Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel

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Clover Mite

We have been receiving a number of inquires associated with homes and schools 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, the south or southwest exposure. 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 inquires have increased recently, which may be associated with housing developments and installation of well-fertilized turfgrass growing near the foundation of homes.

Potential management options to avoid dealing 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, located near building foundations; 5) remove any 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 professional pest control operator for recommendations regarding perimeter treatments to keep clover mites from entering homes or buildings.

Raymond Cloyd

Alfalfa Weevil

First indications of alfalfa weevil activity were observed by Chuck Otte, Geary Co. Extension Agent on 17 March. On 18 March a few 1st instar (newly hatched) weevil larvae were observed in south central KS. We sampled some fields in north central KS on 26 March (temperatures in the mid-thirties) and collected only 1st instar larvae (Photo 1). Photo 1 also shows feeding damage by newly hatched larvae, but these four larvae were all in the one stem shown, and from photo 2 you can see that these larvae will decimate this plant as they continue to feed and thus there will be no foliage to swath if this continues. Most plants were not yet infested or had only one larva which caused "pin-prick" sized holes (photo3). Alfalfa weevil development / feeding will occur at temperatures above 48° F. So, if the 10 day forecast is accurate, there should not be very much feeding or more egg hatching during that timeframe. Also, insecticides usually provide better control at temperatures above 50° F, so it will probably be a good idea to wait until warmer / drier conditions return before treating any fields exceeding the treatment threshold. All larvae sampled on 26 March were well protected in new plant tissue down around the crown of the plants, thus, the next few days of cold weather will not be lethal to alfalfa weevils but it will slow their development and thus feeding damage.

Also, no alfalfa aphids were noted.

Jeff Whitworth Holly Davis

Hessian Fly

Thia Walker with Colorado State University reported Hessian flies in her pheromone traps near Holly Colorado around the middle of March. We will be interested to see how long the flights will last and to if these flies are able to establish this spring. It has been a dry spring so far, but moisture is in the forecast. If we do get moisture and the flights continue then that should increase the chances of seeing lodging damage this spring.

Russian Wheat Aphid

We are getting reports of Russian wheat aphid activity along the Colorado border. Not too surprising given the dry weather. Fields in far western Kansas should be watched closely this spring to see if populations are on the increase. For more information checkout our web page at:
http://www.entomology.ksu.edu/DesktopDefault.aspx?tabindex=191

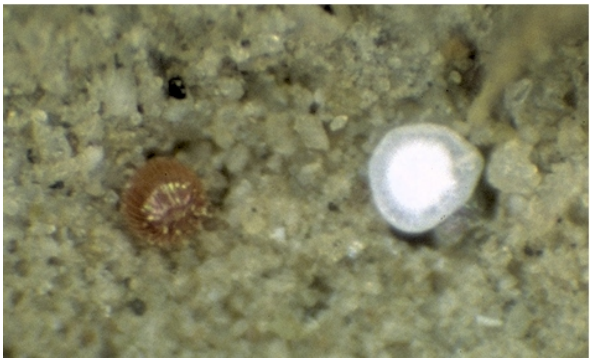
http://www.entomology.ksu.edu/DesktopDefault.aspx?tabindex=191&tabid=490&tabid=490

Phil Sloderbeck

Brown Wheat Mites

Much of western Kansas has received less than 1/10th of an inch of rain this year (prior to today's snowfall) and is experiencing severe drought conditions. Certain pest problems on wheat tend to be exacerbated by dry conditions and one of these is the brown wheat mite.

Brown wheat mites are parthenogenetic, not unlike aphids, so all individuals are female (Fig. 1) and the outbreak potential is high. Several generations may occur in the spring with populations usually peaking around mid-April. Eggs are laid in the soil and are either brick red or white in color (Fig. 2). Spring populations begin to decline once females begin to produce the white eggs, as these will not hatch until fall, giving rise to several more generations. Adult mites generally hide in the soil to escape adverse conditions such as freezing temperatures, but can be seen feeding on the leaves of wheat plants during daylight hours on warm days.



Brown wheat mites have weak dispersal abilities, so they may migrate into fields from adjacent volunteer plants. They are also favored by continuous wheat that provides them with an uninterrupted food supply from year to year. Heavy rains can reduce populations very quickly, but it is not clear if overhead irrigation can cause equivalent mortality. There is also some concern that no-till conditions may favor the brown wheat mite.

