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Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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Chigger season is in full swing:

Warm and rainy days make chiggers smile and reproduce into large populations. Chiggers are parasitic and predatory mites. In Kansas, there are many species of chiggers, however, almost all chiggers found on people represent only one species. Chiggers have four developmental stages: eggs, larva, nymph, and adult. The development from egg to adults takes about 8 weeks. Only larvae are parasitic and feed on people and animals. Nymphs and adults feed on insects, other mites, and mite eggs. Chiggers overwinter as adults and start laying eggs in the spring. Hatched larvae hide in the grass and seek a human or animal host. Once they attach, they start feeding but not on the blood. Chigger larvae actually attach their mouthparts to the skin surface, usually around hairs or pores and feed on skin cells. The bites result in itching caused by histamines that are released from broken skin cells. Chiggers do not transmit any pathogens in the U.S.

Prevention and protection

One of the best preventative steps is cutting grass short, so the sunlight can reach the ground. Chiggers don't like direct light and low humidity and they will move out from sunny sites. Spraying insecticides on the grass is not recommended, unless you have a chronic problem with chiggers. In that case contact K-State Entomology Research and Extension for recommendations. When outdoors, it's a good idea to avoid walking or sitting in tall grass or even short grass that is shaded. Repellents based on DEET or permethrin are very effective (also against ticks and mosquitoes). Make sure you follow the instruction label on the product for best performance and safety. For chigger protection, spraying the shoes and (legs up to the knees if in tall grass) should be good enough.

Bite treatment

Attached chiggers can be washed away by warm soap water. To stop itching you need to seal the bite from the air. Applying the combination of a sealant with antihistamine is the best approach. I would recommend, for example, using Caladryl brand which contains (calamine lotion and antihistamine benadryl). Sunscreens with benzocaine, vaseline, or baby oil are good first aid to stop itching.



Chigger larva
University of Georgia

Ludek Zurek

2003 Restricted Use Pesticide Publication Available :

The 2003 Restricted Use Pesticide publication (MF-710) is now available through the Extension publication distribution office. It is also available on the publications website at <http://www.oznet.ksu.edu/library/entml2/mf710.pdf>.

There will not be a 2003 Worker Protection Standard (MF-2121) publication. The database used to create the WPS publication was lost in a transfer to a newer database computer system at the Kansas Department of Agriculture. There are no plans to recoup this information database at this time. I have requested that the 2002 Worker Protection Standard publication remain posted at <http://www.oznet.ksu.edu/library/entml2/mf2121.pdf>. This list will still be reasonably close to the 2003 WPS list. The information in the 2002 WPS publication will continue to be re-evaluated as pesticide registrations continue throughout this 2003 year and into the 2004 registration year. When appropriate, the 2002 Worker Protection Standard list will be dropped from the publication list as well.

If you have any questions regarding either of these publications please contact Sharon Dobesh at 785-532-4748 or by e-mail at sdobesh@oznet.ksu.edu.

Sharon Dobesh

Wood Roaches:

Numerous inquiries were received last week regarding "large, dark-colored roaches" entering or trying to enter homes. From the description of the insect and its behavior this sounds like the common Pennsylvania Woods Cockroach. This is a very common insect in Kansas, usually found under damp, decaying wood or leaf litter. It is a fairly large roach (adults may be up to an inch or more in length) very active and quick, and often

attracted to lights. They usually enter homes because they are attracted to lights or maybe brought in with firewood. However, wood roaches, and there is another common species in Kansas that looks similar to the American Cockroach but is usually light brown in color with a more distinctive dark-colored head and eyes, don't colonize in homes and therefore are not considered a household pest. Once inside the home they will usually actively seek ways to return outside. They may also commonly be found around or under pet feeding or watering sites especially if these are close to areas influenced by lighting. The best way to reduce the incidence of these roaches entering your home is to use outside lighting only as needed, keep doors and window screens closed as much as possible, ensure all doors and windows are tight-fitting, and ensure all cracks and sills are well-caulked. Also, don't forget the garage. This seems to be a common entrance for many wood roaches so the same suggestions above should apply.

Jeff Whitworth

Wheat Head Armyworm:

Wheat head armyworms are being reported from Southeastern Colorado and Southwestern Kansas. The wheathead armyworm is an insect that is often overlooked because its coloration allows it to blend into the head, unless one looks very carefully. It often occurs at low levels in the margins of wheat fields, feeding on developing grains. The damage in mature kernels looks a lot like that caused by stored grain weevils and can sometimes lead to discounts on grain. Since the larvae feed directly on the developing seeds the damage potential is fairly high if high numbers are present. However, wheathead armyworms generally have very good natural controls so populations remain low and little damage is observed.

