



KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • AGRONOMY

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May 17, 1999

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TOBACCO

CURRENT BLUE MOLD STATUS

By William Nesmith

Active blue mold has not been reported from Kentucky or any neighboring state as of May 17. Furthermore, weather conditions have not been favorable for field outbreaks most of the time since transplanting started. If the pathogen is present, however, conditions in float beds and greenhouses remain favorable nearly every day. Therefore, fungicide sprays should continue in all transplant production systems, but field applications are not warranted at this time.

Blue mold activity has increased in both southern Georgia and northern Florida following the wetter weather of the past two weeks. It is unlikely that this activity has been providing air-borne spores to Kentucky the past two weeks, based on analysis conducted by the North American Blue Mold Forecast Center at NC State University. However, as long as the disease remains active in this area, it could serve to threaten Kentucky's crop with changing weather systems.

So far, there is no evidence that the disease has been moved into Kentucky on southern transplants, but a

few late shipments of possibly contaminated plants could still arrive. Based on past history, a likely scenario is for the disease to spread northward into the Carolinas via airborne spores, then move into east Tennessee and Kentucky. So remain alert to changing situations and be prepared to make field fungicide applications should advisories be issued.

The letter approving the registration of Acrobat MZ fungicide in Kentucky was signed on May 12, 1999. It will take a few days before the actual labels are available, however. This 24(c) registration (KY 99003) authorizes use in the field only for control of the metalaxyl/mefanoxam resistant strains of blue mold. Use in all tobacco transplant production systems is strictly prohibited. See the related Kentucky Pest News Article for more details of this new label.

PYTHIUM DISEASE ACTIVITY INCREASING RAPIDLY AFTER A SLOW START

by William Nesmith

For the most part, we have experienced very low levels of infectious diseases in tobacco float systems this season, but that could be changing. During the past week, I have observed several very serious cases of Pythium root rot in tobacco float systems.

County agents also report that "hot spots" of yellowed plants are being observed more frequently.

Late season Pythium activity is associated mainly with a root rot which results in yellowing and stunting of plants, rather than the lethal damping-off and stem rot observed some seasons. Affected plants appear in clusters (involving multiple trays to the whole bay), stunted and yellowed compared with the greener and taller healthy neighbors. The roots of affected plants are water-soaked and light brown to black and mushy.

I think two factors are primarily responsible for this sudden increase. First, Pythium activity is temperature sensitive, in that the disease is much worse when water temperatures are above 68-70 F, especially when they are above 75F. At each of the sites I visited, the water temperature was in the mid to high 70's or above in problem bays, in part, because portions of the bays were open and exposed to direct sunlight. In all cases of particularly high temperatures, the growers had removed some trays of plants for earlier settings, leaving a portion of the bay open and exposed. Soil and air temperatures are now sufficiently high that water temperatures will rise in all beds, but it will increase much more rapidly if the water is exposed to sunlight. Secondly, the sanitation around beds sites has declined sharply now that transplanting is well underway. For example, one grower with a very severe outbreak had taken all flats of a particular variety from a bay of mixed-age plants to the field, then returned about 40% of them when weather events stopped transplanting activities for several days. Meanwhile, dirty tray bottoms contaminated the water and the water temperature had increased - it was 82F when I checked it at mid morning. Now, he has a severe epidemic of Pythium on both older and younger plants in this same bay. A neighboring bay of much younger plants showed little Pythium activity, but the water temperature was 69F.

ACROBAT MZ FUNGICIDE RECEIVES STATE-LABEL FOR TOBACCO

By William Nesmith

The registration of Acrobat MZ fungicide (SLN KY-990003) for use and distribution within Kentucky for the management of metalaxyl/mefenoxam-resistant strains of tobacco blue mold was approved on May 12, 1999 by the Department of Agriculture, Commonwealth of Kentucky. This registration will

expire on May 12, 2000. Some other tobacco-producing states had granted approval earlier in the year, but use in Kentucky was denied until acceptable rotational crops following Acrobat MZ use were available for Kentucky's tobacco production systems.

