

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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Rose Aphid

Roses grown in the Midwest are susceptible to attack from a variety of aphid species; however, the predominant aphid that feeds on roses cultivated outdoors is the rose aphid, *Macrosiphum rosae*. The rose aphid has a wide distribution, feeding on roses throughout the USA. Rose aphids are soft-bodied, pear-shaped insects, approximately 0.63 cm or 1/4 inch in length. They can vary in color from green to pink to red. Rose aphids have two tubes (called cornicles) that protrude out from the end of abdomen, which is where alarm pheromones are emitted. Rose aphids overwinter as eggs on rose canes.

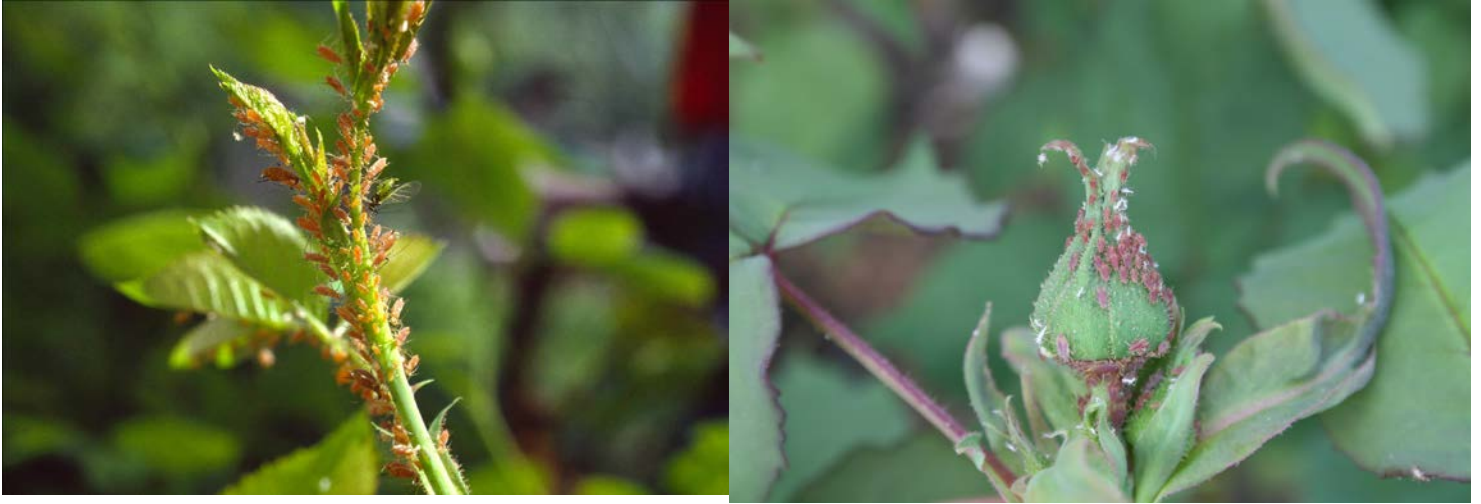
Rose aphids generally initiate feeding on roses in early spring as the new flush of growth emerges. They feed on plant fluids within the phloem sieve tubes (food-conducting tissues) with their piercing-sucking mouthparts. Similar to other aphid species, rose aphids tend to congregate or cluster in large numbers feeding on the terminal growth including leaves and stems, and developing flower buds, and on leaf undersides. Their feeding causes leaves to curl downward and deforms flower buds, which may result in flower buds aborting or falling off prematurely before opening. In addition, aphids produce honeydew, which is a clear sticky liquid exudate emitted during feeding. Honeydew attracts ants, wasps, hornets, and serves as a growing medium for black sooty mold fungi. Rose aphids do not normally cause direct harm to roses unless they are present in excessive numbers, in which case, they may kill buds or reduce flower size. Just like other aphid species, rose aphids have a very “high” reproductive capacity, which allows populations to increase dramatically during the season. Also, if rose aphid populations reach “high” levels and the quality of infested rose plants declines (as a food source), winged forms of adults will develop allowing them to move from plant-to-plant.

