

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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August 13, 2010 No. 21

Spider Mites and Soybeans

Reports received in the last week indicate several fields in throughout KS have been treated for spider mites. This is a little unusual but with the recent hot, dry weather and predictions of more of the same, mite populations are probably not going to be held in check by the weather.

Symptoms of sever spider mite injury (Figure 1) results from a combination of cell and tissue disruption, water loss, and heat stress. As mite feeding increases, leaves become yellow, bronze/brown, and may eventually drop off. Complete defoliation may result from heavy infestations. Variable yield reductions have been recorded, but generally 40-60% reductions are possible when fields are infested during late vegetative or early reproductive stages. This seems to be the growth stage (podding) of most of the beans treated thus far. After treatment, monitoring should continue as complete control is extremely difficult to achieve and spider mites have a tremendous capacity to increase. Generations may be completed in as little as four days at summertime temperatures with females producing as many as 300 offspring the first month after maturing. Thus, populations can quickly increase. There are two natural enemies of spider mites: a predatory mite and a fungal pathogen. Their effect on mite populations in soybeans is not well understood but we do know that for the fungus to be effective you must first have spores present, then at least 12-24 hours of temperatures not exceeding 85 degrees with at least 90% relative humidity. So natural enemies are probably not going to help control mite populations this summer. Thus, chemical control is the only management tool available especially if plants are losing 50% of their foliage during late vegetative or early reproductive stages (i.e. pod-set). It is important to get complete coverage of upper and lower leaf surfaces and even then sometimes mite populations may recover quite rapidly after treatment. A list of insecticides registered for control of spider mites is available at your local county extension office or go to (<http://www.entomology.ksu.edu/extension/>).



Jeff Whitworth

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Corn Earworms on Sorghum and Soybeans

Corn earworm adults (moths) have been very active for the past week. This means they are probably also very active depositing eggs in soybeans and sorghum fields. Thus, carefully monitor these crops by using the white bucket method of shaking sorghum heads to dislodge small larvae and use of a white ground cloth to shake soybean plants vigorously over. Recently hatched worms will be small and especially difficult to see, but this is the best time to detect them, while they are small and have not caused much damage. Treatment thresholds are as follows:

Sorghum – 1 worm/head = 5% loss; 2 worms/head = 10% loss etc.

Soybeans – 1 worm/row foot (if they are feeding on pods)

Worms feeding on pods or sorghum heads are usually effectively controlled by insecticides but the key is to determine the infestation level before much feeding has occurred.



Jeff Whitworth

Holly Davis

They're well under way Yellownecked Caterpillars

It was 3-weeks ago that I reported that yellownecked caterpillar moths had emerged from their pupae and were beginning to deposit eggs for their final/second 2010 generation (Figure 1).



Figure 1

On a return trip to a group of “Old Faithful” oak trees on Wednesday, yellownecked caterpillars were well into their 2nd generation feeding foray, as evidenced by trees (which when viewed from a distance) had a somewhat ragged appearance (Figure 2).



Figure 2

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Although not physically present, evidence of the presence of yellownecked caterpillars was in the form of stripped branches (Figure 3)



Figure 3

One did not have to look far to locate the larvae ---- they merely moved en mass to “greener pastures” on the nearest adjacent leaf cluster (Figures 4 and 5).



Figure 4

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Figure 5

What happens if the caterpillars are disturbed? They react by dropping from their clusters on silken threads (Figures 6). They eventually climb back up and resume feeding.



Figure 6

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What could account for so many larvae? One has but to examine older leaves to see the numerous egg masses from which the caterpillars emerged (Figure 7).



Figure 7

Curiosity killed the cat ---- I removed the cluster in Figure 5. There were 429 caterpillars in that single cluster. Based on head capsule size, there were some 2nd instar larvae, quite a few 3rd instars, but predominantly 4th instar larvae. From this point onward, larval development will be rapid and feeding will be ravenous.

So what is the prognosis in this situation? The same as it was for these same trees back in 2007 (Figure 8). They will probably again be completely defoliated. Images will be taken weekly to bear this out.



Figure 8

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Comes the question: “Because these trees have been identified, wouldn’t it be wise to spray/kill the caterpillars before they completely defoliate the tree?” While this is an option, in this instance with these trees being in a low visibility area, and the grounds maintenance people knowing that the trees are will fully flush out next spring, they will opt to allow the caterpillars to run their course.

And What About Walnut Caterpillars?

I indicated in Kansas Insect Newsletter #16 (July 9) that walnut caterpillar activities seemed to be lagging behind those of yellownecked caterpillars. And while yellownecked caterpillar moths emerged and were depositing eggs towards the current 2nd generation around July 20th, walnut caterpillar moth activity (as determined by blacklight trap catches) began and peaked the first week of August with subsequent 2nd generation egg production to follow. Therefore, one would expect to receive reports of defoliated walnut trees by mid- to late September. But again as you have heard over and over, these defoliations are of more of an aesthetic distraction than detrimental to over all tree health.

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Sincerely,

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