Of special interest to dealers/distributors of Acrobat MZ, the approval letter from the Division of Pesticides specifically requires American Cyanamid Company to supply supplemental SLN labels for "each and every" 24c product being shipped into Kentucky. It is a requirement that the label be in the possession of the "user" at the time of fungicide application. Also, be aware that labels in neighboring states may be different from the Kentucky label.

The directions of use are similar to those authorized during the Emergency Exemptions of the past three seasons, but there are some very significant differences, including the following:

* ONLY use in the field site is authorized, with use in ALL transplant production sites being STRICTLY PROHIBITED.

* Significant Rotational Crops Restrictions apply, but cropping systems are available which are appropriate for most of Kentucky's tobacco farming operations.

* The Restricted Entry Interval (REI) is 24 hours.

The only other approved use of Acrobat MZ is for control of late blight disease of potatoes, which is covered under a national label.

I have heard rumors that some press releases indicated that Acrobat MZ was a restricted-use product. I saw the approved label and there was no mention of restricted-use status on that document.

FLEA BEETLES, TOBACCO "WORMS" AND CUTWORMS

By Lee Townsend

Tobacco flea beetles are hitting newly-set unprotected tobacco plants very hard. Numbers in Fayette county test plots examined on 5/18 exceeded the 3 beetle per plant treatment guideline by a large margin. These small insects were chewing many small, rounded holes in the leaves, and in some cases, devouring the bud leaves.

Transplant water applications of either Admire or Orthene provided excellent protection. Fields that did not receive a protective treatment should be checked and sprayed as needed. These insects can do a lot of damage in 2 to 3 days.

Black cutworms are attacking transplants in some fields. Very dry soil conditions will cause the cutworms to remain below the soil surface where they will feed on the plant stem. Orthene will provide good cutworm control when applied in the transplant water. The treatment will create a protective "zone" around the base of the plant to keep most cutworms away. It is important to use an adequate amount of water through the setter to create a significant treated area. Using a minimum amount of water will reduce the effectiveness of the protection.

Lorsban 4E is the other preventive cutworm option. For best results, it should be sprayed over the field and incorporated into the top 2" - 3". If cutworms are the main target, the application can be made immediately before transplanting. The "2 weeks before transplant" recommendation is important for wireworm control but not critical for the softer bodied cutworm. Impregnation of this insecticide onto fertilizer, or mixing Lorsban 15G with the fertilizer, does not give the even, thorough soil mixing that is achieved with the broadcast, incorporated spray. Lorsban is not labeled for direct application to plants and will severely damage them if used as a foliar spray.

Expect to see armyworms in fields where wheat was used as a cover crop. These insects can be numerous but will not feed successfully on tobacco; no control is needed.

Yellowstriped armyworms were feeding on scattered transplants in test plots yesterday. These dark worms with a bright yellow stripe running along each side of the body will feed on tobacco but rarely are present in numbers to justify treatment.

Earliest set fields should be checked weekly for budworms. Examine the bud area of 5 groups of 20 plants in scattered areas of the field. Look into the bud for small feeding holes and the ground pepper-like droppings of these worms. There was significant damage to early-set fields in the Mammoth Cave area about this time last year. Infestations were limited to fields that were set first and at an appropriate size when the adults (moths) were flying. Eggs are laid singly so the infestation

tends to be evenly scattered over the field. Orthene or Tracer provide good budworm control and were better than Thiodan (Golden Leaf Tobacco Insecticide) in trials last year.

Avoid spraying in the heat of the day when buds tend to be closed. This keeps the insecticide from reaching the budworms protected in the developing leaves.

ALFALFA

"HOPPERBURN" COULD BLISTER ALFALFA PRODUCERS

By Lee Townsend

Catch totals in potato leafhopper traps jumped dramatically last week according to entomology forage researcher John Parr. Spring-seeded stands are particularly vulnerable to leafhopper injury because they will not be harvested for some time. Leafhopper numbers will increase rapidly and the sap feeding activity of nymphs and adults will produce the characteristic yellow, wedged-shaped area at the tip of the leaf. Heavily-damaged plants will be stunted and hay quality will be poor. Potato leafhoppers are also a threat to established stands after the first cutting comes off.

