

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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August 12, 2011 No. 18

Soybean Aphids

One small colony of soybean aphids was discovered in North Central KS. Fields need to be monitored for the next few weeks for these aphids as predicted temperatures are well within the range conducive to soybean aphid reproduction. Soybean aphid populations can rapidly increase and can be very detrimental to soybeans, especially during the early reproductive stages. For more information relative to soybean aphid management please refer to Soybean Insect Management, 2011:

<http://www.ksre.ksu.edu/library/ENTML2/Mf743.pdf>



Photo by Brian McCornack

Corn Earworms on Sorghum and Soybeans

Corn earworms have been, and will continue to infest both sorghum and soybeans. The main impact on yield for both crops is when the larvae infest the heads of sorghum or the pods of soybeans. In either crop they can cause significant yield reductions very quickly as they are feeding directly on the marketable product. Field sampling should be initiated as soon as sorghum starts heading and/or soybeans start setting pods. Sorghum will be vulnerable to 'headworms' until it reaches the dough stage. Corn earworm larvae need to be detected while they are still small and thus before they do much feeding. For more information relative to sorghum headworm or soybean podworm management please refer to Sorghum Insect Management Guide, 2011:

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<http://www.ksre.ksu.edu/library/ENTML2/Mf742.pdf>

Or Soybean Insect Management Guide, 2011: <http://www.ksre.ksu.edu/library/ENTML2/Mf743.pdf>

Jeff Whitworth

Holly Davis

Putting the cart before the horse “Bugs on pumpkins”

As I was preparing to respond to a phone inquiry regarding “Bugs on pumpkins”, my mind raced ahead as it began to recreate my response to the oft-asked question pertaining to squash bug control. However, squash bugs were quickly off-the-hook when gentleman on the other end of the line described holes in the leaves of his plants. He followed up with his description of bugs that had black spots and looked like lady bugs, except that they were yellowish. He then also mentioned that he occasionally saw other yellow bugs except that they had black stripes. Soooooo, I had to stop and hitch the horse to the front of the cart --- that is, forget what wasn't his concern (squash bugs), but rather address the subject of beetles, specifically spotted cucumber beetles and striped cucumber beetles.

Both beetles are related in the sense that they belong to the taxonomic family Chrysomelidae (commonly referred to as Leaf Beetles ---- which also include other familiar species such as asparagus beetles, Colorado potato beetles, elm leaf beetles, flea beetles, corn rootworm beetles and tortoise beetles).

Spotted cucumber beetles (aka: 12-spotted cucumber beetles, southern corn rootworm beetles) reach ¼-inch in length. They are marked with distinctive black spots. Their background coloration varies from yellowish-green to various shades of green (Figure 1).

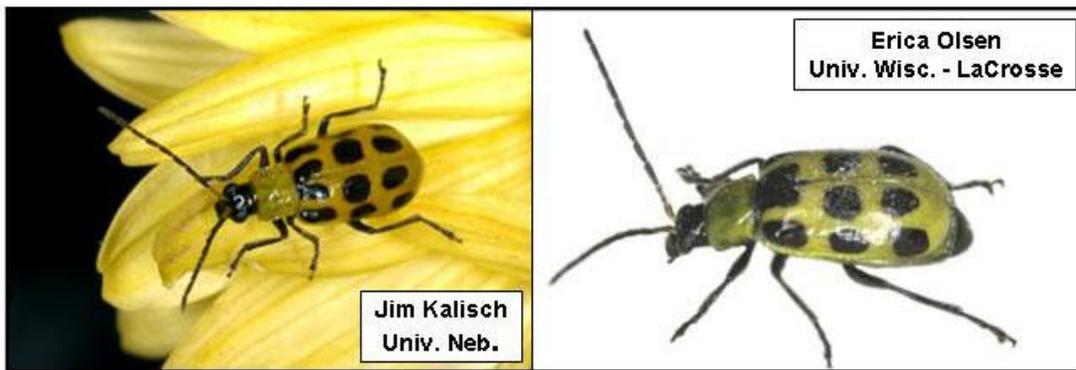


Figure 1

Literature citations state that spotted cucumber beetles overwinter as adults in their southern range, and that their occurrence in northern states results from beetles that fly northward. While it has not been specifically documented how they overwinter in Kansas, their early-season presence suggests their ability to survive winter

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conditions if under sufficient shelter to protect against harsh winter elements. Southern cucumber beetle are very “general feeders” ---- over 200 host plants including weeds, grasses, ornamentals and vegetable/fruit/row/forage crops.

