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KENTUCKY PEST NEWS

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Armyworm Flight 2009: No Consistent Story; but there will be Caterpillars!

By Douglas Johnson

Early captures of armyworm moths appeared to indicate a larger than normal population for 2009. However, after several weeks of monitoring it appears that the capture counts do not indicate an obvious major outbreak situation. This is particularly true of the Princeton, KY trap. We do not yet have enough historic data to know how to interpret the Lexington trap data. However, this does NOT mean that there will not be any problems. [Please see: How to Use Insect Graphs from the UK-IPM Trap Lines at: http://www.uky.edu/Ag/kpn/kpn_09/pn_090324.html to review how to use the trap data.]

There will be armyworm caterpillars in susceptible hosts (corn, small grains, grass forages), as there are every year. In fact by applying the day degree model using the very first moth captures we find that caterpillars should already be appearing in both western and central Kentucky. These will be among the earliest of caterpillars. Remember if you are in a location warmer than where our traps are located then caterpillars will appear earlier. If you are in a cooler location they will appear later. I have received one report of armyworm caterpillars on the heads of wheat (though I have not seen this myself) from a southern Pennyrile area county. Armyworm caterpillars are greenish-brown with stripes down the back and sides. They feed and develop through six stages, which occur over about three weeks. When mature they are 1 1/6 to 1 1/3 in. long. Caterpillars may be difficult to find in the middle of the day as they tend to avoid direct

sunlight. Look for damage on plant leaves then search the ground near the base of the plants. While moth captures in our traps do not indicate a major outbreak year, we certainly have experienced weather that selects for the survival of the caterpillars. Typically armyworm populations do better in cool wet weather. At least in western Kentucky we have certainly seen such weather. Historically, grass forages and corn suffer the most damage from armyworm, but small grains are certainly at risk, particularly if the caterpillars are feeding on the heads.

Scouting techniques and thresholds are available in our IPM Manuals available at: http://www.uky.edu/Ag/IPM/manuals.htm

If needed, insecticide recommendations are available in our Insect Management Recommendations for field crops available at: http://pest.ca.uky.edu/EXT/Recs/welcomerecs.html

These publications may also be available at your local County Extension office. Even though our trap counts do not suggest a big problem, the weather patterns certainly imply that scouting susceptible hosts is still important. I request that anyone that finds an armyworm infestation that requires treatment or should have been treated, please let me know at: doug.johnson@uky.edu.

LAWN & TURF

Clover Mites
By Lee Townsend

Clover mites are accidental invaders that can be a temporary nuisance during the early spring. These very small, reddish brown creatures appear only as moving dark spots to the naked eye. Sheer numbers, plus the resulting red-brown stain left behind if they are crushed, make them unwelcome visitors. Clover mites are not blood feeders and will not harm people or pets, nor will they infest household products. Once inside a home or building they will soon die.

Clover mites feed on clover and grasses. They can be especially abundant in the heavy, succulent growth of well-fertilized lawns. They usually enter a home around windows or doors so they are usually seen crawling along sills or thresholds.

A soapy rag or wet sponge can be used to clean mites off of surfaces. Wipe carefully to avoid crushing the mites and causing stains. The crevice tool of a vacuum cleaner may also be used to pick up mites. Rely on non-chemical control indoors. Do not apply insecticides to kitchen counters or other interior surfaces.

There is an increased potential for invading structures when grass extends up to the foundation. A plant bed or open area will provide a barrier that will stop many mites and provide a long term solution to persistent problems. Avoid overfertilizing lawns. This creates situations that are ideal for mites to increase to tremendous numbers.

A barrier spray of a pyrethroid insecticide (e.g., Spectracide Bug Stop(R), Enforcer Overnight Pest Control Concentrate) may reduce movement of the mites from grasses to patios, decks, or house walls. Use a compressed air or hose end sprayer to treat at the base of all exterior doors, garage and crawl space entrances, around foundation vents and utility openings, and up underneath siding. It may also be useful to treat around the outside perimeter of the foundation in a 2- to 6- foot-wide band along the ground, and 2 to 3 feet up the foundation wall. Follow label directions.

