

JULY 12, 2019

General Status

Assuming or even hoping in this business in this region is dangerous. We had been hopeful and assumed we were past any significant damaging weather events for the season. Then on July 10th, a very strong and ‘personalized’ storm dropped shredding hail on about 1,400 of our better program cotton acres in south-central Swisher and headed for more acres to the west and south. I understand there was another similar storm to the south also. For our program fields, these fields



Some of the hail damage in Swisher.

were among the only first plantings to be put in the ground before May 27th or so that survived the month of June and had a decent chance at blooming by next week. If there is a silver lining for our producers under that storm, it is that they were also fields that had borderline fleahoppers last week and I fully expected to see them at ET by late in the week. At least that expense was saved

on the acres lost. Damaged acres are more likely to attract higher pest populations for the remainder of the season adding insult to injury.

Otherwise, substantial progress has been made by other cotton fields this week with most



Cotton developing well in south-west Hale.

areas also seeing some gentler and helpful rainfall in the last 7 days. All dryland acres are very thankful for the reprieve. PGRs and weeds remain of focused grower interest. While we again had no program acres requiring treatment for pests, a full half of our cotton fields have notable pest populations

building to near ET levels and fruit loss a bit higher than we have been spoiled with in the majority of recent growing seasons. Older corn and sorghum fields are in pollination mode or other early critical and water needy reproductive stages. On the whole, there are plenty of details in all crops to watch this week.

Plainview Heat Unit Calculator

Cumulative Heat Unit Calculator		
Start Date		End Date
4/24/2019	Corn	10/10/2019
Total Heat Units		1309.35
Start Date		End Date
5/29/2019	Cotton	10/10/2019
Total Heat Units		450.20
Calculate		

Cotton

This week our cotton ranged in stage from 6th true leaf (without squares yet) up to 1/2 grown squares with most fields falling between matchhead and 1/3 grown square. A few of the 1/3 grown squares have an outside chance of making blooms by next week, but the 1/2 grown squares should be blooming late next week, if nothing happens to them, but these plants are few and far between.



All our program fields have some fruit loss with only the fields putting on their first pinhead squares being the only exception. These latest fields aside, our drop rate mostly ranged from 5% up to 20% with at least half of the existing drop identified as coming from weather related causes. Pockets of adult fleahoppers continue to be found in most fields. It is fairly easy to note that the higher drop percent plants coincide with these pockets of fleahoppers. The frequency and intensity of these fleahopper pockets are dictating how severe the drop averages for each field with the older weather related fruit loss being the starting point and fleahopper damage accumulating on top of that. Some weather-related drop is running 3% to 5% in fields, others are up to 15%. So far, we are not seeing fleahopper only caused drop over 10% of the total. If the fleahopper menace increases in pressure just a bit either through adult infestation or nymph reproduction in-field we could be spraying many area fields soon with little room or time for more lost fruit.



We are picking up just a few Lygus and stink bugs joining the fleahoppers this week. The stink bugs were heavier in areas of our scouting program south of Plainview while the Lygus were scattered. The threshold listed for fleahoppers in our cotton insect guide is as follows:

Panhandle	25–30 per 100 terminals (terminal inspection)	Week of squaring	Square set
South Plains		1st week	< 90%
Permian Basin		2nd week	< 85%
Rolling Plains		3rd week	< 75%
Trans Pecos		After 1st bloom, treatment is rarely justified.	

This 25-30% infested plant rate can be **converted to roughly 1 fleahopper / 1.5' row feet** with the same square set (conversely drop %) percentages if you are utilizing the drop cloth scouting methods like we are.

The Lygus thresholds from our cotton insect guide are as follows:

Table 8. Lygus action threshold

Cotton stage	Sampling method	
	Drop cloth	Sweep net
1st two weeks of squaring*	1–2 per 6 ft-row with unacceptable square set	8 per 100 sweeps with unacceptable square set
3rd week of squaring to 1st bloom	2–3 per 6 ft-row with unacceptable square set	15 per 100 sweeps with unacceptable square set
After peak bloom	4–6 per 6 ft-row with unacceptable fruit set the first 4–5 weeks	15–20 per 100 sweeps with unacceptable fruit set the first 4–5 weeks

The same percent fruit loss / square set considerations used for fleahopper decisions should also apply to Lygus.

Stink bugs are a rarer pest for our area. Our IPM Agents from the Coastal Bend area tell us that if you are using the drop cloth or sweep net methods of scouting, the **ET for all stink bug species should be 1 stink bug / 6' row pre-bloom**. Post bloom we would need a 10% to 15% boll injury threshold during weeks 3 through 5 of bloom, 20% during weeks 2 and 6, and 30% or more during weeks 7 or later of bloom.



Beneficials are still on the moderate side this week in cotton, but they are making an impact on the fleahopper population. This population of beneficials consists of the type of predators that perhaps have the best chance of catching on plant bugs. Nabids (damselflies) and assassin bugs.





Figure 36. Southern green stink bug adult.



Figure 37. Green stink bug adult.



Figure 38. Brown stink bug adult.

