



# KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • WEED SCIENCE

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## ANNOUNCEMENTS

### KENTUCKIANA SEMINAR CROP PRODUCTION PROGRAM -Radisson Hotel

**(The program has been submitted for continuing education credit for commercial pesticide applicators in Kentucky. It has not been approved as of the time this newsletter issue was printed.)**

#### Tuesday, December 12, 2000- 1:00 p.m. (CST) SESSION I

- 1 p.m. Welcome and General Announcements - *Lloyd Murdock, UK*
- 1:05 Soybean Diseases - SDS, Stem Canker, Brown Stem Rot- *Scott Abney, USDA Purdue*
- 1:35 Control and Controversy, Bt Corn and the Monarch Butterfly - *John Obermeyer, Purdue*
- 1:55 Southwestern Corn Borer and It's Control - Update on New Soybean Aphid - *Ricardo Bessin, UK*
- 2:25 Remote Sensing - Current Status for Usefulness for Nutrient and Weed Management - *Kent Ross, Purdue*
- 3:05 Break
- 3:20 Nitrogen Application Methods and Rates - Making N Most Efficient - *John Grove, UK*
- 3:50 Lime Quality - What is it and how important is it in changing soil Ph? - *Monroe Rasnake, UK*
- 4:10 Using Stalk and Grain Analysis to Determine Nitrogen Status in Corn - *Sylvie Brouder, Purdue*

- 4:40 How Do Recent Changes in Indiana's Pesticide Regulations Affect You - *Joseph Becovitz, Indiana State Chemist Office*
- 5:10 Adjourn

#### Wednesday, December 13, 2000 - 7:55 a.m. (CST) SESSION II

- 7:55 Announcements - *Sylvie Brouder, Purdue*
- 8:00 What Do TMDL's Mean to Dealers - *Ron Phillips, The Fertilizer Institute*
- 8:30 DOT Regulations - Update and Changes - *Jason Roberts, Asmark Inc.*
- 9:00 E-Commerce - Internet Purchasing by Growers and Selling by Dealers, Benefits, Problems, Responsibilities and Services Indiana Plant Food
- 9:30 Wheat Disease Update (Wheat Streak Mosaic and other diseases) - *Don Hershman, UK*
- 9:50 Break
- 10:05 Roundup Ready Soybeans - Timing of Sprays, Economics and Resistant Weeds - *Jim Martin, UK*
- 10:35 Control of Late Season Vines - *Merrill Ross, Purdue*
- 11:05 Herbicide Update - New Products and Problems - *Jim Martin, UK*
- 11:35 New Kentucky Laws and Regulations - *Ken Franks, Ky Division of Pesticides*
- 12:05 Adjourn



## CORN

### **STARLINK SEED SALES SUSPENDED, GRAIN BUY-BACK**

**by Ric Bessin**

As a result of the presence of StarLink corn in the Taco Bell tacos, last week Aventis has decided to suspend sales of StarLink Bt corn. Prior to their decision, Taco Bell had issued a recall of the taco products as well. While producers are still permitted to raise StarLink corn for animal and ethanol uses, the Aventis decision is meant to help avoid these types of mistakes in the future. In an agreement with the EPA and USDA, Aventis has also agreed to buy back all of the grain produced this year from StarLink Bt corn. They hope that this will help to instill confidence in the safety of the American food supply. StarLink growers should contact their seed suppliers for details.

### **CROP ROTATION: STILL A WAY TO CONTROL SOME INSECTS**

**by Ric Bessin**

With low grain prices, producers are looking for more efficient and less expensive practices to reduce overhead costs of production. One inexpensive practice is crop rotation. Crop rotation can be a valuable tool to manage certain insect pests in field and vegetable crops.

This winter, corn growers who have enough land should plan on how to rotate corn with other crops. Most field and vegetable farmers are well aware of the benefits of rotation with disease management. But many may not be aware of the benefits of rotation on certain insect species. Rotation is particularly effective against some soil species that overwinter in immature stages. These individuals lack the ability to move to new fields.

Western and northern corn rootworms are two destructive pests that can easily be managed with crop rotation. Both of these species overwinter as eggs in the soil of fields that were planted in corn the previous year. That's because the eggs are only laid around the bases of corn plants. When the eggs hatch in the late spring, the young larvae can only move a short distance, about 18 inches, in order to find corn roots. These two pests can only feed on corn roots, so other crops planted in the same location are not subject to attack by these pests.

