

Pest Cast

The Row Crops IPM Newsletter for the LRGV, a cooperative project of Texas AgriLife Extension Service and the Cotton & Grain Producers of the lower Rio Grande Valley

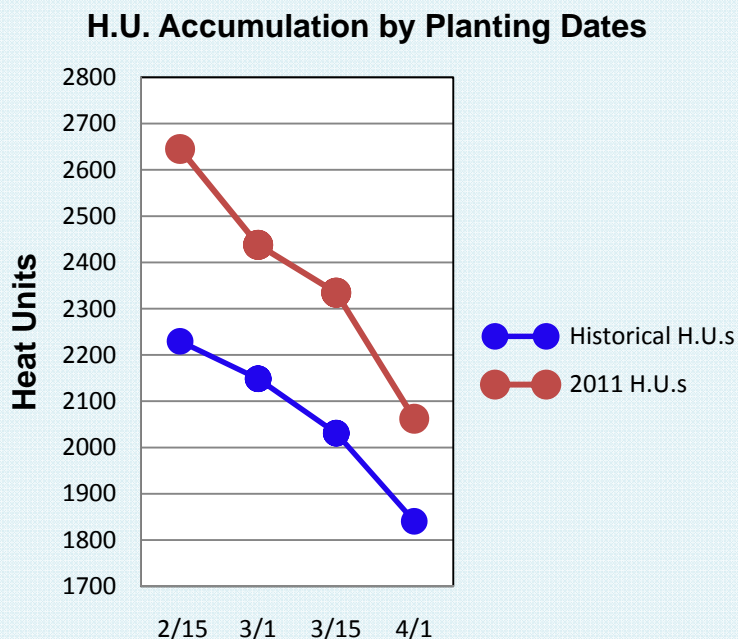
John W. Norman, Jr.
Editor

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General Situation: Despite our earlier fears of damage to cotton by the rains of last week, the opposite may have been the case. Virtually no cotton was dislodged from the open burs and only some of it was strung-out from the burr. Hard locked bolls were seen in minimal numbers. Growers even commented that the smaller bolls which likely would have remained small and contributed little to the yield may now be able to grow much larger and add much more yield than was possible before the rains. What the rains this week will do to the crops has yet to be determined. Hopefully, we will see a quick end to the heavier tropical storm Arlene's rains clear out quickly which could lead to minimal crop damage. We shall see.

Grain sorghum harvest was halted due to wet fields. No reports of sprouting grain in the unharvested heads were received this week. A few fields dried enough by early this week to allow continued harvest. Additional rains and delays in harvest may lead to some damage in the 20-30 percent of the crop that was still in the field as of this week.



Cotton: Within the last two weeks, a premature leaf shed has been ongoing in many Valley cotton fields. The leaf drop appears to be worse in the dryland areas of the Valley, but has been observed in some irrigated fields, also. The premature leaf loss phenomenon has been observed in past years in Valley cotton fields. In July 2002, many irrigated and dryland fields showed symptoms just like those observed this year. Charles Stichler (now Extension Agronomist Emeritus) in Uvalde and Dr. Tom Isakiet, currently Extension Plant Pathologist, College Station, both gave explanations about the leaf loss

experienced in 2002 which I published in the July 18, 2002 Pest Cast. I have reprinted below their discussions in part about their observations of the premature leaf loss.

Pre- mature Senescence (leaf shed)-(by) Charles Stichler When cotton matures, there is a hormonal shift in the plant and leaves. As leaves age, they finally reach the stage of senescence, or maturity, when they naturally fall off the plant. Some cotton throughout the region has shown evidence of either a foliar “disease” or malady, that is prematurely defoliating cotton, or nutrient deficiencies. Samples of leaves from the Coastal Bend region (**which was experiencing the same issue in 2002**) was sent to plant pathologists to determine if there was a “new” disease of cotton that we needed to be concerned about.

There were several fungi isolated on leaves, but none are listed as primary pathogens on cotton. The condition seems to be a combination of mature cotton, generally with heavy boll loads and stress from either too little moisture and or nutrients, followed by the recent rains and high humidity which promote fungal growth. There have been almost two weeks of cloudy high humidity and rainy weather in the regions most affected.

The irrigated cotton was generally irrigated late enough to keep the plant growing and the dryland cotton in the eastern part of the Valley, was stressed early and has also received late rains which rejuvenated the plant.

The problem seems to show up on cotton that is close to opening, or has already begun to open. It is associated with cotton that was in a stressed stage just prior to the recent rains. The leaves were beginning to mature, (senesce) as the plant went into cutout. In addition, on the Upper Coast, the malady seems to be associated with fields that are low in potassium. Potassium deficiency shows up in the cotton plant with red leaves in the upper portion of the canopy. Earlier it was thought that some varieties were more susceptible than other varieties, but this has not been shown to be the case in most situations. At this point, we are still trying to determining the condition and cause. We do not expect this to be a “new disease” that growers need to become overly concerned with at this time. Investigations will continue to determine its cause and prevention. With better growing conditions in another year, we may not see the “disease” or malady again.

