



KENTUCKY PEST NEWS

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ANNOUNCEMENT

TURF FIELD DAY SET FOR JULY 13

by Paul Vincelli

The UK Turf Field Day is set for Thursday, July 13, at the UK Turf Center. The Turf Center is located on the UK Research Farm off Ironworks Pike, a mile or two east of the Kentucky Horse Park. Tours begin at 9:00 am and will end around noon. A great variety of research trials and demonstrations can be seen at the field day, and it is an excellent chance to discuss the latest in turfgrass science in an informal setting. Come one, come all, and be welcome!

FALL 2000 COMMERCIAL PESTICIDE APPLICATOR TRAINING

Dates and locations have been set for this fall's commercial pesticide applicator training sessions for Categories 1: Agricultural Plant, 2a: Forest Pest Control, 3: Ornamental & Turf, 4: Seed Treatment, 10: Demonstration & Research, and 12: Pesticide Dealer. Agendas will be developed later.

- September 20 (Wednesday), 2000: Fayette County Cooperative Extension Office, Lexington
- October 12 (Thursday), 2000: University of Kentucky Research & Education Center, Princeton

SOYBEAN

WATCH FOR LEAF FEEDERS IN SOYBEAN

by Doug Johnson, Extension Entomologist

July generally brings out the major leaf feeders in soybeans. By this time most problems with bean leaf beetle have passed, though the adults may again be pests as pod feeders later in the year, and it is a bit too early for a problem with green cloverworm. However, grasshoppers and Japanese beetles are out there. You can expect problems with them to be very scattered and therefore very hard to predict. This simply means keep your eyes on those fields. Fortunately, with all leaf feeders on soybean you should be able to detect any buildup in pest populations long before any control is required - so long as you keep an eye on your fields.

Both Japanese beetle and grasshoppers will be relatively easy to kill if the situation warrants control. However, both of these pests have a much greater "come back" power than most insect pests we face. This is because their populations are very large and very mobile. So just because you get control at one time in one location, does not mean that the pest will not reappear. This reappearance is not the result of poor control, but rather the movement into the field of beetles or grasshoppers from surrounding countryside.

Scouting information can be found on the IPM web site at:
<http://www.uky.edu/Agriculture/IPM/ipm.htm>
Just select "scouting info on line" or download a PDF version of the soybean manual (IPM-3).

Pesticides for control can be found in ENT-13, Insecticide recommendations for Soybean-2000 you can find this on the web at:
<http://www.uky.edu/Agriculture/PAT/recs/recho.me.htm>

You can also get copies of these and other publications at your County Extension Office.

GRAIN SORGHUM (MILO)

JULY IS THE TIME FOR SORGHUM MIDGE by Doug Johnson, Extension Entomologist

Sorghum midge is perhaps the most important insect pest of grain sorghum in Kentucky. It is certainly one of the most difficult to detect and measure. This pest is considered the most damaging insect in late planted grain sorghum. So, problems will increase as the season progresses. Remember this pest can only attack during BLOOM with the later the bloom period the more problematic. However, before or after bloom, it does not matter how many sorghum midges are present they can not hurt the crop.

This 1/8 inch long, black and orange fly is similar to the Hessian fly of wheat. The adult is quite small and fragile. Her eggs are quite tiny and rarely seen. The larva is a tiny pink-orange maggot and is also rarely seen, as it inhabits the inside of the grain kernel. The pupa is tiny, brown and seed shaped and is usually found in a cocoon in the seed head.

Adult sorghum midges lay eggs in the flowers of the sorghum plant. When eggs hatch the larva immediately move into the seed husk. Larval development is completed within the seed in about ten days. Pupation takes place within the seed husks or between seeds in the head. A new generation of adults hatches in approximately three days. There can be more than ten generations per year, each requiring about 15 days.

Sorghum is damaged when the maggot feeds on the developing seed. The result is "blasted" heads, or heads that did not fill. Because all the damage is internal it is often not noticed until much too late.

Begin scouting when the panicles emerge from the

boot. Examine at least 20 heads/location when plants start to bloom, during the morning or early evening when the midge is most active. Count the number of midges per head by quickly enclosing each head in a plastic bag to trap any adults for counting.

Economic Thresholds- When 25-30% of heads have begun to bloom and midge numbers average 1 or more per head DURING BLOOM!!

