

# 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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## “Burn Baby Burn” ..... Not the song

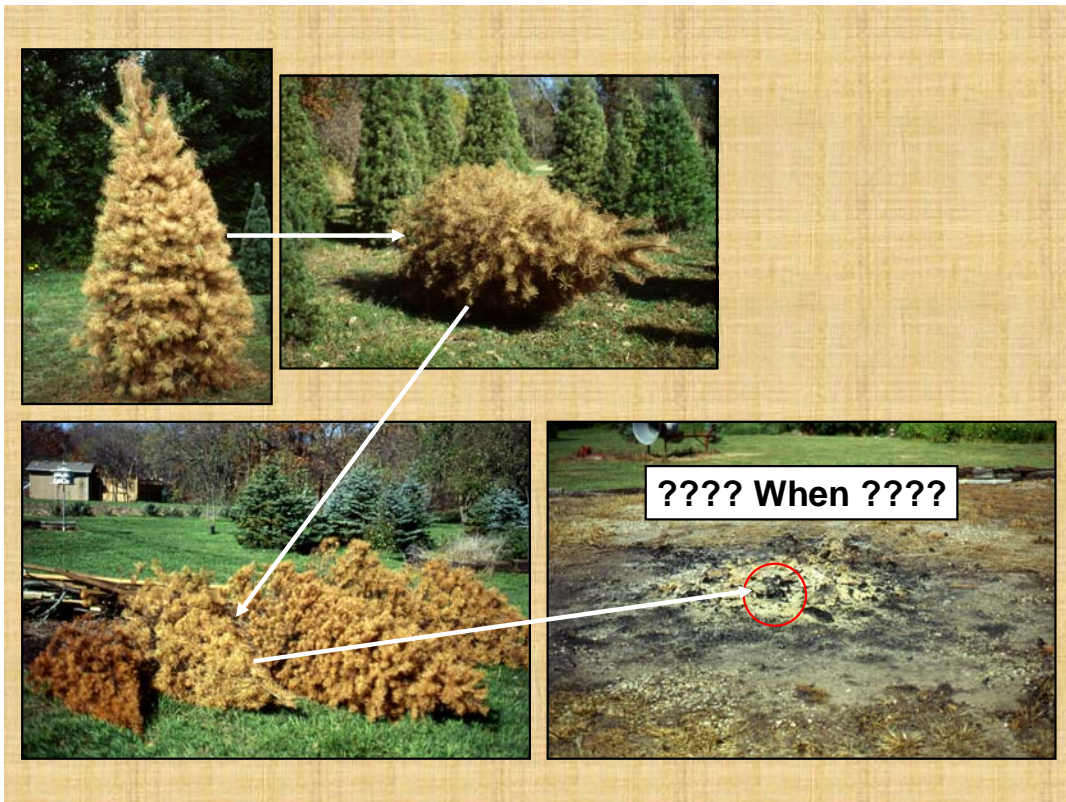
“Burn Baby Burn” is a song performed by the Northern Irish alternative **rock** band (?coincidentally?) Ash. While the lyrics are open to interpretation, I merely wish to borrow the title as an introduction to the subject of burning pine trees recently killed (fall of 2009 and winter 2009-2010) by pine wilt disease.

The pine wilt disease cycle is perpetuated by “pine sawyer” beetles, *Monochamus caroliensis*, which emerge from dead trees and transport the pinewood nematode to healthy trees. Trees killed by pine wilt disease are reservoirs for pinewood nematodes. The larvae of “pine sawyer” beetles overwinter as mature “borer larvae”. Currently, they are preparing to pupate within their pupal chambers. After a “new” beetle emerges from its pupa, it remains in the pupal chamber for a short period of time during which its exoskeleton/outer covering hardens. During these stages, the pupae and beetles are inactive ---- an ideal time for dispersal-stage pinewood nematode larvae to invade the tracheal chambers of their transport “host”.

The recommended method of disposing of diseased trees is their destruction by burning (Figure1). **TIMELY BURNING!**

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**Figure 1**

And when might that be? Mid-May as determined by 2 separate opportunities to monitor beetle emergences: 2002 and 2009 (Figure 2).

