Kansas State University Extension Entomology Newsletter

For Agribusinesses, Applicators, Consultants, Extension Personnel & Homeowners

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Fall Webworm

The fall webworm (*Hyphantria cunea*) is prevalent throughout Kansas with webs noticeable on certain trees and shrubs, which is the start of the second generation. Fall webworm nests are typically quite evident in August and September, with silk webbing enclosing the ends of branches and associated foliage or leaves (Figures 1 and 2).

Fig 1: Fall webworm nest on birch tree by Raymond Cloyd.

Fall webworm larvae (=caterpillars) are pale-green to yellow to nearly whitish in color with black spots (two per each abdominal segment).

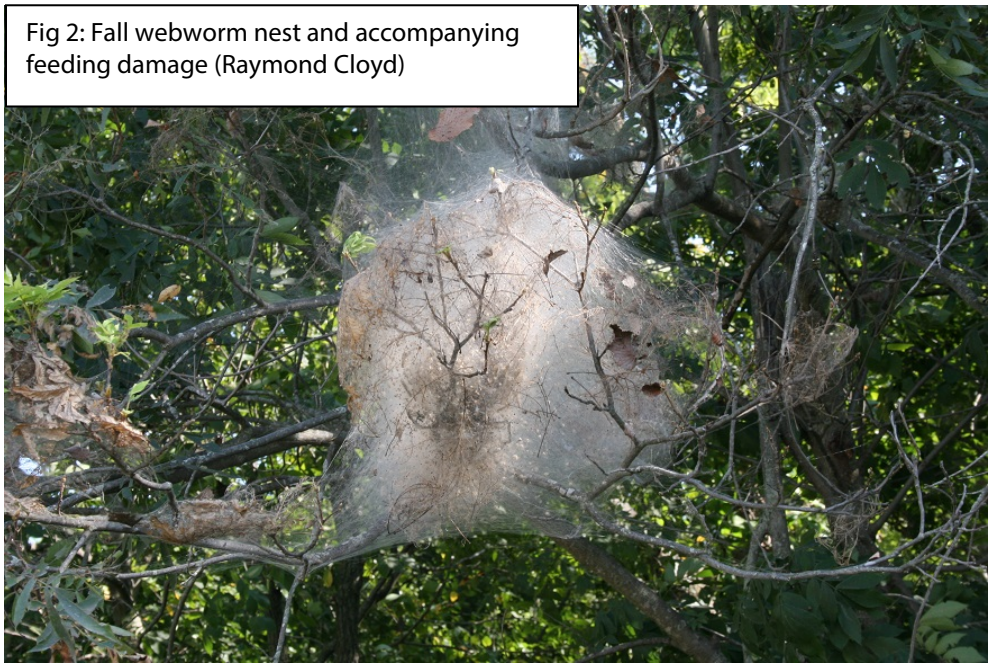

Fig 2: Fall webworm nest and accompanying feeding damage (Raymond Cloyd)

