Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel

Department of Entomology
123 West Waters Hall
K-State Research and Extension
Manhattan, Kansas 66506
785-532-5891
http://www.entomology.ksu.edu/extension

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Time To "Weigh-In" On Oystershell Scale

We have received samples of extensive populations of the oystershell scale (*Lepidoasaphes ulmi*) on burning bush (*Euonymus alatus*) branches. So, it is important to be cognizant of oystershell scale infestations and take appropriate measures to avoid outbreaks; primarily because eggs hatch into young crawlers that are susceptible to applications of most commercially available insecticides (or pest control materials). However, as the scales mature later in the season, they are more difficult to regulate or suppress because they form an impenetrable protective covering that is "resistant" to insecticides. Oystershell scale feeds on a wide-range of trees and shrubs including ash, birch, dogwood, elm, hemlock, lilac, maple, poplar, privet, walnut and willow. There are two races of oystershell scale—brown and gray. The two races differ in the plant types attacked.

Oystershell scale adults are 2 to 3 millimeters (mm) in length, gray or brown in color, and shaped like oyster shells (hence the common name). They overwinter as eggs located beneath the female covering. Eggs hatch into young, creamy white to brown colored crawlers that are active from May through June. The crawlers locate a place to settle and then use their piercing-sucking mouthparts to withdraw plant fluids. This leads to leaf yellowing, plant stunting, and possibly plant death. Branches or twigs that are totally encrusted with oystershell scales will eventually die. In certain instances, extensive infestations of oystershell scale may not directly kill trees or shrubs but may "stress" plants thus potentially increasing susceptibility to wood-boring insects.

Proper implementation of cultural practices including irrigation, fertility, and mulching will reduce "stress" and thus allow plants to tolerate "low" to "moderate" infestations of oystershell scale. However, when populations are excessive, then the use of insecticides (or pest control materials) may be warranted to prevent/avoid permanent plant damage. Insecticides that may be used to regulate or suppress oystershell scale populations include acephate (Orthene), bifenthrin (Talstar), carbaryl (Sevin), clarified hydrophobic extract of neem oil (Neem Oil), cyfluthrin (Tempo), malathion, paraffinic and petroleum-based oils (horticultural/summer oils), and potassium salts of fatty acids (insecticidal soap). All of these insecticides should be applied when the crawlers are most active, which increases their overall effectiveness in regulating or suppressing oystershell scale populations. It is important to visually inspect branches for scale crawlers or use double-sided sticky tape wrapped around selected branches or twigs previously infested with scales. When crawlers emerge from underneath the dead female covering and move around, they will get stuck on the tape. So examining the tape routinely (twice per week) will help to determine when the scales are in the stage most susceptible to insecticide spray applications. Repeat applications may be required 8 to 10 days later since eggs don't all hatch simultaneously.

The brown-race crawlers of oystershell scale on plants such as dogwood and lilac typically hatch from eggs and may be sprayed with insecticides when Vanhoutte spirea (*Spiraea* x *vanhouttei*) is in full to late bloom. The gray-race crawlers found on plants including ash, lilac, and maple tend to hatch from eggs later and are sprayed with an insecticide when Vanhoutte spirea has completed blooming.

Oystershell scale is susceptible to a diversity of natural enemies (e.g., parasitoids and predators) that may regulate populations of oystershell scale if there is an abundance of natural enemies. However, natural enemies generally appear too late during the season to prevent injury. Furthermore, natural enemies are usually only present when oystershell scale populations are "high."

