



# KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • WEED SCIENCE

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## TOBACCO

### CURRENT BLUE MOLD STATUS

By William Nesmith

With fresh memories of \$300,000,000 in losses to blue mold during the late 90's and following the past week of blue mold favorable weather in Kentucky, many growers have become concerned about blue mold developing on their highly susceptible young tobacco in the field. The common question this morning is: "Shouldn't I be spraying something as soon as I can get into the field to control blue mold?" The answer is: not unless you set plants produced in the southeastern states.

There should be very little reason for concern about blue mold developing in the near future unless it has been introduced with the transplants. It is true that blue mold has remained active in North Carolina, Georgia and Florida. However, the wind patterns should have been sending the airborne spores east of Kentucky. Consequently, even though Kentucky experienced ideal blue mold weather during much of last week, one leg of the disease triangle should be missing - the fungus. Remember, three factors must be present simultaneously before blue mold can develop: susceptible plants, disease conducive weather, and viable fungus.

The fungicide spray advisory remains in place for all tobacco transplant production in Kentucky and for fields set with southern transplants. Preventive fungicide sprays (Ferbam or Dithane) at weekly intervals should be maintained in all transplant production systems to aid in the control of other fungal diseases as well as to protect against the remote risk of blue mold. Equally important, however, is the need to promptly destroy all plant beds and transplant sites no longer needed to prevent them from serving as staging areas for blue mold and other diseases. Fields set with southern transplants should be receiving weekly, foliar applications of Acrobat MZ at 2.5 /100 gallons of water, adjusting the concentration and volume of fungicide to the stage of growth, as per the label. Before stopping these preventive applications, scout the field very carefully to be sure it does not harbor blue mold (local lesions or systemic activity).

### TOBACCO BLACK SHANK WARNING

by William Nesmith

Due to the prolonged period of soil saturation during the past weekend, resulting from heavy rains and flooding in some areas, conditions will be very favorable for rapid development of black shank in tobacco. The fungus population could "explode" in fields of tobacco following tobacco under saturated

conditions, because the fungus can complete its life cycle in 48-72 hours. Cooler temperatures slowed early development, but evidence of primary infections on the above ground portions of the plant could be present by mid week, while root infections occurring now may not be evident until the plants are stressed later in the season. Communities receiving misty rains several times during the day are at highest risk of the foliar phases of black shank. Fields at greatest risk are those with a recent history of black shank.

Losses in high risk fields can be reduced markedly with cultivation and layby applications of either Ridomil Gold or Ultra Flourish - follow the label carefully. The disease potential is so high in some fields that using hand-held equipment and "walking it on the field" could be economically justified. Remember, the black shank pathogen infects during wet conditions, not during dry periods. The death is often seen during the dry weather, not because infection occurs then, but because the drought-stressed plant is more easily killed by the pathogen that invaded during the wet period. The fungicides labeled for black shank control have very little impact on the disease once the pathogen has become well established in the plant prior to the applications. So this is not a rescue treatment, but preventive, because it is being made prior to infection. In addition, these applications will greatly reduce the secondary cycles, so important in black shank epidemics.

## SOYBEANS

### BEAN LEAF BEETLE IN SOYBEAN

by Doug Johnson

A number of agents and farm store managers are reporting trouble with bean leaf beetle. This is a common pest of soybean but is usually not important. However, it appears that this year producers need to be looking for damage from this beetle.

Adult beetles are small, about 1/8 to 1/4 inch long. The body is slightly convex and the beetle is longer than wide. BLB color varies from light brown to dark red. Black spots and/or stripes may be present or absent on the wing covers. All bean leaf beetles will have a backwards pointing black triangle behind the head. They look very much like the better-known spotted cucumber beetle but are smaller. The small rootworm-like larvae live below ground and feed on soybean roots. They are rarely seen and cause no apparent damage

Adults feed on seed leaves (cotyledons), leaves, and much later in the season on pods. Damage to the seed leaves, the most important injury, appears as scooped out pits. Leaf feeding damage consists of very distinctive, almost circular holes, scattered over the leaf.