Less soil disturbance might favor survival of over-summering eggs and the residue may reduce mortality from rain. The threshold for treatment is considered to be several hundred mites per row foot, but if plant damage is substantial, recovery is contingent on plants obtaining sufficient moisture. Treatment options and guidelines are available in the K-State Wheat Insect management Guide:

http://www.oznet.ksu.edu/library/ENTML2/MF745.PDF

The field pictured below (Figs. 3 & 4) represents a complete loss that was probably avoidable, largely because irrigation was available but not applied in a timely manner. Like so many similar situations, there appears to be a complex of problems. Wheat was poorly tillered due to late planting, making it more vulnerable to mite damage. Early in spring, the grower applied 50 lb foliar N which is slightly excessive, and then failed to follow up with irrigation that would have enabled plants to utilize the fertilizer, possibly reduced the mite population, and certainly assisted subsequent plant recovery.

J.P. Michaud

"Borers" in Firewood ……

Like clockwork in early spring, people report the presence of beetles in homes, screened-in porch areas, garages and out buildings. The source of the beetles can often be traced to nearby stacks of firewood. Invariably, beetles emerging from stored wood are the adults of wood-boring larvae. In particular, 3 beetle species are commonly encountered:

Painted Hickory Borer, Redheaded Ash Borer and Banded Ash Borer (Figures 1 – 3).


Figure 1 – Painted Hickory Borer


Figure 2 – Redheaded Ash Borer


Figure 3 – Banded Ash Borer

While these three beetle species may deposit eggs in freshly cut unseasoned logs destined for lumber use, they more often are attracted to weakened, dying and dead trees which are prime candidates for selection as "firewood. It is important to note that despite being named after a specific tree host, these beetle borers have a wide host range including black locust, honey locust, oak, hackberry, walnut, hedge and mulberry …… all common "firewood" tree species.

Once eggs have been deposited, the borer larvae continue their development whether the wood is on-the-stump or cut and stacked in a wood pile. After larvae have completed their development and pupation, the beetles emerge. If beetles emerge and are entrapped in an indoor confined area, their presence becomes known as they crawl and fly about.

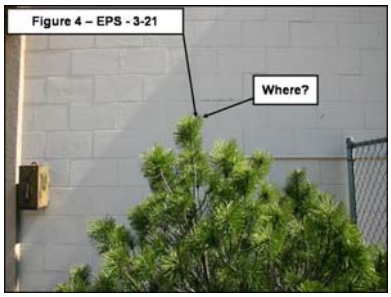
Will treating firewood with an insecticide kill the developing larvae and thus prevent its development to the adult stage? **NO!** Insecticides applied to the surface of firewood do not penetrate into the wood to kill larvae embedded deep into the wood.

Do the emerging beetles constitute a threat to indoor/structural wood? **NO**! Borer beetles deposit eggs outdoors in their previously-described preferred ovipositional sites.

What to do? Eliminate/kill them in whatever manner you choose. Or, simply capture the beetles when they appear and release them back to the outdoors.

First Out-Of-The-Chute …….

And the 2009 winner is the **European pine sawfly**. The first-observed hatch in the Manhattan area was Thursday, March 19. Although not readily apparent from a distance (Figure 4), as one looks closer, "dirt on the needles" becomes apparent (Figure 5). In fact, the "dirt" is clusters of newly-emerged larvae encircling individual needles (Figure 6).



And the Runner-up ……

While not present on Sunday, March 22, **Eastern Tent Caterpillars** were first observed on Monday, March 23 (Figure 7). Based on the amount of webbing, larvae probably began hatching sometime late Sunday evening or early Monday A.M.

People generally associate/link insect activities to warm/hot weather. Yet these two pests begin (and complete) their feeding cycle during the cool of early spring. The following table provides yearly comparisons of emergences from overwintered eggs in the Manhattan area:

	2002	2003	2004	2005	2006	2007	2008	2009
ETC	**3/20**	**3/26**	**3/21**	**3/29**	**3/30**	**3/16**	**3/28**	**3/23**
EPS	**4/1**	**4/1**	**3/26**	**3/30**	**3/30**	**3/23**	**4/16**	**3/19**

Note that the above-dates are from the Manhattan area where Growing Day Degrees$_{50}$ accumulated between March 1st, and March 19th and March 23rd were 50.5 and 86.5, respectively. From the 4 corners of Kansas as well as a central point, GDD$_{50}$ accumulations for those same dates were: Baxter Springs – 112.5 and 176.5; Elkhart – 63.5 and 100.5; St Francis – 17.0 and 36.5; Hiawatha – 38.0 and 69.0; and Ellsworth – 56.5 and 92. Thus surely EPS and ETC egg hatch in southern Kansas preceded that in Manhattan, whereas activities in northern Kansas locales have yet to occur (but are not far happening).