Rose aphids are susceptible to a variety of natural enemies including parasitic wasps or parasitoids in the genus *Aphidius* and predators such as ladybird beetles, green lacewings, and syrphid (or hover) flies. These may provide natural regulation depending on the number of rose aphids present. However, it is also important to control ants because they tend (feeding on the honeydew produced by rose aphids) and protect aphids from natural enemies. If ants are present, then this may result in insufficient regulation by natural enemies. A forceful spray of water, applied routinely (twice per week), will quickly remove aphids (and mites) from rose plants without causing long-term harm to natural enemies. This technique is effective in controlling or regulating rose aphid populations as long as it doesn't promote diseases such as black spot (*Diplocarpon rosae*). Contact or systemic insecticides may be effective in preventing or regulating rose aphid populations if used properly. Multiple applications and thorough coverage of all plant parts—especially the new growth—will be required in order to effectively regulate populations of rose aphids with contact insecticides. There are many products commercially available for control or regulation of rose aphid populations including ‘selective’ insecticides: insecticidal soap (potassium salts of fatty acids), horticultural oils (petroleum and/or neem-based), and

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pyrethrins. Systemic insecticides that are applied to the soil/growing medium must be used early to ensure that the active ingredient is present in the new growth just as rose aphids start feeding. There are a number of products commercially available with the following active ingredients: imidacloprid, dinotefuran, thiamethoxam, clothianidin, acephate, and disulfoton. Be sure to thoroughly read the label of all insecticides prior to making an application. For more information on how to effectively deal with rose aphids in your garden or landscape contact your state horticultural agent or the Department of Entomology at Kansas State University.



Raymond Cloyd

Brownheaded Ash Sawfly

We received an inquiry last week (May 13-17, 2013) regarding several green ash (*Fraxinus pennsylvanica*) trees on 4th Street near the Senior Center in Manhattan, KS being fed upon by populations of the brownheaded ash sawfly, *Tomostethus multinctus*, which is a sporadic, early season, defoliating insect pest. The populations were feeding extensively causing noticeable foliar damage and producing lots of frass (sawfly poop).

Larvae of the brownheaded ash sawfly are 15 to 20 mm long and yellow-green in color with white and green stripes extending the length of the abdomen (back). They possess a brown head, and have prolegs on every abdominal segment with no crochets or hairs on the feet, which distinguishes them from caterpillars. Brownheaded ash sawfly larvae feed primarily on ash trees (green and white). Adults are wasp-like in appearance. Brownheaded ash sawfly pupates in the spring, with adults emerging and females laying eggs inside leaves. Eggs hatch into larvae that congregate in groups and feed from May through June. The larvae create shot-hole or pin-hole damage on leaves when young, but as they increase in size, the larvae consume entire leaves, especially terminal leaves (except the main veins), resulting in almost complete defoliation. By June, the larvae are full-grown and shed a paper-like skin that is attached to the leaf. They then migrate toward the base of the tree, enter the soil, and form a protective cocoon. Brownheaded ash sawfly overwinters as a full-grown larvae or pre-pupae within silken-lined cells in the top portion of the soil at the base of previously infested trees. High numbers may congregate at the base of trees. There is one generation per year.

In general, it is not necessary to spray an insecticide unless populations of brownheaded ash sawfly larvae are excessive and causing substantial damage to ash trees. Rainfall will quickly remove larvae from trees. In addition, the larvae can be manually removed via hand-picking. Insecticides may be applied that contain the following active ingredients: acephate, bifenthrin, carbaryl, cyfluthrin, lambda-cyhalothrin, permethrin, petroleum oil (horticultural oil), potassium salts of fatty acids (insecticidal soap), and pyrethrins. These are all contact insecticides so thorough coverage of the tree canopy is important. However, be sure to determine the numbers of larvae present and if sufficient damage is occurring to justify the application of an insecticide.

