

JUNE 29, 2018

General Status

This week we have seen the return of some rather harsh hot and dry conditions. Most days the temperatures have been triple digit but if not, it was still in the upper 90's with nighttime temperatures not cooling off all that much or for very long. What has really made the environment harsh for our crops and spray schedules has been the relentless winds that seem to only change patterns to gust to ridiculous rates. Heat units can certainly rack up quick in this environment. That is not too bad if a crop's increased water needs can be met. There are plenty of fields in the area that have gone through some weather this week. To make a blanket statement, cotton square drop is up, most corn is at or near pollination, and sorghum is either trying to establish and set its head size in this environment or is nearing flag. To add to our concerns, we have pocket fields of

Cumulative Heat Unit Calculator

Corn Start Date	Corn End Date
4/24/2018	9/27/2018

Corn Total Heat Units: **1573.10**

Cotton Start Date	Cotton End Date
5/16/2018	11/5/2018

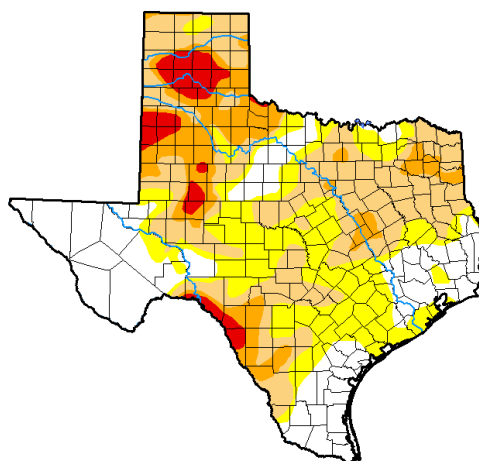
Cotton Total Heat Units: **742.40**

Updated Monday weekly

economic plant bugs we have been forced to treat in our program, surviving weeds are toughening up in the heat, we have reports of some heavy populations of false chinch bugs around, the first spider mites are creeping into grain crops, fall armyworms are starting to chew on non Bt grains, and populations of troublesome bollworms might be on the move north from south and central Texas soon. With rain returning to the forecast this weekend, hopefully we can finally get ahead some and put some moisture in the soil soon. Even with all these factors considered, I still feel our surviving crops are setting in pretty good shape.

**U.S. Drought Monitor
 Texas**

June 26, 2018
 (Released Thursday, Jun. 28, 2018)
 Valid 8 a.m. EDT



Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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<http://droughtmonitor.unl.edu/>

Cotton

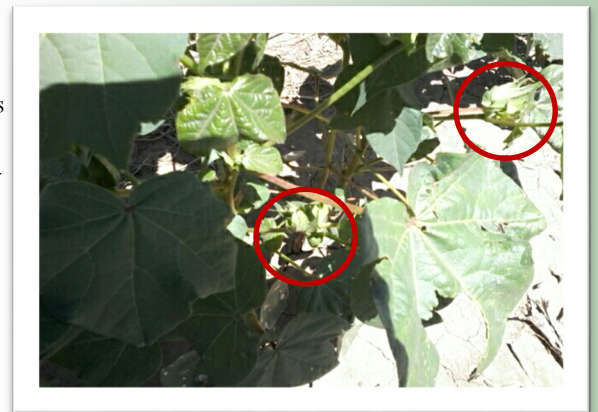


Central Swisher field this week.

This week our scouting program cotton ranged in stage from 3rd true leaf stage to 2/3 grown square stage with just a few 3/4 grown square peaking here and there in the older fields. Most of our fields are running around the 1/4 grown square stage and growing as rapidly as water availability will allow. With a few fields sporting those

older squares, there is a good chance of seeing a few blooms by July 4th but for most fields I would expect 1st bloom to occur between July 10th and 20th with the late stragglers starting before August 1st. This is right on schedule for a 'normal' year but ahead of where we have been the past 2 seasons.

Square drop is generally up this week in the rougher, drier, and wind whipped conditions these fields have been through. Most of our program fields came in between 3% and 12% square drop (or conversely 88% and 97% retention). This is up from last weeks observed 0% to 5% drop. With a little more plant growth and a few days with a little better growing environment, this should right itself. There were a few other cotton fields with economic fleahopper issues causing square drop to increase to 25% to 38% that had to be treated. In addition to these economic fleahoppers, we also picked some light populations of Lygus and stink bugs (assorted species but mostly green) that were causing minor, not economic square loss that we will need to watch. What has been the most 'interesting' subject this week is the differing species of fleahoppers that have been the dominant population in all our program fields this year (including our economic fields), the 'black' fleahopper.



Larger 2/3 and 3-4 grown squares from southern Hale this week.



Fleahopper caused, sudden square drop, "blasted square." Square may not always remain.



'Typical' weather related drop related to wind and stress. Abscised slowly.

