



KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • AGRONOMY

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CORN

JAPANESE BEETLES ON CORN

By Ric Bessin

There have been numerous reports of Japanese beetles feeding on corn since the beginning of the month. Most are from western counties along the Ohio and Mississippi Rivers. Any damage caused by the beetles while corn is still in the vegetative stage is insignificant. However, as corn begins to silk, the potential for Japanese beetles to cause yield loss to corn increases.

Pollination interference can drastically affect kernel development and corn yield. An ear shoot which is not well-formed and not fully pollinated can never mature to a full-sized ear. In addition to damage caused by insects, poor soil fertility, delayed silking and hot, dry weather also can affect the pollination process and reduce the number of kernels per ear.

Beetle feeding on corn silks does not necessarily mean that kernel set will be reduced. It is important to determine when silk clipping is occurring relative to the pollination process (see following table) and general growing conditions. This can be accomplished by carefully monitoring crop

development and silk clipping activity. An insecticide application should be considered only if silks are green and need to be protected when beetle feeding is severe.

Events in the Pollination of a Medium Maturity Corn Hybrid

Tassel Emerges	55 to 60 days after plant emergence
Pollen Shed Begins	After tassel fully emerged and about 1 to 3 days before silk emergence
Silking Begins	3 days after full tasseling
Peak Pollen Shed	By third day after tasseling
All Silks Emerged	Within 3 to 5 days after first silks appear
Fertilization	12 to 24 hours after pollen grain lands on silk

If a problem is anticipated, frequent field visits during the pollination period are necessary to determine if silk clipping is occurring before

pollination has been completed. This is likely in fields silking during the peak of Japanese beetle activity or in fields of late-planted corn which is attractive to adult rootworm beetles. Begin checking these fields when silks first appear. Go at least 40 feet into the field and examine groups of 20 plants in at least five random locations within the field. Record the date, the total number of plants on which ears are silking and the numbers of beetles feeding on each ear. Even if no beetle activity is seen on the first visit, continue to check the fields at two to three day intervals until silks have turned brown.

An insecticide application should be considered to protect the silks IF 1) less than 75 percent of the ears have silks, 2) there are five or more rootworm beetles or two or more Japanese beetles on each ear, and 3) silks are being clipped to within one-half inch of the ear tip.

Keep in mind that Japanese beetle activity is usually most intense around the field margins, so it is important to avoid making spray decisions without assessing the interior of the field. Japanese beetle is continuing to move westward. The most intense activity is occurring in some western counties along the Ohio and Mississippi Rivers. While Japanese beetle activity has diminished in central Kentucky, localized problems can still be encountered.

TOBACCO

HORNWORMS AND BUDWORMS **by Lee Townsend**

Tobacco budworms should be active anytime now. It takes a sharp eye to catch signs of an infestation early but the effort is well worth it. The payoff is reduced damage and better control where applications are necessary.

Budworm eggs are laid singly on the underside of leaves at the top of the plant. Infested plants will be randomly scattered over the field. Carefully examine the bud area of groups of 20 plants at 5 or more locations per field. Look for the pepper grain-like droppings and the small caterpillars lying between the bud leaves. Budworms feed for 3 to 4 weeks and are about 1.5" long when full grown.

Initially, feeding holes are small but they become obvious as leaves continue to expand. Often budworms are very large by the time damage is evident and most of the feeding is completed. If the bud is eaten, the plant can sucker at the top and reduce yield of the upper leaves.

STINK BUG INJURY **By Lee Townsend**

Single wilted leaves in the tops of tobacco plants may be the result of feeding by stink bugs. Most commonly the damage is done by either the brown or the one-spotted stink bug. Both are about 1/2" long brown, shield-shaped insects with a light yellow underside. A long, thin "beak" or piercing mouthpart can be seen under the head.

Usually, damage is greatest along the edges of large fields and scattered throughout smaller or long, narrow patches. Enzymes injected by the sucking mouthparts as stink bugs remove sap will cause the leaf to wilt or collapse. On hot, sunny days wilted leaves will scald. Frequently the leaf will recover and the only permanent damage is death of tissue in about quarter-sized or larger areas immediately around the feeding site. The dead tissue will drop out leaving holes surrounded by yellow or brown. .

Symptoms require several hours to develop so the culprit is long gone by the time the injury is apparent. Stink bugs are good fliers and move frequently from plant to plant, as well as into and out of the field. Because of their transient nature and generally minimal damage, insecticide applications specifically for stink bug are rarely justified.

