

# KENTUCKY PEST NEWS

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## ARMYWORMS

### ARMYWORM: FIRST GENERATION MOTH FLIGHT DECLINES

by Doug Johnson

Capture of armyworm moths in both the Lexington and Princeton traps declined this week. In Princeton the trap counts have declined for two weeks in a row. I expect that the same will happen in Lexington. This should be telling us that the first generation moth flight is about over. In addition, it appears that the flight in Lexington is just about a week delayed from the flight in Princeton. This is not surprising given the difference in temperatures between the two locations. So the next two questions are: when will the caterpillars show up and will there be a great many of them?

Will there be a bunch? Certainly a larger than average number of adults indicates an increased risk of larger than average caterpillar populations. Still, this is not a certainty. The mere presence of worms does not warrant control. Although the moth counts are very large, there are several other factors that may affect the populations of the damaging caterpillar stage. Both eggs and caterpillars

may be eaten by predators, parasitized by wasps and flies, and infected by pathogens. It does nevertheless indicate a need to watch the situation carefully. Particularly over the next four weeks.

We know that some armyworm infestations are already present. I received reports from Carlisle Co. (west KY on the Mississippi River) and from Henry Co. (north central KY between Louisville, KY and Cincinnati, OH). In both cases the caterpillars were very small and feeding on very small corn. This probably represents the leading edge of the caterpillar first generation population and the result of egg lay by moths that flew before the flight peak became evident.

Princeton - Generally speaking the first generation flight in Princeton began during the week ending 28 March, peaked during the week ending 25 April and has declined for the last two weeks. If we use the mid week date (22 Apr) of the peak flight week to start our degree-day model, we might expect large caterpillar populations about 23-24 May. Remember this is just using the peak. There were moths flying before and after this date. There will be caterpillars out before this date.

Lexington - Using the same process for Lexington; the first generation peak occurred in the week ending 02 May. The mid-date of that week is 29 Apr. Starting our degree-day model on this date and using Lexington temperatures, we might expect large caterpillar populations about 01 Jun. Again, there were moths flying before and after this date. There will be caterpillars out before this date.

## FRUIT CROPS

### PERIODICAL CICADAS AND FRUIT PRODUCTION

by Ric Bessin

I saw my first 17-year cicada nymph emerge this weekend. Growers east of Hopkinsville and Henderson will need to monitor their trees and vines over the coming 4 weeks or so and watch for the cicadas gathering or any evidence of egg laying damage. There is a good chance that they will not cause a problem any one orchards vineyard as they usually gather within in pockets in a county, but they will attack apples, peaches, grapes and other fruit trees. Preventive sprays not are recommended as they don't occur everywhere. There is usually 10 days or so after emergence before they begin laying eggs, so there is a wide window to monitor and treat as needed. Of the sprays available, the pyrethroids appear to be the most effective, but Sevin is also good. Be sure to read the label and match the correct insecticide with the type of tree needing treatment.

On apples, we generally try to limit the use of pyrethroids due to their toxicity to European red mite predators and long residual activity. However, when periodical cicada populations are excessive, many grower have made to decision to use a pyrethroid to prevent the limb damage at the risk of triggering mite problems. The last time this brood emerged, one grower noted that he used a pyrethroid and fought mites the next two years, but felt that he made the correct decision with the large numbers of cicadas that emerged in his orchard. Sevin, when used early in the growing season within 30 days of petal fall has the potential to thin the fruit (it is used as a thinner during this period). Use caution as the rate used to control insects is greater than the rate used to thin apples.

For a complete list of available insecticides, their rates, and Re-Entry Periods, see ID-92, *2008 Midwest Tree Fruit Spray Guide*, or ID-94, *2008 Commercial Small Fruit & Grape Spray Guide*.

### GRAPE FUNGICIDE APPLICATIONS

by John Hartman

Agents may be getting questions about use of fungicides on grapes. Recognize that some grape growers may be relatively new at grape growing or even new at farming in general. Some may have questions about systemic vs. protectant fungicides for grapes. Fungicide groupings are listed on page 45 of the U.K. Cooperative Extension publication ID-94, *Midwest Commercial Small Fruit and Grape Spray Guide 2008*.

Additionally, the model uses 2008 temperatures for dates that have passed, but five year average temperatures for dates in the future. 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.