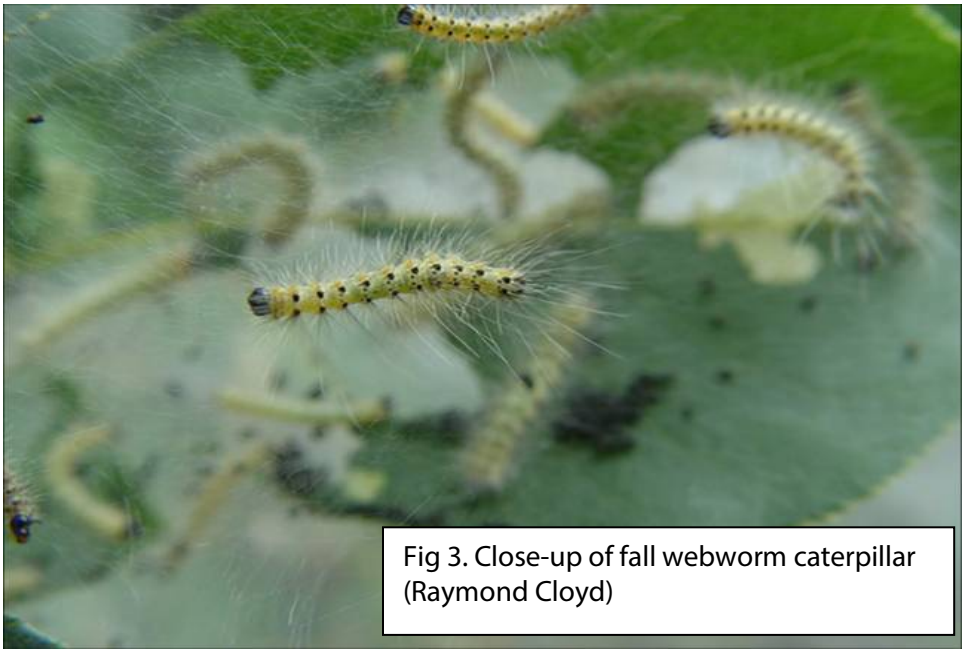

Fig 3. Close-up of fall webworm caterpillar (Raymond Cloyd)

The caterpillars are covered with long, white hairs (Figure 3). They feed on a wide range of trees, including: birch, crabapple, maples, hickory, pecan, and walnut. Fall webworm caterpillars, unlike eastern tent caterpillars, remain within the enclosed webbing and do not venture out to feed. Caterpillars consume leaves, resulting in naked branches with dirty webbing attached that contains fecal deposits ("caterpillar poop"). Although feeding by fall webworm caterpillars may ruin the aesthetic appeal of infested trees; the subsequent damage is usually not directly harmful to tree health because trees are primarily allocating resources for storage instead of producing new vegetative growth. The most effective means of dealing with fall webworm infestations is to simply prune-out the webs that enclose the caterpillars. Insecticide sprays may not be effective because the caterpillars remain in the webbing while feeding; thus reducing exposure to spray residues. If insecticides are too be used then be

sure to use high-volume spray applications that penetrate the protective webbing or use a rake to disrupt or open-up the webbing so that the insecticide spray contacts the caterpillars.

I need to acknowledge Jeff Otto of Wichita, KS for bringing to my attention that fall webworm was active.

Raymond Cloyd

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Mimosa Webworm

Now is the time of year when mimosa webworm (*Homadaula anisocentra*) larvae (=caterpillars) are feeding and creating their protective habitat on honeylocust (*Gleditsia triacanthos*) and mimosa (*Albizia julibrissin*) trees. The larvae (=caterpillars) are 1/2 inch in length when fully-grown, and rapidly move backward when disturbed (Figure 1).

