
Gaines County Cotton/Peanut News

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General Situation

Thunderstorms have been rumbling through Gaines County the past couple of weeks resulting in rainfall amounts from a few tenths to little over an inch. Irrigated cotton which survived the early season ravages of the weather is at pinhead to matchhead square stage, while replanted cotton ranges from 2nd true leaf to pinhead square.

Beneficial insect populations are highly variable but as a general rule are increasing in most fields, which will prove to be valuable as we approach bloom.

Peanuts are making excellent headway owing to the good growing conditions in the area. Like cotton, peanut fields that escaped the spring storms, are blooming, pegging and in the earlier planted fields are beginning to form small pods. Hopefully we'll set a good root crop and put this stormy weather behind us.

What's Happening in the Cotton



Fleahoppers:

Weeds are beginning to dry up and become less attractive as a host to our plant bugs. This definitely means a movement off of the weeds and into our cotton. **Cotton that is in the squaring stage across the entire county needs to be monitored for fleahoppers and *Lygus* immediately.** In program fields we are finding fleahoppers but some fields are still below economic threshold levels. However, there have been reports of over 75% of the plants infested in western Gaines County by fleahoppers.

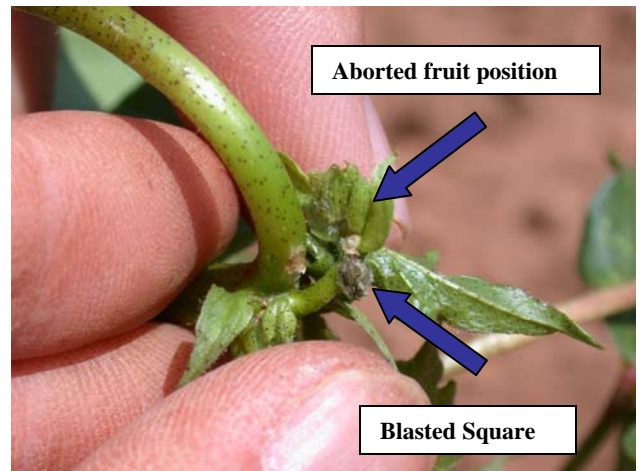
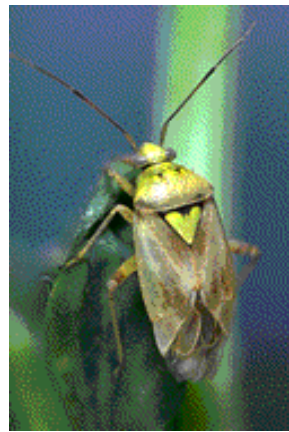
To determine if you have an infestation you need to carefully inspect 100 plants across the field, looking closely in the terminals and on the fruit. Adult fleahoppers (FH) are about 1/8 inch long and pale green (see picture above). Nymphs resemble adults but lack wings and are light green, and they both move very rapidly when disturbed. Pinhead size and smaller squares are most susceptible to damage. **During the 1st week of squaring, the threshold is 25 to 30 FH per 100 terminals combined with less than 90 percent square set. 2nd week of squaring, the threshold is 25 to 30 FH per 100 terminals combined with less than 85 percent square set. 3rd week of squaring up to first bloom, the threshold is 25 to 30 FH per 100 terminals combined with less than 75 percent square set.**

Lygus:

Lygus numbers will also need to be monitored closely as this pest can damage **squares** of all stages and young **bolls**. Adults are 1/4 inch long, have a conspicuous triangle in the center of the back, are winged and vary in color from pale green to yellowish brown with reddish brown to black markings (see picture below). Nymphs are uniformly pale green with red-tipped antennae; late instars have four conspicuous black spots on the thorax and one large black spot near the base of the

abdomen. The nymph's wings are not developed, but they can move rapidly and are difficult to detect in cotton foliage. **For the 1st week of squaring, the threshold is 1 *Lygus* bug adult or nymph per three feet of row combined with less than 90 percent square set. 2nd week of squaring, the threshold is 1 *Lygus* bug adult or nymph per three feet of row combined with less than 85 percent square set.** Scout your fields carefully for FH and *Lygus* and base treatments on actual populations and not just square damage. Bollgard cotton does not affect FH or *Lygus*.