It appears that for most of Kentucky we should we closely watching our grass crops for the next four weeks. Hopefully, nothing severe will occur, but if it does, at least you will be read do handle the situation.

## TOBACCO

### DISEASE UPDATE

by Kenny Seebold

All is quiet on the blue mold front as of May 12, 2008. There are no indications that the disease has spread from the source identified back in March in Alachua County, FL. Although we've had conditions that could have favored development of blue mold, the North American Plant Disease Forecast Center did not predict movement of inoculum from the two known sources (Cuba and FL) into our production areas ([www.ces.ncsu.edu/depts/pp/bluemold](http://www.ces.ncsu.edu/depts/pp/bluemold)).

With regard to other diseases of tobacco transplants, we have seen an increase in the number of reports of *Pythium* root rot and collar rot, caused by *Sclerotinia sclerotiorum*. The cool and rainy weather that gripped much of Kentucky this past weekend would have favored not only collar rot, but possibly target spot as well. Proper management of tobacco in the float bed is a critical step in managing collar rot and target spot. Steps must be taken to manage humidity – adequate airflow and ventilation should help reduce leaf wetness. Fertility should be maintained between 75 and 125 ppm (N), and plants should be clipped regularly. When clipping plants, avoid buildup and deposition of debris on transplant trays since *S. sclerotiorum* can utilize decaying leaf matter as a food source to become established in float beds. For more information on managing diseases of tobacco transplants, refer to ID-160 ("2008 KY Tobacco Production Guide") or KY Pest News No. 1158 (April 21, 2008).

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](http://www.uky.edu/Agriculture/kpn/kyblue/kyblue.htm).

## VEGETABLES

The following are examples of systemic (or locally systemic or mesosystemic) grape fungicides

- Strobilurin fungicides such as azoxystrobin (Abound); pyraclostrobin (Cabrio, Pristine); trifloxystrobin (Flint); and kresoxym-methyl (Sovran).
- Sterol-inhibiting fungicides such as tiradimefon (Bayleton); tebuconazol (Elite); myclobutanil (Nova); triflumizole (Procure); and fenarimol (Rubigan).
- Benzimidazole fungicides such as thiophanate-methyl (Topsin-M, T methyl).

The following are examples of broad-spectrum protectant grape fungicides:

- Captan, mancozeb (Dithane, Manzate, Penncozeb), carbamate (Ferbam), Thiram, Ziram, fixed copper, and sulfur.

Depending on their needs, growers can apply either protectant or systemic fungicides, or combine them. For example, protectant fungicides, if applied regularly and frequently, will be most cost-effective and will do an excellent job. However, if the spray schedule has been interrupted by persistent rain, a systemic might be needed to help eradicate infections that already have begun, but before symptoms appear. Using a systemic only is more costly, but will allow the grower to increase the interval between applications. Thus, many growers, just to be safe, apply a tank-mix of a protectant and a systemic fungicide for grape disease control so that if the interval has to be stretched due to rain, their plants are covered. Systemic fungicides can be prone to development of resistance by plant disease fungi, so mixing fungicides of different types provides a safeguard.

Agents can also help growers by advising of the need to reapply fungicides if it rains. Here is a general rule of thumb regarding rainfall and fungicide application:

- If rain occurs as the fungicide is being applied or before it has time to dry on the plant surface, most of it will be lost.
- If rain occurs after fungicide is successfully applied, 1 inch of rain will wash  $\frac{1}{2}$  of the fungicide off, 2 inches of rain leaves only  $\frac{1}{4}$  of the original fungicide and 3 inches of rain leaves only  $\frac{1}{8}$  of the original fungicide on the plant. Remember, this is only a general rule and it would not be entirely applicable to systemic fungicides, depending on how rapidly they are absorbed.

### SCLEROTINIA REPORTED ON SEVERAL CROPS

by Kenny Seebold

Last week, I reported that our diagnostic labs in Lexington and Princeton had begun to receive samples of tomatoes affected by *Sclerotinia sclerotiorum*, causal agent of timber rot (sometimes called “white mold”). The cool and wet weather that we’ve had this spring has been more-or-less ideal for *S. sclerotiorum*, and we’ve seen new cases in the past week of diseases caused by this pathogen on tomato, lettuce, and even cucumber.

