

<http://www.oznet.ksu.edu/entomology/extension/extension.htm>

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

Department of Entomology
239 West Waters Hall
K-State Research and Extension
Manhattan, KS 66506-4027

Tel: 785-532-5891

Fax: 785-532-6258



August 4, 2006 No. 20

Fall webworm activities noted.....

Fall webworm activities are becoming increasingly evident while driving city streets and country roads. Often times, people “suddenly see” web masses in trees that they pass on a daily travels. This sudden appearance gives the impression that an overnight event has occurred, when, in fact, the fall webworms have been present for at least 4-6 weeks.



Blackheaded Fall Webworms



Redheaded Fall Webworms



Pupa within cocoon



Fall webworm moth



Ventral view of exposed egg mass

Depending upon the fall webworm race (Kansas has both the blackheaded and redheaded races, Figures 1 and 2, respectively) moths emerge from overwintered pupae (Figure 3) beginning in mid-May (for the blackheaded race) and mid-June (for the redheaded race) to mate. As eggs are deposited, the female moth uses her body hairs to cover/conceal/protect the egg mass (Figures 4 and 5).



1-week old web mass on a single leaf



Expanded 3-week old web mass



Highly visible web mass at 6-weeks

Fall webworm larvae construct web masses at the ends of branches. Larvae feed on leaves enclosed within the web mass. Initial web masses go undetected due to the small size of the larvae and associated web (Figure 6), especially when “lost amongst” the lush spring foliage. As leaves are consumed, larvae continually extend the web mass to enclose additional foliage (Figure 7). It is now (at this time of year) that larger larvae require increased amounts of food as they approach the completion of their feeding cycle --- thus the unavoidably evident “sudden appearance) of large web masses (Figure 8).



First generation web masses tend to be scattered



Second generation web masses more prominent

Whereas first generation fall webworms usually produce but one to several web masses per tree (Figure 9), the ensuing second generation will create more massive webbing in trees by fall (Figure 10).

Defoliation by fall webworms may startle people who may think that trees are in danger of dying. Other than the possible unacceptability of the web masses and larvae within, fall webworms pose no threat to well-established trees and shrubs. In fact, trees are none the worse for wear. Leaf buds for the ensuing year remain in tact, and trees will leaf out “as usual” the following spring.

If homeowners are determined to take action against fall webworms, it need not be more than physically removing the web mass. If within bare hands reach, merely gather in the webbing. If repulsed by direct contact, wear a gardener’s glove. Or improvise a device with which to break up and remove the webbing. Dispose of/discard the webbing and larvae. While some people may advocate web removal by pruning out the branch or branches with webbing, this may actually degrade a tree’s appearance by creating “holes”/ gaps when the trees issues forth new foliage in the ensuing spring. In large trees where web masses are beyond reach, physical removal is not possible.

If homeowners are determined to utilize an insecticide to kill fall webworms, there are various insecticides registered for use against (specifically) fall webworms and/or defoliating caterpillars (in general). Bear in mind that fall webworms remain within the bounds of their web mass as they feed, and therefore insecticides merely sprayed to the outside of the web mass will do little to contact and kill the larvae. Therefore, thrust the spray wand through the outer web to ensure delivery of the insecticide directly to the foraging caterpillars within. As with physical removal, large trees may not lend themselves to spray treatments due to the inability of homeowners to reach and penetrate the web mass.

Preventative treatments to control annual white grubs.....

Preventative treatments are “insurance treatments” against annual white grubs (the larvae of “masked chafer” beetles). These treatments are committed not knowing whether grubs are actually present. In certain instances, preventative treatments may already be in place if systemic insecticides containing the active ingredients imidacloprid (Merit) or halofenozide (MACH 2) were applied prior to the beginning of the 2006 masked chafer flights. The current call for preventative treatments usually involves granular applications of contact insecticides containing the active ingredients trichlorfon (Dylox) and carbaryl (Sevin) although the aforementioned systemic materials can still be applied.

Due to the short residual nature of trichlorfon and carbaryl, their application needs to be appropriately timed for them to attain effective control. The recommended “treatment window” is 30-40 days after chafer flight peaks. At that time, egg hatch should be completed, and 90% of the grubs will be small (1st and 2nd instar larvae which will not have caused substantial damage) and especially susceptible to contact insecticides.

