



KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • WEED SCIENCE

On line at - <http://www.uky.edu/Agriculture/kpn/kpnhome.htm>

Number 881

May 8, 2000

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TOBACCO

CURRENT BLUE MOLD STATUS by William Nesmith

BLUE MOLD ADVISORY: A tobacco blue mold advisory is issued for all tobacco producing areas of Kentucky due to the potential arrival of spores via airborne or transplant-borne routes from the southeastern US. Fungicide controls should be applied weekly (Ferbam or Dithane) in all transplant production systems. Where southern transplants are being used, foliar applications of Acrobat MZ at 0.5 lbs/20 gallons of water should be made in the field immediately after setting, with weekly sprays thereafter, adjusting the concentration and volume of fungicide to the stage of growth, as per the label.

SITUATION: Centers of active blue mold have become well established in Florida, Georgia, North Carolina, and Texas. These could serve as sources of airborne spores for Kentucky under certain weather events, now or as they continue to build. In addition, tobacco transplants (cultivated or ornamental tobaccos) moving from the southeast or through these communities with blue mold, pose an increased risk of introducing the blue mold pathogen into Kentucky. All growers should be aware that

transplants that are scheduled to move into Kentucky in May are being produced in southern Georgia and Florida. I am not aware of the specific communities in Kentucky that are expecting shipments, only that contracts for production exist.

The weather events of May 3 and 4 may have introduced viable, wind borne spores of the blue mold fungus into Kentucky. The overall risk potential of introduction was low. However, weather conditions have been such that spores leaving this area of the southeast could be arriving in Kentucky within a day of departing the southeast with deposition on the tobacco leaves in Kentucky occurring during darkness and wet conditions. Communities receiving heavy rain late last week are at the greatest risk.

BLACK SHANK ADVISORY FOR 2000 CROP by William Nesmith

Damage from black shank in the 1999 crop was probably the greatest in the state's history. Several of the risk factors associated with major epidemics of black shank in the past are beginning to come together again this year, increasing the probability of another major black shank epidemic in 2000. Consequently, tobacco growers are advised to

increase their efforts to manage black shank in this crop.

The following are some factors to consider in controlling black shank.

* No factor is a better predictor of black shank than continuously cropping to tobacco on a black shank site, regardless of the variety or controls. The only question for black shank replant-sites is: How much do I expect? If problem sites must be replanted this year, resistant varieties, three soil applications of fungicides, and operating at lower soil pH should be considered. Preplant soil fumigation may have merit for late May and June transplantings.

* The black shank fungus should have over-wintered well due to a mild winter, so expect a larger population early in the season.

* The sudden onset of hot weather in May should drive early black shank activity. The earlier the initial infections, usually the greater the overall losses.

* Rotation is the best tool in black shank control.

* On sites with black shank, the higher the soil pH, the greater the potential for serious black shank problems. Use fertilization regimes that allow successful production at lower soil pH without creating manganese toxicity.

* Use a black shank resistant variety on the sites with a history of black shank. However, realize that black shank resistance is rated on a scale of 0 to 10 and that a level 4 resistance also means 60% loss on a hot black shank site!

* Be careful during transplanting time to insure the planned variety is actually put in the appropriate fields. There were many cases of susceptible varieties in black shank fields and resistant varieties in rotated fields on the same farm in 1999. This often happens when plants of the resistant variety became available prior to those of the susceptible. In several cases, I found that the grower/manager had greater fear of spreading black shank than respect for the vulnerability of a susceptible variety on a black shank site.

* On sites with a history of black shank, apply a regimen of soil fungicides, using either Ridomil Gold or Ultra Flourish: preplant, early cultivation, and layby (consult the label).

* Avoid setting diseased transplants. Plants with Pythium root rot, soreshin, Fusarium wilt, or blue mold are at high risk of sustaining great damage from black shank if planted to black shank sites.

