Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel

Department of Entomology
123 West Waters Hall
K-State Research and Extension
Manhattan, Kansas 66506
785-532-5891
http://www.entomology.ksu.edu/extension

May 22, 2009 No. 10

The start of 2009 Bagworm, Fall Webworm and Wood Cockroaches Activities…..

Bagworms

In the Manhattan area, 1-day old bagworms were noted on May 14 (Figure 1). Thus the initial "unobserved" egg hatch and bag construction (Figure 2) likely occurred on May 13.

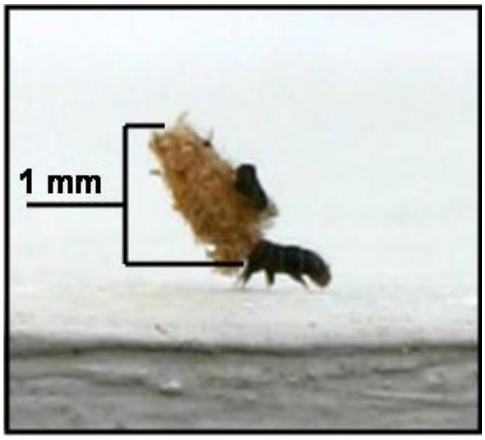

Figure 1

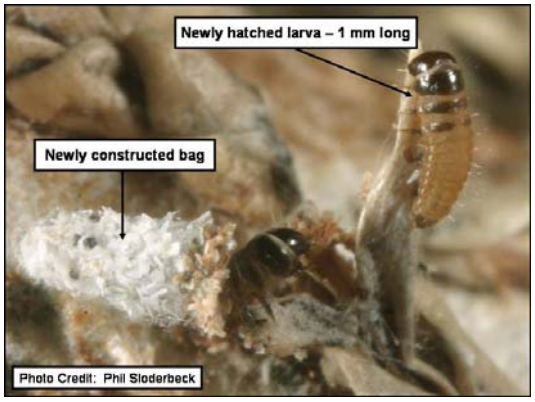

Figure 2

Similar activities certainly should be underway in counties south of Manhattan, and soon to occur in northern tiers. The precise date/onset of activities is unimportant because we have yet to reach the time for the initiation of recommended bagworm control efforts. That is, there is no rush to apply insecticide treatments at the time of their first appearance. The period of bagworm hatch spans a 4-5 weeks, and little would be gained by a barrage of weekly treatment applications to eliminate bagworms as they emerge. Rather, allow the hatch to proceed and bagworms to feed for a period of time.

If a person adopts a **2-spray program**, apply Spray 1 during last week of May or first week of June to control the first half of the egg hatch. Spray 2 should be applied during the last week of June or first week of July as a clean-up of larvae from the latter half of the hatching period. For a **1-spray program**, wait until the hatch has been completed and apply the single spray treatment at the end of June or beginning of July. While the earliest hatched bagworms will have attained some size during the time that they were allowed to feed, they will still be small enough that their feeding damage during the period of lush early-season foliage is virtually indictable.

A dilemma which homeowners face is selecting an insecticide from the 528 products registered (in Kansas) for use against bagworms. At least 8 active ingredients (number of products containing the AI) include: acephate (75), bifenthrin (201), Bacillus thuringiensis for caterpillars (39), carbaryl (62), cyfluthrin (93), lambda-cyhalothrin (121), malathion (48), permethrin (735) and spinosad (29). Homeowners must visit various local retail outlets in their area and speak with store personnel to determine which product(s) they market for use against bagworms.

People often ask, “Which product is most effective against bagworms?” While some might be a tad more effective, none provide “magic results”. Rather, more important is how products are used. As described above, **timing** is critical. Insecticides are most effective against the small early instar bagworms. Sprays against large bagworms in late July and into August will be less efficacious. **Thorough coverage** is a second important consideration. Merely applying a mist-like treatment to the outer periphery of a tree/shrub kills only those bagworms so exposed. Rather, insecticides need to be delivered deep into the central portions of the trees and shrubs. Lastly, do not just treat the most heavily infested trees and shrubs, **but also treat ALL those which are adjacent,** but currently may have lesser numbers of bagworms.

Fall Webworms (FWW)

Given that we are still in mid-spring, it might seem implausible to address an insect with “Fall” as a part of its common name. Only after people observe the appearance of web masses beginning in late summer do they then pause and ask, “Where did these webworms come from?” In actuality, fall webworms get their seasonal start in the spring. They overwinter as pupae in silken cocoons in the soil further protected and insulated by trash and debris on the soil surface.

