

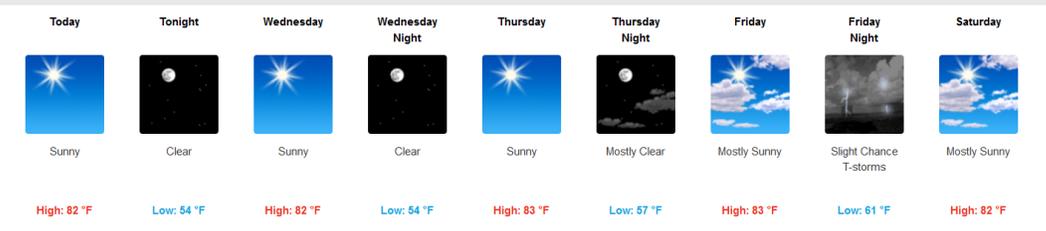
AUGUST 29, 2017

General Status

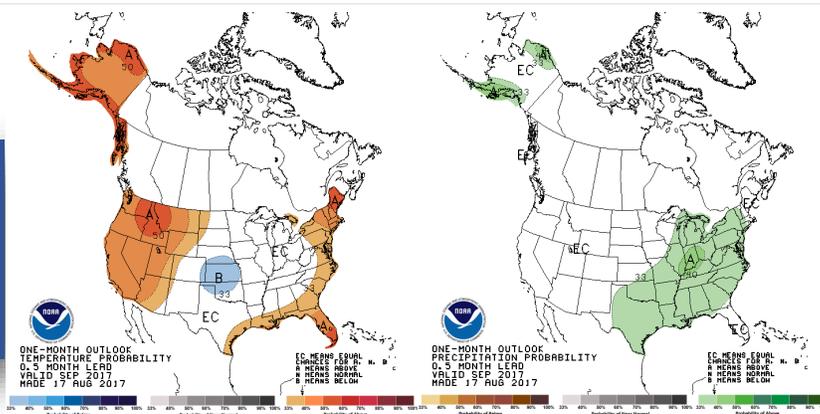
All apologies for this newsletter being late to those who faithfully look to this newsletter for regular pest status updates. In the mud and muck, not to mention school starting way too early for our labor needs, it has taken 10 full days to get across 100% of our Plains Pest Management scouting program acres and research plots this 'week' but I feel better about being able to give a good picture of the pest status today and just what we are facing for the remainder of the season.

After weeks of wet weather, we should finally be looking at a period of drying conditions. While we *partially* joked about requiring boats to check fields recently for the many issues we are currently facing in our fields, watching the Texas coastal region with crops not yet fully ginned or harvested be washed and blown away over the past few days is a sickening sight. Our thoughts and prayers go to our compatriots down south. Meanwhile, we look to our own cotton that has had too much of a good thing at our key final boll set stages. Thanks to the excessive rains and extended period of cool temperatures, many cotton fields, already a touch late, "have overshot the landing" by quite a bit and are still very actively growing. Other cotton fields have successfully reached cut-out but we now understand that we are likely to eventually deal with serious regrowth as we move into harvest aid season soon. As these late bolls are in desperate need for sunshine and heat unit accumulations, the weeds still push on, bollworms / headworms are at ET for many area cotton and sorghum fields, sorghum midge are an economic issue for many area sorghum fields at bloom stage, the sugarcane aphid marches on, spider mites remain active, and diseases are flourishing in our late corn.

Extended Forecast for Plainview TX



| | |
|--------------------------------|------------------------|
| Cotton Start Date | Cotton End Date |
| 5/29/2017 | 8/28/2017 |
| Cotton Total Heat Units | 1,552.10 |
| Calculate | |



Cotton

Our Plains Pest Management cotton fields this 'week' (10-day period) ranged in stage from 6.7 NAWF to absolute cut-out with most fields hovering between 4 NAWF and a still blooming 3 NAWF (absolute cut-out = 3.5 NAWF). Fields that have been cut-out for some time, have set all the fruit possible but are starting to channel access moisture and other resources into regrowth.

My best suggestion for PGR needs at this late date is this: If the

field would be 'rank' and growthy enough to justify treatment August 15th, then we might need to consider it this week. Quite a bit

of PGRs have gone out over the past few weeks with beneficial effect but a few more do fall into a category that needs a touch more, but should be questioned for validity. Remember, we can never shrink a plant and can cause fruit shed or otherwise do more harm than good to stressed cotton. This includes those that look lush but are at or near cut-out despite the fact many are actively still blooming and even putting on new growth. As for the use of PGRs for expected regrowth, we can shorten any new growth's internode length, but can do nothing to stop new growth. The best medicine we can give fields in any of these situations at this time is sunshine and

higher temperatures. If these conditions persist, the situation will have to be dealt with via harvest aid treatments. Even harvest aid conditioning treatments are only applicable to a few situations at the end of expected heat unit accumulation and are dependent upon timing, which we are not near yet.