Garden Fleahopper ('black' fleahopper) in West Texas Cotton

The 'black' fleahopper, or more correctly named the garden fleahopper, is a major pest of cotton in Arizona and deep Southern areas of the cotton belt. While it is native to West Texas and cotton entomologist do see 1 or 2 a year here, it has never been a dominant species or an economic problem within documented memory. This pest has been out of our range of concern for so long in this region, few have heard of its existence, let alone scout fields for it. You can imagine our concern when we found our first program cotton field sporting a 35.6% square drop rate that had increased from 1.98% the week prior and this was the only pest I could find in that field to account for the drop above and beyond the now 'normal' weathering. The population of this garden fleahopper in that first field was running was a very high 1 bfh / 0.8 row feet. The decision to treat this field was obvious and the next day we found 2 more fields in similar situations.

I immediately counseled with other Agrilife entomologists (Dr. David Kerns, Kerry Siders, Dr. Suhas Vyavhare, Dr. Katelyn Kesheimer, John David Gonzales, and Tyler Mays) to confirm this pests'



The 'black' fleahopper. Photo—University of Florida.



Photo from one of our drop clothed data sets in Central Swisher this week.

status and confirm a course of action. The economic threshold for this pest should be the same as our 'usual green' West Texas fleahopper and we assume our treatment options should be identical. I find no literature in Texas, Arizona, or elsewhere separating this species from others in product efficacy trials or feeding/reproduction rates.



Strider image from one of our drop clothed data sets from southern Hale this week of 'black' fleahopper with plant bug damaged square.



'normal green' fleahopper—Photo Bugwood.

Our quickly formed working hypothesis as to why this pest looks to be the dominant species in this area suddenly begins and ends with the weather patterns. This population could have been 'blown in' this spring or could have had a host plant availability increase last fall during the cool-rainy period that is now drying/dying in the heat. I swept some of the areas around our problem fields and found 25 of these bfh on the purple seed head/flower of Canadian thistle that was exceedingly abundant in neighboring CRP and uncharacteristically dry for this early in the summer. It is possible that weed species has 'held' these bfh off our cotton until later in the summer during 'normal' seasons, or maybe this is a fluke migration.



Strider image of 2 weather 'dropped' squares and one bfh dropped square from Western Hale this week. Feeding damage visible under magnification.

This is not a widespread problem. The Plains Pest Management program scouts quite a bit of acres for an AgriLife IPM program which gives us the opportunity to find more pocket abnormality problems that go above a blanket statement about the region. Our bfh economic fields only account for about 3.2% of our cotton fields. Now that this pest has been identified as a potential problem and our field scouts are actively looking for them in place of discounting them because they are not the usual fleahopper, we are seeing them in 100% our fields, just not at a

very high level. For most fields we are seeing 1 fleahopper (both green and black mixed) / 6.4 to 12.8 row feet. While we are seeing them in 100% of our fields as the dominant species (60-90% of our fh populations this week) this still could be fairly localized.

So far the bfh has not been confirmed in surrounding counties except for Crosby which was noted by an independent crop consultant in the area.

I do recommend being on the lookout for this 'black' species of fleahopper, but if you have it, you should be able to base any potential decisions and treatments on our established fleahopper guidelines. When identifying the garden fleahopper, it will be black in color, but have the same rough body dimensions as the 'green' species we are accustomed to.

Here is a link to our Texas A&M AgriLife fleahopper management guide:

http://lubbock.tamu.edu/files/2017/06/Cotton-fleahopper_ENTO073.pdf

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6/17

Cotton Fleahoppers

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Cotton fleahoppers, *Pseudatomoscelis seriatus*, are pests in early squaring cotton. They cause square (flower bud) loss, which affects crop yield and quality. Cotton fleahoppers are not considered pests beyond first bloom and their ecological role in later-stage cotton is not certain. They are omnivorous, feeding on plant tissue and other insects, particularly the eggs of bollworms and other caterpillar pests.

Description

The adult fleahopper is about 1/8-inch long, pale green, and has sucking mouthparts. It is flat, with an elongated, oval outline and prominent antennae. The body is usually yellowish-green, although it may be white or yellow with minute black spots and hairs on the upper surface (Fig. 1).

Nymphs resemble adults but lack wings and are initially almost white or pink. After feeding, the immature stage is pale green with prominent, often reddish eyes (Fig. 2). Other parts of the body may also be reddish.

Nymphs are sometimes confused with immature minute pirate bugs, big-eyed bugs, aphids, and lygus bug. But differences in color, shape, and behavioral patterns can help distinguish these insects from cotton fleahoppers.

Life cycle

The cotton fleahopper overwinters in the egg stage, primarily in wild host plants such as woolly croton, horsemint, cutleaf evening primrose, showy sundrops, woolly tidestromia, spotted beebalm (horsenint), lemon beebalm (horsenint), and silverleaf nightshade.