Take All on Putting Greens
By Paul Vincelli

Last week, we diagnosed several cases of take all patch on golf course putting greens. Take all is caused by a soil-borne root-infecting fungus that attacks during cool, moist periods of spring and fall (Figure 1). Roots develop a brownish color and become deteriorated. Aboveground, circular to irregular patches develop in which the turf becomes wilted and thins out (Figure 2). Patches typically are between a half a foot and 2-3 feet in size, and sometimes have an area of healthy creeping bentgrass in the middle. The disease only develops on creeping bentgrass. It is quite common to see healthy *Poa annua* interspersed among the stressed and dying creeping bentgrass (Figure 3).

Management

Avoid using topdressings with a pH above 6.0, which can enhance symptoms. Maintain adequate levels of potash and phosphate. Reduce thatch, and aerify (but curtail these activities if symptoms are present to avoid excessive stress on the grass). Maintain soil pH between 5.5 and 6.0. Use ammonium sulfate during spring and autumn. Substitute another nitrogen source with less burn potential during summer, but minimize the use of nitrate forms of nitrogen since this can enhance the disease. Wash ammonium fertilizers off leaves if applied when temperatures will exceed 80°F to prevent foliar burn. Maintain adequate nitrogen. Remove affected patches and re-sod.

On sites with a low manganese level and a history of take-all patch, apply 2 lb soluble manganese per acre as a foliar fertilizer in the spring, avoiding summertime applications because of phytotoxicity risk. (For example, apply 5.5 lb manganese sulfate per acre to achieve 2 lb manganese per acre.) Rates as high as 6 lb manganese per acre may be needed on soils deficient in manganese. Applications of manganese sulfate should be applied in high spray volumes sufficient to penetrate the thatch since a low spray volume could cause the material to be chemically bound in the foliage and removed with clippings. There are some high-manganese greens-grade fertilizers on the market that would supply as much as 6.5 lb of manganese per acre, and these may also be useful to control take-all. However, most of the specialty greens fertilizers on the market contain very low amounts of manganese, and it would take perhaps a dozen applications to supply the amount of manganese necessary to reduce take-all pressure.

For sites with a history of the disease, fungicides applied by sprayer should be applied in at least 5 gal water/1000 sq ft or followed immediately (before they dry) with 0.125 to 0.25 inch of irrigation in order to wash fungicide into the root zone. Granular fungicides should be applied when the turf is dry and then watered in. Several studies suggest that, for outbreaks that develop during springtime, the most important time to treat preventively with fungicide is from mid-September into early November. For conditions of severe disease pressure, several preventive applications at 21- to 28-day intervals beginning in early April are often also necessary. For sites where symptoms appear or worsen during summer, studies indicate that treatments are often needed in springtime; consider a fungicide application when soil temperature at a 2-inch depth averaged over five days exceeds 55ºF.

Curative applications of effective fungicides in late spring and early summer have been shown to speed turf recovery. See product labels for specifics on application timing. High labeled rates have been needed for best results in several studies.

Heritage and Insignia are among the best products for controlling take all, though neither will provide consistently complete control. Banner, Bayleton, and Rubigan are also good in a number of experiments, though their performance in research trials has been a little more erratic than Heritage and Insignia.

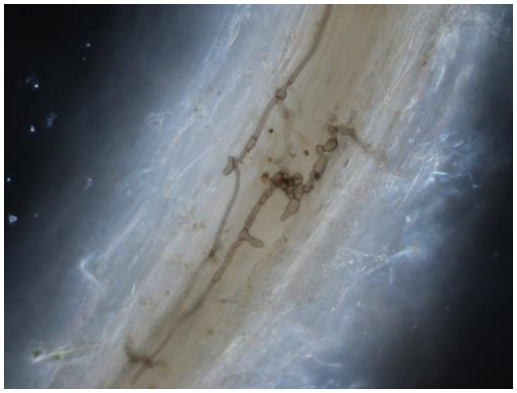

Figure 1. Brown filamentous growth of the take-all fungus on and in a root of creeping bentgrass.

Figure 2. Patch of take all on creeping bentgrass putting green.

