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KENTUCKY PEST NEWS

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TOBACCO

BLUE MOLD UPDATE
by Kenny Seebold

As of April 14, 2008, active blue mold has been confirmed in western Cuba (Pinar del Rio) and north-central Florida. Conditions were favorable April 10th and 11th for transport of inoculum from the two known sources into GA and the Carolinas; however, blue mold has not been reported from these areas to date. The threat to production areas in KY is low at this time, according to the North American Plant Disease Forecast Center (www.ces.ncsu.edu/depts/pp/bluemold).

For up-to-date reports on the status of blue mold and other tobacco disease information, check the KY Blue Mold Warning System online at www.uky.edu/Agriculture/kpn/kyblue/kyblue.htm.

CORN

COOL SPRING WEATHER AND PLANTING DELAYS WITH CORN INSECTS
by Ric Bessin

•Cutworms
Excessive winter annual weed growth can impact insect management in corn. Notably one insect group that may be encountered is the cutworms. Cutworms do not prefer to lay eggs on corn, they more commonly lay their eggs on winter annual weeds. Black cutworm cannot overwinter in Kentucky, but spends the winter months near the gulf shore. Early in the spring the moths immigrate to Kentucky with weather fronts out of the south. As the moths tend to lay their eggs on winter annuals, much the food during early development of the larvae is from the weeds. When cutworm damage does occur, it is usually when winter annuals have been burnt down with herbicides forcing the intermediate-stage larvae to feed on the emerging corn.

One practice is to control the weeds well before corn is planted or at least before it emerges. This aids in starving out some of the larvae prior to corn emergence. Fortunately, nearly all of the corn seed has been treated with an insecticide. The insecticides used for these seed treatments are effective in helping to reduce the level of cutting by black cutworm, however, depending on the level of cutworm pressure, supplemental sprays may be need if populations are intense. Growers are advised to scout their corn to monitor for cutworms and use a threshold of 3% cut plants as a decision level for spraying.

•Wireworms
There are several species of wireworms that will attack corn, and because they have extended life cycles of more than one year, past problems can be an indication of risk in particular fields. Wireworms attack the seed and developing seedlings, once the plant reaches 12 to 18 inches it is no longer vulnerable to wireworm attack. Hybrids with strong seedling vigor will also progress through these vulnerable stages more rapidly, leaving less time for wireworm attack. For that reason, growers are advised to delay planting into high risk wireworm fields until soil temperatures as warm enough to promote rapid germination and seedling growth. This reduces the amount of time the plants remain vulnerable to attack. On the other hand, planting early into cool soils will delay germination, seedling emergence, and plant growth. If wire-

worms are present, then greater losses to wireworms can be expected. As what was mentioned with cutworms, nearly all of our seed is treated with a systemic insecticide that provides protection from light to moderate levels of wireworms. In some high risk fields, these seed treatments may not provide the level of protection when corn is planted into cold soils, particularly if seedling vigor is low. Delaying planting until soils warm can help to reduce wireworm losses immensely.

•'True' Armyworms
Armyworm can be a threat when corn is planted into weedy grasses, including feral wheat. Corn planted into standing grass can be infested by two different insects, the black cutworm and the "true" armyworm. Additionally, damp cool weather favors both of these insects over the corn.

The best prevention for this is having the grassy and other weeds dead (not just dying) before the corn emerges. If young corn plants emerge into a stand of grassy weeds that is still green the chance of insect infestation goes up. Producers that find themselves in this situation should scout their fields regularly for the presents of these insects. They will certainly not appear in every field, and will not be economically important in most fields. But the situation does present a greater risk than normal.

DELAYED PLANTING MAY POSE DISEASE RISKS
by Paul Vincelli

Weather conditions have been cooler and wetter than normal over the past thirty days, particularly in western Kentucky. These conditions have delayed corn planting, and they may have ramifications for development of key diseases this season.

Seedling diseases
Minimum soil temperatures in many areas of Kentucky have been below 50ºF for most of the first half of April. Corn seeds and seedlings are in stasis (sort of a "suspended animation") at or below 50ºF, and they have a difficult time resisting infections by soilborne *Pythium* organisms that cause damping-off. *Pythium* organisms are most active in wet soils.

