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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Thrips On Roses…What Can You Do?

There a number of thrips species that feed on roses during this time of year; however, one of the predominant species is the western flower thrips (*Frankliniella occidentalis*). Adult thrips are approximately 2.0 mm in length, with the nymphs slightly smaller. They vary in color from pale yellow to dark brown. Both the nymphs and adults feed on rose leaves and flowers although the adults tend to feed more on flowers (Figure 1). Leaves fed upon by thrips initially appear "stippled" and then eventually turn brown. Rose petals are white or "silvery" in appearance, and there may also be brown streaking on the petals. Furthermore, flower buds may be distorted or abort before opening. In general, light-colored or white roses tend to be more susceptible to thrips. Thrips tend to reside and feed in un-opened flower buds and terminal growth. So, once damage is noticed to either leaves or flowers there is nothing that can be done to correct the damage. As such, applications of insecticides need to be initiated early on in order to alleviate any feeding damage and they must be applied before thrips enter terminal or flower buds because most insecticides are unable to penetrate buds or flowers. In addition, repeat applications may be required, particularly if there is an abundance of overlapping generations.

Be sure to exercise caution when spraying open flowers with insecticides, especially liquid formulations because there is the possibility of harming rose petals. Most of the insecticides commercially available for use against thrips have contact activity only so thorough coverage of all plant parts is important in order to obtain sufficient mortality. Systemic insecticides (e.g., imidacloprid) or those that are absorbed and translocated throughout plant parts are typically not effective against thrips feeding in rose flowers.

There are a number of insecticides that may be used to "combat" thrips including spinosad (Captain Jack's DeadBug Brew, Spinosad Lawn & Garden Spray), malathion (Ortho Max Malathion Insect Spray), acephate (Orthene), potassium salts of fatty acids (insecticidal soap), horticultural oils (petroleum or paraffinic-based), and pyrethrin (Pyrethrin Garden Insect Spray). Be sure to read the label thoroughly to determine recommended application rates and application frequency. Furthermore, avoid using the same insecticide over-and-over again as this may result in the development of resistance to that specific insecticide mode of action. As such, rotate different products to avoid thrips populations from developing resistance. However, do not use malathion and then switch to using acephate, or vice-versa, as both insecticides have similar modes of action.

If you have any questions or comments regarding the "control" of thrips on roses contact your local extension office. In addition, the "*Compendium of Rose Diseases and Pests* (second edition)" (Figure 2) contains information on how to deal with thrips, and other insect and mite pests of roses. The publication is available through the American Phytopathological Society (APS) at www.apsnet.org

1. Western flower thrips in rose flower.

Raymond Cloyd

Potato Leafhoppers

Potato leafhoppers (see photo) are quite common throughout eastern and central Kansas, both in alfalfa and soybeans. Feeding on soybeans may result in crinkled or cupped leaves or even cause some leaf yellowing but usually does not cause any permanent stress to the plant. Alfalfa however, can be more problematic. Fields that are within 7-10 days of swathing should be swathed a little early rather than sprayed. This will remove all life stages of the potato leafhopper. However, fields should be monitored for these and other pests as the regrowth occurs, as these populations can build up again quickly.

Thrips

Thrips are also very numerous in both alfalfa and soybean fields. They are most likely dispersing from wheat fields as plants are drying because the wheat no longer provides a food source for the thrips. These should not be a problem in either alfalfa or soybeans. However, they do feed by scraping away leaf surface and sucking up the juice within. Thus, numerous thrips feeding on succulent leaves may cause some browning and often times gives the leaves the appearance of having been "sand-blasted". This can be of concern if dry, hot conditions prevail as this adds to the plant's stress. Insecticide-treated seed will help control thrips feeding (for 3-4 weeks after planting) but the thrips have to cause the wounding before they get the toxin within the plants liquid. This then, may cause some leaf browning, if infested by numerous thrips. Under good growing conditions however, thrips feeding should not results in yield reductions.

Jeff Whitworth *Holly Davis*

Time to think about stem insects in commercial sunflowers

Reports indicate that about 37% of commercial sunflower acres have been planted in Kansas as of June 13. This is about the same as last year on this date, but considerably less than the 5-yr average of 46%. The following recommendations apply only to fields where plants reach the 8-10 leaf stage (V10) before the end of June.

Fields that are growing in the vicinity of acreage that was in sunflowers the previous year will be vulnerable to infestation of various stem boring insects emerging from last year's stubble, especially from no-till fields. The insects of interest, in order of importance, are the sunflower stem weevil, the bud moth, the sunflower root moth, and tumbling flower beetles. Details on these various insect pests can be found here:

http://www.entomology.ksu.edu/p.aspx?tabindex=193&tabid=404

Although only stem weevils can be numerous enough to cause lodging on their own, the impact of these various insects tends to be cumulative and a timely application of a foliar insecticide will usually control all of them together.

