Production Guide", publication ID-160, for more information.

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.

TURN IN COVER CROPS EARLY ENOUGH TO ALLOW FOR ADEQUATE BREAKDOWN OF ORGANIC MATTER
by Kenny Seebold and Bob Pearce

The unusually wet and cool conditions that have gripped most of Kentucky this spring has caused many producers to fall behind with preparation of tobacco ground. As we move closer to setting time, keep in mind that cover crops need to be worked in early enough to allow for organic matter to decompose thoroughly. Sore-shin, caused by *Rhizoctonia solani*, and black root rot, caused by *Thielaviopsis basicola*, can be problems in fields with high levels of partially decomposed organic matter. Heavily manured fields may also have higher severity of black root rot. The combination of undecomposed organic material and high soil moisture could lead to problems with damping-off caused by *Pythium* spp. and sore-shin. Application of Ridomil Gold at 1 pt/A prior to transplanting can help suppress Pythium damping-off; however, the need for this type of application is usually warranted only if the producer is concerned with black shank as well. The best defense against Pythium damping-off is proper land preparation and setting plants into soils that are not excessively wet. The combination of rapidly decomposing organic matter and high soil moisture can also result in a condition known as "organic matter toxicity" and can lead to severe root injury and stunted growth. The decomposition of the fresh organic matter consumes oxygen in the root zone. This results in conditions favorable for the accumulation of nitrite, a form of nitrogen not normally found in the soil in high concentrations. Nitrite is quite toxic to plants and inhibits the root tips of tobacco. After the organic matter has been decomposed the oxygen levels return to normal and the nitrite is quickly converted to nitrate that the plant can use. The ultimate solution for all these types of problems is to allow 3-4 weeks to elapse between initial field preparation and setting.

CORN

ARMYWORMS IN CORN?
By Ric Bessin

As corn begins to emerge, growers will soon need to be scouting of 'true' armyworms as there have been very high trap catch levels last week in central and western KY. There will be a lag time between these high trap catches and the emergence of the larvae in small grains, pastures and corn. For that reason growers need to monitor their corn throughout the month of May. We have had return of cool conditions which tend to favor true armyworm and slowed corn emergence and growth.

When scouting for armyworm, watch 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 watch 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.

WHEAT

ARMYWORMS IN WHEAT
by Doug Johnson

Large captures of armyworm moths in UK-IPM traps could indicate a larger than usual population of armyworm caterpillars in our small grains. Armyworm is often found in small grains but is rarely an economic problem. They often appear too late in the season, and feed only on lower leaves, which does little harm. On occasion, however, they can be a problem.

Armyworm caterpillars (See: Armyworms in Small Grains Entfact- 111) could appear from late April to late May depending upon temperature. These insect do very well in wet, cool conditions. They are most often found in luxuriant or lodged vegetation in low wet areas.

The larvae (caterpillars) are greenish brown with a narrow, stripe down the middle of the back and two orange stripes along each side. The yellowish head is honeycombed with dark lines. Newly hatched armyworms are very small but can grow to a length of 1 ½ inches.

Armyworms are primarily leaf feeders. Nevertheless, they will feed on awns and tender kernels and may clip off heads, particularly when very large populations are present. Infestations are more common in barley than in wheat. They will also feed on oats, rye and forage grasses.

Scout your fields at least once each week during this period. Sample the entire field; check five locations per 50 acres of field size. See:
IPM-4 : Kentucky Integrated Crop Management Manual for Small Grains (1.330K)

First, check field margins and lodged grain. If armyworms are present begin surveying in the standing grain. Armyworms feed during late afternoon, night and early morning. They may be on the ground when the sun is bright.

Enter at least 30 paces into the field before sampling. Pick the sample spots randomly. Look at the leaves for signs of chewing damage. Armyworms feed form the edge of the leaf inward. Examine the ground for dark fecal pellets. During the day they will hide under surface litter or soil.

Record the number of worms in a four square foot area. Note the length of the worms. The threshold for armyworm in wheat is 16, ½- ¾ ” long armyworm per four square feet.

Armyworms are usually easy to control. The really important decision is whether or not to apply a control. If an insecticide is needed see 2008 Insect Management Recommendations for Field Crops and Livestock at: http://pest.ca.uky.edu/EXT/Recs/welcomerecs.html.

SHADE TREES & ORNAMENTALS

BARK CRACKING OF WOODY PLANT TRUNKS AND STEMS
by John Hartman

This spring, some woody trees and shrubs are showing dieback, reduced growth, and death associated with stem and trunk cracks. The problem is not necessarily confined to one species, but young, or recently transplanted landscape and nursery plants seem to be more affected than mature specimens. All indications are that these

woody plants are still affected by the 2007 spring freeze and summer-long drought. Bark cracking and lifting may be more noticeable as parts of the stem or trunk cambium that are still alive produce callus growth and push the dead bark away from the stem.

