KENTUCKY PEST NEWS

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CORN

CORN FLEA BEETLE MAY BE INTENSE
By Ric Bessin

Increased numbers of flea beetles are to be expected following mild winters. Flea beetles overwinter as adults near corn fields and are active in weeds early in the spring. Corn flea beetles are very small, dark insects. They jump readily when disturbed, hence the name flea beetles. While we are likely to see higher numbers this year, flea beetle infestations can be highly variable, so fields need to be monitored regularly.

Flea beetles are important in corn for two reasons. First, they are leaf feeders and large infestations can kill small seedlings. Feeding by these beetles results in scaring of the leaf surface as evidenced by a frosted appearance to the leaves. Serious damage can occur on plants less than six inches tall. Flea beetles are also vectors of Stewart's Wilt, also known as bacterial leaf blight.

Corn seedlings usually recover from flea beetle damage, so control is not recommended unless some plants are killed or taking on a whitish cast and growing conditions are poor. Fields with a history of Stewart's Wilt or fields with Stewart's Wilt susceptible hybrids should be scouted carefully. Most field corn varieties are not as susceptible to this disease as sweet corn.

FUNGICIDES FOR GRAY LEAF SPOT
By Paul Vincelli

Gray leaf spot is significant concern to many dent corn producers. Since the fungicides Tilt® and Penncozeb® 80WP are labeled for this disease, producers sometimes ask where these products fit in Kentucky grain farm operations. Penncozeb and other mancozeb-containing products have performed inconsistently for gray leaf spot control on corn, so most of this discussion will focus on Tilt fungicide.

Which fields are at risk of yield loss from gray leaf spot? Infested corn leaf residue is the source of infectious spores of the fungus *(Cercospora zeae-maydis*) that causes the disease. Damaging spore levels occur very often in no-till, continuous corn fields; these are high-risk fields. Moderate risk fields include the following: no-till fields that were in corn two years ago and were in soybeans or wheat/double-crop soybeans last year; and fields in corn last year that were disced only (if 35+% residue

cover remains). Levels of primary inoculum are lower in these fields than in high-risk fields, although damaging outbreaks of gray leaf spot can occur, depending on hybrid, planting date and weather during the growing season. Fields with little to no risk include: no-till fields having two growing seasons without corn; disced fields with no corn last year; and fields that were moldboard-plowed, regardless of cropping history.

The only "wild card" about these comments is that corn residue from a neighboring no-till field planted to a susceptible corn crop last year can serve as a significant source of inoculum for corn planted up to 300-500 feet away, or for any field if it is planted very late (say, in June).

Can the disease be controlled adequately with hybrid selection? More corn hybrids become available each year with enough *partial resistance* against gray leaf spot for adequate yields. Compared to a susceptible hybrid, a corn hybrid that has partial resistance to gray leaf spot exhibits smaller lesions, a delay in lesion development, and/or reduced sporulation in lesions. While disease development is not prevented completely, partial resistance has the effect of slowing disease progress. Since gray leaf spot is principally a disease of mid- to late grain fill, resistance which simply slows disease progress can provide for acceptable yields. The greatest availability of hybrids with partial resistance to gray leaf spot is among medium-maturity and full-season hybrids.

The majority of the seed corn in stock for the 1998 season in Kentucky appears to have at least moderate resistance to gray leaf spot. For example, 77% of the seed stock of Pioneer Hi-Bred has a rating of "5" or higher (scale of 1-9, where 9=excellent resistance) against the disease. Studies have shown that expected yield benefits of applying fungicides following the label directions on hybrids with these levels of resistance are generally minimal to nonexistent, even with multiple applications. *Keep in mind that data used to demonstrate a substantial economic value from Tilt are usually collected in studies from no-till, continuous corn where a susceptible hybrid is planted, not a hybrid with moderate resistance.*