Deciding whether or not a control needs to be applied may be done by measuring plant damage or counting insects. Early in the season look for stand reduction (cotyledon stage) and heavy leaf feeding while crossing the field. If damage is noticed, try to establish that bean leaf beetle is the problem and estimate the percent stand loss. During the vegetative stages, you may estimate the percent defoliation or count the number of beetles collected using a sweep net or a shake cloth. All methods are equally reliable. Sampling for beetles should not be done prior to mid morning or when dew is present.

Sampling techniques, thresholds and insecticides for use against this pest may be found in the following publications available at your county extension office and on our web site at:

<http://www.uky.edu/Agriculture/Entomology/enthp.htm>

ENTFACT-131 *Bean Leaf Beetle in Kentucky Soybeans*  
IPM-3 *Kentucky Integrated Crop Management Manual for Soybeans.*

ENT-13 *Insecticide Recommendations for Soybeans*

## FRUIT

### GRAPE BLACK ROT AND CANE AND LEAF SPOT DISEASES

by John Hartman

With the increase in new grape plantings in Kentucky in recent years should come increased recognition of the important diseases facing grapes. Black rot, caused by the fungus *Guignardia bidwellii* is regularly the most devastating disease of commercial and backyard grapes in Kentucky. However, cane and leaf spot caused by the fungus *Phomopsis viticola* can cause serious injury to grapes in some Kentucky vineyards. Grapes grown in areas where a moist environment persists are especially vulnerable to both diseases.

Symptoms - black rot. Black rot symptoms are just beginning to appear on grapes statewide. Leaves are showing the typical circular to angular brown spots, often with tiny black fungal fruiting bodies (pycnidia)

arranged in a ring near the outer margin of the spot. Although fruits are now just a little past bloom, they will later show symptoms ranging from small, brown, decayed spots to completely rotted, black, shriveled fruits studded with fungal pycnidia. The fungus also infects tendrils, leaf petioles, and canes. The occasional periods of warm, humid, rainy weather that we experienced this spring favored infections by the black rot fungus.

Symptoms - cane and leaf spot. Leaf spots appear in early spring as small irregular, light green spots. These spots darken and enlarge to form black-brown lesions. As these lesions become more numerous, they may run together along the veins, forming large dead areas. Infections on new canes appear as reddish spots which later become brown and slightly elongate. Spots may coalesce and form black, irregular, scabby or crusty areas on the canes. Dark, sunken spots may also appear on leaf petioles and fruit cluster stems. The spotted tissue may crack open once the lesions run together. The fruit may also become infected under unusually wet conditions, resulting in fruit rot. The berries become dried and shriveled in appearance. Cane and leaf spot symptoms could be confused with black rot, however black rot tends to form brown, rather than black stem and leaf spots, and black rot leaf lesions tend to be angular and distinct.

Both fungi overwinter in infected canes and in last year's dried, shriveled fruit, called mummies. In the spring, spores are carried by wind and rain with infections occurring during periods of prolonged wet weather.

Disease management. Because these two diseases, especially black rot, are so devastating it is difficult to grow high yields of high-quality grapes in Kentucky without the use of fungicides. For commercial growers, a publication entitled Kentucky Commercial Small Fruit and Grape Spray Guide for 2000 (ID-94), available at County Extension Offices, provides details of fungicides to use. The number of hours of leaf wetness needed for black rot control at various temperatures is known. Some growers reduce fungicide usage in grapes by monitoring weather and using this information to spray based on a predictive system. Homeowners should refer to the Cooperative Extension publication entitled Disease and Insect Control Programs for Homegrown Fruit in Kentucky Including Organic Alternatives (ID-21).

Although fungicides are important for fruit and foliage disease control, many cultural practices should also be implemented for best grape disease

control. Consider how shading, weeds, irrigation method and timing, soil drainage, plant spacing, mulch, and disease-free plants will influence the disease situation. In addition, prune and destroy diseased portions of vines and pick off and pick up any mummies left from the previous season. These measures will help to reduce disease and the need for fungicides.

