

KENTUCKY PEST NEWS

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WATCH FOR ARMYWORM

- True Armyworm moth counts still very high!

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- *Malus* diseases are active now

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- Birds, bugs and buildings

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WATCH FOR:

Soon time to control PINE BARK ADELGID, a follow-up treatment may be needed in July; COLORADO POTATO BEETLES will be leaving overwintering sites; MAPLE PETIOLE BORERS may cause leaf drop of maples; EUROPEAN PINE SAWFLY larvae may be found feeding on conifers; GIANT BARK APHIDS on oaks and other shade trees; SPRUCE SPIDER MITES can cause yellowing of spruce, hemlock, arborvitae, and other hosts.

TOBACCO

BLACKLEG (BACTERIAL SOFT ROT) OF TOBACCO TRANSPLANTS

by Kenny Seebold

In the coming weeks, temperatures in indoor and outdoor float beds will increase as the air temperature rises.

Warm, wet conditions in the float bed are the ideal environment for *Erwinia carotovora* subsp. *carotovora* and other bacterial species that cause soft rot, or blackleg. Seedlings with bacterial soft rot take on a decayed, slimy appearance and a foul smell may accompany these symptoms. Systemic infections cause a darkening of the stem that tends to move up one side of the seedling primarily, hence the name "blackleg".

The bacteria that cause blackleg are essentially parasites of wounded or stressed tissue, and are plentiful in soil and on leaf surfaces. Factors that may lead to outbreaks of blackleg include: high nitrogen levels (> 150 ppm), warm temperatures (>75 °F), high humidity, long periods

of leaf wetness, and plant injury (stress and wounding). The latter occurs routinely during clipping and can lead to rapid spread of bacterial soft rot if carried out when plants are wet.

Cultural practices are the most important ways to prevent of bacterial diseases. Provide adequate ventilation to shorten the length of time that foliage stays wet. Avoid over-fertilizing, a practice referred to as "pushing" seedlings, as this leads to dense, lush growth that is more susceptible to disease and takes longer to dry. Clip and handle plants only after they have been allowed to dry properly. Leaf debris left behind after clipping can serve as a starting point for the pathogens that cause blackleg and should be removed promptly. Chemical options for control of blackleg are limited. Streptomycin can be used in outdoor plant beds to suppress bacterial diseases, but is not specifically labeled for use in transplant facilities; however, this use is not specifically prohibited either. Growers who choose to apply streptomycin in the greenhouse must accept all liability. Apply 3-5 gallons of a 100-200 ppm solution of streptomycin to 1000 sq. feet of float bed. This use rate translates to 0.5 lb per 100 gallons of water, or 1-2 teaspoons per gallon. Apply streptomycin before symptoms appear for best results, using the lowest rate. Use the 200-ppm rate immediately after the appearance of symptoms of blackleg. Some plant injury may be observed when applying the higher rate. Refer to the product label and the "2006 Fungicide Guide for Burley and Dark Tobacco (PPFS-AG-T-8) for more information.

UPDATE ON BLUE MOLD AND ALIETTE WDG by Kenny Seebold

Blue Mold Status

As of 21 April 2006, blue mold has been reported only in western Cuba and western Mexico. Current forecasts project a low threat to U.S. production areas at this time. Blue mold has not been reported at this time on tobacco in the U.S.

Aliette WDG Label is Available Online

Bayer CropScience has released an updated version of the Aliette WDG label that includes directions for use of the product on tobacco. As reported in Kentucky Pest News No. 1080 (23 January 2006), Aliette is a new tool that tobacco growers can use to manage blue mold of tobacco. The label can be viewed at <http://www.cdms.net/ldat/ld08j005.pdf>.

FRUIT CROPS

TREE FRUIT INSECT UPDATE

by Ric Bessin

Codling Moth: Now is the time to hang traps if you haven't already done so. Biofix is occurring this week in some orchards (Biofix is the date of first sustained codling moth flight which some interpret as the date the fifth moth is captured). In the past we've waited 250 DD (Base 50) before spraying to control codling moth, but that has changed, at least with some of the newer insecticides. The target is between 150 and 250 depending on the insecticide, so be sure to verify the correct timing on the label if you are not familiar with the product. Some of these newer products can also be very sensitive to proper timing.