* Avoid damaging plants during cultivation and layby fertilizations. We observed several cases last season when black shank “exploded” in the planting immediately following close cultivation and/or fertilization. Black shank can destroy healthy plants without any help in weakening the plant host, but it becomes especially aggressive when the host is weakened after infection has occurred.

* Take steps in problem fields to insure good soil drainage through ditching, etc. Nothing increases black shank more than standing and moving water. Be especially careful at transplanting not to compact the soil.

* Maintain a strong sanitation program, being especially rigorous during transplanting and cultivation, to reduce introduction and spread. A little black shank goes a long way!

ARMYWORMS AND NO-TILL TOBACCO

By Lee Townsend

Armyworms are active now and can be found in lush wheat or rye cover crops. Often, their distribution in a field is uneven. There can be very large numbers of them in areas of the field where moths have laid masses of eggs. As the cover crop is killed and tobacco is set, the armyworms are left without food and will attempt to feed on anything that is green. While armyworms are not going to thrive on tobacco transplants, they can damage them seriously.

Rescue applications of Orthene, or Bt products, will provide excellent armyworm control if infestations are discovered in the field soon after plants are set. Ideally, the treatment should be applied late in the afternoon or early evening, just before armyworms become active.

Check areas of the field with lodged plants for signs of armyworms or their activity. On sunny days, these insects will be hidden under clods, plant matter, or in soil cracks. Black, pepper grain like droppings can be seen on the soil surface. In these, a preventive spray can be applied to the cover crop to control the worms before they have a chance to injure the crop.

Consult with your local Extension agent or pesticide dealer for options to consider.

CORN

DURATION OF WEED CONTROL FOLLOWING FALL-APPLIED PREEMERGENCE HERBICIDE TREATMENTS IN CORN

by James R. Martin

Applying residual herbicides in the fall for early pre-emergent weed control in the next season's corn crop has been used more in the northern portions of the Midwest compared with our region. The longer growing season and different complex of weed species that we have are main reasons why we place less emphasis for using this method of weed control. However, the recent labeling of Princep as a fall treatment for corn weed control has created interest among our growers to consider this strategy. Atrazine is similar to Princep and is widely used in spring applications for weed control in corn but is not registered for fall treatments.

Princep 4L may be applied in the fall up to a maximum of 1 qt/A for pre-emergence control of such weeds as common chickweed, henbit, mustards, and certain cool-season annual grasses prior to planting no-till corn the following spring. Observations over this past winter indicate that this treatment worked reasonably well, providing the applications were made before weeds emerged.

The question now is, "How much if any of the herbicide is left to provide weed control for the remainder of the season?". Dr. William Witt and others at University of Kentucky have initiated research help address this and other questions about fall-applied treatments. Preliminary results from these studies and from analyses of soil samples collected from growers' fields indicate that a significant portion of the Princep has dissipated. Based on these findings, it is unlikely there is sufficient herbicide left to provide any long-term benefits to this year's corn crop.

By now most of the corn has been planted and the crop already emerged. If no additional pre-emergence herbicides were applied since the fall treatment, growers will need to consider options that control most weeds at least until crop plants are able to shade the row middles. There are numerous pre-emergence and post-emergence herbicides available for weed control after corn emergence.

FORAGE CROPS

SPRING BLACK STEM OF ALFALFA

by Paul Vincelli

Weather this spring has been very conducive to a fungal disease of alfalfa called spring black stem in much of Kentucky. Look for dark brown to black lesions on the stem that can be several inches long, and coalesce to cover most of the stem when severe. Infections can also occur on leaflets. Typically these appear as small dark brown to black spots; just a few of these can cause the leaflets to turn yellow and fall off, so severely affected fields are showing substantial defoliation at this time.

The best thing for these fields is to cut and bale the growth that is there. Most alfalfa fields are at a stage where they are physiologically ready to be cut. By leaving the forage there, it will continue to defoliate (costing a producer loss in yield and in forage quality). By cutting now, producers will capture whatever yield is available, and it will allow sunlight and wind movement to penetrate to the new crown buds that are (or will soon be) breaking dormancy.