Cotton Pests

Bollworms

Treatments for bollworms are unfortunately common this year after an absence of several seasons. We have found bollworms in 100% of our program cotton acres. This includes Bollgaurd II, Widestrike, Widestrike 3, and TwinLink varieties at levels and instar stages we are not accustomed to seeing in these traits (1,200 – 6,500 small



Cotton still at 5 NAWF this week, recently treated with PGRs.



A good boll load with limited time to mature.



More bollworm eggs found this week.

and medium sized worms per acre). So far, the bollworms in all of these traited fields have been sub-ET. While not a failure of the traits and levels of benefits on Bt investment are being held, this is certainly notable and needs to be watched just as intently as our non-Bt fields this year. Several of our non-Bt cotton fields have reached ET for bollworms but not nearly all of them. Our highest bollworm population has been 17,557 bollworms per acre but the range in most non-Bt fields have been 3,000 to 15,000 bollworms per acre. With the per acre ET for worms being 8,000 to 10,000 we certainly need to be watching all fields closely for a few more weeks yet while fruit remains at risk. While this infestation level is a damaging risk it is nothing like our historical bollworm population levels of 60,000 – 120,000 that were once so common.



Bollworms found in an ET non-Bt cotton field. All worms had to be popped from blooms or fruit with long-time proven scouting techniques. Hale 8-28-17.

I do not feel the population of worm is truly significantly lower than a historical normal based upon our moth trapping data, but rather the moths are more attracted to more preferred hosts such as late corn or sorghum which were not too common in the area years ago. Indeed, there is a dip in planted acres locally in these ‘late’ grain crops this year leaving room for more worms to ‘spill’ over into our cotton acres this season.

I certainly urge producers to gather or make certain good scouting data is being collected in their fields. Bollworms are notoriously hard to scout for. The best way for you to check to see if you are at ET is likely the newly developed method by our State IPM Coordinator Dr. David Kerns. His **new ET is 6% bollworm damaged harvestable fruit**. This works for both Bt and non-Bt, as we are seeing notable survivors in multiple areas to traits these days. To sample **count 100 harvestable bolls** (or fruit if earlier in the season) from a few locations. **If 6 out our 100 harvestable bolls are damaged from bollworms, you should treat**. This will also count any realistically harvestable fruit on the ground that would have stayed on the plant without bollworm damage but not squares or blooms without any real chance of making in an ‘average’ fall and by an ‘average’ freeze date.

If you prefer, **the old bollworm threshold still works which is 8,000 – 10,000 bollworms per acre** (% infested plants * plants per acre = bollworms per acre). Honestly this is easier for me to accomplish as it fits with our full scouting program while the 6% is only for quick, down & dirty bollworm checks. Either way, the actual bollworm pressure required to trigger treatment is pretty much the same by either method.



Bollworm in a Bt field's white flower this week.

Treatment options for economic bollworms in cotton has become more complicated since we last had to treat for worms on a widespread case. The bollworms we are facing today, most likely migrants and survivors from treatment battles farther south earlier this year, should be exhibiting a higher level of insecticide resistance than we last experienced. I have multiple reports of treatment control failures from generic pyrethroids and generic Capture that show this to be factual. These missed treatments

removed beneficials from fields, failed to control the worms, and flared the already present cotton aphid population to dangerous levels. The rescue treatments that ensued came with a very high price tag that had to include aphid control also. For future treatments for bollworms this season, I would suggest only max rates of name brand pyrethroids if aphids are not an issue or utilizing products that are softer on beneficials if aphids are present or if control from good pyrethroids prove precarious.

List of Bollworm Products Available ; Red = beneficial harsh

| | |
|--------------------|--|
| Blackhawk | Spinosad |
| Prevathon | Chlorantraniliprole |
| Radiant SC | Spinetoram |
| Lannate LV | Methomyl |
| Steward EC | Indoxacarb |
| Besiege | Chlorantraniliprole + Lambda-cyhalothrin |
| Fanfare ES | Bifenthrin [^] |
| Brigade 2EC | Bifenthrin |
| Discipline 2EC | Bifenthrin |
| Silencer | Lambda-cyhalothrin [^] |
| Karate/ Warrior II | Lambda-cyhalothrin |
| Declare | Gamma-cyhalothrin |
| Mustang Maxx | Zeta-cypermethrin |
| Baythroid XL | Beta-cyfluthrin |

Cotton Aphids

Cotton aphids are also in 100% of our cotton fields with populations generally higher in the southern areas of my territory. Our per leaf populations have ranged from 0.33 up to 41.3 aphids per leaf with ET ranging between 50-90 aphids per leaf stage depending. Once open cotton is found, the ET for aphids drop to 12 aphids per leaf.

