

UPPER COAST CROP IMPROVEMENT NEWSLETTER

Matagorda

Wharton

Jackson

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General Situation

The hot, dry weather pattern that has settled in over this part of southeastern Texas is continuing. Thundershowers are increasing in activity however; they have not come close to breaking this ongoing area wide drought. Grain sorghum and corn harvest is in full swing and in lieu of our limited rainfall this year, yields are better than I anticipated. The balance of cotton is at physiological cutout, so the next hurdle for the cotton will be the timing of harvest aids. Now, it appears that our cotton crop is at least 10-14 days or 20% ahead of normal when it comes to average heat units for this year, and you should consider that when thinking about preparing for harvest. Cutout is an important physiological landmark in that it helps us determine when a cotton crop is "safe" from economic insect damage and in evaluating yield potential as well as when to apply harvest aids. Regarding insects, research has shown that small bollworms will not feed on bolls that are more than 350 heat units (HU) past bloom, stink bugs will not feed on bolls past 450 HU, *Lygus* 350 HU and for verde plant bugs we are not 100% sure, but our best guess would be it is similar to *Lygus*. With all that said, we are continuing to monitor for bollworms, fall armyworms, stink bugs, spider mites, aphids, *Lygus* and verde plant bugs. Whereas, beneficial numbers in cotton are moderate to high with lady beetle adults, larvae, big eyed bugs, and tremendous numbers of minute pirate bugs being observed. As mentioned last week, due to this years' weather we are continuing to see premature senescence syndrome in a number of cotton fields locally. This condition is generally thought to be caused by insufficient potassium in plant leaf tissue which predisposes the foliage to secondary pathogen infection. Now in 2005, Dr. Robert Lemon, former Professor and Extension Agronomist –Cotton, Dr. Gaylon Morgan, Associate Professor and Extension Agronomist –Cotton and Dr. Mark McFarland, Professor and Extension Soil Fertility Specialist wrote an excellent overview of this phenomenon, which can be found at <http://cotton.tamu.edu/news.htm> .

What's Happening in the Cotton Stink Bugs:

Treatable levels of stink bugs are continuing to be found in numerous fields in the area. The fields that seem to be the most infested are in close proximity or right next to grain sorghum and/or corn fields.

Feeding on bolls by this pest may cause boll shed and/or seed damage, lint staining and yield reductions. When making management decisions on whether to treat for stink bugs, the following should be adhered to; Examine 6 row feet of cotton in several locations in the field.

When there is an average of one or more stink bugs per 6 feet of row, feeding can cause excessive loss of squares and small bolls and may stain lint. Additionally, at least 50 small bolls (the diameter of a quarter) should be examined. If 20 percent of the small bolls have evidence of internal feeding (callous growth on internal boll wall and/or stained lint) and stink bugs are present, then treatment should be considered. As mentioned earlier in this newsletter, we should be out of stink bug danger once the bolls reach 450 HU past cutout.

Stink bugs often are clumped near field margins. Spot treatment provides effective control when this situation exists. Second through fifth instar stink bug nymphs and adults can damage bolls. Fourth and fifth instars can cause the same level of damage as adults. Shown are two of the more commonly found stink bugs that infest cotton in our area as well as the damage that they can do to the fruit.



Stink Bug Action Threshold

Drop cloth	Small bolls*
1 per 6 row ft	20% with internal injury

*Sample at least 50 quarter-sized bolls.

*Callous growth on internal boll wall and/or stained lint.

Leaffooted Bugs:

We are continuing to find appreciable numbers of leaffooted bugs in the Palacios and El Maton area of Matagorda County. Adults are about 3/4 inch in length and are dark brown with a whitish to yellowish stripe across the central part of the back. The hind legs have flattened leaf-like expansions on the tibia, hence the descriptive name. Nymphal stages look similar to adults except that they do not have fully developed wings. Although some members of this group are predaceous, immature stages can be easily confused with assassin bugs (Reduviidae). Immature stages are gregarious,

being found in high numbers on certain fruit where egg masses were laid.

Leaffooted bugs feed on a wide variety of developing fruit, including **cotton**, peaches, and tomatoes, and seeds such as beans, black-eyed peas, and sorghum. They also feed on the stems and tender leaves of plants such as potatoes.

While we do not have a lot of data on this insect in cotton, my take on it would be to treat it like a stink bug both in terms of damage and subsequent treatment.



Leaffooted Bug

Verde Plant Bugs:

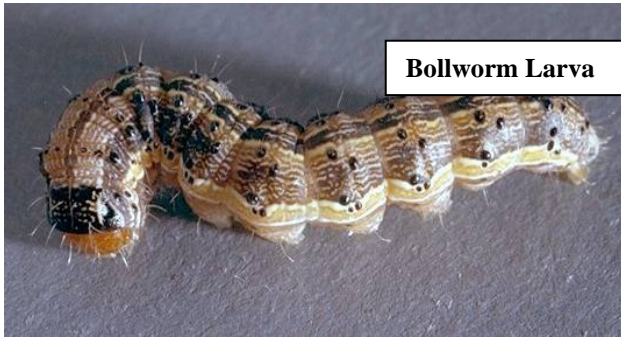
We are continuing to find treatable numbers of verde plant bugs (*Creontiades signatus*) in the Tin Top and Palacios area of Matagorda County. While the sweep net method is a good way of sampling for this pest, it does have some flaws. For example you are only able to sample the upper 10 inches of the plant and you are unable to determine if the rest of the plant has any populations. **In my opinion, a more effective way is to sample with a drop cloth (beat sheet) because you can literally knock the insects onto the sheet and count**

them. What I am unsure of is what would be an economic threshold for this pest using this method. Again my best guess would be using a similar method as we do for *Lygus* which is **after peak bloom if 4 *Lygus* per 6 ft-row is found then treatment may be necessary.** Now obviously, we need to get more information about this pest regarding best sampling methodologies, economic thresholds, and efficacy of insecticides, not to mention exactly what are they doing to other crops such as grain sorghum and soybeans.

