Kansas Insect Newsletter

For Agribusinesses, Consultants, Applicators and Extension Personnel

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GREENBUGS--STILL A CONCERN IN THE WEST:

As the month began, greenbugs were threatening in areas south and west of Garden City. We were concerned about the degree to which greenbugs had overwintered across Kansas and the possibility of greenbug damage in wheat. It was soon obvious that they had overwintered successfully throughout much of northwest Kansas, and that is a relatively rare event.

What is the current situation?

In central Kansas, greenbugs are scarce to absent in fields we have checked particularly in areas where moisture has been plentiful. Green-bugs were not observed in fields checked in Geary, Saline, and Wilson counties. But going west this week, as we got into drier areas, we began to encounter some infestation. We encountered light numbers at Victoria, about 25 per foot, and about the same level in a field in Trego County around exit 120. At one field near Grainfield, we estimated greenbugs at about 50 per foot of row. At Oakley near the I-40 exit, they were more abundant - maybe 150 to 200 per foot. In two fields in western Logan County, levels appeared to range from 50 to 100 per foot of row. Just west of Sharon Springs, infestations ranged from 50 to 200 per foot. Here, growth was shorter, and plants were showing stress from both lack of moisture and greenbugs. Southward into Greeley County, we examined one field where greenbugs averaged about 200 per foot.

Are Infestations continuing to Increase?

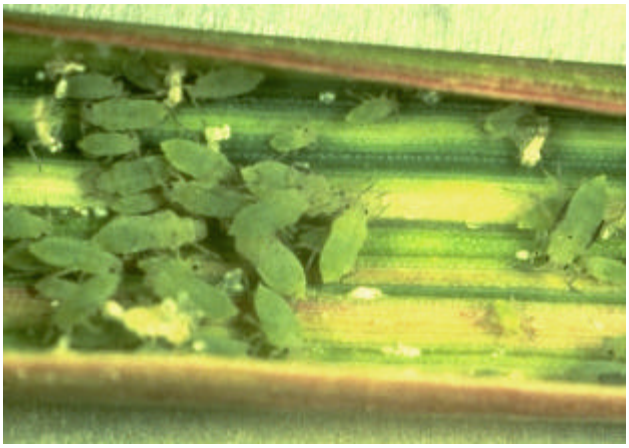
In most cases infestations appeared to be peaking out. The good news is that the parasite population is very abundant in most fields. Lady beetles and other predators are present, but we think the parasites are the greatest importance at present. Often we would notice two or three adult wasps per foot of row. The temperature will play a large role in determining how fast the beneficials will be able to destroy the greenbugs.

Gary Gold in Stevens County says, in the southwest, for all practical purposes, greenbug problem is pretty well past. Quite a bit of the acreage has been treated, and parasites have wiped out the rest.

Russian Wheat Aphid

Earlier, some signs of Russian wheat aphid activity was reported from Kearny County. There was also a report of suspicious looking plants from Trego County a couple of weeks ago. John Forshee, Rooks County Extension Agent called this week to say he had noticed symptoms of RWA in wheat plots near Stockton. Thus, we were not too surprised when we began to see some signs of infested tillers in isolated spots in fields as we were checking for greenbugs. We noticed symptoms in a field near Wilson in Ellsworth county. That is

farther east than we have documented RWA in a long time. But the aphids are very very scarce in these fields, and are hard to distinguish from greenbugs with the naked eye. Signs were also noticed in one field
in southern Osborne County. In one field in Logan County near Monument, perhaps 1% of the tillers were exhibiting typical RWA symptoms. Fields that I examined farther west had fewer signs of RWA than I expected, and part of the time RWA signs were masked by greenbug and maybe disease factors. Note--- much of the time in identification,



you can't be positive based on signs alone, and one RWA within a colony of greenbugs can be hard to locate.

So does this mean that RWA is going to be a threat?

