Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel

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August 21, 2015 No 18

ELM LEAF BEETLE

Now is the time to be on the lookout for the elm leaf beetle, *Pyrrhalta luteola*, which may feed on all elms; however, elm leaf beetle prefers Siberian and American elm, with Chinese elm being less susceptible. Adults are about 1/4-inch long, slender, and yellow-green in color, with black stripes extending down the entire length of the abdomen. Furthermore, there are distinct black spots on the head and thorax. Adults appear in spring and eat small holes in leaves. Females lay yellow-orange eggs in clusters on leaf undersides. A single female can lay between 600 to 800 eggs during her lifetime. Eggs hatch in 5 to 6 days into green larvae that look-like grubs. Larvae are approximately 3/8 to 1/2 inches in length. Initially, they are black, and then turn yellow in color with two black lateral stripes along

Photo by Whitney Cranshaw, Colorado State University.

Photo by Dr. Raymond Cloyd, Kansas State University.

the sides of the body. Larval feeding causes leaves to appear skeletonized because they scrape the leaf tissue from the upper surface with their chewing mouthparts; leaving the veins intact. The tissue between the veins eventually turns brown. Larvae, which are the major source of damage to plants, feed for about 3 weeks.

The last larval instar crawls down tree trunks, where they pupate at the base of trees in and on the ground. They may also pupate in the cracks and crevices of the trunk or in large branches. In about two-weeks, adults emerge and start feeding on plant leaves. They normally feed on the same trees that larvae fed upon. Adults may be a nuisance pest in late summer and early fall when they migrate from trees and enter homes to overwinter. They will also overwinter in protected places outdoors. It is interesting to note that both adults and larvae may be present simultaneously. There are two generations per year in Kansas with the second generation causing the most damage.

Photo by Dr. Raymond Cloyd, Kansas State University.

Insecticides should be applied at the first appearance of both adults and larvae, and routinely throughout the summer and early fall in order to protect elm trees. This is especially the case if extensive feeding by elm leaf beetles will impact the aesthetic appearance of elm trees. When using contact insecticides, it is important to obtain thorough coverage of both the underside and upper side of plant leaves. However, avoid applying acephate (Orthene) on American elms as this may cause plant injury. If elm leaf beetle populations are minimal, then insecticide applications may not be warranted. Always read the insecticide label prior to making any applications.

Raymond Cloyd

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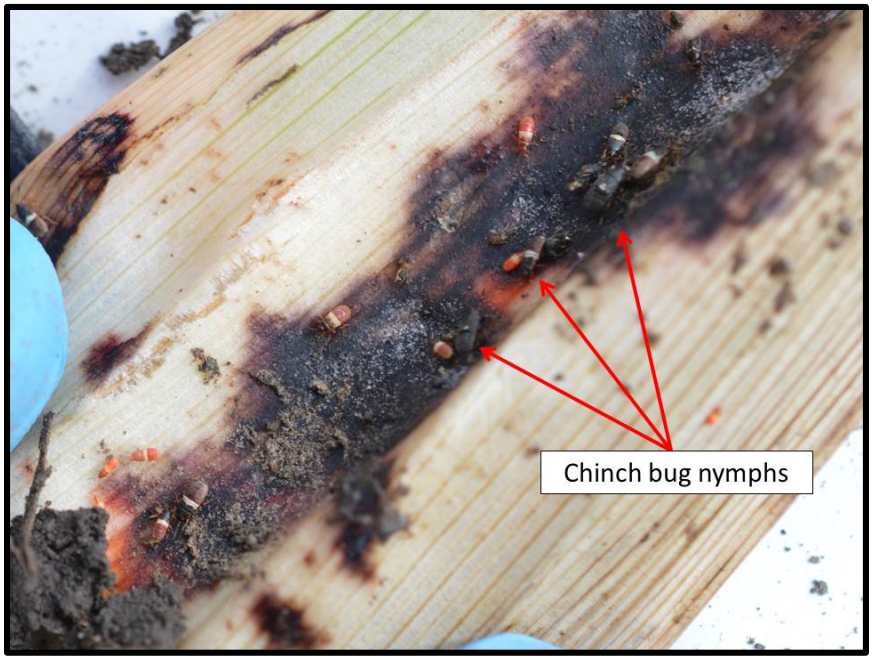
Sorghum Pests