Probability of favorable net return from fungicides As far as factors to consider, I've already mentioned the influence of crop rotation, tillage, and hybrid susceptibility on gray leaf spot development. In addition, bear in mind that late planting increases pressure from the disease. Also, field location is important. A field with good air movement will have less disease pressure than a foggy field along a creek. Coverage of the leaves is an issue, as well. On a scale of one to four, where "four stars" is excellent, Tilt is a "three-star" product against gray leaf spot. It is a good product, but not an excellent product. Furthermore, while Tilt is a systemic, its mobility in plant tissues is not as high as some systemic fungicides, so don't count on systemic movement to compensate for poor spray coverage. Poor spray coverage (low gallonage and pressure, poor nozzle arrangement) can be expected to compromise the performance of this product. Penncozeb, which contains the active ingredient mancozeb, provides erratic performance against this disease, since adequate coverage of this contact fungicide is very difficult to obtain using commercial equipment. Keep in mind that the number of applications also affects profitability of fungicide usage. The research seems to indicate that most of the benefit of Tilt comes from a single, well-timed application rather than several applications. Finally, the weather and disease development pre- and post-silking determine whether is really pays to apply fungicide.

In studies conducted to date under commercial or near-commercial conditions, Tilt provided protection against gray leaf spot yield losses that ranged anywhere from 0 bu/A to 30 bu/A. In other words, some producers may see no benefit to using the product (even in high-risk fields), while other producers may avoid a 20-30 bushel loss with a susceptible hybrid in a high-risk field. There is no way to know ahead of time whether a producer will get back more than the cost of the application, since that depends on so many unknown factors, like weather, disease buildup, corn prices, etc.

Keep in mind that using a fungicide like Tilt doesn't increase yields. All it can do is protect the yield potential of the field from losses due to one or more diseases. While one cannot predict the economc return from using Tilt in any given field, it is possible to identify fields representing extreme cases, where Tilt is highly likely or highly unlikely to be worth the cost of application.

Field A, where Tilt is Highly LIKELY to be profitable: The crop is planted no-till into corn residue in a field along a creek. The hybrid is susceptible to gray leaf spot. (For example, if the company rates their hybrids on a scale of 1 to 9,

where 9=highly resistant, we've planted a hybrid with a rating of 1, 2, or 3. For a company that rates their hybrids on a scale of 1 to 5, where 5=highly resistant, we've planted a hybrid with a rating of 1 or 2.) The crop was planted during the first week of May. Tilt was applied once in 50 gallons per acre at 100 psi using three nozzles per row, with nozzles directed to cover the ear leaf and above.

Field B, where Tilt is highly UNLIKELY to be profitable: The crop is planted no-till into soybean residue in an upland field. On a scale of 1 to 9, where 9=highly resistant, the hybrid has a rating of 5 or higher. On a scale of 1 to 5, where 5=highly resistant, the hybrid is rated 4 or 5. The crop was planted during the first week of April. Tilt was applied twice in 15 gallons per acre at 50 psi using one nozzle over the row.

Where does Tilt fungicide fit for a corn producer? The bottom line, in my judgement, is that there are few instances where Tilt fungicide will be an important part of a disease management program for gray leaf spot in Kentucky. Its principal use is probably in specialty corns where the hybrid is susceptible to gray leaf spot, a premium is being placed on grain quality, and the field is a moderate to high risk. It probably has value for susceptible inbreds in the few seed production fields in Kentucky. Given the rotation practices of most farms and the hybrids available for this season, most typical grain fields probably won't benefit much, if at all, from using Tilt. Producers who are careful observers will, of course have a feel for which fields on their farms have high disease pressure most years. Producers who are unsure as to the level of gray leaf spot pressure should contact their county Extension agent for information on identifying and scouting for the disease.

If a producer has decided to use Tilt, how can it best be used? If Tilt is to be used, spray the crop shortly before tasseling. The product is labeled for application prior to and through silking. When silks on 50% or more of the plants have turned brown, it is illegal to use Tilt. Furthermore, UK studies show that efficacy declines significantly when applied after silking. High-clearance ground sprayers should be fitted with drop nozzles aimed for good coverage of the ear leaf and above. Keep application volume and pressure as high as possible (at least 50 gallons per acre at 100 psi or more). Aerial applicators should respect the 5 gallons-per-acre minimum volume indicated on the Tilt label, lower spray volumes could result in inadequate control.

