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TOBACCO

CURRENT BLUE MOLD STATUS REPORT
by William C. Nesmith

This is the initial status report for the 2002 season. We have no reports of blue mold activity from Kentucky or adjacent states, but the disease is active in the prevailing wind routes to the regions - on cultivated tobacco in the southeastern USA and on wild tobacco in the southwestern USA and Mexico. Moreover, it may have overwintered further north than normal on cultivated, ornamental or wild tobaccos, considering the mild winter experienced. Consequently, I have issued a Blue Mold Advisory for Kentucky. The details of this advisory are posted below the following general information.

General Information:
A brief review of the Kentucky Blue Mold Warning System and the "status levels" used is in order as we start the new season.

The Kentucky Blue Mold Warning System is operated by the Plant Pathology Department, University of Kentucky and cooperates with local Extension Tobacco Specialists, County Extension Agents for Agriculture and Natural Resources in Kentucky, and the North American Blue Mold Forecast System at North Carolina State University. Extension Educators from neighboring states served by this educational program also are involved to varying levels. The potential for blue mold developing in a particular crop within the state or region is highly variable based on changing epidemiology about the state within any season. Therefore, since 1980 the Kentucky Blue Mold Warning System has been issuing blue mold status reports to help keep growers informed about the status and probability of blue mold development in the state and region. Three levels of status (based on urgency of action) are used for ranking the potential: 'advisory', 'watch' and 'warning' - from lowest to highest disease potential, respectively. These are assigned by geographic area, so different parts of the state or region are often not under the same status. The status-level may be up-graded to one of higher disease probability, down-graded to one of lesser probability, or canceled.

ADVISORY carries the lowest level of urgency and lowest potential for disease developing in the short term. This is used to maintain grower awareness about the disease in general and its progress outside the state and region. However, some of the most valuable information has been issued as advisories, especially that related to transplant management and movement of diseased transplants.

WATCH is used when conditions are conducive for

blue mold development, but usually before blue mold has become active in an area. Under this level, it is presumed that viable spores of the pathogen are arriving in the watch area while crop and weather conditions favor disease development in that area. Under a watch, growers are urged to put preventive controls in place and remain alert for the disease. Because of the nature of the control options available to tobacco growers, controls applied early have the greatest impact on overall blue mold development. Should the disease be found, it is important to promptly report the activity to the local County Extension Office and for the County Extension Offices to promptly collect samples and obtain confirmation from the Plant Disease Diagnostic Labs.

WARNING is issued once blue mold activity has been confirmed in an area, and it remains in effect as long as conditions remain favorable for continued spread and development of the disease. In general, growers should not wait until warnings are issued to begin controls, because great damage can result from the initial round of infection when inoculum load is high or conducive conditions remain protracted. Instead, controls should begin with or prior to the posting of the watch. However, steps should be taken to maintain and improve control programs during warning periods. County Extension offices should be kept advised of the level of disease in the community and success or failure of recommended controls.

As the situation warrants and based on the information available to us, the status levels are adjusted frequently during the growing seasons to reflect the status of blue mold in a region and potential disease threat. Because blue mold normally persists under Kentucky's weather and production conditions once established in a community, warnings often remain in place for much of the season once issued, except under unusual conditions. In contrast, significant adjustment occurs under a watch, because they are frequently expanded to other areas, up-graded to warnings, down-graded to advisories, or canceled.

