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KENTUCKY PEST NEWS

ENTOMOLOGY · PLANT PATHOLOGY · WEED SCIENCE
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CORN

Why Leave Untreated Strips When Spraying Fungicides?

By Paul Vincelli

Gray leaf spot, the primary foliar disease in Kentucky corn, has progressed very little in the past several weeks in our research trial at Spindletop Farm in Fayette County. In the fields I have been in this summer, the activity of the disease varies quite a bit (depending on hybrid, rotation practices, tillage, planting date, and other factors). While there are definitely fields that will see significant levels of disease by the end of grain fill, it is already clear that other fields will escape yield-limiting damage.

Several factors are working together to limit the activity of gray leaf spot in corn fields. For one, widespread droughts in 2007 and 2008 resulted in low levels of disease those seasons. Low disease levels on leaves of previous crops means less spore inoculum in the field the following season.

In addition to low levels of inoculum to start this growing season, weather hasn't been particularly favorable for the disease for the past month or so. Gray leaf spot is favored by warm, muggy weather for days on end, and temperatures have been cooler than normal with many days of relatively low to moderate dew points.

I am expecting that this will be a season where fungicides will have relatively little effect on yield and standability in many corn crops. Yes, some will show a benefit, but others—perhaps many others—won't. I hope producers who apply fungicides to corn are leaving one or two untreated strips in each field, so as to see for themselves with the yield monitor whether a particular spray was worthwhile. Untreated strips help you decide how important fungicides will be in your future crop-production plans.

SmartStax Corn Receives US and Canadian Approval

By Ric Bessin

Dow AgroSciences LLC and Monsanto Company received EPA regulatory approval for SmartStax corn. SmartStax is a new combination of existing Bt protection traits which provide redundant control of corn rootworm and key lepidopterous pests. These companies will begin marketing SmartStax corn in 2010. What this means is that there will be multiple sets of Bt toxins protecting against corn borers, fall armyworm, black cutworm, rootworms

and corn earworm. Because of this multi-gene strategy attacking the key insect pests, the EPA has approved a new structured refuge strategy for SmartStax corn, reducing the structured refuge from 20% to only 5% in the corn belt states and from 50% to 20% in the cotton belt areas. Other types of Bt corn will still need to meet the original structured refuge requirements of either 20% or 50% for non-cotton areas and cotton growing areas, respectively.

SOYBEAN

Soybean Aphid: Numbers Are On the Rise In Central Kentucky…At Least A Little!

By Doug Johnson

Figure 1. An individual soybean aphid.

Over the previous week we have seen an increase in the number of locations reporting the presence of soybean aphid (SA), and in one case a substantial increase in the number of reported aphids per plant. Neither of these finds is unexpected, nor do they indicate an immediate problem but they do illustrate that pest numbers are increasing slowly.

This is typical for SA in Kentucky. Experience has shown me that when soybean aphid populations are detected they will most likely be found in the counties between I-65 and I-75. Also, this area generally has larger populations than found in the western production area. In addition the only SA populations that have approached threshold levels have occurred in these counties. Nevertheless, we do know that this pest is active state wide so no one should dismiss it out of hand.

This season's buildup could be a little on the early side. There is no way to know exactly why but I suspect that this summer has had more days with relatively mild temperatures (mid 80s^{o}F) compared to "average" years in which we will see many days with temperatures in the mid to high 90s^{o}F. Research has shown that SA reproduction and survival decreases with the high temperatures that often occur in Kentucky summers.

While an increasing population in central KY does not indicate an immediate problem, it does serve as a road sign. Certainly those with soybean interests in central KY should be actively sampling for SA. I have two major concerns: 1) we have a great many late planted beans. Photoperiod not withstanding, we are likely to have many bean fields in vulnerable stages, late into the season. 2) History has shown that the largest populations of SA in Kentucky have occurred in late August and September. Perhaps these two factors could allow for larger populations early in the year (August) than our history would predict.

Soybean producers and consultants should continue to scout fields for SA and other pests. Central Kentucky could be the "bell weather" for any important populations in the state. The decision threshold remains the same at:

An average of 250 aphids per plant
and
An increasing population
(thus requires more than one sample date)
and
Soybean plant stages younger than R6

The most straight forward method of determining the need to treat is through the Minnesota Speed scouting system. An explanation of the method and a worksheet can be viewed (and down loaded) from:
http://www.soybeans.umn.edu/crop/insects/aphid/aphid_sampling.htm

This system is designed to provide a simple method that reduces labor and time when deciding whether or not to spray. It is not useful for describing the SA population or changes in the SA population. A sampler can make a decision using as few as 11 plants and never any more than 31 plants. The scout only has to count up to 40 aphids per plant. At that point the plant is discarded and another is selected. This is repeated for at least 11 plants or until the guide provides a clear decision to: spray, do not spray, or resample in 7-10 days.

If needed, insecticides recommended for use on SA can be found in ENT-13, Insecticide Recommendations for Soybean – 2009. This publication is available through your County Extension Office or on the web at: http://pest.ca.uky.edu/EXT/Recs/welcomerecs.html Our history with this insect tells us that we are unlikely to need a treatment but insects are very adaptive, and local populations can vary from the norm. Keep an eye on them!

