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TOBACCO

CURRENT BLUE MOLD STATUS
By William Nesmith

First, let's do some house cleaning, to help the many new people following this status report. Understand that this report does not deal with the overall status of the tobacco crop in Kentucky, rather it deals with the status of a single disease of the crop - blue mold. Therefore, do not be trying to draw conclusions about the over all health and condition of Kentucky's tobacco crop from this weekly status report on blue mold. But, just this one time, I will give my opinion of the overall crop status. Based on my travels and visits with tobacco specialists and agents, it appears that Kentucky is developing one of the best tobacco crops since 1994. Overall disease levels are lower than normal, with root health well above that of recent years. Rains have been timely in most areas, but some drought conditions and flooding are present.

Most tobacco crops in Kentucky and the region have escaped significant damage from blue mold, because either the pathogen is absent or at low levels, weather conditions are not favorable, or the crop had matured by the time the pathogen arrived. However, there are communities where the disease is active and causing serious damage. The rest of this report, as will most blue mold status reports, deals with blue mold' s activity and management, rather than overall crop conditions.

Blue mold continues to build rapidly in eastern and northern Kentucky, with serious damage in some fields. Activity has slowed in the Ft Harrod and southern Bluegrass counties. Foliar lesions and blighting range from small fleck-like spots to large lesions the size of a quarter or larger. The level of activity is highly variable from field to field, even where no fungicides have been used. The cool temperatures of the past week have slowed new infections due to shorter periods of leaf wetness, but those came conditions have greatly enhanced the development and expansion of lesions already under development. Systemic infections of the leaf veins and stems have increased sharply with the recent cool temperatures, with leaf wilting often present in such cases. The fungus is building fast on ground suckers in some areas and systemic infection of the stem is occurring via these ground suckers. In most cases where the tobacco has already been topped, little crop damage has resulted from blue mold, because the pathogen arrived too late. However, in crops approaching topping now, where the fungus has been present for several weeks, crops are sustaining serious damage, with lesions from the ground to the top, and estimates of 20-40% leaf surface spotted/blighted in some fields. **The greatest threat is to the late set tobacco.**

Fungicide sprays are still needed in late set tobacco in counties under a watch or warning, especially if the crop is growing well and located in a foggy site. In general, fungicide use is very low, and well below what is needed to achieve control. Even where fungicides are being used, poor coverage and poor timing are common. Many growers have elected to plant extra crop and absorb the loss or accept crop insurance payments. Of those using fungicides, too many continue to think of rescue treatment rather than preventive treatment. There are some excellent examples in central Kentucky, however, of control that was achieved through properly timed fungicide applications, where growers responded to the advisories issued.

Status reports by Extension Area or state/region are as follows.

PURCHASE, PENNYRILE, and **GREEN RIVER AREA** of western Kentucky: We are aware of no reason or evidence to suspect blue mold at this time.

MAMMOTH CAVE AREA of southwestern/south-central Kentucky: This area is under a Blue Mold Advisory mainly because blue mold was found earlier. It is too hot and dry for blue mold to become a significant problem except in irrigated crops. No new blue mold activity has been reported during the past two weeks, but old activity was found earlier in the counties of: Allen, Barren, and Simpson.

LINCOLN TRAIL AREA of central and west-central Kentucky: This area is under a Blue Mold Advisory, with some activity found earlier in Larue, Marion, Nelson, and Washington counties, mainly in river bottoms. The only recent reports come from the Chaplin River bottoms of Washington County, and the Knobs areas of Marion.

LAKE CUMBERLAND AREA of southern Kentucky: A Blue Mold Watch has been issued with confirmed activity in Clinton, Pulaski, Taylor and Wayne counties. Limited inoculum has been a key factor to slow disease development in this area.

LOUISVILLE AREA: Blue Mold Watch was posted because the disease is present on the southern approaches and east of this area, plus low levels of new activity have been confirmed in Shelby County. Some very strong activity was found in float beds in the Bagdad area recently. The majority of tobacco in this area is beyond the stage where blue mold could cause serious damage, but many late-set crops are also present.