Figure 3. Patches of *Poa annua* (indicated by red arrows, note inflorescences and lighter green color) growing within patch of take all on creeping bentgrass.

SHADE TREES & ORNAMENTALS

Eastern Tent Caterpillar Status
By Lee Townsend

The 2009 eastern tent caterpillar population is maturing; according to a predictive model developed by UK entomology researchers, about 70% of them should now be in their final larval stage – about 2.25 inches long. This stage will last several days and includes final feeding and wandering during a "restless" period before they settle down, spin a cocoon, and pupate. About 30% of the caterpillars are still behind that in development (1.25 to 2.00 inch range); they will not become wanderers for some time yet. Expect to see large caterpillars for about two more weeks.

Control of wandering caterpillars is not easy. Their large size means a greater amount of insecticide is needed to kill them compared to smaller stages; they must be sprayed directly so that the insecticide can be absorbed into the body. The setae (hairs) on the body make thorough wetting more difficult. Dry insecticide residues on grass that were applied to kill wandering caterpillars have not been very effective. Wanderers are not feeding so the contact is only with the body and they can move thru a treated area fairly quickly. Even if they receive a toxic dose, there may not be a visible reaction for some time so caterpillars may crawl away seemingly unaffected.

Wandering caterpillars will orient to tall dark objects, fence posts are a common gathering places for them. Horse owners should be careful to check for caterpillars at feeders and waterers. Accumulations can be brushed into soapy water and killed.

FRUIT CROPS

Grape Disease Management during Early Bloom
By John Hartman

Grapes in Kentucky have progressed nearly to bloom. The stages of growth just before bloom and at early bloom are among the most important times to control powdery mildew, black rot, downy mildew, Botrytis and Phomopsis fruit infections.

Powdery mildew. If powdery mildew disease was a problem in the vineyard last year (Figure 4), expect high disease pressure for this year. Berries are extremely susceptible to infections initiated between the immediate prebloom period and fruit set and then become highly resistant to immune about 2-4 weeks later. Failure to control even inconspicuous powdery mildew infections on the berries can increase the severity of Botrytis and sour rot at harvest, and can promote the growth of wine-spoilage microorganisms such as *Brettanomyces* on the fruit. Powdery mildew thrives under cloudy, humid conditions and the fungus is sensitive to direct sunlight, so in addition

Figure 4. Grape powdery mildew on fruit (Beale photo).

to fungicides, training vines to provide an open canopy is helpful for disease management.

Black rot. The causal fungus survives on infected berries from last year (Figure 5). To reduce the threat of early infections, it is very important to be sure that all fruit mummies have been removed from the vineyard, not only from the vines but also from the soil surface. Because it is favored by warm, wet weather, black rot is especially devastating in Kentucky. Fungicide applications begun at early bloom are important for managing this disease.

Figure 5. Grape black rot with mummies (Clemson University photo).

Downy mildew. If this disease was present in the vineyard last year (Figure 6), expect inoculum from the causal fungus to be present in the vineyard soil. Downy mildew is favored by mild, moist weather and rainfall is needed to activate the fungus and initiate primary infections. Downy mildew reproduces rapidly so the disease can be explosive if it is allowed to get a start. Fungicide sprays begun earlier this season and continuing for the next few weeks are important for disease management.

Figure 6. Grape berries with downy mildew (APS photo).

Phomopsis cane and leaf spot. This disease was described at length in last week's Kentucky Pest News. Continued treatments are needed to continue to manage the disease on the fruits.

Botrytis bunch rot. Treatments for the flower-infecting stage of the Botrytis bunch rot fungus will need to begin now.