Field sampling by use of a sweep net is the only way to determine whether or not these tiny insects are at or above treatment levels before damage symptoms appear. Leafhopper numbers and plant height are the two important pieces of information needed to make a management decision. See ENT-17, *Insecticide Recommendations for Alfalfa, Clover and Pastures - 1999*, for more information.

WHEAT

DISEASE UPDATE

By Don Hershman

Most wheat in west Kentucky has flowered and some fields are as far along as late milk. It will be interesting to see how much Fusarium head blight (head scab) develops in west Kentucky considering that conditions were generally dry while most wheat fields were flowering. Although warm, wet conditions are known to encourage Fusarium head blight development, I have frequently been surprised by significant disease development following what appeared to be unfavorable disease conditions. Within two weeks we should know if Fusarium head blight will be a significant factor this

spring.

Generally dry conditions have slowed further development of speckled leaf blotch (Septoria tritici) and I have yet to see much development of Stagonospora leaf blotch. It is a bit too early to expect much glume blotch, but the reduced levels of the leaf blotch phase may be a good sign that disease pressure may not be too great.

I have begun to see an increase in leaf rust in susceptible varieties. In addition, I have received reports that some fields in southern Kentucky are showing leaf rust on the flag leaves. This is not unusual for this time of year in that we almost always see leaf rust move into susceptible crops post flowering. I do not expect extensive yield losses due to leaf rust in those fields.

After the initial explosion of barley yellow dwarf virus (BYDV) a few weeks ago, few additional symptomatic plants have developed in most fields. This observation, and other observations related to planting date and insecticide use, suggest that BYDV transmission occurred primarily during late fall - early winter. The lack of new symptomatic plants showing up indicates that secondary spread of BYDV by aphids this spring has been limited. In any event, some fields have extensive BYDV and will lose significant yield due to the disease, but most will receive only light hits. In some cases the lack of BYDV appears to be related to insecticide use; many other fields appeared to have escaped infection, mostly due to later planting dates.

Overall, the wheat crop looks about as good as I have seen it for this time of year.

VEGETABLES

BEEF ARMYWORM ACTIVE EARLY

By Ric Bessin

This past week, beet armyworm moths were captured in pheromone traps in Lexington. It is an occasional invader of vegetable crops in Kentucky. Although it cannot overwinter here, it is significant to vegetable growers because of its wide host range and its resistance to certain insecticides. This insect is a major pest in the southern US attacking beans, cole crops, corn, peppers, and tomatoes. Fortunately, the beet armyworm cannot overwinter in Kentucky so this insect is an occasional late-season migrant into the state. With this early season activity, we will need to monitor carefully

for this pest. Typically, producers of fall vegetable crops need to watch out for this pest during August and September.

Management guidelines in other states vary somewhat. They recommend spraying for beet armyworm in cole crops when 3 to 10% of the plants are infested. In fresh market tomatoes, treatment is needed when 3.25% fruit feeding (shallow, dry-cavities in the fruit) is noted. In snap beans, sprays for beet armyworm are recommended when 20-30% defoliation occurs prebloom or 10-15% post-bloom.

Beet armyworm has few effective parasites or predators which can effectively reduce its numbers. Bacillus thuringiensis var azawai, (XenTari, Agree) is effective against beet armyworm. Broad-spectrum insecticides are needed to control beet armyworm when large number of larvae are present. If a complex of insect pests including beet armyworm are present, treat them as beet armyworm when selecting an insecticide. SpinTor and Baythroid are recommended for beet armyworm control on labeled crops. Most chemicals registered for home use will not control this insect.