NORTHERN KENTUCKY AREA: A Blue Mold Warning has been posted. The disease has been confirmed in the counties of Campbell, Gallatin, Grant, Pendleton, and Owen but it is probably present in others. Lush tobacco in creek or river bottoms is much more likely to have blue mold than ridge-land sites.

FORT HARROD AREA of central Kentucky: I have down graded the status from a Warning to a Watch based on the drier weather conditions being experienced in most of this area. Growers need to remain concerned with the late set crops. There is, however, activity in all counties: Anderson, Boyle, Franklin, Garrard, Jessamine, Lincoln, Mercer and Woodford. The disease is active at very low levels in most communities, with isolated cases of light to moderate activity in shady creek or river bottoms. Some very strong cases have been found in old plant beds. Some communities in this area have drought conditions.

BLUEGRASS AREA of central Kentucky: This area is under a Blue Mold Warning with confirmed cases in all counties, including: Bourbon, Clark, Estill, Fayette, Harrison, Madison, Nicholas, Powell and Scott. The activity level is mostly low, and nearly all fields have the disease, and with some cases of strong and damaging activity. The potential for damaging activity is high in late set crops and those approaching topping now, due to an abundance of ground suckers, vigorous tobacco situated in foggy pockets of sinks, creek, and river bottoms. Several county agents reported very strong activity in some fields on July 24.

LICKING RIVER AREA of north central Kentucky: This area is under a Blue Mold Warning. This area continues to experience strong activity. The disease has been confirmed in all counties, including Bath, Bracken, Fleming, Lewis, Mason, Menifee, Montgomery, Morgan, Robertson and Rowan.

NORTHEAST KENTUCKY AREA: This area is under a Blue Mold Warning with several agents reporting very aggressive blue mold activity on July 24. The disease has been confirmed in all tobacco-producing counties of the region: Boyd, Carter, Elliott, Floyd, Greenup, Johnson, Lawrence, and Magoffin. Some agents report a very sharp increase in damaging levels of activity during the past few days. Moreover, a greater percentage of the crop is young and highly susceptible to systemic infections, the most damaging phase of the disease.

QUICKSAND AREA of southeastern Kentucky: This area is under a Blue Mold Warning. There is probably a lot more blue mold in the area than has been reported. The level of activity increased sharply during the past week. The disease has been confirmed in most tobacco producing counties, including: Breathitt, Lee, Owsley, Perry and Wolfe.

WILDERNESS TRAIL AREA of southeastern Kentucky: It is under a blue mold warning. The disease has been confirmed in the following counties:

Clay, Jackson, Laurel, and Rockcastle. County Agents are now finding blue mold in the area. This area is situated due north of strong activity in Tennessee and weather conditions have been favorable for infections. I suspect there may be a lot of blue mold in this region.

WESTERN WEST VIRGINIA: Blue mold has been confirmed in Cabell County, and it has been present there for probably several weeks. The level of disease activity is increasing rapidly, both foliar and systemic activity are occurring. West Virginia has been receiving a large spore load from north central Kentucky.

SOUTHERN OHIO: This area is under a blue mold warning and has confirmed blue mold in Adams, Brown, and Gallia counties.

INSECT ACTIVITY ON TOBACCO AND TOPPING TIME TREATMENTS
By Lee Townsend

Japanese beetles can be found in many tobacco fields at this time of year. Occasionally, small clusters may be seen feeding on bud leaves, and the damage can be ugly, but fortunately it is very limited. Most of the time the beetles are simply "sunning" on the leaves and making no attempt to feed.

Tobacco aphid populations may begin to develop late in the season on plants treated with Admire. At this point, small numbers of aphids will have no impact on crop yield so there is no cause for concern. Late-set crops can be stunted by aphids and should be watched carefully. Large numbers of winged aphids are flying at this time of year and infestations can grow rapidly. Use the 20% infested plant treatment guideline to manage these insects.

Fungus-killed aphids are apparent now. These straw to orange colored aphids have a "fuzzy" appearance. This aphid-specific fungus can virtually eliminate aphids in fields that are moderately to heavily infested. Dead aphids will remain plastered to the leaves but are no longer removing plant sap nor are they increasing in number. While control is swift, aphids have to be at damaging levels or densities on the plants for the disease to be effective.

