

FOCUS on South Plains Agriculture

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Cotton Insects

When to quit protecting fruit from insects

We are now several weeks into the final boll filling stage of the game and closely approaching the point where insects should no longer pose much of a threat. Remember that a quality boll requires 750-850 HU to develop, and depending on how warm a fall we get, there is a good chance that many of the bolls set in mid to late August may not fully develop, and those that do may be low in quality and not worth protecting. As a rule of thumb on moderately irrigated, open canopied cotton, once a boll accumulates 350 HU it is considered safe from Lygus damage, and once a boll has accumulated 450 HU it should be safe from new bollworm egg lays. However, this rule may not hold true for high yield potential cotton that is under a high irrigation regime or has a shady canopy. Bolls grown under these conditions may stay relatively soft beyond 450 HU. Essentially, a fairly good test to tell if a boll is susceptible to insect damage is simply to cut the boll with a knife and determine whether it's soft or hard. Most cotton from Lubbock south should be pretty much out of the woods. And the cotton that has completely cutout and has nothing but larger bolls remaining, should not require protection from bollworm or armyworms. However, cotton that still has blooms and small bolls has the potential to attract a lot of bollworms and the large soft bolls associated with these attractive plants are probably worth protecting. So at this stage in the season, as long as we have soft large bolls susceptible to worm feeding and blooms and small bolls present to get a bollworm population going, we should take necessary step to prevent bollworms from developing damaging populations.

Bollworms and Fall Armyworms

We are seeing some light to moderate bollworm egg lays primarily in counties north of Lubbock. It looks like the high acreage of late corn and sorghum is acting as a trap crop and is attracting many of these moths away from cotton. This late in the season we will see that although there are eggs being laid in the terminals, a large proportion of the eggs are being deposited on the blooms resulting in small bollworms developing under the bloom tags.



Bollworms will often feed on small bolls under the bloom tag

These worms tend to be more difficult to controls since it is hard to get the insecticide to them and we have to depend on residual insecticide activity for control once the worm begins to move about. When scouting, make sure you do whole plant inspections; look at the squares, bloom, under tags, bolls, the whole 9 yards. When targeting bollworms, the pyrethroids are still the products of choice, but keep in mind that good coverage is essential for good control.

We are also seeing some fall armyworms mixed in with the bollworms, but so far I have yet to see a population of falls that justified targeting that pest. The pyrethroids are not particularly effective towards fall armyworms, so if a significant proportion of the worm population is fall armyworm, an alternative insecticide might be considered as a tank mix partner with a pyrethroid (targeting the bollworms) or you may consider a product

such as Belt or Coragen which have activity towards both armyworms and bollworms. That being said, we do not have a great deal of data for these products on bollworms and since these are most active upon ingestion, good coverage is essential. [Click here to view 2008 Cotton Bollworm Efficacy Data](#). DLK

Cotton Agronomy

Crop Update

August produced well above normal temperatures and scanty rainfall. A lot of the dryland cotton is now severely moisture stressed. I see a lot of dryland with the bottom leaves "firing" off the plants. There is some open cotton in some fields, especially some of the earlier planted dryland and irrigated. We have some open cotton under the pivot at the AG-CARES Farm at Lamesa. The bulk of that cotton was planted in early May. In spite of the August moisture stress, some of early emerging dryland still looks respectable. Heat unit accumulation at Lubbock has been 17% above the 30-year long-term average from August 1 through 30. [Click here to view August temperatures](#). We have moved past hard cutout in most fields, however, some well watered cotton is still not there yet. Any blooms produced this late have a minimal chance of making a fully matured boll with excellent micronaire, and it is very risky as to whether they may even contribute to yield. These late bolls are the ones that can severely negatively impact overall fiber quality; therefore producers need to seriously consider irrigation termination options. For a good discussion on that, see last week's issue.

Update: Countdown After Cutout

With recent hot temperatures, heat units have been above normal. Cutout is defined as Nodes Above White Flower or NAWF=5. This must occur with NAWF=5 followed by "hard cutout" or blooming out the top. COTMAN uses 850 heat units past bloom

as a point at which a bloom can make a "normal" boll. In the High Plains, heat unit accumulations of 750 past bloom will probably make an "acceptable boll" that may not have "normal" lint production and may be lower quality (low micronaire).

We have developed [a table that indicates where we are as of August 20](#). It is based on actual Lubbock 2009 heat units from August 1, and August 10, and August 20. From August 30 forward, it uses "temperature normals" (30-year long-term average) as projections for each day.

For example, the table shows that for a field that reached cutout on August 10, that bloom should be able to obtain 350 heat units (probably safe from Lygus) by about August 27. The 450 total (probably safe from a bollworm egg lay), should occur around September 2. If we encounter "normal" heat units from August 30 forward, this boll should obtain good maturity (850 heat units) about October 15.

Based on some irrigation termination projects with COTMAN (see below), the possible irrigation termination date could occur sometime around September 5. One can tell that unless we have an outstanding fall, the cotton blooms on August 20th at Lubbock will encounter difficulty in making a "fully mature boll."

2009 Harvest Aid-Guide

We have updated the [High Plains and Northern Rolling Plains Cotton Harvest-Aid Guide](#). We updated some of the text, Decision Aid Table and added a few topics such as picker harvester adjustment, etc. Dr. John Wanjura at the USDA-ARS Cotton Production and Processing Unit (affectionately called the "Gin Lab") replaced Dr. Alan Brashears. Dr. Wanjura provided information concerning optimizing cotton harvester adjustments and harvesting safety issues.

Upcoming Meetings

[Upcoming cotton meetings in the area are presented here](#). RKB

Insect Trap Captures

Trap Captures as of August 28th

A beet armyworm flight is underway now. Unfortunately, we ran out of pheromone lures some time ago and the replacements did not make it here in time to help this week's counts. What I do know is that six week old lures (two weeks expired) caught an average of 57 moths per trap per week in Lubbock County. This was quite a bit higher than an average 12.6 moths per week for the previous week. New lures should arrive today.

Cotton bollworm captures are similar to last week's values and average in the range of 45 moths per night (300 moths per week). We are still in the moth flight that has been going on for the last two weeks.

I have **discontinued traps for fall armyworm and southwestern corn borer**. Captures of both species dropped dramatically in the last two weeks. RPP

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