Lygus

Lygus remain an issue for our fields with most having at least some Lygus in them. I have reports of a few fields requiring treatment for Lygus this week also. Our population ranged between 1 Lygus / 2.1 for feet to none found with 1 / 12 row feet being fairly normal. Our high Lygus population of 1 / 2.1 feet could be considered economic in many situations, but in this field the Lygus feeding was concentrating on fruit that had little chance of making harvestable bolls this fall.



Hale field with good boll load and few blooms should be almost past ET Lygus issues but has aphids and will have open cotton soon.

Sorghum

Our program sorghum ranges in stage from 50% bloom to drying down for harvest. There is very little happening in our older sorghum fields at this time. Even sugarcane aphids are hard to find in these early planted fields. My suggestion for these fields this week was to consider harvest aids to get this grain to the elevator before the aphids change their minds. It is possible aphids could infest between now and a post freeze harvest and instigate lodging issues during that time. For these fields in our program, the yellow sugarcane aphids were the only pest of note so far and the finish line is within sight.



Early planted dryland sorghum drying down for harvest without any SCA or other ET pest issues. Northern Hale.

In our later planted fields, excitement is high. Bollworms (headworms) are moving in and are expected to reach ET soon. The fall armyworm is expected to be a portion of this headworm population which would mandate a change in control products eliminating any pyrethroid from consideration. Under heavy sugarcane aphid (SCA) pressure, a softer on beneficial product might be the wiser option if needed. Sorghum midge has reached ET in several area fields also. The list for effective midge control is long with many solid performing products. When we consider products that are effective on sorghum midge AND softer on beneficials, there really is only one product to choose from. The product is Blackhawk, which is in very short supply. If your dealer can get some, and you have blooming sorghum, you may need to order product preemptively somehow. This product is also effective on headworms. IF we must treat sorghum midge and Blackhawk is not available, a second or mixed and strong SCA application will be warranted and we will not have any beneficial support in SCA control.

The SCA has infested all of our younger fields and research test plots with very heavy pressure. Applications are working quite well if treatment coverage was good and rates were solid. Spidermites are also active in most of our later fields, but are far below ET.

Often the short-term needs of the pocketbook request the use of generics. In many cases, generic products are fine. Other times it just takes experience to see which is beneficial or even safe to use. I have no problem buying generic sugar cookies. They are probably not as good as name brand but too simple to mess up too bad. Canned Chili is another story altogether. I am coming to believe that most insecticides probably belong in the canned chili category. Digest at your own non-research proven or reliably tested risk.



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Corn

Our earlier planted corn has also developed past economic insect damage and is drying down for harvest.



Our earlier corn at full dent with starch

Common rust and a few other diseases made a late run at ET in the moisture, as did the BGM, but the field now only

needs to stand & dry for harvest. Our late planted corn is at late blister and early dough stage

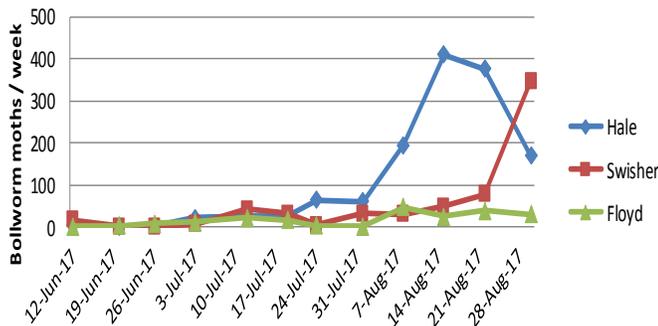


A glance in our late corn in NW

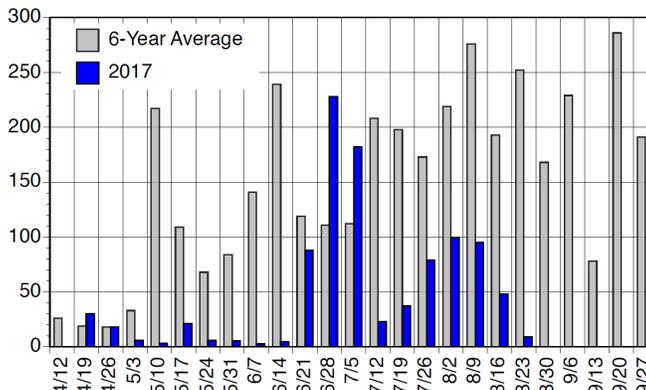
and a prime target for bollworms (corn earworms), fall armyworms, and western bean cutworms. Under the vast majority of circumstances, corn earworms are not an economic pest in corn with late corn serving as a sink crop for bollworms

while the other two pests are a serious threat. Disease issues could easily become an issue here if moist conditions continue. BGM are in this late field and need to be watched also, but as temperatures ease in the fall, BGM tend to look toward fall and winter hosts.

2017 Adult Bollworm Moth Trap Catches



Average number of fall armyworm moths per trap per week, Lubbock, Texas, 2017. Averages are based on two traps.



Blayne Reed