Tips: Johnsongrass, late planting, sequential cropping and large numbers of rogues contribute to increasing sorghum midge numbers.

Pesticides for control can be found in ENT-24, Insecticide recommendations for Sorghum -2000 you can find this on the web at:
<http://www.uky.edu/Agriculture/PAT/recs/recho.me.htm>
or at your County Extension Office.

You can download a PDF version of the sorghum IPM manual (IPM-5) at:
<http://www.uky.edu/Agriculture/IPM/ipm.htm>

FRUIT CROPS

PROBLEMATIC TREE FRUIT SUMMER DISEASES by John Hartman

Stone Fruit Brown Rot. Stone fruits such as peaches, plums, apricots, nectarines, and cherries are highly susceptible to brown rot. Brown rot disease results in a soft, brown decay of stone fruits. Warm, wet, humid summer weather conditions this month will favor infections by the brown rot fungus. As fruit softens during the ripening process, it becomes more susceptible to brown rot. Disease management will be improved by using sanitation to reduce sources of inoculum, avoiding fruit injury, and improving orchard drying conditions. Mummies and small fruit left over from earlier thinning operations and simply lying on the ground can be sources of inoculum. Insect damage to the fruits can open up wounds that allow entry by the brown rot fungus. Densely planted orchards or those partially shaded or surrounded by a woods could have problems with reduced air movement and slow drying, leading to greater brown rot outbreaks. Effective brown rot fungicides such as Elite (tebuconazole), Indar (fenbuconazole), or Orbit (propiconazole), often referred to as DMI fungicides, can be alternated with Benlate (benomyl) or Topsin-M (thiophanate-methyl) to manage DMI fungicide resistance. The DMI fungicides can be applied up to

harvest whereas Benlate and Topsin-M have 3 and 1-day waiting periods. See ID-92, *2000 Kentucky Commercial Tree Fruit Spray Guide*, for information on fungicides for managing brown rot.

Apple Fruit Rots and Blemishes. Symptoms of sooty blotch and flyspeck are already appearing in some orchards. Look for the dark sooty smudges and clusters of black specks which are signs of the fungi causing the disease. Rainy periods in latter June were conducive for infections of apple fruits. Other fruit diseases such as bitter rot, black rot, and white rot are not yet appearing, however, during moist periods throughout the summer fruits will be vulnerable to attack. The threat from sooty blotch and fly speck and other fungal infections of apple fruits can further be reduced through cultural practices that lower humidity and promote rapid drying. Dead limbs and branches that harbor some of these fungi should have been removed in winter. Remove reservoir hosts, particularly brambles, from the orchard and surrounding fence rows to help reduce the level of incoming spores. Continue to maintain fungicide applications on a regular schedule throughout the summer months. The mixtures of Captan or Ziram combined with Benlate or Topsin-M have worked well in the past. The new strobilurin fungicides Flint (trifloxystrobin) and Sovran (kresoxym-methyl) are expected to be effective in managing these and other summer diseases. Mancozeb is also effective but because of the 77 day preharvest interval it is probably too late to use it on most varieties. For suggestions of fungicide use, see ID-92.

LAWN AND TURF

RECENT TURF DISEASES

by Paul Vincelli

Warm, humid weather has been favorable for activity of brown patch in tall fescue and creeping bentgrass. On tall fescue lawns, look for leaf lesions that are olive-green when fresh, and tan with a thin brown border when dry. Lesions are irregular in shape. Infected leaves often occur in discrete patches in the turf. On warm, dewy mornings, you may find sparse, gray to light brown mycelium of the fungus in the lower part of the canopy. Avoid nitrogen fertilization now, since that can enhance disease activity. When irrigating, do so in early morning rather than evening to avoid long periods of leaf wetness. Maintain a mowing height of 2-3 inches; higher heights favor leaf blighting, and lower heights can enhance turf loss from root rot.

For tall fescue seeded this spring and even last

autumn, scout for disease activity, and treat with fungicides if necessary to prevent turf loss. Effective options on home lawns are limited because of label changes dictated by the Food Quality Protection Act. Commercial applicators have access to effective materials such as Heritage and Prostar, but the fungicides packaged for homeowners are not as effective against brown patch.