WHEAT

WHEAT STREAK MOSAIC MANIA

by Don Hershman

The information blitz that has centered on the current wheat streak mosaic (WSM) epidemic in Kentucky has been highly successful. Perhaps too successful. Presently, all information indicates that WSM is primarily a problem in the southern tier counties in central and west Kentucky. However, because of the great concern for this disease state-wide, some producers are attributing several different problems to WSM.

Perhaps the main disease being confused with WSM is wheat spindle streak mosaic (WSSM). WSSM is always present to one degree or another in early spring, but this year, probably due to cool temperatures overall, symptoms are hanging on longer than usual. In most years, symptoms of the disease go into remission as average day/night temperatures warm up during April.

As their respective names imply, both WSSM and WSM produce streak-like symptoms that can look

similar. This is especially true for late wheat streak mosaic virus infections where diseased plants are NOT stunted and symptoms are mild. The only 100% sure way to distinguish between the two diseases is by an ELISA test. However, the streaks associated with WSSM tend to be shorter than those of WSM, and many (but not all) will have tapered ends (spindles) and a green island in the center. In addition, leaves showing WSSM symptoms will usually have good contrast between the yellow streaks and the green of the leaf. With WSM, leaves often turn yellow as streaks coalesce, but the leaf veins often remain green. Mild WSM will not produce extensive yellowing, so some confusion is still possible. An additional indicator is that most plants with WSSM symptoms at this time probably also have some streaking evident in the lower canopy. On the other hand, it would not be unusual for late WSM infections to be evident only in the upper canopy. Finally, distribution of WSSM often encompasses the entire field. This degree of WSM can occur, but it is the exception rather than the rule. This is especially true for late infections.

Another common situation being confused with serious WSM infection is take-all disease. The only similarity I have seen between these two diseases is tiller death, severe plant stunting and plants with a “spiked” appearance. However, take-all affected plants will not show any evidence of leaf streaking and plants will eventually die. In addition, plants infected by the take-all fungus will show a shiny black discoloration on the stem at and just above the soil line. No symptom like this is associated with WSM. Take-all usually occurs in patches of various sizes, but so can WSM.

In addition to the two situations described above, there are also other problems being attributed to WSM. These include herbicide injury, barley yellow dwarf, fertility problems, and wet soil and soil compaction-related problems. If you are unsure about the nature of the problem you are seeing in a field, contact your Extension office or crop consultant for assistance. If additional help is needed in diagnosing a problem, your local county Extension agent for agriculture can submit a sample, on your behalf, to one of the two Plant Disease Diagnostic Laboratories operated by the Department of Plant Pathology.

LAWN & TURF

GRAY LEAF SPOT CONTROL SUGGESTIONS GIVEN LAST WEEK ARE FOR GOLF COURSES
by Paul Vincelli

Last week’s article on gray leaf spot of perennial ryegrass described suggestions for the use of fungicides to control the disease on golf courses. There were a number of places in the article that referred to golf course uses, but the article did not specifically state that the suggestions were not intended for home lawns. In Kentucky, perennial ryegrass is almost never used in home lawns. However, in some states where this newsletter is read, perennial ryegrass is a common grass in home lawns.

In any locations where gray leaf spot poses a threat to the health of residential lawns, readers should be aware that one of the fungicides mentioned in last week’s issue—chlorothalonil (active ingredient in Daconil and other fungicides)—is no longer labeled for use in residential turfs. See my article in the 6 March 2000 issue of Kentucky Pest News for more information in this subject.

SHADE TREES & ORNAMENTALS

LANDSCAPE PLANT DISEASES BEING SEEN NOW

by John Hartman

This is becoming an interesting year for diseases of landscape plants. The effects of the April 9 Sunday morning freeze are still being noticed. In addition, the wet weather of recent weeks has favored numerous fungal diseases.

