Kansas State University Department of Entomology Newsletter

For Agribusinesses, Applicators, Consultants, Extension Personnel & Homeowners

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Fall Webworm
Twospotted Spider Mites
Additional arthropod (insect and mite) pests to be aware of include
Corn Rootworms

Fall Webworm

Figure 1. Fall webworm nest on birch tree (Author--Raymond Cloyd, KSU)

The fall webworm (*Hyphantria cunea*) is prevalent throughout most of Kansas with webs noticeable on certain trees and shrubs. Fall webworm nests are typically quite evident, with silk webbing enclosing the ends of branches and foliage or leaves (Figures 1 and 2). Fall webworm larvae or caterpillars are pale-green to yellow to nearly whitish with black spots (two per each abdominal segment). Caterpillars are covered with long, white hairs (Figure 3). They feed on a wide range of trees, including: birch, crabapple, maples, hickory, pecan, mulberry, 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 webbing attached that contains fecal deposits or '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, especially larger trees because larger trees are primarily allocating resources for storage with less being allocated to producing new vegetative growth. However, smaller trees infested with fall webworm may look awful (Figure 4). 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 used 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.

Figure 2. Fall webworm nest on walnut tree (Author--Raymond Cloyd, KSU)

Figure 3. Close-up of fall webworm larvae (Author--Raymond Cloyd, KSU)

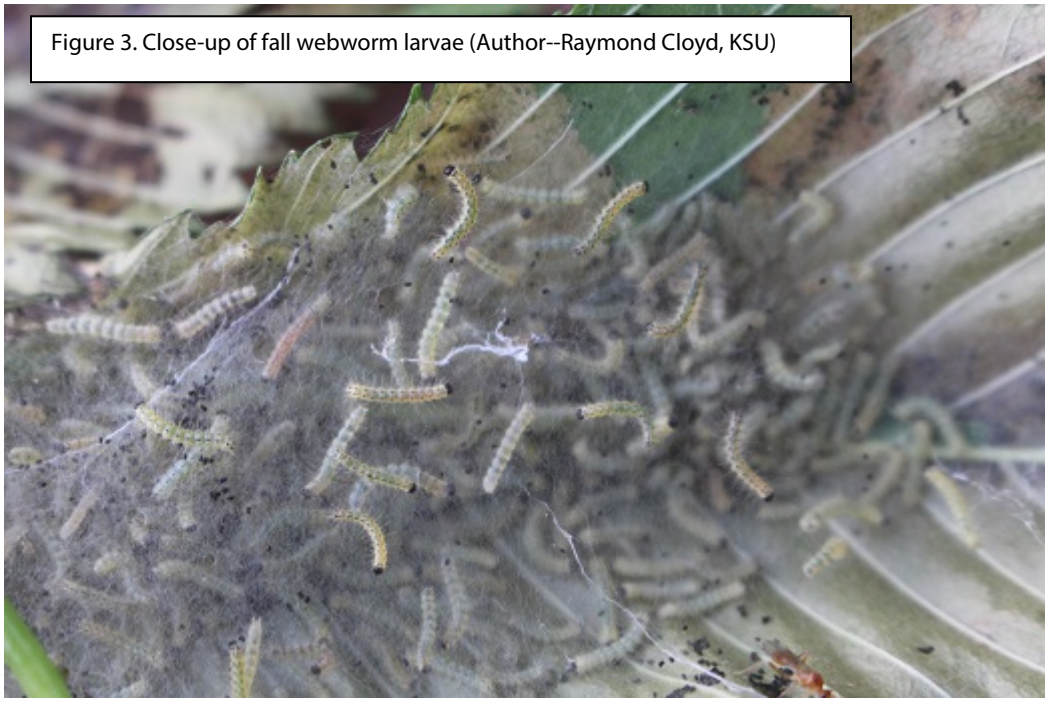

Figure 4. Young tree heavily-infested with fall webworm (Author--Raymond Cloyd, KSU)

Raymond Cloyd

Twospotted Spider Mites

The extreme heat and lack of moisture we are experiencing throughout most of Kansas is conducive to the development of the twospotted spider mite, *Tetranychus urticae* (Figure 1), horticultural plants in gardens and landscapes (Figures 2 and 3). Twospotted spider mite is a warm-weather mite with populations typically active from late spring through early fall. Summer temperatures allow by producing multiple generations throughout the season.

Figure 1. Close-up of twospotted spider mite adult (Author--Raymond Cloyd, KSU)

The management of twospotted spider mite populations involves maintaining plant health in order to avoid 'stress,' implementing sanitation practices, and/or using pesticides with miticidal activity (miticides/acaricides). First, prevent plants from experiencing moisture 'stress' by maintaining proper watering and mulching practices to reduce

Figure 2. Twospotted spider mite feeding damage on clematis leaf (Author--Raymond Cloyd, KSU)

Figure 3. Twospotted spider mite feeding damage on tomato leaves (Author--Raymond Cloyd, KSU)

potential problems with twospotted spider mite populations. For example, inadequate moisture or overfertilizing plants, particularly with nitrogen-based fertilizers, can enhance development and reproduction of twospotted spider mites. Furthermore, be sure to monitor for twospotted spider mite populations regularly by shaking branches or twigs onto a clipboard with a white sheet of paper, and looking for the mites crawling around (you can actually see the mites). You can crush the mites on the white sheet of paper to determine if they are a pest or not. For instance, plant-feeding spider mites typically leave a green streak when crushed whereas predatory mites leave a red streak. A quick and effective method of dealing with twospotted spider mite populations is applying a forceful water spray throughout the plant canopy at least twice per week during the season. Forceful water sprays will dislodge eggs and the motile life stages (larvae, nymphs, and adults). Be sure to direct forceful water sprays toward the leaf undersides where all life stages (eggs, nymphs, larvae, and adults) of the twospotted spider mite are located. The removal of plant debris and weeds eliminates alternative hosts and overwintering sites.