Certain highly managed Kentucky bluegrass swards are showing symptoms typical of summer patch—roughly circular to somewhat irregular patches 6-18" of turf that quickly turns tan as it dries out, sometimes with a healthy tuft of grass in the center. Management practices include raising the mowing height to 3" and irrigating deeply (3"+ depth) but infrequently. When fertilizing, use ammonium-based fertilizers in all but very warm weather; however, fertilizing with nitrogen now will probably enhance the symptoms, so wait until after Labor Day to fertilize. Fungicides are too expensive and generally not effective enough for regular use in home lawns, and they will have little impact on the symptoms if applied now. Varieties of Kentucky bluegrass with moderate to high levels of resistance are available and tall fescue is not affected by the disease, so renovation is the best control option.

Several bermudagrass swards (varieties GN-1 and Quickstand) have been diagnosed with a foliar disease caused by a "Helminthosporium-type fungus" (laboratory identification is pending). It causes bleached to tan, irregular spots on leaf blades; the spots may have a thin brown border. The disease does not appear to affect crowns or stolons, so recovery from the disease following appropriate treatment appears rapid.

More information on brown patch is available in the Extension publications, ID-112, Brown Patch Disease in Kentucky Lawns, and PPA-1, Chemical Control of Turfgrass Diseases. More information on summer patch is available in the Extension publication ID-122, Patch Diseases in Kentucky Bluegrass Lawns. All are available through county Extension offices and the UK Turf Center web site <http://www.uky.edu/Agriculture/ukurf/>.

HOUSEHOLD

IT'S MOSQUITO SEASON !

by Mike Potter

Recent rainfall and warm temperatures have created ideal conditions for mosquitoes throughout Kentucky. Fortunately, there have been no reported cases of

West Nile Virus, the mosquito-borne disease that killed 7 people and sickened dozens more last year in the Northeast. Health officials are monitoring for the virus in Kentucky, but are yet to find any infected birds (the primary wild host) or virus-carrying mosquitoes. Nonetheless, mosquitoes remain a perennial summer pest for which there is no easy control. There is an abundance of misinformation about what works and what doesn't.

WHERE DO THEY COME FROM?

Mosquitoes need quiet, non-flowing water for their development. In Kentucky there are two primary groups of mosquitoes, *Culex* and *Aedes*. Mosquitoes of the *Culex* group generally lay their eggs on the surface of water in rain barrels, bird baths, tin cans, old tires, cisterns, roof gutters and any other container that holds water. Mosquitoes of the *Aedes* group lay their eggs at the base of vegetation bordering streams or in low-lying areas subject to flooding. *Aedes* mosquitoes can also deposit their eggs above the water line in old tires and other water-holding containers. Their eggs can withstand long periods of dry weather between bouts of rainfall, which is why mosquitoes can be abundant, even in the midst of drought.

Mosquitoes develop rapidly, transforming into biting adults in as little as one week. A neglected bird bath or boat bottom allowed to accumulate water can produce hundreds of new mosquitoes each day.

WHAT CAN I DO ABOUT THEM?

Eliminate Breeding Sites - The best way to control mosquitoes is to find and eliminate their breeding sites. Eliminating areas of standing water, such as swamps or ditches, may require community-wide effort. Nonetheless, homeowners can take steps to prevent mosquitoes from breeding on their property.

1. Dispose of old tires, buckets, plastic sheeting or other containers that collect and hold water. Do not allow water to accumulate at the base of flower pots or in pet dishes for more than a few days. Clean debris from rain gutters and remove any standing water on patios or flat roofs.
2. Change water in bird baths and wading pools at least once a week. Consider stocking ornamental ponds with predacious minnows. Known as mosquito fish, these minnows are about 1 - 1 ½ inches in length and can be purchased or seined from streams and creeks. Another approach with ornamental ponds is to apply a "biorational" insecticide which prevents mosquitoes from developing in the water. Products containing

methoprene (Altosid®) or *Bacillus thuringiensis* var *israeliensis* (Mosquito Dunks®, Bactimos®, Vectobac®) are essentially harmless to fish and other aquatic organisms, and are formulated as water-soluble granules, pellets, or briquets for ease of application.

