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Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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"Browned" Elm Trees :

People driving down highways and back roads are observing and reporting many "dead trees" in groves (Figures 1 and 2). These are very evident when viewed from a distance. Also, many trees lining city streets appear brown/dead (Figure 3).

Figure 1

Figure 2

Figure 3

The "dead trees" are very much alive. Rather, what people are observing are the after effects of larval feeding of two different insect species. As opposed to consuming entire leaves like some larger caterpillar species, both the larvae of mimosa webworms (on honey locust) (Figure 4) and elm leaf beetles (Figure 5) feed on only on the epidermal leaf tissue, the resultant being skeletonized, desiccated and brown foliage (Figure 6).

Figure 4

Figure 5

Figure 6

Mimosa webworms were discussed in the July 25th Kansas Insect Newsletter (#17). The remainder of this letter will be devoted to the elm leaf beetle.

Elm leaf beetles overwinter as adults which have sought refuge/protection-from-the-winter elements beneath soil debris/litter, an any available crack/crevice, and (to the annoyance of some) in and around our homes. "Newly emerged" elm leaf beetles are very colorful (Figure 7). The brilliant colors often disappear in "aged" elm leaf beetles which appear more olive drab to grayish in overall appearance. Elm leaf beetles emerge early in the year and deposit egg clusters primarily on the undersides of leaves (Figure 8).

Matured larvae eventually pupate (Figure 9). New adults appear and repeat the process. There are two full generations each year (and likely a partial third).

Figure 7

Figure 8

Figure 9

Insecticidal control of elm leaf beetles is difficult due to the unpredictability of elm leaf beetle activities year to year, location to location and tree to tree. **IF** a person is alert and detects "light" first generation damage by late June or early July, insecticide applications against the second generation might be applied to infested trees. But even in these instances, partial control might, at best, be all that is attained.

Consider and individual tree (Figure 10). As one approaches a tree, the bark and brace roots provide a clue as to what one will be up against (Figure 11). Mature larvae tend to move out of trees (Figure 12) onto the ground where seek refuge beneath debris and litter at the base of the tree.

Figure 10

Figure 11

Figure 12

Here they pupate, sometimes in massive numbers resulting in multiple layers (Figure 13). At times, larvae pupate while still exposed (Figure 14). And some larvae never reach the ground ------ rather, opportunistically pupating wherever they are (Figure 15) when the pupation process "calls".

Figure 13 Figure 14 Figure 15

The best news is that other than causing trees to be unsightly, elm leaf beetle feeding activities do not kill trees. This is evidenced by the current formation of new leaves Figure 16), although, the new foliar regrowth will likely be sparse for the remainder to the season. But come 2004, trees should have their full complement of leaves, and comfort/escape from the sun will again be possible "under the shade of the elm" (Figure 17).

Figure 16 Figure 17

Another facet of elm leaf beetles is their habit of congregating around and in homes during the fall of the year. People sometimes inquire as to the feasibility of killing elm leaf beetles at their breeding and feeding sites for the purpose of eliminating them before they seek overwintering quarters. Even if a person was successful in eliminating each and every elm leaf beetle on their property, he/she would likely have to contend with elm leaf beetle invaders from untreated adjoining areas. Thus, attempts to control elm leaf beetles to prevent their presence in the fall is not recommended.

Despite the aforementioned drawbacks to controlling elm leaf beetles, people may opt to apply insecticides against elm leaf beetles. The timing of treatments, and thorough insecticide coverage are imperative for reducing elm leaf beetle populations to non-damaging levels. Insecticidal products with the following active ingredients [product manufacturer and **trade name**] are registered for use against elm leaf beetles or leaf-feeding beetles on trees: acephate [Ortho **Systemic Insect Killer**) , bifenthrin [Ortho **Rose and Flower Insect Killer**], carbaryl [Garden Tech **Sevin Concentrate BUG KILLER**], cyfluthrin [Bayer **Multi Insect Killer**][, imidacloprid (Bayer **ADVANCED GARDEN Tree & Shrub Insect Control**], permethrin [Bonide **Eight Vegetable, Fruit & Flower**; Hi-Yield **Garden, Pet & Livestock Insect Control]** and spinosad [ferti.lome **Borer, Bagworm, Leafminer & Tent Caterpillar Spray]**. A word of caution: while several products may contain the same active ingredient, different manufacturers may include or exclude certain pests or treatment sites from their product labels. Or, a manufacturer may market several different products with the same active ingredient, but only include the pest-of-concern on some of their product labels. Therefore, before purchasing an insecticide, labels must be read to ensure that product's legal use against the intended pest on/at the intended site.

Robert Bauernfeind

Spotted Alfalfa Aphid:

Alfalfa producers should stay alert to the possibility of spotted alfalfa aphids. These very small, light green aphids have rows of darker spots on their backs which probably need magnification to be seen (see photo). These aphids do well under hot, dry conditions, and are usually found on undersides of leaves and/or on stems. The presence of ants may indicate an aphid infestation. They have the capacity to cause severe stunting and yellowing of plants and may kill seedlings. They secrete a great amount of honeydew – thus the presence of ants feeding on the honeydew. The use of resistant varieties may be the only way to establish a stand under drought conditions if these aphids are present. Please see the KSU Extension Recommendation for alfalfa management for insecticides labeled for spotted alfalfa aphid control.

Spotted Alfalfa Aphid

Soybean Aphids:

Revisited four fields in Geary, Riley and Dickinson Co.'s where soybean aphids have been detected this year. No aphids were detected. Could be the hot, dry weather, natural

enemies, or they may have disbursed naturally without colonizing. Will continue weekly monitoring.

Sunflower Head Moth:

Adult moths are still flying in sunflower fields in Central Kansas. Thus, the possibility of continued egg laying and resultant larval damage still exists.

Jeff Whitworth

Insect Diagnostic Laboratory Report:

The following samples were submitted to the Insect Diagnostic Laboratory for the week of August 18 through August 22, 2003:

8-19-2003, Nemaha County: False Chinch Bugs in home.
8-19-2003, McPherson County: Oak Lace Bug on trees.
8-19-2003, Norton County: Oak Lace Bug on trees.
8-19-2003, Haskell County: Carrot Beetle adults and other scarab grubs in Sunflower.
8-20-2003, Cheyenne County: Ichneumon Wasp on trees.
8-20-2003, Sherman County: Hackberry Lace Bugs on trees.
8-20-2003, Saline County: Jumping Spider in home.

If there are any questions regarding these samples or about the identification of any arthropod please contact the Insect Diagnostician (Bobby Brown) at 785-532-6154 or bbrown@oznet.ksu.edu.

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Sincerely,

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