An insecticide frequently is applied at topping time, usually in conjunction with the sucker control chemical. At this point, hornworms are the pests of concern from topping until harvest. There are many choices for control, from broad spectrum insecticides, such as Orthene, to specific "worm-killers" like Dipel or Tracer. These insecticides will provide 5 to 7 day control of worms present in the field at the time. The residue will not last until harvest and housing.

Hornworm moths will be flying and laying eggs for some time, so re-infestation can occur. A "clean up" application, made about a week before harvest, will remove most of the worms present and keep them from being carried into the barn where they can continue to reduce yield.

LIVESTOCK

JULY 31 - OPENING OF CATTLE GRUB TREATMENT SEASON
by Lee Townsend

Application of a cattle grub treatment is one of the Kentucky CPH requirements. Cattle grub infestations necessitate more trimming of carcasses and decrease the value of hides. Grubby carcasses are routinely docked by packers.

Cattle grub control is a part of producing quality steers for the feedlot. While the damage (cysts or swellings long the backline) will not be evident for several months, control measures must be applied to Kentucky cattle before October 31 to kill the pest without harming the animal.

Host Reaction to Cattle Grubs

Depending upon the species, cattle grubs move either to the esophagus (common cattle grub) or spinal column (northern cattle grub)during their migration to the back. The grub larvae are in these sensitive areas during November and December. If large grubs are killed there, the surrounding tissue can become severely inflamed and additional symptoms can develop.

In animals infested with the common cattle grub, the esophagus can swell shut, and produce difficulty swallowing, drooling, or bloat. Northern cattle grubs killed in the region of the spine can put pressure on the spinal column. This results in stiffness in the hind quarters, loss of balance, or inability to lift the hind feet.

Be careful when treating for grubs. Use accurate weight estimates to determine the proper dose. Undertreating may not provide satisfactory control. At best, overtreatment will waste money; at worst, it may cause the animal to become sick.

There are a variety of formulations of cattle grub insecticides. Pour-on or Spot-On products are convenient if god handling facilities are available.

High pressure sprays are a good choice when chutes or working pens are not an option. Animals must be wet to the skin when high pressure sprays are used. Ivomectin, used as a dewormer in the fall, will also control cattle grubs. There is no need to treat with an insecticide, too.

NUT CROPS

PECAN DISEASES APPEARING NOW
by John Hartman

During recent years, rural land owners have made plantings of pecans and other nut trees as a source of supplementary farm income. Homeowners occasionally use pecans in the landscape for shade. Many of these trees are now bearing fruit, in the form of nuts for fall harvest. There are several diseases of pecan that can reduce the nut crop and detract from the tree's shade value. Some of these diseases, such as scab, are appearing now at damaging levels; unfortunately, infections began in spring and little can be done now.

Pecan scab. Scab, caused by the fungus *Cladosporium caryigenum*, is the most common and damaging pecan disease. Leaf symptoms first appear on leaf undersides as tiny olive-brown lesions on the veins. Later, they appear on the upper surface as small olive-brown to black spots. Severely infected leaves may be shed prematurely and weaken the tree, thus reducing nut filling and decreasing the crop for next year. Husk infection results in olive-brown to black spots which may coalesce to form black blotches or blacken the entire surface of the husks. Severely affected nuts of susceptible varieties may drop prematurely or they may stop growing, die and remain attached to the shoot.

To manage scab, plant well-adapted northern cultivars having some degree of resistance to scab. For example, the Chickasaw variety is resistant whereas Mohawk is susceptible and would need a spray program in most years. Use of "resistant" varieties does not necessarily assure complete absence of the disease as no variety is totally resistant. Consult nursery suppliers and U.K. Cooperative Extension Publication, ID-77 *Nut Tree Growing in Kentucky* for suggestions of resistant varieties. At the end of the season, remove and destroy fallen leaves and husks to help reduce the amount of scab the following year. A pecan pest control guide is available in ID-77 for growers who have spray equipment adequate to cover the trees, or for growers who hire custom spray applicators. Fungicides such as benomyl (Benlate 50WP), propiconazole (Orbit 3.6EC), fenbuconazole (Enable 2F), and thiophanate methyl (Topsin-M 70WSB) are used for scab management. Spray applications should be initiated in early spring and continued biweekly until early August.

