

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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September 17, 2010 No. 26

“Worms all over my house!”

That was what was reported to Donna Presiner, Pawnee County CEA-FAC. And Donna called to ask me what I thought the worms were. My first instinct was that “Worms all over my house” meant that worms were crawling up the walls inside the house --- and so I asked the basic questions that usually pertain to Indian meal moth larvae associated with food products in the cupboards, or pet products and bird seed stored on the premises. However, these “Worms all over my house” were not inside the home but on the outside.

I then thought about questions that I might ask to help me channel my thoughts as to other possibilities ---- the first being, what color are they. The response was that some were yellow and some were black. So then I thought that maybe there were wandering white-lined sphinx moth larvae, and I asked if the larvae had “horns” on their tailends and if they were 3-inches long. The response was, “They are only about an inch long”. Donna then said that she could send some pictures. And immediately upon seeing the images, I realized that a really good question would have been, “Are they real fuzzy-looking?” As seen in Figure 1, the worms were indeed fuzzy and yes, “Worms all over my house!” (Figure 1).



Figure 1

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It was no mystery as to what the worms were: the caterpillars of a tiger moth. And what is a tiger moth? Tiger moth is a catch-all term for a large diverse group of moths belonging to the taxonomic Family Arctiidae (11,000 species worldwide). Many species have “hairy” caterpillars which are popularly known as **woolly bears** or **woolly worms**. There are times when woolly bear populations seem to explode --- and when they have completed their feeding, they wander about as they look for places in which they can pupate. Early-in-the-season pupation results in the next generation of moths which then leads to the “Fall” batch of wandering woolly bears which are seeking overwintering pupation quarters.

Many tiger moths have striking patterns. An example would be the Virgin Tiger Moth (Figure 2).



Figure 2

Overall, woolly bears are of no economic concern. A notable exception is the Salt Marsh Caterpillar (Figure 3) which (when occasionally occurring in large numbers) are potential pests of practically all garden and field crops.



Figure 3

The woolly bear caterpillar most often recognized by people is the Banded Woolly Bear which is the caterpillar of the Isabella Moth (Figure 4).



Figure 4

The banded woolly bear's claim-to-fame is that some people believe that it is a harbinger of upcoming winter conditions: the longer the reddish/orange-colored band, the shorter and milder the winter ----- and conversely, the shorter the middle band, the longer and colder the winter. One has to ask then, "Longer or shorter in comparison to what standard?" **THERE IS NO STANDARD!**

Simply, there are changes in coloration as caterpillars grow/molt. Also, there are variations between individuals within the species. This is borne out by observed variations in appearances of banded woolly bear caterpillars from the same clutch of eggs. Thus there is nothing factual/concrete to correlate the appearance of banded woolly bears and the impending winter conditions.

Bob Bauernfeind

Army Cutworms in Alfalfa and Wheat

Army cutworm adults (moths) have been reported from central Kansas (see photos). These insects overwinter in Colorado and migrate into Kansas every fall and they oviposit on any available vegetation. Thus, alfalfa and wheat seedlings may be at risk if this egg laying occurs in the next few weeks. Since they come from Colorado and already have reached the central portion of the state, these crops may already be infested anywhere between 77 highway and the Colorado border. They may migrate farther east yet this fall. So growers need to be vigilant in monitoring for "window paning" damage and then scout for the insect involved.

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There are still a lot of fall armyworms in sorghum and alfalfa fields and probably will be until the first hard frost (20° F). Fall armyworms will feed on wheat also but they won't continue to cause damage through the winter and into the spring as the army cutworm may, because fall armyworms do not overwinter in Kansas. For management recommendations see the Wheat Insect Management Guide for 2010:

<http://www.ksre.ksu.edu/library/ENTML2/MF745.PDF>



Army cutworm moth



Army cutworm larva

Jeff Whitworth

The Impact off Horticultural Practices on Insect and Mite Pests

The proper implementation of sound horticultural practices has the greatest impact in maintaining healthy plants in gardens and landscapes; and limits problems with insect pests especially wood-boring insects (e.g., beetles and caterpillars). Horticultural practices such as watering, mulching, pruning, fertilizing, and plant selection and placement—when properly performed—reduce plant stress, which is the major cause of most insect and mite pest problems.

Watering: under or over-watering plants in gardens and landscapes often times leads to “stress,” thus increasing susceptibility to wood-boring insects. For example, certain “stressed” plants emit volatile chemicals that attract many different types of wood-boring beetles. These beetles use the chemicals emitted to assist them in easily locating plants whose natural defenses have been compromised by improper watering practices. Underwatering plants may result in higher populations of the twospotted spider mite (*Tetranychus urticae*) because there is less moisture in the air from ground and foliar evaporation; resulting in lower relative humidities and drier air conditions, which are favorable for twospotted spider mite development and reproduction.

Extreme fluctuations of wet and dry soil conditions such as we experience in Kansas may be detrimental to plant health and thus promote “stress.” Extended periods of wet soil may kill plant roots due to a lack of oxygen. These roots are not available later on to up-take water when dry conditions persist. The visual symptoms resulting from this kind of

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stress (e.g., leaf yellowing, premature leaf coloration, and possibly branch dieback,) may not be expressed by large trees for 3 to 4 years; however, the trees are susceptible to attack from wood-boring insects. This often times leads to confusion as to the actual cause of plant decline and eventual death. In this case, wood-boring insects are secondary, whereas the “stress” due to extreme wet and dry soil conditions was the primary factor responsible for plant death.



