



# KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • AGRONOMY

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<p style="text-align: center;"><b>ALFALFA</b></p> <ul style="list-style-type: none"> <li>• Fall seeding pests</li> </ul> <p style="text-align: center;"><b>TOBACCO</b></p> <ul style="list-style-type: none"> <li>• Current blue mold status</li> </ul> <p style="text-align: center;"><b>FIELD CROPS</b></p> <ul style="list-style-type: none"> <li>• Recognize your beneficial insects</li> </ul> <p style="text-align: center;"><b>SOYBEANS</b></p> <ul style="list-style-type: none"> <li>• Green cloverworm in soybean</li> <li>• Phytophthora root rot</li> </ul>	<p style="text-align: center;"><b>VEGETABLES</b></p> <ul style="list-style-type: none"> <li>• Powdery mildew advisory for pumpkin growers</li> </ul> <p style="text-align: center;"><b>LAWN AND TURF</b></p> <ul style="list-style-type: none"> <li>• August pests</li> </ul> <p style="text-align: center;"><b>HOUSEHOLD</b></p> <ul style="list-style-type: none"> <li>• Foreign grain beetles</li> <li>• Do-It-Yourself termite baits</li> </ul> <p style="text-align: center;"><b>PESTICIDE NEWS AND VIEWS</b></p> <ul style="list-style-type: none"> <li>• Ronilan fungicide label changes</li> </ul> <p style="text-align: center;"><b>DIAGNOSTIC LAB - HIGHLIGHTS</b></p> <p style="text-align: center;"><b>INSECT TRAP COUNTS</b></p>
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## ALFALFA

### PESTS OF FALL ALFALFA SEEDINGS by Lee Townsend

Several insects feed on fall-seeded alfalfa and they may produce significant stand loss. The most common culprits are fall armyworms, grasshoppers, and crickets. Fall armyworms have been especially active in late corn this season and can be expected to be active up until a killing frost. Occasionally, Mexican bean beetles and spotted cucumber beetles (southern corn rootworm beetles) can be destructive. Regular inspection of new seedings will allow early detection of pest problems, assessment of damage, and treatment if necessary.

Fall armyworm infestations will tend to be clumped and intense because each female can lay 100 or more eggs in a mass. The small larvae will move out from this focus as they grow and consume all of the nearby plants. Look for roughly circular areas of missing plants. Examine the soil surface for the striped larvae. If needed, spot treatments can be used to deal with the problem.

Grasshoppers and crickets can graze off small

seedlings. Damage should appear at the edges of the field and progress across it. These insects will move readily so feeding should be more diffuse over an area. Mexican bean beetles and spotted cucumber beetles also may move in and feed. Their activity should be spread over the field, also.

Evaluate injury carefully. Low rates and spot treatments may be all that is needed to deal with pest activity. See ENT-17 for control options.

## TOBACCO

### CURRENT BLUE MOLD STATUS By William Nesmith

Blue mold remains a significant threat to crops of vigorous tobacco with active disease. At least half the crop remains immature and susceptible to blue mold. Be especially protective of crops growing fast, located in foggy areas, and those with ground suckers. The cool and dry weather pattern experienced recently greatly reduced new infections, because the leaves were not wet long enough at night in most fields to allow infection even though humidity was high enough to support new sporulation. So expect to see few new lesions late this week. But, those same cool conditions

avored expansion of lesions developing from infections occurring earlier last week. Expect large lesions in the lower foliage and vein strikes in the upper leaves to appear early this week. These lesions should provide new spores by mid-week, just in time for the foggy nights, producing new lesions by early next week. Crops that have experienced significant blue mold in the lower foliage for several weeks may experience numerous tiny fleck-like lesions, resulting from the induced resistance reaction to blue mold. These small lesions become excellent infection centers for other fungi, especially frog-eye and brown spot.

Sunny days have greatly reduced the spread of live spores from field to field. But, where the canopy has closed, spread of viable spores within the field remains the main source of inoculum. Sunny days should have reduced susceptibility of the upper leaves to blue mold, but cloud cover has been present in some areas, reducing the amount of sunlight.