CURRENT BLUE MOLD STATUS **By William Nesmith**

GENERAL STATUS: The threat of blue mold has declined sharply, with the change to hot and drier weather. Consequently, I have down-graded all blue mold warnings and watches, to advisories.

The greatest reduction in disease potential has come in the form of greatly reduced spore numbers. New sporulation of the blue mold fungus has declined sharply in all areas of the state. The only new sporulation detected this past week was

from greenhouse situations where evaporative cooling was involved. Where these spores did leave the greenhouse during daylight hours, they should have perished quickly due to abundance of UV light. In some areas, nighttime conditions much of last week did favor infection events where viable spores were present, however. Therefore, due to low spore levels blue mold spread via airborne spores has been greatly reduced until a return to cool and wet weather. Without viable spores, new infections do not develop!

I expect we will continue to diagnose new cases of blue mold for several more weeks, and even add new counties to the map, but that will mainly involve movement of infected transplants or late finds of the disease. For example, Carlisle County, located in far western Ky and experiencing the hottest weather of the state, was added late last week, because this site involved plants that were introduced several weeks ago from Graves Co. (where the disease has been active for a month). This was not new blue mold, just newly detected!

CONTROL RECOMMENDATION: This is not the time to totally abandoned controls. Instead, a little extra effort now could be the key to blue mold control the remainder of this season. Growers need to couple mother-natures controls with some man-made controls to help break the epidemics back! Acrobat MZ applied now in counties under warnings will help to eradicate the fungus in the margins of lesions. Dithane DF will provide no benefit in this effort, because it has no systemic activity. So while the sun is shining make one or two well applied fungicide sprays to clean up the margins of lesions and stop infections that took place when favorable weather existed. Once a clean-up spray has been made, if no new lesions have developed one week after the last application, then no additional applications of fungicide are need until the favorable weather for blue mold sporulation and infection returns.

Any transplant not needed should be destroyed immediately. Abandoned transplant sites will serve as staging areas for blue mold to be harbored during periods when it is too dry or sunny for the disease to operate in the field. Be a good neighbor and destroy abandoned plant beds/transplants.

BLUE MOLD ADVISORY EXISTS STATEWIDE IN KENTUCKY, southern and southeastern Indiana, and southern Ohio. All warnings and watches have been cancelled for these areas, until weather events

dictate a change.

Blue mold has been confirmed this season in the following counties/regions:

PURCHASE AREA: Calloway, Carlisle, Graves, and Marshall

PENNYRILE AREA: Caldwell, Christian, Lyon, Muhlenberg, Todd and Trigg.

GREEN RIVER AREA: Daviess, Hancock, Henderson, McLean, Ohio, and Webster.

MAMMOTH CAVE AREA: Allen, Barren, Edmonson, Hart, Logan, Metcalfe, Monroe, Simpson, and Warren.

LAKE CUMBERLAND AREA: Adair, Casey, Clinton, Cumberland, Green, Pulaski, Russell, Taylor, and Wayne.

LINCOLN TRAIL AREA: Breckinridge, Grayson, Hardin, Larue, Nelson, and Washington

FT. HARROD AREA: Anderson, Boyle, Garrard, Jessamine, Lincoln, Mercer, and Woodford.

BLUEGRASS AREA: Bourbon, Clark, Estill, Fayette, Madison, and Nicholas.

LOUISVILLE AREA: Henry, Shelby, and Trimble

NORTHERN KY AREA: Boone, Gallatin and Owen

LICKING RIVER AREA: Bath, Bracken, and Mason

NORTHEAST KY AREA: none

QUICKSAND AREA: none

WILDERNESS TRAIL AREA: Jackson, Laurel and Whitley

INDIANA: Harrison, Jefferson, and Spencer

OHIO: none

WEST VIRGINIA: none

POTENTIAL FOR BLACK SHANK EPIDEMIC IN TOBACCO IS INCREASING By William Nesmith

Black shank could increase greatly and cause extensive crop damage if the hot weather forecasted develops during the next few weeks. However, losses from this type of black shank epidemic can be reduced substantially with supplemental applications of fungicides, properly placed in a timely manner.

Growers need to realize that black shank attacks are favored by hot, wet, weather. Fast-growing tobacco plants sitting in hot, wet soil are ideal candidates to be colonized by the black shank fungus. If stressful periods follow attacks, crop damage and economic losses can be large. Black shank-resistant varieties alone are not enough defense on sites with high levels of the black shank

fungus, especially in seasons like this one. Furthermore, many of the modern, black shank-resistant varieties planted today (such as Tn 90 and R-610) have less resistance to black shank than many of the older, black shank-resistant varieties (such as Hybrid 501 or Ky 17). Consequently, split applications of Ridomil are especially valuable with these newer black shank resistant varieties on black shank sites.

