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## 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 down to about what we 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 6-7 days 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, by the way, is defined as 5 Nodes Above White Flower (NAWF). I am referring to 1<sup>st</sup> position fruit, count the number of nodes above the uppermost white flower located on a first position. 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 cutout, stink bugs will not feed on bolls past 450 HU, *Lygus* 350 HU and for *Creontiades* we are not 100% sure, but my best guess would be it is similar to *Lygus*. Also, some recent work conducted by Brant Baugh, EA-IPM, Lubbock County, showed that on drip irrigated cotton, foliar protection is needed up to 750 HU for spider mites. So how this relates to our situation on drought stressed dryland cotton is not fully known, but my take on it would be to protect the leaves until the crop is finished. With all that said, we are continuing to monitor for bollworms, stink bugs, spider mites, aphids, *Lygus* and *Creontiades*. Whereas, beneficial numbers in cotton are moderate to high with lady beetle adults, lacewing larvae, big eyed bugs, and minute pirate bugs being observed.

# 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.

Brown Stink Bug Nymph



## Creontiades:

**We are continuing to find treatable numbers of *Creontiades* in Matagorda County.**

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 like wart-like formations caused by stink bug feeding. The *Creontiades* feeding will result in a similar wart. 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*.

*Creontiades* Action Threshold

Cotton stage	Action threshold
During the 1st 4 or 5 weeks of fruiting	15-25 bugs per 100 sweeps with unacceptable fruit set

When harvestable bolls exceed 10 days old, treatment should not be necessary.

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 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 *Creontiades* 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.

**With that said Stephen Biles and I conducted an insecticide efficacy trial in cotton for *Creontiades* in Matagorda County and the results are shown below.**

**Please note that we used a drop cloth (beat sheet, 6 row feet) and had fairly high populations starting out. Additionally, all of the materials used were effective up to the last sampling period (7 days after treatment DAT).**

Treatment	Rate	Unit	Creo Tot /btSheet		Creo Tot /btSheet		Creo Tot /btSheet	
Name	Rate	Unit	Jun-30-09		Jul-2-09		Jul-7-09	
			PRE		2 DAT		7 DAT	
UTC			7.5	a	6.5	b	4.25	b
LEVERAGE	3.8	OZ/A	13.75	a	1.5	a	0.5	a
LEVERAGE	5	OZ/A	11.5	a	0.5	a	0	a
TEMPRID	3.2	OZ/A	9	a	0.75	a	1	a
ENDIGO	4	OZ/A	10.25	a	0.5	a	0	a
ORTHENE	0.75	LBS/AC	7.75	a	0.25	a	1.25	a
CENTRIC	1.5	OZ/A	7.25	a	2	a	1	a
VYDATE	10.7	OZ/A	5.75	a	1.75	a	1	a

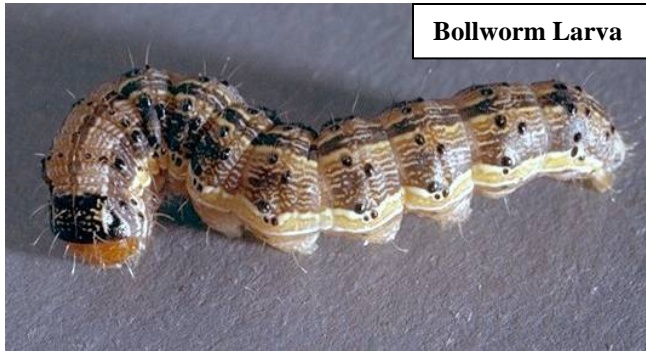
Means followed by same letter do not significantly differ (P=.05, LSD)

### Cotton Bollworms:

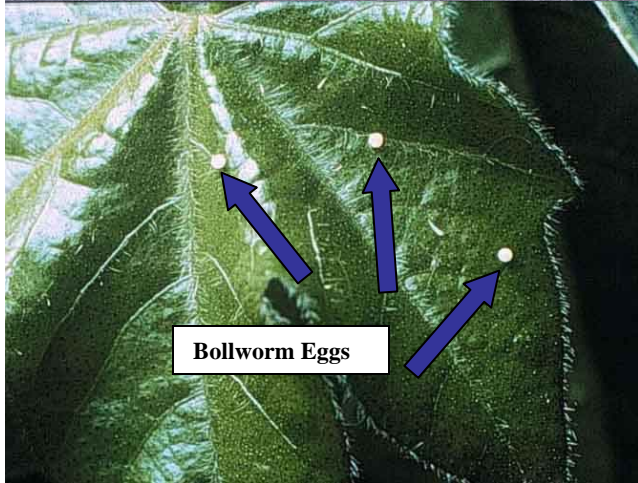
**Continue to be on the lookout at this time for bollworms. Egg lays are variable across the area with some program fields in the El Maton, Pierce, Crescent and El Campo areas having up to 48%. Damaged squares and bolls were between 0-12% and small worms (0-8%) as well as medium to large worms (0-2%) are being detected in 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.**



**Bollworm Larva**



**Bollworm Eggs**

### **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.



**Twospotted Spider Mite**



**Spider Mite Damage**

## Announcements

**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.**

## 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.

**Agriliance  
Bayer Crop Science  
Bacak Insurance  
Danevang Farmers COOP  
Delta and Pine Land/Monsanto  
DuPont Crop Protection  
First State Bank of Louise  
Farmers COOP El Campo  
Helena Chemical Company  
Hlavinka Equipment Company  
Hornbeck Seed Company  
New First National Bank of El Campo  
Moses Gin  
Prosperity Bank  
South Texas Cotton & Grain Association  
Superior Motor Parts  
Traditions Insurances Services Inc  
Vanderbilt Gin  
Wharton County Farm Bureau  
Wilbur-Ellis**

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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>



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