COUNTY EXTENSION AGENTS are the county blue mold coordinators. It is important that agents keep their clientele informed of the blue mold status by community for their county. In addition, agents need to keep the state blue mold coordinator informed about the status of blue mold in their county through initial and regular updates. Reports should include: location of active disease, levels of blue mold activity (including lesion volume, sporulation level, systemic activity, and crop damage), general crop status and weather conditions, and control progress or failures. In addition, first cases for each county need to be **confirmed** to be sure the area is dealing with blue mold and not rumors of blue mold. Although classic symptoms and signs are easily identified by a trained person, blue mold is not always easily identified because a wide range of symptoms are associated with blue mold and it can be easily confused with several other diseases and disorders. With the initial outbreaks, or at other times if warranted, samples of suspected infections should be submitted to the Plant Disease Diagnostic Laboratories, where identification will occur based on microscopic examination and other assays may be performed. Moreover, the tobacco trade agreement with the Peoples Republic of China requires that all counties with blue mold be reported and that samples of blue mold be submitted from each county or marketing areas to the appropriate USDA-APHIS officials for examination.

Current Status:

A very strong center of blue mold activity in transplant production was confirmed in mid-March in Tift County of southern Georgia, but the disease probably had been present earlier and it, or the source for it, have likely exposed crops from northern Florida to the Carolinas. Because of the airborne and transplant borne nature of blue mold, a standing Blue Mold Advisory is in effect for Kentucky until further notice. Growers of both cultivated and ornamental tobaccos are urged to consider the risk of this activity in the southeast as they make decisions concerning transplant procurement and management.

I have long recommended weekly preventive fungicide sprays for transplant production rather than timing sprays based on a watch or warning. Why? Because low levels of blue mold spores can be arriving from undetected outbreaks elsewhere in the southeast, south, or southwest or even from over-wintering sites within the state. Furthermore, blue mold is nearly impossible to control with the chemical tools available in transplant production systems once it gets started in the operation. By the time it is found, secondary spread of inoculum has usually already
occurred within the system, and new infections are underway, especially if greenhouse or float systems are involved. Effective rescue treatments are not available from either labeled or unlabeled chemicals, based on the available body of literature and extensive studies conducted in our laboratory. Consequently, preventive fungicide spray programs should be in place at all tobacco transplant productions sites - greenhouses, float beds, plant beds, and distribution / holding sites. Remember that Ferbam can be used on small seedlings, while Dithane may cause injury if applied to plants with leaves smaller than dime-size. See issue 943 of Kentucky Pest News (March 18, 2002) for more specifics on chemical options for disease control in tobacco

transplant production.

Blue mold is also a threat to the transplants of ornamental tobaccos (usually known as flowering tobacco or Nicotiana) and it needs to be controlled on the ornamental tobaccos to prevent direct damage to the ornamental as well as to reduce the disease potential for commercial tobaccos. The mancozeb- containing fungicide Pentathlon DF (marketed by Griffin) is labeled nationally (Section 3 label) for the control of fungal diseases on ornamental tobaccos growing in the greenhouse, nursery, or field at the rate of 1.5 to 3 teaspoons / gallon. Although the label only cites control of Alternaria, this fungicide should provide about the same level of control of downy mildew in ornamental tobacco seedlings as in commercial tobacco, based on our experience with other formulations of mancozeb. The low end of the rate range is essentially the same rate of mancozeb being used on commercial tobacco transplants. Be sure to consult the Pentathion DF label for specific instructions concerning phytotoxicity to ornamental tobaccos.

SOYBEANS

Soybean Diseases Control: Are We Missing Opportunities; PART IV
Foliar Diseases Caused by Bacteria and Fungi by Don Hershman

There are a few bacteria and numerous fungi that can cause foliar disease in soybean. Overall, soybean has a great capacity to compensate for loss of leaf surface area. This means that most foliar diseases need to be fairly serious before crop yields are measurably impacted. Many foliar disease situations are, in fact, little more than cosmetic. The timing of crop stage relative to disease incidence and severity is the key principle that governs the soybean yield loss equation. With few exceptions, the earlier and more intense the disease, the greater the yield loss. When stems and pods / seed get involved, there are more complications and yield losses are much more likely to occur. Pod and Seed diseases will be addressed in a future article.