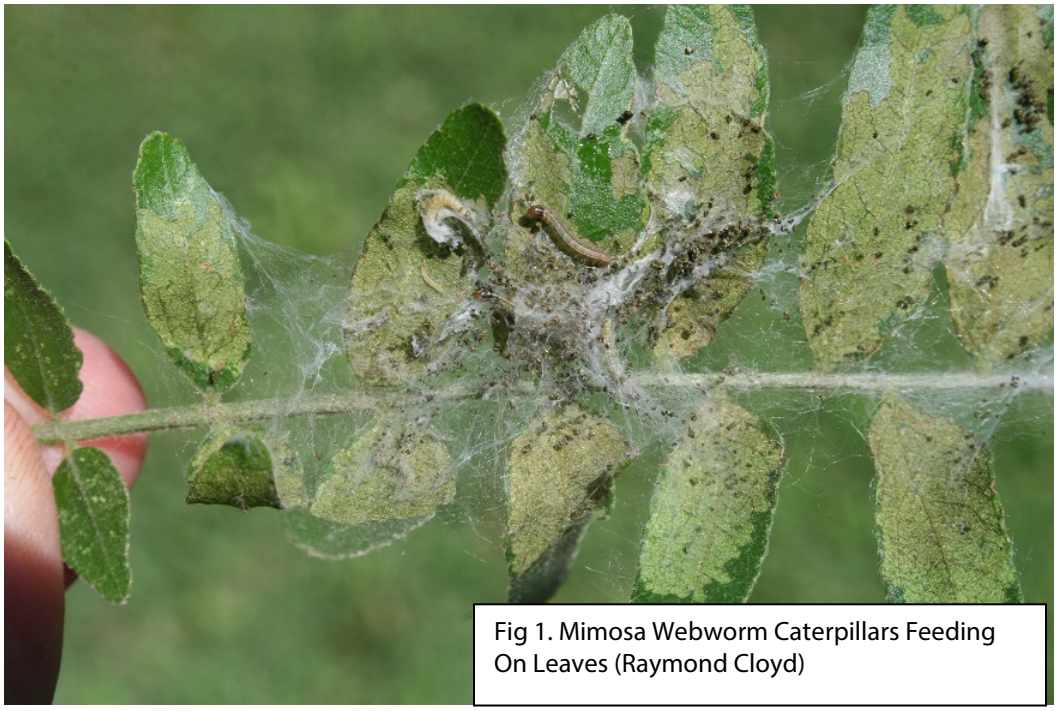
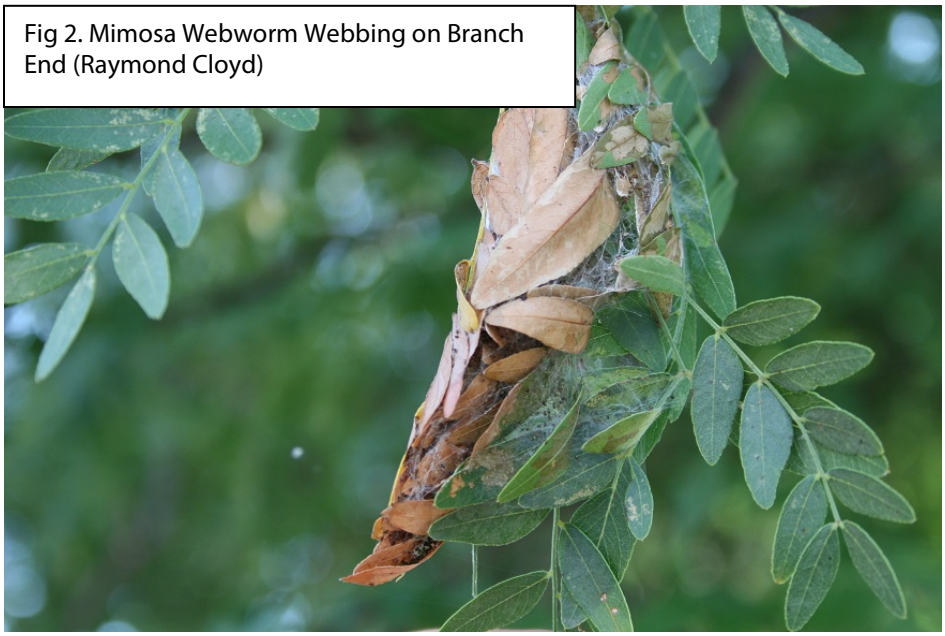


Fig 1. Mimosa Webworm Caterpillars Feeding On Leaves (Raymond Cloyd)

Fig 2. Mimosa Webworm Webbing on Branch End (Raymond Cloyd)