Disease management options. Grape growers need to take into account the relative threat each disease poses for the vineyard in 2009. Knowing how severe the disease was in 2008 and knowing where the source of disease is in the vineyard will be helpful for making disease management decisions. Notice that many of the critical pre-bloom and early bloom treatments are aimed at preventing fruit infections. Growers should consult U.K. Cooperative Extension Publication ID-92 for best advice of fungicides to use and timing. Understand the strengths and limitations of each fungicide for the several diseases being managed at this critical time in the vineyard. For example:

- Use of Quintec plus mancozeb at this time will help with powdery mildew (Quintec) and black rot, downy mildew, Phomopsis, and Botrytis (mancozeb).
- Use of Pristine now would provide powdery mildew, downy mildew, and black rot control plus protection against Botrytis.
- Rally plus captan will provide benefits against powdery midew, and black rot (Rally) and downy mildew and Phomopsis (captan).
- Abound plus sulfur prevents powdery mildew (sulfur), black rot, and downy mildew (Abound).
- Rubigan plus mancozeb prevent powdery mildew and black rot (Rubigan) plus downy mildew and Phomopsis (mancozeb).
- Be aware that products containing mancozeb will be expensive and in short supply for this growing season.

This is one of the most important grape growth stages for vineyard disease management treatments. Good decisions made now will impact the success of the 2009 Kentucky grape crop. Some of the material for this newsletter was adapted from an article, Grape Disease Control 2009 written by Wayne Wilcox of Cornell University.

SOYBEAN

Soybean Rust Update
By Don Hershman

This is the first year that soybean rust (SBR) has successfully overwintered in Alabama, Georgia and Louisiana, without a break in detection. Weather conditions have been favorable to highly favorable for SBR development in those states, plus Arkansas, Florida, and Mississippi for much of this spring. There has been some new SBR activity in Florida and disease incidence is increasing on Kudzu in positive sites in Louisiana, but there has been no spread to new Kudzu patches or to soybean to date. Specialists in many southern states are expecting SBR to begin spreading into new areas soon, provided conditions remain favorable for disease development.

Delayed planting of soybean in many states, due to wet conditions, may push crop maturity back a few weeks. This, plus the potential for earlier disease development due to successful overwintering in the mid-Gulf region, could increase the potential for SBR to cause more crop damage then we have seen to date. Of course, if conditions turn drier, this increased disease potential may translate into nothing. We all hope this is the case. In any event, it would be prudent to keep tabs on this developing situation.

Below is the current range of SBR in the US.

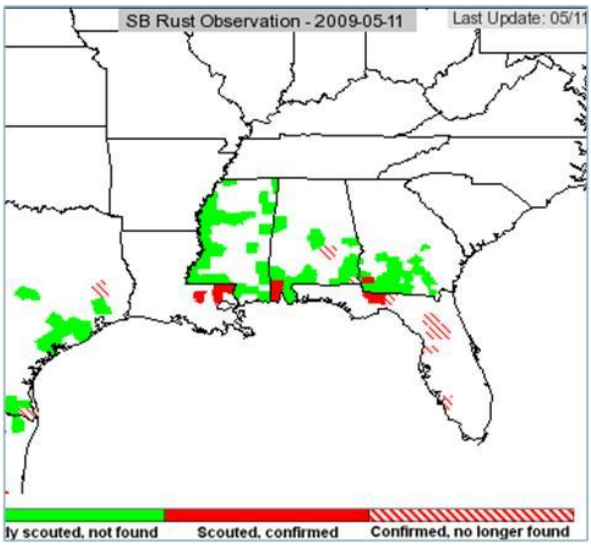

Figure 7. Current range of SBR in the U.S.

WHEAT

Wheat Disease Update
By Don Hershman

Up to this point in the season, wheat diseases have been relatively minimal. Early-season soil-borne viruses were not a significant problem, and all indications are that arthropod (insect/mite) – vectored viruses will also be minor players this year. Other foliar fungal diseases, such as those that make up the leaf blotch complex; leaf, stripe, and stem rust; and powdery mildew have also been confined to the lower canopy or can barely be found in many fields. I attribute the minimal fungal disease picture to cooler than normal conditions this spring. In general, the excellent production practices of Kentucky's wheat producers (planting date, fertility, variety selection, etc.) have also kept disease pressure low.

I believe the recent block of rain will change everything for the worst. I already see indications of this in my plots at Princeton. As we all know, it started to rain the last couple days of April and it has been wet, more or less, ever since. A few very windy days before the rain set in and then the rain, has significantly limited the number of acres that were treated with a fungicide. Fortunately, some farmers were able to arrange for aerial applications in some fields, but ground applications were greatly reduced compared to normal. The bottom line is that many fields are completely unprotected, and many that did get sprayed were sprayed earlier or later than is desired for maximum protection from fungal diseases.