The main foliar bacterial diseases we see in Kentucky are bacterial pustule and bacterial spot. Since bacteria are incapable of directly infecting soybean (or any crop for that matter), we normally see an increase in foliar bacterial disease after a period of windy weather or following intense thunderstorm activity. During those events, bacteria are literally driven into the leaf tissue through small wounds inflicted by very small soil particles blown about by wind and rain; bacteria can also be driven into natural leaf openings. Although symptom expression may increase and cause alarm following specific weather events, it is my experience that neither bacterial spot nor pustule causes measurable yield loss, except in the rarest of instances.

There are also a couple fungal foliar diseases that rarely cause measurable yield loss in Kentucky. Downy mildew is present in almost every soybean field in the state at low levels, but historically, it has not been an aggressive disease and does not require management. Brown spot is another disease that can be found in almost every field each year, but has limited impact in most years. Brown spot is frequently associated with unifoliolate leaves of young plants and causes those leaves to drop off plants. In many cases nearly 100% of the plants will have at least some brown spot. Usually this is the last we see of this disease. However, in years where August is wet, brown spot can reappear and cause up to 20% yield loss. In my experience, however, this situation is not very common in Kentucky. Yield losses due to brown spot can be greatly reduced through the application of foliar fungicides. However, late-season brown spot is so inconsistent in Kentucky that use of fungicides, although effective, is rarely economical. All soybean varieties are susceptible to brown spot.

All soybean leaf spot diseases are random and inconsistent in occurrence, but frogeye leaf spot (FLS) may take the prize in this regard. There really does not appear to be any rhyme or reason as to where or how much of this disease appears. Last year, several southern counties were heavily hit with FLS, but it was also severe in a few north central counties near Indiana. In some years, it is hard to find a single frog's "eye". Last year 50-60% of many leaf surfaces were blighted with FLS. Certainly the weather is a major player which determines the ultimate disease pressure. The fungus is only able to infect young, expanding leaves and senescent leaves. If the weather is warm and wet during these crop stages, and spores are present (the latter requirement may be met by wind-blown spores), FLS will occur on most varieties to at least some extent. In addition to weather, there are three "wildcards" in the FLS equation. First, the FLS pathogen exists as races and these are variable from season to season, as are the number of spores available to infect soybean leaves. Second, some soybean varieties do resist the FLS pathogen, but resistance is not across all races and is variable within race. Thus, a variety resistant to one race of the FLS pathogen, is often susceptible to others. Third, due to normal plant breeding protocols which advance only "good" material, many existing soybean varieties possess low to moderate FLS resistance, but this resistance is not documented. In other words, farmers often do not have any idea if a particular variety will resist FLS or not. Few seed companies

specifically target FLS when developing varieties, especially in the north. Thus, the general lack of information regarding the FLS reactions of soybean varieties is not likely to change soon.

This may seem like a hopeless situation to deal with, but history suggests we are in pretty good shape overall. I see no evidence that FLS is getting worse over time and there is no evidence that soybeans are getting more susceptible to the disease. In the rare fields where FLS is a consistent problem, it may behoove you to seek out and plant a resistant variety; there are some available, especially in the later maturing groups. Similarly, a history of severe FLS makes a stronger case for the application of fungicides to manage the disease. But, overall, I would have a difficult time recommending the use of fungicides to manage FLS due to the inconsistent appearance of the disease here.

One disease that is fairly consistent late in the season is Cercospora leaf blight (CLB). The disease causes upper leaves turn bronze / purple in mid to late August and often leads to premature plant senescence. The same fungus causes "purple seed stain" in harvested seed. Many farmers miss the disease each year because it occurs at a time when they are not looking at soybean and are preparing for corn harvest. I am uncertain how much damage this disease causes each year, but I suspect not a great deal. My experience is that most varieties have some level of CLB resistance, but as with FLS, most of this resistance has been brought into soybean germplasm inadvertently, as a part of normal plant breeding protocols.

