

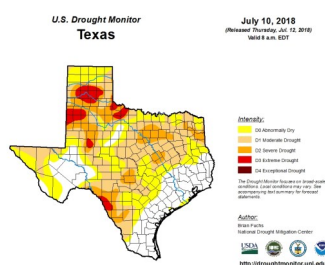
JULY 13, 2018

## General Status

Some beneficial rains did cross the area late last week and weekend with some minimal damage reported. These rains were welcome but far from filling our dry soil profile or very widespread. This week our humidity has been up and temperatures have been moderated somewhat. This was something of a much-needed break to our few acres of grain and hay crops. Cotton is still progressing through its growth stages very rapidly with most fields already in bloom stage. With more rain in for short-term forecast this week we remain hopeful for more moisture help our beleaguered irrigation systems without hail-outs this late in the season. There are a number of issues ongoing in our production fields this week from sustained fleahopper pressure, a heavy flight of bollworms, fall armyworm activity, the sugarcane aphid's arrival, irrigation needs, spider mite activity, steady weeds, plant growth regulator decisions, and sorghum midge in the area. Few of the pest issues listed reached economic levels this week but they are causing alerts to be sounded so that producers are mindful of potential problems.

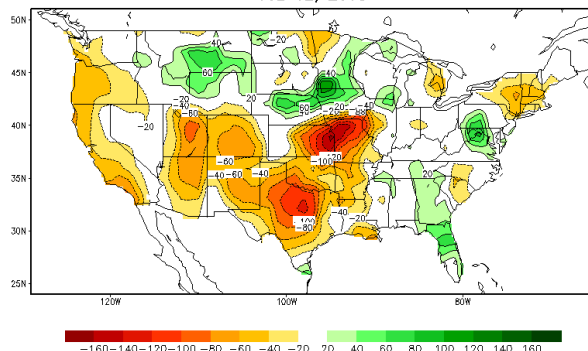
FRIDAY	SATURDAY	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
Isolated Thunderstorms	Isolated Thunderstorms	PM Thunderstorms	Mostly Sunny	Mostly Sunny	Mostly Sunny	PM Thunderstorms
92°/68°	94°/69°	95°/70°	95°/70°	97°/68°	97°/68°	94°/67°
20%	20%	0%	0%	0%	0%	40%

Cumulative Heat Unit Calculator	
Corn Start Date	Corn End Date
2/24/2018	9/26/2018
Corn Total Heat Units	2288.90
Cotton Start Date	Cotton End Date
5/16/2018	11/5/2018
Cotton Total Heat Units	1027.25



Assassin bug on a Swisher bloom this week.

Calculated Soil Moisture Anomaly (mm)  
JUL 12, 2018



## Cotton

This week our scouting program cotton ranged in stage from 2/3 grown squares to 5.7 nodes above white flower (NAWF) with most fields in their first full week of blooming with between 6 and 8.2 NAWF. Fruit drop, or conversely fruit retention, remains higher than recent growing seasons but within acceptable parameters. Most fields fell between 5% fruit drop and 18% fruit drop with a few borderline economic fields tickling upward to 24% or so with some nickel and diming from fleahoppers.



Image from a NW Floyd 'fleahopper' issue cotton field this week showing acceptable fruit set with some loss, but already setting bolls.

This fleahopper population remains a mixed one made up of both the 'new' black fleahopper and our 'traditional' green fleahopper. The black fleahopper population does not seem to be slipping but the green fleahoppers do seem more predominant this week with a tremendous number of nymphs popping up in our data sets. There were 8.3% of our cotton fields we made tough decisions on. Our highest fleahopper population came in this week at 1 fleahopper / 1 row foot with 22.3% fruit drop, well over the



'Green' fleahopper nymph in SE Swisher this week causing tough decisions to be made when they appear in mass on our data sets.

established ET for fleahoppers at 1 fleahopper / 1.5 row feet with 20% drop.

