



KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • AGRONOMY

On line at - <http://www.uky.edu/Agriculture/kpn/kpnhome.htm>

Number 845

May 3, 1999

TOBACCO

- Blue mold control in tobacco fields
- Tobacco flea beetles

CORN

- European corn borer model anniversary
- Some elevators may reject some genetically modified crops

GREENHOUSE CROPS

- Fungicides for disease control in greenhouse ornamentals

SHADE TREES AND ORNAMENTALS

- Ornamental pest alert

LAWN AND TURF

- Springtime diseases of warm-season grasses
- Microdochium patch on creeping bentgrass

HOUSEHOLD

- Managing carpenter bees

PESTICIDE NEWS AND VIEWS

DIAGNOSTIC LAB - HIGHLIGHTS

INSECT TRAP COUNT

TOBACCO

BLUE MOLD CONTROL IN TOBACCO FIELDS

By William Nesmith

Although the chemical options for blue mold control have not been resolved for 1999, and blue mold has not yet been reported in Kentucky, there are some control measures that need to be considered and incorporated now, as the crop is being transplanted. I will update the chemical control options once the status of Acrobat MZ has been resolved for this season.

It is important to appreciate that several aspects of crop management impact the potential for blue mold and the amount of crop damage that results. Some key factors impacting disease development are: how early the disease arrives, duration of wet leaf wetness, shading of the plant, succulence of growth, cultivar and ability to spray the crop. Consider the following points in management of the 1999 crop:

1. Blue mold is a transplant-borne disease. In general, the earlier it is introduced into the crop, the

greater the economic damage. Therefore, set plants from blue mold-free operations. Also, never abandon transplants, because old bed sites and greenhouses can become ideal staging areas for blue mold. Maintain disease control programs until the plants are destroyed - promptly destroy all seedlings once transplanting is done.

2. Field Selection: Recognize that the highest disease potential exists with shady, wet-natured locations with poor air drainage; for example, sites near streams or in fog pockets. Avoid such sites where possible and be prepared to use an aggressive control approach when such disease-prone sites are used. Consider the more tolerant varieties for such high-risk sites.

3. Variety Selection: None of the currently available varieties has a high-level of resistance to blue mold. However, some varieties tolerate the disease with less loss than others, such as: Tn 90, Tn 86, R-610, and 14xL8. Keep in mind, however, that even these varieties can also sustain serious losses if over-fertilized or if infected while young. All varieties show some tolerance to blue mold damage if stunted from other diseases or stresses. In general, dark tobaccos experience much less damage from blue mold than does burley, but dark

tobacco can be seriously damaged, especially when young, or when large amounts of inoculum are coming from nearby burley plants.

4. Row and Plant Spacing: Close plant spacings (especially close row spacing) favor disease development. Recognize that open row spacing can reduce blue mold, improve spray application, save labor, and reduce barn space requirements. Also consider arranging the crop in the field so that it can be sprayed with foliar fungicides. For example, to obtain good coverage with a tractor-mounted boom sprayer, you need skip rows in the crop, wide enough for your tractor, and all rows being sprayed in the same pass need to be parallel. Common mistakes include when growers attempt to spray too many rows in one pass or when rows are not parallel.

5. Fertilization: Avoid excess N-fertilization; follow recommended rates. Rotated fields and fumigated sites often experience more serious blue mold damage because of improved growth potential (succulent growth favors blue mold), so consider the growth potential as determined by both fertilization and other factors, and prepare accordingly.

6. Topping and Sucker Control: Early topping and improved sucker control slow disease progress by removing young tissues. Ground sucker development favors blue mold buildup in a crop; crops experiencing ground suckers may need a more aggressive spray program.

7. Harvest: Early harvesting to avoid blue mold losses is seldom warranted in properly fertilized crops, because blue mold susceptibility declines rapidly after topping with maturity of leaves while yield and quality are improved. It may be advisable in some cases to destroy or early-harvest part or all of a field with blue mold to reduce the threat to nearby tobacco or where strong activity is accompanied by secondary leaf diseases, such as frog-eye, brown spot, or bacterial infections.

TOBACCO FLEA BEETLES- LITTLE INSECTS, BIG BITES

By Lee Townsend

Tobacco flea beetles soon will be leaving their overwintering sites around tobacco barns and wooded areas near fields to search for a meal. The

mild winter should mean excellent survival of the beetles and a high potential for damage, especially on the earliest set fields.