We've seen indications of codling moth resistance to organophosphate insecticides (Guthion, Imdan, and Diazinon) in extreme western KY as well as other reports from IL and IN. Indications Rick Wienzierl in IL is that those that are resistant to the organophosphate insecticides may be more susceptible to the Neonicotinoid group (Assail, Calypso, and Clutch). This may mean that by using Neonicotinoids in place of the OPs against one of the three codling moth generations may help to maintain susceptibility to older organophosphate insecticides.

Plum Curculio: With the warmer nighttime temperatures and petal fall, plum curculio is likely to show up in our orchards any time now. Growers should scout each day for the characteristic 1 to 2 mm crescent-shaped cuts in the developing fruits. Considerable damage can occur in

a very short period of time. As soon as the first signs of damage are noticed, growers should use a spray for plum curculio. Options include Guthion, Imidan, Assail, Calypso, Danitol, Asana, Proaxis or Avaunt. Be careful with the pyrethroids such as Asana or Proaxis, as these can flare mites.

Changes to Guthion Label: Some of the Guthion uses are being terminated September 30, 2006. This includes all uses on caneberries, peaches/nectarines, cotton, cranberries, potatoes, and pine seed orchards. September 30, 2006 is the last date that distributors can sell Guthion for these uses and the last date that growers can use Guthion on these crops. Keep in mind that almonds, apples/crab apples, blueberries, Brussels sprouts, cherries (sweet and tart), nursery stock, parsley, pears, pistachios and walnuts) are not impacted by these actions so growers can continue its use on these crops.

Malus DISEASES ARE ACTIVE NOW by John Hartman

See Shade Trees & Ornamentals, Fruit Crops

WHEAT

WHEAT STREAK MOSAIC VIRUS ON WHEAT CONFIRMED AT UK-REC IN PRINCETON, KY by Doug Johnson and Don Hershman

Symptomatic plants from research plots on the UK-REC in Princeton, KY have been confirmed by ELISA as Wheat streak mosaic virus (WSMv). This viral pathogen, though uncommon, has made some devastating appearance in KY wheat. The pathogen is spread by a tiny mite called the wheat curl mite, and is associated with planting wheat into or near volunteer wheat which is still green at the time the crop emerges.

At this time, it is NOT at all clear that the find represents a wide spread occurrence. It is possible that some cultural practices associated with the farm or our research plot rotations may be at least partially responsible for this situation. It is evident however, that some areas will be dramatically impacted by the disease.

Wheat streak mosaic (WSM) symptoms can be confused by the casual observer as Wheat spindle streak (WSS) or Barley yellow dwarf (BYD). However, WSM symptoms tend to be a more pale shade of yellow than BYD and tend to have a more streaky or scratchy appearance than either WSS or BYD.

Producers and consultants are advised to scout their

fields for the presence of WSM and if you think you have it, to send a sample to the Plant Disease Diagnostic lab. A laboratory test is the only way to know for certain which virus is causing the symptoms.

At this point if you do have WSM there is little you can do about it, and the symptoms are likely to look worse over time. You may want to review the publication listed below for more information. It does appear that foliar insecticide applications made to these study areas for control of aphids to prevent the spread of BYDV has had no effect on the movement of WSM. All the infected plots received both fall and late winter / early spring cover sprays of a synthetic pyrethroid insecticide the full label rate.

Wheat streak virus and the wheat curl mite. ENTFACT-117.

<http://www.uky.edu/Ag/Entomology/entfacts/pdfs/entfa117.pdf>

LAWN & TURF

SPRING DEAD SPOT OF BERMUDAGRASS

by Paul Vincelli

Rather severe damage from Spring Dead Spot is showing up on bermudagrass swards in central Kentucky. Bermudagrass is the only host that suffers from this disease. It appears as more or less circular patches 1-4 ft in size of dead grass, in swards that were uniformly green going into winter dormancy. Spring dead spot is caused by two soilborne fungi, *Ophiosphaerella herpotricha* and *Ophiosphaerella korrae*. The root infections these fungi cause do not kill the grass directly, but they predispose the grass to being more easily killed by periodic cold temperatures during the winter months. Thus, it is actually cold weather that kills the infected patches.