County Extension Agents continue to report that the level of activity is highly variable within most counties, ranging from no disease to serious damage in neighboring fields. Only light activity is being reported from far western Ky, but all other areas report strong disease levels in some plantings situated in foggy areas. Several agents have indicated that strong activity is continuing after topping in crops of rapidly expanding tobacco under good soil moisture. But, most agents indicate that serious damage from blue mold has been limited, so far, by weather, spray programs, and poor growth associated with other problems. Both Plant Disease Diagnostic labs handled a large number of blue mold cases this past week.

Foliar fungicide programs should be maintained through topping stage, especially on crops of lush tobacco located in shade or foggy areas. Acrobat MZ is the most effective chemical available and County Agents report that it is working well where applied correctly with drop nozzles, adequate volume, and on a weekly schedule. Recall that the label limits applications to a maximum of 10 lbs/acre/season and that the harvest-interval is 30 days on burley and dark tobaccos.

The following is an update on the rescue treatments of Bleach, Quadris, and Acrobat. Treatment applications were repeated on Tuesday. Blue mold sporulation continues at high levels through Aug 3 in all plots except the Acrobat treatment.

Sporulation in Acrobat-treated plots is confined to the base portions (stem end) of lower leaves, mainly between the plants within rows; the area of poorest coverage. New lesion development in the bleach-treated plots is equal to that in unsprayed checks, but low in both Quadris and Acrobat plots. Leaf vein strikes in the bud leaves is higher in Acrobat treatment than in the checks. One favorable event associated with the bleach treatment is that lesions are becoming necrotic faster than in the check or other treatments, which limits the length of time the particular lesion sporulates.

## **FIELD CROPS**

### **RECOGNIZE YOUR BENEFICIAL INSECTS By Ric Bessin**

Most all producers are able to recognize the major insect pests that attack field crops, fruits and vegetables on their farms. However, late in the summer, many or even most of the insects are not pests. In fact, many are beneficials that we need to encourage. It is just as important to be able to recognize these insects as it is to recognize the pests.

While any field is likely to have many dozen beneficial insects at any one time, one that is important and common at this time of the year is the green lacewing. The adult lacewing is about 3/4 inch long and has a green body and lacy wings. It is easily recognized by the characteristic golden eyes. Eggs are laid on foliage and are individually perched on the tip of a hairlike stalk that is about 3/4 of an inch long. The larvae are brown and white and may grow up to about 1/2 inch in length. These larvae are called aphid lions, and resemble tiny crocodiles with sickle-shaped mandibles. Lacewings are among our most important predaceous insects and they feed on a wide variety of soft-bodied insects, such as aphids, as well as mites.

Green lacewings can be found on many crop plants, but they are particularly common on tobacco. It's not uncommon to find one hitchhiking on your shirt after monitoring a field for aphids.

Another important group of MOSTLY beneficial insects includes the lady beetles. Whether we call them lady bugs, lady beetles, or ladybird beetles, they are our first line of defense against many common pests. Adult lady beetles are orange or red with black or brown spots. The female lays orange eggs. The larvae are usually brown or black with

orange, red or tan markings and resemble small alligators. The larvae and adults of these beetles will eat aphids, scale insects, eggs and small larvae of corn borers and other soft-bodied insects.

However, there is one lady beetle that is not a welcome sight in soybeans. This is the Mexican bean beetle. Unlike its insect-devouring cousins, the Mexican bean beetle feeds only on bean plants. Unlike other lady beetles, its larvae are bright yellow with black branched spines. The adult is reddish brown with eight black spots arranged in three rows on each wing cover. The adults and larvae are found feeding on the undersides of bean leaves. But despite this one bad apple in the lot, all other lady beetles in the state are beneficial.

So why is it important to recognize beneficial insects? Well, they need to be encouraged and they provide a cheap and constant source of insect control. The last thing we want to do is mistake beneficial insects as pests and inadvertently spray to control them.