Freeze damage. Although this abiotic disease damaged many hosts, the most dramatic symptoms are being seen on certain Ginkgo trees in exposed locations. Trees more protected or favorably located were unaffected and have fully expanded leaves at this time. Affected trees have leaves less than one-half inch long, and from a distance the trees truly appear to be in trouble. A closer look at the leaves reveals browning along the leaf margins. Trees with adequate starch reserves (already depleted by last year’s drought) should be able to re-leaf and survive.

Homeowners may notice a lack of fruit developing on their apple trees. They are not alone because many commercial orchards lost nearly all their fruit production on certain varieties. If backyard apples are being sprayed, should one continue with fungicides when there is to be no fruit crop? Yes, continue sprays for the next month if the tree is susceptible to scab, because to allow the tree to defoliate will reduce fruit production next year.

Fungi are causing foliar diseases of landscape trees. Wet spring weather has provided at least two lengthy leaf wetness periods for severe apple scab (*Venturia*) infections, and several for moderate to light infections. In addition to apples, susceptible crabapples are also showing apple scab symptoms. Look for olive-green to brown leaf spots, leaf yellowing, and leaf drop. In many cases, scab is severe, and leaves show dead blotches, sometimes referred to as “sheet scab.” Wet weather has also favored maple and sycamore anthracnose diseases (*Kabatella*, *Apiognomonina*). On maple leaves, look for individual angular brown spots which run together, especially along the veins. Sycamores show brown leaf blotches, and sometimes twig dieback. In landscapes throughout Kentucky, many ash trees are littering the lawns with infected leaflets, each one showing one or more blotches where ash anthracnose (*Discula*) has been active.

On the lawn. While picking up all those ash leaflets, take a close look at the grass. In the tall fescue lawn, one should be able to notice rust and smut in individual grass clumps. Rust (*Puccinia*) appears with typical orange pustules scattered on the leaf surface. Stripe smut (*Ustilago*) causes long, narrow, black lesions running along the leaf blade. These lesions are filled with black, powdery spores of the fungus. Kentucky bluegrass, meanwhile, shows purple-brown oval spots on leaf blades, symptoms of Helminthosporium leaf spot (*Drechslera*).

From the greenhouse. When purchasing plants, avoid buying impatiens with circular yellow or brown leaf spots, dead foliage, and overall stunting. They could be infected with a virus, impatiens necrotic spot virus (INSV), which is systemic and from which plants will not recover at home. Other plants such as petunia may show circular brown spots on the leaves, and tomato transplants may show dead blotches on the leaflets, all caused by this virus. Diseased plants should be excluded from the garden.

CALICO SCALE ALERT

By Mike and Dan Potter

Calico scales are being found in unusually high numbers on several landscape plants, including honeylocust, hawthorn, hackberry, dogwood and flowering crabapple. Infestations are so heavy, in some cases, that entire twigs and stems are covered by the scales and the trees are in decline.

Mature calico scales, *Eulecanium cerasorum*, are large, black and white globular-looking insects about the size of a pencil eraser. They have a soft, leathery body and when crushed ooze a gummy, wax-like fluid. The adult female is the life stage which is now being observed attached primarily to twigs and stems. Some people are mistaking them for ladybird beetles which are roughly the same size.

Like other scale insects, the calico scale feeds by sucking plant juices. Heavy infestations can cause premature leaf drop, branch dieback and, coupled with other stresses, eventual tree death. It's hard to say why infestations are so heavy this year; scale insect populations tend to be higher when trees are already in a stressed condition (as they would be from last year's drought), and possibly due to mild winter and spring weather.

The mature females will soon be dying. Underneath each of them, however, are literally thousands of eggs which soon will be hatching into crawlers. The crawler stage prefers to suck plant juices from the leaves (further stressing the plant) and also excretes copious amounts of honeydew. The sticky honeydew and resultant sooty mold are cosmetically unappealing and can stain patios and car finishes, and attract wasps and other nuisance pests. Another reason to take action against the crawlers is that they can become wind borne, spreading the infestation to other trees nearby.