In Illinois and Indiana, there is a biotype of the

western corn rootworm that lays its eggs in soybean fields and some corn producers in northern Indiana and Illinois have seen serious damage in first year corn fields. This biotype is not found in Kentucky, and rotation remains the primary means of controlling corn rootworms.

If corn is planted year after year in the same location, growers should expect to see corn rootworm numbers increase. In this situation, growers should monitor adult beetle numbers during the summer. If average rootworm beetle numbers exceed 1 per plant, then beetles will need to be managed next year. If their numbers warrant control, growers can either rotate to another crop or use a soil applied insecticide at planting. While the rotation is free of out-of-the-pocket expense, the soil insecticide will cost the grower 12 to 16 dollars per acre.

Certain types of rotation can potentially cause some problems. In particular, anytime that pasture, set-aside land, or established blue grass sod is to be planted to field or vegetable crops. In these fields, damaging levels of wireworms and white grubs may be present. Wireworms and white grubs can be very damaging to seedlings and young plants and there are no "rescue" treatments once damage symptoms begin to show. Growers will need to sample for these pests early in the spring to determine whether or not a soil applied insecticide is justified at planting.

## WHEAT

### **WHEAT FUSARIUM HEAD BLIGHT (HEAD SCAB) IN RELATION TO TILLAGE AND PREVIOUS CROP**

**by Donald Hershman**

Fusarium Head Blight (FHB), also known as Head Scab, is a potentially serious disease of wheat in Kentucky. Losses can be very heavy across a large area, as occurred during 1991; or losses can be minimal state-wide, as occurs in most years. However, in every year there are some fields in Kentucky that are severely damaged by FHB.

Kentucky wheat producers have not generally embraced no-till wheat production. There are a variety of reasons for this situation, but one factor is the generally accepted fear that FHB is significantly enhanced in no-till production systems. The majority of wheat in Kentucky is, in fact, planted behind corn. Thus, there is a biological basis for the fear of enhanced FHB when wheat is produced no-till following corn. This is because the primary FHB causal fungus, *Fusarium graminearum*, also infects corn

and causes Gibberella stalk and ear rot. Thus, superficially, it makes common sense that leaving corn stalks on the ground would enhance FHB in a subsequent wheat crop.

Although there is no denying that leaving corn stalks on the soil surface may result in higher populations of *F. graminearum* in fields, there is no evidence to suggest that FHB is **significantly** impacted by tillage of corn stalks. In fact, a three year survey of 230 wheat fields during 1998 - 2000, as well as a great many observations, suggest that tillage is a secondary factor affecting FHB levels in Kentucky. The overriding factor in all cases appears to be weather. Specifically, if weather is not favorable for FHB development, then it doesn't make much difference what the previous crop was or what the tillage system is. Conversely, if weather is highly conducive to FHB, and the crop is at a susceptible stage (e.g., flowering), a high level of FHB is likely to develop regardless of previous crop and/or tillage.

How can the above situation exist considering that *F. graminearum* is a pathogen of both wheat and corn? There are probably many different contributing factors, but the main one is thought to be related to the agricultural systems we have in Kentucky. For example, in any given year, we grow about 1.2 million acres of corn. According to a survey conducted recently by the Kentucky Integrated Pest Management Program, the average sized corn field in the state is just over 39 acres. Simple mathematics indicates that this translates into **A LOT** of small corn fields being widely scattered throughout central and western Kentucky. Add to this the fact that spores of *F. graminearum* are wind-borne, and it is easy to imagine that if weather is favorable for FHB, almost every acre of wheat will be exposed to significant levels of infectious spores. *F. graminearum* also grows in soybean and wheat stubble, so this adds to the overall high levels of *F. graminearum* inoculum we have in Kentucky.

The next obvious question is why don't we have FHB epidemics more often if *F. graminearum* is so widespread? The answer to this is that wheat is only highly susceptible to infection by *F. graminearum* during and shortly after crop flowering; this period of susceptibility lasts for only 4 - 5 days. If the weather is not favorable for infection during this period, it makes no difference how many spores blow onto the wheat head. Now, if you add highly variable flowering dates and durations to the picture, it is easy to imagine that most crops in most years simply **ESCAPE** infection.