Producers who seeded corn prior to recent cold weather are encouraged to monitor stand establishment, especially if the soil in those fields has been wet for extended periods. That way, they can determine in a timely way whether reseeding is needed.

Gray leaf spot
Past research at UK has clearly shown that, on average, the later the crop development, the more severe the pressure from gray leaf spot. In late-planted fields, the disease occurs earlier in crop development and develops more quickly, all else being equal. The greater disease pressure in later corn may be due in part to the fact that later planting pushes more of the crop development into August, when nighttime periods of warm, muggy conditions are longer than in mid-summer. In any case, greater disease development earlier in crop development increases the potential for yield losses.

Late planting also likely increases severity of northern leaf blight.

Stalk rots and other ear rots
If much of the corn crop is delayed substantially, it will be filling grain and drying down during less favorable conditions than normal. This could lead to development of more stalk rots and ear rots than normal. During grain fill, producers would be well advised to scout for stalk lodging potential, and harvest fields that are showing more than 10% weak stalks. Also, as crops reach black layer (physiological maturity), inspect the crop for ear rots, and be prepared to harvest and dry crops at 25% moisture content (or even higher, if ear rot conditions warrant).

FRUIT CROPS

EARLY SPRING IS THE CRITICAL TIME FOR GRAPE DISEASE CONTROL
by John Hartman

Grape diseases are often the limiting factor in successful production of grapes for fresh market use and for wine making. Growers should recognize this general rule: If diseases are controlled well early in the season, there is less need to manage them later in the season. The corollary is that if grape diseases are not well controlled early, then the rest of the season becomes a constant battle against disease. Grape buds are breaking and new disease-susceptible growth is now or soon will be emerging from the vines.

Disease management in spring between bud break and bloom is critical to growers aspiring to produce a good crop. There are several fungal diseases that are active now even though the symptoms developing from current infections may not be known for several weeks or months.

- Black rot - *Guignardia bidwellii*. This is the most common foliar and fruit disease of grape in
- Kentucky and occurs almost every year.

- Powdery mildew - *Uncinula necator*. Most grapes are susceptible to powdery mildew.
- Downy mildew - *Plasmopara viticola*. Downy mildew is favored by cool, moist weather.
- Cane and leaf spot - *Phomopsis viticola*. This disease has been very active in recent years.
- Anthracnose - *Elsinoe ampelina*. In some years, this disease can be a serious problem.

Most years, wet periods in late April and early May are very favorable for black rot, anthracnose, and Phomopsis cane and leaf spot and these diseases can become devastating in some vineyards. Downy mildew and powdery mildew can also begin to develop at this time. Growers should concentrate on managing these diseases. Now that grape buds have broken, infections will occur just about any time there is more rain. The period from immediate pre-bloom to three or four weeks after bloom is the most critical period to control fruit infections by black rot, powdery mildew, and downy mildew. Fruits, but not leaves and fruit rachis tissues generally become resistant to these diseases four weeks after bloom. Management requires an integrated approach involving cultural practices and chemical controls.

Cultural practices to reduce diseases. Keep the foliage dry and less prone to disease by use of intelligent field site selection, training systems that ventilate the leaves and clusters, judicious nitrogen use, and appropriate irrigation practices. Plant disease-free plants and choose cultivars that resist diseases. Although most grape varieties are susceptible to black rot, a few such as Cascade, Cayuga White, Chancellor, Chelois, Cynthiana/Norton, DeChaunac, Elvira, Ives, Vidal 256, and Vignoles are less susceptible. Use good sanitation by removing and destroying diseased and dead wood, and mummies from the vine and on the ground.

Fungicides for disease control. Chemical controls need to be integrated because although black rot is usually most important, the other fungal diseases also need managing. To manage all five of the early-season diseases, growers may need to combine a broad-spectrum protectant fungicide with a fungicide that specifically targets powdery mildew because many of the broad-spectrum fungicides are ineffective against this disease. Fungicide resistance is a concern for some grape fungicides; follow label instructions for resistance management. See ID-94 for best choices of fungicide and best application timing. More complete information about varietal susceptibility and timing and materials for grape disease control can be found in ID-94 *Kentucky Commercial Small Fruit & Grape Spray Guide 2008*, available at County Extension Offices.

