Kansas State University Extension Entomology Newsletter

For Agribusinesses, Applicators, Consultants, Extension Personnel & Homeowners

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News Corner

Diagnostic Corner: Kansas Insect ID and Pest Solutions

NEWS CORNER

Japanese Beetle Adults

Japanese beetle, *Popilla japonica*, adults are starting to appear throughout Kansas. Japanese beetle adults feed on many plants in landscapes and gardens, including: roses (*Rosa* spp), littleleaf linden (*Tilia cordata*), oak (*Quercus* spp.), Virginia creeper (*Parthenocissus quinquefolia*), crabapple (*Malus* spp.), grape (*Vitis vinifera*), and common garden canna (*Canna* x *generalis*). The plant protection strategies to manage Japanese beetle adult populations are limited and have been for many years with the primary strategy involving applying/spraying contact insecticides to kill the adults.

Figure 1. Japanese beetle adults feeding on leaf (Raymond Cloyd).

Japanese beetle adults are 3/8 to 1/2 of an inch long, metallic green with coppery brown wing covers. There are approximately 14 white tufts of hair along the edge of the abdomen (Figure 1). Japanese beetle adults live up to 45 days feeding on plants over a four to six week period. Adults feed on many horticultural plants including:

trees, shrubs, vines, herbaceous annual and perennials, vegetables, fruits, and grapes (Figure 2). Adult Japanese beetles emit aggregation pheromones that attract males and females to the same feeding location. Adults can fly up to five miles to locate a host plant; however, adults tend to only fly short distances to feed and for females to lay eggs.

Figure 2. Japanese beetle adults feeding on grape leaf (Raymond Cloyd).

Japanese beetle adults feed through the upper leaf surface (epidermis) and leaf center (mesophyll), leaving the lower epidermis intact. Adults, in general, feed on tissue between the leaf veins, resulting in leaves appearing lacelike or skeletonized (Figures 3 and 4). Adults are active on warm days, feeding on plants exposed to full sun, which may be why roses are a susceptible host plant because roses require at least six hours of direct sunlight to flower. Japanese beetle adults begin feeding at the top of plants, migrating downward as food sources are depleted. Japanese beetle adults also feed on flowers (Figure 5), chewing holes in flower buds; thus preventing flowers from opening or causing petals to fall prematurely.

Managing Japanese beetle adult populations involves implementing several plant protection strategies including: cultural, physical, and applying insecticides. Cultural control includes proper irrigation, fertility, mulching, and pruning, which may decrease Japanese beetle adult feeding. In addition, removing weeds attractive to Japanese beetle adults such as smartweed, *Polygonum* spp., may help alleviate infestations. Physical control such as hand removing or collecting Japanese beetle adults before populations are

Figure 3. Japanese beetle adult feeding damage on common garden canna leaf (Raymond Cloyd).

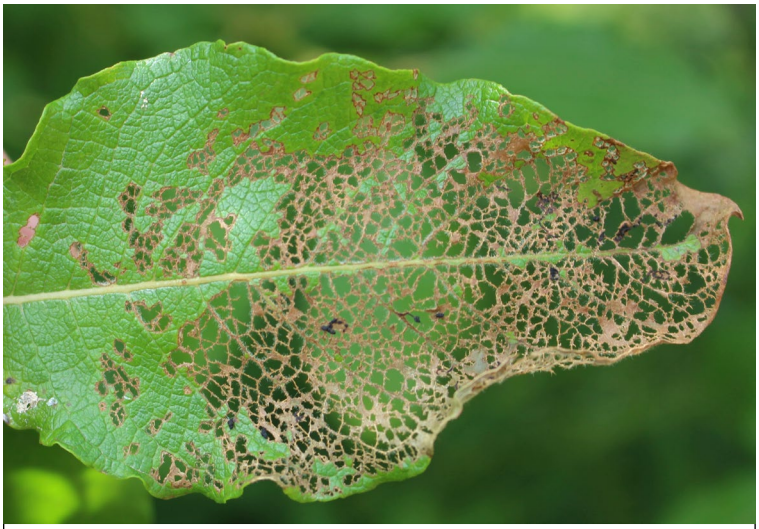

Figure 4. Japanese beetle adult feeding damage-note the skeletonized appearance of the leaf (Raymond Cloyd).

extensive may minimize plant damage. The best time to remove or collect adults is in the morning when ambient air temperatures are typically cooler. Adults are collected by placing a wide mouthed jar or bucket containing rubbing alcohol (70% isopropyl alcohol) or soapy water underneath each adult, and then touching them. Adults that are disturbed fold their legs perpendicular to the body, fall into the liquid, and are killed. The procedure may reduce plant damage when conducted daily or every other day, for up to four weeks.

Figure 5. Japanese beetle adult feeding on rose flower (Raymond Cloyd).

The use of Japanese beetle traps (Figure 6) in urban settings (e.g. landscapes or gardens) is generally not recommended because the floral lure and synthetically derived sex pheromone attract more adults into an area than would occur normally. In addition, Japanese beetle adults may feed on plants before reaching the traps, which can lead to plant damage.