## **SOYBEANS**

### **GREEN CLOVERWORM IN SOYBEAN**

**By Doug Johnson**

The beginning of August marks the traditional green cloverworm (GCW) season in Kentucky soybeans. Though this pest can be found in fields much earlier in the season, we usually do not see problems until late summer rolls around.

Growers should not have a question as to whether or not GCW are in their bean fields; they are. The only question is, "Will populations reach large enough size to cause economic damage?" Usually this does NOT happen. However, almost every year somewhere in Kentucky a producer will suffer damage that could have been avoided, by simple early detection.

GCW larvae are slender and light green with three pairs of white stripes running the length of the body. There are three pairs of legs near the head, three pairs of fleshy legs near the middle of the body and a pair of fleshy legs at the tail end. Green cloverworm larvae wiggle violently when disturbed.

GCW feed extensively on soybean leaves. Young larvae skeletonize the underside of the leaf. Older

larvae eat all of the leaf except large veins. Generally, damage will be from the top of the plant down. This has the effect of making the plants look much worse than they actually are.

Scout by taking shake cloth samples. At no fewer than five locations per field, lay a white cloth or paper on the ground and shake four row feet of plants over the cloth. Count the number of GCW knocked on to the cloth.

Treatment decisions are based on a variable threshold scheme that can be found in ENT- 13. In general, it will take a minimum of 15 larvae per row foot to warrant control. Remember, this table will correspond to the number of worms you need to find with each shake-cloth sample. Higher grain prices and lower control costs reduce the number of larvae need to warrant control. So, lower grain prices and greater control costs increase the number of worms required to recommend a treatment. If you can tell that a GCW is parasitized or diseased don't count them in your evaluation.

In general, GCWs are not very difficult to control. Any of the insecticides listed in ENT-13 will do a good job. Just make sure you have a large enough insect population to pay for the control cost.

### **PHYTOPHTHORA ROOT ROT**

**By Donald Hershman**

A significant number of soybean producers in Western Kentucky experienced problems attaining adequate stands of soybean seedlings in low-lying, flood-prone fields this spring. A host of different disease organisms can cause disease in germinating seed and young seedlings, but *Phytophthora sojae* (Ps), the cause of *Phytophthora* root rot (PRR), appears to have been a key player in some fields.

Ps, like *Pythium* sp., is a "water mold" that requires significant soil moisture in order to become a serious problem. Obviously, the high amounts of rain many fields were subjected to this spring, satisfied this moisture requirement, and PRR of developing seedlings was the result. Some severely affected fields were either partially or completely re-seeded with various degrees of success.

Unsuccessful attempts to reestablish a soybean planting were characterized by re-planting into cool soils which were still on the wet side, and/or fields that experienced at least short-term puddling or flooding. Many farmers were able to successfully establish a new seeding because the re-seeding was

done into warmer and dryer soils.

Fields with a known PRR problem are likely to have the disease again in the future when soil conditions are again favorable. The appropriate conditions may not happen next year or the following year, but at some point the disease will reappear in previously affected fields. This hit and miss nature of PRR in Kentucky often results in producers forgetting about past serious PRR years because enough non-PRR years dull the memory and create a sense of security. This approach works for some producers, but others may wish to be a bit more pro-active.

PRR management is not too difficult to achieve in Kentucky as long as the producer is willing to do a little pre-planning. First, you must realize that Ps exists in fields as 39 different races. You must also be aware that varietal resistance to PRR is race specific. In other words, the PRR control will be poor if the wrong resistant variety is deployed.

In 1995, a limited survey of field soil from Kentucky indicated that the predominate race was race 1. Races 2, 13, 15, 24, and 26 were also found. On the surface, it appears that we have a rather complex situation to deal with. This is not the case, however, since all of the races we detected can be effectively managed by planting a variety which has either the Rps-1C or Rps-1K resistance genes. Fortunately, varieties with one of these resistance genes are widespread in maturity groups III-V. For example, a University of Missouri web site on "Management Guidelines for Phytophthora Root Rot" ([www.missouri.edu/~moipm/management.html](http://www.missouri.edu/~moipm/management.html)) lists 87 maturity group III-V varieties with either RPS-1C or 1K resistance. Thus, with a little research producers should have little difficulty finding a resistant soybean variety which is acceptable.

