

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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A view from above? Normal. But..... Squash Bugs

A quote from Thaddeus William Harris --- “Entomologists use the word bug for the various kinds of insects having the mouth provided with a slender beak, which, when not in use, is bent under the body, and lies upon the breast between the legs.

In my Catalogue of the Insects of Massachusetts are the scientific names of ninety-five native species. I shall confine my remarks to the 2 vexing species which injure plants.

The common squash bug, so well known for its mischievous punctures on the leaves and stems of squashes, is the most remarkable of these insects.”

Well you may be saying, “Of course everybody knows that squash bugs are a problem on squash!” However, the interesting thing about the above statement is when it was made: **1862!** And so here we are, 147 years later, inquiring about squash bugs. It is unlikely (as things stand today regarding human longevity) that any of us will be alive in 2156. But our descendents may be echoing the same complaint(s) against squash bugs.

With a trip into the squash/pumpkin patch ----- all may appear “normal” when viewed from above (Figure 1) or when inspecting the undersides of healthy leaves (Figure 2).



Figure 1



Figure 2

But other leaves may be slightly discolored --- and when turned over, several squash bug nymphs may scurry about (Figures 3 and 4). A person might exclaim, “No problem”

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Figure 3



Figure 4

Yet other leaves may be greatly discolored and/or in various states of deterioration, and when looking at their bottom side, TMTC (too many to count) nymphs “rain off of leaves as they drop to the ground and seek new feeding sites (Figures 5 and 6).



Figure 5



Figure 6

Question: Would this be the ideal time to apply an insecticide treatment to reduce numbers of squash bugs? Well no and yes! No, because it actually would have been better to begin control efforts several weeks ago when nymphs were smaller (but that is water over the dam). Yes, because the nymphs are still more-or-less “soft-bodied” and therefore insecticides are better able to penetrate through their “thin skin”. Once they molt into the adult stage and their cuticles thicken and harden, chemical efficacy is diminished.

Question: Once I eliminate or greatly reduce the current batch of squash bug nymphs, can I put my sprayer away for the summer? NO! If you examine leaves, you will encounter more egg clusters that have yet to hatch. (Figure 7).



Figure 7

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Adult squash bugs live over an extended period of time during which they continually produce eggs such as those freshly deposited in Figure 7. You can also observe a continuum of nymphal forms adjacent to those “brother and sister” eggs. The current first generation nymphs will become adults, mate and produce eggs for the second generation of nymphs. Thus, there is no “one-and-done” spray approach to controlling squash bugs. Rather, control of squash bugs requires a season-long program of constant scouting for squash bug eggs, and subsequent monitoring of squash bug nymph populations and a series of timely insecticide applications to keep squash bug numbers at acceptable and nondamaging levels.

In addition to a season-long spray control regimen, spray coverage is essential to successfully manage/minimize squash bug populations. Recall that squash bugs prefer lower leaf surfaces and lower portions and fruits of the plant. In many instances, sprays are applied by simply and quickly waving the sprayer wand over squash and pumpkin plants ----- the hidden and protected squash bugs are unscathed by the light mist-like applications. Rather, by taking time to thrust the sprayer wand deep into the plant and also directing sprays to lower leaf surfaces, insecticides will directly contact squash bugs resulting in a higher percentage kill.

Active ingredients registered for use against squash bugs include carbaryl, esfenvalerate and permethrin. Currently there are 212 insecticidal products registered (in Kansas) for use against squash bugs. Without checking each of those products, it is not possible to list those materials registered for homeowner use. However, individuals can visit local retail outlets to see which products are available. Individual product labels must be examined to determine appropriate/legal product use. For instance, not all 744 products containing the active ingredient permethrin are registered for use against squash bugs. It is incumbent on the end user to select the proper product for its proper use.

Bob Bauerfeind

CORN ROOTWORM ADULTS ARE NEEDED!!!

Please contact Jeff Whitworth (785) 532-5656; jwhitwor@ksu.edu or Holly Davis (785) 532-4739; holly3@ksu.edu if you are finding 4-8 Western corn rootworm adults per ear feeding on the silks.

Grasshoppers

Grasshopper populations have continued to increase in central Kansas, which is surprising, as their development is usually a little farther along by this time of year. However, as late as 22 July, there were significant numbers of 1st and 2nd instar nymphs in pastures and grassy waterways/ field borders. Many different species are present but the two predominant species we observed were some of the “slant-faced” hoppers, which usually are not a problem for crops, and the twostripped or Packard grasshopper (which I cannot distinguish between in the nymphal stage). All the individuals we collected were very small nymphs (See photos). Thus, I am not sure exactly which species were extremely numerous. However, it does not really matter, as either species can be very destructive to pastures, waterways, and/or crops. Therefore, this is a great time to evaluate these areas for grasshoppers and apply any controls if warranted.

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“Slant-faced” grasshopper nymph



Packard or two-striped grasshopper nymph

Webworms on soybeans

Reports of webworm infestations in soybeans continue from southeast Kansas. These worms may have 2-3 generations per year in Kansas and will get ca. one inch long before they are mature enough to stop feeding and pupate. Remember, soybeans have an amazing capacity to compensate for early season defoliation, as they usually produce excess leaves anyway. Therefore, defoliation often looks worse than the actual impact later on yield. They also often compensate for stand losses by additional growth, branching, etc. As these worms are not usually a field-wide problem, we do not have any treatment guidelines; however, a list of registered insecticides is available on the KSU Entomology website at:

<http://www.entomology.ksu.edu/DesktopDefault.aspx?tabindex=371&tabid=572>

Jeff Whitworth

Holly Davis

Soybean aphid has arrived!

