Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel

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VEIN POCKET GALL

We are receiving inquiries regarding gall-like growth on the underside of pin oak (*Quercus palustris*) leaves. This is vein pocket gall caused by the gall-midge, *Macrodiplosis quercusoroca*. Galls are elongated, pocket-like swellings on the lateral veins and mid-rib of pin oak leaves. The gall-making organism is a small-fly called a midge (Family: Cecidomyiidae). Adults are 3.0 mm long and resemble small mosquitoes. Female midges attack newly unfolding leaves just before they flatten out. Following egg hatch, the small larvae or maggots migrate to the lateral and mid-veins and begin feeding. After a few days, tissue forms and surrounds each larva. Fully-grown larva is white and approximately 2.0 mm in length. Development is completed by mid-spring to early summer. Larva eventually emerges from the gall, fall to the ground, and overwinter or enter diapause (a physiological state of arrested development) until next spring. There is one generation per year. There is no control for this gall. Just live with it and enjoy the pleasures of one of nature's most fascinating insect-plant interactions ☺.

Raymond Cloyd

Red Milkweed Beetle

The red milkweed beetle, *Tetraopes tetrophthalmus* is present on common milkweed (*Asclepias syriaca*) flowers with either individual adults or both females and males mating. The adult is 7/16 to 9/16 inches in length, and red in color with distinct black spots on the thorax and abdomen. Adults are active from June through September. Females lay eggs into the stem near the base of host plants. Larvae feed on roots and adults

feed on leaves and flowers. This insect is very host specific feeding only on common milkweed. Furthermore, because the host plant that both the larvae and adults feed upon is toxic, they are unpalatable to predators.

Raymond Cloyd

JAPANESE BEETLES ARE HERE!

Japanese beetle adults are out in full-force feeding on one of their favorite host plants…roses. The means of dealing with the adult stage of this insect pest are limited, however, and have been for many years, primarily relying on the use of insecticides. Japanese beetle, *Popillia japonica* is native to Japan and was first reported in the United States in 1916 in the state of New Jersey. Since then, it has spread throughout the country from Maine to Georgia with permanent establishment in nearly every state east of the Mississippi River and several states westward. Japanese beetles are established in eastern portions of Kansas and are slowly moving toward the west. The adult is one of the most destructive insect pests of horticultural plants in both landscapes and gardens. The larvae or grub stage is a major turfgrass pest in home lawns, commercial settings, and golf courses.

Adult Japanese beetles emerge from the soil and live from 30 to 45 days feeding on plants over a four- to six-week period. They feed on many ornamental plants including trees, shrubs, vines, herbaceous annual and perennials, and of course—roses. Placement of plants in the landscape and volatiles emitted by plants are factors that influence adult acceptance for feeding. Japanese beetle adults produce aggregation pheromones that attract individuals (both males and females) to the same feeding location. Adults may fly up to five miles to locate a feeding site; however, they tend to fly only short distances to feeding and egg-laying sites.

Japanese beetle adults feed through the upper leaf surface (epidermis) and leaf center (mesophyll), leaving the lower epidermis intact. They usually avoid feeding on tissue between leaf veins, resulting in leaves appearing lacelike or skeletonized. Adults are most active during warm days, feeding on plants that are exposed to sunlight throughout the day. This is likely why roses, which require at least six hours of direct sunlight, are a susceptible host plant. They also tend to initiate feeding at the top of plants, migrating downward after depleting food sources. Japanese beetle adults congregate in large numbers on rose flowers. Although adult beetles feed primarily on flowers, they will also feed on leaves. Japanese beetle adults chew holes in flower buds, which prevent flowers from opening or cause petals to fall prematurely. In addition, adults will consume entire rose petals, and feed on the pollen of fully-opened flowers.

The management of Japanese beetle adults involves implementing a variety of cultural, physical, and chemical strategies. Cultural strategies are associated with maintaining healthy roses through proper irrigation, fertility, mulching, and pruning, which are important in minimizing any type of "stress; thus possibly decreasing susceptibility. Also, removing weeds such as smartweed (*Polygonum* spp.) that are attractive to Japanese beetle adults will at least alleviate infestations. Physical strategies primarily involve hand-picking or collecting Japanese beetle adults from roses prior to populations becoming extensive. The appropriate time to hand-pick or collect adult beetles is in the morning when ambient air temperatures are typically "cooler." Adults can be easily 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. When adults are disturbed, they will fold their legs perpendicular to the body, and fall into the

liquid and be killed. This procedure, when conducted daily or every-other-day, particularly after adults emerge, may substantially reduce plant damage. The use of Japanese beetle traps is not recommended since the floral lure and synthetically-derived sex pheromone tend to attract more adult beetles into an area than would "normally" occur. In addition, adult beetles may feed on roses before reaching the traps, which increases potential damage.

Chemical strategies include spraying contact insecticides to kill Japanese beetle adults. Repeat applications will be required; especially when populations are excessive. Furthermore, thorough coverage of all plant parts will increase effectiveness of the application. The insecticide carbaryl (Sevin) and several pyrethroid-based insecticides including those containing bifenthrin or cyfluthrin as the active ingredient may be used to suppress populations of Japanese beetle adults. However, since most of these types of insecticides are harmful to many natural enemies (parasitoids and predators) their continual use may lead to secondary pest outbreaks (such as twospotted spider mite, *Tetranychus urticae*). In addition, these insecticides are harmful to pollinators (honey bees and bumble bees). Therefore, applications should be conducted in the early morning or late evening when pollinators are less active. In general, systemic insecticides, are less effective because Japanese beetle adults have to feed on leaves and consume lethal concentrations of the active ingredient. If extensive populations are present then this may still result in damage to rose plants.