Another approach in the management of PRR is to plant a tolerant variety. Tolerance is active against all races of Ps, so there is no chance for a mismatch between race and variety like exists when planting a resistant variety. The main hitch with using tolerant varieties is that protection is not complete and some plants will suffer yield damage, albeit nowhere near the level of a susceptible variety. Another problem with tolerant varieties is that the tolerance is not expressed until the young seedlings reach the first trifoliolate. In other words, germinating seed and young seedlings of tolerant varieties can be readily killed by PRR and, thus, they must be protected with a seed or soil treatment with metalaxyl. Failure

to protect the developing seedlings may lead to a stand failure similar to what might occur with a susceptible variety. Many plant pathologists also recommend treating seed of a resistant variety with metalaxyl to protect the young plants from *Pythium* sp. Pre- and post-emergence damping-off due to *Pythium* is generally favored by the same conditions that favor PRR, but there is no resistance available to control *Pythium*.

Unlike many states in the north central region which fight PRR annually, PRR in Kentucky will always be sporadic. The fungus is present in most soybean fields, but the conditions only rarely favor disease development. For this reason, all pro-active management attempts must be looked at as crop insurance. Benefits will be paid during wet seasons, but other years may show little or no evidence that anything special was done. This is the nature of PRR in Kentucky. Producers will need to decide what level of risk they are willing to assume and act as is appropriate.

## VEGETABLES

### **POWDERY MILDEW ADVISORY FOR COMMERCIAL PUMPKIN GROWERS** **By William Nesmith**

Powdery mildew can be very damaging to pumpkins during late summer and fall in Kentucky. Failure to control this disease results in greatly reduced yields and poor quality and storage life of fruit produced on diseased vines. In addition to directly attacking the foliage, the fruit "handle" is also attacked by powdery mildew.

First activity of powdery mildew is normally found by early August. With the wet summer experienced, however, earlier activity and higher than normal levels are expected. Control can be achieved through timely fungicide sprays designed to keep the fungus population low. No fungicides available will control powdery mildew once the disease is widespread, so get ahead of it. The potential of powdery mildew will increase rapidly as days shorten, canopy closes, and the period of time the foliage remains wet from fog and dew increases. Growers electing not to start sprays now should continue to scout plantings very carefully so that applications are started early in the epidemic.

SPRAY PROGRAM: Bayleton 50W at 2 to 4 oz/A, Benlate 50W at 0.5 lbs/A or Topsin M at 0.5 lbs/A

are the materials of choice for powdery mildew control. Sulfur can also be used for powdery mildew control, but phyto can occur in hot humid weather. A 14-day application interval of the powdery mildew material is usually adequate in Kentucky if Bravo, Terranil or Echo are being used weekly for control of other diseases. That means, tank mix the powdery mildew fungicide with Bravo on alternating weeks. If a high level of control is not achieved with Bayleton, resistant strains may be involved, requiring one of the other fungicides to be used. The label for Bayleton has not been defended, so a new product is not being made and supplies may become limited forcing growers to use one of the other materials.

Powdery mildew will develop more slowly in fields receiving regular fungicide sprays with Bravo or Copper, but neither materials will adequately control powdery mildew under serious disease pressure. Mancozeb sprays will provide no control of powdery mildew. The mildew control materials listed above are not substitutes for Bravo or Copper, but are materials to be added in addition to other fungicides.

## **LAWNS AND TURF**

### **AUGUST PESTS**

**by Lee Townsend**

CICADA KILLER WASPS attract attention due to their large size, the burrows that they dig in home lawns, and their buzzing flights over the lawn. These insects prefer to dig their burrows in sandy, bare, well drained soil exposed to full sunlight. The wasps feed on flower nectar while the immature or larval stage feeds primarily upon cicadas that are brought to the burrow by the adult. In spite of their large size, the wasps usually ignore people but they can give a painful sting if bothered. Mating males are aggressive and more easily disturbed.