Understand that the heavy rains of the past few weeks have set many crops up for a major attack from black shank. These rains have helped spread the black shank fungus about the field and to new sites. Moreover, these rains have leached much of the Ridomil that was applied prior to planting. It is important to have the Ridomil in the right place under such a threat, which means placed in the root/stem zone, not below it. Since mother-nature has leached the chemical from the desired zone of protection, it needs to be replenished immediately if protection is expected under the conditions being experienced and forecasted.

Supplemental applications of Ridomil Gold or Ridomil 2E made at cultivations or layby and directed to the soil and under the plant are strongly recommended. The labels give specific instructions on how these treatments should be made. On-farm research conducted by the College of Agriculture, University of Kentucky, over a number of years have repeatedly demonstrated the value of properly applied, supplemental applications of Ridomil in reducing damage from black shank, and increased economic returns during similar seasons. The combination of two supplemental applications (cultivation plus layby) have usually proved beneficial only on sites under very high disease potential or where susceptible varieties are being used on black shank infested sites. The rates per acre/application are: Ridomil 2E at 2 qts/A and for Ridomil Gold EC at 1 pt/A.

Do NOT use foliar applications of Ridomil. Instead, make soil applications directed to the soil and stem-soil area, using flat-fan nozzles carefully directed under the plant, followed by cultivation. This requires a very different approach from applying foliar fungicides for blue mold!

POOR ROOT SYSTEM PRESENT ON MUCH OF THE TOBACCO CROP

By William Nesmith

Based on many field visits and diagnostic samples, much of Kentucky's tobacco crop has poorly developed roots for the stage of crop. As a result, the crop is experiencing moderate to severe stunting, poor nutrient uptake, and low efficacy from several systemic pesticides. A number of factors are causing the problems -abiotic and infectious.

A typical situation is for most of the roots in the original root ball to be dead with limited development of new roots from within the ball. Most functional roots are developing on the stem above this root system, but in many fields with certain herbicides few roots have developed even from the stem. This situation is especially acute in recently transplanted fields, because where the old roots die before new roots develop, the plants have perished due to recent environmental stresses or from pests. Such plants are unable to take up systemic pesticides and flea beetle attacks have been strong in some fields. In other cases, fungi have attacked the weakened plants and girdled them. In the same fields, plants that have good root systems are not experiencing these insect and disease problems, supporting the idea that poor root development is the primary cause of the problem.

Why the poor roots? Probably, it is a combination of hostile root environment (abiotic) and infectious diseases. The abiotic situations are the lead cause, including: saturated soils, low soil pH, soil compaction, and high salt levels have all been diagnosed. Saturated soils, especially at high soil temperatures, can cause serious damage to tobacco roots within a few hours. In several test plots we have recorded temperatures in the root zone in the mid 80's while the soils were saturated. Several root infecting microbes are involved too, some as primary agents but more often as secondary invaders of damaged roots, including Pythium, Rhizoctonia, Fusarium, Thielaviopsis, Phytophthora, Erwinia, and other bacteria. Patterns in the field strongly suggest soil type and transplant lot are contributing factors. In several cases, plants set in the afternoon hours, after having been out of the beds all day, showed much greater tendency to experience damage than plants set earlier in the day. Are the transplants being

protected prior to transplanting?

This complex of problems will complicate management this season. The following steps may be helpful where compatible with herbicides and other agronomic practices. During cultivation, sweep soil to the stem to encourage rooting from the stem. Consider side-dressing with nitrogen to insure adequate nutrients in the functional root zone. Use irrigation earlier to insure adequate moisture in the functional root zone. Use supplemental applications of Ridomil Gold at 1 pt/A directed to the soil surface and stems/soil interface during cultivation and layby on black shank sites.

SOYBEAN

JAPANESE BEETLE IN SOYBEAN

By Doug Johnson

For some area of Kentucky watching for Japanese beetle damage on soybean is nothing new. However, for much of the western half of the state this is a new problem. Japanese beetles are out, should peak in mid-July, and be present through August. The beetle is metallic green and bronze and about ½ inch long. There is a row of white tufts on the side of the body below the bronze wing covers.

Adults are leaf feeders in soybeans. They will begin feeding at the top of the plant and work downward. They will chew the leaf tissue between the veins. This type of damage gives the leaves a brown lacy appearance.