Powdery mildew. Highly susceptible seedling trees are especially vulnerable to the white powdery growth of the fungus on the surface of young shoots. Scab sprays usually provide adequate control of powdery mildew.

Blotch. Blotch and several other leaf diseases can occasionally cause defoliation in late summer. Generally blotch occurs only on trees low in vigor or deficient in zinc. Nursery trees are especially susceptible. These foliar diseases appear as circular black spots or large, irregular yellow blotches on the leaves. Remove and destroy fallen leaves; scab sprays usually will also control leaf spots.

Wood or heart rots. Wood or heart rots can cause extensive wood decay and thus weaken the branches or trunk. The decay-causing fungi enter the tree through mechanical injuries such as ice, wind, improper pruning, or construction injury. Damaged trees should be properly pruned to ensure normal healing. Tree wound dressings are not recommended.

Crown gall. Crown gall causes round to irregular swollen tumors or galls, usually found at or near the soil line on the trunk or roots. Infected trees lack vigor, and have off-color foliage. Such weekend trees occasionally die. To prevent crown gall, plant disease-free trees and only grow nursery trees in fields where crown gall has not been observed previously. For crown gall prevention, tree seeds and seedlings can be treated with Galltrol-A before planting.

Rosette and bunch. There have been inquiries made about pecan rosette and bunch disease this season in Kentucky. Rosette is caused by zinc deficiency or by certain soil types where zinc is unavailable to pecan trees. Initial symptoms occur mostly on the branches in the top of the tree. Leaves are yellowish and mottled. In advanced stages, leaflets become narrowed and crinkled on lower branches. New shoot growth is inhibited. Eventually twigs and branches die back from the tips. Zinc deficiency can be corrected by spraying the leaves with zinc sulfate. The zinc also may be applied to the soil around trees by spreading the material from near the trunk outward to the drip line. A soil test may be needed to determine the amount of zinc required.

Bunch. Bunch disease symptoms resemble those of rosette. Two differences are that leaflets of bunch-diseased trees neither become yellow between the veins nor extremely crinkled like those affected with rosette. Bunch disease is thought to be caused by a phytoplasma. There is no way to control bunch disease directly; however, spread can be reduced. Use only graft wood from bunch disease-free trees for propagation and do not top-work affected trees. On mildly affected trees, prune the affected shoots several feet below the region of symptoms.

Internal Breakdown. Internal breakdown of almost-mature nuts occurs in late summer. The inside of the nut becomes soft and watery. This is a physiological disorder the cause of which is not known. Its severity varies from year to year, but appears to be most prevalent on certain varieties such as Moneymaker and Mahan.

NUT WEEVILS
By Ric Bessin

Nut weevils can be very serious pests of native and non-native nut trees. These damaging insects begin to attack the kernels in the developing nuts while the nuts are still on the tree. However, problems often are not noticed until the nuts are harvested and opened. Occasionally, these weevil grubs are found in homes or other places nuts are stored.

The pecan weevil is a serious late season pest of hickory and pecan. The greatest damage is caused by the grub that feeds directly on the developing kernel. Adults are reddish-brown and densely covered with olive-brown hairs and scales. Body length is about 3/8 inch long exclusive of the snout. The female has a snout as long as her body, while the male's is about half that of the female's snout. Two types of damage are caused by this insect; mid-season adult feeding on young nuts causing premature nut drop, and grub damage to the kernels that usually occurs after shell hardening.

Adults weevils emerge from the ground in late August through September, about the time nuts begin to harden. Peak periods of adult emergence usually follow heavy rains. After the nut kernels have hardened, the female uses her long snout to chew a hole in the side of the nut and deposits her egg in little pockets in the nut. Creamy white grubs with reddish brown heads hatch and feed inside the nuts during the fall, reaching 3/5 inch in length.

When mature, the grub chews a perfectly round 1/8 inch hole in the side of the nut and fall to the ground in late fall or early winter, usually between late September and December. They make earthen cells in the ground where they remain as a grub one to two years. Most of the grubs will pupate the following fall. Some, however, do not pupate until the fall of the next year. Adults emerge during the summer following pupation. The entire life cycle requires 2 to 3 years to complete, most of it in the soil.