Even in this highest field, we made the decision to hold off on making a treatment at this time. The field had entered bloom stage and sported at least 1 white flower every 2-5 row feet. Once a field reaches this level of bloom stage, fleahoppers should no longer be an economic concern. The fleahoppers would rather feed on easily obtainable pollen than hard to penetrate pin-head squares. In addition, we found some fairly heavy bollworm moth activity in the area plus eggs and small bollworms in this non-Bt field. Ironically, these fleahoppers, who are only after a certain type of protein, will become predators and feast on bollworm eggs and small bollworms. These factors, combined with a pretty good predator rating and in all of our borderline fleahopper fields, we were able to justify a non-treatment decision. There remain plenty of fields at elevated risk for fleahoppers at this time with even more moving past economic fleahopper concerns.



**Bollworm egg found in one of our NW Floyd cotton fields this week.**



Bollworms made a substantial flight in certain areas in eastern Swisher, northern Floyd, and northeastern Hale this week with ample moths in our traps supported by resulting eggs and even a few small worms already establishing in our program fields. None of our fields reached a treatable level this week, but our field scouts are on high alert worm scouting already. About 20% of our fields had bollworm egg lay with 2.7% infested with small worms. Our highest concentration of eggs this week was at 8,842 eggs per acre and our highest worm population peaked at 4,400. Even this early in our growing season and stage development, our ET should be 8,000-10,000 bollworms per acre or 6% of harvestable fruit showing worm damage. This threshold should be a good standard for both non-Bt fields and Bt fields alike. In West Texas Cotton, spraying for bollworm eggs or scheduled bollworm treatments have not proven feasible in our local research trials and these ET levels should be followed. Preliminary data from Texas' southern cotton production areas

are showing that all cotton Bt technologies should be scouted, but the Bt technologies should be given time to ample chance for worms to consume enough Bt to be lethal before making a treatment decision.

### **Bollworm – Pyrethroid resistance study: results of our first run.**

With the opportunity of an active moth flight, the PPM IPM group began our Cotton Incorporated sponsored pyrethroid / bollworm resistance study. Hale, Swisher, and Hale Counties are one piece of a State-wide resistance study but I feel our results this week could be of import this week if worms do reach ET this week and treatment decisions need to be made. These results have



**24-hour moth catch in Swisher this week.**

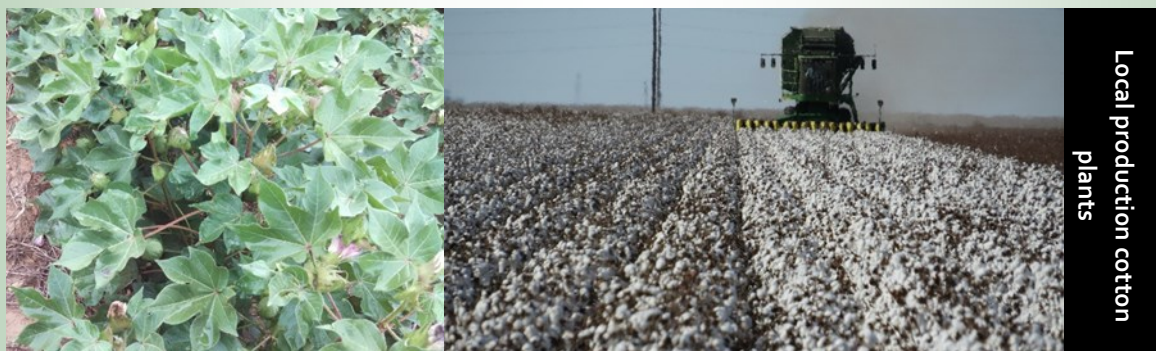
been adjusted for control mortality via Abbotts formula. The bottom line of this week's results are this: **we should only expect about 77%-82% control from any pyrethroid application to this population of bollworms.** We plan on making as many runs as time and the bollworm population will allow for this season. However, these results indicate that a pyrethroid might not be the best option for a first choice bollworm treatment.

