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University of Kentucky – College of Agriculture

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KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • WEED SCIENCE
On line at: www.uky.edu/Agriculture/kpn/kpnhome.htm

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WATCH FOR:
BAGWORM egg hatch begins; ELM LEAF BEETLES feeding; injury from YUCCA PLANT BUGS; ASPARAGUS BEETLES begin to lay eggs for second generation; WOOD COCKROACHES invading homes; ALFALFA WEEVIL feeding on regrowth; MIMOSA WEBWORM damaging mimosa and honeylocust; HOUSE MOSQUITOES breeding in standing stagnant water.

TOBACCO

DISEASE UPDATE
by Kenny Seebold

The status for blue mold as of June 2, 2008 remains unchanged from last week. Conditions over the past have been generally unfavorable for spread or development of blue mold across much of the region. Predicted movement of inoculum from the two known sources (Cuba and FL) in the coming days should not affect production areas in KY or neighboring states, 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.

FORAGE

THISTLE FEEDING INSECTS
by Lee Townsend

Plant-feeding insects are generally viewed as pests but they can be heroes when they chew on noxious weeds, such as musk or nodding thistle. Since its introduction from Europe in the mid- to late 1800's, musk thistle has spread over much of North America and has become a significant problem in many areas.

Two insects brought to the US as biological control agents in an effort to manage this invasive plant are established over much of Kentucky and seem to have had an impact on the weed. Both can be found now on musk thistle along with two insects that have a distinct visual impact but probably limited effectiveness, at least on a annual basis.

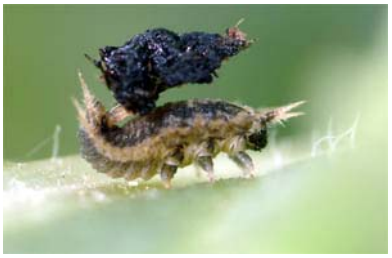
The thistle head weevil (below) is about 0.5 inch long; its oblong body is dark with small patches of golden scales. These beetles feed a little on foliage and stems of second-year plants but their major contribution to thistle control comes from larval feeding on the seeds in the thistle seed head. Thistle head weevils are common on flower heads now and egg sites are very easy to see on infested heads. Each small batch of eggs is covered with a small amount of chewed plant tissue that the female pastes over the small hole she chewed on the flower bract. Eggs are laid from late April to early July, there is one generation per year.

The rosette weevil (below) can be found on plants now, too. This "broad-shouldered" weevil, a little smaller that the thistle head weevil, has a long, distinct snout and light patches of color and short bristles on its body. The larval stage does the damage to musk thistles, it feeds in the center of rosette-stage plants and can severely stunt or kill plants. There is one generation and finding adults on plants is the easiest way to see if this beneficial insect is present.

Both species are widely distributed in Kentucky now. They pose no threat to non-target organisms and crops and disperse on their own to increase their range.

Two other insects are causing noticeable feeding on thistle now – the thistle caterpillar and larvae and adults of the thistle tortoise beetle. The spiny thistle caterpillar lives and feeds in a loosely constructed web on the leaves. This caterpillar is about 1.25 inches long when full grown and feeds on about 100 plant species including Canada thistle and soybean. This North American species generally does not seem to affect thistles to any great extent.

The thistle tortoise beetle is a light green leaf beetle shaped like a WWI soldiers helmet. The larvae carry a shield of their feces and shed exoskeltons over their backs. This European species chews distinct window-pane feeding holes in leaves. Some years it can cause extensive damage to thistle plants.



This seems to be a good year for all of these thistle-feeders and any help they can provide in thistle management will be appreciated. Watch for them when you get a chance.

FRUIT CROPS

APPLE FRUIT DISEASE MANAGEMENT NEEDED NOW
by John Hartman

Apple growers are beginning to consider apple summer cover sprays to prevent secondary scab, fruit rots, and sooty blotch and flyspeck. A few brief comments on the current status of some of the important apple fruit diseases are presented here:

- Apple fruit scab. If primary scab has been well-controlled and there are no unsprayed apples and crabapples nearby, scab should not be too much of a concern for the rest of the season. In orchards where the spray program has been inadequate, fruits are already showing scab symptoms and the disease will need constant attention until harvest to prevent secondary spread.
- Black rot. Initial infections which begin in the flower buds and flowers should have been managed with early fungicide applications. Additional infections can occur on immature fruit now and on mature fruit later in the season, often through cracks in the cuticle.
- White rot. New infections of white rot typically occur as the fruits are reaching maturity especially during warm wet weather and will require disease management action later in the season.
- Bitter rot. Fruit infection can occur during or just after bloom, but is more common later in the season.
- Sooty blotch and flyspeck. Flyspeck and sooty blotch are two separate diseases that frequently occur together on the surface of the same fruit. Infections occur well before symptoms (signs of the fungi) appear on the fruit surface. In early summer, growers need to make fungicide spray decisions based on prevailing weather

conditions. Details on management of sooty blotch and flyspeck are presented in a separate article.

APPLE SOOTY BLOTCH AND FLYSPECK MANAGEMENT
by John Hartman

Disease symptoms and cause. Disease symptoms often appear when fruits are nearly full-sized during the summer. Flyspeck appears as clusters of tiny, black dots whereas sooty blotch appears as dark, sooty smudges on the surface of the fruit. The fungi that cause flyspeck (Zygophiala jamaicensis) and sooty blotch (Peltaster fructicola, Gastrumia polystigmatis, Leptodontium elatius, and others) are common inhabitants of brambles and many other woody plant hosts where they overwinter and grow.