SHADE TREES AND ORNAMENTALS

DISEASE SYMPTOMS APPEARING NOW ON WOODY LANDSCAPE PLANTS

By John Hartman

County Extension Agents may be getting calls about many of our most common spring diseases such as anthracnose, scab, rust, fire blight and black spot because these diseases are appearing in landscapes throughout Kentucky. The severity of each of these diseases has been affected by temperature and moisture at the critical early growth stages when plants were susceptible to infections. From one location to another, the severity of these diseases varies greatly, because a) the weather has been variable statewide, and b) the plants may or may not have been at susceptible growth stages when weather was favorable for disease.

Anthracnose diseases. Sycamores in central Kentucky show symptoms of dead foliage associated with cankers at the base of dead shoots and twigs. Leaf blotch symptoms are not common. This suggests that the fungus was active during wet weather early in the spring when temperatures were cool. Unless we enter an excessively wet

period in the coming weeks, it appears that sycamore anthracnose will not be as severe as it has been for the past three years. Shoots and twigs of maples in western Kentucky are also blighted due to anthracnose disease. Ash leaflets with dead blotches are dropping due to early spring anthracnose infections. We have also observed anthracnose on twigs of pagoda dogwood, *Cornus alternifolia*, which is considered resistant to dogwood (*Discula*) anthracnose. Although each of these diseases is called anthracnose, each is host-specific and caused by different fungi. Advise homeowners and landscape maintenance persons to do nothing now about anthracnose. Good tree care will help the infected trees to tolerate the disease.

Apple scab. Leaves of susceptible flowering crabapples are covered with velvety olive-green spots, the result of primary infections that occurred when leaves were still expanding. The velvety texture of the spots is due to the production of secondary spores or conidia, which will initiate infections on nearby emerging foliage any time the leaves are wet for at least 9-10 consecutive hours. If the trees are valuable, fungicides could be used to slow the spread of secondary infections to new growth that is still emerging. Where appropriate, advise clients to replant with disease resistant crabapples such as 'Louisa', 'Mary Potter', 'Molten Lava', or 'Prairiefire'.

Cedar Rusts. Tiny rust-colored spots are appearing on the leaves of hawthorn (cedar-hawthorn rust) and apple (cedar apple rust), and on the flowers of hawthorn (cedar-quince rust). This is the pycnial stage of these rust fungi; later in the season, the spots will enlarge and the aecial stage of the fungi (which furnishes spores to infect nearby cedars) will be present. Although cedar-quince rust can kill small hawthorn twigs, it normally does too little damage to make special control measures necessary.

Fire blight. Flowering pears, flowering crabapples, and apples are showing symptoms of fire blight in eastern, southern, and western Kentucky. In most cases, the disease began in the flowers and is spreading from dead flower/fruit spurs into the subtending branch. Secondary shoot blight symptoms are also occurring. Most infections began during favorable weather that occurred in April while trees were in flower. Trees in central and northern Kentucky were not yet in bloom during this first infection period. Some symptoms have developed from enlargement of pre-existing

twig and branch cankers. By the time that clients actually notice fire blight, it is best to just let the disease run its course. Mark infected branches and be sure to prune them out in the winter when there is little chance of spreading the disease.

Rose black spot. Susceptible unsprayed roses are now showing distinct symptoms of black spot. Dark, circular spots with irregular edges first appear on green leaves. The spotted leaves soon turn yellow and drop from the plant. Badly diseased roses will often fail to produce abundant flowers. Continued black spot infections should occur from now until late fall, weakening highly susceptible plants. Promote improved air movement and sunlight penetration by thinning out the rose plants or pruning out overhanging tree branches. Given Kentucky's warm humid summer weather, it is often necessary to make weekly applications of a fungicide to reliably produce suitable flowers on susceptible roses.

HOUSEHOLD

ELIMINATING CARPENTER ANTS by Mike Potter

"I'm seeing big, black ants in my house, especially in the kitchen and bathroom. I spray the ones I see, but they keep coming back. What kind of ants are these and how do I get rid of them?" These are the questions typically asked by clients who have carpenter ants. This time of year, callers may also complain about a swarm of winged carpenter ants emerging inside their homes — a sure sign that the ants are nesting within the structure. This column will help you deal with this challenging pest problem.