What is the cost of treating with Tilt? At 4 fl oz per acre, Tilt costs about $10/acre for the material per application. Add about $4-5/acre to that for application costs.

Should the producer scout for the disease before deciding whether to treat? Ideally, yes. A very conservative spray threshold for susceptible hybrids is to consider treating if at least 50% of plants examined have gray leaf spot lesions (3/8 inch or longer in length) on the third leaf below the ear leaf by tasseling. Even if this threshold is reached, Tilt applications may not provide any economic benefit, since so many factors determine this. However, this is the guideline I suggest for the 1998 season, and it is very conservative--a producer who wishes to treat with Tilt will not forego a necessary application using this guideline.

WHEAT

STATUS OF TILT 24C APPLICATIONS IN STATES BORDERING KENTUCKY
by Donald Hershman

Since many Kentucky wheat growers farm across state lines, I am trying to keep abreast of Tilt 24C applications in neighboring states. As of this writing, 24C applications have been granted in Missouri and Tennessee and approval is imminent in Ohio. According to Walker Kirby, Extension Plant Pathologist with the University of Illinois, Novartis has not submitted an 24C application for Tilt in that state. Also, an application in Indiana was made, but the result is still pending. That is all I can relate at this time.

Remember that 24C labels are state-specific. THEREFORE, YOU MUST HAVE A COPY OF EACH STATE'S 24C LABEL, IN HAND, IF YOU INTEND TO APPLY **TILT** IN THE TIME-FRAME ALLOWED BY THE 24C LABEL.

TOBACCO

CURRENT BLUE MOLD STATUS
By William Nesmith

The blue mold situation has changed significantly during the past few days. Active blue mold has been confirmed in transplants growing in southwestern Kentucky (Todd County) and west central Tennessee

(Robertson County). Thus far, all the plants involved were from commercial transplant production and have a Florida connection. Multiple lots and varieties are involved. Furthermore, massive sporulation was occurring at the time the outbreaks were detected so secondary spread probably occurred during a period when weather conditions in Kentucky were nearly ideal for rapid spread and development. Kentucky's tobacco industry should assume that blue mold-infected transplants are moving in the trade and that recent storm systems may have moved the spores over much of the state.

Blue mold is well established in Florida and Georgia and recent weather events have favored increased activity in the area. Laboratory tests have confirmed that metalaxyl-resistant strains were involved in the initial outbreaks and further tests are underway. Blue mold also remains active on the wild tobacco in Texas and conditions have been favorable several times during the past two weeks for movement north into Kentucky from the Texas sources.

SPECIAL NOTICE.....
BLUE MOLD WATCH WAS ISSUED ON APRIL 18 (STATE-WIDE FOR KENTUCKY) AND A BLUE MOLD WARNING WAS ISSUED FOR TODD COUNTY ON APRIL 20 DUE TO INVOLVEMENT WITH COMMERCIAL TRANSPLANTS MOVING IN THE STATE AND REGION.
AGGRESSIVE FUNGICIDE SPRAY PROGRAMS SHOULD BE IN PLACE IN ALL TRANSPLANT PRODUCTION SYSTEMS.

Dr. Bill Maksymowicz, Extension Agronomist located at the Research and Education Center, University of Kentucky, Princeton, Ky reported finding active blue mold on April 17 in south Todd County (north of Guthrie) near the TN state line. The site involved float beds of NCBH129 Florida "pre-finished" plants floated about 10 days ago and arriving in Kentucky from Florida on April 2. No fungicides had been used in the float water or as foliar sprays. On April 20, I confirmed that systemic blue mold was involved in the sample and metalaxyl-sensitivity tests were initiated. Based on the symptoms associated with the plants I examined, the plants had been systemically infected for some time with the newly developing leaves showing new systemic activity and/or newly developing lesions.