Figure 3

Extension Publication MF-2395 addresses Fall Webworms in Kansas and is electronically available at: **http://www.ksu.edu/entomology** and clicking on Extension and then Publications. There are two races of fall webworms in Kansas (blackheaded and redheaded) and each has two generations. The emergence of moths of the blackheaded race occurs a month earlier than that of the redheaded race.

This KIN addresses the blackheaded race. The 2009 emergence began on May 15 as observed in caged specimens (Figure 4).

Figure 4

Fall webworm moths are quite docile/not flighty ---- easily handled and seemingly content to sit still (Figure 5). Perhaps by remaining still, female moths are more easily detected by males for mating purposes (Figure 6) ---- most moths in the rearing cage were so engaged.

Figure 5

Figure 6

FWW moths can be separated by sex on the basis of their antennae (Figure 7). Females possess rather slender antennae whereas those of the male are enlarged and bipectinate. This condition this expands the antennal surface area enabling males to have increased numbers of olfactory organs with which to detect and locate their female counterparts. For the blackheaded race only, a peculiar trait observed only in the male moths emerging from the overwintered pupae are varying degrees the black specks on their forewings although the wings of some may be devoid of any black markings. Female wings are always pure white.

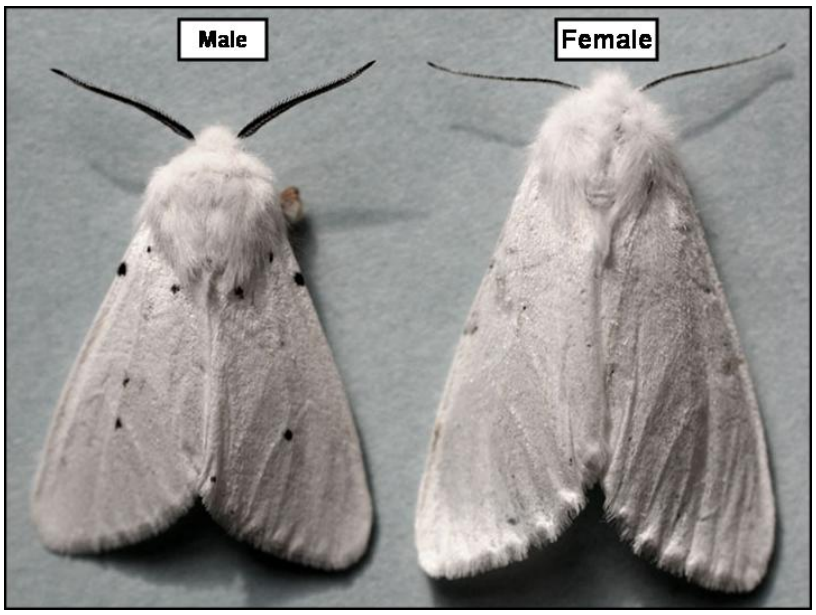

Figure 7

The female moth lays her eggs on the undersides of leaves of (primarily) elm, mulberry, Osage orange and redbud. Eggs are deposited in masses containing several hundred. After depositing eggs, the female moth uses her body hairs to conceal the egg mass (Figure 8 and 9).

Figure 8

Figure 9

Upon hatching (Figure 10), the larvae immediately produce silk and encase themselves with in their web inside of which they reside and feed (Figure 11).

Figure 10

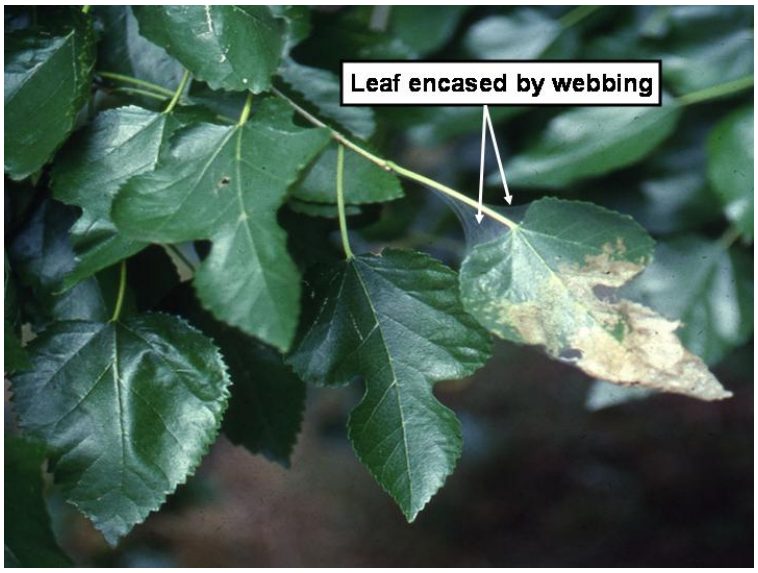

Figure 11

After the foliage within is depleted, the larvae expand the web to include the next adjacent green tissue. Given the lush spring foliage, these feeding activities go unnoticed until (possibly) a month or more later when webbing becomes apparent after the larger larvae rapidly increase their web mass to include adequate amounts of foliage to satiate their ravenous appetites. The web mass of the blackheaded race of FWW is compact and somewhat thick/opaque (Figure 12).

