AgriLIFE EXTENSION
Texas A&M System

INSECTS AND WEEDS IN FOCUS

Web site: http://entowww.tamu.edu http://agfacts.tamu.edu/~rparker/

VOL. XXXIV NO. 2 ENTO/SCS June 19, 2009

✓ GENERAL COMMENTS
✓ SORGHUM INSECTS
✓ MITES IN CORN
✓ COTTON INSECT REPORT
✓ INTERESTING INSECTS

GENERAL COMMENTS

The newsletter has been published each year since 1977, but this year we have published only one issue and that was in January. The severe drought in the immediate area contributed to low interest on my part in the newsletter. For example, here at the Research and Extension Center only a small acreage exists where drip irrigation was utilized to get stands. Most of the spring planted crops never came up in the area and only bare ground is evident. In areas where rain was received, some producers have planted another crop such as sesame or have come back with sorghum.

RDP

SORGHUM INSECTS

Rice stink bugs are being found along the Gulf Coast, and although their numbers are not as high as in past years, many fields have exceeded the treatment threshold. Grain is most susceptible to damage when it is in the flowering through the soft dough stage. Grain in the hard dough stage is considered safe from feeding by this and other stink bugs. Sampling is easily accomplished with a 2.5 gallon plastic jug with the top quarter cut out with the handle left intact. Shake one or more sorghum heads into the jug until 10 heads are counted, catch the dried flowering parts in hand and sort for stink bugs, and count those in the jug. Keep record of where the bugs are being found as sometimes they clump along field margins or are moving in from certain sides. In these cases one might limit treatment to selected areas in fields. The rice stink bug is a grass seed feeder and as such often migrates into fields from nearby grassy areas.

A cost effective insecticide for rice stink bug is dimethoate 4E (8.0-12.0 ounces/acre). There is a 28 day waiting period from the time of application before the crop can be harvested. There is also strange label wording that indicates that the product cannot be used after heading or during the flowering period (pollen fall) on some of these labels. This seems strange because all indicate that the product can be used for sorghum midge control. Some producers are using pyrethroids such as Mustang Max due to effect on the corn earworm. However, in our studies the effectiveness of the pyrethroids on the rice stink bug was much less than the dimethoate (at least half as effective).

Refer to the following table to establish treatment threshold numbers. Determine the cost of control and estimate the grain value as $/cwt. For example, if the control cost is $8.00/acre and the grain value is $8.00/cwt, the treatment threshold would be 30,500 bugs/acre or 0.5 bugs/head where 61,000 susceptible heads were present per acre.

Economic injury level for rice stink bug as number of bugs per acre at the milk stage.

Control cost	Grain value ($/cwt)			
$/acre	6.00	7.00	8.00	10.00
6	30,500	27,000	23,000	18,500
8	40,500	35,000	30,500	24,500
10	51,000	43,500	38,000	30,500
12	62,000	52,500	46,000	36,500

Fall armyworm and corn earworm infestations have also exceeded treatment threshold in some sorghum fields. The fall armyworm has been more difficult to kill with the pyrethroids and in this case Lannate LV has been used. In cases where both the rice stink bug and fall armyworm have exceeded threshold, effective control has been achieved with dimethoate + Lannate LV. If most of the headworms are corn earworm the pyrethroids do a good job. We have noticed in years when large acreages of sorghum are treated with pyrethroid insecticides noticeably higher tolerance of bollworm to the insecticide in later generations in cotton.

There are two steps in determining the treatment threshold for headworm (corn earworm) based upon the size of larvae on heads (**See the two tables**). Larvae that are less than 0.5 inch in length experience mortality levels of around 80% so the threshold is much higher, but if larvae are more than 0.5 inch in length and no mortality is assumed then the threshold is much lower, but we have observed mortality due to predators and disease organisms the would modify the threshold of large larvae somewhat. For example at $8.00/acre control cost, grain value of $8.00/cwt, and 60,000 heads/acre, I would use 1 large corn earworm on every 3 heads as a rule-of-thumb. If the table threshold is followed exactly the treatment threshold would be much less than just stated. Again I believe we have observed enough natural mortality to make this adjustment in treatment threshold.

Economic injury level for large (longer than ½ inch) corn earworm larvae shown as the number of larvae per acre. When the number of larvae per acre exceeds the number in the table at a given cost of control and value of grain per cwt, the value of the protected grain exceeds the cost of control.[1]

Control cost	Grain value $/100 lbs			
$/acre	6.00	7.00	8.00	10.00
6	9,750	8,500	7,250	5,750
8	13,000	11,000	9,750	7,750
10	16,250	14,000	12,250	9,750
12	19,500	16,750	14,750	11,750

[1] This threshold table assumes all larvae will survive and complete development.