There was some variance in 2006 chafer flights. In most instances, peaks occurred approximately 2 weeks earlier than the traditional July 4th “rule-of-thumb”. Flight peaks for selected sites included: **Manhattan** ---- June 18th (Manhattan Country Club), June 19th (Scenic Drive), June 20 (Rocky Ford) and June 21 (Londondery Drive, Colbert Hills and Pillsbury Drive); **Lawrence, Hutchinson and Independence** ---- June 19th; **Wichita** (JCPRC- Derby) ---- June 22; **Garden City** ---- June 29th; and **Mankato** ---- July 3.

Keys to successful grub control include: (1) reading product labels to ensure their legal site and pest usage; (2) calibrating granular applicators to ensure proper insecticide rates; (3) power raking, vertislicing or core aerating to “break through” the thatch layer to allow passage of insecticides into the soil zone; (4) pre-watering to “soften” the soil; and (5) post-treatment watering to move the insecticide into the soil.

Bob Bauernfeind

Dectes Stem Borer (soybeans):

Soybean stem borers are very active at the present time, in north central Kansas, laying eggs. Eggs are oviposited inside soybean stems. Also, found newly hatched larvae inside stems and scattered dead petioles due to larval feeding. As oviposition and larval feeding continues, more and more dead petioles will become evident in infested fields.

Soybean Aphids:

Sampling several soybean fields throughout north central Kansas indicated no soybean aphids. Soybean aphids are relatively sensitive to hot weather and thus if temperatures continue to exceed 95 degrees

Fahrenheit soybean aphids will probably not successfully colonize, although they may continue to migrate into the state. Continued monitoring is recommended especially during cool spells brought about by weather fronts with north winds.

Potato Leafhoppers:

Potato leafhoppers are present in all alfalfa fields sampled this week. However, populations seem to be relatively low throughout north central Kansas. This may be due to the hot, dry weather but continued monitoring is advised as these small insects, especially coupled with the weather-related stress, may retard regrowth and thus yield potential quickly.

Jeff Whitworth

Worms, Worms and more Worms:

It seems like several worms are active across the state right now. We have had reports of fall armyworms damaging late planted corn in Barber County, alfalfa caterpillars defoliating alfalfa in Kearny County, corn earworm and western bean cutworms in corn at several locations and low levels of beet armyworms were found in a cotton field in Pratt County. The key issues now will be to correctly identify what species of larva is present, then decide is the crop still vulnerable to attack and are there enough worms to actually cause economic damage and can the worms still be controlled.

Correct Identification is Key

Larvae differ in their ability to damage various crops and some are more difficult to control than others. Thus the proper identification can affect what management strategy should be followed.



Corn earworm



Western bean cutworm



Beet armyworm



Fall armyworm



Alfalfa caterpillar

For more information on identification check out the keys in the publications on caterpillars available on the

web or at your county extension office.

Identifying Caterpillars in Alfalfa: <http://www.oznet.ksu.edu/library/entml2/S120.pdf>

Identifying Caterpillars in Corn and Sorghum: <http://www.oznet.ksu.edu/library/entml2/s121.pdf>

Identifying Caterpillars in Soybean: <http://www.oznet.ksu.edu/library/entml2/s116.pdf>

Identifying Caterpillars in Sunflowers: <http://www.oznet.ksu.edu/library/entml2/s123.pdf>

Once a determination is made then one must decide if any control measures should be taken. This can depend on the stage of the crop and the numbers of larvae being found as well as the size and species of larvae being found. For example in sorghum larvae feeding in the whorl seldom justify control as plants will normally out grow the injury. However, if larvae are found in the heads then treatment may be justified. A few fall armyworms feeding on corn or sorghum should not cause major concern, however occasionally extremely high numbers of larvae can cause total defoliation and or serious crop loss, so routine scouting is recommended to catch these unusually high populations. In some cases by the time the worms are observed it is already too late to control the larvae. For example once corn earworms and western bean cutworms are noticed feeding on corn ears there is not much one can do, effective treatments for these pests depends on treating before the larvae enter the ears.

These early reports of fall armyworms and beet armyworms are somewhat concerning. While these initial reports may not be too threatening by themselves, the fact that they were received in early August may mean that we could see additional problems over the next 2 to 3 months on a variety of crops. The reports also bring back memories of the green cloverworm outbreaks we observed last year and again emphasize the importance of regular scouting of crops especially during the periods of pod set, ear development and head fill. It will also be important to watch fall seeded crops carefully for signs of larval feeding as worms can quickly destroy seeding plants.

Phil Sloderbeck

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Sincerely,

Robert J. Bauernfeind
Extension Specialist
Horticultural Entomology

Jeff Whitworth
Extension Specialist
Entomology (Crops)

Phil Sloderbeck

August 4

Southwest Research and Extension Center
Entomology - Garden City, KS