As specified in previous years' Kansas Insect Newsletters, the whole concept of recording GDD$_{50}$ is not to accurately pinpoint the onset of any particular event, but rather to provide a "loose" guideline/approximation of when impending activities are close-at-hand.

Even if provided with this information, unless a person has located/identified/marked eggs/egg masses, looking for small larvae will prove frustrating ----- one might be looking for something that is not even present. If, however, in the previous year he/she experienced deprivations attributed to either species and did not undertake any "corrective actions", there is the strong likelihood that there will be a repeat performance. Thus for those individuals, although they may not detect the beginning of the active feeding stages, a close weekly inspection should soon reveal the presence of current-year infestations.

Eastern tent caterpillars construct "tents" in the forks/crotches of branches. After two weeks, web masses will measure 2-3 inches across and be readily visible (Figure 8).

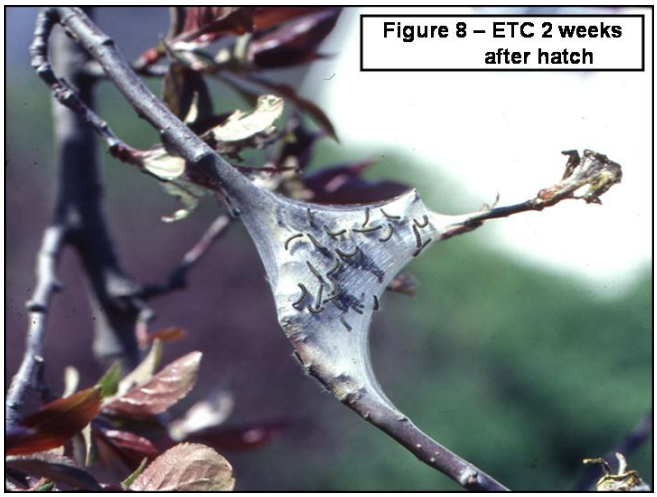


Figure 8 – ETC 2 weeks after hatch

Often times, tents can be picked out from afar if the sun is low and casts a reflective gleam off the webbing. Larvae may be actively sunning themselves on the tent surface, or at other times housed within. Rather than pruning out the branch and tent, simply use your fingers to remove the webbing. The larvae on or within will be removed at the same time. If tents are not within arm's reach, use a stick/pole to disrupt/dislodge the webbing. If one decides to apply an insecticide, it is not necessary to treat the entire tree. Rather, just treat the foliage immediately adjacent to the tent mass which is that which the larvae will first encounter and feed upon.

Small European pine sawfly larvae are nibblers. Given their tiny mouthparts, they feed on the tender succulent portions of pine needles leaving behind the tougher needle midribs (Figure 9). When deprived of their protective epidermal coverings, the remaining midribs shrivel and become brown and twisted (Figure 10). Thus from afar, "browned terminals" are vividly contrasted against intact green foliage.

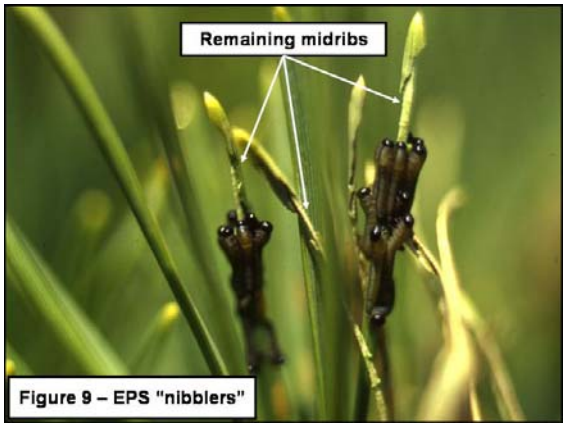


Figure 9 – EPS "nibblers"


Figure 10 – Desiccated needles

Up from the South…….

Although primarily feeders associated with plants of the grass family, black cutworms are not considered a lawn pest. Rather, they have more potential to damage to closely-manicured golf course greens. Moths deposit a single to several eggs to the tips of grass blades in rough areas bordering fairways and greens. Newly emerged larvae feed in these grassy areas. However, during their last several developmental stages, larvae move onto greens where they burrow into the soil. Subsequent tunneling and feeding activities result in depressions which mar putting surfaces (Figure 11).