Organic growers may consider using sulfur, stylet oil, or potassium salts for powdery mildew, and fixed copper or copper and lime (i.e., Bordeaux mixture) compounds for the other diseases. Copper fungicides, good against downy mildew, but weak against black rot and cane and leaf spot, also have the potential to damage vines, especially in cool weather. Thus, caution is needed to be sure that copper is not used excessively and that copper and lime are not applied to fruit destined for fresh market.

WHEAT

FUNGICIDAL CONTROL OF FUSARIUM HEAD BLIGHT (HEAD SCAB) AND DEOXYNIVALENOL (DON) IN WHEAT
by Don Hershman

Background Information. Fusarium head blight (FHB) of wheat, and deoxynivalenol (DON) accumulation in harvested grain, are periodically very serious problems in Kentucky. There was minimal FHB or DON in 2006 and 2007 in Kentucky, but each year brings new possibilities. Thus, it is imperative that you be on guard for FHB/DON in 2008.

For a variety of reasons, the Environmental Protection Agency (EPA) told every state that had a Section 18 for tebuconazole (e.g., Folicur, Orius) in 2007, not to anticipate approval for 2008. The main reason is that the Bayer Fungicide, Proline (prothioconazole) is available and actually provides better FHB and DON control (see Table, below). Without going into detail, suffice it to say that Section 18 labels cannot be granted in situations where an existing (i.e., effective) fungicide is available for a particular disease. Interestingly enough, there is the possibility that one or more tebuconazole fungicides will be granted a Section 3 label in time for use in wheat this spring. I have also heard rumblings from BASF that they expect metconazole (Caramba) to be labeled for wheat "anytime now". However, for now the only product available with respectable control of both FHB and DON is Proline. Propiconazole (e.g.,Tilt) is also labeled, but Proline is the better product for suppression of FHB and DON accumulation. *Note: Strobilurin fungicides (e.g., Quadris, Headline) or fungicide containing a strobilurin (e.g., Quilt, Stratego) are not recommended for FHB control because they may result in elevated DON levels compared to untreated wheat.*

Efficacy of foliar-applied fungicides for FHB and DON control in winter wheat.

Fungicide	% FHB Control*	% DON Control*
Proline	41.7	39.4
Folicur	32.3	16.5
Tilt	28.8	4.9

*Winter wheat data summary of 66 uniform fungicide tests conducted across the U.S., 1998-2005. Data summarized by Pierce Paul, The Ohio State University.

Proline Information. The proper use of Proline will help suppress FHB and DON when used with other FHB/DON management tactics (see http://www.ca.uky.edu/ukrec/newsltrs/news03-2.pdf). However, Proline is not a "silver bullet" for managing FHB/DON. In other words, do not expect Proline to provide the same level of FHB/DON control as you have come to expect when fungicides are used to control other wheat diseases. The key is to think in terms of disease suppression, not control. Nevertheless, a 40% reduction in FHB and DON can have a significant economic impact locally, state-wide, and regionally if FHB is moderate to severe in 2008. But, be advised that significant losses due to FHB and/or DON can still occur even where Proline is applied if FHB is severe.

For FHB/DON suppression, the Proline 480SC Section 3 label indicates a use rate of 4.3 to 5.7 fl oz/A applied to wheat "within a time period from when at least 75% of the wheat heads on the main stem are fully emerged (~Feeke's stage 10.4) to when 50% of the heads on the mainstem are in flower (~Feekes stage 10.52)". Applications cannot be made within 30 days of harvest.
Although the Proline label allows for some flexibility in terms of timing of application, most of the efficacy data for Proline in suppressing FHB/DON are based on application at early flowering (Feeke's stage 10.51).

Excellent fungicide coverage on wheat heads is crucial to achieve the greatest possible FHB/DON suppression. This is no small challenge since most spray systems used in wheat were developed to deliver pesticides to foliage (horizontal structures). In order to maximize coverage on heads (vertical targets), significant changes may need to be made to the sprayer boom system. Also, discipline must be exercised to ensure that proper sprayer pressure and volumes are used.
The Proline label gives some suggestions on how to achieve acceptable spray coverage.