Transplant water applications of either Admire or Orthene will provide excellent control of these small insects during the critical three to four weeks after plants are set in the field. The uptake of Admire appears to be slightly slower than that of Orthene so there may be some minor feeding damage during the first day or so after the plants go into the ground. The few feeding holes that can appear are not enough to affect the plants.

Admire concentrations in the plant will remain high enough to control tobacco aphids for 60 days or more. Orthene concentrations will control tobacco flea beetles for about four weeks but will have no visible effect on aphids.

CORN

EUROPEAN CORN BORER MODEL ANNIVERSARY

by Ric Bessin

This is the 20th anniversary of the develop of the UK European corn borer model by Dr. Grayson Brown! This model tells us that the flight of the first generation European corn borer moth has begun. Corn growers should be mindful of corn borer activity on early planted corn as well as monitoring for cutworm activity.

The table below summarizes the degree day totals for selected locations throughout Kentucky for 4/30/99. Some of the important degree day values to watch for include 900 (peak flight), 850 (50% egg laying), and 960 (50% egg hatch). See ENTFACT 106 for a complete listing of the degree day values corresponding to the various corn borer life stages. Keep in mind that although initial egg laying has already occurred, egg laying does not peak until 990 DD.

Location	Degree Day Total	Initial Flight	Initial Egg Laying	Initial Hatch
----------	------------------	----------------	--------------------	---------------

Bardstown	471	5/7	5/11	5/19
Berea	543	5/1	5/6	5/16
Bowling Green	550	AO	5/5	5/15
Buckhorn Lake	513	5/4	5/9	5/18
Campbellsville	560	AO	5/4	5/14
Covington	313	5/18	5/22	5/30
Cumberland Gap	489	5/6	5/10	5/20
Dix Dam	463	5/8	5/12	5/21
Evansville	419	5/9	5/13	5/20
Glasgow	662	AO	AO	5/7
Grayson	483	5/6	5/11	5/20
Hardinsburg	450	5/8	5/12	5/21
Henderson	503	5/4	5/8	5/16
Jackson	502	5/5	5/9	5/19
Lexington	401	5/12	5/16	5/25
London	476	5/7	5/11	5/20
Louisville	435	5/9	5/13	5/21
Mayfield	538	5/1	5/5	5/14
Nolin Lake	508	5/4	5/8	5/17
Paducah	528	5/2	5/6	5/14
Princeton	663	AO	AO	5/6
Quicksand	557	AO	5/5	5/15
Somerset	521	5/3	5/8	5/18

AO indicates event has already occurred.

SOME ELEVATORS MAY REJECT SOME GENETICALLY MODIFIED CROPS
by Ric Bessin

Two of the world's largest grain processors have announced they will not accept grain from genetically modified crops that have not been approved for European markets. Archer Daniel Midland Co. and A. E. Staley Manufacturing will enforce a ban on certain genetically modified corn varieties. This decision is the result of the problem of keeping genetic crop varieties separate in storage. However, they will continue to accept genetically modified varieties that are approved in European markets.

The following table lists types of genetically modified corn hybrids that will and will not be accepted by these processors.

Rejected	Accepted
-----------------	-----------------

RoundupReady Corn LibertyLink T14 StarLink Bt Xtra DeKalb GR DeKalb RoundupReady + BtY Pioneer YieldGard + LibertyLink	Novartis and Monsanto YieldGard Knock Out NatureGard LibertyLink T25
--	--

GREENHOUSE CROPS

FUNGICIDES FOR DISEASE CONTROL IN GREENHOUSE ORNAMENTALS

By John Hartman

Production of ornamental crops in the greenhouse has become nearly a year-round activity in Kentucky. There are many different kinds of diseases that occur on ornamental plants and for most diseases, there are several chemical control options. The table below lists the fungicides labeled for ornamentals in greenhouses. These materials are not cleared for use on all ornamentals - growers must read the fungicide label carefully to determine which ornamentals are listed. **Most of these chemicals are not cleared for use on greenhouse vegetables, fruits, and tobacco.**

The following information was adapted from an article written by Dr. Ann Gould for the Rutgers University *Plant and Pest Advisory* newsletter. The greenhouse ornamental diseases enumerated for the fungicides listed follow:

- 1) Anthracnose
- 2) Botrytis blight
- 3) Bulb and corm rot
- 4) Damping off and root rot caused by water molds
- 5) Damping off and root rot caused by fungi not water molds
- 6) Downy mildews
- 7) Leaf blight
- 8) Phytophthora dieback
- 9) Leaf Spot
- 10) Petal blight
- 11) Powdery mildew
- 12) Rust

SHADE TREES AND ORNAMENTALS

ORNAMENTAL PEST ALERT

by Mike Potter

Holly Leafminer- Adult holly leafminers are beginning to fly and lay eggs in newly-expanding holly leaves. The small, pin prick feeding punctures and oviposition scars of the tiny adult flies do not harm the tree, but subsequent mining by the larvae is cosmetically unappealing. Control of the egg laying adults can be accomplished by applying insecticides such as Orthene, Dursban, Sevin or Talstar just as the newly expanding leaves are unfurling. Control of larvae already in the leaves (mid- to late May) can be attempted with one of the systemic materials, e.g., Cygon, Dimethoate, or Di-Syston. Blue holly is relatively resistant to leafminer injury.

Pine Needle Scale- These white, shell-like scales infest the needles of various species of pine. Two-needle varieties (e.g., Red, Mugo, Scots, Austrian) are especially vulnerable. Heavy infestations cause yellowing, stunting and premature needle drop. This insect overwinters as eggs beneath the white shell of the dead adult scale.

Control of pine needle scale can best be accomplished by timing treatments to coincide with the vulnerable "crawler" stage, which has now begun to emerge. The easiest way to spot them is to tap infested twigs over a sheet of white paper. The small reddish-orange crawlers are easily seen with a 10x hand lens. Treat with 2 percent horticultural oil, insecticidal soap, or a conventional insecticide when crawlers are first noticed. Repeat the application after 7-10 days.

LAWN AND TURF

SPRINGTIME DISEASES OF WARM-SEASON GRASSES

By Paul Vincelli

Under Kentucky conditions, bermudagrass and zoysiagrass, two warm-season grasses, have relatively few serious disease problems. However, the following diseases have been evident recently.

Spring Dead Spot of Bermudagrass

Circular to irregular patches 1-3 ft in size, where the turf fails to green up in spring. Root infections

leading to these symptoms actually began last fall. These root infections increase susceptibility of the turf to freeze damage.

Key management practices

Minimize thatch and maintain adequate potash. Minimize late-summer nitrogen fertilization; raise mowing height before Labor Day; and minimize thatch. Maintain the soil pH around 5.2-5.3 (extracted in distilled water). Use ammonium-based fertilizers rather than urea or nitrate-based fertilizers; wash ammonium fertilizers off leaves if applied when temperatures will exceed 80°F. Maintain adequate potash fertility. On putting greens, avoid using topdressings with a pH above 6.0.

Fungicidal control of this disease is very inconsistent. If using fungicides, apply in early September and water in prior to drying. See the UK Extension publication Chemical Control of Turfgrass Diseases, PPA-1, for more information on fungicidal management.

Rhizoctonia Large Patch of Zoysiagrass and Bermudagrass

Large circular patches or rings that become blighted (spring or autumn) or do not green up (springtime). On zoysia, a bright orange zone of active infection often is present at the margin of the patch. This disease develops when a *Rhizoctonia* fungus present in the soil attacks leaf sheaths and shoots in fall and spring as the turf enters or breaks dormancy. The disease is also called "zoysia patch" or "large brown patch" in some publications. The disease is considerably more destructive on zoysia than on bermudagrass.

Key management practices

On bermudagrass, symptoms are typically not severe enough to warrant specific management practices, and the turf quickly outgrows the damage. However, on high-maintenance zoysia, preventive practices are often advisable to avoid destructive turf loss.

Avoid fertilization and core aeration when the patch symptoms are active (bright-orange margins). Improve drainage in affected fairways by filling low areas or installing tile drainage. Avoid over-irrigation, especially in spring and autumn. Mowing heights below 1.75" enhance disease development. Studies suggest that disease

development is not influenced by nitrogen rate and source or pre-emergence herbicides.

On sites with a history of the disease, one or two preventive fungicide applications can be helpful. Make the initial application when thatch temperatures drop below 70 F, usually in mid- to late September. If fungicide applications are made in the autumn, re-treatment in springtime is not necessary according to research to date. If no fungicide was applied in autumn, apply fungicide no later than mid-April. Studies indicate that Prostar and Bayleton are typically the most effective products. Banner GL and Banner MAXX are also good choices (note that Banner 1.1EC has been reported to be phytotoxic to zoysia at high rates). See the UK Extension publication Chemical Control of Turfgrass Diseases, PPA-1, for more information on fungicidal management.

