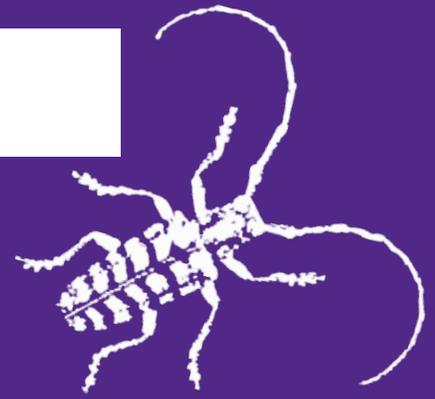


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Twospotted Spider Mites

The recent hot weather we are experiencing throughout Kansas is conducive to the development of the twospotted spider mite, *Tetranychus urticae* (Figure 1), resulting in extensive feeding damage to the leaves of horticultural plants in gardens and landscapes (Figures 2 and 3). Twospotted spider mite is a warm-weather mite with populations commonly active from late spring through early fall. Summer temperatures allow twospotted spider mite females to reproduce rapidly, which helps to overwhelm natural enemy (e.g. predators) populations by producing multiple generations throughout the season.

Fig 1. Close-up of twospotted spider mite adults.

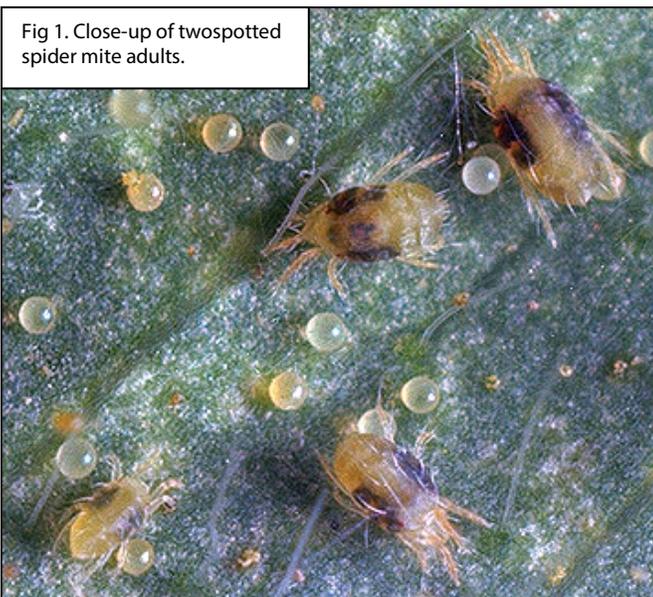


Fig 2. Twospotted spider mite feeding damage on euonymus bush leaves (Auth--Raymond Cloyd, KSU)





The management of twospotted spider mite populations involves maintaining plant health by avoiding '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, which will be helpful in minimizing potential problems with twospotted spider mite populations. For instance, inadequate moisture or over fertilizing plants, especially with water-soluble nitrogen-based fertilizers, can enhance development and reproduction of twospotted spider mites.

It is important to monitor for twospotted spider mite populations regularly by shaking plant parts (e.g. leaves, branches, or twigs) onto a clipboard with a white sheet of paper, and then look 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 example, plant-feeding spider mites typically leave a green streak when crushed whereas predatory mites leave a red streak.

A quick and effective method of managing 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 fact,

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the only “true miticide” still available is hexakis or fenbutatin-oxide, however, this active ingredient cannot be purchased alone as the active ingredient is typically formulated with another pesticide (insecticide) such as acephate (Orthene). However, homeowners can apply commercially available insecticidal soaps (potassium salts of fatty acids) or horticultural oils. Always read the label and apply miticides before twospotted spider mite populations are extensive and causing damage. Moreover, be sure to rotate miticides with different modes of action to avoid twospotted spider mite populations developing resistance. If possible, 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

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Soybean Pest Update:

Defoliators are still present in most soybean fields throughout north central and south central Kansas, especially in double cropped fields. However, infestation levels are still relatively low and growing conditions still seem to be really good.

Podworms (corn earworms/sorghum headworms) are just starting to move into soybeans from sorghum as the sorghum gets past the soft dough stage. Thus, as the soybeans are in the reproductive stages, with new succulent pods being added to the plants, these larvae, plus adult bean leaf beetles and possibly stink bugs, may start feeding on them, which can impact yield pretty quickly. Therefore, using a drop cloth and vigorously shaking the plants over it to count the bugs that fall on it is highly recommended to quantify the pests present, which is necessary to determine management options.

Also, the results of *Dectes* stem borer tunneling is becoming visible as scattered petioles start to die. Most of the larvae sampled were still relatively small (see pic), i.e., probably only 1/4 - 1/3 grown.



Jeff Whitworth

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Sorghum Pest Update

Much disparity in sorghum development exists throughout north central and south central Kansas, mostly due to weather-caused delays in planting. So, there are many different levels of “worms” infesting this sorghum from whorl stage to some that is already soft dough stage. Therefore, there are also different stages of “headworms” (see pic) from small 2nd instar larvae to almost mature 5th instar larvae. Sampling needs to be initiated as soon as plants start flowering to determine infestation levels.

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Additionally don't forget about chinch bugs (see pic). These don't usually affect plants as much under good growing conditions, which we have had for the most part, but there are still significant populations present which may affect plants if growing conditions become more stressful.



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Also, some fields throughout north central Kansas have significant infestations of cattail caterpillars (see pic). These are often confused with corn earworms or fall armyworms, but they are leaf feeders, not part of any "headworm" complex.



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Bug Joke of the Week

Q: What do you call a cricket that takes pictures?

A: A shutterbug

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Sincerely,

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