Management of spring dead spot principally requires a cultural approach. Avoid late-summer nitrogen fertilization; apply the final N application no later than mid-July, so that the turf runs out of nitrogen by mid-September. Raise mowing height before Labor Day; and minimize thatch. Maintain adequate potassium fertility levels to enhance turf resistance to the disease. Even when soil tests indicate a high level of potassium, a long-term program of applying 80 lb K₂O/A in late autumn can improve winter hardiness, although if soil levels are adequate, such applications will have little effect on the disease.

Maintain the soil pH around 5.2-5.3 (extracted in distilled water). On putting greens, avoid using topdressings with a pH above 6.0. Use ammonium sulfate or ammonium

chloride fertilizers exclusively rather than nitrate-based fertilizers; wash ammonium fertilizers off leaves if applied when temperatures will exceed 80°F. For turf areas where the disease has been particularly active, an aggressive midsummer aerification program has been shown to reduce disease pressure. For such areas, aerify (1/2" tines or less) and verticut (1/4" depth) in early July and again in early August, as long as soil moisture is adequate for turf recovery. Football fields should not be subjected to this treatment, because this will unduly compromise sod strength.

Fungicidal control of this disease is very inconsistent. While disease control may be incomplete, sometimes fungicides improve survival enough to allow rapid regrowth into affected patches. Two applications—one in late August and another in late September—is optimal based on field studies, although even with these applications, control ranges from 35% to 90%. If using a single application, apply in early September and water in prior to drying. Based on the data I have seen, heritage and Eagle have been the better products to use, but don't expect them to be "magic bullets".

SHADE TREES & ORNAMENTALS, FRUIT CROPS

Malus DISEASES ARE ACTIVE NOW

by John Hartman

Apples and flowering crabapples are subject to many of the same diseases. Symptoms of primary infections for some of these diseases are visible now in orchards, nurseries, and landscapes statewide.

Apple scab of flowering crabapple. Apple scab disease is now active in unsprayed susceptible flowering crabapples. The fungus is sporulating heavily in brown lesions on infected leaves. Many of the infections occurred early enough in leaf development that infected leaves are distorted by the scab lesion. Diseased crabapples can be a source of scab inoculum for apple orchards. Current wet weather favors leaf wetness and secondary spread of scab. Fortunately, commercial apple growers have excellent tools to manage scab. Hopefully, most nursery growers no longer plant scab-susceptible crabapples. If County Extension Agents, apple growers and landscape or nursery managers observe scab symptoms on scab-resistant flowering crabapple or apple cultivars, please notify one of the U.K. plant pathology, fruit, or nursery specialists so that we can confirm the presence of the new fungus.

Powdery Mildew. Powdery mildew symptoms and signs are easily visible on new shoots of susceptible unsprayed

apples. New leaf growth at the ends of the shoot are noticeably distorted or curled and the white powdery growth of the fungus is visible. If powdery mildew symptoms are being noticed, apple growers should look in the commercial tree fruit spray guide (ID-92) and choose a fungicide effective for this disease from the list provided. Many scab fungicides are effective, but some, such as mancozeb and captan are not effective for powdery mildew management. Powdery mildew symptoms and signs are also easily visible on new shoots of susceptible unsprayed crabapples. Some of the weeping flowering crabapples are particularly heavily diseased. Leaf and shoot symptoms and signs are the same as for apples. If powdery mildew symptoms are being noticed in the nursery, growers should choose one of the many fungicides effective for this disease. Banner, Eagle, Rubigan and Immunox have some eradicant properties, but will not cure well-established infections.