Overall, there is not a great deal a farmer could, or should, do to manage the foliar fungal diseases. There are specific cases when foliar fungicides should be considered, but these instances are few and far between. Fifteen years (1972-1987) of research on the use of foliar fungicides in soybean in Kentucky resulted in us concluding that fungicides aimed at protecting soybean yield were rarely economical. This is still the situation. I have equated the foliar disease situation in soybean to "nickle - dime"-type yield losses. No single disease usually stands out as being especially problematic. But together, all the diseases combined might take an annual dent out of crop yield. Nonetheless, this damage is not equal to the cost of fungicide applications (usually two applications would be required). Seed companies are putting little or no effort into developing varieties that resist fungal and bacterial foliar pathogens. Thus, until (and if) there is some sort of management breakthrough, soybean farmers will have to endure minor yield losses which result from these diseases collectively.

Part V of this series, will cover the pod and stem diseases.

FRUIT CROPS

EARLY SEASON APPLE AND PEAR FIRE BLIGHT MANAGEMENT
by John Hartman

Fire blight, a bacterial disease caused by *Erwinia amylovora*, was severe last year in many Kentucky orchards and backyard apple and pear trees. Fruit growers should consider taking extra measures for fire blight management if the disease was serious last year. Very early season (dormant to silver tip) applications of fixed copper sprays are helpful in fire blight management. These sprays serve to reduce epiphytic (tree surface) populations of *E. amylovora* in the orchard.

For best results, use a fixed copper chemical such as copper hydroxide, copper oxychloride sulfate or Bordeaux mixture. If copper sulfate (bluestone) is used alone be sure to apply it when trees are still dormant. Copper sulfate cannot be applied with the dormant oil insecticide. They need to be applied as separate sprays spaced at least 10 days apart. If copper sulfate is applied under poor drying conditions or later than silver tip, plant injury can result. At this late date, use of copper sulfate would be unwise. Thus, as an alternative to copper sulfate growers may use fixed copper such as copper hydroxide (Kocide) or copper oxychloride sulfate (C-O-C- S). The fixed copper chemicals do not have the compatibility problems of copper sulfate and can be tank mixed with early season oil sprays. Remember that even fixed coppers, if applied after half-inch green, can cause fruit russetting in years when there is not enough rain to remove the copper residues before tight cluster.

Apply copper to the entire orchard block, including cultivars not considered susceptible to the disease. The reason for treating non-susceptible cultivars is that even cultivars that normally are not very susceptible to fire blight such as Red Delicious, can be colonized by *E. amylovora* bacteria and serve as a source of infection to other more susceptible trees during bloom. For more details, consult U.K. Extension publication ID-92, the 2002 Kentucky Commercial Tree Fruit Spray Guide.
Early season apple and pear fire blight management

EARLY SEASON RASPBERRY AND BLACKBERRY ANTHRACNOSE AND CANE BLIGHT MANAGEMENT
by John Hartman

Highly variable winter and early spring temperatures have caused injury to the stems of some raspberry and blackberry cultivars. These injuries can become points of entry for fungi causing anthracnose and cane cankers. Now is the time to apply fungicides for managing these sometimes serious cane and stem diseases of brambles. Use liquid lime-sulfur or copper hydroxide now, just as the buds are swelling and leaf tips are beginning to emerge. Fungicide applications are best made when new leaves are exposed 1/4 to 3/4 inches; if you are late in your application and don't spray until a few leaves have unfolded, use half the rate because there is greater risk of fungicide burn, when applied late. For more details, consult U.K. Extension publication ID-94, the 2002 Kentucky Commercial Grape and Small Fruit Spray Guide.

LAWN & TURF

SLUG CONTROL
by Lee Townsend

There is no sure-fire solution to slug problems in landscape plantings and gardens during early spring. Slugs are favored by cool, wet weather and can remain active until hot, dry conditions force them into protected sites. Slugs feed on a wide variety of plants, shredding the leaves with their rasping mouthparts. They can be especially damaging to newly-set transplants and bedding plants.