Sorghum fields checked in north central Kansas this week indicated a variety of very active pests. Fields were anywhere from whorl-stage to flowering. Regardless of the stage of plant development, 100% of the plants sampled were infested with chinch bugs. Most are still small reddish to brown or black nymphs, but there are still mating adults as well. These bugs are feeding mainly around the base of the plants.



Some plants in the boot stage have populations of corn leaf aphids feeding right at the top of the about-to-emerge heads. Occasionally, these aphids are so numerous at the point of head extension that their honeydew interferes with the head's emergence. Fortunately, aphid populations were not found frequently enough to potentially impact yield, just an occasional plant here and there.

Most of the whorl-stage sorghum (90%) is infested with a "ragworm". These are a combination of corn earworms, armyworms, and fall armyworms, Mr. Tom Maxwell, Extension Agent in Saline County, even found a cattail caterpillar. They are in all larval stages, but mainly smaller, from 1st to 3rd instars. Thus, they will be

feeding in the whorls for another 10-21 days, and then will pupate in the soil. In approximately 7-10 days, moths will emerge and start ovipositing in sorghum, which is vulnerable from flowering to soft dough, and/or soybeans. Some early flowering plants already had “headworms” feeding in the just emerging heads.

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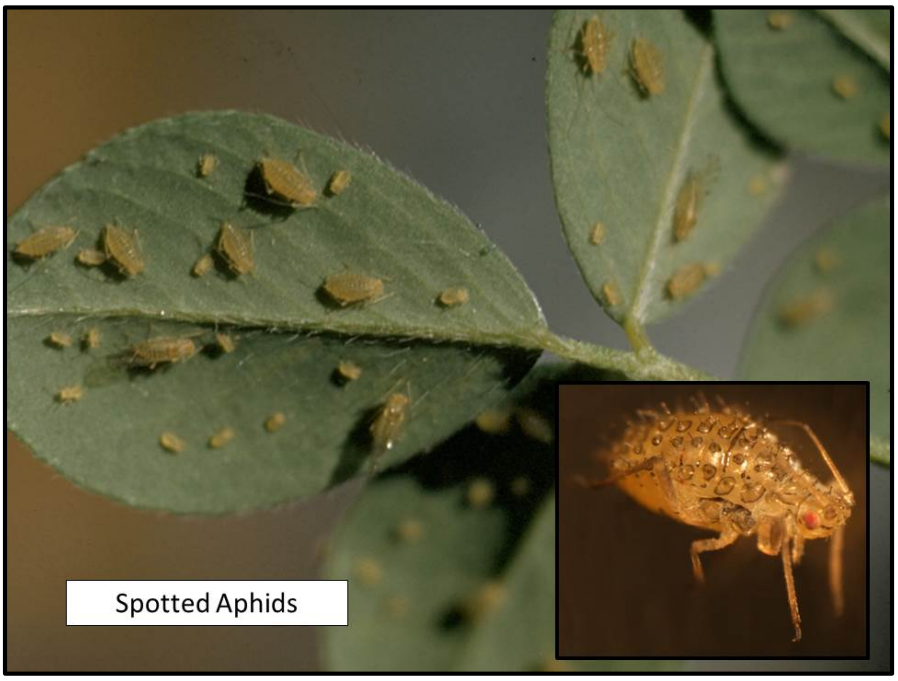
Alfalfa Aphids

Cowpea and spotted aphids continue to maintain their populations in most alfalfa fields throughout north central Kansas. Lady beetles and other beneficials still appear to be helping control both species, but these fields need to be periodically examined to ensure these aphid populations stay at low levels.