Raymond Cloyd

Army Cutworm Adults (Moths)

The predominance of moths flying around yard and porch lights for the past week are probably adult army cutworms (see photo). These insects have been feeding on vegetation since last fall as larvae, have pupated, and now are preparing to make the annual migration to the Rocky Mountains where they spend the summer. In late summer/ early fall they will reverse the migratory flight and head back to Kansas where they will lay eggs in existing vegetation, i.e. alfalfa, wheat or canola from an agricultural perspective, and the moths will then die. Eggs usually hatch in the fall, but the majority of larval feeding occurs in late winter and spring. When larvae mature, they pupate in the soil, and the cycle starts over. Moths (often called Millers) can be a nuisance as they congregate around lighted areas at night and then are adapt at crawling through cracks and holes in screens and doors as daylight approaches, to get inside houses and buildings. They will soon migrate west however, so the nuisance will disappear naturally in about 7-10 days.

Jeff Whitworth ***Holly Davis***

What's In The Old Bucket? ---- Rosy Maple Moths

A blacklight traps is a useful tool for monitoring the activities of certain flying insects which are active at night. Of course not everything collected is a guarantee that a specific pest species will become a problem in the near future. But examining the contents of a light trap's collection bucket could provide a heads-up alert as to a potential situation.

Thus it was on Sunday morning, May 23, that two rosy maple moths were collected in the previous night's catch. Rosy maple moths are related to LARGE SPECTACULAR SILKWORM MOTHS: cercropia, polyphemus and luna moths. However, compared to the large "silk moths" with wingspreads exceeding 5-inches, rosy maple moths are small: 2-inches maximum.

Rosy maple moths are so named for their prominent coloration and the preferred host upon which their larvae feed. The "namesake" moth form indeed reflects its name with its predominant rose markings (Figure 1), whereas in Kansas, the "alba" or white forms predominate with the smaller males showing more of the rose color (Figure 2).

Figure 1

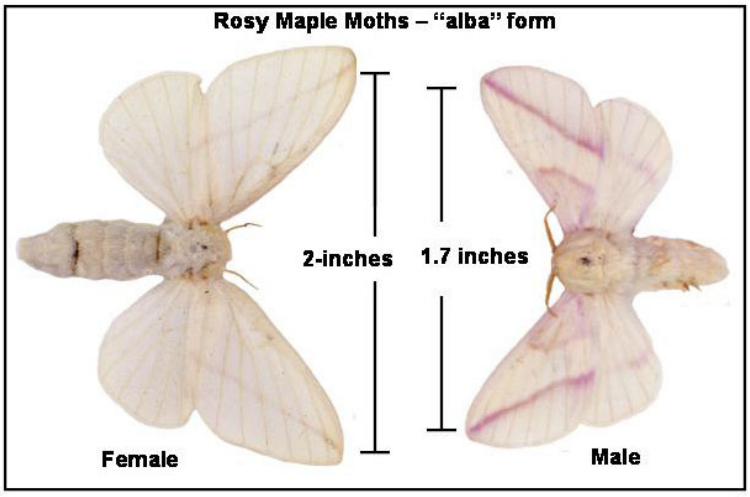

Figure 2

Females deposit yellow eggs clusters on the undersides of maple leaves (Figure 3).

Figure 3

Ten to 14 days later, small larvae emerge. As is typical with many lepidopteran caterpillars, small larvae are gregarious, feeding while shoulder-to-shoulder. In their latter developmental stages, they become solitary as they move about devouring greater and greater quantities of leaf tissue. When full grown, caterpillars (known as greenstriped mapleworms) are light green and possess black lateral lines, red heads, and two filaments behind the head. Fully mature larvae are 2 inches long. (Figure 4).

Figure 4

When ready, caterpillars climb to the bottom of the tree and pupate in small shallow underground chambers. Fresh/new pupae are yellowish-green and spiny. The pupa ends in a small forked point (Figure 5).

Figure 5

Moths emerge in a week to 10 days to begin egg laying for the second generation. It is the second generation pupae which then overwinter to produce the ensuing year's moths such as those which recently appeared last weekend.