Mulching: proper mulching tends to moderate soil temperatures, conserves soil moisture, reduces competition from other plants, reduces weed populations, prevents soil compaction, and minimizes soil erosion. However, improper use of mulches may lead to increased plant susceptibility to insect and vertebrate pests. For example, applying “too much mulch” or covering the plant crown prevents the bark from exchanging oxygen, and the plant suffers from asphyxiation. As such, this leads to plant “stress” and a higher likelihood of attack from wood-boring insects. It is recommended to keep mulch at least 2 inches away from the crown or base of trees. Thick mulches, those more than 6 inches, also provide a moist, protective habitat that voles find attractive. Voles hide in the mulch and feed on the bark (cambium) and may girdle plants—eventually killing them.

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Pruning: proper pruning during the growing season generally involves removing dead, diseased, damaged, and weakened growth to maintain plant health and vigor. However, excessive pruning during the growing season such as removing large portions of the plant canopy results in “spurts” of succulent growth that tends to be susceptible to insect pests. Suckers produced from heavy pruning are also susceptible to aphids and other insect pests because this succulent tissue has a thin cuticle, which is easier for insect pests with piercing-sucking mouthparts including aphids, leafhoppers, and plant bugs to penetrate. Furthermore, improper pruning cuts including leaving stubs may emit volatile odors that attract and provide easy entry sites from wood-boring insects.

Pruning trees or shrubs at certain times of the year may increase problems associated with certain wood-boring insects. It is generally recommended, for example, to avoid pruning birch trees, especially white birch, from May through August because the bronze birch borer (*Agrilus anxius*) adult females are flying around looking for places to lay eggs. So, pruning during this time interval creates wounds that emit odors that attract the females.



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Fertilizing: similar to watering, over and under-fertilizing plants often leads to “stress” or the production of susceptible plant growth. Excessive applications of highly-soluble nitrogen-based fertilizers results in the production of lush, weak growth that is susceptible to attack by insect pests (aphids in particular). Moreover, plants that receive excessive amounts of fertilizer may allocate resources to growth (e.g., leaf production) and divert resources away from the metabolism of secondary plant metabolites or plant defensive compounds. This tends to increase susceptibility to wood-boring insects. Conversely, plants unable to obtain sufficient amounts of nutrients are also more prone to attack by insect and/or mite pests because their natural defense system has been compromised.

In addition to the horticultural practices mentioned above, other practices may also increase problems with wood-boring insects. First, it is important to avoid injuring the base of trees and shrubs with lawn-mowers or weed-whackers because this removes essential cambium tissue that is responsible for transporting food upward to the leaves. This type of injury, which can easily be avoided by mulching around the base of plants, places extreme “stress” on plants. As already previously mentioned; many wood-boring insects are opportunistic and tend to thrive on “stressed” plants. Second, newly planted or transplanted trees and shrubs may be susceptible to attack by wood-boring insects. For example, the flat-headed apple tree borer (*Chrysobothris femorata*) attacks recently planted trees or shrubs because these trees (or shrubs) are initially “stressed.” As such, it is essential to properly water plants, provide adequate drainage, and mulch young plants to minimize “stress.”



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Plant selection and placement: proper selection of a planting site results in the establishment of ‘healthy’ plants that are better able to defend themselves and are less susceptible to attack by certain insect pests. For example, white birch trees located on the south-side of a white house are more susceptible to attack by bronze birch borer because white birches are unable to tolerate the extreme sunlight conditions and reflective heat projected, which causes “stress.” It is recommended to plant a tree or shrub that tolerates these types of conditions. Furthermore, be sure to consult (and read) available resources for information pertaining to proper planting zone, soil pH, mature plant size, and other factors (e.g., environmental and biological) before selecting or purchasing any plant material.

Proper implementation of sound horticultural practices including watering, mulching, pruning, fertilizing, and plant selection and placement is important in maintaining plant health and avoiding “stress.” However, when these practices are improperly performed, problems with insect and mite pests may be prevalent, which then requires the use of pesticides (in this case, insecticides and miticides). As such, maintaining proper horticultural practices often times avoids outbreaks of plant-feeding insects and mites and thus the need to apply pesticides.



Raymond Cloyd

Report from the Kansas State University Insect Diagnostic Laboratory:

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

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September 13 2010 – Riley County – Wheel bug nymphs in home
September 13 2010 – Sedgwick County – Genista broom moth caterpillar on false indigo
September 13 2010 – Graham County – Carpet beetles in home
September 13 2010 – Rooks County – Booklice (*Liposcelis* sp.) in home
September 13 2010 – Saline County – *Crambus* sp. grass moths in lawn
September 13 2010 – Barton County – Green scarab, *Euphoria sepulcralis* & carpenter worm larva on willow tree
September 13 2010 – Elk County – Midge larvae in stool
September 13 2010 – Riley County – Dragonfly and cicada around home
September 14 2010 – Smith County – Possible insect damage in buffalo grass
September 14 2010 – Cowley County – Fall Webworm on Pecan
September 14 2010 – Labette County – Maple bladdergall mite on maple
September 14 2010 – Haskell County – Insect skeletonization damage on elm
September 14 2010 – Haskell County – Insect boring damage on maple
September 14 2010 – Ford County – Spider mite damage and predatory mites on honeylocust leaves
September 14 2010 – Jackson County – Pine needle scale on Swiss mountain pine
September 14 2010 – Smith County – Tortricid caterpillar leaf-rolling damage on privet
September 15 2010 – Tuscarawas County, OH – Hickory horned devil caterpillar on golf course
September 15 2010 – Wyandotte County – House centipede in home

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,

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