Fire Blight. At the apple grower meeting last week in LaRue County, we observed symptoms of early fire blight blossom infections in an orchard where petals were mostly off or still dropping. These infections likely took place following the rain that fell a few days earlier. Requiring close and careful examination to discern the symptoms, the disease was observed to be widely scattered, but infrequent in the trees. Within the old flower cluster consisting of mostly normal tiny green fruitlets with green stems (pedicels), one or two infected fruitlets and pedicels were dark brown and dead, drooping or dying. The bases of these pedicels were still green so the blight was still advancing down to the base where the bacteria then could enter the subtending twig. These are the first symptoms of primary infections of fire blight which can lead to secondary, and much more obvious symptoms of shepherd's crooks and shoot and branch dieback. Similar symptoms were observed last week on unsprayed crabapple trees in Lexington. Fire blight of these infected fruitlets and pedicels was confirmed in the U.K. Plant Disease Diagnostic Laboratory by microscopic examination of the bacteria from infected tissues.

In the orchard, the disease was observed on Red Delicious flowers/fruitlets. Red Delicious is known to be fairly tolerant to fire blight, but apple cultivar disease reactions are usually measured in terms of "shepherd's crooks" and dead shoots and branches. Thus, flowers could still be susceptible while the tree shoots and branches are more resistant. Because of the Red Delicious fire blight resistance reputation, the grower had not sprayed streptomycin on these trees and probably didn't need to. Streptomycin was used in the rest of the orchard for the more susceptible trees and no fire blight was found there.

Apple growers following the 2006 Commercial Tree Fruit

Spray Guide (U.K. Extension Publication ID-92) manage fire blight by applying copper-based sprays in very early spring to reduce populations of fire blight bacteria on the tree. These applications, made just as buds are swelling, will reduce fire blight incidence somewhat, but it is not a substitute for streptomycin which is applied at bloom. For flowering trees such as crabapple and ornamental pear, fire blight is so sporadic from year to year that sprays are most often not needed. Nurserymen who have an economic interest in preventing the disease need to closely monitor the weather and spray during bloom only when absolutely needed. In Kentucky, we do not recommend the use of streptomycin in the landscape even though it is legal. Streptomycin still has important uses in human medicine (tuberculosis treatment) and fire blight bacteria have been known to develop resistance to this antibiotic. We should seek to minimize the chances that this resistance is not passed from the fire blight bacteria to human pathogens. In my experience, fire blight does little permanent damage to mature crabapples and flowering pears in the landscape. Small nursery trees obviously can suffer permanent damage from fire blight. In mature trees, fire blight may look bad for a time, but tree defenses are soon activated to stop the progress of the disease and new growth soon obscures the damage. We recommend pruning fire blight out of the trees in winter when there is little chance of disease spread.

Cedar-apple rust. Cedar galls have been producing the orange fungal "horns" that release basidiospores to infect apples and crabapples. Conditions for infection have occurred during recent weeks and symptoms should appear soon.

HOUSEHOLD

BIRDS, BUGS AND BUILDINGS by Mike Potter

Despite their importance in nature, birds can become pests when they nest or roost around buildings. In the coming weeks, clients will experience various problems stemming from birds on their premises.

Significance as Pests - Pigeons, starlings and sparrows cause millions of dollars in damage by defacing buildings, sidewalks and vehicles with their droppings. Gutters, downspouts and air vents can become blocked by nesting materials, and the feathers, filth, and carcasses can lead to secondary pest problems by attracting carpet beetles, flies and other scavenger insects. Birds nesting around buildings also may pose a health hazard to people and farm animals. Mites, lice and bird bugs (related to bedbugs) can invade living areas and bite humans after the nestlings leave or a bird dies. Birds can also trans-

mit salmonellosis (food poisoning), or histoplasmosis and cryptococcosis – systemic fungal infections acquired by inhaling airborne spores which grow in bird droppings.

Bird mites- These bloodsucking parasites normally live on the birds or in their nests, but will sometimes disperse into buildings. People become aware of the problem when they are attacked by mites searching for an alternate food source. The bites cause itching and irritation, but do not result in disease. Bird mites are tiny but can be seen with the naked eye. They are about the size of the period at the end of this sentence, and appear as slow-moving specs as they crawl about on walls and other surfaces. Bird mites can survive several days without a host. Unless corrective measures are taken, the occupants will probably continue to be bitten.