MICRODOCHIUM PATCH ON CREEPING BENTGRASS

By Paul Vincelli

The fungus *Microdochium nivale* (= *Fusarium nivale*) was recently diagnosed in diseased patches on creeping bentgrass putting greens on several golf courses. The cool (< 60°F), wet conditions that prevailed last week were very conducive for activity of this fungus. This is the same fungus that causes pink snow mold. In the absence of snow cover, the disease is referred to as Microdochium patch (= *Fusarium* patch).

Symptoms and Disease Development

Patches ½ to one inch in diameter, increasing to 3-6 inches in size. Active infections are reddish-brown, which fade to tan as the disease progresses. As disease development continues, streaks of diseased grass can develop, much like a *Pythium* cottony blight outbreak in the summer. This is because the spores of *M. nivale* are spread on mowing equipment when the grass is wet, as is true of *Pythium* spores.

On one course, the disease was first observed on a chipping green planted to the cultivar 'Penn G-2', one of the newer varieties suited to very close mowing heights. This is not surprising, since data in the National Turfgrass Evaluation Program generally show that G-2 is significantly more susceptible to this disease than other cultivars, including Penncross.

Outbreaks are most common on bentgrass seeded

last year, since juvenile plants are very susceptible to infection. Overseeding of established swards can also enhance disease pressure. However, under suitable conditions, the disease can occur greens without overseeding, as was the case with one of last week's outbreaks.

Management

Sunny, dry, warm weather over the weekend has undoubtedly arrested disease development.

However, fungicide treatment seems advisable for swards with recent outbreaks, given the inoculum level present in these swards and the forecast potentially more weather favorable for the disease later this week.

The best choices at this time of year are products with propiconazole (Banner) or thiophanate-methyl (Cleary's 3336, Fungo, Systec 1998). Avoid products containing PCNB, because that active ingredient can persist for several months in the sward and has the potential to cause phytotoxicity in warm weather.

Also, review the fertility program, since high nitrogen fertility can enhance susceptibility. Decrease shade if feasible.

HOUSEHOLD

MANAGING CARPENTER BEES

By Mike Potter

If you haven't been receiving calls about large, black bees hovering around the eaves, decks, and wood siding of your clients' homes, you will shortly. These are probably carpenter bees searching for mates and nesting sites. Carpenter bees cause - cosmetic and structural damage to wood. They can be quite intimidating to homeowners and have the potential to inflict painful stings.

The Problem- Carpenter bees are similar in appearance to bumble bees, but have nesting habits which are different. Bumblebees nest in the ground, whereas carpenter bees tunnel into wood to lay their eggs. Bare, unpainted, or weathered softwoods are preferred, especially redwood, cedar, cypress and pine. Painted or pressure-treated wood is much less susceptible to attack. Common nesting sites include eaves, fascia boards, siding, wooden shake roofs, decks and outdoor furniture.

Carpenter bees overwinter as adults in old nest tunnels. After mating, the fertilized females

excavate tunnels in wood, laying their eggs within a series of small cells. The cells are provisioned with a ball of pollen on which the larvae feed, emerging as adults in late summer. The entrance hole and tunnels are perfectly round and about the diameter of your finger. Coarse sawdust, the color of fresh cut wood, is often seen beneath the entry hole, and burrowing sounds may be heard within the wood. Female carpenter bees may excavate new tunnels or enlarge and reuse old ones. Serious damage can result when the same piece of wood is utilized for nesting year after year.

Males are often aggressive, hovering in front of people who are around the nests. The males are harmless, however, since they lack stingers. Female carpenter bees can inflict a painful sting, but seldom will unless handled or molested.

The Solution- The best time to control carpenter bees is before the tunnels are fully constructed. For homeowners, liquid sprays of Sevin, Dursban, or a synthetic pyrethroid (e.g., Spectracide® Bug Stop, Ortho® Home Defense System) can be applied to wood surfaces attracting large numbers of bees. Residual effectiveness of most spray formulations sold to homeowners is only about 7-14 days, so the treatment may need to be repeated. Carpenter bee tunnels that already have been excavated can also be treated by puffing an insecticide dust (e.g., Sevin, Ficam, Drione) into the nest opening. Aerosol sprays sold for wasp or bee control also are effective and are often more convenient than dusts for the homeowner. Although carpenter bees are less aggressive than wasps, female bees provisioning their nests will sting. Treatment is best performed at night or while wearing protective clothing.

