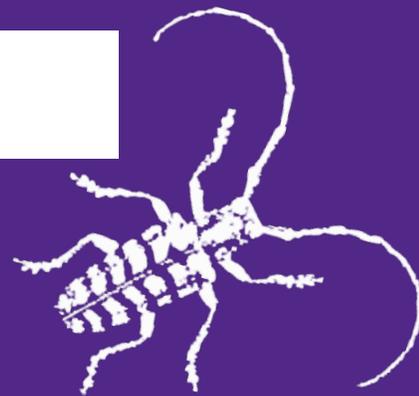


# Kansas State University Extension Entomology Newsletter

For Agribusinesses, Applicators, Consultants, Extension Personnel & Homeowners

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Lace Bugs: Nothing To Worry About?  
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Insect Diagnostic Laboratory Report

## LACE BUGS: NOTHING TO WORRY ABOUT?

Lace bugs are insects that are present throughout Kansas feeding on a variety of plant types; however, lace bugs are not really a major insect pest of garden and landscape plants because they typically do not inflict significant direct harm to plants. Nonetheless, abundant populations may reduce the aesthetic appearance of certain plant types. Lace bugs feed on a wide-range of trees and shrubs, including: azalea, basswood, cotoneaster, hawthorn, linden, oak, rhododendron, and sycamore. Herbaceous plants susceptible to lace bugs include: aster, chrysanthemum, and scabiosa. The major plant-feeding lace bug species include *Stephanitis* spp., and *Corythucha* spp. *Stephanitis* spp. are primarily pests of broad-leaved evergreens, whereas *Corythucha* spp., including the sycamore lace bug (*Corythucha ciliata*) are pests of deciduous trees and shrubs.

Lace bugs feed primarily on leaf undersides; using their piercing-sucking mouthparts to withdraw plant sap from individual leaf cells. Their feeding cause's leaves to appear stippled and/or bleached (Figure 1). Lace bugs feed similar to the twospotted spider mite, *Tetranychus urticae*, with both withdrawing chlorophyll (green pigment) from plant cells. The damage associated with lace bugs is similar to that caused by spider mites and leafhoppers; however, lace bugs leave black, tar-spot-like droplets of excrement ("Lace Bug Poop") on leaf



Fig 1: Lace bug damage on azalea plant. Note the stippled and/or bleached appearance of the leaves.



Fig 2: Black, tar-spot-like droplets of lace bug excrement.

Adult lace bugs are very distinguishable and quite attractive. The adults possess lacy, clear, shiny wings that are held flat over the body (Figure 3). They are 1/8 to 1/4 inch (3 to 8 mm) in length, and move sideways when disturbed. Female lace bugs lay between 20 to 50 eggs during their lifespan underneath leaves. The eggs are usually positioned

undersides (Figure 2). The presence of black excrement distinguishes lace bugs from spider mites and/or leafhoppers. Excessive lace bug populations and extensive feeding may reduce plant vigor; however, any direct plant effects are dependent on plant age and size (especially young or newly-transplanted trees and shrubs).

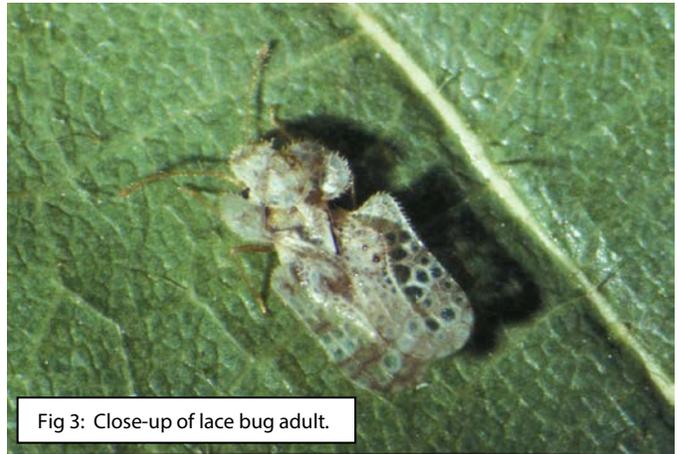


Fig 3: Close-up of lace bug adult.



