http://www.oznet.ksu.edu/entomology/extension/extensio.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

July 25, 2003 No. 17

Mimosa Webworm in Honeylocust:

This is the time of year when many brown patches are seen scattered through out the green canopies of thornless honeylocust species which line many streets in Kansas communities (Figure 1). The browned areas appear to be clusters of dead leaves. Upon closer inspection, it becomes evident that the honeylocust leaflets have been webbed together (Figure 2), and when pulled apart, there appears to be fecal pellets filling the webbed areas.

Figure 1

Figure 2

These are the after effects of **mimosa webworms**. By the time the current damage symptoms appear, mimosa webworm larvae seldom are found because they are in the pupation process which will lead to the forthcoming second generation of mimosa webworm beginning in late July to early August.

The question arises as to whether anything could have been done to prevent this first generation damage. The answer is, “Not really”. Even though mimosa webworms are present every year, it is impossible to predict which trees will or will not become infested. Had a person been aware of the webworms’ presence a couple of weeks earlier, sprays (most likely) would have had little effect against the larvae which were enclosed/protected within the leaves that they webbed together. And spraying after the damage becomes evident would serve little purpose ---- again, the larvae which were responsible for the damage are currently pupating.

Mimosa webworms produce two generations per year in Kansas. They overwinter in the pupal stage of the previous year's second generation. Moths are small and go unnoticed. Similarly, the larvae are small and go unnoticed until the aforementioned "browned leaves" become apparent. Because the larvae are small even when fully matured, their feeding damage is superficial in that they rasp/consume epidermal plant tissue as opposed to consuming entire leaves. Leaves deprived of their protective epidermal coverings desiccate ----- thus their brown appearance.

Now that the first generation has been completed, people may ask what will happen with the second generation. Most likely, forthcoming moths will deposit eggs on the same trees from which they were formed. Thus, possibly, those trees might become 100% infested (Figure 3). However, people should not despair. Despite the unsightly appearance of a tree in the fall (Figure 4 - August, 1998), come next spring, the tree will leaf out (Figure 5 - May, 1999), apparently none the worse for wear from the previous year's bout with mimosa webworm. And most times, mimosa webworms seldom hit the same tree or areas of town in consecutive years.

Figure 3

Figure 4

Figure 5

Bob Bauernfeind

Fall Webworms:

This is the time of year when people notice white webs at the ends of branches in trees (Figure 6). Fall webworms are responsible for this unsightly situation. In Kansas, there are two races of fall webworms. Blackheaded fall webworm (Figure 7) are mostly associated with elm, mulberry and osage-orange, while their redheaded counterparts (Figure 8) are more commonly associated with walnut, pecan, sweetgum and flowering crab.

Figure 6

Figure 7

Figure 8

Each race produces 2 generation per year in Kansas. While both overwinter as pupae in loosely woven silken cocoons mixed into soil debris (Figure 9), their initial seasonal appearances are not synchronized. Rather, the mottled-winged moths of the blackheaded race (Figure 10) emerge in mid-May whereas moths of the redheaded race (Figure 11) appear 1 month later.

Figure 9

Figure 10

Figure 11

Eggs, which are deposited on the undersides of leaves, are not visible when viewed from above (Figure 12) because female moths cover them with body “hairs” when they are deposited. Eggs can easily be seen from beneath after the egg mass has been flipped over (Figure 13).

Figure 12

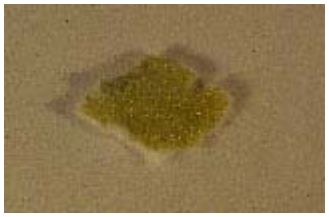

Figure 13

Most larvae of a single egg mass hatch simultaneously (Figure 14). They immediately construct their web “home” (Figure 15) in which they remain throughout their feeding phase. As larvae deplete the food supply contained within the webbing, they continually expand their web to include new/fresh foliage/food (Figure 16).

Figure 14

Figure 15

Figure 16

While a sharp eye may detect a web mass about 3 weeks into the feeding cycle (Figure 17), webs become very evident when they become more expansive and thickened (Figure 18) as larvae rapidly proceed to the end of their feeding stage.

Figure 17

Figure 18

Second generation fall webworms may account for even more extensive webbing and defoliation. However, other than the objectionable presence of the webbing per se (Figures 19 and 20) as well as the presence of fall webworm larvae (Figure 21), infested trees will fare well ------ greening up in normal manner the following year.

Figure 19

Figure 20

Figure 21

For people who deem webbing and larval masses to be unacceptable, physical removal is the recommended remedy. Web masses within arm's reach can simply removed by hand. If a person has an aversion to direct contact with the webbing and larvae, use a gloved hand. Or use a stick, broom handle or broom head to destroy/remove the web mass and the enclosed larvae. Tactics to be discouraged as being more harmful to trees than the fall webworms per se, include: the pruning and removal of webbed branches; or worse yet (as has been reported), igniting webbed branches which have been doused with flammable liquids such as gasoline and kerosene.