EXCLUDE BLACK ROOT ROT FROM THE LANDSCAPE THIS SPRING
by John Hartman

Black root rot disease, caused by the fungus *Thielaviopsis basicola*, has for many years been identified as a cause of poor growth and decline of woody and herbaceous plants in Kentucky landscapes. The black root rot fungus kills rootlets and causes black lesions on the roots of many plants. Although root systems are not totally destroyed, enough damage is done to reduce uptake of water and mineral elements in infected plants and hence affect growth and color.

Among woody plants, hollies are most often infected in the nursery and landscape. Meserve or "blue" hollies which show thinning of foliage, gradual branch dieback and plant decline when roots are infected with the fungus have been particularly susceptible. Similarly, Japanese hollies and inkberries are highly susceptible. Even American hollies show thinning of foliage in some landscapes due to black root rot. Other woody landscape plants known to be susceptible to black root rot include black locust, catalpa, elm, and lilac.

Many annual and perennial herbaceaous plants are susceptible to black root rot. This disease has been appearing on bedding plant specimens in the Plant Disease Diagnostic Laboratory more frequently in recent years, especially in spring, and often again in fall. Susceptible herbaceous plants include begonia, dianthus, gaillardia, geranium, pansy, petunia, phlox, primula, snapdragon, sweet pea, verbena, viola and many others. Symptoms in the top of the plant may not appear until the plant is placed under stress and then plants may show yellowing, stunting, dead areas on the leaves, and occasionally wilting or death. Plants provided with excellent growing conditions (temperature, water, drainage, fertility), may show reduced or delayed symptoms. The fungus survives for many years in flower beds due to production of highly resistant chlamydospores. Some garden vegetables such as onion and bean are also susceptible to black root rot.

Landscapers and gardeners will want to inspect all bedding plants and containerized woody plants for symptoms of black root rot. Knock the plants out of the pots and examine the roots for blackened root tips or black lesions. Suspicious plants should be excluded from the garden to avoid contamination of the landscape bed. Once the fungus becomes established in the soil, it can last for a very long time and infect susceptible plants several years later. There is no effective chemical drench that will cure the disease in the landscape. Replacements for hollies in the landscape could include shrubs such as barberry, boxwood, cotoneaster, euonymus, juniper, mountain laurel, Oregon grapeholly, spirea, viburnum, and others.

CICADA EMERGENCE
by Lee Townsend

Periodical cicadas are near the surface in many areas and soil temperatures have reached levels (64 F) where emergence is eminent. On emergence day the nymphs will leave their underground burrows around sunset and climb most any vertical surface to molt to the adult stage. New adults will be mostly white but their bodies will darken as the exoskeleton hardens. Cicadas with deformed wings may be seen under crowded conditions or where they cannot find a good place to hang during wing expansion. Other individuals may not be able to emerge completely from the nymphal exoskeleton. Males will begin to call and form groups that chorus as they attract females for mating. Adults will use their piercing sucking mouthparts to feed on plant sap.

TURF

GROUND-NESTING BEES
by Lee Townsend

There are many important pollinating bees in addition to the familiar honey bee. They have a variety of nesting habits including several species of ground-nesting bees that can be seen entering and leaving pencil- diameter holes in turf. These entrances are often surrounded by piles of excavated soil. Many of these bees live in individual tunnels where they raise their young but over time, large communities can develop where conditions are favorable and nearby flowers are abundant.

These small, hairy bees tunnel into well-drained soils where grass cover is thin. Females may share entrances but dig separate tunnels with side branches for brood rearing. These bees collect pollen and nectar and bring them back to the nest to feed their larvae. They do not harm the turf.

Ground bees can sting but generally are not aggressive and do not defend their nest area like honey bees. However, they pose a potential problem in children's play areas. In these cases, Sevin dust or other insecticides labeled for turf can be used to treat the entrances.

DIAGNOSTIC LAB-HIGHLIGHTS
by Julie Beale and Paul Bachi

During the past week, the PDDL received samples of Sclerotinia crown and stem rot on alfalfa; wheat spindle streak mosaic virus, common bunt, Septoria leaf blotch, and cold injury on wheat; and Rhizoctonia damping off and temperature injury (both heat and cold injury) on tobacco seedlings.

On fruit and vegetable samples, we diagnosed Mycosphaerella leaf spot on strawberry; crown gall on grape; scab and leaf curl on peach; black knot on plum; and Sclerotinia stem rot on tomato.

On ornamentals, we diagnosed black root rot on holly and Phytophthora root rot on spruce.

INSECT TRAP COUNTS
April 18-25, 2008

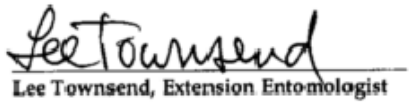
►***Princeton, KY***

Black cutworm	25
True armyworm	600
Corn earworm	0
European corn borer	0
Southwestern corn borer	0
Fall armyworm	0

►***Lexington, KY***

Black cutworm	1
True armyworm	660
Corn earworm	0
European corn borer	1
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

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