

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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Don't get "Bored" by the Ash or Lilac Borer

Although the cooler spring we are experiencing will likely delay development, it is still important to be aware of potential problems with the ash/lilac borer (*Podosesia syringae*) that may occur on ash trees. Remember this is not the same insect pest as the Emerald ash borer (*Agrilus planipennis*). The Emerald ash borer is a wood-boring beetle whereas the ash/lilac is a wood-boring caterpillar. It is important to understand the difference. Adults of the ash/lilac borer are typically active in mid to late April to early May. They are brown, clearwing moths that resemble paper wasps. Peak moth activity usually occurs from May through June; however, we may be behind or on a "normal" schedule due to cooler temperatures that are occurring this spring. Adult females lay oval, tan eggs in cracks and crevices, or wounds at the base of plant stems. A single mated female may live about one week and can lay up to 400 eggs.

Eggs of ash/lilac borer hatch into cream-colored larvae or caterpillars with brown heads that are approximately 1-1/2 inches long when full-grown. Larvae cause direct plant injury by creating tunnels and feeding within the bark (cambium). In addition, larvae may bore further into the wood and feed within the sapwood and heartwood. This is the primary reason why systemic insecticides are less effective against caterpillar borers than they are against beetle borers. Larval feeding restricts the flow of water and nutrients causing shoot or branch dieback. The borer typically feeds near the base of plant stems creating swollen areas or cracks at the base of plants and where major branches attach to the trunk. Evidence of larval feeding is the presence of light-colored sawdust that accumulates at the base of infected areas. Remember, caterpillar or clearwing borers expel sawdust from cracks in the bark that accumulate at the base of infested trees and shrubs whereas beetle borers (particularly flat-headed borers) pack their tunneled galleries with sawdust-like frass. Ash/lilac borer overwinters as late-instar larvae located in feeding tunnels or galleries.

Ash/lilac borer larvae eventually tunnel partially out through the bark before pupating. Adult moths emerging from the pupae are unable to chew, so they simply push out the thin layer of bark remaining. When an individual moth emerges, the brown pupa shell is usually left behind, protruding from the exit hole. Sometimes this is barely visible; however, the pupa case normally extrudes out about a 1/2 inch. Male moths emerge first followed by females later on. Adult moths are 1.0 inches in length, with a brown-colored body, and they are very active fliers. In Kansas, there is one generation per year.

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As with most wood-boring insects, the primary means of managing or preventing problems with ash/lilac borer is to avoid undue “plant stress” by properly implementing cultural practices such as irrigation (watering), fertility, pruning, and mulching. Stressed plants are much more susceptible to attack than so called “healthy plants” (where is a “healthy plant” in Kansas?). For example, a two to three foot wide mulched area around the base of trees and shrubs will help alleviate injury from lawn mowers and weed-trimmers. Furthermore, it is recommended to avoid pruning plants in late spring through early summer (under usual weather conditions), which is when moths are present.

If necessary, products containing the active ingredients, permethrin or bifenthrin (pyrethroid-based insecticides) may be applied to the bark (at least up to six feet from the base) in order to prevent ash/lilac borer larvae from entering plants. Remember that clear-wing borer larvae crawl on the bark in search of entry points whereas flat-headed borer larvae do not crawl on the bark but instead chew directly through the bottom of the egg shell into the tree or shrub. Pheromone traps are commercially available that are designed to capture adult males, which indicates that females will eventually be laying eggs. This helps in timing applications of insecticides. Spray applications should be initiated seven to 10 days after capturing the first moths. In addition, be sure to check the traps two to three times per week and record the number of newly captured males. For more information regarding ash/lilac borer management contact your county or state extension specialist.



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Raymond Cloyd

Tweaked Kansas Insect Newsletter #2

BITS 'n PIECES:

Boxelder Bugs (BEB) – Where are they coming from?

Although more of an October/November/early-December topic, there have been several reports regarding the current presence of boxelder bugs around homes and buildings. This is not surprising. Last year was a banner year for boxelder bugs. The battle cry for boxelder bugs was, “They’re EVERYWHERE!!! They’re EVERYWHERE!!!”