Managing diseases of vegetables caused by *S. sclerotiorum* can be difficult when conditions favor the pathogen, particularly in the greenhouse. Emphasis in the greenhouse should be placed on sound cultural practices (plant spacing, fertility, and ventilation) and sanitation. Remove any plant debris promptly and destroy it, as this material often is colonized by *Sclerotinia* first and allows the pathogen to become established. Remove affected plants and fruit and bury them or discard in compost or cull piles that are located at least 100 yards from where susceptible crops are being grown. Sclerotia produced by *S. sclerotiorum* can survive the winter easily in cull piles and will generate fruiting bodies the following spring. These fruiting bodies will release spores that can travel short distances, and will infect susceptible crops if encountered. In the case of tomato and lettuce, there are no fungicides labeled specifically for control of Sclerotinia; however, Botran 75W can be applied to cucumber to manage white mold. Up to 4 applications (14-day schedule) at 1.3 lb per 43,560 sq. ft. can be made beginning when conditions favor disease or when symptoms are first observed.

In the field, remove and destroy infected plants as described for greenhouses. Additionally, crop rotation can be effective in preventing buildup of inoculum in soil. Deep-turning of crop residues following an outbreak of *Sclerotinia* will reduce the amount of viable sclerotia that survive over time. Fungicide options are limited on tomato, but lettuce producers can apply iprodione (Rovral, Iprodione 50W, etc.) or boscalid (Endura) to manage Sclerotinia. Refer to ID-36, the “2008-2009 Vegetable Production Guide for Commercial Growers” to learn more about use rates, and always refer to product labels for specific use and safety guidelines.

## WHEAT & BARLEY

### RECENT CHANGES IN THE WHEAT AND BARLEY FOLIAR FUNGICIDE STATUS QUO

by Don Hershman

Since the fall of 2006, several fungicides have received Section 3 or supplemental labels allowing application for disease control in wheat and barley. These changes have their origin in EPA's favorable decision (2006) to a review of triazole chemistry. Without going into detail, new Section 3 labels of triazole fungicides were held up for years due to questions regarding the environment and health risks associated with a common breakdown product of triazole fungicides. A favorable ruling by EPA on this question opened the door for the Section 3 and supplemental labeling of triazole fungicides.

The Bayer fungicide, Proline 480SC (prothioconazole), labeled in the fall of 2006, was one of the first post-EPA-review triazoles to receive a Section 3 label allowing application to wheat and barley. Proline is among the best available products for managing FHB and DON, but due to its rather high cost, several states, including Kentucky, were successful in getting a Section 18 for Folicur 4F (and other generic tebuconazole fungicides) for FHB/DON management in 2007. Subsequently, Bayer issued a 2ee recommendation for the combination of Folicur + Proline to manage FHB and other diseases. Proline is not strong against rust diseases, but this weakness is taken care of by adding Folicur, which is excellent against rusts. The FHB/DON suppression is about the same for Proline and Proline + Folicur, but both offer better FHB/DON suppression than solo Folicur (or generic tebuconazoles). The mix is somewhat more economical than solo Proline since a reduced rate of Proline is used when mixed with Folicur. This 2ee recommendation is still in place for 2008. During the winter months of 2007-08, stakeholders in several states had considerable interest in seeking Section 18 labels allowing tebuconazole use in 2008. However, due to the availability of Proline and more favorable production economics compared to 2007, EPA made it clear that a tebuconazole Section 18 was extremely unlikely to be approved in 2008.

On April 21, 2008, EPA granted Section 3 labels for two new BASF fungicides containing the active ingredient, metconazole. Caramba is straight metconazole (8.6 % a.i.) and Multiva is a premix of Caramba (7.4% metconazole) and Headline (12% pyraclostrobin). To my knowledge, these products are still in the process of getting states to approve the labels, but this should be accomplished shortly in most states. However, due to the lateness of label approvals relative to the stage of wheat development, most Caramba or Multiva applications

made in 2008 will be restricted to wheat and barley in the north. That is, by the time the labels are approved, most applications to wheat and barley in the South will be completed.