The caterpillar webs leaves together on the ends of branches (Figure 2). Webbing typically starts at the tops of trees and serves to protect caterpillars from natural enemies (parasitoids and predators) and insecticide spray applications. Heavily-infested trees are brown or scorched in appearance (Figure 3) as the caterpillars skeletonize the leaf tissue. Caterpillars eventually fall from trees on a silken strand before pupating. Mimosa webworm pupates in bark crevices or pupae will be glued to structures (e.g. building). In regards to controlling mimosa webworm infestations, it may be too late although initial damage may be minimal. Insecticides that may be used to suppress mimosa webworm populations, in which the caterpillars are exposed, include: acephate (Orthene), *Bacillus thuringiensis* subsp. *kurstaki* (Dipel), spinosad (Conserve), carbaryl (Sevin), and several pyrethroid-based insecticides (e.g. bifenthrin and cyfluthrin). Read the label of each product to ensure that "webworms" are listed on the label. High-volume spray applications are essential in order to contact the caterpillars inside the protective webbing. If trees are already heavily-infested with webbing then it may be too late to apply an insecticide. If possible, selective pruning can quickly remove isolated or localized infestations of mimosa webworm.

Fig 3. Mimosa Webworm Feeding Damage (Raymond Cloyd)

Raymond Cloyd

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Corn Earworms/Sorghum Headworms/Soybean Podworms – *Helicoverpa zea* (Boddie)

There has been much activity this year by this particular insect, starting in whorl stage corn and moving to sorghum (both whorl and heading stages) and now in soybeans.

Likewise, there has been some concern that all this activity and resultant insecticide applications have cause an increase in insecticide resistant *Helicoverpa zea* populations. So, thanks to great effort on the part of Ethan Kepley, consultant in south east Kansas, who collected all the *Helicoverpa zea* larvae in one morning from an untreated soybean field, and Steve Freach, FMC, who was kind enough to transport all the larvae directly from the field to our lab, it was possible to conduct a bioassay. The results of this insecticide bioassay are shown below.

Helicoverpa zea (Boddie) Bioassay

Department of Entomology, Kansas State University

Jeff Whitworth, Holly Schwarting, JR Ewing

Approximately 300 corn earworm/soybean podworm/sorghum headworm, *Helicoverpa zea* (Boddie), were collected from an untreated soybean field in south east Kansas. Larvae (mixed sizes but predominantly relatively large instars, which are known to be more difficult to kill quickly) were equally divided into 6 treatments (Table 1). Larvae were placed individually in small petri dishes that had been coated with the selected insecticide at the rate listed and set aside to dry for 4 hours prior to adding the larvae. All treatments were individually evaluated 24 hours after the larvae were placed in the petri dishes. Larvae were evaluated as **live**: no apparent effect; **moribund**: larvae very sluggish, little or no movement unless prodded and then only very slow, unnatural movement, and; **dead**: no movement even when prodded. From this bioassay there does not appear to be any insecticide resistance to those insecticides and rates utilized (Table 1).

Treatment	% of Larvae Live	% of Larvae Moribund	% of Larvae Dead
Hero @ 6 oz/a	0	3.4	96.6
Lorsban @ 2 pts/a	0	8.6	91.4
Mustang Maxx @ 4 oz/a	0	10.9	89.1
Baythroid @ 2.8 oz/a	0	15.5	84.5
Warrior II @ 1.6 oz/a	0	3.4	96.6
Untreated	87.5	9.4	3.1 (parasitized)