On April 17, Dr. Steve Bost, Extension Plant Pathologist, University of Tennessee, confirmed that active blue mold had been found in Robertson County, Tn (Springfield area). This site is in the western part of Robertson County, in north-central Tennessee. The disease was in burley plants growing in an outdoor float bed. The plants had been purchased in Florida about two weeks earlier, and floated on water containing 8 ml (cc) Ridomil Gold per 1,000 gallons. The bed contained about 40,000 burley and dark-fired plants, and the blue mold appeared in three locations within the burley plants, affecting about six trays. Sporulation was heavy and the infections were becoming systemic.

CONTROL RECOMMENDATIONS: My advice is to continue to keep regular fungicide sprays of either Dithane DF or Ferbam in place (5-day spray interval). Assume all transplants from the southeast may have been exposed to blue mold. If southern transplants must be used, keep the plants treated with fungicides at labeled rates and intervals. Also, should blue mold be discovered and confirmed in southern transplants, immediately collect a sample and submit it through the local county extension office to our laboratory; plus, promptly destroy the entire lot of plants by covering them with clear plastic and solarizing them or fumigate them with methyl bromide (as per labeled direction). DO NOT ALLOW THEM TO REMAIN THERE AND CONTAMINATED OTHER FARMS. If blue mold is found in southern transplants already set to the field, promptly destroy the plants by disking after collecting a sample for the labs. PLEASE DO NOT ALLOW BLUE MOLD ASSOCIATED WITH TRANSPLANTS TO GO UNREPORTED.

Kentucky has made a request to EPA for emergency use of Acrobat MZ, but approval is not expected before the last week in April or early May. Dithane and Ferbam are adequate under current pressure if applied often and well.

Steps should also be taken to operate the transplant production system as dry as possible through correct use of heat and ventilation systems. With outdoor sites, remove the covers during wet events to allow the system to dry more rapidly.

STORED GRAIN

SAVING 1997 GRAIN FOR CATTLE FEED
By Doug Johnson

Several producers have asked about treating a small amount of grain left over from the 1997 harvest for use as cattle feed in later '98. Generally, we do not recommend treating this grain as the economics and technology do not warrant the treatment. In very few cases will the grain become infested enough to 'put the animals off their feed'. However, if you feel the need to do something, you may want to consider the following.

Most producers ask abut applying a "cap out" treatment to grain left in the bottom of the bin after most of the grain is sold. This 'cap out' may provide some protection against new infestations but it will not do anything about grain that is already infested. Furthermore, the high temperature inside a mostly empty bin during the summer months is likely to cause considerable degradation of the insecticide. Thus, your protection will not last for very long. Your best bet is inspection. Since grain quality is not of paramount importance, your ability to detect and then treat as necessary is a more appropriate strategy.

If you are going to treat, then I suggest that you treat as throughly as possible. You might move the grain temporally to another bin or a truck and then back, while treating (dribbling, spraying or dusting) the moving grain stream. At the same time, clean and treat the inside of the empty bin. This will give you the best protection. However, because of temperature degradation you will still need to inspect the grain once in a while.

For registered insecticides look at the ENT's (Corn-16, Grain Sorghum- 24, Soybean-13, Wheat-47,) for the grain for which you are interested .

FRUIT CROPS

ROSY APPLE APHIDS APPEARING
By Ric Bessin

Symptoms of rosy apple aphid damage to apples are beginning to appear. These aphids feed on the undersides of young leaves and cause them to characteristically curl downward. While several aphids attack apples in the spring, the rosy apple aphid causes the most severe damage and is the most difficult to control. Large numbers of any type of aphid can stunt new growth and cause sooty mold to develop on fruit and leaves but the rosy apple aphid injects a toxin that causes the leaf to curl and the fruit to be distorted. Relatively low numbers of them can cause considerable damage. Problems usually begin to appear after petal fall and into mid summer before the aphids move to alternate hosts. All apple varieties are attacked by rosy apple aphid, but 'Cortland', 'Ida Red', and 'Golden Delicious' are particularly susceptible.