On May 1, through an odd set of circumstances, it became clear that there was not sufficient Proline to meet the needs of Kentucky wheat and Barley producers this spring. So, in spite of the fact that the availability of Proline was cited by EPA as the main reason why we could not get a Section 18 for Folicur in 2008, the Kentucky Department of Agriculture had no choice but to issue a Crisis Exemption allowing the use of Folicur for FHB/DON suppression through May 15, 2008. Ironically, on May 2, Bayer announced that Folicur was granted a supplemental label to its existing Section 3 label, which allows for application to wheat and barley in most wheat-producing states. Most states (including Kentucky) had previously approved the use of Folicur on peanuts and for grass seed production. Yes, KY had a label for use on peanuts! The prior existence of a Folicur label in Kentucky is the reason for the supplemental label as opposed to the new Section 3 labels now taking effect for Caramba and Multiva. An additional tebuconazole fungicide, Orius, may now be applied in most states, including Kentucky. Manufacturers of other tebuconazole fungicides, however, have some additional hoops to jump through before they may be applied for disease control in wheat or barley.

Apparently, the shortage of Proline mentioned above persists in Kentucky. The availability of both Folicur and Orius has helped, but I have heard that some ag suppliers are making recommendations for the application of a mix of Folicur + a strobilurin fungicide, such as Headline. In the absence of Proline, once wheat has begun to flower, growers will need to apply straight Folicur or Orius for Fusarium head blight suppression. Wheat strobilurin labels (Headline, Quadris, Quilt, Stratego) do not allow application to flowering wheat and this is the time when applications targeting head blight need to be made. Applications of strobilurins to flowering wheat could result in illegal residues in grain and the treatment may also result in spiked DON levels. Finally, none of the strobilurin labels list Fusarium head blight suppression as a target, and the Headline label specifically says that product should not be used to manage Fusarium head blight.

## LAWN & TURF

### DO MOWERS SPREAD DISEASE-CAUSING AGENTS FROM ONE LAWN TO ANOTHER?

by Paul Vincelli

From time to time, the question comes up as to whether mowing equipment can transport microorganisms that cause disease (called *pathogens*). The answer is, "Yes, it certainly can".

*Inoculum* is any pathogen structure that can initiate disease. Microscopic fungal spores are the most common form of inoculum in turfgrass ecosystems. Another important form of inoculum is bits of diseased grass that are cut off by the mower blade.

So if you think for a moment and imagine a microscopic fungal spore, it is easy to imagine that it can attach temporarily to the mower blade, the wheels, the carriage of the mower, etc. Furthermore, anyone who mows grass also knows that fragments of cut leaves also attach to mowers. If these cut fragments are diseased, the disease-causing agent will also be readily transported. So yes, mowers clearly can move fungal inoculum from one property to another.

Does it matter? Well, that is the key question, and the answer, at least for Kentucky conditions, is "No". All of the diseases of significance in Kentucky turfgrasses are caused by fungi that are easily transported as windblown spores or are common residents of our soils. Movement of inoculum of on lawn-maintenance equipment doesn't really move inoculum any more effectively than Mother Nature already has.

In my assessment, there seems to be no reason to sanitize lawn maintenance equipment when going from one property to the next. Lawn care operators can breathe a sigh of relief, because if sanitation were biologically important to do so, I can imagine it would be very difficult to implement an effective and economical program for sanitation of mowing equipment in a commercial lawn care operation.

### TICKS ARE BITING

by Mike Potter

Few outdoor encounters are as troubling as finding an attached tick. Besides being repulsive, tick bites cause itching and irritation. A small percentage may also transmit diseases affecting people, pets and farm animals. This column will help you answer some of the more common questions about ticks and the diseases they may transmit.

*Q: Where do ticks come from and how can I avoid them?*

A: Ticks thrive in woods, uncut fields and brush. They climb onto lower portions of vegetation and attach to a suitable host passing by. To reduce tick encounters, follow these precautions:

1. Don't walk through uncut fields, brush, and overgrown areas, especially during April-July. Walk in the center of mowed trails to avoid brushing up against vegetation. When hiking or camping in tick-infested areas, wear light-colored clothing and long pants tucked into boots or socks, and consider using tick repellent.
2. Inspect family and pets after being in tick-prone areas. Ticks often attach at the waist, armpit, neck and scalp, but can attach virtually anywhere. Promptly remove any ticks, using the method discussed below.

3. Keep grass and shrubs trimmed, and clear overgrown vegetation from edges of your property. Ticks and their wild hosts will not normally infest areas that are well maintained. Treating the lawn with insecticides is of little benefit since mowed areas are not normally infested. If insecticides are used, treatment should be concentrated mainly along borders and fences, and between overgrown areas and the lawn. A good way to confirm if ticks are present is to drag a white flannel cloth or sheet through suspected areas. Ticks will attach and be visible against the white background.