There are a number of pesticides with miticidal activity available to professionals for suppression of twospotted spider mite populations outdoors, including: abamectin (Avid), acequinocyl (Shuttle), bifenazate (Floramite), etoxazole (TetraSan), hexythiazox (Hexygon), potassium salts of fatty acids (M-Pede), and horticultural oils (petroleum, mineral, or neem-based). Homeowners do not have as many options in regards to miticides. The only "true miticide" still available is hexakis or fenbutatin-oxide, however, this active ingredient cannot be purchased by itself as the active ingredient is usually formulated with acephate (Orthene). However, homeowners can apply commercially available insecticidal soaps (potassium salts of fatty acids) and horticultural oils. Always read the label and apply miticides before twospotted spider mite populations are extensive and causing damage. Furthermore, be sure to rotate miticides with different modes of action to avoid twospotted spider mite populations developing resistance. If possible, try to target 'hot spots' or localized infestations of twospotted spider mites, which will reduce the potential for resistance developing. Be sure to thoroughly cover all plant parts with spray applications; especially when using pesticides with contact activity. Some miticides such as abamectin (Avid) and etoxazole (TetraSan) have translaminar activity, which means the material penetrates into leaf tissues and forms a reservoir of active

ingredient within the leaf. This provides residual activity even after spray residues have dried. Mites that feed on leaves will ingest a lethal concentration of the active ingredient and be killed.

It is important to note that many pesticides used to suppress other insect pests encountered on plants in landscapes and gardens may be harmful to the natural enemies of twospotted spider mite; consequently, resulting in an inadvertent increase in twospotted spider mite populations or secondary pest outbreaks.

Raymond Cloyd

HOME

Additional arthropod (insect and mite) pests to be aware of include:

* Bagworms
* Grasshoppers
* Aphids
* Chiggers
* Ticks
* Squash bug
* Lace bugs

If you have any questions or comments regarding any of these arthropod pests please contact your county based extension office or the Department of Entomology at Kansas State University (Manhattan, KS).

Raymond Cloyd

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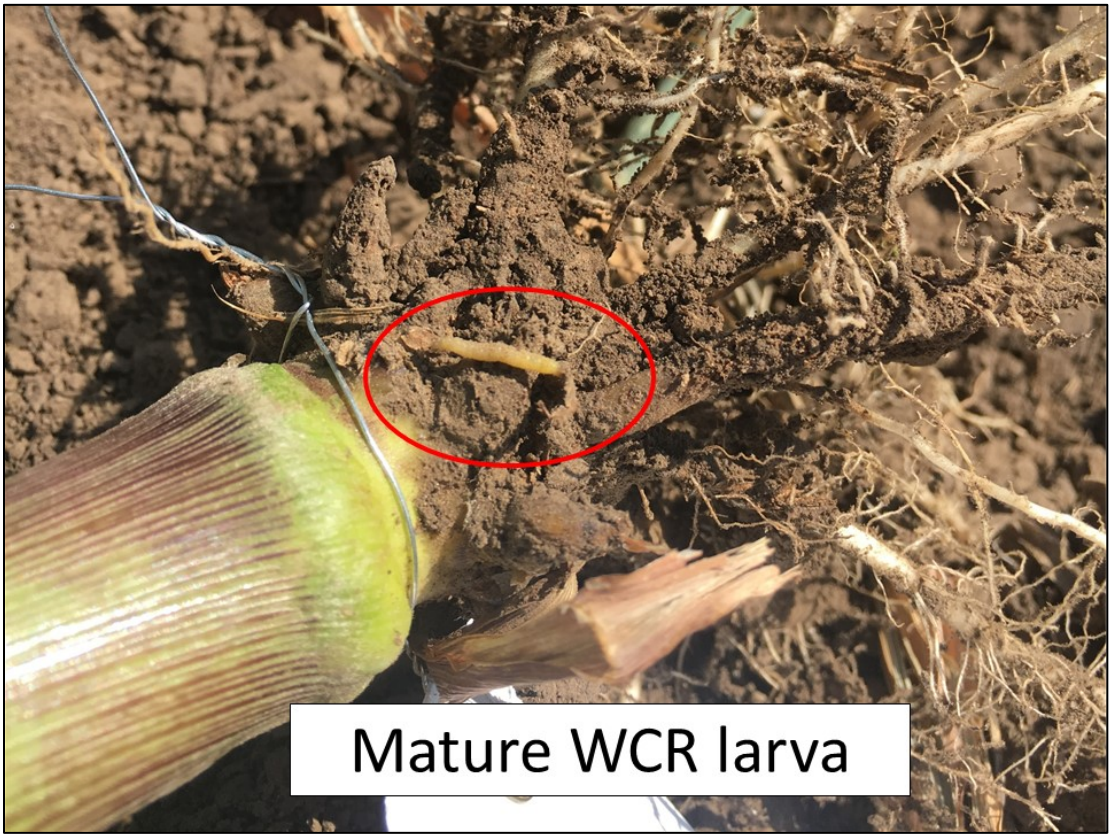
Corn Rootworms

The first western corn rootworm (WCR) adults were observed on 12 June from north central Kansas. There are still larvae feeding on roots but most are/have pupated and adults are emerging from soil.



None of the corn sampled in north central Kanas has tasseled or started silking yet. Thus, these adult WCRs are feeding on leaf tissue in the early morning or early evening and resting in shady places during the hottest part of the day.

A great example of WCR larval root pruning is seen in this picture compared to a non-infested root system.

Jeff Whitworth Holly Davis

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Sincerely,

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