So What Should I Do?

It is too late to impact the mature females, which will be dying off soon anyway. However, the underlying eggs are due to hatch any day, probably this week or next. Observant tree managers can monitor the status of egg hatch and crawler emergence by flicking off the adult scales and observing the eggs, which look like a mass of fine flour. The yellowish, newly-hatched crawlers are tiny but their movement will be visible to the naked eye.

Insecticide applications, timed to coincide with emergence of young crawlers, will break the cycle of development and help alleviate further plant stress. Conventional insecticides labeled for crawler control include Dursban, Malathion, Orthene, and especially synthetic pyrethroids such as Talstar, Scimitar, and Tempo(= Bayer Advanced Lawn & Garden Multi Insect Killer). Decent control of crawlers can also be achieved with 2% horticultural oil or insecticidal soaps. Thorough coverage of infested twigs, branches and adjoining leaves is important, and since the hatching period often lasts about a month, a second application probably should be made 2 to 3 weeks

after the first.

Calico scales overwinter on the bark as mid-sized nymphs. To further reduce the likelihood of problems occurring next year, it probably would be wise to follow up with a dormant oil application (in fall or winter) to trees that were heavily infested with calico scales this year.

OVERNIGHT DEFOLIATION OF OAKS

By Lee Townsend

Oaks can be stripped of their leaves practically overnight by May beetles. Active now, these beetles are approximately 1" long and cylindrical, color varies from brown to black.

The species which attack oak feed at night, stripping the foliage and leaving only veins. Consequently, the damage is present but there is no sign of the cause. The beetles leave the trees during the day and may be found under leaves or grass around the tree. Sevin is very effective against these insects. The feeding period lasts for several days but one treatment should be sufficient.

The larval stages are white grubs that feed on the roots of grasses. Large expanses of turf or pasture can produce thousands of these beetles. Fortunately, the beetles are around for only a short time and oaks will push out a new set of leaves.

LIVESTOCK / POULTRY

PASTURE FLY CONTROL OPTIONS

By Lee Townsend

Insecticide-impregnated ear tags release small amounts of an insecticide which are distributed over the animal during grooming or rubbing. In general, ear tags have provided excellent, long term control of horn flies and a reduction in face fly numbers.

Factors to consider when using these products: Read the label before you purchase and use insecticide ear tags. All tags are labeled for beef cattle while only those with certain active ingredients are approved for use on lactating dairy cattle. Check for any limitations for use, such as animal age.

Look for the common name of the active ingredient (for example, permethrin). In some cases, different brands of tags contain the same active ingredient. You can save money by comparison shopping, or avoid inadvertently using the same active

ingredient if resistance is a potential problem.

Consider the recommended number of tags per head. Some brands are used at the rate of one per animal. UK research trials have generally shown that systems which use two tags per animal seem to provide better face fly control than those which rely on a single tag.

Animals only need to be handled one time to apply the tags. However, this is not necessarily when you would normally work your animals. For fly control, it is best to tag animals after horn fly numbers reach 50 or more per side. This reduces the chances of developing resistance to the active ingredients that are being used.

Normally, tags provide 12 to 15 weeks of fly control. Tagging too early in the season can mean that the tags are not providing good control in the fall that will help to control the overwintering population.

With insecticidal ear tags, the control system moves with the animals. This may be an advantage if animals are moved at intervals and dust bags or back rubbers are not in place in every pasture or grazing area.

There are three main types based on the active ingredient(s) that they contain.

1. Organophosphate (OP) insecticides such as diazinon, fenthion, pirimofos methyl, or a diazinon + chlorpyrifos combination. These tags provide good horn fly control and moderate face fly control.