### **REDNECKED CANE BORER ACTIVE by Ric Bessin**

Adult rednecked cane borers have emerged and are feeding on blackberries and raspberries. They attack foliage, often feeding on the upper leaf surfaces during the day leaving irregular holes. Larvae feed on and girdle the primocanes which form irregular swellings or galls. Galls are between 1 to 3 inches in length and often split the bark. Adults feed on leaves and the young leaves near the growing point of the primocanes. Rednecked cane borers may infest as much as 50 percent of the canes in one or two years old plantings. Girdled canes are predisposed to winter injury. Two insecticide applications, 7 to 12 days apart, timed to coincide with adult emergence, June through early July, will provide helpful control.

## **VEGETABLES**

### **FIGHTING THE ENDLESS FIGHT: COLORDAO POTATO BEETLE by Ric Bessin**

Fighting human nature is difficult. When we find a tool that works, we tend to use it until it doesn't work or until a better one is found. When it comes to controlling Colorado potato beetle, this behavior is a quick recipe for failure. Colorado potato beetle has a tremendous ability to develop resistance to insecticides in a relatively short time. While commercial growers and home gardeners are fortunate to have some new tools to manage this pest, if these new pesticides are exploited and used without regard to resistance management, they will lose their effectiveness quickly.

Resistance develops more rapidly when an insecticide is used repeatedly as the only control measure. Also, over-use of one insecticide may favor the development of resistance to others in the same chemical class. Insecticides in the same chemical class usually have the same mode of action, or the same method of killing the insect. Consequently, to delay or prevent resistance it is important to avoid repeated usage of one particular insecticide. Rotate among

different classes.

In order to maintain the effectiveness of these new products, producers should understand and employ some basic principals of insect resistance management. The following are some guidelines to slow the development of resistance:

- Only use insecticides at the labeled rate. When a range is provided, the lower rates are used for lower pest populations and younger stages. Higher rates for high populations and larger larvae.
- Don't use the same insecticide or insecticides from the same class with the same mode of action to control consecutive generations of an insect pest. With Colorado potato beetle, this would mean that producers need to rotate chemical classes each four to six weeks.
- Use economic thresholds to determine the need for action. See ENTFACT-312, *Colorado Potato Beetle Management*, for a listing of those guidelines.

Home gardeners are fortunate to have some new types of products available for vegetable insect control. They now can purchase low concentrations of pyrethroid insecticides that have been Restricted Use in the past. This includes products containing esfenvalerate and permethrin. While both of these insecticides are effective against Colorado potato beetle, failure to use these in a rotation with insecticides with other modes of action will result in the eventual ineffectiveness of these products.

## LAWN & TURF

### NECROTIC RING SPOT IN KENTUCKY BLUEGRASS

by Paul Vincelli

Necrotic ring spot has been active in susceptible Kentucky bluegrass swards, based on recent observations. This is a common root rot disease of Kentucky bluegrass, and it is caused by the soilborne fungus *Ophiosphaerella korrae*.

The disease appears first as bluish-green, wilted grass in patches one-half-foot to three feet in size. These patches quickly become brown as the wilted grass dies. Often, a tuft or patch of healthy turf is present in the center of affected patches, giving the turf a "donut" or "frog-eye" appearance. Below ground, roots of affected tillers have a light brown to dark brown decay.

### Symptoms

Symptoms are most severe in the driest parts of the landscape, such as on knolls or slopes. Although symptoms of necrotic ring spot generally develop in early summer, they can persist throughout summer until cool weather allows the turf to begin to recover.

Root-rotting activity by *O. korrae* is greatest during cool, wet weather in late April and May.

Aboveground symptoms become apparent as warm, dry weather in early summer puts stress on tillers with root rot. Symptoms of necrotic ring spot often are most severe in areas where the soil dries out. Compaction can increase the severity of necrotic ring spot by reducing root development.

### Management

For lawns, tall fescue is the grass species of choice, and it is not affected by this diseases, so renovation offers several advantage including control of this disease. If using Kentucky bluegrass, use a variety that has performed well in University of Kentucky field tests when establishing a new lawn or overseeding an established lawn. Varieties such as Midnight, Indigo, Aspen, and Unique have given overall superior turf quality and patch disease resistance in field tests at the University of Kentucky. Obtain more information on selecting turf varieties at the UK Turf Home Page ([www.uky.edu/Agriculture/ukturf/](http://www.uky.edu/Agriculture/ukturf/)). Another option is to interseed perennial ryegrass into areas affected by the patch diseases. Perennial ryegrass establishes easily and is not affected by either disease.