Spray applications of contact insecticides will kill Japanese beetle adults. However, repeat applications are required, especially when high numbers of adults are present. Contact your county extension agent for a list of insecticides recommended to manage Japanese beetle adult populations. It should be noted that most to nearly all formulations of Sevin® commercially available to homeowners no longer contain carbaryl as the active ingredient.

Be aware that most insecticides may directly harm many beneficial insects (e.g. parasitoids and predators) and repeated use can lead to outbreaks of other pests, including the twospotted spider mite, *Tetranychus urticae*. In addition, most insecticides are directly harmful to pollinators including honey bees and bumble bees. Therefore, apply insecticides in the early morning or late evening when bees are less active.

Figure 6. Japanese beetle adult trap (Raymond Cloyd).

For more information on how to manage Japanese beetle adult populations refer to the following extension publication:

Japanese Beetle: Insect Pest of Horticultural Plants and Turfgrass
(MF3488 March 2020)
https://www.bookstore.ksre.ksu.edu/pubs/MF3488.pdf

Raymond Cloyd – Horticultural Entomology/Plant Protection

HOME

Potato Leafhoppers

Potato leafhoppers (PLH) were 1st noticed in north central Kansas approximately 2-3 weeks ago. This is an annual occurrence, and seems like, it kind of signals the beginning of summer, at least from an entomological standpoint. PLH (Figure 1) are mostly adults at the present time as that is the winged migratory stage. Almost immediately upon arrival, these migrating adults start depositing eggs in alfalfa stems, and then 7-10 days later, the small nymphs (Figure 2) emerge and start feeding.

PLH feed by sucking the juice from the alfalfa plant. This can be problematic in 2 ways. 1) Removing fluid from the plant, especially under less-than-ideal growing conditions, which may stress the plant if the PLH populations are dense. 2) But also, at the same time & feeding site, the PLH inject a toxin that turns the leaves yellow and may cause the whole stem and plant to lose color, dry down, and in dry years, often the whole plant may turn yellow, wilt and lose vigor (Figure 3).

Figure 1. PLH adult.

Figure 2. PLH nymph.

Figure 3. Hopper burn on alfalfa leaves.

For management recommendations please refer to the 2024 Alfalfa Insect Management Guide (https://bookstore.ksre.ksu.edu/download/alfalfa-insect-pest-management-2024_MF809). Generally, no insecticide application is recommended if fields are within 7-14 days of swathing. Cutting and removal of the hay should solve the problem. Then, after 7 days, start monitoring the field again for the return of PLH, which has been rare after swathing.

Amie Norton – Nanotechnology Entomology
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HOME

DIAGNOSTIC CORNER: KANSAS INSECT ID AND PEST SOLUTIONS

Chinch Bugs vs. False Chinch Bugs

With the likelihood of chinch bug activity in central Kansas soon, this is a good time to discuss the differences between chinch bugs (*Blissus leucopterus)* and false chinch bugs (*Nysius sp.*). In order to make proper management decisions, knowing how to correctly identify these insects is critical.

Adults

Adult chinch bugs are 3-4mm long bugs with black bodies and white wings that are kept folded over their backs. Two dark, triangular markings are present near the center of the wings creating a distinctive "X" mark (Figure 1).

Adult false chinch bugs are very similar in appearance, but smaller. Instead of having black bodies, false chinch bugs are brownish-gray with clear wings that lack a distinct "X" mark (Figure 2).

Figure 1. Adult chinch bug.

Figure 2. Adult false chinch bug. Note the lack of a dark "X".

Immature Bugs

Immature chinch bugs are bright red after hatching, darkening to black as they go through a series of 5 molts. A distinct white band will be visible across the nymphs' bodies until the wing buds become large enough to obscure it (Figure 3).

Figure 3. Immature chinch bugs.

Figure 4. Immature false chinch bugs.

Immature false chinch bugs are grayish-brown, never bright red, and lack the white band across their bodies (Figure 4).

Damage

Chinch bugs and false chinch bugs are true bugs in the order Hemiptera which means they both have piercing-sucking mouthparts that they use to puncture plant tissue to feed on plant juices. However, the symptoms of feeding appear differently for these two bugs. When chinch bugs feed, digestive enzymes are injected into the plant tissue causing it to break down and discolor (Figure 5). Reddish spots often are present at chinch bug feeding sites. Heavy chinch bug feeding can also cause stunting, wilting and necrotic lesions on plants. False chinch bug feeding, on the other hand, usually has little effect on plants, but extreme numbers of the bugs on a plant can cause wilting and death (Figure 6).

Figure 5. Discoloration caused by chinch bug feeding (Photo Jeff Whitworth).

Figure 6. False chinch bug feeding damage to sorghum.

Additional details on life history and management recommendations for these two pests can be found in the following Kansas Crop Pest publications.

- Chinch Bug: https://bookstore.ksre.ksu.edu/pubs/MF3107.pdf
- False Chinch ug: https://bookstore.ksre.ksu.edu/pubs/MF3047.pdf

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HOME

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