The take home message is that FHB is not highly impacted by previous crop or tillage level in Kentucky. When weather is favorable for FHB, and crops are in susceptible stages, an abundance of spores of *F. graminearum* assures a high levels of FHB, regardless of previous crop or tillage. When weather is unfavorable for FHB during susceptible stages, the crop escapes infection. Weather is the decisive factor. Escape of FHB is also common because of the relatively short period of susceptibility for wheat. Farmers should not use fear of FHB as a reason for not giving no-till wheat a try.

This non-link between tillage and FHB may not be the same everywhere. Specifically, any factor or situation that would reduce the widespread occurrence of wind-blown spores of *F. graminearum* in an area, such as might occur where fewer, larger fields are the norm, might make the tillage of residue, especially corn residue, more important in the overall FHB picture.

## **SHADE TREES & ORNAMENTALS**

### **ASH YELLOWS WAS EVIDENT THIS GROWING SEASON**

**by John Hartman**

Yellows is again appearing as a disease of ash trees in Kentucky landscapes. Although only a small proportion of ash trees have yellows disease, it is usually lethal when it occurs. Symptoms of what appeared to be ash yellows were observed on many ash trees in central Kentucky 25 years ago, but since then, the disease has been noticed only occasionally until numerous cases were observed again this year. Ash yellows is found primarily in white ash growing in the northern parts of the U.S. from the Great Plains to the East Coast.

Symptoms. Infected ash trees show a variety of symptoms including: premature spring growth, premature fall color, stunted and folded leaves, reduced twig and branch elongation, reduced trunk diameter growth, epicormic shoot growth at the base of the trunk, loss of terminal shoot apical dominance in branches, witches brooms, sometimes chlorotic leaves, branch dieback, decline and death. The first symptom to appear, subnormal growth, is usually not noticed or is blamed on other problems such as drought or mineral deficiency. This season in Kentucky, we have observed mainly chlorotic witches brooms with stunted and folded leaves. These witches brooms are located on the trunk and main limbs of trees with dead branches and limbs, trees

which are otherwise declining. Trees may survive several years with the disease, but highly susceptible trees often die in just a few years.

Cause. Ash yellows has been diagnosed primarily by field symptoms. It is caused by a phytoplasma, a bacteria-like microbe lacking a cell wall and which lives in the phloem tissues of ash trees. Phytoplasmas infect trees systemically and are vectored by certain leafhoppers and possibly meadow spittlebugs. In the laboratory, the disease can be confirmed by microscopic examination of stained phloem tissues, or observation of the phytoplasma in infected tissues using an electron microscope.

Control. There have been no control measures developed to prevent or cure this disease. Although green ash is reported to be more tolerant than white ash, little is known about the susceptibility of other Kentucky native ash trees such as blue ash.

## HOUSEHOLD

### WHAT ATTRACTS OVERWINTERING MULTICOLORED ASIAN LADY BEETLES? by Lee Townsend

The cloudless blue sky of a warm, late October afternoon is one of the beautiful sights of fall. Over the past few years, however, it also has been the start of Asian lady beetle flight to their overwintering sites. These beetles enter houses and buildings in large numbers and can remain active in them throughout the winter. In fact, this lady beetle, which is an important aphid and scale predator, has become one of the top “fall invaders” in much of the US.

While “pest-proofing” a structure (See Entfact 641) can eliminate many ways that insects can enter, it is impossible to eliminate all of them. The idea of placing lady beetle “shelters” on the outer walls of buildings or some distance away from buildings to lure and collect them before they get inside is appealing. This approach was investigated in a study reported recently by personnel with the North Carolina Department of Ag and Consumer Services. They evaluated shelters similar to those sold by garden centers and mail order catalogs. Asian lady beetles showed no preference for the shelters, even when they were baited with containers of live beetles. At this point, use of lady beetle shelters to keep beetles from entering structures is not an effective strategy.

Multicolored Asian lady beetles are consistently attracted to certain structures each fall. It appears likely that the beetles first respond to environmental

clues to get them moving. Once in the movement mode, they probably follow visual and / or chemical cues to get to their protected sites. The size, location, and reflectiveness of a structure seem to be important factors in attraction. These characteristics are difficult or impossible to change and we do not know enough to be recommending such approaches to beetle management.

If beetles were a problem in a structure over the past few falls, it is very likely that they will be back this year. The recommendations in ENT-64, Asian lady beetle infestations of structures, are still appropriate and valid.

## PESTICIDE NEWS & VIEWS

### NEW PESTICIDE APPLICATOR LAW By Ken Franks, Jr., Division of Pesticides, Kentucky Department of Agriculture

With the passage of SB300, KRS 217B has been revised. These changes will affect the way all commercial applicators will do business in the state of Kentucky. Some of the changes include Dealer registration, Insurance requirements, and certification requirements, and licenses.

