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Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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Potential Early Season Sorghum Insects (part 2)

(Part 1 was covered in an earlier Newsletter)

2. Occasional pest insects - not usually anticipated, but damaging in some fields during some years.

Billbugs

In the past five years, billbugs have become more common (they can affect corn as well - and symptoms are similar to what is described here). The problem is not difficult to diagnose. We have only found billbug damage in fields where yellow nutsedge is a problem. At present, there appears to be several sorghum fields across the state that fit the symptoms for billbug injury. Damage is caused by the over-wintered billbug adults. Signs of damage usually begin within a few days after the sorghum plants emerge. Billbugs feed by chewing on the leaves and stems of the sorghums. If you are in a heavily infested area, the insects can destroy the foliage faster than the plants can grow, and the result may be chewed, ragged, deformed plants, plants with holes in leaves, plants with leaves or stems severed, and perhaps large areas where the stand has been destroyed. A good clue is to look for leaves containing a pattern of oblong holes (or rows of holes in the leaves). We have noticed the damage mostly from early to late June. People have described instances where damage appeared and caused stand loss in early June (and since

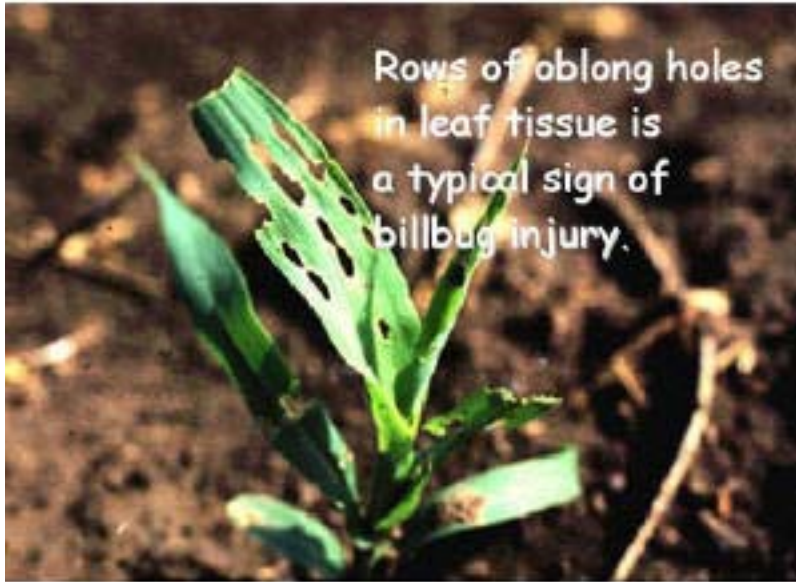
the cause of the injury was not determined, insecticides were not used). They went in and replanted the damaged areas, and feeding continued as the new plants emerged. In some cases, a second replanting was also destroyed. Gradually (by the latter part of June), feeding activity starts to decline and mated females begin the egg laying process. The species we have observed lay their eggs in yellow nutsedge plants (5-6 "or more in height). The literature talks about a variety of billbug species and some that deposit their eggs in corn and perhaps other crop plants. So far, we have not observed egg laying in crop plants.



Billbug Adult



Closeup of Billbug Adult



Billbug Injury



Injury may be associated with feeding by adult billbugs.



Billbug injury in a nutsedge portion of a field.

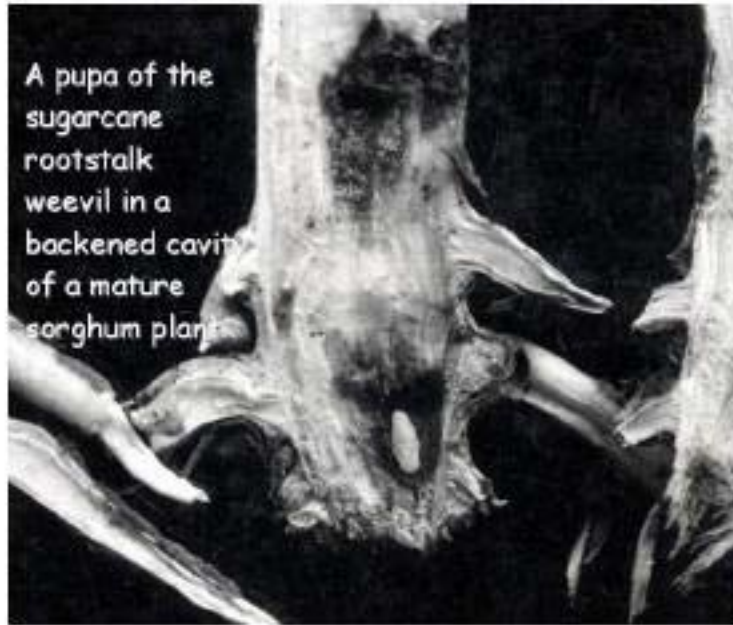
Management Suggestions -- Billbug adults can be controlled with insecticides

(this might present a challenge in no-till fields where a large amount of plant residue is present). Consider using a rescue treatment (foliar spray applied to the crop and the soil surface) in and around nutsedge infested areas if signs of damage begin to appear on sorghum plants. If the sorghum is damaged to the point where replanting is necessary, it may be best to begin by spraying to kill the billbugs, wait a couple of days, then replant as needed. The last we checked, there was nothing specifically labeled for use as a rescue application for billbugs attacking sorghums. Some growers faced with this problem have used Lorsban 4E applied as labeled for cutworms, etc, but applied it as a 2ee recommendation (instructions for billbug control on corn are listed on the federal Lorsban 4e label). Dealers, farm advisors and Extension agents should consult with major suppliers, (Dow, FMC, Syngenta, Bayer, Dupont, & others for additional labeling and or the possibility of additional 2ee recommendations).