The first step in controlling bird mites is to remove the birds and their nests. Nests typically will be found in attics, around eaves, window ledges, and rafters, or in gutters or chimneys. Wear gloves when handling dead birds, and a respirator when removing nesting materials to avoid inhaling fungal spores and other potential disease-producing organisms associated with the droppings. After nests are removed, the nest location and adjacent areas should be sprayed with an insecticide such as those labeled for flea control. Permethrin and carbaryl are examples of effective active ingredients. A vacuum cleaner or cloth moistened with alcohol or dilute ammonia solution can be used to eliminate mites crawling on walls, floors and other indoor surfaces. Laundering (hot or warm cycle) will kill any mites crawling on clothing or bedding.

Bird Management - The most effective way to avoid problems with pest birds around buildings is to deny them nesting and roosting sites. The best time to do this is before nests are well established. Vents and other small openings should be sealed with 1/4-inch hardware cloth or similar exclusion materials. Attic vents may need to be screened or netted on the exterior to prevent sparrows from nesting between the louvers. Nesting or roosting on ledges, eaves, window sills and other surfaces can be deterred by installing tightly strung, parallel strands of wire just above the surface of the ledge. Roosting can also be discouraged by changing the angle of the ledge to 45 degrees or more with sheet metal or wood boards. Porcupine wire ‘spikes’, coils, repellent gels, or netting are effective provided they are properly installed. Homeowners can purchase bird exclusion materials at hardware or farm supply stores, or may want to call a professional pest control firm.

Before installation, remove nests and droppings to avoid potential problems with scavenger insects and disease pathogens. Gloves and a respirator equipped with a

HEPA (high efficiency particulate air) filter should be worn to avoid inhaling fungal and bacterial spores; a dust mask alone is insufficient. Lightly moistening droppings and nesting materials with water before removal reduces the tendency for dust and spores to become airborne.

Fake owls, rubber snakes, brightly colored balloons, etc. are sold as deterrents to nesting. These devices usually fail because birds soon become acclimated to their presence and ignore them. If these devices are tried, reposition them periodically or vary the pattern. Repeated disruption of nest-building activities with loud sounds or the spray from a water hose can be effective but require persistence. Such efforts should ideally begin before the birds have formed a strong attachment to the site. If frightening efforts are to be successful, they must continue for several days and may need to be repeated if the birds decide to rebuild. Toxic baits or shooting of birds should be avoided and in many areas is illegal. Large or complicated bird jobs usually require the expertise of a professional pest control or nuisance wildlife firm.

Finally, any leftover bird seed from winter feeding should be stored in tight-fitting containers. Unsealed bags of seed left in the garage or basement are prime targets for meal moths, mice and other pests.

DIAGNOSTIC LAB-HIGHLIGHTS

by Julie Beale and Paul Bachi

Samples received in the PDDL this past week included *Rhizoctonia* damping off, *Pythium* root rot, target spot, sun bleaching, and phytotoxicity from fungicide applications on tobacco; *Botrytis* stem canker on greenhouse tomato; *Sclerotinia* on alfalfa; black knot on plum; leaf curl (*Taphrina*) on peach; and winter injury on bayberry and rhododendron. Several problems were observed on indoor (house) plants: scale on *Ficus* and palm, and iron deficiency on Norfolk Island pine.

INSECT TRAP COUNTS UKREC, Princeton KY

April 14-21, 2006

Black cutworm.....	2
True Armyworm.....	340
European Corn Borer.....	0
Corn Earworm.....	22

View trap counts for the entire 2006 season at –
<http://www.uky.edu/Ag/IPMPrinceton/Counts/2006trapsfp.htm>

For information on trap counts in southern Illinois visit

the Hines Report at –
[http://www.ipm.uiuc.edu/pubs/hines_report/
comments.html](http://www.ipm.uiuc.edu/pubs/hines_report/comments.html)

The Hines Report is posted weekly by Ron Hines, Senior
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