Figure 12

By the end of June and beginning of July, larvae will have completed their development. They will drop to the ground and form cocoons/pupae under soil litter/debris. Moths will emerge in mid-July and produce the second generation of blackheaded fall webworms which will produce the overwintering cocoons/pupae.

The Good Cockroach House Guest …..

On Sunday, May 23, I spied a cockroach scurrying across my basement floor. And while I have seen an occasional oriental roach in my basement (I simply "eliminate" them when encountered), the current cockroach was O.K. ----- it was a wood cockroach (Figure 13).

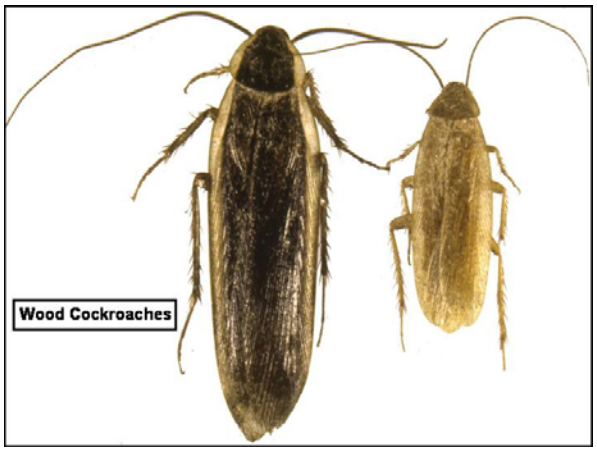

Figure 13

For many people, there is no such thing as a good cockroach in the home. Granted that, in Kansas, there are certain undesirable species such as German, American, oriental and brownbanded cockroaches which can breed and thrive in indoor environments. Wood cockroaches are especially abundant in wooded areas where they feed and breed. In fact, wood roaches might be considered useful and beneficial because their preferred food source is decaying organic matter. However, when they occasionally invite themselves into our homes, they might be viewed as nuisance pests.

An interesting difference between male and female wood roaches is that females possess rudimentary wings and are incapable of flying. On the other hand, winged males are capable of prolonged flights. Unlike most cockroaches which scurry away from light, male wood roaches are attracted to light sources such as outdoor and indoor lighting. Thus they are frequently seen crawling on the sides of houses, and on porch and deck areas. They seek cracks and crevices in which to hide. In doing so, they may inadvertently enter homes and building.

Despite their "indoor presence", people should not be concerned that their homes will soon be overrun by generation upon generation of cockroaches. As already mentioned, the indoor environment is not conducive to the establishment of an indoor population. And as indicated earlier, only the males are highly mobile. Females are seldom encountered because of their relative immobility, and also their being content to remain in their preferred environment near their "natural home sites"

Upon encountering wood roaches, a person's first reaction might be to contact an extermination service, or go out and purchase an insecticide registered for homeowner use. However, merely catching and physically removing/eliminating the roach is the quickest and easiest method for dispatching the interlopers. Then, locate and seal all points of entry to prevent further intrusions of wood roaches.

As a point of interest: people may be familiar with the larger American cockroaches which are "bad actors". And seeing a large wood cockroach (invariably the male Pennsylvania wood roach) may have a person asking whether or not it is an American cockroach. Each is distinctly different in appearance (Figure 14).

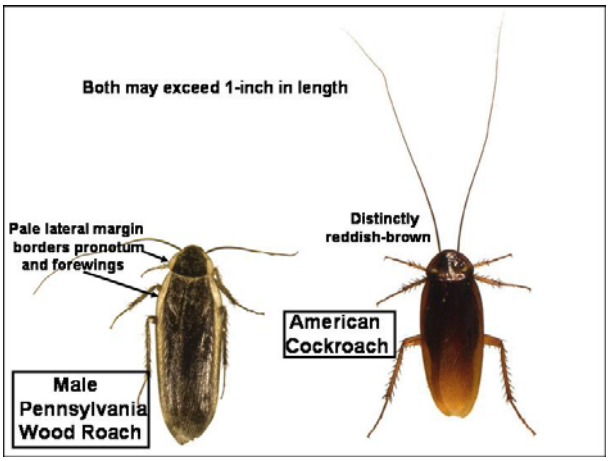

Figure 14

And in passing…….