To make matters worse, disease models indicated that the Fusarium head blight (FHB; head scab) risk was high across most of the state during the wet period. Most wheat fields in the state were in some stage of flowering during the wet period. Flowering is the stage when wheat is most susceptible to infection by the fungus that causes FHB, *Fusarium graminearum*. So connecting the dots: moderate to high FHB risk (spore production)……limited fungicide applications….highly susceptible crop stage (flowering)…..conditions favoring spore release and infection (wet, cloudy, humid)…..and it is easy to see how FHB could be a serious problem this

year, even in treated fields. I say even in treated fields, because it is well known that even the best foliar fungicides provide only suppression of FHB, not true control. When disease pressure is high, fungicides may help, but yield and grain quality can still be seriously impacted.

Over the last couple of days, I have received numerous queries asking if I thought spraying wheat that has finished flowering should be considered. My response was (and is) that no fungicides are labeled for applications this late and even if they were, they would not do much good. Fungicides targeted at FHB must be applied BEFORE infection occurs to be of any value; they do not have post-infection activity. Thus, if heads of non-sprayed wheat were infected by *F. graminearum* during the recent rainy weather, applications made now would not help significantly. Fungicides would most certainly afford some control of other fungal diseases, but if the crop is past flowering, I do not believe they can develop fast enough to severely impact yield. That is, they would have to reach damaging levels before the crop reaches the soft dough stage, and I do not believe this will happen.

The situation is different for the small number of fields that are still flowering. As long as the label restrictions can be met, there may still be some value in spraying crops that are at full bloom or earlier.

We will know the full extent of FHB damage in Kentucky by the end of May.

CORN

A Wet Spring, Delayed Planting and Corn Borers
By Ric Bessin

The wet spring of 2009 has delayed corn planting in many corn fields around Kentucky. While growers pray for more favorable planting weather, the clock is ticking. Research has shown that yield potential may begin to drop when corn is planted after May 15. Additionally, there is also an increased risk of insect attack due to southwestern and European corn borer. Recent research at the UK substation in Princeton has shown that when corn is planted early or on time, the risk of losses due to southwestern corn borer is very low. However, when corn is planted after May 10 in the western half of the state, there is a significant risk of losses due to this pest. The later the planting date, the larger the potential risk.

Corn planted before mid-May is still attacked by southwestern and European corn borer, but will generally escape the worst of the damage. Late planted corn is still in the field when the southwestern corn borer begins to girdle corn plants in September. This is the most serious damage caused by southwestern corn borer. Larvae girdle the stalk by chewing a complete or partial internal groove around the stalk near the base. This leaves only a thin outer layer of the stalk for support. These stalks fall to the ground with only a mild wind.

Growers planting corn after May 15 should have a plan to manage corn borers if they appear late in the season in their fields. Early harvest is one option. Early harvest reduces the exposure to stalk girdling in September. Shorter maturing hybrids and grain drying facilitate early harvest. Late-planted fields should also be scouted for corn borers in late July and August. There are several insecticides that are effective against this pest.

Bt corn offers corn producers a practical control for southwestern corn borer with late planted corn. While Bt corn was originally developed for European corn borer control, the corn borer hybrids also provide excellent southwestern corn borer protection as well as protection from some other damaging Lepidoptera. The stacked hybrids will also provide excellent corn borer control.

VEGETABLES

Early Season Vegetable Insect Management
By Ric Bessin

Early in the season it is important to get the vegetable seedlings and transplants off to a good start. It's been a wet spring and many feel rushed to get plants into the field as fast as possible, but we shouldn't forget about early season pests in our haste. There are a few early season insects that need to be managed to ensure plant establishment and healthy stands.