Additionally, the traditional "hot spots" in Gaines County are well recognized by most growers and consultants alike. Alternate hosts such as potatoes and alfalfa have and will remain a harborage site for *Lygus* and demands your attention.



Suggested Insecticides for control of cotton fleahoppers and Lygus.

Insecticide	Formulated amount per acre	
	Fleahopper	Lygus
Address® 75S	4 - 5.33 oz.	10.66 - 21.33 oz
Address® 90S	3.34 - 4 oz	9 - 17.77
Orthene® 90S	3.34 - 4 oz	9 - 17.77
Orthene® 97	3.10 - 3.71 oz	8 - 16 oz
Intruder 70 WP	0.6-1.1 oz	----
Capture® 2E	----	2.6 - 6.4 oz
Baythroid® 2E	----	1.6 - 2.6 oz
Leverage® 2.7SE	----	3.75 oz
Karate® 1E	----	2.56 - 3.84 oz
Karate® 2.08 CS	----	1.28 - 1.92 oz
Ammo® 2.5 E	----	2 - 5 oz
Decis® 1.5 E	----	1.11 - 1.62 oz
Lorsban® 4E	6 - 16 oz	----
Bidrin® 8E	0.8 - 3.2 oz	8 oz
Dimethoate® 2.67E	5.3 - 10.5 oz	10.7 oz
Dimethoate® 4E	4 - 8 oz	8 oz
Dimethoate® 5E	3.2 - 6.4 oz	6.4 oz
Asana XL® 0.66E	----	5.8 - 9.6 oz
Proaxis 0.5 E	----	2.56 - 3.84 oz
Prolex 1.25 E	----	1.02 - 1.54 oz
Provado® 1.6F	3.75 oz	3.75 oz
Trimax 4F	1.5 oz	
Steward® 1.25SC	9.2 - 11.3 oz	----
Lannate® 2.4LV	6 - 12 oz	0.75 pt
Methyl Parathion 4E	3.2 oz	1 - 2 pts
Vydate® 2L	1 pt	1 pt
Vydate® 3.77 C-LV	8.5 oz	12.7 - 34.0oz
Centric 40 WG	1.25-2.5 oz	
Parathion 8E	----	8 - 16 oz
Scout®X-tra 0.9E	----	2.28 - 2.84 oz
Fury® 1.5 E	----	2.99 - 4.26 oz

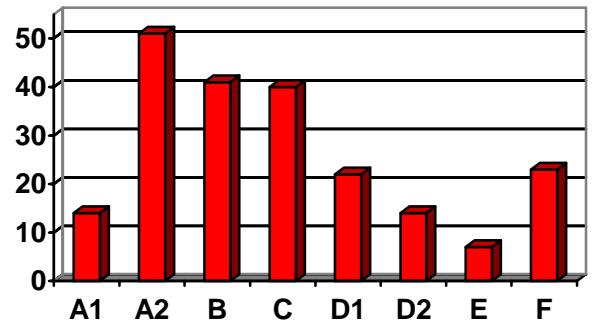
The use of synthetic pyrethroids insecticides may increase cotton aphid number.

Pink Bollworms:

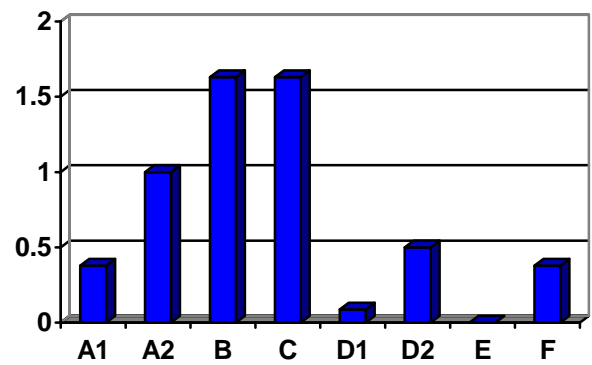
Numbers are from traps set on April 26 and have been run weekly since. Locations of the traps are as follows in each section of Gaines County.

A: NW	B: N	C: NE
D: SW	E: S	F: SE

The graph below depicts the total number of pink bollworm moths caught in each trap to date in Gaines County since trapping began.



The graph below depicts the number of pink bollworm moths caught per night in each trap for the week of June 22nd.