A mound of fine soil surrounds the burrow of each cicada killer. Since colonies of burrows are common, infested lawns usually contain several mounds that can smother the grass. However, they prefer to nest in areas of sparse vegetation, and rarely infest thick, vigorous turf.

Cultural practices can prevent or eliminate the establishment of cicada killer colonies. Adequate lime and fertilizer applications accompanied by frequent watering promote a thick growth of turf and can usually eliminate a cicada killer infestation

in one or two seasons. In case of severe infestation, chemical control may be necessary to prevent danger from stinging wasps. Diazinon or carbaryl (Sevin) applied to burrowed areas according to label directions for turf pests can reduce infestations.

WHEEL BUGS are large gray insects that appear to have half of a gear wheel on their back and grasping-like front legs. They are beneficial, feeding on caterpillars and other soft-bodied preys. Wheel bugs can give a painful bite with their thick beak. The area around the bite may hurt for a time and individual reactions vary with the persons sensitivity to the saliva injected with the bite. Wheel bugs are not poisonous but can make a strong impression.

SADDLEBACK CATERPILLARS are slug-like caterpillars with a pair of horns on each end and a green body with a large brown spot surrounded by a white margin. They have sharp, hollow spines filled with an irritant. The spines break off in the skin and cause a painful rash on any that brushes against them. Saddleback caterpillars are common on corn but also can occur on beans, some trees, and shrubs. They can be controlled by Bt sprays but usually the numbers are low and it is easiest just to be careful and watch for them when picking sweet corn or beans.

## **HOUSEHOLD**

### **FOREIGN GRAIN BEETLES- THE "NEW HOUSE" PEST**

**by Mike Potter**

Foreign grain beetles are very small (about 1/16-inch long), reddish brown, and are often mistaken for flour beetles or other stored product insects. The key characteristic to look for in identifying this beetle is the presence of a slight projection or knob on each front corner of the the segment directly behind the head. A microscope or good quality hand lens is necessary to see this character.

Foreign grain beetles are frequently problems in new houses (less than 5 years old). These beetles are one of a group of beetles called "fungus beetles" that feed on the molds and fungi that grow on poorly seasoned lumber or wet plaster and wall board. If they are found infesting flour, grain, or other stored products, the products are generally moldy or in

poor condition.

When new homes are built, damp wood is often covered with molds or mildew which attracts the beetles. The beetles are also attracted to accumulations of sawdust trapped behind walls during construction. Eggs are laid on this food material and the larvae develop on the surface fungi. The adults usually become a problem in late summer when they move out of wall voids and are attracted to windows and lights. Foreign grain beetles can also be associated with plumbing leaks, condensation problems, or poor ventilation.

There is no fast or easy way to get rid of foreign grain beetles. Control is difficult because the breeding source of the beetles (sawdust, etc) is sealed up within the walls. The ultimate solution is time (and patience). Most new homes dry out naturally within the first 1-4 years, and the fungi and molds disappear along with the beetles. Drying time can be enhanced by increasing ventilation, e.g., by use of fans and air conditioning. Homeowners can gain some relief with directed applications of aerosol sprays containing pyrethrins, but such treatments would need to be repeated frequently as the beetles continue to emerge. A vacuum cleaner works just as well and removes any visible beetles which are present. Pest control companies may be able to provide additional relief by locating the infested wall areas or source of dampness (usually next to where the beetles are most abundant) and injecting residual aerosols or dusts into cracks and crevices along baseboards and into the wall voids.

If the homeowner can tolerate the beetles during the period when they are most active (late summer) the problem will usually resolve itself. Some comfort can be taken in the fact that foreign grain beetles are only a nuisance by their presence, i.e., they do not bite or damage wood, fabric or stored food in sound condition.