Bob Bauernfeind

Blister Beetles:

Several calls were received this week concerning blister beetles from both homeowners and farmers. This is not surprising given the numbers of grasshoppers we have been seeing in some areas, since blister beetle larvae feed on grasshopper eggs. Thus, the same hot dry weather that encourages grasshoppers can lead to increased blister beetle problems. While the larvae may actually be considered beneficial by destroying grasshopper eggs, adults have a ravenous appetite, and can destroy the blossoms and foliage of many types of plants. In addition, their bodies contain cantharidin a chemical capable of causing blistering of body tissues, which causes special problems for horses that may eat forage containing dead blister beetles. At least half a dozen different species commonly occur in Kansas. They vary in size and color, but are easily recognized by their elongated, narrow, cylindrical, soft bodies. Viewed from above, blister beetles have an accentuated neck, caused by a constriction between the back of the head and the narrow anterior end of the thorax. Management options vary depending on the type of

blister beetles being found, the numbers of beetles being found and the type of plants being fed upon. More information on these pests can be found in the following articles.

Extension Horticulture Information Center – Blister Beetles.
http://www.oznet.ksu.edu/dp_hfrr/extensn/problems/blister.htm

K-State Entomology Department -- Blister Beetles in Alfalfa
http://www.oznet.ksu.edu/library/ENTML2/MF959.PDF

Forage Facts – Blister Beetles
http://www.oznet.ksu.edu/forage/pubs/97notebook/fora32.pdf

Soybean Insect Pest Management 2003
http://www.oznet.ksu.edu/library/ENTML2/MF743.PDF

Ornamental Pest Control
http://www.oznet.ksu.edu/library/entml2/s11.pdf

Phil Sloderbeck

Soybean Aphids and Soybean Stem Borers:

Two new publications are now available on line and should be available from county extension offices in the next few days. One is on the soybean aphid http://www.oznet.ksu.edu/library/entml2/MF2582.pdf and the other in on the soybean stem borer http://www.oznet.ksu.edu/library/entml2/MF2581.pdf . These publications were made possible by a grant from the Kansas Soybean Commission. Timing of these publications is fortunate in that the soybean stem borer is currently active in soybean fields in the western two thirds of the state and soybean aphids are being reported in Nebraska. If any aphids are found on soybeans in Kansas we would like to know and possibly receive a sample (dead aphids in alcohol) so we can track the spread of this pest. Send reports and samples to John Reese, Kansas State University, Department of Entomology, 123 Waters Hall, Manhattan, KS 66506 – jreese@oznet.ksu.edu

Phil Sloderbeck

Cattail Caterpillars:

Cattail Caterpillars Caterpillars Feeding

Photos Courtesy of Ryan Higbie, Johnson County Extension Office

Received several calls the last two weeks relative to cattail caterpillars in sorghum. These insects are frequently found in sorghum and are rather distinctive. However, they've never attained densities that would cause an economic loss, at least not that we've heard about. They will feed on the leaves and around the whorl causing concern to growers and consultants. However, at this stage of growth, the sorghum plant can withstand considerable leaf feeding without significant effect on yield. There is no established economic injury level or treatment threshold in KS, as they've just not been enough of an economic problem to justify the expenditure of research dollars to establish either. Most of the larvae I've seen are relatively mature and probably won't be feeding much longer, thus most "damage" has been done. If feeding continues or head damage becomes apparent please call or email us ASAP.

Jeff Whitworth

European Corn Borer:

Calls received from around the state indicate European corn borers (ECB) are, for the most part, pupating (Figure 1) or have emerged as adults (Figure 2) and thus, are laying eggs of the 2nd generation.

Figure 1

Figure 2

So if your corn insect management includes ECB's you're probably starting to scout. Scouting is the recommended survey technique and, wherever possible, should consist of five random samples of 20 consecutive plants from widely separated locales within each field. Samples should consist of visually examining all leaves, especially the ear leaf and the three leaves immediately above and below the ear leaf, on both the upper and lower surface for the presence of eggs (figures 3). As egg masses mature, the black head capsule of the developing larvae becomes visible. This is called the "black-head" stage and hatching will usually occur within 24-36 hours). These 2nd generation larvae (figure 4) "feed" their way toward the stalk and fairly quickly bore into the tassels, ear shanks, ears, and stalks (figure 5).

Figure 3

Figure 4

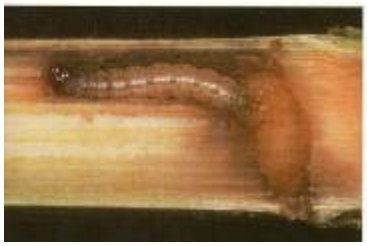

Figure 5

All photos in this article were provided by Marlin Rice, Iowa State University.

Once larvae have bored into the tassels, ear shanks, etc. they generally are not vulnerable to insecticides. Therefore, timing is critical as the treatment window is not very long. Treatment for 2nd generation is usually justified if you find at least 10 egg masses per 100 plants or if 50% of the plants have live larvae feeding on leaves, leaf axils, behind leaf sheaths, etc. but have not yet bored into some plant part making them inaccessible to insecticides. More than one application may be required if fresh eggs are still observed 7-10 days after the first treatment. A list of insecticides registered for ECB control is available at your county extension office.

Jeff Whitworth

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,

Phillip E. Sloderbeck	Jeff Whitworth	Robert J. Bauernfeind
Southwest Area Extension Office	Extension Specialist	Extension Specialist
Entomology - Garden City, KS	Entomology	Horticultural Entomology