## PGR use in Cotton...

First off, PGRs do not increase lint yield in and of themselves. PGRs are synthetic plant hormones, period. Gibberellins are the most utilized or targeted plant hormone in most PGRs. Naturally occurring gibberellins regulate vegetative growth and promote cell division and expansion. With larger synthetic applications of PGRs, gibberellins are reduced in the plant for a time, which then prevents the newly developed and developing cells from elongating to their full potential length during rapid growth periods when water is abundant. In essence, PGRs can prevent cotton, a true tree by nature, from rapidly growing and competing to become 'the tallest tree in the forest.' This can leave a more uniform and compact plant that can have a more desirable and uniform balance of vegetative and reproductive growth in cotton. This can focus a cotton plant, who as a tree thinks it has many years to live, from getting too tall in vegetative growth for our single growing season's purposes. This now potentially shorter and humanly desirable plant has the potential of being more efficient in maturing fruit retaining and has somewhat more potential in retaining more of that fruit, especially if heat or other stresses occur later in the growing season.



Just in case you didn't notice, there were quite a bit of 'potentials' and 'cans' in that previous paragraph. The bottom line is this. Cotton plants left to themselves in 'good' conditions will grow away and become 'rank.' Cotton plants will always be selfish. Cotton will sacrifice its fruit to save its self every time excessive stress is applied. This is opposite from most of the crops we grow that will sacrifice everything to produce the next generation. This is because cotton remains a tree that thinks it has years of fruit production ahead, not the few months we know it has. For our single growing season's purposes, a shorter cotton plant has more potential to be more efficient in fruit retention and maturation than a taller, 'rank' plant does.





PGRs, with over 30 years of research trials and use on High Plains cotton, have never proven to increase yields or quality just because they were applied. There is no magic fairy dust of any type applied to cotton at any stage that will ‘guarantee’ yield increases in cotton. I do not even expect there will ever be one. There are even times when applying water can be harmful for cotton lint yield and quality. With this in mind, it certainly helps to fully understand our input decisions for each field situation. With all crops, but especially with cotton, we apply as much science and agronomic information as is available and play the ‘odds’ of what should help our crop best with each and every input decision.

In the case of PGRs in cotton, all they are proven to do in trials and in experienced practice is to keep developing cells (primarily in the forming stalk at the growing point terminal) from elongating to their full potential length. They do not stop new cell development, only shorten the new cells. Once the applied synthetic hormone (PGR) runs out, any new cell development is not affected. If the plants remain on the ‘rank’ side once the PGRs have run their course or to affect additional cells developing later, additional PGR treatments are required. If applied at the right time, rate, and conditions, PGRs can keep plants shorter. Those shorter plants are then more likely to do what we in would like them to do in the near future. On the flip side of PGR use, if they are applied to already stressed cotton plants, it can be disastrous causing plants to ‘cut-out’ and shed what would have otherwise been harvestable fruit.

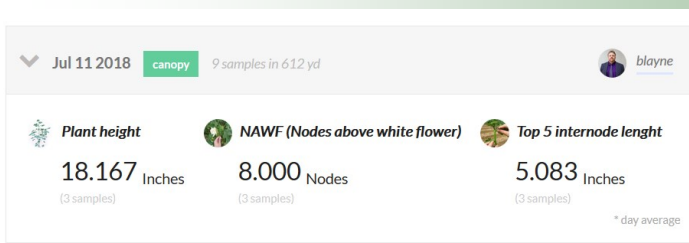
The right time to apply PGRs to cotton (if needed) is when growing conditions are good for young cotton or cotton with plenty of vegetative growth potential with ample available soil moisture and fertility. Remember, PGRs cannot shrink a plant that is already taller than we would like. and never apply PGRs to cotton at or nearing cut-out or currently or nearing stress of any sort.

So, how do you tell when the time is right, wrong, or indifferent for PGR applications in cotton? You must get into the field and measure somehow. PGR needs are not something that should be estimated from the pickup or turn-row. Modern technology does offer some help. This type of information should be within most drone’s capabilities, with the proper image and program interpretation. Over the next few weeks, we should have the opportunity to put some of the best commer-



to put some of the best commercially available drones and compare to our field scouting determined PGR decisions but this should be well within most drone's capabilities.

