Kansas Insect Newsletter
For Agribusinesses, Applicators, Consultants, and Extension Personnel
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NEW PUBLICATIONS

The Field Crop Insect Management Guides for 2008 are on the web site and printed copies should be in the county extension offices.

Alfalfa Insect Management -- http://www.oznet.ksu.edu/library/ENTML2/MF809.pdf

Corn Insect Pest Management -- http://www.oznet.ksu.edu/library/ENTML2/Mf810.pdf

Cotton Insect Management -- http://www.oznet.ksu.edu/library/entml2/mf2674.pdf

Sorghum Insect Management -- http://www.oznet.ksu.edu/library/ENTML2/Mf742.pdf

Soybean Insect Management -- http://www.oznet.ksu.edu/library/ENTML2/Mf743.pdf

Sunflower Insect Management -- http://www.oznet.ksu.edu/library/entml2/MF814.PDF

Wheat Insect Management -- http://www.oznet.ksu.edu/library/ENTML2/MF745.PDF

The format of these documents has changed from previous years. To reduce text, we've placed the management options in tables. Various pests are listed in the front of the guides, followed by tables with insecticide treatment options for each pest in alphabetical order, and at the end of each document is a table listing use instructions for the various insecticides. For many of the pests listed in the management guides there is additional information including pictures and links to other publications on our Web site. Go to: http://www.entomology.ksu.edu/extension and click on Insect Information, Crop Pests, and then the specific crop in the menu bar on the left of each page.

Alfalfa - http://www.entomology.ksu.edu/DesktopDefault.aspx?tabid=399

Corn - http://www.entomology.ksu.edu/DesktopDefault.aspx?tabindex=185&tabid=400

Cotton – http://www.entomology.ksu.edu/DesktopDefault.aspx?tabindex=187&tabid=401

Sorghum – http://www.entomology.ksu.edu/DesktopDefault.aspx?tabid=402

Soybean - http://www.entomology.ksu.edu/DesktopDefault.aspx?tabid=403

Sunflower - http://www.entomology.ksu.edu/DesktopDefault.aspx?tabid=404

Wheat - http://www.entomology.ksu.edu/DesktopDefault.aspx?tabid=405

Another recently revised publication is: Biological Control of Insect Pests on Field Crops in Kansas. - Pub Number: MF2222 is available on the web at:
http://www.oznet.ksu.edu/library/entml2/MF2222.PDF

Phil Sloderbeck

COOL WEEK SLOWS DOWN INSECT ACTIVITIES

The unseasonably cool springtime temperatures continue to delay the development of early-season insect pests that usually are well under way as we approach mid-April. This is evidenced by the low number of current accumulated GDD's thus far from March 1 through April 10. The 2008 values for each site are followed by the 2007 values in parenthesis: Baxter Springs – 126.5 (336.5); Clyde – 28.5 (186.5); El Dorado – 56 (247); Elkhart – 51.5 (164.5); Ellsworth – 35.5 (226); Emporia – 41 (251); Garden City – 33.5 (164); Hays – 21 (156); Hiawatha – 11.5 (203); Independence – 109 (331); Kansas City – 30.5 (225.5); Lawrence – 21 (227); Manhattan – 17 (219); Newton – 33.5 (227); Olathe – 34.5 (221); Pittsburg – 126.5 (333.5); St. Francis – 15 (86); Salina – 29 (226); South Hutchinson.– 31 (241); Topeka – 34.5 (247); Wichita – 66.5 (248).

Eastern tent caterpillar development continues, but ever so slowly in comparison to the accompanying rapid expansion of new foliage of tree hosts. The increased amount of foliage tends to hide/cover the small web masses thus complicating their detection. The resultant may then be the sudden rapid defoliation of infested branches/trees later in the spring when undetected larvae (which after having gained sufficient size) feed more voraciously as they near the completion of their feeding cycle.

European pine sawfly larvae – The only likely areas where hatch may already have occurred are in the southeastern corner of Kansas where accumulated GDD's have been sufficient to initiate hatch. The rest of Kansas has yet to accumulate sufficient GDD's. For instance, in the Manhattan area where accumulated GDD's have only totaled 17, the hatching date currently lags 2 ½ weeks behind that of 2007.