Soybean aphids were found on July 22 in production soybean fields near the Ashland Bottoms Research Farm in Riley County. Based on the size and age of the individuals collected, aphids have been in these fields for at least 7-10 days. Their arrival and yearly appearance in Kansas soybean is heavily dependent on weather events, or more specifically, storms with strong north winds. For successful overwintering of soybean aphid to happen at the farm level, both buckthorn (see Image 1), which is an invasive woody plant, and soybean need to be present. In other words, soybean aphid needs both species to complete its life cycle. In Kansas, there's plenty of soybean, but buckthorn is rare to non-existent, which is a good thing! This greatly reduces the risk of yield loss due to aphid feeding. Less local overwintering equals fewer aphids, which lowers the potential for feeding injury. In Kansas, local fields are infested by winged aphids blowing in from the north, where the soybean and buckthorn are more abundant. The first observed winds from the north occurred almost two weeks ago, which coincides with the age of the aphids observed in the field. Prior to this week, 18 counties in central and north central Kansas were surveyed weekly, but there were no reports of soybean aphid. As a general guideline, soybean fields in Kansas should be scouted for soybean aphid shortly after significant weather events arise from the north.

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Image 1. Buckthorn, *Rhamnus cathartica*

The easiest way to find these initial colonies is to look for ants tending aphids (see Image 2). Ants use the honeydew or sugar water that is secreted by the aphid as a food source. In return, the ants provide the aphids with a little protection from predators and other natural enemies. Another way to find aphids early on is to look for lady beetle adults (see Image 3). These predators are usually a lot better at finding aphids than we are! In addition, late-planted soybean will be more susceptible to soybean aphid injury. This is mainly due to the increased ability of aphids to develop on young, succulent growth. With that said, you can also focus your initial sampling efforts to the developing or newly-expanding leaves.



Image 2. Ants tending soybean aphid.



Image 3. Sevenspotted lady beetle on a soybean leaflet.

The economic threshold or the number of aphids required for an insecticide treatment is 250 aphids per plant. There is very little return on your investment by treating populations below this number and treating early may even increase the need for multiple treatments. Judicious use of insecticides will also help reduce insecticide resistance problems and increase natural enemies, which are important components to any Integrated Pest Management (IPM) program.

Currently, we are conducting multiple studies on the impacts of soybean aphid on late-season yield potentials and are looking for production fields in Kansas to conduct on-farm trials. If you find soybean aphids in your fields, please feel free to contact us.

Brian McCornack

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Malathion; Product Cancellation Order

(July 2, 2009)

AGENCY: Environmental Protection Agency (EPA).

SUMMARY: This notice announces EPA's order for the cancellations and amendments to terminate uses, voluntarily requested by the registrants and accepted by the Agency, of products containing the pesticide malathion, pursuant to section 6(f)(1) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended. This cancellation order follows a May 20, 2009 Federal Register Notice of Receipt of Requests from the malathion registrants to voluntarily cancel or to amend to terminate uses of certain malathion product registrations. These are not the last malathion products registered for use in the United States. EPA hereby issues in this notice a cancellation order granting therequested cancellations and amendments to terminate uses. Any distribution, sale, or use of the malathion products subject to this cancellation order is permitted only in accordance with the terms of this order, including any existing stocks provisions.

DATES: The cancellations are effective July 15, 2009.

Provisions for Disposition of Existing Stocks: Registrants may sell or distribute existing stocks for 1 year from the effective date of cancellation.

Full cancellation order including products and uses affected is available at:

<http://www.epa.gov/fedrgstr/EPA-PEST/2009/July/Day-15/p16641.htm>

Phil Sloderbeck

Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostician Laboratory from July 17th to July 23rd.

- July 17 2009 Allen County – Long legged fly (Dolichopodidae) on person
- July 17 2009 Jefferson County – Polydesmida millipedes around home and lawn
- July 17 2009 Ford County – Eyed click beetle adult in commercial building
- July 17 2009 Mitchell County – Brown dog tick, female, engorged nymph
- July 17 2009 McPherson County – Portulaca or purslane sawfly larvae on purslane
- July 20 2009 Wyandotte County – American carrion beetle on elm tree
- July 20 2009 Riley County – Rove beetles in comforter
- July 20 2009 Norton County – Sawtooth grain beetles in home
- July 20 2009 Norton County – Blow fly larvae in home
- July 21 2009 Labette County – Potential cheese mites in home
- July 21 2009 Atchison County – Plant bug (Miridae) nymphs on weeds in soybeans
- July 21 2009 Leavenworth County – Ash flower gall mites
- July 21 2009 Lyon County – Dusky birch sawfly on Birch
- July 21 2009 Lyon County – Poplar tentmaker caterpillars on Aspen
- July 22 2009 Jefferson County – Carpet beetle larvae in and around home

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July 22 2009 Sherman County – Bark beetle larvae in cedar
July 22 2009 Dickinson County – Single dead calico scale on silver maple
July 22 2009 Harvey County – Chinch bugs in buffalograss
July 22 2009 Cloud County – Achemon spinx moth caterpillar in lawn
July 22 2009 County – Horned Passalus beetle
July 23 2009 Wyandotte County – Imperial moth caterpillar in lawn
July 23 2009 Montgomery County – Dung beetle (*Ataenius strigatus*) on golf course
July 23 2009 Neosho County – No arthropods found – Pear tree
July 23 2009 Sherman County – Lepidopteran pupae on golf green
July 23 2009 Leavenworth County – Twig girdler damage on Pin oak

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.

Sincerely,

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