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Raymond Cloyd

Cherry Fruit Fly

It is that time of year to be cognizant of the cherry fruit fly, *Rhagoletis cingulata*, which attacks both sour and sweet cherries. They may also feed on pear and plum. The larvae or maggots can substantially impact the quality and marketability of fruit when feeding in the flesh near the seeds resulting in distorted or malformed fruits. Adults are black in color with yellow heads, and are smaller than a typical house fly. They possess wings marked with a series of white cross bands. Larvae are white, legless, somewhat tapered at one end, and

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approximately 7.0 mm in length when full-grown. Cherry fruit fly overwinters as a pupa in the soil. From late spring through mid-summer, depending on the soil moisture content, adults emerge and females lay eggs in the fruit. A single female is capable of depositing over 300 eggs. The egg-laying punctures produced by the females at the bottom of the fruit may cause blemishes. The larvae feed within the fruit for two weeks before completing development. Afterward, when full-grown, the larva exits the fruit and falls to the ground, and then transitions into a pupa. There is one generation per year.

The keys to managing cherry fruit fly are cultivation, which may kill the pupae or expose them to birds, and timing of insecticide applications. Although insecticides may be used to manage cherry fruit fly adults, timing is critical as insecticides must be applied when adults emerge and before the females lay eggs in the fruit. Two to four applications at seven to 14-day intervals may be required. Traps (yellow sticky cards) positioned in trees in late May can be used to capture adults emerging from the soil, which will help time insecticide applications accordingly. For more information on how to effectively deal with cherry fruit fly contact your state horticultural agent or the Department of Entomology at Kansas State University.



Raymond Cloyd

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A View From Afar

From a distance, things look peaceful and perfect. A person with expertise in site assessment was able to state that at one time, this wooded area was actually a source of timber. Despite the dense undercover, he was able to discern an area that once served as a skid trail. Apparently abandoned long ago and left untended, this wood lot has achieved its current state which serves as an ideal location for blacklight trapping.



In order to access the blacklight trap “back in the woods”, I pass beneath a low hanging branch (inset - white circle) which I use as a reference to the initiation of lace bug activities.

Lace bug activity has begun. On several leaves, individual lace bugs have deposited egg masses.



But of greater interest were leaves with holes. Thinking it to be a bit early for caterpillar species associated with oak, I was especially anxious to see what “chewers” were present.



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The culprits? Sawfly larvae. Often times, people want to know what specific insect (in this instance, sawfly) they are encountering. What is its common name?

In the realm of the insect world, actually, just a small percentage of insect species have common names. And the “bible” for many North American entomologists is the Common Names of Insects and Related Organisms, which is published by our parent organization, The Entomological Society of America. In it, 29 sawfly species in the LARGEST family of sawflies (Family: Tenthredinidae – nearly 8,000 North American species) have an “official” common name.



This sawfly larva (on oak) does not have an “official” common name. Rather, it is simply referred to as an Oak Sawfly Larva. Or, if interested, its scientific name is *Periclista lineolata*.

Are oak sawfly larvae something which should be cause for concern? View the tree (again) in this instance. It is large/mature. Who knows what it has withstood (in its past) and yet has attained its current stage of development. The encountered foliar feeding should be of minimal concern. However, it depends upon a person’s acceptance level as to what is or is not acceptable. That is, for some individuals, one hole is one hole too many. And their choice of action might be to apply an insecticide to eliminate any sawfly larvae (granted that in this instance, there is no way an average homeowner could achieve total coverage short of contracting with a commercial tree service).

Several other current reports have filtered in regarding “something feeding on leaves”. Those reports revolve around ash trees. And again, the “hole-makers” are sawflies. Back to the “bible” ---- there are two species listed: blackheaded ash sawfly and brownheaded ash sawfly.

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The larval image which I received had a white head capsule (and specimens that I saw in 2012 from the same general location also had white head capsules). There are a pair of very prominent black eyespots. The coloration of the image is a bit misleading due to the backlighting. The larvae are light green in color. There is a species of sawfly associated with ash whose larvae possesses white heads ----- *Tomostethus nigrinus*. There is no common name attached to this species ---- so can we go out-on-a-limb and call them the larvae of whiteheaded ash sawflies?

The point to be made here is that many sawfly species have the same generalized life histories, and as such, can essentially be regarded as a single species.