With the except of the bud moth, which has two generations, these insects have only one generation per year and, given their emergence patterns, are most damaging to early-planted fields. Sunflowers double-cropped after wheat are not at risk from these insects. Although thresholds for treatment of stem weevils are suggested in many management guides, these insects are all difficult to scout for and relationships between adult counts and actual economic losses are not well established. If you are growing early-planted sunflowers (planted prior to June 14) in a region with a history of sunflower production, you may consider investing a foliar insecticide treatment at the V10 – V12 stage to control the entire guild of stem insects, as well as various defoliators such as thistle caterpillars and wooly bears, to ensure plants remain healthy up until flowering. Many materials are labeled for this use and most are highly effective.

See: http://www.ksre.ksu.edu/library/entml2/MF814.PDF

Adult sunflower root moth

Bud moth damage to flower bud showing emerged pupal case and distinctive black frass. Attack on plants in vegetative stages often results in loss of apical dominance (branching).

Adult sunflower stem weevil on leaf (actual length = 1/8 inch)

J.P. Michaud

A little naked? Feeling exposed? Pictures?

Well, now that I have your attention, read on.

One of the recommendations for (hopefully) containing the spread of pine wilt disease is to cut and burn dead trees (in which pine sawyer beetles are developing) in a timely manner: prior to the emergence of the beetles which are the major vector of pinewood nematodes. Currently, we are approaching the end of the of the 2011 time period during which the major portion of beetles have emerged.

In this year's second issue of the Kansas Insect Newsletter, I presented images of a declining line of Scotch pines serving as a screen at an apartment complex (Figure 1).

Figure 1

The story is now complete: what once was a functional tree line no longer exists. Presented below are "before and after" images (Figures 2 and 3) which dramatically illustrate the consequences of ignoring the presence of pine wilt disease and failure to employ timely sanitation practices to stem its spread.

Figure 2

Figure 3

Eastern red cedar insect pests ----- Juniper webworms and Juniper budworms

For the most part, eastern red cedars are considered invasive when they take over pastures and grassland/rangeland areas. So possibly any insects that have a negative impact on them might be considered "beneficial insects". But eastern red cedars used as landscape ornamentals or in windbreak and erosion control situations have purposeful functions. Because their preservation is desirable, certain insects, then, become pests.

Although I have never encountered/experienced larvae of the Juniper webworm moth [*Dichomeris marginella* (Fabricius)] (Figure 4A & B), they are regarded as a widespread insect pest of many *Juniperius* species ranging from (as cited in Johnson and Lyon's Insects That Feed On Trees And Shrubs) Quebec and Maine to North Carolina and west to the Pacific coastal states and British Columbia.

Figure 4

Juniper budworms [*Choristoneura houstonana* (Grote)] (Figure 5A & B), have a range mainly restricted to Pinyon-Juniper woodlands of the southwestern and Great Basin states [(per E. A. Heinrich in his 1967 Ph. D. dissertation entitled, Biology and External Larval Morphology of *Choristoneura houstonana* (Grote) (Lepidoptera: Tortricidae)].

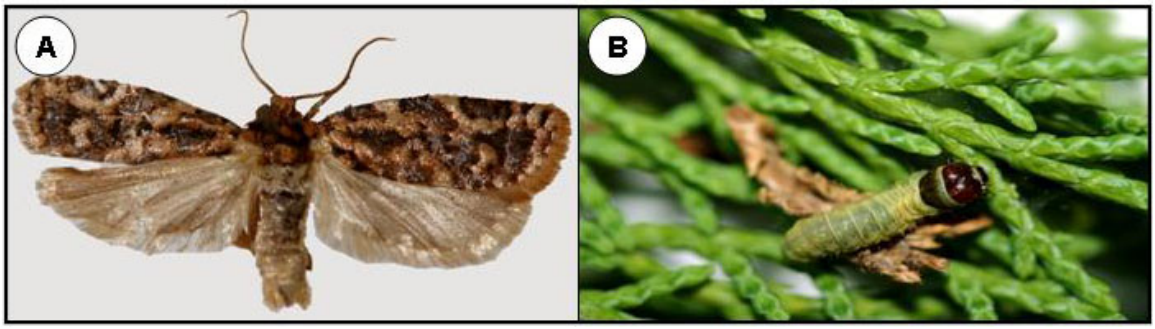

Figure 5

Although both moths and larvae are very different in appearance, they share similar habits and seasonal life histories and may therefore be treated as one. A broad generalized description is as follows:

Moths appear in late June and July. A person may be unaware of their presence due to their small size (2-3 cm long) and their being active during nighttime hours. Eggs are deposited singly on foliage/needles, often times near axils of current year growth. Newly emerged larvae will (at first) feed/mine within needles, but subsequently become surface feeders. They construct silken tubes within which they remain secure as they feed. Silken tubes are expanded to accommodate growing larvae. However, this all remains rather hidden due to the small size of the larvae, and the fact that the silken tubes are camouflaged with bits of trash/dust/litter/frass.