Making Appropriate Fungicide Spray Decisions. One desire we all have is for fungicides to be used only when needed. Regular field scouting for foliar fungal diseases has been successfully used by growers for many years to determine if and when to spray fungicides. However, this is not possible with FHB since once symptoms are present it is TOO LATE to spray. Below are some general guidelines to help you determine if you should spray Proline for FHB/DON suppression.

During period leading up to, during and immediately after head emergence:

- Soil moisture has been good for the past month (relates to spore production, dispersal of *Fusarium graminearum* spores, and crop infection).
- Crop has good yield potential (relates to economics and crop density, which increases canopy humidity and may increase spore production, facilitate spore dispersal, and encourage crop infection).
- Temperatures 68-86 F (relates to spore production and crop infection).
- Humidity is high (80% day or night) and/or free water (such as dew) is present on the heads during this period (relates to spore production, dispersal, and crop infection).

If most or all of the above conditions exist when the crop is just beginning to flower, consider spraying as soon as possible.

New Web-Based FHB Prediction Tool. In addition to the above general guidelines, an exciting new tool can also be used to help determine the FHB risk and need to spray. This tool is a web-based, disease forecasting model made available by Penn State University, The Ohio State University, Kansas State University, and the U.S. Wheat and Barley Scab Initiative. This forecasting model utilizes real-time weather data from numerous National Weather Service stations within each state. Go to www.wheatscab.psu.edu and click on "Risk map tool".

You will be asked if you are growing winter or spring wheat. At this point you will come to a U.S. map and are asked to click on the state of interest. The FHB Risk Management Tool page will have a map that shows where the weather data are being retrieved. To the upper left corner of the page is a calendar section labeled "Assessment Date". This section needs a bit of explaining. You will note right away that the tool will only let you click on the current date and the preceding 7 days. So, if you estimate your crop will begin to flower (the beginning of FHB susceptibility) on May 7, but it is only May 3, the best you will be able to do is to determine if the weather on May 3 (or the previous 7 days) is favorable for FHB. My advice is to begin determining the FHB risk using this model 1-2 weeks out from crop flowering. Keep checking your

wheat and keep checking the model every 1-2 days. By the time your crop reaches early flowering, you should have a good feel for the FHB risk in your area. If the forecast model says the FHB risk is high (medium if you are not a risk taker), and the forecast matches your local weather and crop reality, then you might consider spraying as soon as possible. The FHB Risk Management Tool also includes a commentary section that will give you a text risk assessment based on the opinion of the local state Extension Specialist (that's me for KY).

Once you actually see it and play around with it, what I have said above will make much more sense. The model does have several practical limitations in predicting final FHB levels; these are clearly discussed within the Prediction Center website. Perhaps the greatest limitation of the model is that it does not account for weather conditions during flowering and grain fill. Specifically, disease-favorable weather occurring during late flowering and grain fill can greatly impact final FHB/DON levels. The bottom line is that final FHB/DON levels may not always be reflected by the model's risk output. The authors of the model discuss this limitation under "Reality Check" in the "Model Details" section of the Prediction Center.

We all hope that FHB is non-existent this spring. However, if this is not the case, wheat producers now have an additional tool to use to minimize FHB and DON development this spring.

HOUSEHOLD

CARPENTER BEES ARE FLYING
by Mike Potter

Large, black bees have begun hovering around eaves, decks, and wood siding of clients' homes and outbuildings. These are probably carpenter bees searching for mates and nesting sites. Carpenter bees cause cosmetic and structural damage to wood. They can also be intimidating and have the potential to inflict painful stings.

The Problem- Carpenter bees are similar in appearance to bumblebees, but have different nesting habits. Bumblebees generally nest in the ground, whereas carpenter bees tunnel into wood to lay their eggs. Bare, unpainted, 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 galleries 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 worked 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 excavated. For homeowners, liquid sprays of Sevin or a pyrethroid (e.g., Bayer Advanced™ Home/Lawn & Garden Insect Killer, Spectracide® Triazicide/Bug Stop, Ortho® Home Defense System/Termite & Carpenter Ant Killer) can be applied directly into nest openings, or broadcast sprayed as a deterrent onto wood surfaces attracting large numbers of bees. The broadcast spray approach is often warranted when carpenter bees are riddling siding on a barn, wood shake roofs, decking or similar large expanses of wood. Broadcast treatment is best accomplished with a pump up or hose end sprayer, targeting wood surfaces that are most favored by the bees (fascia boards, joist ends of redwood decks, etc.). Residual effectiveness of such applications is only about 1-3 weeks, so the treatment may need to be repeated. Individual holes which are already present also can be treated with a wasp and hornet aerosol spray or insecticide dust (e.g., Sevin, DeltaDust), directed into the nest opening. Although carpenter bees are less aggressive than wasps, female bees provisioning their nests will sting. Consider treating at dusk 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 tunnel. 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 bees using the old 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 may provide some degree of repellence versus bare wood. To further discourage nesting, garages and outbuildings should be kept closed