Meanwhile, plant measurements from across (or at many points within) the field is a proven method of determining PGR needs. While several personalized techniques are available, one technique I am fond of is the measurement of the top 5 internodes. While I feel this is the best scouting technique for blooming cotton, it does demand the ability of the scout to determine just what are the top 5 nodes on a cotton plant. This can involve some training hours, but once mastered and understood this method should be solid. Ideally, this measurement should equal 5-inches. A measurement of 6-inches or higher should be an automatic cry for PGRs while a measurement of 4-inches or less denotes serious drought stress. With any of these measurements should come with a grain of salt, NAWF, irrigation capacity, and weather considerations. A cotton plant at 5 NAWF or less might not be needing a PGR under any 'normalish' circumstance while short soil moisture or heat should cause a serious PGR second consideration.



Some of my plant measurement this week.

## Sorghum & Corn

This week our corn fields were in green silk to blister stage. The only pests of note here were spider mites, which crashed to a rating of 0.1 in one field but increased to 2.1 in another on the 0-10 damage rating scale. Bollworms, or corn earworms if you prefer, are very heavy in these fields, but should be of no economic concern. We remain vigilant for fall armyworms in these fields, and we did find one egg mass to watch.

Our sorghum ranged from V7 to 5% bloom. We have already found some sorghum midge along field margins, accounting for a 8% infested head rate for the field. Any field in bloom should be scouted daily for this pest. Sugarcane aphid made their appearance in a few of our fields this week but so far well below ET. This can change quickly and should be watched closely. We also noted a few mites in one our sorghum fields too.



SCA colony this week.



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For quicker pest alerts-

*Plains Pest*

*Bugoshere:*

[http://  
halecountyipm.blogspot  
.com/](http://halecountyipm.blogspot.com/)

*Pest Patrol Hotline,*

*registration at:*

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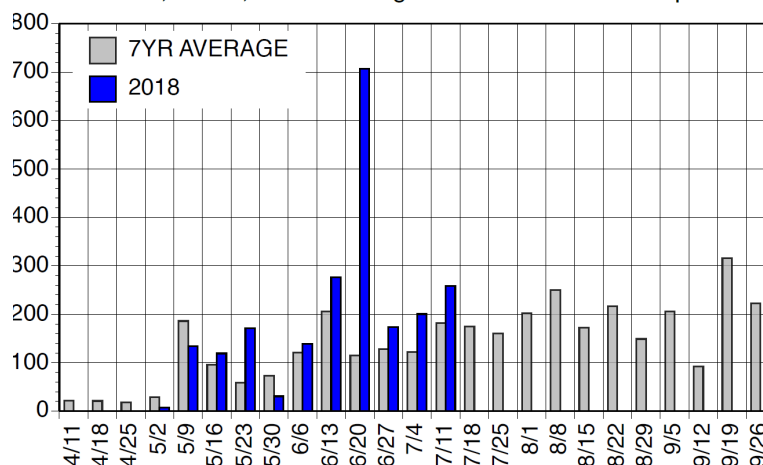
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*We're on the air...*

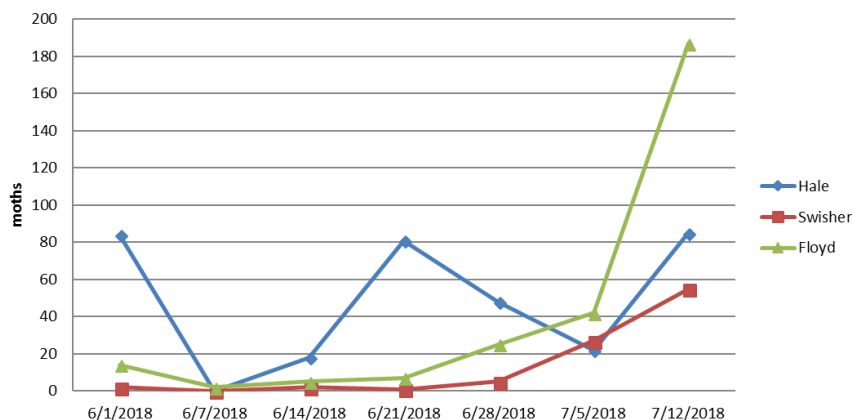
*"All Ag, All Day"*

Check out our bi-weekly IPM update with the crew from All Ag, All Day—900 AM KFLP or 800 AM KDDD

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



2018 Adult Bollworm Moth Trap Catches



*Blayne Reed*