The Problem

Carpenter ants vary in size and color, but are usually rather large (1/4-1/2") and blackish. Not every large black ant encountered around homes is a carpenter ant, however (see footnote* below). In addition to being a nuisance, carpenter ants may damage wood while hollowing it out for nesting. The galleries have a smooth, sandpapered appearance and contain no mud, which distinguishes them from wood damaged by termites. Shredded fragments of wood similar to coarse sawdust are ejected from the galleries, along with dead ants and bits of insects which the carpenter ants have eaten. When such accumulations are found, it's a good indication that a nest is nearby. Often, however, the excavated

sawdust remains hidden behind a wall or in some other concealed area.

Carpenter ants nest in moist or dry locations, but prefer sites that are moist. Consequently, nests often occur in wood dampened by water leaks, such as around sinks, bathtubs, poorly sealed window and door frames, leaking roofs, and within damp crawlspaces. When considering likely nesting sites, it's also important to remember that carpenter ants nest in areas other than wood. Nests commonly occur in moist, hollow spaces, like the wall behind a dishwasher, beneath insulation in the crawlspace, garage, attic, or basement, or in a hollow porch column. False ceilings, hollow-core doors, curtain rods, or even an old suitcase up in the attic may serve as nesting sites for carpenter ants.

Nests may be located inside or outdoors. Ants spotted inside the home may actually be nesting outdoors in a tree stump, landscape timber or woodpile, and foraging indoors in search of food. Noticing five or more carpenter ants per day in an area of the home where there is no food, such as a bathroom or bedroom, usually indicates an indoor nest. Swarms of winged carpenter ants emerging indoors is another sign of an indoor nest, as is the sighting of ants indoors on cool or rainy days.

The potential for damage exists only when ants are nesting inside the structure. *In Kentucky, damage produced by carpenter ants is often insignificant and seldom as extensive as that associated with termites.* Nonetheless, over extended periods, large colonies can weaken studs, joists and other structural timbers.

The Solution

There are no insecticide baits, available to homeowners, that are consistently effective against carpenter ants. *Therefore the best – and only way – to control them is to find and treat the nest(s) directly.* This is easier said than done. Carpenter ants seldom travel in clearly defined ant “trails” as do many other ants. When attempting to locate a nest, focus your efforts on where most of the ants have been seen. Areas dampened by moisture, e.g., around sinks, dishwashers, chimneys, fascia boards, roof edge, and window or door frames are especially attractive to carpenter ants, although dry walls may also serve as nesting sites. The chances of finding ants will be much greater at night since carpenter ants do most of their foraging for food after dark.

The vicinity of a carpenter nest can often be located by placing small dabs of honey or maple syrup in the area(s) where ants have been seen. Cleanup is aided by placing the “bait” onto small squares of wax paper, or the back (non-sticky side) of pieces of masking tape. The best time to check the bait spots is at night when the ants are most active. After the ants have fed on the bait, follow them on their journey back to their nest. Be patient — eventually the ants will disappear behind a baseboard, cabinet, or into some other concealed location such as behind a wall, window, door frame or porch column.

Treat behind walls and other hidden locations where ants are entering by puffing boric acid dust into existing cracks, or drilling small (1/8") holes into suspected nest areas. With a little luck, the insecticide dust will disperse in the hidden void and contact and kill the ants. If you suspect the nest is in a wall, drill and treat at least 3-6 feet on either side of where ants are entering so as to maximize the chances of contacting the nest. As is true for most ants, carpenter ants prefer to travel along wires, pipes and edges. It often pays to inject dust into any openings around plumbing pipes and behind (not inside) the junction boxes of electrical light switches and receptacles. *Never apply insecticides directly into junction boxes or spray liquids around electrical outlets. Turn off the main circuit breaker as an additional safety precaution.*

Professional pest control firms have “dusters” specifically designed for this type of treatment. Homeowners wishing to perform treatment themselves can purchase boric acid in a ready-to-use “puffer” (squeeze bottle), or attempt to make one using an empty, dry, narrow-tipped plastic container. Don't expect to see results overnight; a week or more may be needed to eliminate the entire nest which may contain thousands of ants.