Weevils usually move only a short distance after emerging and often attack nuts on the same trees year after year, so long as there is a crop of nuts. Weevils apparently prefer trees growing in low areas or those near hickory trees. Early maturing varieties are most susceptible to the weevils. Hickory nuts are attacked by the pecan weevil as well.

Monitoring for Pecan Weevils
Trees can be jarred trees beginning in mid August to determine when to apply insecticides. Place a large harvesting sheet under the trees and jar the limbs with a padded pole. The adults weevils will fall onto the sheet and remain motionless for a short period. When three or more weevils are jarred per tree, insecticide applications should begin. Peak emergence cycle usually follow rains. Otherwise spray applications should begin when shell hardening begins and repeated at 10 to 14 day intervals. Sevin, Imidan, and Asana XL can be used to control pecan weevils on pecan. Asana XL is a restricted use pesticide.

Those not prepared to spray can reduce weevil injury by periodically shaking weevils onto a harvesting sheet. Dislodged beetles usually remain motionless on the sheet and can be easily collected and destroyed. Shaking should begin after the first heavy rain in early August and continue through mid-September or until no weevils are collected.

Of the larger and lesser chestnut weevils, the lesser chestnut weevil is the more common of the two species of weevil infesting chestnuts in Kentucky. These weevils breed exclusively in chinquapin, American and Chinese chestnuts. At one time these weevils were common, but since the passing of the American chestnut they have become much less common.

The 1/4 inch lesser chestnut weevils emerge from the ground beginning in late May until July, about when the chestnuts bloom, but do not lay eggs until the fall. Egg laying begins when the nuts are nearly mature and most eggs are laid after the burr begins to open. Eggs are usually laid in the downy inner lining of the

brown shell covering the nut. Eggs hatch in about 10 days and larval development is completed 2 to 3 weeks later. Soon after the nut fall to the ground, the grubs chew a circular hole in the side of the nut to enter the soil. Most of the lesser chestnut weevil grubs overwinter the first year as grubs, pupate the following fall, and overwinter the following winter as adults. Some pass two winters in the grub stage and a third winter as adults before emerging from the ground. The life cycle is completed in 2 to 3 years.

Biology of the larger chestnut weevil differs from the lesser chestnut weevil. Adults begin to emerge in late July and August. The adult is 3/8 inch long exclusive of the snout. The female has a 5/8 inch beak and the male's is 1/4 inch. Larger chestnut weevils begin egg laying soon after emerging, before egg laying begins with the lesser chestnut weevil. Eggs hatch in 5 to 7 days and the larvae feed for 2 to 3 weeks before leaving the nut. Larger chestnut weevil grubs chew and exit hole in the side of the nut and drop to the ground usually before the nuts fall. Grubs overwinter in earthen cells in the ground. Pupation and adults emergence takes place the following summer. A few grubs will overwinter a second year before pupating. The life cycle is completed in 1 to 2 years.

Management
Weevil infestations can be reduced by picking up chestnuts daily and after curing, heat them to 140 F for 30 minutes to kill the larvae in the nuts. A cold treatment of holding the nuts at 0 F for four days may also be effective, but it may also affect the nuts flavor. Sanitation is important, always collect and destroy fallen nuts before the larvae have a chance to escape and enter the soil. Only one insecticide, carbaryl (Sevin) is registered for use against chestnut weevils on chestnuts. Trees can be jarred similar to monitoring for pecan weevils to determine the presence of adult weevils.

VEGETABLES

MIDSEASON CUCUMBER BEETLE ACTIVITY
by Ric Bessin

This year has seen large numbers of cucumber beetles early and the second generation is heavy in many areas. Many melon and pumpkin producers direct their management of cucumber beetle in order to get early control from plant emergence until fruit initiation. This is very important particularly with respect to control of bacterial wilt of cucurbits. However, later in the season, the second generation of striped cucumber beetles can cause serious damage as well.