Jeff Whitworth Holly Schwarting J.R. Ewing

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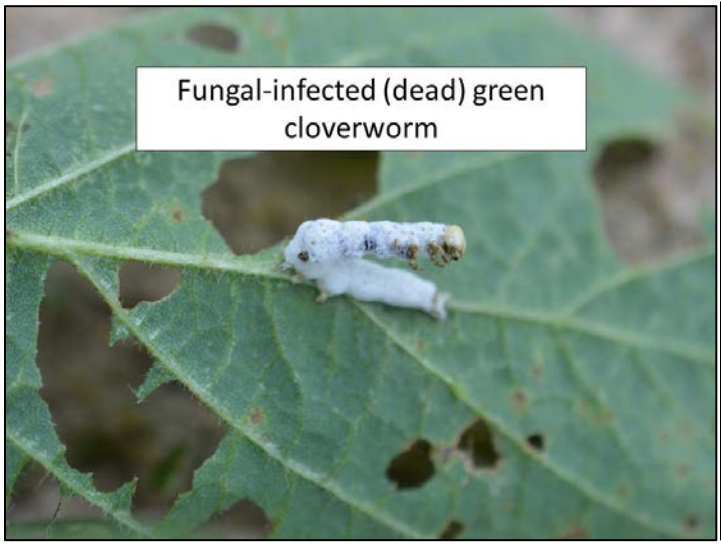
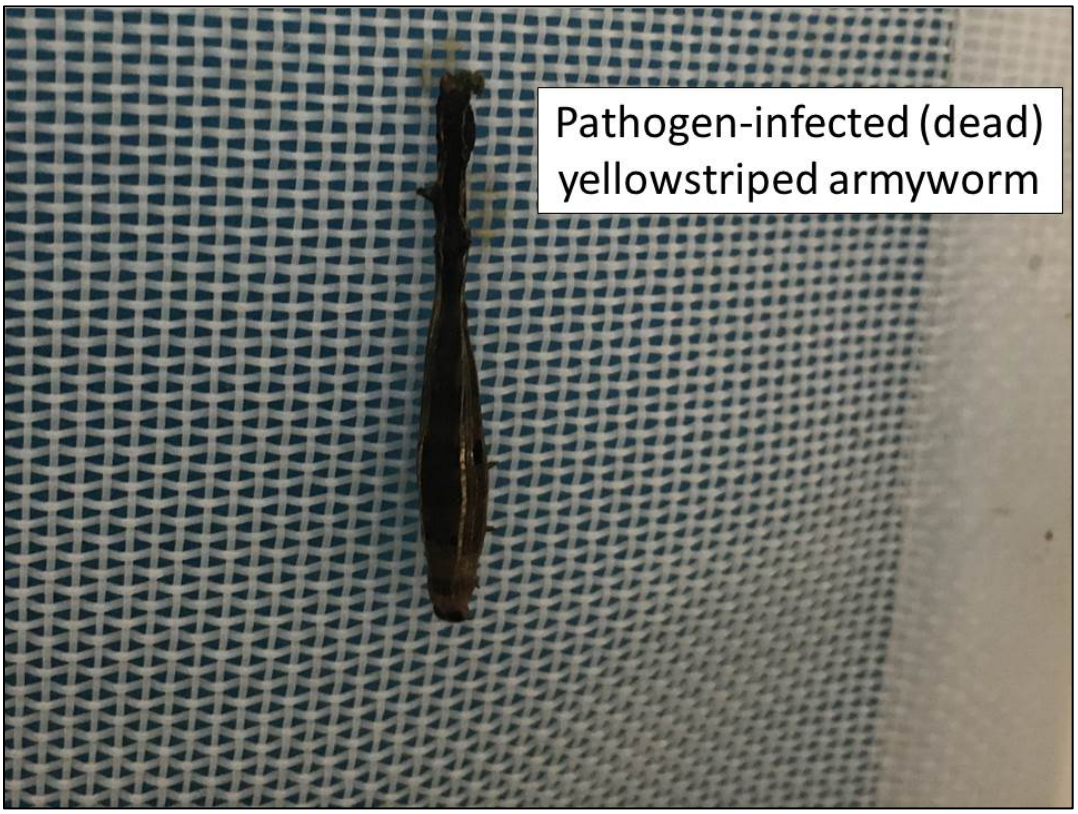
Soybean Pest Update

Green cloverworms have been causing considerable concern throughout the eastern 2/3rd's of Kansas. This has resulted in many acres treated to limit defoliation caused by these fragile little green and white striped worms. Fungal-infected green cloverworms are also relatively common. This fungus usually helps regulate green cloverworm populations, but remember, there is a lag time before the fungal infection decimates the larval populations, unlike an insecticide which usually works very quickly.