The battle against Japanese beetle adults requires patience, persistence, and diligence in order to prevent adults from causing substantial damage to roses…and still make growing roses a favorite past-time.

For more information on Japanese beetle and other pests of roses consult the following publication:

> Compendium of Rose Diseases and Pests (second edition). 2007. APS Press. The American Phytopathological Society, St. Paul, MN.

Raymond Cloyd

Git-R-Dun – Read on

No. Not Daniel Lawrence Whitney (aka: Larry the Cable Guy), but *Thyridopteryx ephemeraformis* (aka: **bagworms**). In the May 23 Kansas Insect Newsletter #8, mention was made that in Manhattan, the first bagworm hatch was noted on May 17. It was also stated that bagworms will nibble and grow unseen. Eventually they draw attention to themselves when cedars and junipers take on a burnt appearance. Now, 6 weeks later, this has come to pass. Three incidences have occurred along my daily drive routes.

Route 1: When collecting blacklight traps, I pass by two different eastern red cedar treelines. Treeline #1 is in obvious trouble. Upon a closer look, many bagworms (inset: clear in the foreground and discernable in the background) account for the "burnt appearance".

Treeline #2 looks quite healthy ---- apparently no bagworms. However, appearances from a distance can be misleading. As seen, bagworms are present. It would appear that #1 might be a situation where bagworm populations have built up over several seasons, whereas in the second instance a small 2013 population is on the increase. In either situation, immediate insecticide applications would be beneficial: #1 to eliminate further damage (trees should recover by Fall and continue green-up and fill out into next year); and #2 eliminate the current small population preventing an eventual situation similar to #1. **In this instance**, because these are right-of-way issues, it is questionable whether treatments will be forthcoming.

Route 2: This is a residential landscape incidence. It is in an out-of-sight on the other-side-of-the-fence situation. The #1 center image shows the source of current-season bagworms: the previous season's bags. Whereas spraying the previously seen treeline situations look to be monumental tasks, treating small landscape plantings such as this are more manageable. A single and thorough spray would easily eliminate the small bagworms.

The question might be asked, "What don't I just handpick the individual bags?" Currently, this would be extremely time consuming and difficult. To the right are the bags picked from a **single** small clipping. As can be seen, many of the bags were quite small. This was done in the comfort of the indoors. In the outdoor heat and high humidity, one's patience would quickly wear thin.

To further illustrate the importance of collecting <u>all bags</u>, last year at this same site, I did what I considered to be a thorough handpicking of #2. In the "after image", I saw that I had failed to remove all of the bags. I did not return to accomplish a complete bag removal.

Right now, there are quite a few bagworms which came from the bags that I failed to collect/eliminate last Fall. However, at least their numbers are low enough as to not have yet caused noticeable damage. Spray treatments would be very beneficial: #1 to eliminate the bagworms and allow for recovery; and #2 to eliminate the current small population preventing an eventual situation similar to #1. **<u>In these instances</u>**, the homeowner will be alerted, and hopefully spray treatments will immediately be applied.

<u>Route 3</u>: This is an example of the impact that the uncontrolled spread of bagworm infestations can have in the landscape. Images from last year serve to illustrate. Most of the junipers to the left were not salvageable

and thus removed (a single juniper remaining), while those to the right looked “good”.

However, currently, the junipers to the right are candidates for eventual removal.

Portion A has been decimated by the bagworms now concentrated in Portion B.

While Portions C & D currently are "clean", it is inevitable that bagworms will eventually move in and complete the total destruction. **In this instance**, these continually ignored bagworms will have completely destroyed these landscape plantings.

In the Offing --- Tobacco Budworms, Grasshoppers

Our geraniums were planted a bit late this Spring and so are a bit behind in size. Tobacco budworms are an annual presence, and some foliar nibbling is currently underway. It may not be tobacco budworms (yet) as it is early (they migrate into Kansas from overwintering areas south of Kansas) and I did not find any larvae or see their usual frass deposits on the leaves. So my thought is possibly small grasshoppers.


Case in point: I have a "weed patch" which helps to prevent my backyard from washing out by rain water runoff from the hill behind my house. While sweep netting the Queen Anne's lace patch (and other greenery), I collected grasshopper nymphs. Being wingless, they are confined to a small area with an adequate food source. It might be that grasshopper nymphs are responsible for the nibbles/holes on the geraniums even though I did not see them. Grasshopper control at this time is not difficult because (as already mentioned) they are wingless (relatively immobile and thus confined to small/localized areas that can easily be sprayed) and quite susceptible to insecticides which can easily penetrate their "soft" exoskeleton.


And maybe thrips?

I have noted some occasional patches of discoloration on marigold foliage. My initial thought was stippling by spider mites. However, upon a closer look, the damage was more splotchy/silvery in appearance – typical thrips damage.

There is no shortage of insecticidal products for thrips control. According to the NPIRS, there are 1,134 registered for use in Kansas, against thrips. Homeowners need to shop-the-shelves at local retail outlets for product availability. In my instance, I will use the Neem product which I use for spider mites. Because it (along with horticultural soaps) is non-persistent, a follow-up treatment will be required. That is, while adults may be out-and-about and exposed to the treatment, eggs and nymphs escape treatment because they are found in more secluded/protected sites of the plant, as well as the transitional stage being in the soil. Thus there eventually will be additional adults to eliminate. Products containing spinosad are another "environmentally friendly" alternative with the added benefit of possessing a longer residual activity.

Bob Bauernfeind

Insect Diagnostic Laboratory Report

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

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