No, talk of RWA at present is probably mostly an academic concern. With the amount of beneficial insect buildup that is occurring, it should be pretty hard for RWA's to gain much of a foothold. As you know this foreign insect was found for the first time in the U.S. in the Texas Panhandle in 1986. It was found later that year in New Mexico, Colorado, western portions of Oklahoma and Kansas. Two years later it had spread throughout most of the western and northwestern United States. This insect not only withdraws sap from the plant but also apparently injects a toxic substance that causes injury and stunting. The leaves of infested plants show characteristic broad alternating green and white stripes on the leaves. Infested leaves tend to be rolled. Look also for rolled leaves and stems that display a bright pinkish to purplish discoloration. This has been a serious problem at times to barley growers as well as wheat producers in Colorado. It was threatening in Kansas from mid eighties to early nineties, but much less of a concern since.

What is treatment level for RWA during the spring when wheat is in early stages of jointing?

Treatment would generally be recommended where random scouting reveals infestations averaging between 10 and 20% of the plants infested where the majority of the infested tillers consist of colonies of aphids (as opposed to individual aphids) in fields with average to above average yield potential. More precise treatment guidelines have been developed and are available to those who interested by contacting either this office or Phil Sloderbeck at Garden City. become a serious threat.

Brown Wheat Mite:

As typical for this time of year, some brown wheat mites are present, mostly in the western third of the state. You often see this little brown mite feeding on leaf tissue during daylight hours. Where it is abundant, it causes a mottling or bronzing of the foliage. Except where there have been high populations early in the spring (March), investigators have frequently had trouble in obtaining an economic treatment response. This mite reaches a peak in numbers in early to mid April and later begins to decline.

English Grain Aphid:

Colonies are beginning to appear in many fields throughout the central sections of the state. These resemble greenbugs, but have longer and black

cornicles (compared to the transparent cornicles on greenbugs). Numbers at present are relatively low.

SOME NOTES ABOUT GREENBUG PARASITES:

For a good reference on this topic see, Texas A&M Extension pub. # B-5044, Biological Control of Insect Pests in Wheat).

At least three tiny, black parasitic wasps actively parasitize greenbugs. They include: *Lysiphlebus testaceipes, Diaeretiella rapae* and *Aphelinus varipes. L. Testaceipes* is the most common and the greenbug mummies it produces are tan colored, round and swollen. Greenbug mummies killed by *A. varipes* are black and similar in size and shape to live greenbugs. *Lysiphlebus testaceipes,* the most common greenbug parasite, is 1/16 inch long, shining black, smooth thorax, brownish-black abdomen and honey-yellow petiole. It is an important parasite of aphids such as corn leaf aphid, greenbug, melon and cabbage aphid.

L. Testaceipes females deposit a single egg in an aphid. The young grub-like parasite devours the internal tissue, causing the aphid to become brown, swollen and attached to a leaf. Later, the parasite emerges through a circular opening in the exterior body of the aphid. During her 4 to 5 days of life, each female adult *Lysiphlebus* will deposit hundreds of eggs in the bodies of greenbugs as she moves from colony to colony and from plant to plant. Parasitized greenbugs soon stop reproducing. This noticeable lack of new offspring is often a clue that natural control is working and intervention is not necessary.

Temperature is important. Below 65 degrees F parasite development is slow, but greenbugs remain active at cool temperatures and continue to reproduce until the temperature drops to 40 degrees F. As a result, greenbug infestation can increase unchecked by parasites during cool weather. Parasite activity in the field can be monitored by looking for greenbug mummies on wheat leaves. Weather conditions will largely determine how quickly parasites can prevent a greenbug outbreak. Remember that aphids that appear healthy may actually have parasites developing within, as the mummy stage does not develop until 8 to 10 days after parasitism. As a general rule, a greenbug infestation will start to level off and begin to decline once about 10 percent of greenbugs begin to appear as mummies. Then, when about 20 percent of the greenbugs are visible as mummies, the entire live greenbug population will generally disappear with 2 or 3 days. The reason is by the time that about 20% appear as mummies, the entire population has already been parasitized, they just have not yet entered the mummy stage.

Sincerely,

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