Insecticide sprays containing pyrethroid active ingredients permethrin, cyfluthrin, bifenthrin or lambda-cyhalothrin (e.g., Bayer Advanced Home/Garden( Multi-Insect Killer, Spectracide Triazicide(, Ortho Home Defense System() or carbaryl (Sevin) are effective. Such products are sold at hardware and lawn and garden shops. For better wetting and coverage of vegetation, it's often best to purchase these products as concentrates so that they can be diluted and applied with a hose end or pump up sprayer. One to two applications during late April/May and perhaps mid-summer is often all that's required.

4. Free-roaming pets are more likely to become infested than if confined. Ticks on pets can be controlled or prevented using sprays, spot-ons, and insecticide-impregnated collars. See your veterinarian for appropriate products.

*Q: What's the best way to remove an attached tick?*

A: Using a tweezers, grasp the tick as close to the skin as possible and pull it straight out with gentle even pressure. Petroleum jelly, hot matches and other 'folk' methods of removal should be avoided. Wash the bite area, apply antiseptic and cover with a Band-Aid. Attached ticks should be removed promptly to reduce the chance of infection and disease transmission.

*Q: Some clients use the terms "deer tick" or "turkey mite" ... what are they referring to?*

A: These terms are often used when referring to immature (larval) lone star ticks, a common tick throughout much of Kentucky. A person who walks through infested vegetation may find hundreds of the tiny ticks (about the size of the period at the end of this sentence) crawling on them. Unattached larvae can be removed by bathing or showering. However, once ticks are attached, removal is difficult, and their bite can be very irritating. The lone star tick is not considered to be a vector of Lyme disease, although it can transmit Rocky Mountain spotted fever.

*Q: Should I be concerned about getting Lyme disease or Rocky Mountain spotted fever?*

A: Each year about 15 to 30 cases of Lyme disease and Rocky Mountain spotted fever are reported statewide. Some of these victims may have been infected while traveling out-of-state. In Kentucky, probably tens of thousands of people are bitten by ticks each year; so the likelihood of contracting a disease is very low. In most cases, a tick must be attached for at least 18 to 24 hours for infection to occur. One cannot become infected simply by having a tick crawl over their skin or clothing. Concerned callers should be informed of the early symptoms of tick-borne disease so they will know whether to seek medical attention. When in doubt, it probably pays to see a physician.

*Q: What are the symptoms of Lyme disease?*

A: Lyme disease is difficult to diagnose clinically because early symptoms mimic the flu, e.g., fatigue, headache, fever, or swollen glands, pain or stiffness in the neck, muscles or joints. The most definitive early symptom is a gradually expanding, circular or oval-shaped red rash, often (but not always) at the site of the bite. This rash only develops in about 70% of infected individuals, however, and may be overlooked. Persons, who experience any of the above symptoms after being bitten by a tick, or after spending time in an area where ticks are abundant, should see a physician immediately. In the early stages, Lyme disease can be successfully treated with antibiotics.

The mechanism by which Lyme disease is transmitted in Kentucky is unclear. The primary tick vector, *Ixodes scapularis*, has rarely been found here, although several of the ticks were found some years ago while surveying deer herds in southeastern Kentucky. More probably will be found in the future.

*Q: What are the symptoms of Rocky Mountain spotted fever?*

A: Symptoms of RMSF are flu-like, accompanied by headaches and a very high fever (104-106 degrees F), two to 12 days after being bitten by a tick. The most characteristic sign of RMSF is a rash that appears on about

the second to fifth day on wrists and ankles, later spreading to other parts of the body. When promptly diagnosed, RMSF can be successfully treated with antibiotics. In the absence of treatment, victims may die.

*Q: Are there other tick-borne diseases I should be concerned about?*

A: Tick bites can result in diseases other than Lyme disease and Rocky Mountain spotted fever. Human ehrlichiosis is another important disease complex, believed to be transmitted by the species of ticks common in Kentucky. Symptoms of ehrlichiosis in humans include fever, headache, chills, muscle aches, nausea, and vomiting. There usually is no rash. Early intervention with antibiotics is generally prescribed.