Planting seed treated with imidacloprid (Gaucho) or thiamethoxam (Cruiser) has shown some promise in laboratory studies, but at present, this is not a labeled use.

Sugarcane rootstalk weevil

If you are examining injury to small plants, you may notice some leaves exhibiting a pattern of tiny, round scattered, pinpoint-sized holes. This could be feeding by the adult, a miniature black weevil. Look for it in the vicinity of symptomatic plants. The larvae develop during the summer. By slicing into the base of mature plants later in the summer, you may see the very small, whitish grubs, usually located within a blackened cavity in the stalk close to where the brace roots are attached. Some damage and weakening of the stalk is associated with it, but it



Pupa of the sugarcane rootstalk weevil.

usually is not serious. This insect has been in Kansas for years, and inquiries about it surface from time to time. Concern is usually greatest among persons experiencing damage for the first time. Like all insects, infestations vary rather widely from year to year. At present, it does not appear to be escalating, but its biology is not well understood; consequently, it is hard to judge whether changing production practices such as no-till production would have any noticeable affect on its behavior. During one year in Saline County, the pattern of field infestations suggested that the intensity of infestation may increase in earlier planted fields.

Thrips

Thrips can be a concern during the first week or so following sorghum emergence. Generally, the source seems to be from maturing small grain fields. As they feed, thrips cause light streaks on the upper leaf surface. During this time period, a few thrips can be found in almost every sorghum field. An infestation of two or three thrips per plant is enough to cause light feeding injury. Heavier infestations (in the range of 5 to 15 per plant at about growth stage 1) have caused dead leaves, stunting and some stand loss.

Yellow sugarcane aphid

When you see strikingly reddish colored leaves (color may vary from red to purple) on scattered plants, examine the undersurface for presence of yellow colored aphids (slightly smaller and distinctly more yellow colored than Greenbugs). This usually turns out to be damage by a colony of yellow sugarcane aphids. Often the aphids have disappeared by the time the damage is noticed. Plants usually recover without



Red leaf symptom may be the result of yellow sugarcane aphids.

serious damage. Occasionally, damaging infestations will develop on seedling plants in scattered fields in eastern areas of Kansas, but this is rare. The yellow sugarcane aphid occurs in parts of Texas, and during some years, migrants move, fly or blow northward to Kansas sorghum fields. Infestations in eastern Kansas severe enough to justify use of rescue treatments probably occur less than once every 10 years.

Yellow Striped armyworm

Leaf feeding during June or early July could be the result of feeding by the yellow striped armyworm. This black worm has a distinct yellowish stripe(s) along each side of the body. In addition, a noticeable black spot (located on each side of the body) is sometimes present on the fourth body segment (first

segment following the third pair of legs). It is typical to begin to see signs of foliar injury on small sorghum plants, determine that the injury is associated with yellow striped armyworms. Infestations in the range of 0.5 to 1.0 small larva per plant look to be potentially serious on growth stage 1 sorghum plants (collar of the third leaf visible). However field experience suggests that survivorship of the larvae on sorghums of this size is often poor, and frequently, no action is needed other than follow-up inspections. There have been observations where infestations averaged more than 1.0 per plant (on small plants prior to growth stage 1) that resulted in significant stand reduction in spots in infested fields. Sometimes, the risk of damage tends to be higher in weed infested fields, or where weeds were present just prior to planting.



Feeding injury caused by yellow striped armyworm on seedling sorghum.

Since it is a minor species, it is not usually specifically listed on product labels. This is one of those headaches that makes you want to pull your hair out in trying to determine what is legal to use for treatment. This is not covered in the 2002 Sorghum Insect Management Recommendations; thus, we did some checking on products that might be used for yellow striped armyworm on sorghum:

1. Warrior, the label we checked lists yellow striped armyworm with the footnote, "for 1st & 2nd instars only."
2. Baythroid 2E - not mentioned on our copy of the label.

3. Carbaryl 4L - lists “armyworms” at 1 to 2 lbs. of a.i./acre with a 21 day phi for grain or fodder and 14 days for grazing, forage or silage. Note: armyworms is generally interpreted as being a generic term referring to any or all common species of armyworms. However, if a label simply lists “armyworm,” the meaning is unclear, it could mean specifically, the true armyworm, or the intent could be broader. In such a case, as a minimum, consult with the manufacturer for clarification.

4. Lorsban 4E - lists “armyworms” at 0.5 to 1.0 lb. a.i./acre along with the usual restrictions to avoid chemical injury.

5. Lannate - our label lists “armyworm” at 0.25 to 0.5 lb. of Lannate SP per acre with a 14 day phi.

6. Mustang -lists "yellow striped armyworm at 1.9 to 4.3 oz. Of product/acre (0.022 to 0.05 lb. a.i./acre with a 14 day phi for grain and 45 day phi for forage.



Yellow Striped Armyworm

Sincerely,

H. Leroy Brooks
Extension Specialist
Insecticides (Pesticidal Safety)