What does all of this mean this mean in terms of what can be expected to happen (in the near future) in Kansas? Maybe nothing, or maybe maple trees being striped of all their foliage. Most every year, a report or two filters in towards the end of June regarding "worms killing my silver maple tree". Of course, being a foliar feeding "pest", trees **ARE NOT** being killed. But rather, trees take on a bare appearance. However, when defoliations occur in the season, trees will put out a new flush of foliage, and the tree's appearance restored. The following sequence illustrates this. On June 28, a small silver maple was defoliated (Figure 6).

Figure 6

Note that the adjacent larger silver maples did not appear to be “in trouble” (Figure 7).

Figure 7

Yet a week later, greenstriped mapleworms defoliated the remaining trees (Figure 8).

But not to worry. Three weeks later, the trees were in the process of putting out a flush of new foliage, thus restoring the trees' normal appearances (Figure 9).

Recall that rosy maple moths produce 2 generations of greenstriped mapleworms each year. In this instance, these trees withstood 5 defoliations ---- 2 the first year (1994), 2 in 1995, and the first generation of 1996. Never since have they reappeared at this location, and the trees are tall and strong. No rhyme, no reason ---- that just seems to be the nature of most insect pests. That is the natural scheme-of-things. Remember, these insects existed and ran their cycles before man tagged them as "pests".

Off and Running. Crawling, That Is …. Bagworms

The cold December 2009 and January 2010 temperatures may be but a faded memory for most. But back then, some folks may have thought (hoped) that the double digit sub zero temperatures would have killed overwintering bagworm eggs. But as mentioned in Issue #1 of our 2010 Kansas Insect Newsletter, female bags were collected in mid-January after the coldest of our winter snaps. Maintained indoors, bagworm larvae eventually hatched (from each and every bag) a couple of months later ----- so it was evident that they did (and do) withstand the winter elements. On May 22, the first bagworms were observed in Manhattan area. So they are "Off and Running". More on the topic of bagworm control in next week's Kansas Insect Newsletter.

Bob Bauernfeind

Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostic Laboratory from May 21st to May 27th.

May 21 2010 – Shawnee County – Possible dermestid beetle in home
May 21 2010 – Nemaha County – Aphids on phlox
May 21 2010 – Republic County – Oak petiole gall wasp in Bur oak
May 21 2010 – Labette County – Seed pods on cabbage
May 21 2010 – Riley County – Carpenter ants in home
May 21 2010 – Wyandotte County – Female brown dog tick
May 21 2010 – Labette County – Possible young head louse

May 24 2010 – Nemaha County – Larder beetle in home
May 25 2010 – Riley County – Bat bug nymph in home
May 25 2010 – Johnson County – Leafroller caterpillar in speedwell
May 26 2010 – Mitchell County – Carpet beetle larvae in home
May 26 2010 – Riley County – Rough oak bulletgall wasps and felt scale in Oak
May 26 2010 – Leavenworth County – Oak lecanium scales
May 27 2010 – Ford County – Tree cricket eggs under honeylocust bark
May 27 2010 – Riley County – Termite swarmers in home
May 27 2010 – Edwards County – Pine sawyer beetles in firewood
May 27 2010 – Shawnee County – Carpet beetle larva in home
May 27 2010 – Linn County – Jumping leaf galls on oak

If there are any questions regarding these samples or about the identification of any arthropod please contact the Insect Diagnostician at (785) 532-4739 or GotBugs@ksu.edu.

Sincerely,

Robert J. Bauernfeind
Extension Specialist
Horticultural Entomology
phone: 785/532-4752
e-mail: rbauernf@ksu.edu

Raymond A. Cloyd
Extension Specialist
Ornamental Entomology/Integrated Pest Management
Phone: 785-532-4750
Fax: 785-532-6232
e-mail: rcloyd@ksu.edu

Jeff Whitworth
Extension Specialist
Field Crops
phone: 785/532-5656
e-mail: jwhitwor@ksu.edu

Holly Davis
Insect Diagnostician
Phone: (785) 532-4739
e-mail: holly3@ksu.edu