Jeff Whitworth Holly Schwarting JR Ewing

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Old "Defoliated" Friends Revisited

One of my favorite most succinct introductory slides simply says:

While attentiveness, care and pampering are especially important in the early years after newly transplanted trees first become "family members", there does come a point-in-time when they become "Big Boys and Girls". Look at mature trees lining city streets, in park and recreation areas and in the countryside ---- all thriving on their own. This despite having to contend with different insect pests.

Most alarming for homeowners is the compromised appearance of trees when foliar feeding species come-to-town. The situation is such that their presence first becomes apparent (after-the-fact) when the offending species are approaching the end of their feeding phase-of-development --- a time at which they are of such size that they ravenously feed on and rapidly deplete available foliage thus drawing attention to their presence.

Defoliations may vary in intensity from a few bare branches to the entire canopy. As alarming as a complete defoliation might appear, it should be regarded as but a cosmetic issue. Probably more objectionable is the visible and audible "rain-of-frass", as well as streams of descended mature larvae roaming about in search of pupation sites. Early-season defoliations are of temporary duration because trees rapidly produce a new flush of growth restoring normalcy. On the other hand, new foliage production is scant late in the season at a time when leaf abscission is imminent after the cessation of seasonal photosynthetic activities. Come springtime, trees again will fully leaf out --- seemingly none the worse-for-wear.

People may ask, "What did I do wrong? Couldn't I have prevented this?", to which I would respond, "You did nothing wrong. Outbreaks are unpredictable!". As mentioned earlier, a person is unaware of the presence of specific pests which (as "wee ones") scrape and nibble away not producing any noticeable foliar damage to give away their presence.

Come the questions, (1) "Well, once I notice the damage, shouldn't I spray?", to which there is not an absolute response. Consider the size (and possibly) number of trees, and the unlikely capability of an individual to apply/achieve thorough spray coverage. (2) "Well couldn't I hire a service to spray for me?", to which the response might be, "If the service provider is "booked" and unable to get to your tree(s) in a timely fashion, by the time they do arrive, caterpillars/larvae may have already completed and ceased feeding ---- little point in spraying at that point.
Balancing the cost of hiring a spray service against what-is-to-be-gained by spraying at a time that tree appearance has already been compromised may make the decision to be to simply allow the situation to run its course.

"Is there a need to "kill-them-now" to prevent a repeat?" While this seems to be a logical thought, in reality, we really have little control over future events. Nature sort of has its own checks-and-balances. Whether unfavorable environmental conditions or biological entities (diseases, predators, parasites) reduce or eliminate potential future "seed" for pest populations, or, if pests themselves naturally disperse, one may never again experience a repeat situation. Individuals who have experienced defoliations and who have seen their trees recover are convinced of the need to let nature run-its-course.