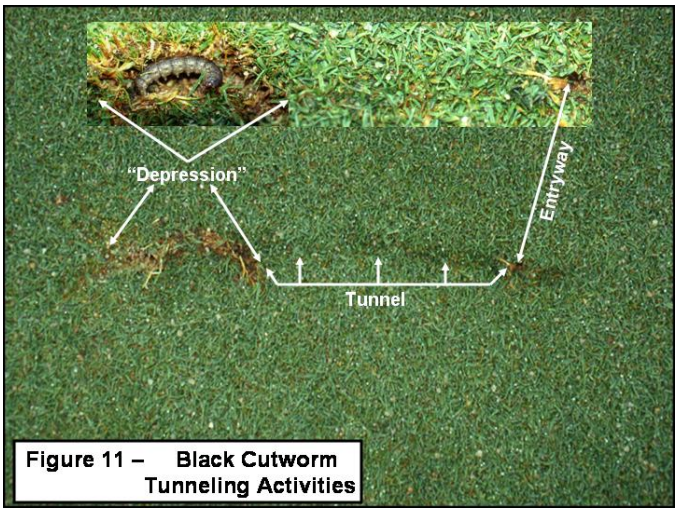


Figure 11 – Black Cutworm Tunneling Activities

Black cutworms are a subtropical species and therefore are incapable of surviving winters in Kansas. However, on a yearly basis, black cutworm moths (Figure 12)

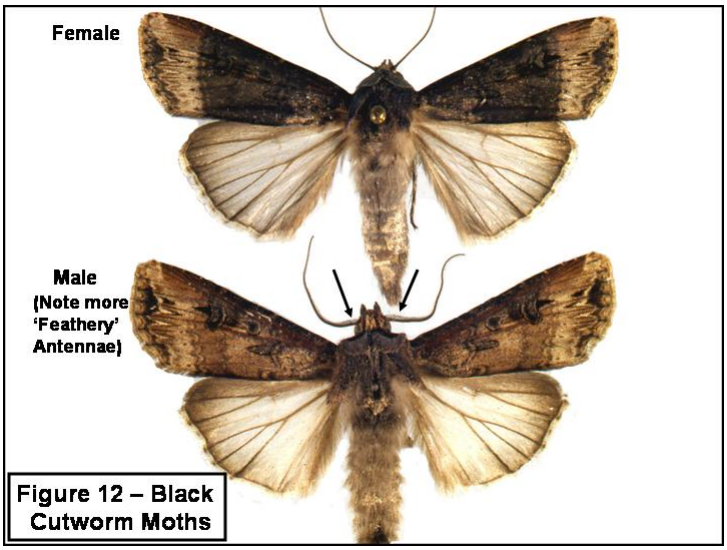


Figure 12 – Black Cutworm Moths

(originating from overwintering areas along the Gulf coast) migrate northward and traditionally arrive in Kansas at the end of March and beginning of April. The 2009 flight into Kansas is underway as determined by black cutworm pheromone trap captures. The first catch-of-the-year was the evening of March 16 with an additional individual recorded the evening of March 19. And arriving ahead of last Monday's storm front, 4 more were trapped that evening.

The current migrating moths produce the initial yearly generation of black cutworms. Due to relatively cool springtime temperatures, it may not be until mid-May that larvae (under the cover of darkness) move out of rough areas onto greens. It is at this time that greenskeepers need to be especially observant while conducting their early morning "greens chores". While the sun is low on the horizon, cutworms may still be actively moving onto greens. Or, indications of their presence may be in the form of "trails through morning dew". By keeping accurate notes, insecticide applications need only be applied to those greens from which the presences of black cutworms have been recorded.

Bob Bauernfeind

Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostician Laboratory from March 1st to March 26th.

March 05 2009 – Geary County – Bed bugs in home
March 05 2009 – Sedgwick County – Water mites found in small lake
March 09 2009 – Graham County – Flat bugs in home

March 11 2009 – Jefferson County – Face flies overwintering in home
March 12 2009 – Sedgwick County – Paper wasp nest in shed
March 16 2009 – Harvey County – Green June beetle grubs in garden
March 20 2009 – Harvey County – Possible clothes moth damage to clothes
March 24 2009 – Anderson County – Reduviidae (assassin bug) nymph
March 25 2009 – Riley County – Bloodsucking conenose nymph
March 26 2009 – Johnson County – Fishing spider found in basement

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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Kansas Insect Newsletter

March 27, 2009 No. 3

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