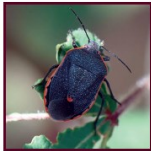


Figure 39. Conchuela stink bug adult.



Figure 40. Conchuela stink bug nymph.



Top and left: All stink bug species listed in our Cotton Insect Management Guide.

Middle: fleahopper found during a scouting data set in Hale this week by our PPM scouts. Fleahopper on a drop cloth.

Top Right: Adult Lygus—Photo by Dr. Pat Porter.

Bottom Right: fruit drop found by our PPM field scouts this week showing 1st position missing likely due to weather, 2nd position missing likely due to pest issues.

Cotton Fleahopper								
Vydate C-LV 3.77	oxamyl	8–32	0.125–0.5	16–4	Danger	Carbamate (1A)	48h	14
Orthene 97	acephate [^]	4	0.244	4	Caution	Organophosphate (1B)	24h	21
Acephate 90 Prill	acephate	4.4	0.248	3.64	Caution	Organophosphate (1B)	24h	21
Intruder Max 70WP/Strafer Max	acetamiprid [^]	0.6–1.1	0.025–0.05	26.67–14.55	Caution	Neonicotinoid (4A)	12h	28
Carbine 50WG	flonicamid	1.7–2.8	0.053–0.089	9.41–5.71	Warning	Flonicamid (29)	12h	30
Centric 40 WG	thiamethoxam	1.25–2.5	0.0313–0.0625	12.8–6.4	Caution	Neonicotinoid (4A)	12h	21
Alias 4F	imidacloprid [^]	1–2	0.0313–0.0625	128–64	Caution	Neonicotinoid (4A)	12h	14
Bidrin 8	dicrotophos [^]	4.0–8.0	0.25–0.5	32–16	Danger	Organophosphate (1B)	6d	30
Plant Bugs								
Vydate C-LV 3.77	oxamyl	8–32	0.125–0.5	16–4	Danger	Carbamate (1A)	48h	14
Intruder Max 70WP/Strafer Max	acetamiprid [^]	0.6–1.1	0.025–0.05	26.67–14.55	Caution	Neonicotinoid (4A)	12h	28
Acephate 90 Prill	acephate [^]	4.4–17.6	0.248–0.99	3.64–0.91	Caution	Organophosphate (1B)	24h	21
Orthene 97	acephate	4–16	0.244–0.974	4–1	Caution	Organophosphate (1B)	24h	21
Diamond 0.83 EC	novaluron	9–12	0.0584–0.0778	14.22–10.67	Warning	Benzoylureas (15)	12h	30
Steward EC	indoxacarb	9.2–11.3	0.09–0.11	14–11.5	Caution	Oxadiazines (22A)	12h	14
Carbine 50WG	flonicamid	1.7–2.8	0.053–0.089	9.41–5.71	Warning	Flonicamid (29)	12h	30
Dimethoate 4E	dimethoate [^]	8	0.25	16.0	Warning	Organophosphate (1B)	48h	14
Bidrin 8	dicrotophos [^]	4.0–8.0	0.25–0.5	32–16	Danger	Organophosphate (1B)	6d	30
Alias 4F	imidacloprid [^]	1–2	0.0313–0.0625	128–64	Caution	Neonicotinoid (4A)	12h	14
Centric 40 WG	thiamethoxam	1.25–2.5	0.0313–0.0625	12.8–6.4	Caution	Neonicotinoid (4A)	12h	21
Stink Bugs								
Acephate 90 Prill	acephate [^]	13.3	0.748	1.20	Caution	Organophosphate (1B)	24h	21
Orthene 97	acephate	12	0.731	1.33	Caution	Organophosphate (1B)	24h	21
Fanfare ES	bifenthrin [^]	2.6–6.4	0.04–0.10	49.23–20	Warning	Pyrethroid (3A)	12h	14
Discipline 2EC	bifenthrin	2.6–6.4	0.04–0.10	49.23–20	Warning	Pyrethroid (3A)	12h	14
Brigade 2EC	bifenthrin	2.6–6.4	0.04–0.10	49.23–20	Warning	Pyrethroid (3A)	12h	14
Bidrin 8	dicrotophos [^]	4.0–8.0	0.25–0.5	32–16	Danger	Organophosphate (1B)	6d	30
Baythroid XL	beta-cyfluthrin	1.6–2.6	0.013–0.021	80–49.23	Warning	Pyrethroid (3A)	12h	0
Mustang Maxx	zeta-cypermethrin	2.64–3.60	0.0165–0.0225	48.49–35.56	Warning	Pyrethroid (3A)	12h	14
Mustang	zeta-cypermethrin	2.8–3.8	0.033–0.045	45.71–33.68	Warning	Pyrethroid (3A)	12h	14
Silencer	lambda-cyhalothrin [^]	3.2–5.12	0.025–0.04	40–25	Warning	Pyrethroid (3A)	24h	21
Silencer VXN	lambda-cyhalothrin	3.2–5.12	0.025–0.04	40–25	Caution	Pyrethroid (3A)	24h	21
Declare	gamma-cyhalothrin	1.28–2.05	0.0125–0.02	100–62.44	Caution	Pyrethroid (3A)	24h	21
Karate	lambda-cyhalothrin	1.60–2.56	0.025–0.04	80–50	Warning	Pyrethroid (3A)	24h	21
Warrior II	lambda-cyhalothrin	1.60–2.56	0.025–0.04	80–50	Warning	Pyrethroid (3A)	24h	21

Corn



View from inside a southern Swisher corn field this week.