when carpenter bees are actively searching for nesting sites. The annoying flying and nesting habit usually subsides by the end of May.

PESTICIDE NEWS & VIEWS

MANZATE PRO-STICK RECEIVES A 24(c) REGISTRATION ON TOBACCO
by Kenny Seebold

The KY Dept. of Agriculture and DuPont have just approved and issued a 24c label (special local need registration) that permits the use of Manzate Pro-Stick 75 DF (active ingredient = mancozeb) on tobacco effective April 10, 2008. Manzate can be substituted for all recommended uses of Dithane DF on tobacco, and the application rates are identical. In the float system, use 0.5 lb of product per 100 gallons of spray (1 level tsp. per gallon) on transplants that are dime-sized or bigger. Field rates are 1.5 to 2 lb of product per acre. I have contacted Southern States, United Agri Products (UAP), and Miles' distribution offices to let them know of this new development, and have learned that some Manzate is already in stock at UAP (who supplies many independent farm stores around KY). Let your growers and dealers know about Manzate, and that it should be available from the major distributors. We hope to have an additional 24c for Penncozeb 75 DF, another mancozeb product, on tobacco in the coming days so that we don't get stuck with just one product in the future.

The approval of Manzate on tobacco is timely, as weather continues to favor diseases like target spot in the float system, while blue mold is still present down south and is a minor threat so far. Urge producers to check plants regularly and consider a regular mancozeb (Dithane or Manzate) schedule to protect transplants. For more information on managing diseases of tobacco transplants, see the 2008 KY Tobacco Production Guide or visit the KY Tobacco Disease Information page at www.uky.edu/Ag/kpn/kyblue/kyblue.htm. Labels of products that are approved for use on tobacco, including Manzate Pro-Stick, can be viewed as well.

DIAGNOSTIC LAB-HIGHLIGHTS
by Julie Beale and Paul Bachi

Recent samples from greenhouses have included powdery mildew on calibrachoa; Botrytis blight on osteospermum and tomato; and Rhizoctonia crown rot on coreopsis. Landscape specimens are also beginning to arrive: Volutella blight on pachysandra; fungal leaf spot on photinia; and an early case of cedar-apple rust on apple were seen during the past week.

Reminders to agents: As the growing season gets underway, please remind your office staff to send diagnostic samples to the appropriate PDDL location. If you are not sure whether your samples should be sent to the Lexington or the Princeton location, don't hesitate to contact us. A quick call or email could save you--and your growers--a lot of time! Refer to the Plant Disease Identification form for the appropriate address. If you need more forms, contact Mindy Thompson at msthom9@email.uky.edu.

Also note that diagnostic reports are now being emailed to the counties in a PDF format. These are emailed to county distribution list addresses, not to an individual agent's email address.

INSECT TRAP COUNTS
April 4-11, 2008

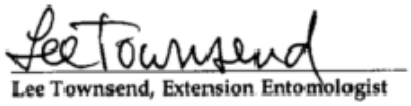
►***Princeton, KY***

Black cutworm	0
True armyworm	164
Corn earworm	0
European corn borer	0
Southwestern corn borer	0
Fall armyworm	0

►***Lexington, KY***

Black cutworm	15
True armyworm	72
Corn earworm	0
European corn borer	1
Southwestern corn borer	0
Fall armyworm	0

Graphs of insect trap counts are available on the IPM web site at -http://www.uky.edu/Ag/IPM/ipm.htm. View trap counts for Fulton County, Kentucky at - http://ces.ca.uky.edu/fulton/anr/



Lee Townsend, Extension Entomologist

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