***M. carolinensis* emergence**

Date(s)	2000	2009			
5/21	0	3	5/21	0	3
5/22	26	5	5/22	26	5
5/23 – 26	35	25	5/23 – 26	35	25
5/27	6	0	5/27	6	0
5/28	19	3	5/28	19	3
5/29 – 31	13	11	5/29 – 31	13	11
6/01 – 04	12	23	6/01 – 04	12	23
6/05	5	5	6/05	5	5
6/06 – 08	10	15	6/06 – 08	10	15
6/09 – 16	14	24	6/09 – 16	14	24
6/17 – 23	1	23	6/17 – 23	1	23
6/24 – 30	0	6	6/24 – 30	0	6
7/01 – 07	0	2	7/01 – 07	0	2
7/08 – 14	0	4	7/08 – 14	0	4
7/15 – 21	0	2	7/15 – 21	0	2
7/22 – 28	0	0	7/22 – 28	0	0
7/29 – 8/01	0	0	7/29 – 8/01	0	0
8/02	0	1	8/02	0	1

**Figure 2**

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In these two instances (as highlighted within the designated “blue box”), the major emergence period spans 1 month. How long the actual emergence lasts is a moot point. however, because it is the beginning of the emergence period that is **KEY!** Timely burning means: **BEFORE THE CURRENT-SEASON BEETLE EMERGENCE.**

Preferably, trees should be burned by April 1, simply from the stand point of having that chore completed. With the advent of the current spring warm-up, other pressing needs may push the burning chore onto the back burner (apologies for the pun) and not then tended to until after the emergence has begun, and possibly has been completed ---- a point akin to, “Why close the barn door after the horse is gone?”

A visual example of the timely burning of a single tree is as follows: the diseased tree (Figure 3) was cut/harvested and shown of its branches. The bark was peeled back to reveal 113 oval entryways of “pine sawyer” beetle larvae into the trunk ----- conceivably meaning that (under optimum conditions) 113 beetles would be forthcoming.



Figure 3

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Thus (in Figure 4), the 113 beetles within the red lines would have been destroyed.



**Figure 4**

So, do not neglect what should be a yearly chore – especially important in the current PWD-free areas of the state.

*Bob Bauernfeind*

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## **“Happy 50<sup>th</sup> Anniversary” ..... Nantucket Pine Tip Moths (NPTM)**

Originally a denizen of the eastern United States, the first official reports of NPTM in Kansas were recorded in **1960** (notably) from Montgomery and Sedgwick counties.

The moths are small (only 6-mm in length) colorful jewels (Figure 5).

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**Figure 5**

Eggs are less than 1-mm in size, yellow in color and mostly deposited on the upper surfaces of pine needles. Newly emerged larvae feed on the surface of new growth and cause shallow injuries, or they may bore into the needle fascicles. Later the larvae move to the shoot tips, build a protective web at the base of the buds, and begin boring into the bud or stem tissue. Feeding continues for 3 to 4 weeks inside these tissues until larvae are fully grown. Pupation occurs within the cavities formed by the larvae.

Traditionally, NPTM produce 3 generations per year in Kansas. They overwinter as pupae in terminal buds or under the bark near the tips of other infested shoots. Initial yearly emergence occurs in early April. Second and third generation adult emergences begin in early June and late July, respectively.

Heavily infested hosts take on a reddish/burnt appearance (Figure 6).

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**Figure 6**

Repeated infestations leave trees distorted and unsightly (Figure 7).



**Figure 7**

When and where NPTM will occur is unpredictable. For people who have followed the Kansas Insect Newsletter may recall my personal experience. From 1993 through 2007, my two landscape Mugo pines prospered. But in 2008, one of the two (separated from each other by only 30-feet) took on the aforementioned “burnt” appearance [where the NPTM came from, and why they were attracted to just that one Mugo will remain a mystery].