This week our program corn acres ranged in stage from V2 to green silk. Pests remain light again this week. For fields going into these stages this is a critical time. Irrigation needs increase rapidly and pest relationships change for fields. Even a few hours of access heat or moisture stress can seriously damage grain yield potential, particularly on shorter season varieties. Likewise, pests such as bollworms (corn earworms, CEW) fall armyworms (FAW) and western bean cutworms (WBCW) begin targeting the high energy grain at the ear

and pests such as corn borers should be settling for a larger second generation that can decimate unprotected fields. During whorl stages, most Bt types are very effective against FAW, CEW, SW corn borer, and even WBCW. This cannot always be stated as so for eared corn and the pests that only attack the ear. In fact, we now expect to see many of these worms come through most Bt ears with varying degrees of success (we rarely are concerned about CEW in corn due to their cannibalistic nature, but they will come through many Bts to target cotton later). While we can still expect good control from most Bt types for borers, our scouting and mindset for FAW and WBCW should change. Spider mites are also much more likely to flare during the grain fill stages as plants shift energy production to fill those ears. For whatever reason, this shift fits the mite's dietary needs much better allowing nominal populations to boom and get out of hand quickly. I find that the older corn scouting techniques are still the best for getting across fields with good data quickly. Here is a link to a video we shot a few years ago showing how I need my crew scouting for all of these pests during these important stages: <https://www.youtube.com/watch?v=jMVTcQv-ehM>

This week we found no live FAW, WBCW, corn borers, or CEW for that matter, in our program corn but we know they are on the way. Spider mites remain spread across most older fields on choice plants' lower leaves and ready to flare if possible. We will be watching our fields closely for all of these pests over the next few weeks.



Weeds flushing with emerging replant corn in central Hale this week.



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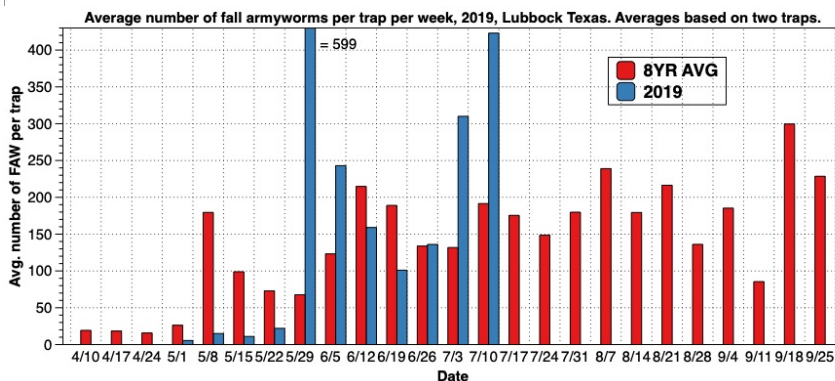
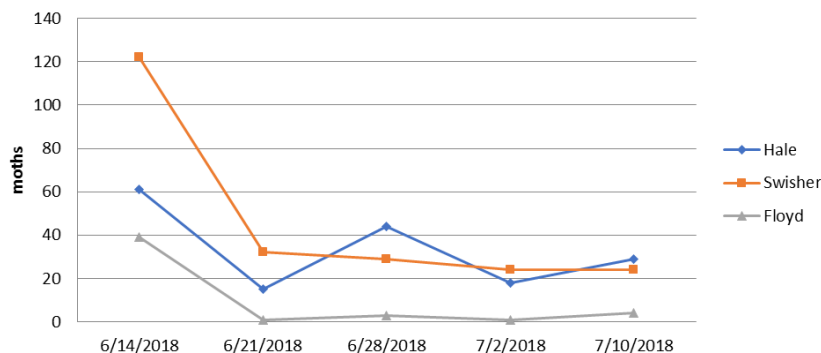
One of the PPM seed milo fields this week.

Sorghum

Our sorghum ranges from emerging to flag leaf stage with just a few fields spread across a wide planting range. We found no pests of note in our sorghum again this week, some very light CEW feeding on whorls aside. The big news in sorghum this week

was that Greg Cronholm found some small colonies in NW Hale county followed closely by Dr. Pat Porter who found them in northern Lubbock county. This is a touch early for the aphid to arrive but is not outside any expected window. The areas involved with the finds are those we usually expect migratory pests to arrive in first. All area sorghum should be on alert for the pest. Our neighbors to the south did deal with the aphid successfully again this year, usually with just one application if needed, because they caught the aphid early, they did not let the population linger above ET, and the treatments were effective with ample coverage. For any blooming sorghum, we should also be checking daily for sorghum midge.

2019 Adult Bollworm Moth Trap Catches



Blayne Reed