Japanese beetles are known for their ability to reproduce. Populations can be so high that counting them is really not practical. Like grasshoppers, if you see large numbers of Japanese beetles, be sure to estimate the amount of defoliation that is inflicted upon the beans and use the percent defoliation to indicate whether or not an insecticide application is warranted.

In general control should be considered if on average plants suffer 30% or more defoliation before bloom, 20% or more defoliation from bloom to pod fill, or 30% or more defoliation from pod fill until harvest. A more specific set of guidelines can

be found in Table 2 of ENT-13. This will allow you to consider the price of beans and the cost of control in addition to the defoliation levels and thus provides a more accurate decision.

Insecticides for control of Japanese Beetle are also listed in ENT-13. You should be able to get adequate control providing appropriate application is made. However, beware if you have never dealt with this pest before it may appear in very large numbers and require more than one application.

You may also find these publications helpful; IPM-3 Kentucky Integrated Crop Management Manual for Soybeans, ENT-13 Insecticide Recommendations for Soybeans.

WHEAT

STATE WHEAT YIELDS HIGHLY VARIABLE

By Don Hershman

Wheat yields and test weights have been highly variable in fields state-wide. In most cases, average to poor wheat yields are due to one or more unrelated factors:

Fields damaged by the early-spring freeze rebounded by initiating new tillers. In most cases, there were also tillers which were not killed. The result was that most fields had original and newly initiated tillers (in varying percentages) that flowered and matured at different times. Unseasonably hot weather occurred in late May and grain associated with late tillers was filling during this time. In contrast, most grain in original tillers had already reached maximum size by the time the hot weather hit. So, depending on the percentage of the grain that was filling during the hot weather, a field could have been little affected or the grain fill (manifested by both yield and test weight reductions) could have been significantly affected by the high temperatures.

Head scab was also a problem in some fields. I would classify 1998 as a moderate scab year, which means that some fields escaped damage, most had scab, but yields were not seriously affected; and some fields were hammered. You can tell whether grain was affected by scab by looking for "Tombstones" in the harvested grain. Head scab

causes grain to appear shriveled and lighter (chalky) in color; sometimes affected kernels have a pinkish color. Kernels with these characteristics are known as tombstones. In contrast, kernels affected by high temperatures during grain fill will appear more or less normal, but will be very small. Initial data from a scab survey being conducted in Kentucky this year indicate that the average incidence of head scab was 12.3% (range was 0-46%). On average, infected heads had about 9% (range 0-23%) of their surface area diseased. However, when one considers all the heads in a field (both clean and those with head scab), the average field severity was 1.23% (range 0-6.3%). These data are preliminary since all of the data are not yet in. However, the levels of disease I have indicated coincide with my field observations this spring.

Finally, yields in many fields were significantly reduced by leaf and glume blotch and, sometimes, leaf rust where post-heading applications of Tilt were not applied. In some fields, powdery mildew was also a factor. Based upon what I saw, most fields that were sprayed after heading had acceptable levels of leaf and glume blotch and other foliar diseases. Our data from a foliar fungicide test on the Walnut Grove Farm in Logan County indicate the disease control and yield results when a single application of Tilt was applied just before the onset of crop flowering and leaf and glume blotch was the main disease:

GLUME BLOTCH

Treatment	Leaf blotch*	Severity	Yield	Tst	Wt**
Non-treated	7.8b	100a	20.7b	38.3b	48.3b
Tilt (pre-flowering)	5.7a	100a	9.6a	45.7a	52.2a

* Scale of 1-9. A rating of 7.8 indicates significant involvement of the flag leaf; a rating of 5.7 indicates that, on average, leaf blotch did not involve the flag leaf and was restricted to subordinate leaves in the crop canopy.

**About half of the primary tillers in the field were killed by the spring freeze. Low yields and test weights reflect freeze damage and poor grain fill. Head scab was a minor factor in this test.

Plots were replicated six times; the letter following each value indicates if significant differences existed between the two treatments (P=0.05)

In addition to the above, there are many other possible reasons why yield and test weights might not be as good as expected in some fields. The take home message is consider all possibilities and take corrective action, when possible, next season. Planting date, variety selection, fertility, planting date, and location, for example, all had a profound effect on the level of freeze damage experienced. Some of these factors can be altered for next year, but you are stuck with location. Similarly, foliar fungicides applied in a timely manner can greatly reduce the impact of certain diseases, such as leaf rust or glume blotch, but will have little to no effect on head scab. In the end, you must assess where the weakness in the system were this season and make adjustments, where possible. However, there is no escaping an element of risk and the fact the some things will always be out of your control. .