Defoliations: before and after

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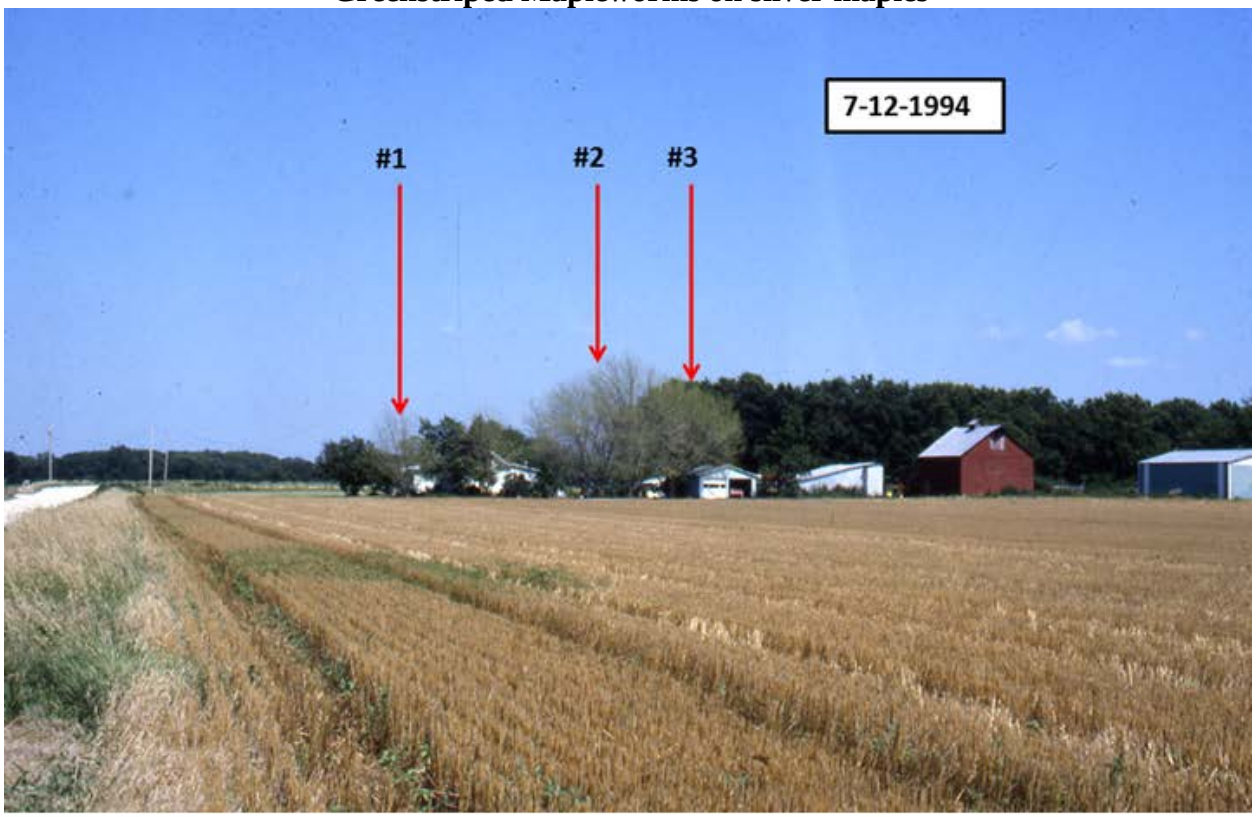
Greenstriped Mapleworms on silver maples