Probably the most practical way to deal with outbreaks of this disease in many lawns is to manage the turf so that it can better tolerate the disease. Irrigating turf lightly and frequently is normally discouraged because it can intensify a number of turf diseases. However, in sites where necrotic ring spot is the principal problem, irrigating lightly and frequently often helps keep the turf somewhat healthy.

During periods when aboveground symptoms occur, light applications of nitrogen fertilizer can help the turf tolerate root infections of *L. korrae*. Slow-release forms of nitrogen fertilizer have been shown to reduce disease severity and may be useful in sites with serious problems with necrotic ring spot. Certain organic fertilizers, containing such things as feathermeal, bonemeal, and soybean meal, reduced severity of necrotic ring spot in some experiments. However, control of the disease with these types of products has been poor in other well conducted field

tests. Thus, homeowners and landscape managers should not rely on organic fertilizers for control of necrotic ring spot.

Fungicides are available for controlling necrotic ring spot, but these must be applied 4-6 weeks in advance of symptoms in order to provide significant control. Once the symptoms show up, the fungicides do very little to promote turf recovery. If considering fungicides, contact your county Extension office for the UK Extension publication PPA-1, Chemical Control of Turfgrass Diseases. This publication can also be seen at [www.ca.uky.edu/agc/pubs/ppa/ppa1/ppa1.htm](http://www.ca.uky.edu/agc/pubs/ppa/ppa1/ppa1.htm).

## SHADE TREES & ORNAMENTALS

### BORERS ARE FLYING by Mike Potter

Four serious pests of landscape trees -- dogwood borer, bronze birch borer, flatheaded appletree borer, and honeylocust borer -- have emerged. The dogwood borer is the most serious pest of ornamental dogwoods, especially stressed trees in full sun. The bronze birch borer is a severe pest of white or paper birch, especially cultivated trees under stress. Flatheaded appletree borers are major pests of red maples, hawthorns, flowering crabapple, and several other hardwoods, especially those which are newly transplanted or under stress. Honeylocust borers are serious pests of transplanted and established urban trees with limited root zones. Mated females of all four species fly to host trees and lay eggs on the bark.

Management -- Borers rarely injure healthy trees or shrubs growing in their natural environments. When transplanted into landscape settings, every effort should be made to minimize plant stresses such as drought, soil compaction, sun scald, soil compaction, lawn mower/weed trimmer injuries, etc. Because newly planted are under considerable stress, preventive sprays are advisable during the first 2-3 growing seasons after planting. Timing is crucial in order to have a lethal residue of insecticide on the bark to intercept newly-hatched larvae before they burrow into the tree. *Now is the appropriate time to apply protectant sprays for all four species.* Lindane or Dursban are effective, and should be sprayed to runoff on the trunk and main scaffold limbs. A second application, three weeks after the first one, provides extended protection.

An updated and improved version of extension publication, ENT-43 : *Insect Borers of Trees and Shrubs*,

was recently completed and will soon be available for distribution.

### BAGWORMS VULNERABLE by Mike Potter

Bagworm eggs have now hatched and the young larvae are at their most vulnerable stage for treatment. This caterpillar is a serious defoliator of many different kinds of landscape and nursery plants. They are especially damaging to evergreens such as juniper, arborvitae, spruce, pine and cedar. Bagworms overwinter as eggs within spindle-shaped bags made of silk and bits of plant material. Young larvae emerge and immediately begin feeding on the upper side of leaves, camouflaged within a tiny bag pointed upward. The bag is gradually enlarged as the larva grows. Older larvae strip evergreens of their needles and consume whole leaves of susceptible hardwood species, leaving only the larger veins.

Control- The best time to control bagworms is while the larvae are small. Carefully inspect susceptible landscape plants, especially evergreens, for last year's bags. Preventive treatment is often justified on plants that were heavily infested with bagworms the previous year. Small bagworms may also disperse to previously uninfested plant material after becoming wind-borne on silken strands.