If you decide to survey for wheathead armyworm in your area, a sweepnet is probably the best way to sample for it. Keep in mind that it tends to build up in field margins, which can lead to false alarms if the whole field is not sampled. No chemical control data or economic threshold studies are available for this insect, and treatment would not be justified unless populations were detected while larvae were small and the heads were still green. In which case, if numbers appeared unusually high then treatments labeled for armyworms on wheat might be considered as possible management options. See: <http://www.oznet.ksu.edu/library/ENTML2/MF745.PDF>

Phil Sloderbeck

Recent Press Releases:

Not sure if you are aware or not, but in addition to the newsletter our staff also contributes to press releases that may be of interest. Lists of these can be found on the web at: <http://www.oznet.ksu.edu/entomology/extension/topics.htm> or under Entomology at <http://www.oznet.ksu.edu/news/>

Grasshoppers Staging 'Spotty' State Invasion (June 11, 2003)

http://www.oznet.ksu.edu/news/sty/2003/grasshopper_invasion061103.htm

Tick Bits (June 5, 2003) http://www.oznet.ksu.edu/news/sty/2003/tick_bits060503.htm

Don't Go into Tick Territory Without Following the 'Rules' (June 5, 2003)
http://www.oznet.ksu.edu/news/sty/2003/tick_territory060503.htm

Some Mosquito Products Can Be Worse Than Having No Protection (May 23, 2003)
http://www.oznet.ksu.edu/news/sty/2003/mosquito_products052303.htm

K-State Entomologists Asking Kansans to Report Dead Birds (May 14, 2003)
http://www.oznet.ksu.edu/news/sty/2003/dead_birds051403.htm

The Mosquitoes Are Active; Prepare for West Nile Virus (May 8, 2003)
http://www.oznet.ksu.edu/news/sty/2003/mosquitoes_active050803.htm

Phil Sloderbeck

Moth Flights/Activities:

People have been taking notice of the current flurry of fluttering wings. The delicate creatures (which are seemingly everywhere) are lepidopterans: butterflies and moths. Whereas butterflies are active during daylight hours, moths are generally nighttime fliers (although some moth species are seen foraging on various flowers during daylight hours).

Many people know that moths and butterflies, in of themselves, are not cause for concern in terms of causing feeding damage to plants. These adult insect forms possess a coiled proboscis/mouthpart which they elongate as they suck up liquids such as water, fermented exudates and nectars. Rather, people become concerned when moths and butterflies appear in large numbers because they know that these adults will be mating and depositing eggs which will hatch into plant feeding caterpillars. Thus people ask, "With all of these moths and butterflies flying about, what is in store for my garden and landscape plants?"

Most often, the answer is, "Do not be overly concerned". And this answer is based on what species of butterfly or moth are people seeing. Currently during daytime hours, red admiral and painted lady butterflies seem to fill the air. Hackberry butterflies (Figure 1) have the annoying habit of startling people as they dart out when people pass by. Hackberry butterflies are not shy about landing on vehicles (Figure 2).



Figure 1



Figure 2

The larvae of red admiral, painted lady and hackberry butterflies have definite host preferences: nettles, thistles and clovers, and hackberry trees, respectively. Thus homeowners need not be concerned about abundant numbers of these butterfly species.

For moths, it is especially important that their species be identified. For instance, at night, when in highly lit areas (convenience stores, department stores, grocery stores, parking lots), there may be a multitude of **forage looper moths** (Figure 3, male top, female bottom). When resting, forage looper moths have a stealth-like appearance (Figure 4).



Figure 3



Figure 4

The larvae of these moths occur primarily in rural settings feeding on clovers and alfalfa. After they complete their growth and development, they cease feeding, then pupate. The resulting moths may be drawn to the lights of the city. Thus what might be perceived as an urban moth population actually had rural origins. Forage looper moths will deposit their eggs back out-in-the-country on the appropriate host plants. So there should be no concern for damage to garden and landscape plantings

The majority of **army cutworm moths** (Figure 5) similarly are rural in origin, primarily developing in wheat and alfalfa, but which are attracted the lights of cities/urban settings. Army cutworm moths are “the millers” which appear in huge numbers and fly out of garages, sheds, cars, etc. when doors are opened, or come streaming out of low bushes when people walk by. There are various “forms”/races of army cutworms, and therefore people may note the varied wing patterns exhibited by these moths (Figure 6). Also, females appear more grey whereas males tend to have brownish overtones.