As the season progresses and the fruit begin to grow, striped cucumber beetles are commonly found beneath the expanding fruits. These beetles feed on all parts of the plant including the rind of the developing fruits. While this does not cause a reduction in yields, it reduces the marketability of the fruits. Producers need to keep scouting for cucumber beetles, particularly on the undersides of the fruits and use insecticide sprays as necessary.

SWEET CORN INSECT CONTROL HEATS UP IN MID SUMMER
by Ric Bessin

In Kentucky, many sweet corn producers plant early so that they can harvest early. By doing this they can escape much of the insect pressure from the pests that attack the ear. Producers that have sequential plantings of sweet corn find that those that are planted later often suffer more ear damage. The key to good insect control is proper timing and coverage of insecticide sprays.

Currently, European corn borer egg hatch is underway and the moth flight for southwestern corn borer is peaking. These two pests along with corn earworm and fall armyworm constitute the ear-feeding pests. Unlike the corn borers, corn earworm and fall armyworm do not have distinct generations. Rather their numbers gradually increase throughout the summer with several overlapping generations.

Sweet corn producers need to adjust their insect management program to meet the needs of their market. For example, those growing for home use or roadside markets may be able to tolerate more damage than those trying to meet the US fancy standard of less that ten percent damage. Those growing for home use may benefit from using as little as a single insecticide application when the ears approach 100 percent silking. Those needing to meet the US fancy standard will need to begin with the first spray when ten percent of the ears begin to silk and repeat applications on a 3 to 5 day interval while the silks are fresh. As soon as the silks dry, insecticide applications are no longer necessary. Generally, during periods of cooler weather and lower insect pressure, a 5 day interval is sufficient. To determine insect pressure, pheromone traps are available to monitor for corn earworm, European corn borer, southwestern corn borer, and fall armyworm.

Insecticide coverage is also important. Sprays should be directed toward the center third of the plant.

Sprays directed over the top of the plants will not be as effective as those from drop nozzles from the side.

HOUSEHOLD

ANT WARS
by Mike Potter

Many calls have been received, in recent weeks, about ants. Ants are the most frequent and persistent pests encountered around homes. At least a dozen species may be found indoors, including pavement ants, carpenter ants, odorous house ant, acrobat ant, and pharaoh ant. Besides being a nuisance, they contaminate food, build unsightly mounds on our property, and cause structural damage by hollowing out wood for nesting.

At certain times of the year, ant colonies produce winged individuals which are often mistaken for termites. Winged ants have a constricted (pinched) 'waist' and antennae which are bent or elbowed; winged termites have a body which is not constricted in the middle and the antennae are straight. The role of the winged individuals is to mate and establish new colonies – fortunately, the success rate for accomplishing this inside a home is low. Winged ants do not feed, and can be removed with a vacuum cleaner. However, they are an indication that a nest is present within the structure which may require additional effort to eradicate.

Ant control can be very frustrating. Repeated attempts often are made to maintain ants at tolerable levels. This column will help you eliminate pestiferous ants with more success and less effort. Recommendations pertain to all of the common ant species found in Kentucky except carpenter ants, which were discussed in an earlier (5/22/00) newsletter.

THE BATTLE PLAN

The mistake most people make when attempting to control ants is only spraying the ones they see. This approach usually fails because the ants seen foraging over exposed surfaces are only a small portion of the colony. Typically, there will be thousands of additional ants, including one or more egg-laying queens hidden somewhere in a nest. *The importance of eliminating queens and other colony members within nests cannot be overstated and is the key to effective ant control.*

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

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

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

Another bait that often works well is Terro® Ant Killer II. Terro is formulated as a sweet, liquid bait which certain kinds of ants often prefer. Ants are rather finicky in their food preferences and may alter them throughout the year; if one bait product isn't attractive, try another. When using Terro indoors, place dabs of the bait on small squares of waxed paper, or on the back (nonsticky side) of masking tape along ant trails, but away from children and pets. Replace with fresh dabs of bait daily until ant activity ceases.