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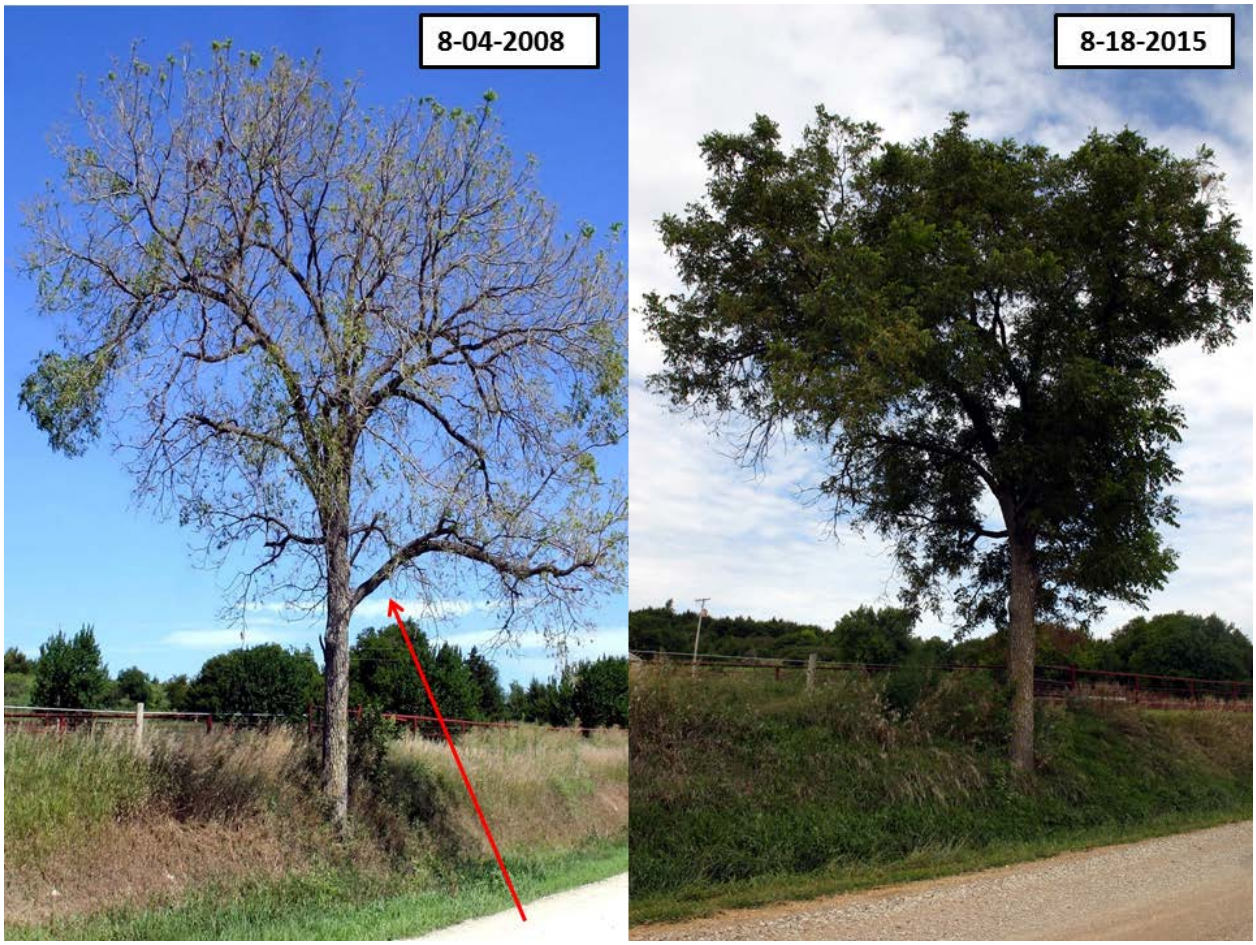
Yellownecked Caterpillars on oak

Walnut Caterpillars on black walnut (red arrow = limb pruned out in 2011)