2. Synthetic pyrethroid (SP) insecticides- fenvalerate and permethrin are the original members of this group. These tags are sold under a variety of brand names.

Usually they are less expensive than the new, more expensive synthetic pyrethroids, such as cyfluthrin, lambda-cyhalothrin, and zeta- cypermethrin. These tags provide good horn fly control and better face fly control than the OP tags.

The two groups of tags contain insecticides that attack the nervous system of the fly in different ways. Seasonal rotation between an OP and an SP insecticide can be useful in combating insecticide resistance that has developed in horn flies in some areas of the state. Resistance, indicated by a failure in horn fly control, can develop when tags containing the synthetic pyrethroid permethrin have been used for several consecutive seasons. No resistance to organophosphates, or the new synthetic pyrethroids,

has been seen.

3. A relatively new group of combination tags has appeared. These couple an OP and a SP in the same tag. Current examples pair lambda-cyhalothrin and pirimiphos methyl or cypermethrin and chlorpyrifos. The assumption is that the OP would control SP-resistant horn flies.

Are there any safety precautions associated with using insecticide ear tags?

Non-permeable gloves should be worn when tagging animals. This is clearly shown in the application pictures on the containers of some tag brands. The hands shown applying the tags clearly have gloves. Comparable pictures with other brands do not obviously show gloves, although label statements indicate that they should be worn.

Insecticidal ear tags should not be handled bare-handed. The concentration of insecticide in the tags varies from 8% to 36%. The tags are manufactured so that the insecticide is rubbed off the surface and onto the animal. Any handling of the tags leaves some insecticide on the hands. The insecticide then can be transferred easily to the mouth, eyes, face or other areas of the body. Some individuals may be very sensitive to the active ingredients in the tags.

Signal words on the label range from CAUTION to WARNING. Several products carry statements about the potential for allergic reaction following exposure. Many are easily absorbed through the skin or eyes, some have irritation vapors. Wear protective gloves and wash hands thoroughly with soap and water after tagging or when taking a break.

Pour-on insecticides are ready-to-use formulations that are applied to animals in measured doses based upon body weight. As with all pesticides, it is important to read the product label carefully before purchase and use.

The active ingredient in some pour-ons are systemic insecticides, they are absorbed into the animal and circulate in the blood. Examples include famfur (Warbex), fenthion (Spotton, Lysoff, and Tiguvon) and trichlorfon (Neguvon). These products, which target cattle grubs and lice, are applied in the fall.

Pour-on products that contain synthetic pyrethroids (cyfluthrin, permethrin, or lambda cyhalothrin) are not systemic so they can be used at any time during the year. They function as contact insecticides for control of pests such as horn flies or lice. Typically,

these formulations provide fly reduction for about 4 weeks so they must be re-applied at intervals. The length of control will vary with weather and other factors so treat again when fly numbers build back up to about 100 per side but no sooner than the label instructions allow. While pour-ons can provide very good horn fly control, it is unlikely that they will do more than a fair job against face flies.

Permethrin is the active ingredient in many pour-ons. There is a wide range of concentrations, and consequently, application rates. Formulations containing 1% (Atroban, DeLice, and Expar) are applied at < fl. oz./100 pounds of animal weight.

Boss (5%) is used at about 1/8 fl. oz./100 lbs, while Brute and Permethrin CD are 10% formulations that are used at the rate of 1/8 fl. oz./250 lbs. In addition, DeLice, Expar, and Permethrin are sold in synergized formulations. These contain piperonyl butoxide, a material that is commonly included with natural pyrethrins to enhance their activity. It is questionable that these synergized formulations are providing the producer with any real gain.

If performance of permethrin is reduced due to insecticide resistance, it would be better to switch to an organophosphate insecticide. Products containing permethrin may be used on beef, as well as, dry and lactating dairy cattle. Cylence (cyfluthrin) and Saber (lambda cyhalothrin) contain the newer synthetic pyrethroid insecticides. Cyfluthrin is used in the Cutter Gold Ear Tags, while Saber Extra Ear Tags are made with (l-cyhalothrin).