SHADE TREES AND ORNAMENTALS

DON'T WAIT ANY LONGER TO CONTROL DOGWOOD POWDERY MILDEW

By John Hartman

Powdery mildew symptoms are appearing now on dogwood trees statewide. In most cases, affected parts of leaves turning light green or yellow or are beginning to develop brownish patches. In some cases, a very light coating of the causal fungus can just barely be seen, while occasionally, small patches of the fungus are obvious nearby. Some homeowners with dogwoods that were devastated by the disease last year may be planning to apply a fungicide this year. If so, applications should already be underway, or at the latest should be started immediately.

A partial list of effective fungicides follows: fenarimol (Rubigan), myclobutanil (Eagle, Immunox), propiconazol (Banner Maxx), thiophanate-methyl (Cleary's 3336), and triadimefon (Bayleton, Strike). The first three chemicals listed are capable of stopping the progress of powdery mildew infections fairly quickly. There are no fungicides that are capable of restoring already discolored or damaged leaf tissues.

RHIZOCTONIA ROOT AND CROWN ROT IS DESTROYING ANNUALS IN OUTDOOR BEDS

By John Hartman

The recent warm, humid weather and increased soil warming have favored a soilborne disease which has resulted in several catastrophic losses of nearly entire beds of flowering annual plants, especially petunias. Affected plants are yellowing, wilting, and dying in the landscape. Plant roots and crowns are infected and decayed by the fungus *Rhizoctonia solani*, a common soil-inhabiting pathogen. A related disease, damping-off of newly planted seeds and seedlings in the vegetable garden, is also being noticed. In some cases, seeds that produced an excellent stand a few weeks ago, are emerging poorly in recently planted garden rows because of seed and seedling rots associated with the fungus *Rhizoctonia*.

There is little that can be done for infected and decayed petunias or other plants. To replant lost flower beds, growers might want to remove and replace soil to reduce levels of fungal inoculum or to try again using transplants of another species. Soil drenches with fungicides such as iprodione, PCNB or thiophanate-methyl might provide partial control of this disease.

HOUSEHOLD

WINNING THE ANT WAR

By Mike Potter

Ants are one of the most frequent and persistent pests encountered around the home. At least a dozen species may be found indoors, including pavement ants, carpenter ants, odorous house ant, acrobat ant, and pharaoh ant. Besides being a nuisance, they contaminate food, build unsightly mounds on our property, and cause structural damage by hollowing out wood for nesting.

Ant control can be very frustrating. Repeated attempts often are required to maintain ants at tolerable levels. This column provides tips on how to eliminate ants with more success and less effort. Recommendations pertain to all of the common ant species found in Kentucky except carpenter ants, which were discussed in an earlier (5/18/98) newsletter.

THE SOLUTION

The mistake most people make when attempting to control ants is only spraying the ones they see. This approach usually fails because the ants seen foraging over exposed surfaces are only a small

portion of the colony. Typically, there will be thousands of additional ants, including one or more egg-laying queens hidden somewhere in a nest. *The importance of eliminating queens and other colony members within nests cannot be overstated and is the key to effective ant control.*

Ants build their nests in many different locations, both inside and outside of buildings. Control of indoor-nesting ants requires a somewhat different approach than for ants nesting outdoors, because indoor nests usually are hidden or inaccessible.

Ants Nesting Indoors- Buildings contain many favorable nesting sites for ants. Preferred sites include spaces behind walls, cabinets, light switches and receptacles, behind window and door frames, and beneath floors. Most of these areas are hidden, making it extremely difficult to determine the precise location of the ant colony. When the location of the nest cannot be determined, or the nest is inaccessible, **insecticidal baits** are the preferred solution for homeowners. The advantage in using baits is that foraging ants take the insecticide back to the nest and feed it to the queen(s) and other members of the colony. Within a short period of time (usually within a week), the colony is destroyed.

Ant baits are easy to use. Most consumer formulations come pre-packaged with the insecticide and food attractant confined within a plastic, child-resistant container. Two of the more effective containerized bait products which can be purchased in most grocery and discount stores are Combat (R) SuperBait for ants and Raid Ant Bait (Mettastop(R)). Place the baits next to wherever ants are seen, preferably beside ant "trails" -- invisible odor trails that worker ants follow between food and the nest. Do not spray other insecticides or cleaning agents around the bait stations as this will keep ants from feeding on the bait. Initially, you should see an increase in the number of ants around the bait station. **Do not spray them.** This indicates that the ants are feeding on the bait and transporting the insecticide back to the nest. Ant activity around the bait station should subside in a few days as the number of ants in the colony declines. Continue to place other baits wherever ants are seen.