Disease spread. Spores of sooty blotch fungi are spread during rain and the flyspeck fungus is spread as airborne ascospores which are released during rain. Fruit infection can occur any time after petal fall but is most prevalent during mid- to late summer. Based on research we have conducted over several years, the timing of disease symptom appearance corresponds with how much moisture (determined using commercial electronic leaf wetness monitoring equipment), has accumulated during the growing season. Beginning from 10 days after petal fall, leaf wetness hours caused by dew or rain added all together typically reach 200 hours sometime in June or July just as first symptoms appear. Infections likely occur sometime before the 200 wetness hours have been compiled.

Both diseases are favored by temperatures between 65? to 80?F and by high relative humidity at the fruit surface. Conditions such as these are most frequent when nighttime temperatures remain near 65? to 70?F or during extended warm rainy periods. The diseases flourish in orchards subject to heavy dews or fog. Under ideal conditions, sooty blotch and flyspeck symptoms can develop within 14 days of infection, but symptom development is arrested by high temperatures and low relative humidity. Thus, the period between infection and symptom development ranges from 25 to more than 60 days. Sooty blotch and flyspeck infections not yet visible at harvest can develop during storage.

Sooty blotch and flyspeck management. A combination of annual pruning, adequate fruit thinning, orchard sanitation, and protective fungicides is the key to disease management.

- Pruning and Thinning: Pruning systems that open the tree canopy to light should also improve air movement and thereby reduce relative humidity and the time that leaves and fruit are wet. For example, research done in Massachusetts showed that summer pruning, as opposed to dormant pruning, reduced the incidence of flyspeck on apple fruit by 50 percent. Keeping the orchard mowed should also promote air movement, enhance rapid drying, and in turn, reduce summer diseases. Thinning of fruit is important to improve spray coverage and drying. Clustered fruit often have flyspeck on their inner faces even when an adequate fungicide program has been used.
- Sanitation: Removing unwanted vegetation that might be a reservoir for pathogens, particularly wild brambles, should also reduce disease pressure in the orchard.
- Fungicides: Effective protectant fungicides include mancozeb and polyram which can be used early in the season and Benlate or Topsin-M combined with captan or ziram (for other fruit rots), permitted later in the season. The new strobilurin fungicides Flint, Pristine, and Sovran are also very effective for disease management. See the 2008 Kentucky Commercial Tree Fruit Spray Guide, ID-92, for specific recommendations.
- Using leaf wetness to determine when to begin sprays. Beginning at ten days after petal fall, leaf wetness periods can be added together during the season to derive an estimate of when to spray fungicides. Based on our research, when accumulated leaf wetness reaches 175 hours, initiating a fungicide spray program then prevents development of sooty blotch and flyspeck symptoms later. However, this year, because Kentucky weather in recent weeks has been so variable, it is difficult to generalize as to when sprays should begin. For example, accumulated leaf wetness from May 15 - June 2 in Middlesboro has already reached 190 hours, well over the threshold and Hopkinsville, Owensboro, and Jackson, each with 145-150 hours are nearing the threshold. But Louisville, Bowling Green, Paducah, Frankfort, and Covington have calculated leaf wetness accumulations of 61, 74, 85, and 100 hours and are some ways from reaching the threshold.
- Apple bagging: Based on additional research done here, special fruit bags can prevent sooty blotch and flyspeck as well as several other diseases and insect pests. The bags can be applied to one-inch diameter fruits early in the season and left on until a few weeks before harvest. Although this approach is not cost-effective for commercial growers, backyard growers might find this approach appealing. Now is the time to do apple fruit bagging for this season. A videotape showing the apple bagging method is available through County Extension Offices with access to the U.K. video library.

PESTICIDE NEWS & VIEWS

TERRAMASTER EC RECEIVES A 24(C) REGISTRATION ON TOMATOES
by Kenny Seebold

The KY Dept. of Agriculture and Chemtura have recently approved and issued a 24c label (special local need registration) that permits the use of Terramaster on tomato effective immediately. The 24c label for Terramaster is for control Pythium and Phytophthora in greenhouses and high tunnels.

The use rate of Terramaster on tomatoes is 6.5 fl oz per 500 gallons of water. The product can be applied as a drench or by drip irrigation so that each plant receives 6-8 fl oz of the fungicide solution. Treatments cannot be made earlier than 3 weeks after transplanting, and up to 4 applications can be made as needed. The pre-harvest interval is 3 days. Terramaster is not approved for use in transplant production or for field use.

DIAGNOSTIC LAB-HIGHLIGHTS
by Julie Beale and Paul Bachi

During the past week, the PDDL received samples of wheat streak mosaic virus and take-all on wheat; target spot, Pythium root rot and manganese toxicity on tobacco.

On fruits and vegetables, we diagnosed black seed disease (Mycosphaerella) on strawberry; anthracnose, black rot and crown gall on grape; leaf curl on peach; fire blight on apple; and tomato spotted wilt virus and Pythium root rot on tomato.

On ornamentals and turf, we have seen rust on hollyhock; Pythium root rot on petunia; papaya mosaic virus on portulaca; bacterial spot on hydrangea; scab on crabapple; fire blight on pear; Gymnosporangium rust on serviceberry; anthracnose on sycamore and maple; Botryosphaeria canker on birch; Phytophthora root rot on taxus; Phyllosticta leaf blotch on witch hazel; and dollar spot on bentgrass.

INSECT TRAP COUNTS
May 23-30, 2008

►***Princeton, KY***

Black cutworm	0
True armyworm	14
Corn earworm	45
European corn borer	0
Southwestern corn borer	0
Fall armyworm	0

►***Lexington, KY***

Black cutworm	11
True armyworm	582
Corn earworm	31
European corn borer	0
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

Lee Townsend, Extension Entomologist

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.

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