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I am not aware of (cannot offer) any definitive/exact/factual reason(s) to explain the 2012 BEB population surge other than there are natural occurrences of population ebbs and flows for different insect species. Whereas there always are some localized reports of BEBs, last year's widespread appearances and numerous numbers of boxelder bugs (in Kansas and other states) provided material/stories for use in newspapers, television media and through internet/U-Tube outlets. What is not surprising are the reports of boxelder bugs activities during on the warmer days of our current Spring. Simply, the tremendous populations of Boxelder bugs going into overwintering sites easily explains (the expected) numerous boxelder bugs reviving and leaving to pursue/initiate their 2013 activities.

(Closely related to boxelder bugs are red-shouldered bugs. However I have never heard reports of them invading homes and buildings like BEBs In my experiences, they cluster beneath leaf litter and soil debris to survive winter.)

Comes the question: "Would spraying the boxelder bugs now stop them from coming back this Fall?" First off, after the overwintered boxelder bugs leave, mate and deposit eggs, they die! Thus **they** would not return in the Fall. It



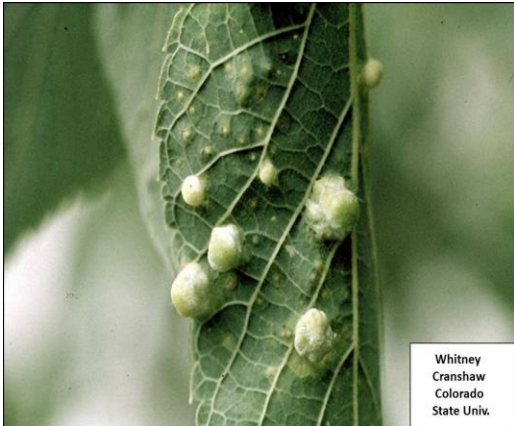
would be their progeny. So yes, killing any boxelder bugs now would obviously prevent them from reproducing. However, the few (or many) that an individual might kill would be comparable to the proverbial grain of sand in the Sahara Desert, or bucket of water out of the Pacific Ocean. There is little point in killing boxelder bugs at this point in time. One can only wait and see whether or not they have a "good year". It may be that their populations naturally decline to negligible levels and not even be reason for further discussion (maybe for years) before their populations again peak/become a nuisance.

Hackberry Nipplegall Psyllids

Another recent inquiry had to do with hackberry nipple galls. "What can I do to prevent nipplegalls?"

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Credit the individual posing the question because he is thinking ahead/being proactive. His concern was twofold.



He did not like the appearance of nipplegalls (upper left), and he wanted to prevent the Fall home invasion of the psyllids (lower right) after emerging from the nipplegalls which they initiated in the Spring.

The objection to the presence of nipplegalls is aesthetically driven. In of themselves, nipplegalls are not detrimental to overall tree health. In some instances, heavy galling may cause leaves to drop. However, being Springtime, trees will immediately produce a new flush of foliage ----- and the new leaves will be “perfect” because the nipplegall psyllids will have died after they completed their once-a-year egg-laying activities.

Despite this, some individuals will still be driven to apply/spray an insecticide in an attempt to kill psyllids (thus minimizing/eliminating egg-laying) and exposed nymphs (before they become enclosed and protected within galls). If attempted, sprays need to be applied when hackberry buds open and leaves unfurl and expand. This “tree event” coincides with the hackberry nipplegall psyllid’s lifecycle. The psyllids emerge from overwintering sites (any protective cover which enabled them to survive the rigors of winter) to deposit eggs on previously mentioned newly forming foliage. It is incumbent on people to closely monitor their individual trees to correctly time the insecticide application. The most commonly available insecticide products for purchase and use by homeowners contain the active ingredient carbaryl (product formulations often under the product trade name Sevin). Because mating and egg-laying activities for hackberry nipplegall psyllids is cited to occur for several weeks, several weekly treatments may be required when attempting to control the formation of hackberry nipplegalls. Read the product label to ensure its proper and safe use.