Premature Defoliation of Cotton-Dr. Tom Isakeit: I recently examined several cotton fields in Hidalgo county, including John Norman’s variety trial at the TAMU - Hiler Farm, to determine why leaves had abnormal coloration and were defoliating. These symptoms did not fit the pattern of any known foliar pathogen of cotton. Some of the leaves had circular lesions that resembled those caused by the fungus, *Alternaria*. I am doing laboratory tests to determine whether fungi are causing these lesions. However, *Alternaria* is a weak pathogen of cotton and, in decades of observations, it has never been reported as a problem on cotton in the Lower Rio Grande Valley. From what I’ve seen so far, I feel that the problem in the LRGV is not caused by infectious organisms. I do not know the cause, but I feel it is an environmental stress that exerts a stronger influence on plants with a heavier boll load. The foliar symptoms of this phenomenon resemble potassium deficiency in many fields. This does not necessarily mean that there is a deficiency in the soil. If tissue analysis does indicate that there is a deficiency, the problem could be the result of impaired uptake by plant roots.

For example, high populations of the reniform nematode feeding on cotton roots can sometimes cause foliar symptoms of potassium deficiency. (I am quite sure that the current situation is not a reniform nematode infestation, since I did not see the stunting pattern that consistently occurs with it).

The cotton problem in the LRGV looks quite different from what I saw on July 5 in Wharton County. In the LRGV, defoliation was noticeable, but it was not as severe as in Wharton County. There are some fields in Wharton County that will have a yield reduction, but this does not appear to be the case in the LRGV. In Wharton County, the defoliation seemed to be associated with certain varieties. However, I would not feel one could draw a certain conclusion

from this, unless several varieties were planted in the same field. This is the case in John Norman's variety trial, where all the varieties were affected to some degree and the most severe defoliation was first seen with the earliest maturing varieties, but progressed to later-maturing varieties.

I am continuing to gather information about the occurrence of premature defoliation in different parts of the state. I am not close to understanding the cause, but I can be confident that pathogens are eliminated as a major cause of the problem.

Irrigated cotton fields appeared to have benefitted from the recent rains. Boll opening continued almost unabated despite the rains in all fields. Final irrigations appear to have been replaced by the rains. Only very late planted fields; ie, those planted the last few days of March and early April, may need additional irrigations before the season is completed. Early planted fields were on track to be defoliated within the next two weeks or so. Weather permitting, many fields of cotton, both dryland and irrigated will be ready for defoliation within the next 3 to 4 weeks. If the fields can dry enough by this coming weekend, some initial harvesting will begin shortly thereafter.

Pest activity continued in a few fields of irrigated cotton this week. Verde bugs were found at treatable levels in a few fields where heretofore they had not been reported. A smaller number of fields which had been sprayed for Verde bugs last week required another insecticide application this week. Some Verde bugs were reported from fields as far west as Santa Rosa this week and were sprayed. Most, but not all, fields of dryland and irrigated cotton were maturing fast enough to avoid needing additional sprays for any pest shy of possible weed control. Whiteflies were observed in many fields, but only a few were reported to need spraying this week.

**LRGV
BOLL WEEVIL TRAPPING INFORMATION**

YTD	2011	2010	2009	2008	2007	2006	2005
	.00290	.00803	.14764	.14230	.20808	.47096	3.63535

Week Ending	2011	2010	2009	2008	2007	2006	2005
4/3/11	.00476	.00672	.19847	.08503	.64118	.48544	0
4/10/11	.00360	.00592	.11633	.30512	.40392	.37552	0
4/17/11	.00114	.00312	.23686	.17102	.36414	.88875	6.47392
4/24/11	.00133	.01426	.38106	.05425	.23751	.15855	3.48685
5/1/11	.00043	.01528	.09081	.09113	.18227	.08629	1.70269
5/8/11	.00077	.00825	.05548	.08168	.07073	.09976	.73028
5/15/11	.00174	.00291	.02454	.07013	.17113	.09204	.72057
5/22/11	.00234	.00140	.10516	.08410	.06717	.20786	.58319
5/29/11	.00177	.00336	.20724	.06413	.07770	.12939	.84931
6/05/11	.00244	.01018	.13857	.04752	.13497	1.0014	.82565
6/12/11	.00720	.00794	.17487	.11127	.03975	.46624	1.77066
6/19/11	.00556	.00766	.06249	.13535	.12318	.32430	6.8556
6/26/11	.00570	.01430	.03580	.49846	.13204	1.44546	14.96033

Traps inspected for current week: 46,303

We thank the following sponsors of the Pest Cast newsletter for their very generous contributions toward this effort.



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Contact Info

Pest Cast Newsletter
Texas AgriLife Extension Service
South District 12
2401 East Highway 83
Weslaco, TX 78596
(956) 968-5581
E-mail: d12south@ag.tamu.edu