Leave the holes open for a few days after treatment to allow the bees to contact and distribute the insecticide throughout the nest galleries. Then plug the entrance hole with a piece of wooden dowel coated with carpenter's glue, wood putty, or other suitable sealant. This will protect against future use of the old nesting tunnels, as well as moisture intrusion and wood decay.

Carpenter bees normally will not tunnel into painted wood. Therefore, a more permanent solution is to paint unfinished wood surfaces, especially those with a history of being attacked. Wood stains and preservatives are less reliable than painting, but will provide some degree of repellency versus bare wood. To further discourage

nesting, garages and outbuildings should be kept closed when carpenter bees are actively searching for nesting sites.

PESTICIDE NEWS AND VIEWS

EPA RELEASES MANUAL "RECOGNITION AND MANAGEMENT OF PESTICIDE POISONINGS"

EPA is releasing the fifth edition of the manual "Recognition and Management of Pesticide Poisonings" which provides healthcare professionals with information on the health hazards of pesticides and recommendations for managing poisonings and injuries. This new updated manual contains current information on pesticides and what to do in case of a pesticide poisoning. The manual has been essential to health care professionals both nationally and internationally in diagnosing and treating pesticide poisoning incidences. The fifth edition introduces a new chapter on the importance of medical professionals conducting complete patient histories to help ensure proper diagnosis and treatment. Another new area explored in this edition is on disinfectants. The manual is available through the Office of Pesticide Programs' Certification and Worker Protection Branch and will be accessible in May at:

www.epa.gov/pesticides/safety/heathcare. A Spanish edition will be available this summer. (EPA Press Release, April 22, 1999)

SOURCES OF INFO ON THE INTERNET

The National Agricultural Statistics Service has released a report on the use of restricted-use pesticides in 1996 and 1997.
<http://www.usda.gov/nass/>

The USDA Ag Marketing Service has released the latest data concerning pesticide residues on food. You can either order on at 703-330-2300 or use the Web.
<http://www.ams.usda.gov/science/pdp/index.htm>

The Food and Drug Administration established a Website to help you find information about food safety.
<http://www.foodsafety.gov/>
(Thanks to Paul Guillebeau from Georgia)

Crop Data Management Systems, Inc. has established a website where you can access full-text labels and MSDSs for over 1000 ag chemicals. <http://www.CDMS.net>

ISOFENPHOS (OFTANOL) CANCELED

EPA has canceled, at the request of Bayer Corporation, isofenphos (Oftanol), an organophosphate insecticide with limited remaining uses on lawns and turf. The cancellation is expected to have little impact because other alternatives are available. Although cancellation is scheduled for 9-30-99, existing stocks can be used until they are exhausted. (RRN, 2/10/99)

DIAGNOSTIC LAB - HIGHLIGHTS

By Julie Beale

Diseases diagnosed on wheat last week have included barley yellow dwarf virus, wheat spindle streak mosaic virus, Septoria leaf spot and downy mildew. On tobacco we have seen more Pythium root rot and Rhizoctonia damping-off, as well as a few cases of Sclerotinia collar rot and the beginnings of target spot.

On golfcourses, turfgrass diseases are beginning to develop, especially Rhizoctonia diseases, including large patch (*R. solani*) of bermuda and zoysia; and yellow patch on creeping bentgrass and *Poa annua* (*R. cerealis*). Also diagnosed on turf were spring dead spot on bermuda and *Microdochium* patch on creeping bentgrass.

In the landscape, the bright orange of expanding telial horns of the cedar-apple rust fungus have been drawing notice during recent rainy periods. Otherwise, we have seen few infectious diseases and are noting more environmental problems and insect damage. We have been seeing quite a bit of spider mite damage on spruces, as well as general decline of spruces and pines from environmental stresses.

UKREC, Princeton, KY, April 23-30

Black cutworm 2
 True armyworm 12

Lexington 4/25/99-5/2/99

Black cutworm 1
 European corn borer 0
 Fall armyworm 0
 Corn earworm 2
 Diamondback moth 0

Lee Townsend, Extension Entomologist

INSECT TRAP COUNTS