Overwintering eggs can be destroyed by hand-picking old bags during the winter or early spring. Since this window of opportunity has passed, insecticides are now the only effective means of control. For homeowners, Sevin, Dursban, malathion, or the microbial insecticide *Bacillus thuringiensis* (BT) work well. For nursery and landscape professionals, other effective products include Astro, Decathlon, DeltaGard, Mavrik, Orthene, Pounce, Scimitar, Suspend, Talstar and Tempo.

For further information, see Entfact 440: *Bagworms on Landscape Plants*.

## HOUSEHOLD

### WHAT ARE THOSE TINY, RED THINGS? By Mike Potter

Several calls have been received about tiny, red, mite-like "specs" seen crawling over pavement, patios, foundations and other outdoor surfaces. Oftentimes

the critters make their way indoors and wander over floors, walls, counter tops, computer monitors, etc. When crushed they leave a reddish stain, further elevating their status as pests.

Technically speaking, these are mites in the family *Trombididae* – a large group of outdoor, free-living mites that prey on insect eggs, collembola and other tiny soil arthropods. They breed outdoors in moist, organic, vegetative environments such as often occur around the foundations of buildings. The mites cannot breed indoors, nor will they bite pets or humans. They are often mistaken for clover mites which have similar outdoor origins and habits. (Clover mites tend to be reddish, orange or olive-brown in color and when viewed under magnification, the front pair of legs extend much farther forward than the others.) Some people also mistake the mites for chiggers.

Control- Most clients will not tolerate the mites once they have made their way indoors. Tremendous numbers often appear on foundations, patios, and other adjoining surfaces. Given their abundance and very small size, it's virtually impossible to prevent their entry by caulking and sealing alone. The most efficient and immediate solution is an outdoor perimeter application of insecticide around the base of the foundation in a 2 to 6-foot-wide band along the ground, and 2-3 feet up the foundation wall. Also spray along the base of exterior doors, beneath the bottommost edge of siding, along the crack where brick veneer meets foundation wall, and around window and door frames. Several different homeowner products are effective when applied with a pump up or hose end sprayer, including Dursban, Sevin, Spectracide Bug Stop™, and Bayer Advanced Lawn & Garden Multi-Insect Killer™ Concentrate. Professional pest control firms also perform such "barrier" treatments.

Mites occurring indoors are best removed with a vacuum cleaner to minimize red smears and stains. Indoor insecticide applications are not needed nor recommended. Finally, the occurrence of this mite around structures is a temporary event. For clients who opt to do nothing, the problem usually corrects itself in a matter of days or a few weeks.

## DIAGNOSTIC LAB HIGHLIGHTS

By Julie Beale and Paul Bachi

Samples of diseases as well as stress-related problems were abundant in the Diagnostic labs last week—as is typical at this time of year. On corn, we saw a number of samples showing zinc deficiency

symptoms. On wheat we are still seeing several viruses, including wheat streak mosaic, wheat spindle streak mosaic and barley yellow dwarf, as well as fungal diseases take-all and powdery mildew. On tobacco, Pythium is prevalent on float plants, also target spot, chemical injury, fertilizer burn and heat stress.

On fruits, we have seen black rot on grape; cedar-apple rust and scab on apple; fire blight on apple and pear; and plum pockets on plum. On vegetables, we have seen bacterial speck and Sclerotinia stem rot on tomato; and Stewart's wilt on sweet corn.

In the landscape, stress symptoms from last year's drought are becoming quite evident on many woody plants; damage from spring freeze in April is also still being noticed. Diseases on landscape plants seen this week have included Fusarium crown rot on purple coneflower; Heterosporium leaf spot on iris; rust on Jack-in-the-pulpit; Cladisporium spot and anthracnose on peony; Rhizoctonia root rot, necrotic ringspot and anthracnose on turfgrasses; spot anthracnose on dogwood; Phyllosticta leaf spot on box elder; twig blight (Kabatina and Phomopsis) on juniper; anthracnose on maple; Verticillium wilt on maple and redbud; leaf blister on oak; powdery mildew on euonymus and honeysuckle; and rose mosaic and black spot on rose.

## INSECT TRAP COUNTS

UKREC, Princeton, KY --May 19-26, 2000

Black cutworm	1
True armyworm	26
Corn earworm	28
European corn borer	2
Southwestern corn borer	9

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.