Until cotton begins to fruit this pink bollworm (PBW) moth emergence is what we call suicidal emergence. The moths are emerging from their overwintering habitat (soil and or cotton debris) and looking for cotton to feed on, when there is none they perish. What is happening is that the PBW went into the winter as a larvae, they now emerge, pupate (become a moth) and look for cotton. Once cotton starts fruiting we could encounter the moths laying eggs and fruit becoming infested. PBW are in the egg stage 3-5 days, 10-14 days as larvae (when they damage cotton), 7-8 days as pupae, and 10-14 days as a moth. Using a heat unit model we are able to predict when we should see initial emergence after overwintering, as well as when we will reach peak emergence and when we should see new generations. The heat unit model is based on temperature readings beginning on January 1st.

Pink Bollworm Development Based on Heat Unit Accumulation

<u>PBW</u>	<u>Avg. HU Accumulation</u>
Emergence	500
50% Emergence	1180
95% Emergence	1950
Complete Over Winter Emergence	2200
2 nd Generation (1 st infield)	1930
3 rd Generation (2 nd infield)	2680
4 th Generation (3 rd infield)	3430

Second (and subsequent) generations may be called “peak moth flights” referring to their captures in pheromone traps. Peak moth flights are usually seen over a 2-3 day period, with significantly higher numbers showing up in the traps at those times, they may even overwhelm the traps.

We reached 500 HU (emergence) in Gaines County on May 29th and have currently accumulated 903 HU as of June 24th. Control measures at this time are as follows: Starting 10 days before pinhead square if moth numbers are greater than 5 per night then an insecticide application is warranted. One trap for every 20 acres of cotton is suggested. Spray only when you are capturing more than the 5 per night. **Do not** get on a spray schedule and once the application is made, go back to monitoring traps to determine moth activity. This should continue until we have reached 1950 HU (95% emergence) at which time applications should end to avoid early bollworm outbreaks. This should be in late June early July in a normal year but will probably be much later this year, at which time a new set of rules should be followed for PBW control. This will be discussed in upcoming newsletters. Bollgard (Bt) and Bollgard II cotton is 99% effective against PBW.

More info and a heat unit calculator can be found at the Plains Cotton Growers website:
<http://www.plainscotton.org/>

Cotton Bollworms:

Egg lays were low the past two weeks, with numbers ranging per acre from 100 to 400. Percent damaged squares were between 2-3% with very few worms detected in program fields. These populations are well below economic threshold.

***When small worms are in the upper part of the plant they are most vulnerable to control by insecticides and predators.**

Before cotton blooms, treatment may be warranted where 15 to 25 percent of the green squares examined are worm damaged and small worms are present. After bolls are present treatment may be justified when counts average 5,000 or more small worms per acre. However if two or more key predators are present for each small worm control measures may not be needed.

Cotton Aphids:

Populations are beginning to be found in a handful of program fields and treatable levels have yet to be reached. Within two to three weeks aphids can affect yield by reducing boll size. Therefore, it is critical to protect the crop from high aphid populations during the boll filling period. **So remember, that treatments should be initiated when the field averages 50 aphids per leaf and if the population is continuing to climb.**

What We are Seeing in Peanut

In-Season Irrigation Management:

Considerable research has been done, especially in the High Plains, evaluating different methods for conserving and delivering water to crops. Low Energy Precision Application (LEPA) systems have been developed and are widely used. Many growers use different variations of this system. Some farmers drag socks or tubes in circular rows, others drag tubes on straight rows, still others use the bubble-mode for delivering irrigation water. Research has shown that optimum peanut yields can be attained with LEPA on circular rows using drag socks in alternate furrows, at a water application rate equal to 75 percent of the recorded cotton evapotranspiration rate.

Peanuts require about 1.5 to 2.0 inches of water per week, especially between early July and mid-August. This time period coincides with peak bloom, peg and pod set. Once full canopy development has been achieved, water use is similar to pan evaporation, indicating that water use ranges from 0.25 to 0.40 inch per day (depending upon weather conditions).

Water use by peanuts will peak in late July through August. If 0.75 inch of water is applied twice weekly, this will not supply as much water as the plants actually use. Consequently, stored water in the 2- to 3-foot depths will be used by the plants. During August, transpiration and evaporation will often range between 0.25 and 0.35 inch per day, depending on weather conditions. This amounts to 1.75 to 2.45 inches of water per week.