Another commercially-prepared ant bait that often works is Terro II(R), sold in some hardware stores. Place dabs of the bait on small pieces of waxed

paper, or on the back (nonsticky side) of masking tape along ant trails, but away from children and pets. Replace with fresh dabs of bait daily until ant activity ceases.

IMPORTANT NOTE: Insecticidal baits will not normally control carpenter ants. Elimination of carpenter ants is discussed in KPN article 5/18/98, or ENT-57, *Ant Control In and Around Structures*.

Ants Nesting Outdoors- Ants noticed inside the home may actually be nesting outdoors in the yard. Trace the ants back to the point where they are entering from outside, such as over a window sill or beneath an exterior door. Nests often will be located in the ground, where they may be marked by a mound or anthill. Other times, the nest will be concealed under stones, landscaping timbers, pavement, or beneath tall grass adjacent to the foundation wall. Some kinds of ants prefer to nest underneath siding or behind wood trim that has been moisture damaged. While it takes patience to locate a nest outdoors, results will be more rapid and permanent than if you spray only where ants are seen. One way to entice ants to reveal the location of their outdoor or indoor nest(s) is to place small dabs of honey or maple syrup next to where ants are seen. After the ants have fed, they soon will head back to the nest.

Once a below-ground nest is discovered, the colony can be eliminated by thoroughly spraying or drenching the nest location with Sevin, Dursban, or permethrin (Spectracide Bug Stop). Large colonies will require greater amounts of liquid to move the insecticide throughout the network of underground galleries within the nest. Using a bucket to apply the diluted insecticide is an effective method.

Follow label directions for treating ant mounds, paying attention to precautions for mixing and application.

Another approach would be to use the effective and convenient bait product, Combat(R) Ant Killing Granules, available through some retail stores. Sprinkle the bait in small quantities on outdoor ant mounds, along pavement cracks, and other areas where outdoor ants are nesting or foraging.

Ant entry into homes can be reduced by caulking around doors (especially along bottom outside edge of thresholds), windows, and openings where pipes and wires enter the building. Chronic ant problems can further be reduced by applying one of the above-mentioned liquid insecticide formulations around the outside perimeter of the building. Pay particular attention to structural

points of entry, such as around doors and where utility pipes and wires enter from the outside. Also consider applying a 3-to 6-foot swath along the ground adjacent to the foundation, and a 2-to 3-foot band up the foundation wall. Longer residual (1-3 months versus 1-2 weeks) can be obtained by using a microencapsulated (slow-release) insecticide formulation. A few such formulations of Dursban are now being stocked by lawn/garden shops and hardware stores.

Broadcast spraying or applying conventional insecticide granules to the yard (e.g., diazinon or Dursban) seldom, if ever, solves an indoor ant problem. In Kentucky, such applications are a waste of money, effort, and a potential polluter of streams, lakes, and waste water. They also eliminate beneficial ants which may be important allies in suppressing other pests on your property.

DIAGNOSTIC LAB - HIGHLIGHTS by Julie Beale

Diagnoses on agronomic crops this past week included: on corn, anthracnose, zinc deficiency and herbicide injury; on soybean, Pythium root rot and Rhizoctonia root and stem rot; on alfalfa Rhizoctonia crown rot, crown rot complex, and Phytophthora root rot; on tobacco, black shank, blue mold (much of it systemic), frog-eye, angular leaf spot, Fusarium wilt, soreshin (Rhizoctonia) nutritional problems, wet feet/poor roots and hail damage. Note that we are seeing an increase in Rhizoctonia stem problems on the tobacco at this point; also watch for black shank developing even on resistant varieties. These plants were set with systemic blue mold and lose their resistance to black shank.

Diagnoses on ornamentals, fruits and vegetables included: Discula anthracnose on dogwood and maple; take-all and red thread on turf; black rot on grape, scab on peach; Septoria leaf spot, bacterial canker, pith necrosis (Pseudomonas) and catfacing on tomato.

INSECT TRAP COUNTS

June 19 - 26 Princeton

True Armyworm	91
Fall Armyworm	1
European Corn Borer	0
Southwestern Corn Borer	1
Corn Earworm	0

Lee Townsend, Extension Entomologist