## **DO-IT-YOURSELF TERMITE BAITS**

**By Mike Potter**

The UK Entomology Department has received several inquiries about a new termite control product being advertised and sold in retail stores throughout Kentucky (Home Depot, Lowe's, KMart, Wal-Mart, etc.). The *Terminate™ Termite Home Defense System* is being marketed under the Spectracide brand of lawn and garden insecticides for householders. The question homeowners are asking is: "Does the product work?" Terminate's

retail price— about \$50 for a box of 20 bait stakes— is tempting, given that a professional termite treatment may cost well over \$1000. However, there are issues with this new, do-it-yourself product that should be considered in the purchasing decision.

**Product Concept & Description** – Traditional termite treatments afford structural protection by creating a persistent chemical barrier in the soil. Termites attempting to tunnel through the treated zone are either killed or repelled. Such treatments generally do not affect termite colonies in the soil, away from treated areas; foraging termites are merely prevented from entering the structure and are forced to find food elsewhere.

Spectracide Terminate™ is an entirely different concept. Formulated as a bait, the product is meant to be eaten by termites foraging below ground in the vicinity of the structure. Professional pest control firms have been using other termite baits, most notably the *Sentricon™ Colony Elimination System*, for the past 2-3 years with generally favorable results (See ENT-65; *Termite Baits: A Guide for Homeowners*). Research and practical experience with the professionally-installed baits indicates that they require careful installation, diligent monitoring, and ongoing surveillance by a trained individual. Furthermore, not all termite baiting systems are equally effective. Some products have had difficulty eliminating termite infestations within structures and have required supplemental treatment with other methods. This also will be true of Terminate™.

The active ingredient in Terminate (sulfluramid) is incorporated into a small roll of corrugated cardboard, housed within a red, transparent plastic tube or "stake." Bait stakes are 4 inches long by 1 inch in diameter, with holes drilled in the sides for termites to enter and exit. After termites have fed upon the bait, they exit the stakes and reunite with their nestmates in the soil. Since the bait material kills termites rather slowly (about 3 to 14 days after feeding), some transfer of the toxicant occurs to other colony members, including those that never fed on the bait. Termites cannot see or smell the baits from any appreciable distance underground; they encounter them by chance during their foraging activities in the soil.

Spectracide Terminate™ is sold in quantities of 20, 40, or 60 stakes per box, depending on the size (square footage) of the structure. Homes in excess of 1200 sq. ft. require purchase of one of the larger-

size boxes of stakes at an incrementally higher cost.

*Directions for Use* - Package directions specify that bait stakes be inserted into holes drilled in the ground around the perimeter of the home, about 10 feet apart and within 2-3 feet of the foundation. Additional stakes are installed in “critical areas” suspected to contain termites, such as moist areas around mulch beds, water spigots, down spouts or sprinklers. Following installation, the stakes must be inspected by the homeowner every 2 to 3 months by pulling them from the ground and observing whether the bait has been eaten, or if termites are present inside. Additional stakes are added within 1 foot of any that show evidence of termites. The instructions further state that after activity has ceased, the stakes should continue to be monitored at least every 3 months for an additional 9 months. Stakes should be replaced before termites consume all of the bait, and must be replaced or removed every 9 months.

**Product Claims/Warranty** – Terminate’s advertising claims will be misleading to many consumers. Information boldly printed on the package states: “Do-It-Yourself Protection For Your Home Against Subterranean Termites,” and “Guaranteed to protect your home from subterranean termites or your money back.” However, in smaller print on the back of the box is the statement: “For structures with an active (termite) infestation, Terminate™ can aid in treatment of the problem, but should be used as part of a complete integrated program. We recommend an inspection from an authorized pest control firm and some type of treatment to the infested areas where termites are present.” Many homeowners who have spent \$50 - \$125 on a box of Terminate™ — and taken the time to correctly install and monitor the stations— will be operating under the assumption that the product will get rid of their termites, period. “Protection” versus elimination of an existing termite infestation will be perceived as one and the same. Moreover, if the purchaser subsequently hired a pest control firm to perform “some type of treatment to the infested areas,” it is doubtful they would be charged any less than other termite customers.