Photo Credit: Laura Dickinson
Johnson County
Program Assistant – Horticulture

For the most part, the larvae of many sawfly species likely occur each and every year, but go unnoticed because their population levels are low enough so as not to cause noticeable damage thus drawing attention to themselves. But then, unpredictably, for whatever reason(s), outbreak years occur. The situation in these instances is that seemingly “sudden overnight” complete defoliations of trees and shrubs attract attention. These instances occur at the tail end of the feeding forays of sawflies producing a single yearly generation. Applying an insecticide treatment is akin to closing the barn door after the horses are out. The best news is that early-season defoliations are not a death knell. Rather, the natural activation of axillary/auxiliary buds put forth a new flush of leaves. With the return of lush foliage, in the minds of most, the sawfly activities soon fade. The likelihood of a repeat performance the following Spring? Always a possibility, but probably not. However, for people with long memories, maybe they will be proactive, and diligently monitor their plantings for the presence of young/small sawfly larvae --- and if detected, eliminate them thus preventing a repeat performance.

Out in Western Kansas

What do flowering crab and roses have in common? One obvious answer is that they are related. Both belong to the taxonomic Family Rosaceae. But Google didn't have this: both are “yummie” to flea beetles.

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The first report was from Barton County (Photo credits to Jeff Wilson, CEA-ANR, Hamilton County). Small flowering crab were being defoliated by “something”. The cooperator sprayed his plantings. He then collected some of the dead brilliant green metallic bugs which Jeff ID’ed as stink bugs. However, because stink bugs have piercing sucking mouthparts, they would be incapable of “eating” leaves. Yet the grower was insistent about defoliation. The leaves had holes and were being eaten.



Jeff visited the site, took pictures and collected dead insects.

Some trees were defoliated. And the leaves of others (indeed) had holes.



On the ground, especially in the cracks and crevices, were dead insects. And while a couple of large stink bugs were visible, less obvious were the small carcasses of what resembled beetles. The stink bugs were GIANTS in comparison to the beetles. And when I received collected insect samples, the beetles were small metallic green flea beetles.



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During the several days transpiring the Hamilton County situation, Alicia Boor, CEA-ANR, Barton County, sent images of rose cuttings with beetles. Again, small metallic green beetles.



I have not yet ID'ed the flea beetles to species. When I do so, I probably will find that they do not have an official common name. That probably is moot anyway.

The remedy/course-to-take is applying an insecticide to eliminate the beetles. In this instance, the client wondered whether or not she could wait the beetles out. She was concerned about butterflies and other beneficial insects. It becomes her choice as to what she chooses to do. If left untreated, the beetles will certainly continue working away to the detriment of her bushes. Spraying now would preserve her plantings from the beetles. Likely, some beneficials and/or butterflies (if present) will also be killed. But at least her plantings will be preserved, and insecticide residues will wane, allowing future beneficials and visiting butterflies to be unharmed.

Bob Bauernfeind

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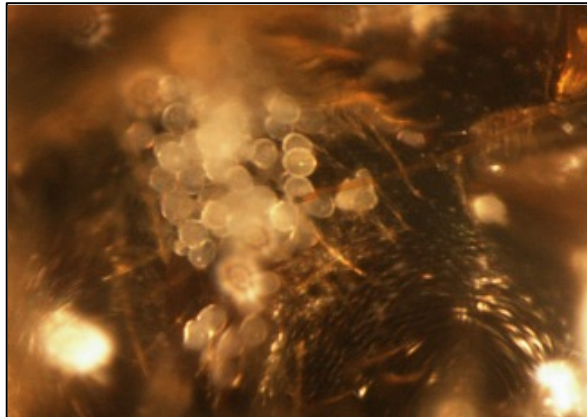
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Insect Diagnostic Lab Report from May 17 – May 23, 2013

Varoa destructor in beehives and suspected Thoracic mite damage in honeybees (inconclusive) - Kingmen county



Varoa destructor in the beehive



Mite eggs deposited on the honeybee thorax



Melanized trachea of works honeybees vs healthy white trachea of drones

Blister beetles *Nemognatha* sp. around a vent in a chemical company building – Allen county

Ground beetles *Harpalus* sp. in the courthouse – Cheyenne county

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Flower thrip in human hair (biting nuisance) – Kansas City, MO

Globular springtail on gooseberry Riley county

From the Gotbugs:

Ash sawfly in Douglas county

Pine sawfly in Potawatomie count



Eva Zurek

Sincerely,

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