Cole crops (Cabbage, Broccoli, Cauliflower)
Striped flea beetles, imported cabbageworm and diamondback moth larvae are the pests that attack the spring crop. With flea beetles on seedling plants, less than 4 to 5 true leaves, use a threshold of an average of two beetles per plant when deciding whether or not to spray. A threshold of 15 percent infested plants can be used with worms until either head-fill or crown formation, then the threshold drops to 5 percent infested plants. While the type of mixture of worms it is not important when deciding if to spray, the types of worms will determine which insecticides are used.

Sweet Corn
Corn flea beetles and cutworms are the two primary pests that will attack seedling corn. Use 3 percent cut plants with cutworms actively feeding as the guideline for treating cutworms. Flea beetles can transmit the bacterium that causes Stewart's Wilt, so wilt-resistant cultivars may be needed in years following mild winters. Otherwise the threshold for direct feeding by corn flea beetles is 50 percent of the plants with leaf scars and some leaves turning white.

Tomatoes and Peppers
Tobacco and potato flea beetles will attack both tomato and pepper plants. Usually, the plants will quickly outgrow moderate damage. Occasionally, serious damage can occur to plants less than six inches. Use 4 or more beetles per plant and plants less than 6 inches as the guideline for treatment. Colorado potato beetle can also do serious damage to tomato plants less than 8 inches. Use 10 beetles per 20 plants as the guideline for treatment when the plants are less than 8 inches.

Eggplant and Potato
As with tomato, flea beetles and Colorado potato beetle are serious early season pests of potato and eggplant. Use the same threshold for tomatoes above. Resistance to insecticides continues to be a serious problem for Colorado potato beetle. Because of this, producers should not use insecticides with the same mode of action for consecutive generations of this insect. Often local populations of this insect may be resistant to one group of insecticides, and in other areas they may be resistant to others. For this reason, what works well in one county may not work at all in another.

Squashes, Cucumbers and Melons
Striped and spotted cucumber beetles can attack cucurbit crops anytime after seedling or transplanting. Cucumber beetles also transmit the bacterium that causes bacterial wilt. For this reason, cucurbit crops must be treated for cucumber beetles as soon as they are planted. With bacterial wilt susceptible crops, cucumber beetles need to be effectively controlled through the start of flowering. Keep in mind that cucurbits are insect-pollinated, so measures need to be taken to control the beetles and avoid hurting pollinators. One method to avoid injuring pollinators during bloom is to spray in the early evening after pollinators have quit. The squash and pumpkin flowers that are open will be closed the next day and new blooms free of insecticide on the inner surface will be open the following day.

The other pest of cucurbits is the squash bug. Squash bugs attack cucurbits in early June and feed with piercing sucking mouth parts. They are most commonly found on squashes and pumpkin, but will feed on other cucurbits. They transmit the bacteria that cause yellow vine decline which can be a serious disease of pumpkin, some squashes,

and watermelon. The key to controlling the disease is to control this insect pest. Drenches of Admire or Platinum to control other insect pests of cucurbits also helps to suppress squash bug.

FORAGES

Wet Weather and Alfalfa Leaf Diseases
By Paul Vincelli

Wet weather during recent weeks certainly has provided favorable conditions for alfalfa leaf- and stem-invading fungi. Symptoms of several diseases, including Lepto leaf spot as well as spring black stem, are likely to be apparent.

A county agent indicated that, because of this risk, he learned that alfalfa producers are being advised by some suppliers to spray a copper-containing fungicide (labeled examples include Champ Dry Prill, Kocide 3000, Badge SC, and others).

I don't recommend such an application, at least to first cutting alfalfa, for several reasons:

1. Copper fungicides have modest disease-control activity on alfalfa, at best.
2. Copper fungicides only prevent infections, they do not cure them. It is probably too late to attain much control even with a highly effective preventive fungicide.
3. An application of copper fungicide to alfalfa requires a 10-14 day pre-harvest interval. I suspect that producers will want to harvest their alfalfa as soon as weather permits, and won't want an excessive spray residue on the forage preventing harvest.

Although wet weather has prevented timely harvest of first-cutting alfalfa, the best alternative is to wait until a window of dry weather is in the forecast.