Figure 5



Figure 6

Unlike forage looper moths which mate and produce another local generation, army cutworm moths seemingly, on cue, just disappear. In actuality, the moths (although the mature insect form) are not sexually mature. Rather, they migrate westward to the upper elevations of the Rockies where they spend the summer months feeding and attaining sexual maturity. In the fall of the year, they migrate back to the central plains to deposit their eggs in alfalfa and wheat fields. Thus one can see that current flurries of army cutworm moth activity should be no cause for concern for damage to garden and landscape plantings.

Variegated cutworm moths (Figure 7) are both of rural and origin. In the agricultural arena, alfalfa and clovers are the primary food source of variegated cutworms. But variegated cutworms are A to Z feeders. Whether tender (various garden crops or ornamental flowers) or tough (yucca or tree bark), variegated cutworms (a climbing cutworm species) are opportunistic feeders, and are cosmopolitan in distribution.



Figure 7

Variegated cutworms are multivoltine, producing multiple generations per year. However, this does not mean that high populations of variegated cutworm moth populations spell trouble for garden and landscape plantings. Moths tend to disperse from areas of high concentration, thus “thinning out their population”. Not all of the deposited eggs are viable. Many eggs may desiccate under hot dry conditions. Egg predators and parasites as well as predators and parasites of the larvae will further reduce the threat from variegated cutworms.

Two moth species have showy/pretty silvery wing markings: **bilobed** and **celery loopers** (Figures 8 and 9).

The larvae of both species feed on “low plants” including various garden crops. However, while not ruling out the possibility of their larvae appearing in vegetable gardens, reports of these looper species are uncommon.



Figure 8



Figure 9

Many other moth species are currently being found in blacklight trap catches in the Manhattan area including cabbage loopers, arctiid/tiger moths, whitelined sphinx moths and other sphinx moth species. Central and western Kansas may have similar moth species compositions or, (possibly) be predominantly (for instance ---- given the current time of year) army cutworm moths. But again, the mere presence of abundant moth numbers and flurry of activity should not translate into the automatic foregone conclusion that garden and landscape plantings will be eaten to the bare bone.

There is no reason to attempt controlling/killing moths or butterflies. Even if there were an advantage to controlling adult lepidopterans, control attempts would be futile given the wide area in which they occur and all of the nooks and crannies which they occupy. Rather, if people are concerned about damage to garden and landscape plants, they should periodically inspect their plants throughout the season for the purpose of detecting any insect “pest species” early-in-the-game to prevent damage to their plants. And also, bear in mind that most insects encountered likely are either beneficial or innocuous, and therefore, best left alone and allowed proceed with their lives.

Robert Bauernfeind

The following samples were submitted to the Insect Diagnostic Laboratory for the week of June 2 through June 6, 2003:

- 6-2-2003, Bourbon County: Dragonfly nymphs from swimming pool.
- 6-2-2003, Clay County: Aphids on flowers.
- 6-2-2003, Johnson County: no arthropods in sample.
- 6-2-2003, Edwards County: Bud Galls on Cottonwoods.
- 6-2-2003, Rice County: Stress damage to Pines.
- 6-3-2003, Leavenworth County: Ladybird Beetle pupae on plants.
- 6-3-2003, Sedgwick County: Various arthropods from home.
- 6-3-2003, Leavenworth County: Muscamorph flies on Plum trees.
- 6-3-2003, Thomas County: Redheaded Ash Tree Borers in trees.
- 6-3-2003, Finney County: Hymenopteran larva from door frame.
- 6-4-2003, Leavenworth County: Flatheaded Appletree Borer from Oak.
- 6-5-2003, Sherman County: Juniper Twig Girdler damage to tree.
- 6-5-2003, Pottawatomie County: Chinch Bugs in City Hall.
- 6-5-2003, Riley County: Twig Girdler damage to Cottonwood.
- 6-6-2003, Sheridan County: Springtails, Alfalfa Weevils, Beetles in field.
- 6-6-2003, Barber County: Assassin Bug nymphs in yard.
- 6-6-2003, Ness County: Hackle Web spider in home.
- 6-6-2003, Sheridan County: Oriental Cockroach in home.

If there are any questions regarding these sample submissions or the identification of any arthropod please contact the Insect Diagnostician Bobby Brown at 785-532-6154 or bbrown@oznet.ksu.edu.

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Sincerely,

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