After petal fall, treat for rosy apple aphid if 5 percent of the terminals or fruit clusters have live colonies. There are a number of predators that often control rosy apple aphid, so distorted leaves should be open to determine if the aphids or predators are still present before making control decisions. Because rosy apple aphid infestations will curl the leaves, early control is important. Once the leaves are tightly curled, adequate spray coverage and control is more difficult. For that reason, rosy apple aphids are best controlled at the pink stage of bud development, while they are still exposed and before the serious leaf curl has occurred.

Regarding other apple pests, petal fall is a critical time to apply an insecticide for control of plum curculio. Imidan and Guthion provide excellent control at this time. In some years, failure to use an insecticide at petal fall may lead to severe losses to plum curculio.

LAWN AND TURF

TICK BITE!
By Mike Potter

Sometimes you have to experience a 'bug' problem first-hand to truly appreciate the concerns of clients. Such is the case with ticks. Last week our family spent the day at Bernheim Forest near Bardstown, KY. Both kids got my usual pre-hike "lecture" on avoiding tick bites – the same recommendations offered to clients and listed in our extension publications:

Avoid walking through uncut fields, brush, and

overgrown areas where ticks and their wild hosts thrive.

- Walk in the center of foot paths and avoid brushing up against vegetation.
- Wear light-colored clothing and long pants tucked into boots or socks. (This suggestion fell on deaf ears, especially with my teen-age son)
- Consider using tick repellent. (We didn't do this either)

At day's end, we meticulously inspected family members (and pets) for any ticks which may have "climbed aboard" during our outing. Ticks often attach at the waist, armpit, neck and scalp, but can attach virtually anywhere. Too busy inspecting others, I neglected to check myself – until a full day later – when I spotted a fully-mature lone star tick embedded in my chest. The questions and concerns that went through my mind are likely to be voiced by other tick-bite victims you will advise this season.

Q: ***What's the best way to remove an attached tick?***
A: Using a tweezers, grasp the tick as close to the skin as possible and pull it straight out with gentle even pressure. Petroleum jelly, hot matches and other "folk" methods of removal should be avoided. Wash the bite area, apply antiseptic and cover with a band-aid. Attached ticks should be removed promptly to reduce the chance of infection and disease transmission.

Q: ***Should I be concerned about getting Lyme Disease or Rocky Mountain Spotted Fever?***
A: Each year about 20 to 40 cases of Lyme disease / Rocky Mountain spotted fever are reported statewide. Some of these victims may have been infected while traveling out-of-state. In Kentucky, probably tens of thousands of people are bitten by ticks each year; so the likelihood of contracting a disease is very low. In most cases, a tick must be attached for at least 18 to 24 hours for infection to occur. Concerned callers should be informed of the early symptoms of tick-borne disease, so they will know whether to seek medical attention.

(For more information about ticks, control and prevention, see ENT-35, *Ticks & Disease In Kentucky*).

SHADE TREES AND ORNAMENTALS

SPRING PLANT DISEASE PROGRESS
By John Hartman

During the weekend of April 18-19, prolonged leaf wetness set the stage for infectious diseases of fruit crops and of landscape plants. In addition, symptoms are now especially noticeable on plants injured by the cold temperatures we experienced March 12. The following should aid County Extension Agents and plant health advisors in diagnosing problems for their clients.

Apple and Flowering Crabapple Scab. Almost continuous leaf wetness for up to 24 hours (broken only by brief periods where leaves were not actually wet, but humidity was 100%) in many locations this past weekend has provided conditions essential for primary infections by the apple scab fungus, *Venturia inaequalis*. With temperatures averaging 45-50 degrees F, leaves become lightly infected with only 15 hours of leaf wetness. Most areas had 20 hours of leaf wetness, enough for moderate infections. Severe infection levels would have occurred with 30 hours of continuous leaf wetness. If normal temperatures prevail during the coming weeks, expect scab symptoms to appear in 14-15 days. Look for superficial, velvety olive-green leaf spots on apples and crabapples. The spots later turn dark with uneven edges.