There are also a few yellowstriped armyworms still causing defoliation. However, one yellowstriped armyworm larva collected in south east Kansas, brought into the lab appearing healthy, succumbed to a pathogen, probably a virus, within 3 days. So, there are other factors working to help control many pest populations, i.e. fungal and viral pathogens.



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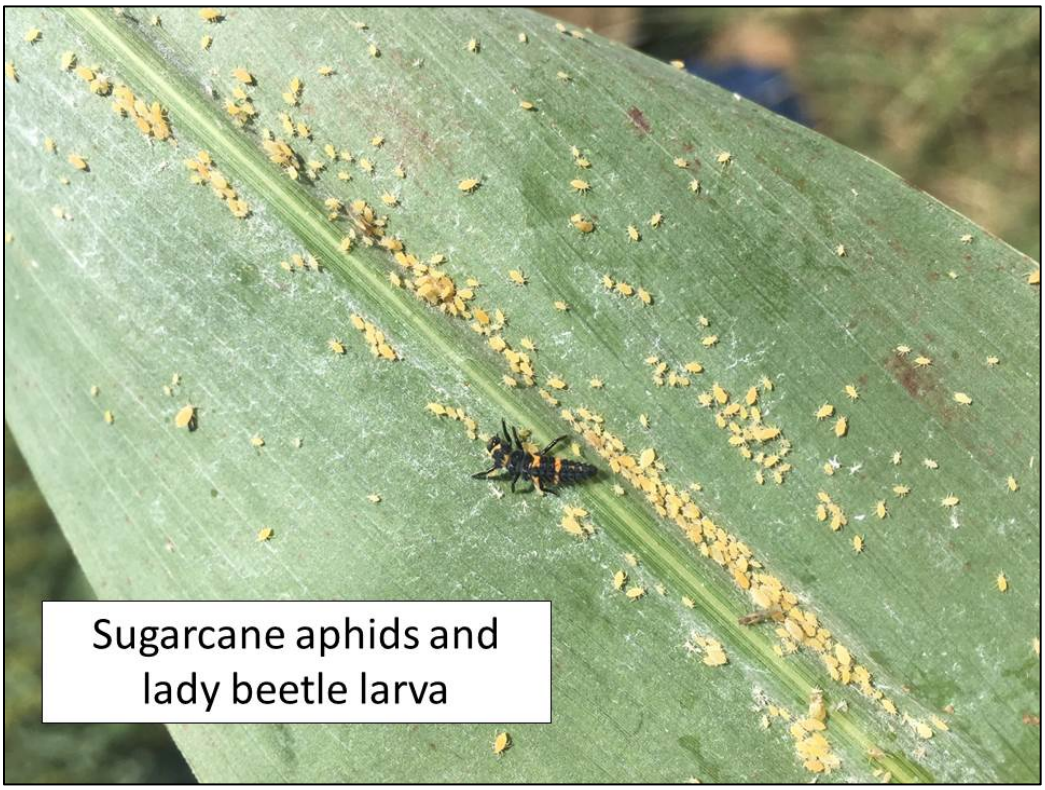
Sorghum Pest Update

Much sorghum throughout north central Kansas is at least in the soft dough stage and thus has passed through the most susceptible stages for sorghum headworm infestations. However, any sorghum yet to head out will still be susceptible to these headworms as there will still be at least one more generation.

All four aphids species, corn leaf, greenbugs, sugarcane, and yellow sugarcane, are still in every sorghum field we sampled throughout north central Kansas. All populations seem to be increasing but there are relatively healthy populations of beneficials present as well.



Jeff Whitworth Holly Schwarting J.R. Ewing

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Insect Diagnostic Laboratory Report

http://entomology.k-state.edu/extension/diagnostician/recent-samples.html

Eva Zurek

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Sincerely,

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