Striped cucumber beetles also overwinter as adults. They are a tad smaller, and narrower in appearance. Their black stripes stand out in contrast to their yellowish color (Figure 2).



Figure 2

Striped cucumber beetles also seek protection to survive harsh winter elements. When beetles revive and become active in the springtime, they will survive on the leaves and pollen and petals of blossoms of various tree species such as elm, wild plum, hawthorne, apple and willow. However, once cucurbit commodities emerge and emit the aromatic chemical cucurbitacin, striped cucumber beetles abandon non-cucurbit hosts in favor of (in order of preference) cucumbers, muskmelons, winter squashes, pumpkins, gourds, summer squash and watermelons.

The severity of damage by these two beetle species varies. That is, when cucurbit seedlings emerge, they are delicate: small and tender. Because plants emit cucurbitacin, striped cucumber beetles are the beetles attracted (apparently, spotted cucumber beetles **are not** attracted by the cucurbitacin and thus continue feeding elsewhere). If striped cucumber beetles overwhelm newly emerged seedlings, they quickly consume/kill the plants.

Fully mature plants provide large amounts of foliage (Figure 3A), and this means that they become an attractive food source. Given the wide array of other host plants upon which spotted cucumber beetles have been feeding and reproducing, their populations reach high levels. Overwhelming numbers of these beetles can then move in and cause significant feeding damage (Figure 3B) which is the crux of the situation described by the caller mentioned in the opening paragraph of this article.

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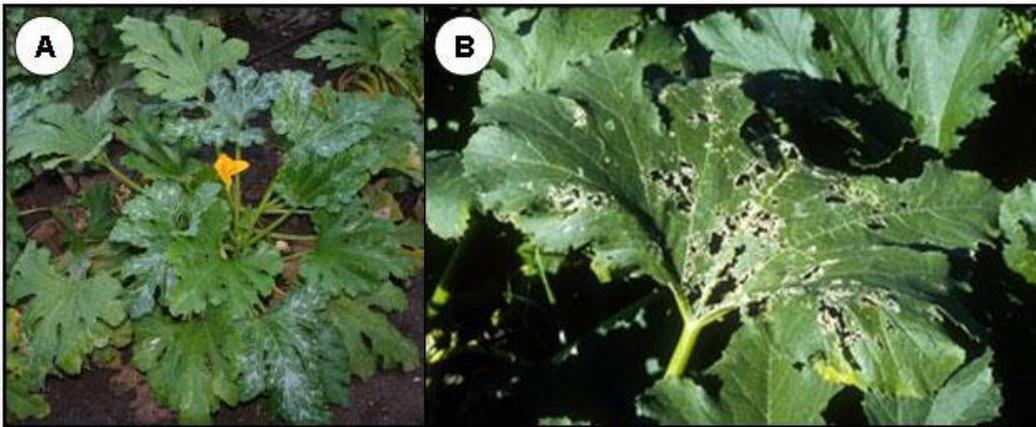


Figure 3

There is little alternative but to monitor plants for the absence or presence of spotted cucumber beetles. There are no established thresholds upon which to make/determine treatment decisions. It becomes a “gut decision” as to the need-for-treatment. What is important is that sprays not be applied during the period of blossom production and pollination. But after pumpkins are set, preservation of foliage becomes necessary as the crop matures.

In accessing the Kansas Pesticide Product Data Search site, there currently are 792 products registered for use against cucumber beetles. Selecting an insecticide is dependent on products which are locally available as well as an individual’s experiences (positive or negative) regarding past product performance.

While on the subject of pumpkin pests Squash bugs

There is an old cliché which goes, “Why close the barn door after the horse is gone?” The point being that it may be a bit late taking action (now) to control squash bugs. If nothing has been done to this point in time, squash bugs likely have gained the upper hand.

Ideally, a program for controlling squash bugs should have begun in June when gardeners should have been inspecting plants for squash bug egg masses (Figure 4A), and then monitoring those egg masses for the hatch/emergence of nymphs (Figure 4B).