Cedar Rusts. All three rust diseases caused by *Gymnosporangium*--cedar-apple, cedar-hawthorn, and cedar-quince--have been very active on cedars and junipers during the past week. The decorative bright orange show this spring has been spectacular; this follows the relatively wet July and August of 1996 when cedars which are now showing symptoms became infected. Given our temperatures this past weekend, only 6-7 hours of leaf wetness would have been needed for rust infections to occur on crabapple, hawthorn, and apple. Look for earliest symptoms of cedar-quince rust (bright orange spots) on hawthorn flowers after hawthorns are in full bloom. On apples, tiny orange spots of cedar-apple rust will appear on the upper surface of leaves in a few weeks.

Fire Blight. Primary infections of apples and pears occur only during bloom. Weather has generally been cool enough statewide that fire blight infections have not likely occurred. In some locations, there may have been one infection period; apples still in bloom are still vulnerable to primary infections until petal fall.

Flowering Pear and Crabapple Injuries. Cold March temperatures occurred just as flowering pears were about to bloom. Not only was the flower show cut off, it appears that for some trees at least, injuries to

the cambium and phloem tissues caused a major dieback of twigs and branches. Some trees have about half of their branches dead, and on many of these, the only growth that is occurring is back on the trunk and main limbs. Most cultivars of flowering crabapples failed to produce a full bloom, and some lost twigs and small branches to the cold. In a few weeks, new growth will mask the crabapple twig dieback.

Juniper Injuries and Diseases. We are seeing many specimens of the low-growing junipers with significant browning over the foliage. In many cases, only the interior foliage is affected while tips are green, but in other cases, all foliage is brown. These symptoms are also likely due to cold injury. Bear in mind that there are also many junipers with mostly green foliage, but only the tips are now dying back. The cause of tip dieback (not whole plant or interior foliage) symptoms occurring now is Kabatina tip blight.

Pine Tip Blight. Recent prolonged wetness favored infections of Austrian and Scots pines by the tip blight fungus, *Sphaeropsis sapinea*. First new symptoms will appear next month as brown, stunted needles.

Leaf Burn and Dieback of Spreading Euonymus. Leaves of this semi-evergreen shrub turned brown soon after the March cold episode. Now, new leaves of some plants are only emerging from the base, indicating that stems were also killed.

Other Injuries. Plants infected with phytoplasmas are often regarded as more sensitive to winter cold injuries. Look for poor foliage development on ash trees infected with ash yellows disease. Leaves on mulberries with excessive witches brooms (a symptom of diseases caused possibly by phytoplasmas) are appearing only on the main limbs and the trunk, indicating that twig and branch tissues have died from cold temperatures.

COOL SEASON SPIDER MITES
By Mike Potter

Most people don't think about spider mites infesting landscape plants until later in the summer. While this is true for twospotted spider mites and European red mites which thrive under hot, dry conditions, the *spruce spider mite* and *southern red mite* prefer cooler temperatures and are most active in the spring and fall.

Spruce Spider Mite *(Oligonychus ununguis)*
This mite feeds on more than 40 species of conifers. Most often attacked are spruce, pine, juniper, fir, arborvitae, hemlock, taxus and false cypress. Prolonged feeding causes yellowing, browning, and premature needle drop, often originating from the canopy interior. Heavy attacks can cause branch dieback or death of the entire plant.

Spruce spider mites overwinter in the egg stage attached to the base of needles or on the bark. Eggs hatch in early spring, and mature in 2 to 4 weeks. Damaging populations may be reached in April and May, before warm summer temperatures slow their activity. Populations rebound in the fall with the return of cooler weather, and feeding may continue into December or beyond if winter temperatures remain mild. Damage inflicted by mite infestations present now (during spring) often go unnoticed until the heat and dryness of June and July.

Southern Red Mite *(Oligonychus ilcis)*
This is the most common and destructive spider mite on broad-leaved evergreens, especially Japanese and American hollies, azaleas, viburnum, roses and rhododendron. Feeding on the undersides of leaves causes stippling, browning, occasional distortion, and premature leaf drop. Southern red mites overwinter in the egg stage on the undersides of leaves. Like the spruce spider mite, its numbers are greatest during cooler periods of the spring and fall.