On the bottom of the box is a warranty statement defining the limits of the guarantee. It states: “Spectracide Terminate™ will protect your home from subterranean termite attack for 9 months from the date you purchase this product.” Yet most customers will have difficulty knowing whether their home is truly being “protected” while the warranty is in effect. Termites tend to be cryptic in their foraging and

feeding habits; feeding on Terminate™ stakes out in the yard is no assurance that termites are not also feasting on the structure. Oftentimes the most obvious indication of a continuing termite problem is the presence of winged termites (known as swarmers) emerging inside the home. In Kentucky and throughout much of the Midwest, swarming usually occurs during the spring from about March -- May. If Terminate™ were purchased during the spring or early summer, the 9-month warranty would likely be expired before termites had a chance to swarm again the following year.

There are other erroneous and misleading statements on the package, including efficacy claims which have not been substantiated by research in Kentucky or elsewhere in the country. Add to all this the inability of most householders to follow pesticide label directions, and you can see why we are less than enthusiastic about this product for termite control, at least for the present. In closing, we do not mean to imply that *all* termite baits are ineffective; as mentioned earlier, some of the professionally-installed termite baiting systems, notably, the *Sentricon™ Colony Elimination System*, are proving to be effective, reliable alternatives for the control of subterranean termites.

## PESTICIDE NEWS AND VIEWS

### RONILAN FUNGICIDE LABEL CHANGES By John Hartman

Based on information supplied by the BASF company, stone fruits and strawberries are to be removed from the Ronilan fungicide label. After this summer, new labels will no longer list these fruits. Effective, June 30, 1999, growers will no longer be able to purchase Ronilan for these fruit uses, and use of Ronilan on these crops will not be allowed after January 30, 2000. In the meantime, it is still legal to use Ronilan on stone fruits and strawberries for the next 18 months; thus there will be no product recalls.

Kentucky growers have used Ronilan for control of strawberry gray mold and peach brown rot diseases. Growers should plan to use their remaining stocks next year. The company emphasizes that Ronilan is still safe and effective when used according to the label. This action is being taken in response to the new requirements of the Food Quality Protection Act (FQPA).

For other crops, the company is also changing the formulation of this fungicide from a flowable Ronilan FL to a solid formulation, Ronilan EG.

## **DIAGNOSTIC LAB-HIGHLIGHTS**

**By Julie Beale and Paul Bachi**

Samples of field crops this week included **Stewart's wilt** and poor pollination on **corn**; **Phytophthora stem and root rot** on **alfalfa** and on **soybean**; numerous cases of **chemical injury** on **soybean**. We continue to see dozens of different **tobacco** diseases and disorders, including **blue mold, target spot, frog-eye leaf spot, angular leaf spot, anthracnose, black shank, soreshin, Fusarium wilt, root knot nematode, viruses (AMV, TEV, TMV, TRSV), frenching, ozone injury, wet feet and nutritional problems.**

Ornamental disease diagnoses this week included **Phytophthora root and stem rot** on **azalea**; **southern blight** on **viburnum**; **Atropellis canker** on **white pine**; **Volutella blight** on **pachysandra**; **black spot** on **rose**; fungal leaf spots (*Phyllosticta*, *Cercospora*, *Heterosporium*) on various shade trees and shrubs; **Pythium blight, brown patch, and stress-related damage** (often associated with the fungus *Curvularia*) on **turf**.

Fruit and vegetable diseases included **brown rot** on **peach**; **Alternaria blight** on **ginseng**; **anthracnose and common blight** (*Xanthomonas*) on **bean**; **soft rot** on **cabbage**; **Fusarium root and stem rot and bacterial spot** on **pepper**; **bacterial wilt, bacterial speck, early blight and Septoria leaf spot** on **tomato**.

## **INSECT TRAP COUNTS**

**July 24 - August 3**

European Corn Borer . . . . .	14
Southwestern Corn Borer . . . . .	143
Fall Armyworm . . . . .	8
Corn Earworm . . . . .	113

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Lee Townsend, Extension Entomologist