Although I pruned out the infested tips in 2008, I utilized a pheromone trap in 2009 to monitor moth activities. When they first appeared (April 17), I applied a “timely” insecticide treatment. I continued to monitor for the remainder of last year ----- with no additional catches and (therefore) no additional treatments. As a precaution, I have monitored (again) this year. To date, no additional moths have been picked up. My assumption, then, is

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that I was successful in eliminating my infestation, and will therefore discontinue my pheromone trap at my home site. The Mugo is on its own, again (Figure 8).



**Figure 8**

I currently am trapping at a site on the K-State campus (Figures 9 and 10) which has a history of NPTM presence.

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Figure 9



Figure 10



Figure 11



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And the 2010 appearance of NPTM has hit with a vengeance: an initial emergence of 48 moths trapped the evening of April 2 (Figure 11). This appearance conforms to the “early April emergence” time frame. It was 2 weeks earlier than what I recorded in 2009. However, it should be noted that these were two different trapping sites. This is one of the dilemmas posed by NPTM ----- they can have a spotty appearance both location-wise and time-wise. For instance, Christmas tree producers will use pheromone traps to monitor NPTM activities at each plantation site. This allows them to apply insecticide treatments at the precise location at the precise time if and when required.

Who should be concerned with NPTM? Certainly, nursery personnel and Christmas tree producers who have Zero tolerance for NPTM damage ---- their livelihood is dependent on top quality “stock”. Landscape maintenance personnel need to be observant in order to deliver “good service” to their clientele. Groundskeepers for municipal parks industrial parks of other businesses/buildings with landscape plantings need to be alert in order to maintain high quality aesthetically pleasing surroundings. For the average homeowner (such as myself), it is a matter of wait-and-see-if they-appear. It may be another 15 years before the occurrence of another “ambush”.

*Bob Bauernfeind*

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## Asian Lady Beetle: Just Let Them Be

This is the time of year when the Asian lady beetle, *Harmonia axyridis* becomes active and is more noticeable to homeowners. The Asian lady beetle is a native of Asia and was introduced into the southeastern and southwestern portions of USA to deal with aphids on pecan trees. However, it spread rapidly to other portions of the USA. It is a tree-dwelling lady beetle, more so than the native species of lady beetles, and a very efficient predator of aphids and scales.

During the fall and early winter when the weather is cooler, the Asian lady beetle starts congregating on the south side of buildings and enters homes. The beetle does this because in their homeland of China they inhabit tall cliffs to overwinter. There are very few “tall cliffs” in Kansas, so the next best thing is a building.

### ***Biology***

The Asian lady beetle can be easily distinguished from other species of lady beetles by the presence of a pair of white, oval markings directly behind the head, which forms a black M-shaped pattern. Adults are 1/4 inch long, 3/16 inch wide and yellow to dark-orange colored. In addition, their body is usually covered with 19 black spots. Adults can live up to 3 years. Female beetles lay yellow, oval-shaped eggs in clusters on the underside of leaves. The eggs hatch into larvae that are red-orange and black in color, and shaped like an alligator. The larvae are primarily found on plants feeding on soft-bodied insects such as aphids and scales. They eventually enter a pupal stage. The pupae can be seen attached to plant leaves. The adults emerge from the

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pupae and start feeding on aphids. The adults can be found on a wide-variety of trees including apple, maple, oak, pine, and poplar. There can be multiple generations per year.

The Asian lady beetle is a nuisance pest because the adults tend to congregate and overwinter inside buildings in large numbers. The beetles release a pheromone that attracts more beetles to the same area. Although the beetles may bite, they do not physically harm humans nor can they breed or reproduce indoors. Beetles are attracted to lights and light-colored buildings, especially the south side where it is warm. They then work their way into buildings through cracks and crevices. Dark colored buildings generally have fewer problems with beetles. Adult beetles will feed on ripening fruit such as peaches, apples, and grapes creating shallow holes in the fruit. Large numbers of beetles feeding on fruit may cause substantial damage that the fruit is less appealing for consumption.