Diagnosing Infestations
Spider mite populations can increase rapidly and cause extensive damage in a very short time. Therefore timely inspection of susceptible landscape plants is key. *An efficient way to sample vegetation for mites is to hold a sheet of white paper under a branch and tap the foliage sharply. If mites are present, they will be dislodged and appear as slow-moving specs on the paper.* Spider mites are tiny – about the size of the period at the end of this sentence. A 10 - 20 power hand lens is helpful for clearly seeing the mites which will appear yellow, green, orange, purple, black or nearly transparent.

Mite-infested foliage has a stippled or flecked appearance where the mites have fed. Also visible may be webbing, pale-colored cast "skins" shed by developing mites, and spherical, often translucent eggs. When scouting for spider mites, pay particular attention to plants having a history of mite problems. Spider mites often re-infest the same plants year after year.

Controlling Infestations
Spider mites are one of the more difficult landscape pests to control. When buying new plants, it pays to inspect the lower leaf surfaces for evidence of mites. Spraying plants with a strong stream of water from a garden hose will dislodge some mites off leaf surfaces. The approach is generally more effective on smaller plants with non-dense foliage and low mite populations. If used, water sprays should be directed upward against the lower leaf surfaces and the technique will need to be repeated on regular intervals. Low populations of spider mites will sometimes be held in check by naturally occurring predatory mites which feed on both eggs and active stages.

Pesticides
Elimination of moderate to heavy infestations usually requires the use of specific pesticides known as *miticides*. Effective homeowner options include Kelthane, horticultural oils, and insecticidal soaps. Nursery and landscape professionals may also want to consider using Hexygon, Joust, Morestan, Pentac, Scimitar or Talstar. Always read and follow the directions accompanying the product. Some miticides (e.g., oils) may harm or discolor certain types of landscape plants.

Good spray coverage is essential. Thoroughly wet the foliage and try to contact as many mites as possible, paying particular attention to leaf under surfaces where most mites are living. *In most cases, two or more applications at 5-10 day intervals will be needed for satisfactory control*. Spider mite eggs which have not yet hatched are unaffected by most miticides; the same is true of larvae and nymphs that are molting. During molting, spider mites remain inactive beneath the former skin, which serves as a barrier against insecticides. The quiescent mites also do not feed, rendering products that kill by ingestion temporarily ineffective. Consequently, if only one application is made, some of the mites will survive and the infestation will persist.

PESTICIDE NEWS AND VIEWS

MESUROL 50 HBT 24(C) REGISTRATION
By Jim Martin, Pesticide Coordinator

The EPA requested the withdrawal of the 24(C) Special Local Need registration for using Mesurol (hopper box seed corn treatment) as a bird repellant in Kentucky. Apparently additional data will be required to support this use in corn.

Gowan, the company that is developing this product, plans to continue working towards a Federal label. In the meantime, the company indicates that there should be no problem for growers who already used the seed-treatment, providing the treatment was used prior to the withdrawal and was used according to the Mesurol 50 HBT SLN KY - 980001 label.

INSECT TRAP COUNTS
Princeton for April 13-20

Black Cutworm	**11**
True Armyworm	**107**

DIAGNOSTIC LAB - HIGHLIGHTS
by Julie Beale and Paul Bachi

Kentucky's first case of blue mold of the year was confirmed this morning on tobacco transplants in Todd county. See separate article for more information. Other tobacco problems we are seeing regularly include Rhizoctonia damping off, chlorox injury, slug damage and injury from high soluble salts.

On ornamentals we are seeing quite a bit of freeze injury (from the several days of freezing temperatures in March). Some of the commonly affected plants are juniper, pachysandra, euonymus, and boxwood, as well as many flowering trees. Damage to junipers is common and appears as "fading out" of foliage as well as browning and dieback; pachysandra tips are brown and dead, providing an opening for further problems from the Volutella blight fungus (which was seen on several samples last week); symptoms on euonymus and boxwood include marginal leaf scorch and dieback. Flowering pears, crabapple, plum, etc. are showing extensive branch tip dieback from freeze injury.

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Lee Townsend