The 2009 appearance of pine sawyer beetles is underway. These are the longhorned beetles (Figure 15)

Figure 15

which serve as the vectors of the pinewood nematode which are responsible for pine wilt disease. Yesterday, May 21, marked their first appearance ---- 6 males were recovered from containerized trunks of pine trees which succumbed to pine wilt disease in 2008 and early 2009. More on these insects in next week's Kansas Insect Newsletter.

Bob Bauernfeind

Flea Beetles

Dr. Stu Duncan, NE Area Extension Agronomist, reported significant infestations of flea beetles on corn in the Belleville / Scandia area on 15 May. Flea beetles are small, shiny black, hyperactive insects with enlarged hind legs that allow them to jump considerable distances – thus, the name "flea" beetle (Photo 1). They are normally found in wheat in early spring then migrate to corn or sorghum as the wheat matures. Significant populations of flea beetles can rapidly damage seedling corn or sorghum if there are 4 or more beetles per plant at the 2-4 leaf stage (Photo 2). Significant flea beetle infestations are usually limited to border rows. Insecticide treated seed will provide reasonable protection for 21-28 days after planting. Foliar treatments also work well in controlling flea beetles and often only a border application is required.

For a current recommendation relative to flea beetle control, please see your local County Extension Agent or go to: http://www.entomology.ksu.edu/DesktopDefault.aspx?tabindex=205&tabid=497.

Also, see Special Extension Publication MF-2832 (Flea Beetle)

Jeff Whitworth Holly Davis

Get Grain Storage Facilities Ready for Wheat Harvest

Now that wheat has headed, producers need to be thinking about getting their bins ready for wheat harvest. Whether storing seed wheat or the entire wheat crop, storage areas need to be cleaned thoroughly and sprayed with an insecticide prior to filling with this year's harvest. This needs to be done several days prior to harvest so that the insecticide has time to work before new grain is put into the bin.

Also, make sure that any other grain stored on the farm is free from infestation prior to harvest to reduce the chance of insects from moving from one bin to another. Any infested grain should be sold, disposed of or fumigated. Even small quantities of old grain can serve as the source of insects to infest this year's grain.

If the grain will be stored on the farm for more than a few weeks, producers will probably want to consider using a grain protectant to treat the grain as the bins are being filled.

To help make decisions on the type of insecticides to use to treat bins or grain going into long term storage refer to our web page at: Or our web page at: http://www.entomology.ksu.edu/DesktopDefault.aspx?tabid=628 or the publication stored Grain Insects, Part III: Structural sprays, pest strips, protectants and surface sprays on the web at:

<http://www.oznet.ksu.edu/library/entml2/MF917.PDF>

http://www.oznet.ksu.edu/library/entml2/MF917.PDF.

Phil Sloderbeck

Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostician Laboratory from May 1st to May 20th

May 04 2009 Shawnee County – Snowberry clearwing hawkmoths in garden
May 05 2009 Lyon County – Dipteran (fly) larvae found under oak tree
May 11 2009 Atchison County – Carpet beetle larvae in home
May 14 2009 Reno County – Legionary ants in lawn
May 14 2009 Riley County – Fishing spider
May 16 2009 Johnson County – Hooded owlet moth in garden
May 18 2009 Morris County – Brown-banded cockroach nymphs and carpet beetle larvae
May 20 2009 Montgomery County – Carpet beetle adults in home
May 20 2009 Marion County – Winged Eastern subterranean termites in home
May 20 2009 Johnson County – Carpet beetle adults in home

If there are any questions regarding these samples or about the identification of any arthropod please contact the Insect Diagnostician at (785) 532-4739 or GotBugs@ksu.edu.

Holly Davis

Sincerely,

Robert J. Bauernfeind
Extension Specialist
Horticultural Entomology
phone: 785/532-4752
e-mail: rbauernf@ksu.edu

Holly Davis
Insect Diagnostician
Phone: (785) 532-4739
e-mail: holly3@ksu.edu

Phil Sloderbeck
Extension Specialist- Entomology
Southwest Research and Extension Center
Garden City, KS
Phone: 620/275-9164
e-mail: psloderb@ksu.edu

Jeff Whitworth
Extension Specialist
Field Crops
phone: 785/532-5656
e-mail: jwhitwor@ksu.edu