*Q: Can the tick that was attached to me be checked for disease?*

A: Clients often wonder if the tick they removed was harboring any pathogens? and if the specimen can be sent somewhere for analysis. While such diagnostic capabilities exist, they are costly and more importantly, time consuming. Since most tick-transmitted diseases are preventable when treated early, physicians often prescribe antibiotics rather than wait on the results of a test which may take weeks to get analyzed, and ultimately may prove inconclusive.

(For more information on this topic, see ENT-35, Ticks & Disease in Kentucky).

## **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 2-3 feet up the foundation wall. Follow label directions.

## **SHADE TREES & ORNAMENTALS**

### **OXYTETRACYCLINE INJECTIONS FOR OAK BACTERIAL LEAF SCORCH**

**by John Hartman**

Some arborists in Kentucky will be injecting oaks with formulations of oxytetracycline this spring to slow the development of bacterial leaf scorch symptoms this summer and fall. Our research has shown that this chemical, when injected into the root flare of infected trees in spring will delay symptom expression by as much as 2-3 weeks, but will not cure trees of bacterial leaf scorch. Nevertheless, this delay in annual symptom expression could prolong the useful life of trees infected by the bacterial leaf scorch bacterium, *Xylella fastidiosa*.

Last year's research focused on determining the best timing for oxytetracycline application in spring. It appears that injections done about 3 weeks after the first emerging leaves become fully expanded were most effective. For this year, that optimal time (based on Lexington pin oak leaf phenology) will occur next week (May 18-24). Thus, arborists who intend to inject trees with oxytetracycline will want to begin scheduling applications soon. Our experiments utilized the product Bacastat ; Mycoject , used at the same optimal time, also delayed symptoms, but was slightly less effective, though probably not statistically different.

### **FOREST TENT CATERPILLARS AND EASTERN TENT CATERPILLARS STARTING TO WANDER** **by Lee Townsend**

According to Mike Klahr, Boone Co agent for Horticulture, FTC are defoliating shade trees and sugar

maples again. What is the potential impact of FTC feeding? A single complete defoliation rarely kills a tree but growth is affected. A study of aspen in MN showed a 70% reduction in basal area growth from a single defoliation. Growth was down by 90% after a second defoliation the following year. There was a 15% reduction during the third year, which was a recovery year. Consequently, growth was reduced an average of 58% over the three years. This stress affects susceptibility to insect borers and can account for problems seen in subsequent years.

FTC outbreaks usually last for 3 to 4 years then decline due to environmental conditions, extreme competition for food, or diseases. This may help to reduce numbers along the western boundary of the infestation but there appears to be a slow spread to the east. Moths will fly in June and will lay masses of 100 to over 300 eggs on twigs a variety of hardwoods. These eggs will hatch next spring to produce the 2007 brood.

Eastern tent caterpillars are starting to leave trees and wandering to find pupation sites. Numbers have been up this spring compared to the past two years

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## DIAGNOSTIC LAB-HIGHLIGHTS

by Julie Beale and Paul Bachi

During the past week, the PDDL received samples of Septoria leaf blotch, barley yellow dwarf virus, wheat streak mosaic virus, Hessian fly, and phosphorus deficiency on wheat; and Pythium root rot, wet feet problems, and high soluble salts on tobacco seedlings.

On fruit and vegetable samples, we diagnosed leaf curl on peach; and Sclerotinia stem rot ("timber rot") on tomato.

On ornamentals, we have seen Phoma canker/ dieback on periwinkle; freeze injury and Phomopsis gall on forsythia; Hypoxylon canker on maple; winter drying on magnolia and holly; drought stress (from last year) on hemlock; Rhizosphaera needle cast on spruce; spider mite injury on juniper; and scale infestation on tuliptree.

## INSECT TRAP COUNTS

May 2-9, 2008

|                        |    |
|------------------------|----|
| ► <i>Princeton, KY</i> |    |
| Black cutworm.....     | 1  |
| True armyworm .....    | 61 |

|                               |   |
|-------------------------------|---|
| Corn earworm.....             | 0 |
| European corn borer .....     | 0 |
| Southwestern corn borer ..... | 0 |
| Fall armyworm.....            | 0 |

### ► *Lexington, KY*

|                               |     |
|-------------------------------|-----|
| Black cutworm .....           | 11  |
| True armyworm.....            | 518 |
| 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.