Economic injury level for medium-size (¼ to ½ inch) corn earworm larvae shown as the number of larvae per acre. When the number of larvae per acre exceeds the number in the table at a given cost of control and value of grain per cwt, the value of the protected grain exceeds the cost of control.[1]

Control cost	Grain value $/100 lbs			
$/acre	6.00	7.00	8.00	10.00
6	51,500	44,750	38,250	31,250
8	68,500	58,000	51,500	41,750
10	87,750	73,750	64,500	51,500
12	102,750	88,250	77,750	62,000

[1] This table assumes 81 % of the medium-size larvae will die in that stage and not contribute to additional yield loss.

Sorghum midge have been low in number in the majority of fields but that situation could change as adults emerge from fields that bloomed 3 to 4 weeks ago. A general threshold is 0.5-1.0 midges/blooming head. More exact thresholds are listed in Extension publication B-1220 dated May 2007 titled *Managing Insect and Mite Pests of Texas Sorghum* on page 21, *http://insects.tamu.edu/extension/publications/results_category.cfm?category=4&sort=pub_number.* RDP

MITES IN CORN

Mites at fairly high numbers were reported in corn to us from western Bee and Live Oak counties. Samples were obtained for species identification since they did not look exactly like the banks grass mite which they most closely resembled. Eric McDonald, USDA, APHIS PPQ, identified them as ***Oligonychus stickneyi*** or the **grass mite**. This mite has been found on sorghum and other grass crops. At today's corn prices treatment should be considered when several colonies are beginning to develop on the ear and above corn leaves. See Extension publication E-400 dated May 2006 titled *Managing Insect and Mite Pests of Texas Corn* pages 17-19 for more detail, *http://insects.tamu.edu/extension/publications/results_category.cfm?category=4&sort=pub_number*. We know that Oberon is effective on the mite but wonder if dimethoate alone might provide effective control since no resistance is suspected. We are trying to find someone to treat a few strips of corn to determine effectiveness of dimethoate.

RDP

COTTON INSECT REPORT

Creontiades locally called the **green mirid** has been detected at the Research and Extension Center at Corpus Christi. This came about due to finding evidence of internal feeding on young bolls and then using a sweep net to detect the green mirids. All sizes of nymphs and a few adult bugs were found. A black drop cloth would be the best tool to use to detect this insect.

The adults of this plant bug are ½ inch long, narrow-bodied and light green. This insect goes through five molts or instars (nymphs). The antennae of nymph and adult *Creontiades* are longer than the length of their body, while the antennae of nymph and adult fleahoppers are approximately half the length of the insect body. Nymph and adult *Creontiades* are light to dark green and have red eyes. Young nymphs of *Creontiades* have a red stippling on the antennae, but this usually is not observed after the third instar. In addition, adults of *Creontiades* have a reddish band on the pronotum (segment behind the head). Damage from *Creontiades* species in cotton can be square and small boll loss. A characteristic clear yellow liquid (frass) is often left on the fruiting structure where *Creontiades* have fed. Squares and small bolls may suffer damage ranging from just surface feeding and boll malformation to complete fruit loss.

The need to control this bug is determined by the insect abundance. Inspect fields at 4- to 5-day intervals during the fruiting period. Take 50 sweeps at each of the four locations in the field by sweeping a 15- to 16-inch net across the top of one row in such a way that the top 10 inches of the plants are struck. The action threshold for *Creontiades* has not been fully evaluated. Additionally, sample 100 thumb-sized bolls collected from 4-5 spots per field. Cut these bolls open and examine the inner boll wall for evidence of feeding which appears as a wart-like formation or stained lint similar to stink bug feeding. The economic threshold for stink bugs is when more than 20% of the bolls examined have evidence of feeding. This threshold should be sufficient for *Creontiades*. During the first 4 or 5 weeks of fruiting the action threshold is judged to be 15-25 bugs per 100 sweeps with unacceptable fruit set. When harvestable bolls exceed 10 days old, treatment should not be necessary.

RDP

INTERESTING INSECTS

Many insects go to great length in constructing their dwellings. The detail is so great in some cases that to be fully appreciated it must be seen under a microscope where every little twist of thread or splash of color will stand out in all its artistic beauty.

An example of this work is that of certain carpenter ants which make a structure much like beaver board. The ants use the material to construct partitions. The ants gather long wood fibers which are pressed together to construct a thick sturdy material which is very durable. It is a work of art which is exact in structure and has perfect color harmony along the entire surface. RDP

EVIDENCE OF INTERNAL FEEDING BY INSECTS WITH PIERCINIG MOUTHPARTS

Stinkbug Damaged Boll

Not all External Spots Show Inside Boll

Callus Formed Due to Insect Feeding

Evidence of Internal Feeding

For more information contact:

Roy D. Parker
Extension Entomologist
rd-parker@tamu.edu

TEXAS IPM
Partners with Nature

Dan D. Fromme
Extension Agronomist
d-fromme@tamu.edu

10345 State Hwy 44, Corpus Christi, TX 78406
(361) 265-9203, Fax (361) 265-9434

View our newsletter earlier on the internet at http://agfacts.tamu.edu/~rparker. Also pest management information is available at www.txaac.org.

****