PEST OF HUMANS

Stage Set for Mosquito Problems
By Lee Townsend

The abundant rains of the past few weeks have left water standing in containers and low spots all across the state. After dumping the dish under the pot of mint several times before (upper picture), I noticed (5/10) that it had filled, again. Floating objects caught my eye - the white circles in the lower picture encircle three of them – mosquito egg masses – with many more floating innocently on the surface. Some of the eggs had hatched and small wrigglers were whipping themselves thru the water. A few more warm days and those house mosquitoes (Culex) would have been be ready to feed. Fortunately, they were noticed and the water was dumped. Unfortunately, there are many more breeding sites that will produce batches of mosquitoes over the next few days.

Source reduction is a major tool in mosquito management. Flower pots and poorly draining gutters are holding water with organic matter to support the microorganisms that are the food of mosquito wrigglers. Now is the time to find and empty these breeding sites before they produce their annoying and potentially harmful crop of biters.

What's the Buzz? Mosquitoes Return to the Bluegrass State
By Logan Minter

Mosquito season might seem as far away as the dog-days of summer but it may be just around the corner. Last week, UK researchers noticed high populations of the common floodwater mosquito, *Aedes vexans*, in western Kentucky. In comparison to recent years, seasonally above-normal numbers of female mosquitoes were captured in traps. Whether or not these numbers will remain high is still uncertain. This is one of the most widespread pest mosquitoes in the world. There are several generations each year. Adults rest on vegetation and shaded grass during the day and become vicious biters at dusk and after dark. They can live for several weeks and may migrate 10 miles or more during that time. Although the floodwater mosquito can occasionally carry diseases of humans, it is mainly considered a nuisance.

Kentucky is home to nearly 60 different types of mosquitoes which have a variety of lifestyles and habitats. After a female mosquito mates, she must then find a blood meal in order to gain the proteins necessary to develop her eggs. After she bites an animal or human, she becomes gravid, or full of eggs, which she must then lay on or near water. All mosquitoes must have water to develop as young. Depending on the time of year and the type of mosquito, two things may now happen. The eggs may hatch immediately or within a few days, or the eggs may remain dormant, even if the water dries up. Many species lay eggs which are resistant to desiccation so they don't dry out and die. This is how some of the common mosquitoes in our part of the world survive the winter.

In the spring, snow-melt or rain waters refill the area where the eggs were laid, and along with warmer temperatures and longer day lengths, the mosquito eggs are triggered to hatch. Often, this occurs gradually over the spring and early summer months. However in some years optimum conditions of warm and wet weather will cause the overwintering eggs to hatch and develop all at once, resulting in an apparent 'bloom' of mosquitoes. As a precautionary measure, insect repellants containing DEET or Picaridin should be used by anyone planning to spend time outdoors this season. Homeowners can also help to do their part by eliminating breeding areas on their property, such as neglected containers, dented or damaged gutters, rain barrels, untreated swimming pools, and ruts in soil.

DIAGNOSTIC LAB HIGHLIGHTS

By Julie Beale and Paul Bachi

Recent agronomic samples in the PDDL have included loose smut on wheat; Sclerotinia collar rot, Rhizoctonia damping off, target spot and Pythium root rot on tobacco.

On fruit and vegetable samples, we have diagnosed iron deficiency on blackberry; Phytophthora root and crown rot on raspberry and blueberry; leaf curl on peach and nectarine; fire blight on apple; and Pythium root rot on tomato.

On ornamentals and turf, we have seen Botrytis blight on petunia; Phyllosticta leaf spot on maple; Entomosporium leaf spot on photinia; black root rot on holly; black spot and powdery mildew on rose; Phytophthora leaf blight on rhododendron; Phytophthora root rot on cotoneaster, pine, spruce, viburnum and taxus; and take all, Pythium root dysfunction, and red leaf spot (*Dreschslera erythrospila*) on bentgrass.

INSECT TRAP COUNT
MAY 1-8

By Patricia Lucas

Location	Princeton, KY	Lexington, KY
Black cutworm	7	13
Armyworm	33	332
Corn earworm	2	3
European corn borer	0	0
Southwestern corn borer	0	0
Fall armyworm	0	0

Graphs of insect trap counts for the 2008 season 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://ces2.ca.uky.edu/fulton/InsectTraps

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