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# Crop Management Newsletter

News about Crop Management for producers in Dawson and Lynn Counties.

Thanks to the sponsors and the gins who support the Dawson/Lynn IPM Program  
(found on page 2)

## Current Conditions

We are still getting our scouting program put together and trying to obtain a pattern of which fields are scouted on which days - still waiting on a couple of fields to be placed in the program.

Cotton is developing at a near optimal rate. The sunshine and heat following the rains is ideal for cotton production. So far this year we are not seeing the extreme temperatures which causes the cotton to wilt and suffer.

Of course we always have fields that are having problems and that are really struggling along for several different reasons and they may end up not producing much cotton at the end - time will tell.

Cotton has started to square (62% of our program fields). Square set is outstanding - averaging about 93% for all fields that I am scouting (ranging from 83% - 100%).

Insect activity remains very light, however, I am finding adult Cotton Fleahoppers and no immatures. This tells me they are just starting to infest the cotton so be on the watch (discussion below).

## The Square

The square is simply the flower bud of a cotton plant housing the pollen anthers and sepals and surrounded by three (or sometimes four) bracts. They are located on the fruiting branches. In the "older varieties" the first fruiting branch started at node 5 or 6. In the "newer varieties, first fruiting branch starts about nodes 7, 8 or 9.

Cotton has an internal mechanism to regulate the initiation of squares. Squares will appear at every

new mainstem node following development of the 1<sup>st</sup> fruiting branch. The node location of the first fruiting branch is controlled by variety and the environment surrounding the plant during the first weeks after emergence. Adverse conditions will always cause the first fruiting branch to move up the plant - never down. After the first 3 weeks of plant growth, the only possible manipulation of square numbers is through protection and sustained plant growth.

Scientists and producers have sought a "magical"

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chemical or management practice that would make cotton square. An increase in the relative amount of fruit does occur when plants suffer from water or nitrogen deficiency or have been treated with a PGR type product. However, these differences **are not the result of increased square production**, but rather increased retention at lower nodes (PGR's), reduction in leaf size (PGR's and water deficit) and reduction in new leaf development (N deficiency), making boll and squares more prominent.

### **Nitrogen Nutrition**

As seedlings continue to develop by adding leaves, N moving into the plant (stems and leaves) increases to about 0.76 lbs of N per acre per day at first square. Nitrogen accumulation up to first square is about 15% of N per acre of the seasonal total uptake. Ideally we would like to have all the nitrogen in place at first bloom or shortly there after - exception would be drip irrigated fields where we are spoon feeding the crop with daily nitrogen.

### **Cotton Fleahopper / Lygus**

#### The Sucking Pest Complex

Here we are talking about Cotton Fleahoppers and Lygus. We see a few lygus throughout the season but mainly we deal with the Cotton Fleahopper.



#### Fleahoppers

Fleahoppers are a concern from first square thru the first week of bloom. **The adult moves into cotton from wild weed hosts when cotton begins to square and /or the weed hosts start to dry down.** With the recent rains, fleahoppers should stay content

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on the weed hosts for awhile. However, we are aggressively working on controlling the weeds and may be forcing the fleahoppers over to our squaring cotton.

Whiteweeds are one of their preferred hosts, so think about that when you are ready to cultivate, apply round-up or shred the ditches.

Examine the weed host for fleahoppers to determine the population prior to your weed control strategy. Then follow-up by examining your cotton for any increase in fleahopper activity.

Fleahopper damage is to the fruit, the squares, of the plant where lygus damage is to the squares and bolls. Pinhead size and smaller squares are most susceptible to damage from fleahoppers. Damage causes the squares to “blast” die and fall off the plant.



When scouting for fleahoppers you need to approach the plant cautiously. Do not allow your shadow to be cast across the plants you intend to check as the adults will take to flight and the immatures will scurry down the plant.

Start scouting by observing the upper portion of the plant then place the upper stalk of the plant between your fingers, like your drinking from a wine glass, and work the terminal area all while watching for immatures moving down the plant and onto your fingers.



The decision to treat should be based on the number of fleahoppers present, 25 - 30 per 100 plant terminals, combined with percent square set:

1<sup>st</sup> week of squareing . . . . . 90% or greater

2<sup>nd</sup> week of squareing . . . . . 85% or greater

3<sup>rd</sup> week of squareing . . . . . 75% or greater

I might tend to be more aggressive with this years crop. With the soil moisture and nutrition levels we have in place, if we were to have the squares removed by fleahoppers the cotton would become the tree that it is supposed to be in the first place. So, we want to allow the fruit load to act as the “PGR,” especially in the dryland.

	Heat Units Totals								
	Tahoka			O'Donnell			Lamesa		
	May 23	June 1	June 10	May 23	June 1	June 10	May 23	June 1	June 10
May 23-31 (actual)*	71.5			77			79		
June 1-30 (actual)*	492	492		500.5	500.5		506	506	
June 10-30 (actual)*			353			357			363
July 1-5 (actual)*	95.5	95.5	95.5	92	92	92	92	92	92
July 6-12 (actual)*	112.5	122.5	112.5	115	115	115	129.5	129.5	129.5
Total	831.5	710	561	784.5	707.5	564	806.5	727.5	584.5
HU needed in to obtain 2200	1368.5	1490	1639	1415.5	1492.5	1636	1393.5	1472.5	1615.5

\* Based on the Texas Tech Mesonet temperatures for each location.

^ Based on the daily average temperatures for the month from the Weather Channel.

The following tables give the rainfall, high and low temperatures and heat units by date for July 6 - 12.

#### Tahoka

Date	Rainfall	High	Low	Heat Units
7/6/2015	1.13	97	67	22
7/7/2015	2.25	73	64	8.5
7/8/2015	0	81	64	12.5
7/9/2015	0	87	64	15.5
7/10/2015	0.24	87	67	17
7/11/2015	0.01	88	68	18
7/12/2015	0	93	65	19
Total	3.62			112.5

#### O'Donnell

Date	Rainfall	High	Low	Heat Units
7/6/2015	0.46	96	70	23
7/7/2015	1.55	73	65	9
7/8/2015	0	82	64	13
7/9/2015	0	85	67	16
7/10/2015	0.28	87	67	17
7/11/2015	0.05	88	68	18
7/12/2015	0	93	65	19
Total	2.29			115

#### Lamesa

Date	Rainfall	High	Low	Heat Units
7/6/2015	0.05	98	71	24.5
7/7/2015	0.80	76	66	11
7/8/2015	0	84	64	14
7/9/2015	0	89	67	18
7/10/2015	0.40	92	69	20.5
7/11/2015	0.04	92	69	20.5
7/12/2015	0	96	66	21
Total	1.25			129.5