## *Management*

Beetles may be prevented from entering homes by caulking or sealing cracks and crevices. Beetles already in homes can be physically removed by sweeping them or vacuuming. Be sure to empty the vacuum bags afterward. Do not kill the beetles. Just release them outdoors underneath a shrub or tree away from the house. Commercially available indoor light traps can be used to deal with beetles indoors. The traps need to be placed near the center of a room and they are only effective at night in the absence of competing light. In addition, they work best when room temperatures are 75°F or higher.

If crushed, the beetles will emit a foul odor and leave a stain. The dust produced from an accumulation of dead Asian lady beetles behind wall voids may trigger allergies or asthma in people. Insecticides are not recommended for use indoors.

Homeowners that want to avoid dealing with overwintering beetles entering their homes can hire a pest management professional to treat the points of entry on the building exterior with a pyrethroid insecticide. The treatments need to be made in late September or early October before the beetles enter the building to overwinter. Beetles that are feeding on fruit can be “controlled” with insecticides labeled for use on fruit trees.

The beetle has been able to spread rapidly throughout portions of the USA because it was introduced into the country without its native natural enemies. However, populations may decline as cosmopolitan natural enemies start attacking them. For example, studies in North Carolina have demonstrated that up to 25% of the beetle populations are being parasitized by a tachinid fly.



*Raymond Cloyd*

## Clover Mite: The Intrusive Invader

There have been a number of inquiries associated with homes being invaded by...clover mite, *Bryobia praetiosa* populations. This is the time of year when clover mites may be present crawling around in homes, apartments, and office buildings. They can in fact invade buildings in large numbers. Clover mites typically enter buildings from the sunny side or southwest exposures. They are primarily a nuisance pest since they don't bite humans. However, clover mites will leave a red stain when accidentally or purposely crushed.

Clover mite populations are made up of only females since no males have been found. Adult clover mites are slightly larger than a pinhead (1/30-inch long), red in color, with extremely long, pink front legs, which may be used to distinguish clover mites from other mite pests. They primarily overwinter as eggs in protected locations. There is usually one generation per year. Clover mite adults feed on over 200 plant types including clover, grasses, ivy, honeysuckle, apple, and elm. Clover mites will build-up to extensive numbers in well-fertilized turfgrass, and their feeding will cause turfgrass to appear silvery or frosty. Clover mite inquiries have increased over the last several years, which may be associated with housing developments and the installation of well-fertilized turfgrass growing near the foundation of homes.

Potential management options to avoid having to deal with clover mites include 1) remove turfgrass near building foundations; 2) place an 18 to 36-inch wide band of an inorganic mulch around the foundation; 3) mow and trim turfgrass as short as possible; 4) avoid over-fertilizing turfgrass, especially with soluble nitrogen-based fertilizers; 5) remove weeds growing near the foundation of buildings; 6) remove ivy or other host plants growing around the foundation and walls; 7) use foundation plants that are not typically attractive to clover mites such as marigolds, petunia, geranium, arborvitae, and/or yew; 8) caulk or seal cracks or openings in the foundation. Clover mites detected inside can be vacuumed up; however, be careful to not crush them. Soapy water will kill clover mites on contact. Consult a pest management professional for recommendations regarding insecticide perimeter treatments that will help to keep clover mites from entering homes or buildings.



*Raymond Cloyd*

## Alfalfa Weevil

Alfalfa weevils continue to hatch throughout central KS. Most are still very small first instars (see photo) but they are rapidly developing and there are a few second instar (larger) larvae. The warm weather, and its predicted continuation, is allowing alfalfa weevils to continue egg laying and rapid growth as well as the associated feeding damage that supports this development. As feeding continues, the damage becomes much more visible, and thus costly. So, if treatment thresholds are exceeded treatment should be initiated to limit the damage caused by this serious alfalfa pest.



*Jeff Whitworth*

*Holly Davis*

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Sincerely,

Robert J. Bauernfeind  
Extension Specialist  
Horticultural Entomology  
phone: 785/532-4752  
e-mail: [rbauernf@ksu.edu](mailto: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](mailto:rcloyd@ksu.edu)

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

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



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