Fig 4: Lace bug nymphs on leaf underside.

alongside leaf veins and are black and shaped like a wine flask. Shiny, black nymphs with spines around the periphery of the body emerge from the eggs (Figure 4). Nymphs undergo five instar stages before reaching adulthood. Shed skins on leaf undersides are evidence of nymphs that have transformed into adults. The life cycle (egg to adult) generally takes about 30 days to complete. There may be up to three generations per year although development is contingent on temperature. *Stephanitis* spp. overwinters as eggs that are cemented onto leaves and *Corythucha* spp. overwinters as adults in bark crevices and branch

crotches. Adult activity commences in the spring when leaves unfold.

Lace bugs are more abundant on plants such as rhododendron and azalea that are exposed to full sun rather than on plants in shady locations. The management of lace bugs is generally not warranted because lace bugs are susceptible to many natural enemies including predators; such as, green lacewings, plant bugs, assassin bugs, minute pirate bugs, and spiders. A forceful water spray may be effective in quickly dislodging lace bugs from plants. However, if necessary, a number of contact insecticides registered for use against lace bugs can be applied. Be sure to read the label to make sure lace bugs are listed. Be sure to thoroughly cover leaf undersides to maximize the effectiveness of spray applications because the leaf undersides are where all the life stages (eggs, nymphs, and adults) of lace bugs are located.

If you have any questions regarding the management of lace bugs contact your county horticultural agent, or university-based or state extension entomologist.

Raymond Cloyd

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## Twospotted Spider Mites: "Hot and Ready"



The extreme heat we are experiencing throughout Kansas and the fact that plants are "stressed" due to a lack of moisture means you need to be on the look-out for the twospotted spider mite, *Tetranychus urticae* (Figures 1 and 2). Twospotted spider mite is a warm-weather mite because, in general, populations are active from late spring through early fall. Summer temperatures allow twospotted spider mites to reproduce rapidly, which helps them to overwhelm natural enemy populations. This article discusses the plant protection strategies that homeowners and professionals can implement in order to alleviate or avoid problems with twospotted spider mite populations.



Twospotted spider mite management involves maintaining plant health, implementing sanitation practices, and/or using pesticides with miticidal activity (miticides/acaricides). First of all, avoid exposing plants to any type of "stress" by maintaining proper watering, fertilizer, and mulching practices so as to reduce 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. Also, be sure to monitor for twospotted spider mite populations regularly by shaking branches or twigs onto a white sheet of paper, and looking for the mites crawling around. 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 method of dealing with

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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 many 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 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). Always read the label and apply miticides before twospotted spider mite populations are extensive and causing aesthetic damage. Furthermore, be sure to rotate miticides with different modes of action in order 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 that 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 Update

Soybeans seem to be growing well throughout north central Kansas. Not too many pests have been noted. However, there seem to be some spider mite populations building throughout the south central and north central parts of the state. These need to be monitored, especially if adequate moisture is not forthcoming. Mite populations can expand very quickly and really add stress to plants that are already moisture stressed.



Stippling caused by spider mite feeding



Also, blister beetles are starting to swarm, especially in alfalfa and soybean fields. This swarming behavior is primarily for mating purposes and may involve anywhere from a few hundred to thousands of individuals.

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They may feed a little while swarming and actually cause plant loss, but only in small areas where the swarming occurs. Thus, treatment is rarely warranted.



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Jeff Whitworth

Holly Schwarting

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## Alfalfa Update

Potato leafhoppers continue to be very common in many uncut alfalfa fields. In one field, which was actually flowering, there were more than 40 potato leafhoppers/20 sweeps which exceeds the treatments threshold. Please see the Alfalfa Insect Management Guide for more information on treatment thresholds: <http://www.bookstore.ksre.ksu.edu/pubs/mf809.pdf>.

This field has serious 'hopper burn' already, but timely swathing should alleviate leafhopper pressure.

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Another field that was swathed about 3 weeks ago, and at that time had about the same level of potato leafhopper infestation as the above pictured field, has only a trace level of potato leafhoppers now (1 potato leafhopper/20 sweeps).



Jeff Whitworth

Holly Schwarting

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## Insect Diagnostic Laboratory Report

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

Eva Zurek

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