Both species overwinter as partially grown larvae “snug” inside their silken homes. Feeding resumes in the spring. It is at this time that the presence of either Juniper webworms or Juniper budworms becomes evident

due to a “matted appearance” of webbed shoots and foliage ---- sometimes referred to as “nests” when the silken tubes of several larvae coalesce (Figure 6).

Figure 6

By tearing apart “nests”, larvae can be exposed, or if past that stage, the pupa may be found (Figure 7A & B), or if moths have already emerged, empty pupal cases be seen

(Figure 7C & D). Moths will mate, eggs will be deposited, and the then cycle repeated.

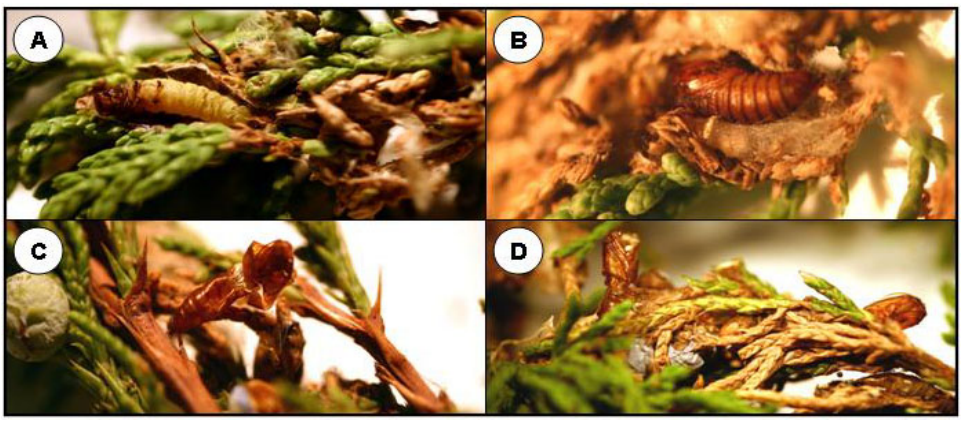

Figure 7

The actual impact of Juniper webworms and Juniper budworms is not known. This raises the question as to whether anything needs to be done to address either of these insect species. They may be more of an aesthetic concern than causing any tree mortality. There seems to be a natural ebb and flow of population levels. Over several years, populations of various parasitic wasp species eventually buildup to levels able to counter populations of Juniper webworms and Juniper budworms.

In-the-wild, it may be impractical to address these species. However, homeowners might want to consider direct control measures to restore/preserve the appearance of landscape and windbreak plantings. Akin to people hand-picking bagworm bags, removal of infested branch tips could be effective on individual trees. In more extensive and extreme situations, it would be more feasible to use timely insecticide applications to kill newly emerged larvae before they become established/protected within silken shelters. Timing is contingent upon moth activities. As previously stated, moths are small and inactive during daylight hours. However, if (during the day) an individual shakes branches, moths (if present) will briefly flit about before (again) settling down. Initiate insecticide applications upon the first detection of moths. Insecticides registered for use against caterpillars, defoliating caterpillars and/or webworms would qualify for use against both Juniper webworms and Juniper budworms.

Bob Bauernfeind

Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostic Laboratory from June 10th to June 16th.

June 10 2011 – Riley County – Broad nosed weevil
June 10 2011 – Johnson County – Click beetles, *Limonius* sp., on grape vines
June 10 2011 – McPherson County – Burrowing bugs
June 13 2011 – Phillips County – Springtails in home
June 13 2011 – Coffey County – Larger yellow ants in pasture
June 13 2011 – Osage County – Harvestmen in garden
June 13 2011 – Reno County – Springtails in home
June 14 2011 – Geary County – False chinch bugs on Swiss chard
June 14 2011 – Shawnee County – Male American dog tick on human
June 14 2011 – Pratt County – Springtails in home
June 14 2011 – Fairfax County, Virginia – Gulf Coast tick (picked up on vacation)
June 15 2011 – Riley County – Bagworm on gooseberry plant
June 16 2011 – Meade County – Mealy bugs on eastern red cedar
June 16 2011 – Dickinson County – Thrips in alfalfa

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.

Holly Davis

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

J. P. Michaud
Integrated Pest Management - Entomology
Agricultural Research Center - Hays, KS
Phone: (785) 625-3425
e-mail: jpmi@ksu.edu