**Dealer Registration:** Any person or business that stores or distributes bulk fertilizer or Restricted Use Pesticides for redistribution, or that applies pesticides to the lands of others, will be required to REGISTER as a dealer. The cost of this registration is \$50.00. Each branch office of a dealer will be required to pay a \$25.00 registration fee.

**Insurance requirements:** All dealers who apply pesticides to the lands of others will be required to maintain a \$1,000,000 liability insurance policy. This policy must have \$1,000 or less deductible.

**Certification requirements:** All license holders in the state will be required to maintain certification, regardless of the type of pesticide being applied. There currently are several licensees who are not certified. We have increased our test dates and revised our testing schedule. Check the schedule for the location nearest to you. This schedule will be posted at the UK Pesticide applicator training web page as well  
<http://www.uky.edu/Agriculture/PAT/welcome.htm>

**Licenses:** If you are currently licensed and not certified you will be required to take the appropriate exam. If you are licensed in more than one category

you will be required to pay for each category.

As a result of the changes in the law, the renewal process will be a two phase process this year. In early October we will be sending to each business a registration form. At that time you will be asked to register as a dealer or branch office of a dealer. This form with the payment will need to be returned to this office by November 1. Then as soon as we have these entered into the computer we will send out

renewal forms for the license holders. We expect to complete the renewal process by mid-January. Please be patient as we will be implementing a new program that is sure to have some problems. We will endeavor to implement this process as fast and painless as we can.

Watch our web site <http://www.KYAGR.COM> for the new law to be posted.

**Kentucky Department of Agriculture  
Division of Pesticides  
2000-2001 Commercial Applicator Testing Dates  
Training will NOT be provided**

These are testing dates only. Testing begins at 10:00 a.m. local time and ends at 12:00 noon. Study material may be obtained from the University of Kentucky by calling (606) 257-5955. Note: All dates and locations are subject to change.

LOCATION	October	November	December	January	February
Burlington	11, 25	8, 22	6, 27	10, 24	14, 28
Bowling Green	3, 17	7, 21	5, 19	9, 23	6, 20
Jackson	11	8	13	10	14
LaGrange	11	8	13	10	14
London	3, 18	7, 15	5, 20	17	21
Mayfield	3, 17	6, 21	5, 19	3, 16	6, 20
Morehead	9, 19	3, 16	6, 21	3, 18	15
Owensboro	9, 24	7, 21	5, 19	-	-
Prestonsburg	4	1	6	-	-
Princeton	5, 19	2, 16	7, 20	4, 18	1, 22
Versailles	10, 24	14, 28	5, 19	23	27

Burlington- Boone Co. Extension Office, 6028 Camp Earnest Rd. (859) 586-6101

Bowling Green- WKU Ag Expo Center, (270) 843-3542

Jackson- Breathitt Co Extension Office, 1155 Main Street (606) 666-8812

La Grange- Oldham County Extension Office 1815 Hwy 393 N. (502) 222-9453

London- Laurel Co. Extension Office, 200 County Extension Rd. (606) 864-4167

Mayfield- Graves County Extension Office, 251 Housman St. (270) 247-2334

Morehead- Rowan County Extension Office, Courthouse (606) 784-5457

Owensboro- Daviess Co Extension Office, 4800A Hartford Rd. (270) 685-8480

Prestonsburg- Floyd Co. Extension Office, 670 Lake Dr. (606) 886-2668

Princeton- UK Research and Education Center, 1205 Hopkinsville Street (270) 365-7541

Versailles- Woodford Co. Extension Office, 184 Beasley Rd. (859) 873-4601

Some of the recent samples received in the Diagnostic Lab have included: *Stenocarpella* stalk rot on corn; *Lepto* leaf spot on alfalfa; sudden death syndrome on soybean; *Fusarium* root and stem rot on sudex; common scab on potato; and *Phytophthora* fruit rot and bacterial (*Xanthomonas*) fruit rot on squash and pumpkin. Ornamental samples have included *Pythium* root rot on pansy; *Volutella* blight on pachysandra; *Phytophthora* crown and root rot on rhododendron; *Verticillium* wilt on redbud; and numerous samples of bacterial scorch on urban trees. Hosts of bacterial scorch that we have seen this year are pin and red oak, sugar maple and London planetree.

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.