HOUSEHOLD PEST

Yard Wasps

By Lee Townsend

Cicada killers, velvet ants, and Scolia wasps can be seen over or in lawns now. These insects are intent on carrying out their daily chores and tend to disregard humans but they attract attention and can cause a painful sting if disturbed.

Figure 2. Cicada killer wasp.

Cicada killers are among the most impressive of the wasps that can be seen during the summer. These solitary wasps establish tunnels in well-drained, light-textured soil, usually in full sun where vegetation is sparse. Common sites include along sidewalks, in landscaping beds, or in lawns or fields where the turf is sparse. Many burrows may develop in a landscape over time so the wasps can be very numerous and their normal activities can be unsettling and/ or intimidating. Most encounters are with stingless males that challenge intruders who enter their territory. These wasps may get quite close but ultimately they lose interest and fly away. Females can sting but are busy hunting cicadas and burying them in underground tunnels as food for their larvae. However, they may respond to direct disturbance of their burrows and will sting in self-defense.

Cicada tunnels usually have a distinctive U-shaped collar of loose soil around the opening. Individual tunnels are 12 to 18 inches long and may extend 6 to 12 inches deep. There is an average of 15 egg-shaped cells as side chambers to a tunnel. Each contains a paralyzed cicada and a developing wasp larva. Development will be completed next year with the wasps emerging in late summer.

The presence of large numbers of cicada killers in a area is a sign of ideal conditions for them plus an ample supply of cicadas. Over the long term, developing a thick turf may help to reduce wasp numbers. Direct treatment of burrow openings with Sevin dust may provide some short term control.

Figure 3. Velvet ant with stinger extended - a wandering wasp.

Velvet ants are striking insects covered with red and black or orange and black "hairs". Females are wingless; males have two pairs of black wings. The female have very long stingers, the potency of the punch is reflected in the common name "cow killer wasps". Picking one up can provide a memorable experience. These wasps, seen walking determinedly across the lawn, do not have a home, so there is no place to treat. They pose no threat unless handled or stepped on by bare feet.

Figure 4. Scolia - grub wasp.

The Scolia wasp has a black head, thorax and wings. The front half of the abdomen is black, the back half is dark orange with two distinct yellow bars. Female wasps cruise just over the turf and occasionally enter the soil in search of white grubs, which serve as food for the wasp larva. These wasps can be very abundant in turf where white grubs are numerous; however, the wasps are not aggressive, and in fact, may not sting at all. These distinctive wasps can be found in many

Kentucky lawns. While their bright warning coloration accentuates their ability to sting, they are not aggressive and control efforts rarely are warranted.

PESTICIDE NEWS

Residual Activity versus PHI

By Ric Bessin

There has been some confusion lately in field crops regarding pre-harvest intervals (PHI) and the length of residual activity against target pests. Some have treated the PHI of pesticides as the length of residual control against pests, but this is NOT the case. If this were the case, there is an example of a PHI for miticides that is 300 days until harvest. It would be great to have 300 days of residual activity against mites, but it isn't so. The opposite is true as well, just because one pesticide has a shorter PHI than another does not mean that is residual effectiveness is shorter. PHIs have been determined and are required to ensure our food safety. They are based on dietary exposure risks, not on pest-killing power in the field.

DIAGNOSTIC LAB HIGHLIGHTS

By Julie Beale and Paul Bachi

Recent agronomic samples in the PDDL have included leaf hopper burn on alfalfa; gray leaf spot on millet; tobacco ringspot virus, Rhizoctonia root/stem rot and potassium deficiency on soybean; black shank, target spot, brown spot, frogeye, tomato spotted wilt virus, potassium deficiency and manganese toxicity on tobacco.

On fruit and vegetable samples, we have diagnosed black rot on grape; acid soil problems and Rhizoctonia root rot on blueberry; anthracnose and Phytophthora crown rot on raspberry; scab on pecan; leaf spot (Cercospora) and bacterial leaf spot on cherry; web blight, anthracnose and angular leaf spot on bean; bacterial wilt, anthracnose and Alternaria leaf blight on cantaloupe; Alternaria leaf spot on kale; bacterial soft rot on rhubarb; Pythium and Rhizoctonia root rots on pepper; Fusarium and Rhizoctonia root/stem rots on squash; and anthracnose, bacterial speck, early blight, bacterial pith necrosis, southern blight and blossom end rot on tomato.

On ornamentals, we have seen Alternaria leaf spot on buddleia; Fusarium stem rot on dianthus; anthracnose and Phytophthora crown rot on liriope; Cladosporium leaf blotch on peony; Gloeosporium leaf spot on birch; powdery mildew, spot anthracnose and Discula anthracnose on dogwood; filbert blight on filbert; tar spot on maple; Phytophthora crown rot on chestnut; and scab on crabapple.

INSECT TRAP COUNT
July 17-24

By Patricia Lucas

Location	Princeton, KY	Lexington, KY
Black cutworm	31	7
Armyworm	102	191
Corn earworm	9	3
European corn borer	4	1
Southwestern corn borer	*	0
Fall armyworm	34	0

*The Southwestern corn borer trap was damaged and the lure lost.

Graphs of insect trap counts for the 2009 season 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://ces2.ca.uky.edu/fulton/InsectTraps

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UNIVERSITY OF KENTUCKY
College of Agriculture

Cooperative Extension Service

University of Kentucky
Entomology Department
Ag Distribution Center
229 Stadium View Road
Lexington KY 40546-0229

Official Business