The eggs, rarely visible with typical scouting techniques, are about 1/30 of an inch long and inserted under the bark of small stems. At 80°F, eggs hatch in about 11 days, and the




Figure 1. Adult cotton fleahopper. Source: Salvador Vianza




Figure 2. Cotton fleahopper nymph. Source: Winfield Sterling

Beneficials in cotton this week

Our beneficial population rose starkly this week, likely saving more fields from requiring fleahopper treatment. We noted a substantial increase in big-eyed bugs, Nabids, Scymnus lady beetles, lady beetles, and a few more minute pirate bugs. Many of these are aggressive and active enough to hunt fleahoppers, and could be following the pest population into cotton fields. Some of these might be misidentified as 'black' fleahopper to an untrained eye. With our help and integrated management, these 'allies' of ours can continue to have a positive impact in our fields.



Corn

This week our corn ranged in stage from VX to tassel and green silk. Noted pests remain light but increasing from last week with our biggest concern being drought stress during pollination. Banks grass mites were found on edge plants existing in small colonies on the lowest green leaves. Some very small fall armyworms were noted around green silking ears. Our bollworm (corn earworm) moth traps caught a notable early arriving or native moth population becoming active in the area. Of these two caterpillar pests, the FAW has much more potential to cause economic damage to ears, especially if the resulting larva population matches the high moth population Dr. Porter had in his traps last week. If triggered the research proven time to treat is at green silk stage before the larva get into the covered ears. We do not have a good treatment trigger base decision guide for FAW as the egg masses are difficult to find without exhaustive and impractical scouting.

This season we are conducting a trial to try and correlate a FAW treatment trigger to moth trap numbers. Several trials have been conducted on other pest species to correlate to trap numbers, but none have ever been significantly proven. As a starting point for FAW control in corn, we will see if this can be done in this situation. Our trial field is later than most production fields, but will share data as soon as practicable.



Strider image from one of our corn fields this week.



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For quicker pest alerts-

*Plains Pest
Bugshere:*

<http://halecountyipm.blogspot.com/>

*Pest Patrol Hotline,
registration at:*
www.syngentapestpatrol.com

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Sorghum

Our sorghum ranged in stage from a replanted V3 to V10 nearing flag. We also found a few BGM colonies on a few edge plants on the lower leaves establishing in one of these sorghum fields. The FAW made a larger but still not even close to economic impact to this whorl stage sorghum. About 18% of the whorls on the older sorghum fields were infested with larva causing less than 5% foliage loss to just a few of the newer leaves emerging



FAW pulled from sorghum whorl this week.

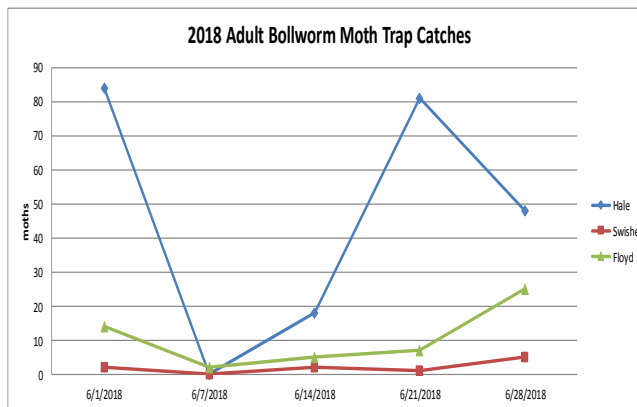


Young sorghum establishing in hot, dry, windy conditions.

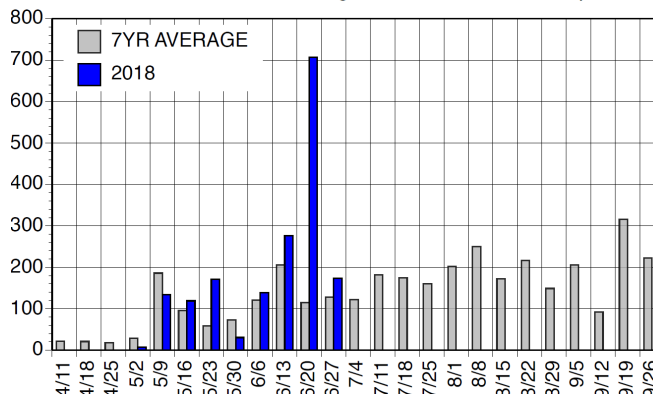
from the whorl.

Whorl feeding is rarely if ever economic,

but we will need to watch these FAW as we near flag leaf stage and boot when the actual head would be vulnerable.



Average number of fall armyworm moths per trap per week, Lubbock, Texas, 2018. Averages are based on two traps.



Blayne Reed