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Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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“Raining” water = Good. “Raining” elm branches = Nuisance……..

Actually the elm branch “rain” has yet to happen. But the situation set-up is underway as twig girdlers are actively, well, girdling branches.

"Fresh" girdle

While twig girdlers have a wide host range, elm seems to be a favorite host in Kansas as exemplified by side-by-side observations of “untouched” hackberry versus “girdled” elm. Also, reports invariably involve elm.

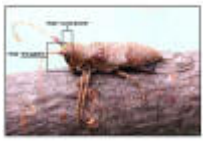
As their name implies, twig girdlers make a cut around branches. However, a thin central core keeps the branch attached to the tree. Because the “life juices” of the branch have been severed, the terminal portion dies and becomes brittle. The central core eventually snaps due to either the weight of the branch itself, or the weight assisted by winds. Most reports of branch litter beneath trees begin filtering in by mid-September.

Central core

Branch "break"

One has but to look at the head of a twig girdler to realize that it is “well equipped” for its task. The head is compressed from front to back, somewhat elongated from top to bottom

----- just right for allowing it to fit into the V-shaped girdle it creates. And their mandibles resemble the “jaws-of-life” rescue equipment. Girdled branches range in size from 6 to 13 mm in diameter.



Head "compressed" and "elongated"

Why do the beetles girdle branches????? Twig girdler larvae require a “drier wood” for their growth and development. Beetles deposit their eggs beyond the “cut” thus ensuring survival of the larvae in the fallen branches. Close examination of downed branches will reveal ovipositional sites (especially) near bud scars or side shoots.

Actual egg sites -- Ovipositional scar

Other than accepting that twig girdlers occur, there is little to be done to prevent girdling activities in landscape situations. Monitoring for their presence is impractical especially due to the size of most trees. Also, the beetle’s itself is very-well camouflaged given its body color and pattern.

Camouflaged beetles

Close-up of "blended" beetle

Of what harm are twig girdlers? It depends on where and what they are girdling. In nut production orchards, twig girdlers can be detrimental if they damage newly transplanted trees, or setback small trees not yet in production. And there are reported incidences of reduced nut production/yields in years following heavy twig girdler activities the previous season.

For the homeowner, twig girdlers are more a nuisance in the form of unsightly branches littering lawns and making lawn mowing more difficult. The recommendation is to gather up and dispose of branches. Removal of these branches means the elimination of next season’s beetles produced from those branches. Does that mean that twig girdlers won’t be around the next year? Not necessarily ---- look up and you’ll likely see many dead branches still caught up in tree canopies. They will be the localized source for the next year’s girdlers.

branch litter

Girdled branches remaining in tree canopy

Bob Bauernfeind

Soybean-Green Cloverworms

Green cloverworms once again causing concern around the State. Thus, a quick review of this pest and a guide to deciding if treatment might be warranted is provided in figure 1.

Jeff Whitworth and Aqeel Ahmad

Mimosa Webworm

The mimosa webworm, *Homadaula anisocentra* is showing up in portions of Kansas as evidenced by the “browning” of honeylocust trees. This pest originated from China, and entered the USA in 1940. Heavy infestations of mimosa webworm can literally destroy the aesthetic value of landscape trees. The larvae or caterpillars feed primarily on honeylocust, *Gleditisia triacanthos.* There are typically two generations per year in Kansas.

The adult is a silvery-gray moth, with black stippling or spots on the forewings. Females appear in mid-June to early July (depending on seasonal environmental conditions) and lay pearly-gray eggs on tree leaves. The eggs hatch into larvae that are pale lime green in color, with white stripes extending down the back. Larvae are approximately 1/2-inches in length when full-grown. They rapidly move backward when disturbed. The larvae web leaves together on the ends of branches with webbing usually starting at the tops of trees. This creates a habitat that protects the larvae from natural enemies. Heavily-infested trees appear brown or scorched as the larvae skeletonize the leaf tissue. The larvae eventually descend from trees on a silken strand just before pupating. Mimosa webworm pupates in bark crevices or the pupa may be found adhering to structures. The pupae resemble kernels of puffed rice. In general, it takes 3 weeks to undergo development from larvae to

pupae. In July, adults emerge and start laying eggs on tree leaves. The eggs hatch into larvae in early to late August, which starts the second generation.

Second-generation larvae tend to be more numerous and hatch over a more extended time period than the first generation. As a result, their feeding injury is more noticeable. In addition, second-generation injury may result in plant death, particularly on newly planted trees or those that are experiencing drought "stress." In late fall, the larvae pupate in the cracks and crevices of trees or in plant debris. Mimosa webworm overwinters in the pupa stage.

Mimosa webworm management involves either pruning out early infestations, especially on small trees, and/or implementing the use of insecticides. Insecticides recommended for control of mimosa webworm include acephate (Orthene), *Bacillus thuringiensis* var. *kurstaki* (Dipel), carbaryl (Sevin), and several pyrethroid-based products. However, for the second-generation, applications need to be performed before the larvae create the protective habitat. If the larvae are well-protected then don't initiate any insecticide applications since you are likely to kill more natural enemies than mimosa webworm larvae.

Honeylocust cultivars exhibit various degrees of susceptibility to mimosa webworm. The cultivar 'Sunburst' is highly susceptible, whereas the cultivars 'Moraine,' 'Shademaster,' and 'Imperial' are less susceptible to attack by mimosa webworm larvae.

Raymond A. Cloyd

Recent Change in Shipping Regulations for Insect Samples

We have just been notified that recent changes in DOT shipping regulations require that we revise our SOP for shipping insect specimens. We have generally recommended putting fragile and immature insects in alcohol filled vials for shipment to the diagnostic lab. However, since alcohol is flammable and considered a hazardous material, one now must have special training and/or use specialized shipping containers to ship even small quantities of this or similar materials. Thus, until we can obtain the appropriate shipping containers and develop new shipping instructions insect **samples must no longer be shipped in alcohol filled vials**. For large fairly common insects the first option may be to send digital images. However for smaller insects physical samples are often required to make accurate determinations. For adult insects, specimens should killed by placing them in the freezer overnight. They should then be placed between layers of tissue paper or a plastic bag and packaged so that they will not be crushed, but yet not be damaged from bouncing around in the shipping container. For soft bodied insects you may want to consider splitting the sample if possible and saving part of the sample in an alcohol filled vial incase a more accurate determination is needed

later. The rest of the sample can then be placed in a plastic bag with some tissue paper and frozen, the tissue paper will absorb any moisture as the insects defrost. Another option for larger soft bodied insects such as grubs or caterpillars would be to gently boil the sample for 30 seconds before rapping them in tissue paper for shipping. These types of samples will need to be shipped by next day or express mail to have much hope of arriving in any shape to be identified and descriptions or pictures to show the original color patterns may be helpful. We are sorry for the inconvenience that these new shipping rules are going to cause, but we will try to obtain new approved shipping containers as soon as possible.

Phil Sloderbeck

Sincerely,

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