As noted earlier, carpenter ants seen in the home may actually be nesting outdoors and foraging indoors for food and water. Consequently, you may end up following the ants out into the yard, possibly to a nest located in a stump, fence, dead tree limb, or landscaping timber. Once an outdoor nest is discovered, treatment can be performed by spraying or drenching with Sevin, Dursban, diazinon, etc. If outdoor nests are suspected, inspect for ants around the foundation and siding at night with a flashlight. Like most ants, carpenter ants prefer to trail along edges and wires. Pay particular attention to the bottom edges of siding,

areas around doors, windows, and where utility pipes and wires enter the structure. The sweet bait technique can again be used to trace these ants back to their nest.

Calling a Professional

Eliminating carpenter ants can be difficult and time consuming. Therefore many clients will want to call a professional. Pest control companies tackle carpenter ants in different ways. Some try to locate the nest(s) and treat only in suspected areas. Other firms take a less directed approach, opting instead to drill and treat as many conceivable nesting sites as possible. Most companies also spray around the exterior foundation of the home, hoping to limit reinfestation. The approach which should *not* be taken is simply to spray each month where carpenter ants are seen. Knowledgeable companies will spend less time “spraying” and more time inspecting and asking the homeowner where they have seen ants, whether there have been moisture leaks, etc. *If no effort is made to locate the nest(s) or probable nest areas, the infestation will continue.* The homeowner can often assist the professional in locating nests by using the sweet bait technique discussed earlier.

Preventing Future Problems

1. Correct roof leaks, plumbing leaks, and other moisture problems which attract carpenter ants.
2. Clip back tree limbs and branches touching the roof or siding of the house. These serve as “bridges” between ants nesting in dead portions of trees and the structure.
3. Seal cracks and openings in the foundation, especially where utility pipes and wires enter from outside.
4. Never store firewood in the garage since firewood is a prime nesting location for carpenter ants. Stack wood away from the foundation and elevate it off the ground.

* Another large black ant that is often mistaken for carpenter ants in Kentucky is the black field ant. Many costly “carpenter ant” jobs are inadvertently sold to homeowners by companies that confuse these two ‘look-alike’ pests. A good hand lens is needed to tell the difference: viewed from the side, carpenter ants have an evenly rounded thorax (the

body segment just after the head); black field ants have a thorax which in profile appears ridged or uneven. Black field ants commonly form large, low-profile, earthen mounds in the yard. Unlike carpenter ants, they do not nest within buildings, although they may wander indoors in search of food. The solution to black field ants is simply a mound drench with Sevin, Dursban, etc.

DIAGNOSTIC LAB - HIGHLIGHTS

By Julie Beale

Disease problems of tobacco this week have included Sclerotinia collar rot, Pythium root rot and target spot (Rhizoctonia). We have also seen several cases of transplant shock (plug and transfer system) and chemical injury, both from drift or contaminated equipment and from misuse of pesticides applied to transplants.

We are beginning to see numerous cases of fireblight on apple and pear. Twig blight symptoms are just becoming obvious from earlier blossom infections in several areas of the state. Other fruit diseases and pest problems have included cherry leaf spot (Coccomyces), orange rust on blackberry, peach leaf curl, and plum curculio damage on developing cherry fruits.

In the landscape, we have seen soft rot of iris, cedar-quince rust on hawthorn, anthracnose on maple, and numerous pine problems (mostly environmental).

INSECT TRAP COUNTS

UKREC, Princeton, KY, May 7-14

| | |
|---------------------|----|
| European corn borer | 5 |
| Black cutworm | 20 |
| True armyworm | 1 |

Lexington, May 9-16

| | |
|---------------------|---|
| Black cutworm | 2 |
| European corn borer | 1 |
| Fall armyworm | 0 |
| Corn earworm | 1 |
| Diamondback moth | 4 |
| Cabbage looper | 0 |
| Beet armyworm | 3 |

Lee Townsend, Extension Entomologist