In general, insecticides have little effect on slugs and chemical control is limited to applications of baits containing metaldehyde or metaldehyde + carbaryl (Sevin) as the active ingredient(s). The bait needs to be scattered evenly over the ground so that slugs encounter the pellets as they slide along in search of food. Baits disintegrate following rain or heavy dew so additional applications may be necessary. Also, metaldehyde is broken down by sunlight so it is relatively short-lived. Spreading the bait late in the day, rather than early in the morning, will help to get in front of the slugs with minimal loss.

Slugs will move under shelter during bright sunny days or when the humidity is low. Removing hiding places, such as boards, rocks, etc. will force them to find other shelter and perhaps relocate and do less feeding in the area. Also, hiding places can be used against them. Pieces of moist cardboard, rolled-up newspaper, boards, or upturned flower pots can be left on the ground in a few spots. Slugs will tend to accumulate under the shelter and can be scooped up and discarded. It is good to have these items propped about 1" above the ground so that the slugs can get under them easily. Keep the shelters in place during “slug season”. This approach is most successful when there are not many other hiding spots and weather conditions cause the slugs to seek shelter.

Beer traps will collect many slugs because they are attracted to fermentation odors and drown in the liquid. Adjusting the trap so the rim is about one-half inch above the soil line will reduce the number of ground beetles and other non-target creatures from being caught. Fill the container about half-full and replace the contents every few days. Sugar water with some yeast can be used in place of beer.

Barriers can provide some relief if the slugs are moving in from outside the area that is being protected. Wood ash or fine lime can be used but both lose their effectiveness when wet and too much wood ash is not good for the soil. Slugs do not like to cross copper. A copper barrier tape (about 1" wide) can be used along borders or around the legs of greenhouse tables to deter slugs. There are wider copper barriers that can be set in the soil as fences but the expense makes this most suitable for small areas.

HOUSEHOLD

SPRINGTAILS, GNATS SHOULD BE PLENTIFUL, SHORT TIME NUISANCE
By Lee Townsend

Springtails are tiny wingless insects that can flip into the air, giving them the appearance of tiny fleas. They would go completely unnoticed except that hundreds of them can accumulate on surfaces like a small, dusty gray carpet that moves.

Most springtails live in rich soil or leaf litter, under bark or decaying wood, or associated with fungi. Many are scavengers, feeding on decaying plants, fungi, molds, or algae. Springtails become abundant among wet leaves, soil, and plant material along a house foundations or sidewalks where they can be a temporary annoyance. They also can occur around floor drains, in damp basements, and crawl spaces. Masses of these insects can be swept up and discarded.

Most common springtails do not survive in dry conditions. Any steps to improve ventilation and promote drying are the best long term solutions. Removal of accumulations of wet leaves or other

organic matter will eliminate breeding sites. Aerosol household insecticides can be used to treat infestations but will provide only temporary relief if the favorable conditions are not corrected.

Midges and gnats are common names for a large number of small, non-biting flies. Many species look like mosquitoes and may form annoying swarms or clouds in the air but they do not bite. The immature stages develop in water in pools, containers, ponds, clogged rain gutters, or in some cases, wet soil or seepage areas. Most feed on living or decaying plant matter and are an important part of aquatic food chains. Many species can survive in very stagnant or polluted water.

There are no good alternatives for control of the adults, that will die shortly, anyway. If necessary, resting accumulations can be treated with an aerosol spray containing pyrethrins. These are impractical for treating anything other than small areas. These products only kill insects that are directly hit by spray particles; there is no lasting or residual effect.

PESTICIDE NEWS & VIEWS

EPA "CLARIFIES" POSITION ON GREENHOUSE PESTICIDE USE
by Ric Bessin, William Nesmith, Lee Townsend, John Hartman

Greenhouses provide a an excellent environment not only for plant development but also one in which certain insects, mites, and diseases can thrive if they become established. Important factors that affect the use of pesticides in the greenhouse are 1) specific labeling for greenhouse use, 2) increased chances for applicator and worker exposure, 3) development of pest resistance, 4) persistence of residues, and 5) phytotoxicity to plants.