Scale Insects
Scales are a wide and diverse group of insects – diverse in their habits, life cycles and preferred hosts. However, there are several "broad umbrella" statements which apply to most species. (1) Due to their small size coupled with their blending in with their background, scales (especially when populations are low) are not readily detectible. (2) Predators and parasites typically keep scale populations "in check". (3) Suppression and/or elimination of predators and parasites through the indiscriminate and repeated use of insecticides allows unfettered population "explosions" resulting in noticeable "damage

symptoms" to host plants. Subsequent close-up visual inspections reveal the presence of scales.

If known infestations exist, treatment applications are warranted. Horticultural oils and Horticultural Soaps are effective against all developmental stages of scale insects (egg-crawler-nymph-adult). Thorough coverage is required to ensure treatment effectiveness. While current-season foliage is still in-the-bud (depending of tree species), treatment coverage is easier to attain. Follow label instructions regarding rates/dosages, temperature restrictions and host plant susceptibility/phytotoxicity statements.

Foliar OP, carbamate and pyrethroid insecticides must be timed with crawler activities. Periods of crawler activity will vary with the scale species and the prevailing/current-season temperatures. Close inspections with a hand lens is required to determine crawler presence/activity. It is important to note that crawlers of scale species which tend to "encrust" may never be openly exposed, as opposed to species where crawlers actually emerge from beneath the parent scale cover.

For "soft scales", drench treatments with systemic insecticides offer additional help. Especially in the spring when host plant uptake and translocation are most active, phloem elements should be "rich" with systemic protectants in newly formed foliage. Consult product labels for mixing and application instructions.

Bob Bauernfeind

OBSERVATIONS ON ALFALFA AND WHEAT PESTS

Scouted 7 wheat fields earlier in the week (between rains) and found no greenbugs, bird cherry oat aphids, army cutworms, armyworms, or lady beetles. All fields were in Central Ks. Also looked at 4 alfalfa fields and found one very small (1st instar) alfalfa weevil larva. A few plants had pinprick-sized holes, that's how I found the one larva, but the fields were otherwise insect free-including aphids or beneficials. As the weather warms and dries over the next week or two insect activity should noticeably increase as I think weevil larvae have not yet emerged, but we may have had some population reduction due to the winter conditions.

Jeff Whitworth

BROWN WHEAT MITES

We have received some reports of brown wheat mites from far western Kansas the last few days. Populations apparently vary a lot from field to field. Highest populations reportedly in continuous wheat fields (or fields were volunteer was allowed to grow last spring). Populations are developing late in the brown wheat mite cycle. By late April the mites should start laying white, over-summering eggs and populations will begin to decline. Hopefully we will get some rain to reduce the mite populations and stimulate wheat growth. Information on brown wheat mites can be found at: http://www.entomology.ksu.edu/DesktopDefault.aspx?tabindex=195&tabid=492

Phil Sloderbeck

WIDESPREAD USE OF INSECTICIDE SEED TREATMENTS SIGNALS THE NEED FOR CHANGES IN MANAGEMENT PRACTICES

Several factors have coalesced to make insecticide treated seed the industry standard on many field crops. A trend that started several years ago in wheat and corn is rapidly spreading to canola, cotton, sunflower, and even soybeans. The neonicotinoid seed treatments have been around for several years on some crops, but are fairly new on others. They have a proven track record for controlling wireworms and aphids in wheat and seed attacking pests in corn. Usage of these products increased dramatically when rootworm resistant corn was developed and companies wanted to make sure that the new higher dollar seed was not damaged by seeding insect pests. Now with higher commodity prices the widespread use of these products is becoming the standard for other crops.