3. Check around faucets and air conditioners and repair leaks that result in puddles for several days. Eliminate seepage from cisterns, cesspools, and septic tanks, and standing water around animal watering troughs
4. Fill or drain ditches and swampy areas. Remove, drain or fill tree holes and stumps with sealant so as not to accumulate water.
5. Irrigate lawns and gardens carefully to prevent water from standing for several days.

Controlling Adults - Some mosquitoes fly long distances. It may be necessary to supplement elimination of breeding sites with control tactics directed against incoming adults.

Exclusion - Mosquitoes can be kept out of homes by securely screening windows, doors and porches. The occasional mosquito found indoors can be eliminated with a fly swatter or aerosol-type insecticide labeled for mosquitoes, gnats, and other flying insects.

Topically-Applied Repellents - Repellents will help prevent bites when spending time outdoors. The most effective mosquito repellents contain the active ingredient diethyl toluamide (DEET). In general, the higher the percentage of DEET in the ingredients, the longer the protection. Low -percentage formulations are available for use with young children. Non-DEET containing repellents (e.g. Avon Skin-So-Soft®, citronella) may provide some relief, but to a lesser degree and for shorter duration than DEET-containing products. It is often desirable to apply insect repellent on outer clothing as well as the skin. Always read and follow directions on the container. Mosquito repellent should not be applied to the hands of young children, and treated skin should be washed with soap and water after returning indoors.

Vegetation Management - Adult mosquitoes prefer to rest in dense vegetation during the day. Consequently, homeowners should remove tall weeds and grass in their yard. To further reduce intolerable populations of adult mosquitoes around structures, insecticides can be applied to the lower limbs of shade trees, shrubs, and shaded areas adjacent to foundations. Lawn and garden formulations

containing carbaryl, malathion or synthetic pyrethroids (e.g., permethrin, cyfluthrin = Bayer Advanced Lawn & Garden Multi-Insect Killer) are effective but of short duration.

Bug Zappers, Citronella Candles, Ultrasonics, etc. - Many consumer products claim to attract, repel or kill outdoor infestations of mosquitoes. Most of these devices do not work, or are only marginally effective. "Bug zappers" using ultraviolet light as an attractant are generally ineffective in reducing outdoor mosquito populations and their biting activity. Studies indicate that less than five percent of the mosquitoes killed by bug zappers are females – the only ones that actually bite. The rest are non-biting, male mosquitoes and other harmless night flying insects.

Somewhat better results have been obtained with citronella candles. For maximum protection, use multiple candles positioned close, i.e., within a few feet of where people are sitting. *A single candle stationed at the outer edge of a large picnic blanket probably won't provide much benefit, other than "atmosphere."*

Ultrasonic devices, mosquito-repellent plants, eating garlic, and other "panaceas," routinely touted in magazine advertisements are generally ineffective. When it comes to mosquito control, if it sounds too good to be true, it probably is.

DIAGNOSTIC LAB HIGHLIGHTS **by Julie Beale and Paul Bachi**

Recent samples in the Diagnostic Lab have included gray leaf spot and Pythium root rot on corn; Pythium root rot and Rhizoctonia root and stem rot on soybean; angular leaf spot, black shank, blue mold, soreshin, Fusarium wilt, Fusarium stem rot, black root rot, tomato spotted wilt virus, tobacco streak virus, and nutritional/chemical problems on tobacco.

On vegetables, we have seen Fusarium root and stem rot on bean; bacterial wilt on cucumber, squash and cantaloupe; gummy stem blight on cantaloupe; watermelon mosaic II on squash; early blight on eggplant; bacterial canker, bacterial speck, Septoria leaf spot, early blight, root knot nematode, southern stem blight, buckeye rot, tomato spotted wilt virus and aster yellows on tomato; and bacterial spot and Rhizoctonia stem rot on pepper.

On ornamentals, we have seen southern stem blight on hosta; Heterosporium leaf spot on iris; bacterial spot on English ivy; Fusarium stem rot on

delphinium; Rhizoctonia stem rot on snapdragon and vinca; summer patch on bluegrass; brown patch on fescue; slime molds growing over turf and mulch in landscapes; and cedar-quince rust on hawthorn.

INSECT TRAP COUNTS

UKREC, Princeton, KY -June 23-30, 2000

Fall armyworm	1
True armyworm	31
European corn borer	18
Southwestern corn borer	4
Corn earworm	5

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.