If individuals are successful in suppressing gall formation on their tree(s), does this mean that they will not experience home invasions of nipplegall psyllids in the Fall? **NO!** As mentioned above with regard to Fall home invasions of boxelder bugs, the few (or many) psyllids and nymphs that an individual might kill would be comparable to the grain of sand in the Sahara Desert, or bucket of water out of the Pacific Ocean. Because of their mobility, abundant numbers of psyllids from other sources can move into/invoke the home.

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Eastern Tent Caterpillars and European Pine Sawflies

While (for many people) robins and bluebirds are harbingers of Spring, for entomologists (well anyway, for one entomologist, **ME!**), eastern tent caterpillars and European pine sawflies signal that Spring has sprung. Certainly our current 2013 has been a cool/late Spring compared to last year's warm/early Spring. Utilizing accumulated Growing Day Degrees (base₅₀) serves to illustrate the stark contrast as seen in the following table:

Location in Kansas	Through March 31, 2012	Through April 19, 2013
Northeast (Powhattan)	292.0	80.7 (211.3 behind)
Northwest (St. Francis)	120.5	35.8 (84.7 behind)
Southeast (Baxter Springs)	333.5	167.4 (166.1 behind)
Southwest (Elkhart)	210.5	101.7 (108.8 behind)
Central (Ellsworth)	278.5	93.2 (185.3 behind)
Manhattan	277.5	107.1 (170.4 behind)

Since 2002, **eastern tent caterpillar** egg hatch has always occurred in March. I thought that with our current cool/cold Spring, that that track record might be in jeopardy. Things looked bleak as of as March 24, with the snow cover and only 30.6 accumulated GDDs (commencement of ETC egg hatch cited to occur between 100-200 accumulated GDDs).



Between March 24 and 28, there were no additional accumulated GDD's. On March 29th, there were an additional 5.8. Thus when emergences were noted at noon on March 30th (indicated with the white/blue ribbons), the total accumulation was 36.4.

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Since 2002, the hatch of **European pine sawfly larvae** basically lagged an average of 6 – 7 days behind the hatch of eastern tent caterpillar. This held true again: first EPS larvae were noted April 6 --- 50.6 accumulated GDDs.



For both of these insect species, their hatching began well below the minimum suggested 100-200. This does serve to illustrate that cited accumulated GDDs specified for certain insects may be imprecise. But then, precision is not intended. Rather, accumulated GDDs merely serve as guidelines to be used as a tool to signal a time at which people might begin to scout for the presence of specific pest species. Thus, if detected, treatments can be applied in a timely manner to prevent objectionable feeding damage.

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Added note: Jake Weber, Horticulture Extension Agent – Wildcat Extension District, reported that eastern tent caterpillar nests currently are very noticeable --- an indication that their activities have been underway earlier than observed in the Manhattan area. This is not surprising when one compares the traditional more rapid Spring warm-up in southeast Kansas.

Still Time To Burn Those Dead Pine Trees

Pine wilt disease (PWD) continues rampant in eastern Kansas. And it continues its sloooooow spread westward. Regardless of location in the state, the primary “attack” against PWD is to destroy dead pine trees before “pine sawyer beetles” (developing within) emerge to continue the disease cycle.

Even though so prevalent in eastern Kansas (it is there to stay), sanitation/burning is still recommended in an attempt to minimize additional/new localized incidences.

Western Kansas is in a better position to stymie the spread of PWD due to low incidences of PWD, coupled with Community Awareness Programs and an alerted citizenry reporting suspect trees. Trees assayed and confirmed to have PWD can quickly be removed and destroyed thus (hopefully) short-circuiting the disease cycle by curtailing beetle activities via the elimination of larvae, pupae and/or yet-to-emerge beetles.

Based on emergence studies, beetle emergence began in mid-May (May 22, 2000, and May 21, 2009). Thus the time is fast approaching that the burning of dead trees should be completed.



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Sincerely,

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