Synthetic pyrethroid insecticides are very toxic to fish. Do not allow treated animals to wade in ponds or creeks. They can contaminate the water and kill some aquatic organisms.

NORTHERN FOWL MITES ON CHICKENS **By Lee Townsend**

The northern fowl mite is a common and important external parasite of poultry and wild birds, such as sparrows and starlings. In commercial and home flocks, large numbers of these blood-sucking mites can produce anemia, reduce egg production, or general thriftiness of the birds, and greatly stress them. In addition, the mites will bite humans and produce significant skin irritation or dermatitis.

The life cycle takes place entirely on the bird with the mites concentrated around the vent (anal) area. Under favorable conditions, development from egg

to adult can take only 5–12 days so large numbers can build up rapidly in a flock. The mites do best in a temperature range of 65 F to 68 F so numbers peak at cooler times during the year.

Initially light infestations of the mite can explode into very heavy infestations (20,000 mites per bird) in 8 to 10 weeks. Once a bird is moderately infested, the mites can spread within the flock, primarily by bird to bird contact. However, the mites can live off of the host for 2 to 3 weeks. They can be moved on egg crates, flats, egg collectors, or even rats living around the chicken house.

Control of northern fowl mite infestations requires thorough treatment using a high pressure sprayer to deliver about 6 fl oz of finished spray to each bird. The vent area must be thoroughly wetted to the skin to kill the mites. Compressed air (pump up) sprayers generally do not do an adequate job of forcing the spray into the feathers.

Two factors affect mite control. First, eggs laid on the birds are not killed by the insecticides. This serves as a continuous reinfestation threat. Second, some birds are not treated thoroughly. They cluster during spraying and can screen each other to block good spray deposit. Small numbers of surviving mites on these birds can act as a reservoir to re-infest the flock. A second application, 4 to 7 days after the first, will help to control escapees or newly hatched mites. Check the insecticide label for re-treatment intervals.

Northern fowl mite infestations can begin in several ways-

1) Wild birds entering the chicken house or nesting in and around it can be a source. Nestling birds can have high mite loads. Mites left behind when these birds leave the nest can wander off to find a new host. Screen out wild birds to reduce chances of mite introduction.

2) Consider any birds entering the flock to be infested. Treat them preventively before release. Ideally, they should receive two applications before mixing with the flock. Roosters can carry larger mite populations than hens and the mites on them can be much more widely distributed on the body, also. Inspect and treat roosters that are used to “spike” breeding flocks.

3) Regularly insect a portion of birds in the flock for mites. This will help to detect infestations early and allow for a treatment before a general spread throughout the flock.

DIAGNOSTIC LAB HIGHLIGHTS

by Julie Beale and Paul Bachi

Samples received in the Diagnostic Lab last week included cold/frost injury on wheat, alfalfa and tobacco; take-all, wheat soilborne mosaic virus and wheat spindle streak mosaic virus on wheat; Pythium root rot and target spot on tobacco.

On fruits and vegetables, we have seen scab on apple; black knot on plum; anthracnose and orange rust on blackberry; and Pythium damping-off on kale.

In a commercial greenhouse growing both ornamentals and vegetable transplants, we diagnosed impatiens necrotic spot virus. Host plants in the sample included regular and New Guinea impatiens, petunia and tomato, although other plants may also be infected. This virus has a wide host range and is vectored by thrips. Destruction of infected material and insect control are crucial in managing this disease. On other ornamentals in the landscape, we have seen frost injury (various ornamentals); bacterial soft rot on iris; anthracnose on ash, maple and sycamore; and insect damage (aphid, scale, midge) on various ornamentals.

INSECT TRAP COUNTS

UKREC, Princeton, KY - April 28-May 2, 2000

Black cutworm	3
True armyworm	45
Corn earworm	1
European corn borer	7

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.