Bollworms:

Continue to be on the lookout at this time, for bollworms. Egg lays are variable across the area with some program fields in the area having up to 8%. Damaged squares were between 0-42% and small worms (3%) are being detected in the non Bt program fields. When scouting this transgenic cotton, the entire plant should be searched for tobacco budworm and bollworm larvae and injury. A proper sample includes squares, white blooms, pink blooms, bloom tags and bolls. Scouting intervals should be reduced to 3 to 4 days during periods of increasing bollworm egg laying, especially during peak bloom. Treatment should not be triggered by the presence of eggs alone. Hatching larvae must first feed on the cotton plant to receive a toxic dose. Treatment with foliar insecticides for tobacco budworm or bollworm should be considered when 4,000 to 8,000 larvae per acre larger than 1/4 inch are present (based on a population of 40,000 to 60,000 plants/acre) or when 8 to 12 larvae larger than 1/4 inch per 100 plants are present and 5 to 15 percent of the squares or bolls are worm damaged.

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Fall Armyworms

Fall armyworm larvae are continuing to be reported in the area in several crops including pastures. Fall armyworms are similar to other armyworm species in that females lay an egg mass (usually 50-200 eggs). The egg mass of fall armyworms is loosely covered by tan scales from the female body. The egg masses, which are normally deposited on the undersides of leaves in the lower half of the cotton canopy or on boll bracts, hatch in two to four days. Moths have a wingspan of about 1 ½ inches. Hind wings are grayish white, and the front wings are dark brown to gray and mottled with patches of white, yellow or gold. Larvae have various color phases, ranging from light to dark brown or green, and reach a maximum length of 1 ½ inches. The body is slightly tapered toward the head. The most distinguishing characteristic of this species is the presence of a prominent, light-colored inverted “Y” on a relatively dark head capsule; although, this may not be visible on small larvae. Unlike the bollworm and budworm larvae, fall armyworms do not have the presence of numerous tiny spines on most parts of the skin when viewed with a 10x to 20x hand lens.

Fall armyworms are likely to feed on both blooms and bolls. Small larvae are difficult to detect because they often feed on boll bracts and on the surface of bolls, hidden behind the bracts. Fall armyworms feed on a relatively small number of bolls. Thus, it takes more larvae to do as much damage as a smaller number of bollworm or tobacco budworm larvae.

Treatment is justified when four or more small larvae (<1/4 inch) are found in 100 blooms and bolls or when 10-20 larvae are found per 100 plants. Timing applications to control small larvae is more effective than trying to control larger larvae. Small larvae are often found in

white blooms, pink bloom tags or behind the bracts of medium or large-sized bolls. Large fall armyworms are capable of penetrating bolls that are quite mature; even bolls that are over 500 DD60s of age. Because fall armyworms are normally found feeding under the bracts of large bolls in the lower half of the cotton canopy, this makes them extremely difficult to detect and difficult to obtain adequate spray coverage when treating as well. Increasing spray volume above what would normally be used to control other pests will usually improve fall armyworm control, but any control over 60 to 80% should be considered good.

Spider Mites:

Spider mites are continuing to be found at in a handful of cotton fields in the area. Spider mites infest the undersides of leaves, where they remove the sap from the plant and cause the leaves to discolor. They may also infest bracts of squares and bolls, causing the bracts to desiccate and squares or small bolls to shed. Severe infestations can defoliate the cotton plant. Mite infestations most often occur in spots and in field margins. Increased spider mite populations usually follow multiple applications of insecticides for other pests, since insecticides destroy natural spider mite predators.

Management and decision making. Treat when mites begin to cause noticeable leaf damage. Spot treatment of fields is encouraged when infestations are restricted to small areas. Two applications at 5-day intervals may be required for acceptable control. In certain locations, some mite species are highly resistant to miticides and are difficult to control with available materials.



Upcoming Events & Announcements

> On Thursday, July 21st the Texas AgriLife Extension Service and Phytogen cottonseed will be hosting a meeting and field day at the Texas AgriLife Research and Extension Center located at Corpus Christi. The program will begin at 8:30 a.m. and conclude at 1:15p.m. Activities will include viewing current and future Phytogen cottonseed varieties, update on the Enlist™ Weed Control System which is a new herbicide tolerant trait technology from Dow AgroSciences, and a Liriomyza leafminer adult Leafminer larvae & mining presentation on Transform™ WG which is a new insecticide for controlling aphids, whiteflies, and cotton fleahoppers. To register go to: <http://events.signup4.com/Tailgate11>

Acknowledgements

Funding for the IPM program is provided by donations from local agribusinesses. Money goes towards postage, travel, and wages for scouts. We are still in need of funding so if you know someone you think would be interested in donating please contact them or call our office. The IPM staff would like to thank these businesses that donated to the program and encourage producers to support their business as they have supported the producers.

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TPMA Website

The Upper Coast Crop Improvement newsletter and other Texas Agrilife Extension IPM Program newsletters from across the state can be viewed at the Texas Pest Management Association website at <http://www.tpma.org>



Due to budgetary reasons, this will be the last “hard copy” of this newsletter for this cropping season. My plans however are to electronically (via e-mail) send out the results of the cotton defoliation study that we will be conducting shortly. If you wish to have access to this information, contact me via e-mail at my address listed.

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