IMPORTANT NOTE: Retail ant baits will not normally control carpenter ants. Elimination of carpenter ants is discussed in KPN article 5/22/00, or ENT-57, *Ant Control In and Around Structures.*

Ants Nesting Outdoors- Ants noticed inside the home may actually be nesting outdoors in the yard. Trace the ants back to the point where they are entering from outside, such as around a window sill, beneath an exterior door, or where the exterior siding meets the foundation wall. When tracing ant trails outdoors or indoors, pay particular attention to seams and edges created by mortar joints, foundation/siding interface, baseboards, carpet tack strips, etc., as ants usually prefer to trail along "lines" and edges. Nests often will be located in the ground, where they may be marked by a mound or anthill. Other times, the nest will be concealed under stones, mulch, landscaping timbers, pavement, or beneath the grass adjacent to the foundation wall. Some kinds of ants prefer to nest underneath siding or behind wood trim that has been moisture damaged. While it takes patience to locate a nest outdoors, results will be more rapid and permanent than if you spray only where ants are seen. One way to entice ants to reveal the location of their outdoor or indoor nest(s) is to place small dabs of honey or maple syrup next to where ants are observed. After the ants have fed, they soon will head back to the nest.

When a below-ground nest is discovered, the colony can be eliminated by thoroughly spraying or drenching the nest location with Sevin, Dursban, or a synthetic pyrethroid such as contained in Spectracide Bug Stop®, Ortho Home Defense System®, or Bayer Advanced Lawn & Garden Multi-Insect Killer®. Large colonies will require greater amounts of liquid to move the insecticide throughout the network of underground galleries within the nest. Using a bucket to apply the diluted insecticide is an effective method. Follow label directions for treating ant mounds, paying attention to precautions for mixing and application.

Another effective and convenient way to control outdoor and indoor-nesting ants is the granular bait product, Combat® Ant Killing Granules. Sprinkle the bait in small quantities beside outdoor ant mounds, along pavement cracks, and other areas where ants are nesting or foraging.

Ant entry into homes can be reduced by caulking around doors (especially along bottom outside edge of thresholds), windows, and openings where pipes and wires enter the building. Chronic ant problems can further be reduced by spraying one of the above-mentioned liquid insecticide formulations around the outside perimeter of the building. Pay particular attention to likely points of entry, such as around doors and where utility pipes and wires enter from the outside. Also consider applying a 3-to 6-foot swath along the ground adjacent to the foundation, and a 2-to 3-foot band up the foundation wall.

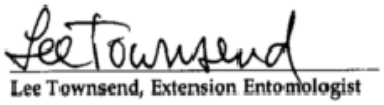
Broadcast spraying or applying conventional insecticide granules (e.g., diazinon or Dursban) to the yard seldom, if ever, solves an indoor ant problem. In Kentucky, such applications are a waste of money, effort, and a potential polluter of streams, lakes, and municipal water systems. They also eliminate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

DIAGNOSTIC LAB HIGHLIGHTS

by Julie Beale and Paul Bachi

In the Diagnostic Lab recently, we have seen Rhizoctonia root rot and Fusarium stem rot on soybean; angular leaf spot, frogeye, target spot, blue mold, soreshin, black shank, Fusarium wilt, and tomato spotted wilt virus on tobacco.

On fruits and vegetables, we have seen Phytophthora root and crown rot on raspberry; black rot on grape; scab on pecan; Fusarium and Rhizoctonia root/stem rots on bean; bacterial wilt on cantaloupe and pumpkin; Alternaria leaf blight on cantaloupe; and Septoria leaf spot, bacterial spot/speck; early blight, cat facing, and cucumber mosaic virus on tomato.



On ornamentals, we have diagnosed Rhizoctonia root and stem rot on petunia, vinca, and impatiens; black root rot on petunia; Botrytis blight and Phytophthora (aerial blight) on vinca; Pseudomonas leaf spot on geranium; anthracnose and summer patch on bentgrass; black spot on rose; powdery mildew on dogwood; scab on crabapple; and Verticillium wilt on magnolia.

INSECT TRAP COUNTS

UKREC, Princeton, KY -July 14-21, 2000

Fall armyworm 2
European corn borer 9
Southwestern corn borer 720
Corn earworm 25

NOTE: Trade names are used to simplify the information presented in this newsletter. No endorsement by the Cooperative Extension Service is intended, nor is criticism implied of similar products that are not named.