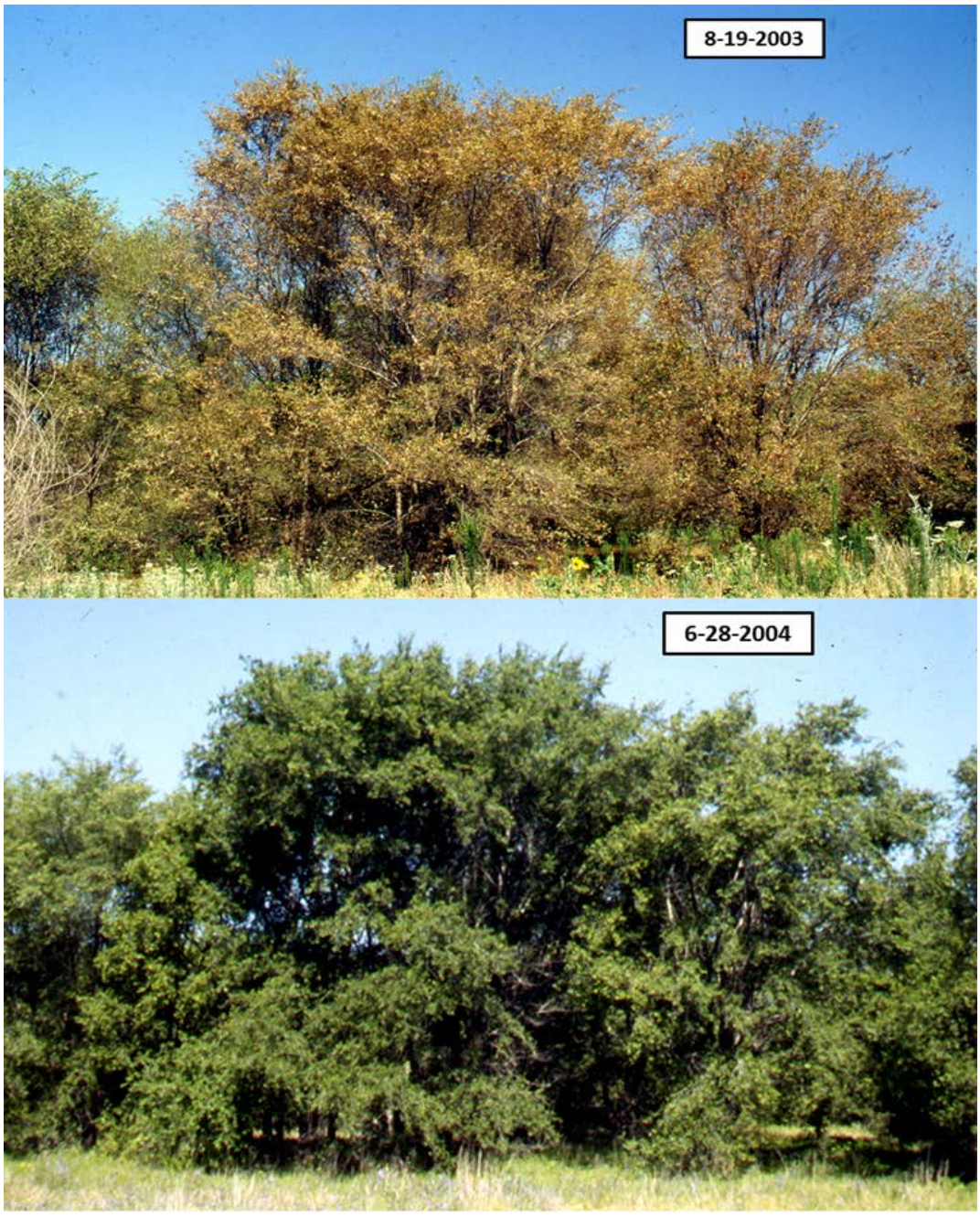


Foliar Dessication: Before and After

Some foliar-feeders are relatively small in size and therefore incapable of skelotinizing and defoliating tree hosts. Rather, their feeding activities are reduced to nibbling/consuming the epidermal tissues of leaves. Both the upper and lower epidermis (with their thicker "waxy" cuticles) protect the more delicate inbetween high-in-moisture-content internal cellular layers. Deprived of their protective outer layer, leaf dessication leads to leaf death --- the resultant being the unsightly browned/burnt appearance of trees.

Mimosa Webworms on honey locust

Elm Leaf Beetles on elm



In this incidence, I do not have a current image of the trees above. They no longer exist. However, not due to to the depredations of elm leaf beetles. Rather, simply, they were in the way of progress. A highway expansion project necessitated their removal. They were no match against "man". Soooo painful to watch trees ripped out roots-and-all by powerful excavating equipment. But again, the lesson being that the asthetically unacceptable foliar appearances resulting from insect activities are but an occasional temporary fleeting occurrences …. leading to the following:

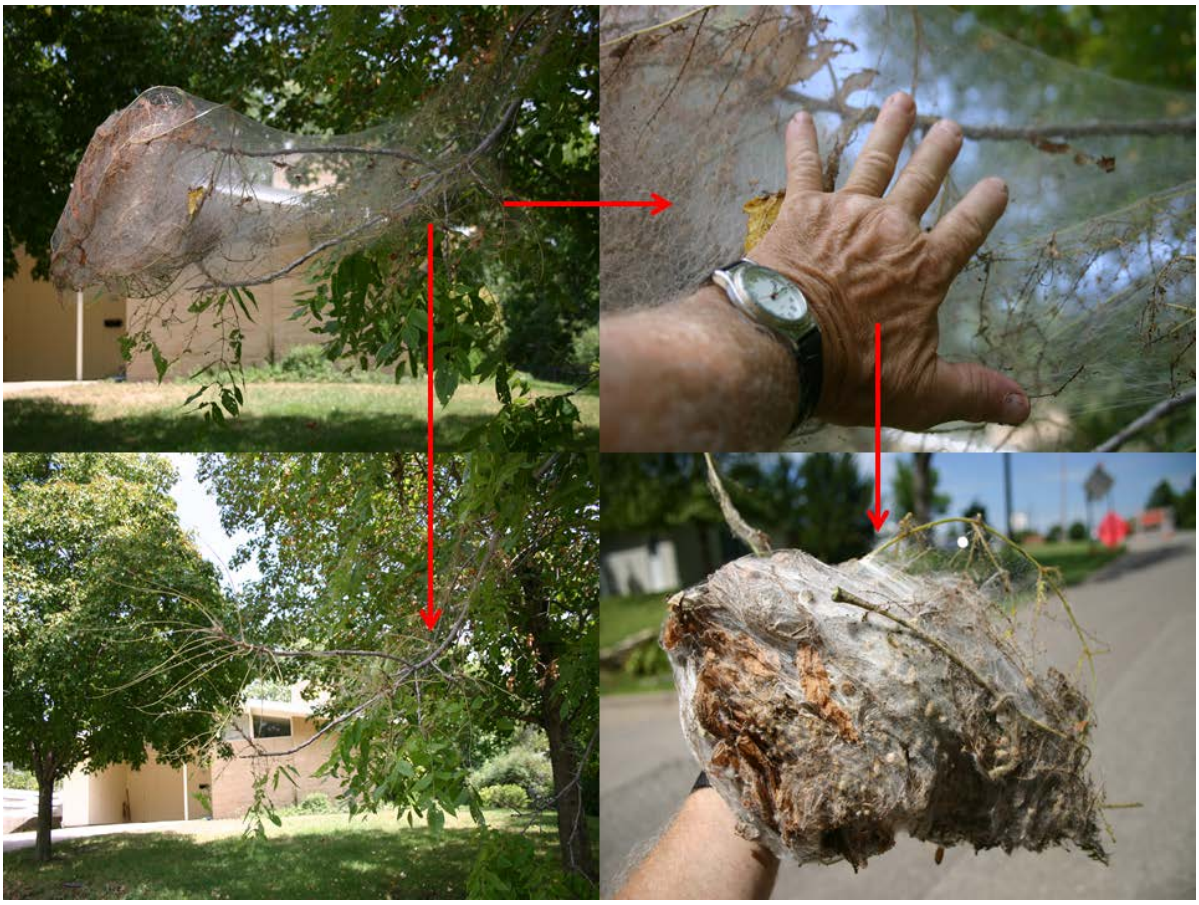
On a return trip to Manhattan Monday, I noted the presence of fall webworms along the roadway --- sometimes one or two in an occasional tree here and there, or (in this instance) numerous web masses.

These did not develop "overnight" Judging by their size, these colonies likely were initiated 4-5 weeks earlier. Again under the banner of defoliators, people may worry about the impact of feeding depredations. Minimal! Probably a more verbally expressed concern is the unsightlyness created by the webbing, as well "creepy" clumps of caterpillars within.

A commom recommendation is to prune out webbed branches. One must consider the accessibility of web masses --- those beyond reach simply allowed to remain.

Pruning might be doable if just a branch or two ---- but possibly unacceptable and disfiguring when trees are heavily infested with web masses.

If within reach, consider an implement (of sorts) to “rake out”/remove webbing. And what implement could be more handy (yes, pun intended) than one’s own hand. There is no need to fear the dry webbing and/or dried fecal deposits and squirmy caterpillers within. As webbing is removed, also removed will be the objectionable dead/dry foliage and the fallwebworms. Simply dispose of the gathered material. All that is left behind is the leafless (but still living) branch and it’s intact buds which will produce the ensuing year’s foliage.



Bob Bauernfeind

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Insect Diagnostic Laboratory Report

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

Eva Zurek

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