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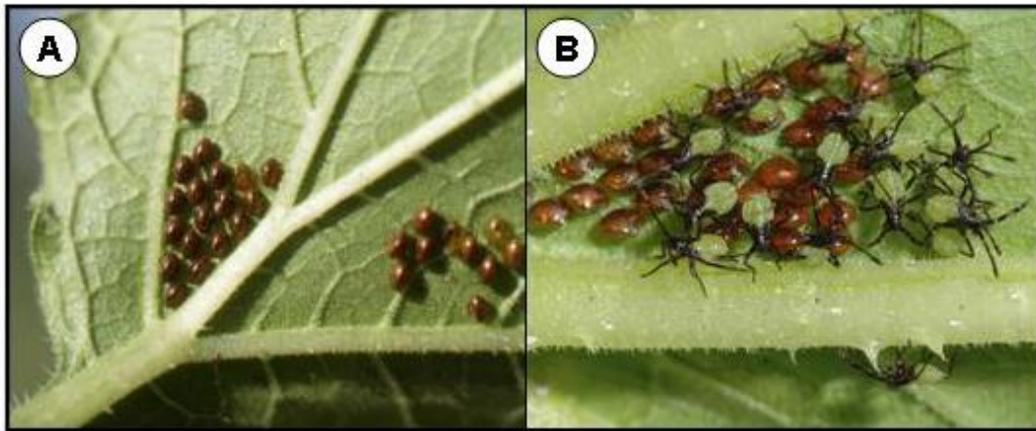


Figure 4

But now, nearly 2 months later, we are well into second generation nymph production. Damage to foliage is readily apparent (Figure 5A), and due to uncontrolled numbers of squash bug nymphs (Figure 5B).

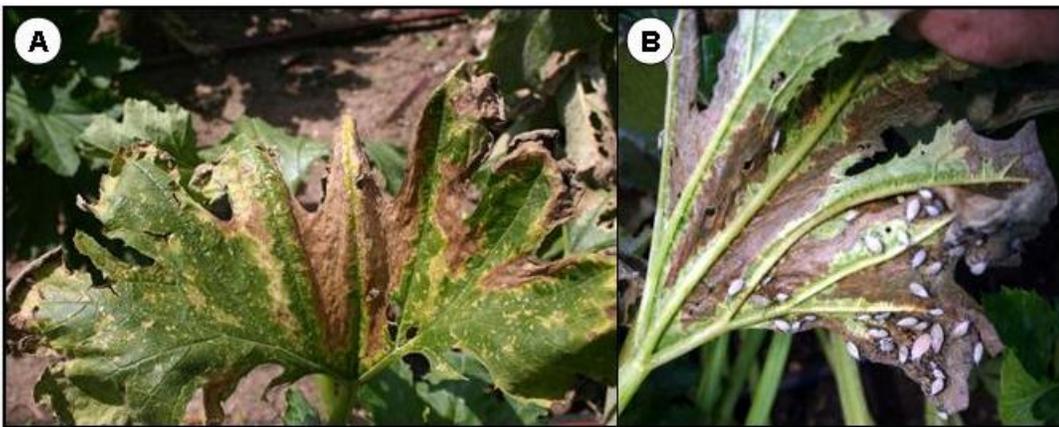


Figure 5

Thus the response to the cliché question would be that, “Yes. Even at this late date, controlling squash bugs is important.” for the same reason listed above for controlling spotted cucumber beetles: preservation of foliage because there is a long ways to go for pumpkins to grow/size-up and mature. And at this time, because current squash bug populations are comprised mostly of soft-bodied nymphs, insecticides are better able to penetrate through their “thin skin” and inflict mortality.

Complicating control efforts, though, is that many leaves may be laying on the soil surface and the squash bugs beneath will be shielded from direct contact with the insecticide. Sprays (if merely applied in a mist-like manner by simply and quickly waving the sprayer wand over plants) will likely have little effect in reducing populations. However, by taking time to thrust the sprayer wand deep into plant foliage and also directing sprays to lower leaf surfaces, insecticides will directly contact squash bugs resulting in a higher percentage kill.

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Currently there are 246 insecticidal products registered (in Kansas) for use against squash bugs. It is not possible to list those materials registered for homeowner or commercial use. It is recommended that individuals 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 674 products containing the active ingredient permethrin are registered for use against squash bugs per se. It is incumbent on the end user to select the proper product for its proper use.

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Sincerely,

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