This means that we need to keep seed treatment options in mind as we make plans for the coming crop season. While there are multiple products on the market it is my understanding that in many cases you may not have as much choice in how your seed is

going to be treated as you might think. Many seed companies are aligned with specific chemical companies so if you are purchasing seed from one company it will likely be treated with a specific seed treatment while seed from another company may be treated with another product. To make matters more confusing there are often different rates of insecticide applied to the seed to control different pests, for example a low rate just for seed attacking pests and a higher rate for seedling pests. So you need to keep track of what pests are to be controlled by the seed treatment on various seed lots and keep records on what seed is planted in various fields. If you don't keep track of which seed treatments are used you could end up paying extra for a seed treatment and then treating the field later in the season for an invading pest if you forget which fields have the built in seed treatment.

Two other less obvious changes in the system that should gain your attention are: One, if you need untreated seed for organic production, you may need to get your seed orders in early, because with the trend towards the widespread use of seed treatments in some cases untreated seed is becoming hard to find. The other is, related to the shift to more bulk seed being sold having been treated with a seed treatment. If hauling this in the same vehicles as harvested grain, this can create some real issues if the vehicle is not thoroughly cleaned and some treated grain gets commingled into the grain headed to market.

For information on corn seed treatment options see: http://www.entomology.ksu.edu/DesktopModules/ViewDocument.aspx?DocumentID=4234 Information on other crops is listed in the Insect Management Guides and web pages at: http://www.entomology.ksu.edu/DesktopDefault.aspx?tabid=379.

Phil Sloderbeck

ADJUSTING TREATMENT THRESHOLDS (GREENBUG)

With higher commodity prices there is a need to review insect treatment thresholds. This will be a reoccurring theme through out the year. By definition the economic injury level is the level at which damage equals the treatment cost, the economic threshold is the number of insects need to produce the damage equal to the economic injury level, and the treatment threshold is the population level where treatments need to be applied to avoid reaching the economic threshold. For some insect pests these relationships are fairly well established, however for others we only have an educated guess at the number of insects expected to cause significant injury. Thus, with the sharp rise in commodity prices since last year we will need to reevaluate each treatment threshold to determine when and if treatments need to be applied.

Producers and consultants need to keep in mind that by definition at the economic threshold there is no advantage to treating a field for a specific insect pest. It is only where you find fields that have the potential of greatly exceeding the treatment threshold and treat before the threshold is reached or where you find fields that are well below threshold and avoid treatment that you make money. Thus, the most money is to be made

by making timely insecticide applications when needed and not making treatments when insects are not present, rather than treating all fields and hoping for an average return.

To give an example of how higher commodity prices can change treatment thresholds look at the following example of greenbugs on wheat. Oklahoma State has developed a detailed sampling procedure called Glance N' Go to predict when wheat fields should be treated for greenbugs (http://entoplp.okstate.edu/gbweb/). The system allows you to inter information on time of year, general location, commodity prices and treatment costs into a calculator to determine a treatment threshold, which is then used to select a sampling plan for the field. Using the greenbug calculator http://entoplp.okstate.edu/gbweb/Economic%20Threshold/GreenbugCalculator.HTML I plugged in some numbers for April in Western Kansas. I took a range of treatment costs, ranging from a full rate of a pyrethrethroid insecticide plus application cost ($14 per acre) to a half rate of insecticide with no treatment cost ($4.75) and Wheat prices from $3.50 to $9.50 just to see how the treatment thresholds would change.

Treatment Threshold – Greebugs per Tiller

	Wheat Price per Bushel		
Treatment Cost	$3.50	$6.50	$9.50
$4.75	2	1	1
$9.50	5	3	2
$14.00	7	4	3

These numbers are then used to select a sampling form http://entoplp.okstate.edu/gbweb/spring%20glance%20n%20go.htm looking at the various sampling forms you can get a feel for what percentage of tillers would need to be infested to justify treatment. So where, last year at $3.00 wheat, it would have taken about 95% of the tillers to be infested to justify treatment. This year with $9.50 wheat it would take about 66%. Even if you got to the un-recommended option of adding a shot of insecticide to your fungicide treatment (to avoid the additional treatment cost) you still need about 30% of the tillers infested to justify treatment. Thus, while the numbers do change with higher commodity prices it still does not pay to treat unless significant populations are present. For reference in Garden City this week I checked more than 460 individual tillers in a field and did not detect a single aphid.

Phil Sloderbeck

Sincerely,

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