The status of the specific labeling necessary to use a pesticide in the greenhouse has been unclear for the past decade but the EPA Region 4 (southeastern US) has stated that a pesticide must be specifically labeled for the greenhouse in order for that use to be consistent with the label. However, that rule had been interpreted differently among EPA regional offices. Until just recently, we had been operating under a 1990 memorandum from the EPA Office of Compliance Monitoring in Washington, DC regarding greenhouse pesticide use.

Then
Here is a portion of their 1990 response:
"Thank you for your memorandum of July 25, 1990 regarding pesticide applications in greenhouses. You asked whether the label must specify greenhouse use in order for the product to be applied in a greenhouse and requested clarification of the definition of a greenhouse."

"Your first question asked whether the label must include the site 'greenhouse' in order for the product to be applied to a particular crop site within a greenhouse. The label must specify greenhouse use in order for the product to be applied in a greenhouse. Applicator and occupant exposure data assessment are different for enclosed spaces as are residue assessment in the absence of weathering factors. The Agency requires additional data for pesticide use within a greenhouse because of the enclosed environment of the greenhouse and therefore the label must specifically list greenhouse as a site of application."

Now
More than a decade later, EPA opinions on this issue may be changing. It is very important to understand the pesticide options available when making recommendations in this sensitive environment. In an attempt to clarify the labeling issue, people at the EPA Region 4 office in Atlanta were asked to clarify what wording must appear on pesticide labels in order for that product to be applied to a particular crop in the greenhouse.

The following response was received on January 7, 2002. "However, after speaking with Headquarters on Friday, the current position of the EPA is that it is not unlawful to use a pesticide in a greenhouse unless such use is prohibited on the label. In other words, if there is no reference to greenhouse use on the pesticide label then it is not unlawful to use the product (in accordance with label instructions) in a greenhouse. However, State cooperative extension agents may adopt more stringent policies when making recommendations to growers."

This interpretation means that the crop must be on the label but the site of treatment (e.g. field or greenhouse) does not have to be specified. Consequently, applications of a pesticide to a labeled crop grown in the greenhouse can be made unless the label specifically prohibits greenhouse use. However, that does not mean that it is a labeled use. This raises the issue that a use could be permitted, yet not labeled, which brings forward issues concerning product liability protection for the user and recommender.

Whether explicitly labeled for greenhouse use or not, Worker Protection Standards (WPS) regarding personal protective equipment (PPE) and Restricted Entry Intervals (REI) must be followed. These standards will

be different in the field and greenhouse, even when the same crop is being treated. Be sure to understand those requirements before applying any pesticide in the greenhouse. Keep in mind that any limitations that apply to field use also extend to the greenhouse site, unless specifically directed otherwise.

To determine whether or not a pesticide labeled for a particular crop might be used in the greenhouse, there are several situations that might be encountered. They are 1) explicit greenhouse labeling, 2) no greenhouse directions on the label, or 3) label supports greenhouse uses but not for the intended crop.

1) Explicit Greenhouse Labeling
Some pesticide labels clearly address the greenhouse, explicitly directing or explicitly prohibiting applications. High potential for phytotoxicity, increased applicator / worker exposure, development of resistance, or altered degradation rates may result in specific prohibitions against use in this site. Obviously, use of the product in the greenhouse is not supported and is "inconsistent with the label." Some of the common terms reflecting this position are: "greenhouse use prohibited," or "for field use only."

On the other hand, many pesticide labels provide directions for use on specific greenhouse crops. These may or may not be the same crops or crop stages labeled for field use. In this case, the company supports the use, assumes some associated liabilities, and has limited greenhouse use to these specific crops with the greenhouse label. Whether the label clearly prohibits greenhouse use or supports greenhouse use on specific crops, the label is explicit.