Lepidopteran Larvae:

Bollworms are currently being found in very small numbers. We could see a small influx of the worms as this month ends and as July begins. Currently most fields contain good beneficial population levels and should not have any worm problems later on unless some very unusual circumstances prevail.

Southern Blight (SB):

Is beginning to be found on a few plants within the region this past week in poorly rotated fields. The infection loci has primarily been restricted to the underground plant parts, such as the roots and crown. While I have not seen any surface activity (vegetative growth) I do find this to be highly unusual and if the nighttime temperature exceeds the upper 70's we could expect to see **SB** within the coming weeks, so please keep an eye out for this destructive soil borne disease.

Rhizoctonia:

The peanut plant is susceptible to Rhizoctonia from planting to harvest. The fungus is responsible for rotting pods and any of the above ground portions of the plant in close proximity of the soil. Symptoms appear as lesions usually beginning on the lower branches in contact with the soil. The lesions are small and light to dark brown in color with a distinct target pattern. These lesions may extend inward to the crown of the plant. Additional lesions may form on the stems either from direct infections or from fungal growth up infected pegs or leaves. Pods formed on the outer limbs are more likely to rot or be shed at harvest.

Pythium:

Pods show brown lesions and upon close examination and dissection the pods are full of wet runny liquid. Products for control are Ridomil and Abound (better as a preventative). **Remember that control measures when using these fungicides should be taken as preventative and not as a rescue.**

Sclerotinia Blight (SCB):

In 2005, a research trial was conducted in Gaines County with the help of Gaines, Terry-Yoakum IPM programs and Dr. Terry Wheeler.

The objective of the test was to compare the benefits between treating peanuts in a known *Sclerotinia* field by calendar applications at 60 and 90 days after planting (dap), versus treating soon after the first symptoms (sclerotia) were apparent.

At the test site, the first set of fungicides applications were made on June 30 at 60 dap. The second of the calendar sprays, and the first application for the "symptom" spray were made on August 2 after rating the plots. When directly comparing each treatment with calendar versus "symptom" applications at one week after treatment, the calendar applications for Endura and Omega 500 had consistently less disease than the "symptom based" application, however, by three weeks after treatment, both Endura and Omega 500 had similar levels of disease with both "symptom" and calendar based applications made on Aug. 2. This means that there was a delay of more than 1 wk after the application, before benefits of the fungicide could be measured in the "symptom based" application. The calendar and "symptom" applications demonstrated control from both Omega 500 and Endura compared with Topsin M and the untreated check. Both of these fungicides show excellent activity against *Sclerotinia minor* when ratings are conducted three weeks later.

Why is this test important enough to be mentioned right now? We are approaching in many early planted fields that 60 dap treatment window. Please do not think that just because we are experiencing this recent hot, dry weather pattern that we will not see this disease in these historically infested fields. If you wait until symptoms are noticeable, as shown in this test, then control could be greatly diminished.

Upcoming Events & Announcements

> Pecan IPM Newsletter: If you would like a copy of the Pecan newsletter put out by our State IPM Pecan Specialist, send me an e-mail letting me know or call the office.

> Peanut Pests: The Gaines and Terry-Yoakum IPM units will be looking for peanut fields that are experiencing pest problems (insect and disease) throughout the year. We are working on improving peanut pest database. It will be a great help if you could call one of our offices if you have a field that we could collect and observe some of these pests in.

> Precision Ag Expo: The Precision Ag Expo will be held September 6, at the Ollie Liner Center in Plainview. The Expo is sponsored by the Texas Plant Protection Association (TPPA) and co-sponsored by USDA-ARS, Texas Agricultural Experiment Station, Texas Cooperative Extension, New Mexico State University, Texas Tech University, West Texas A & M University, International Plant Nutrition Institute, National Alliance of Independent Crop Consultants and the Texas Farm Bureau Texas Agriculture Publication.

Acknowledgements

Funding for the IPM program is provided by donations from local agribusinesses. Money goes towards postage, travel, and wages for scouts. We are still in need of funding so if you know someone you think would be interested in donating please contact them or call our office. The IPM staff would like to thank these businesses that donated to the program and encourage producers to support their business as they have supported the producers.

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Baucum Insurance Agency
Birdsong Peanut
Carter and Company Irrigation
First United Bank
Five Points Gin
Howard McCaleb Tire Service
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Nolen Ag

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