2) No Greenhouse Directions on the Label
Many pesticide labels do not address greenhouse uses, so they neither support nor prohibit them. According to the EPA policy stated above, use of such products on labeled crops in the greenhouse is not "inconsistent with the label." However, those who make these applications are doing so without specific instructions on use rates or other important guidelines specific to the greenhouse and may be assuming associated liability for any problems or losses associated with the treatment.

The pesticide manufacturer may claim that this was not an intended use of the product. Pesticide dealers, consultants, extension specialists, and county agents who recommend these pesticides for greenhouse use also may be unknowingly accepting these liabilities. Consequently, we (the authors) are strongly opposed to recommendations for greenhouse application when the label does not explicitly give label guidelines for any greenhouse use. In our opinion, it is likely that these products were developed and tested for field use only with no intention of greenhouse applications. We are not willing to accept the risk and potential liability associated with them. We strongly urge the manufacturer and label holder to make it clear on their labels as to whether greenhouse use is intended or to be prohibited.

3) Label Supports Greenhouse Use But Not for Intended Crop or Stage of Crop
In this situation, the pesticide is labeled for the intended crop and has some greenhouse uses on other crops. The greenhouse WPS issues have been addressed to some extent. However, it does not have greenhouse guidelines, precautions, and rates for the intended crop or crop stage of interest. According to EPA policy, use of this pesticide in the greenhouse on the intended crop would not be "inconsistent with the label". We may address these situations on a case by case bases but we will not recommend the use because of the potential liability exposure. In our opinion, the labeling company has limited the greenhouse uses to those crops or crop stages specifically labeled for the greenhouse by this labeling pattern. There may be unknown risks associated with phytotoxicity, development of resistance, or changes in residue degradation. In addition, the product may provide excellent pest control in the field but may be much less effective in the greenhouse or even lead to pesticide resistance problems.

We do welcome the EPA Region 4 statement because it does clarify their position and establish a single interpretation of the rules for all EPA regions. As the national office of EPA continues to address this issue and clarify greenhouse pesticide labeling requirements, new regulations may be developed in the future. Also, individual states may choose to establish more restrictive policies regarding requirements for pesticide labeling in the greenhouse.

PESTICIDE LABELING REQUIREMENTS by Ken Franks, Division of Pesticide Regulation, Ky Department of Agriculture

Reports of mislabeling and faulty distribution of pesticides in some areas of the state have the Kentucky Department of Agriculture's Division of Pesticide Regulation warning retailers to be aware of their responsibilities.

Last year, the division received several reports of the pesticide Actigard being distributed without proper labeling. According to federal regulations mandated by the U.S. Environmental Protection Agency, no pesticide may be distributed without the manufacturer's labeling

attached. Photocopying a label is not acceptable.

Product labels contain good information on pesticide distribution. If a label indicates the product is to be sold as a 7.5-ounce box, guidelines do not permit a breaking of the package for selling as 10 individual 0.75-ounce products. Under federal regulations, a retailer who does this becomes liable for the product. If a pesticide is not registered for individual sale, no package can be broken except by the applicator.

For more information, contact the Division of Pesticide Regulation at (502) 564-7274.

DIAGNOSTIC LAB HIGHLIGHTS

by Julie Beale and Paul Bachi

Diagnoses of environmental problems on tobacco transplants--heat injury, freezing and wet feet--have been made over the past week. We have also seen Botrytis blight on a number of greenhouse ornamentals; Pythium root rot on tomato and pepper seedlings; yellow patch on bentgrass; bacterial canker on peach and cherry; Entomosporium leaf spot on photinia; and pine wilt (nematode) on pine.

INSECT TRAP COUNTS

UKREC, Princeton, KY
February 15 - March 29

Black Cutworm 0