



Gaines County Cotton/Peanut News

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Survey Program

Another year is upon us and once again thanks to the commitment of local businesses and the agricultural community, we will conduct the IPM survey scouting program. The scouting program is designed so that the IPM agent can become familiar with what is taking place around the county by actually being out in the fields. We are looking at

about 2,000 acres of cotton and peanut that are spread out over the entire county. Fields were chosen in specific areas so that there would be equal representation from each area in the county.

The funding for the program was given in the form of donations from many of the local businesses. A list of those businesses is located at the end of this

newsletter. Without the support and donations from these establishments the success of this program would be limited.

General Situation

The start to the 2006 cropping season seems to have been underway for a long time now. Since planting began towards the end of April, rainfall accumulations have varied widely across the county. We have isolated areas in the north central portion of the county that have received less than one inch of rain while spots in the south and southwest have received even less than that much. Conditions continue to be unusually hot and dry with gusty winds on occasion. The 10 day forecast does not appear to be very promising in regards to giving us a brake from this unrelenting heat, nor is much rainfall predicted.

Cotton is off to a bumpy start to say the least. The cool April to early May weather we experienced really slowed down growth and then came the extremely hot conditions. Poor emergence and unfavorable seedling vigor has been a regular occurrence this year, with the common thread of the problem being the weather extremes in most cases. Therefore, development in much of the cotton seems to be playing catch-up. Cotton across the county varies in growth stage from replanted fields that are emerging to the older fields having matchhead size squares.

You need to remember the environmental conditions and stress that the cotton has gone through when examining the new fruiting positions. Fruiting positions can be lost due to factors other than insects, and it is very important to investigate what is actually causing the square loss so you do not spend money where you do not need to. Cottons' main goal in life is to live, not to make you lots of money. Cotton is a selfish plant; many plants put their energy into reproductive parts such as the development of the seed (fruit) to ensure that new plants survive to grow at another time. Not cotton, it sheds its fruit so that it will continue to survive.

Beneficial numbers in cotton are low to moderate with lady beetle adults and big eyed bugs being observed. A handout on identification of beneficial insects can be obtained through our office.

Peanut look good to fair across the county and most fields are blooming. Other than weed infestations, the real problem we are experiencing in peanut right now, is the lack of pegging, which is a direct result of the 100 degree plus temperatures. As with cotton, you need to remember the weather conditions and stress that peanut has gone through thus far this year. Keeping them wet enough this year may prove to be the greatest challenge most growers will face this year. Daily water use for peanut depends on climatic conditions and the plants' developmental stage. Under normal conditions daily water use varies from **0.10 to 0.25** inch per day and during periods of unusually hot, dry, windy weather it may use up to **0.35** inch per day. Total amount of water per season required for maximum yields in Texas ranges from **20 to 28** inches.

What's Happening in the Cotton

Roundup Ready:

If you have Roundup Ready cotton remember that over the top applications are time sensitive and need to be out by the time cotton reaches the 5th true leaf stage. Whereas the "flex" type varieties gives you a wider range of options.

Thrips:

With some fields varying from emerging to 5-6th true leaf stage thrips activity needs to be monitored on a regular basis. Heavy thrips migration can occur as bordering crops and or weeds dry down and mature. Prolonged migration can occur for fields that are next to range land so keep a careful watch on those. Fields that were treated with at-plant systemic or seed treated insecticides have already shown signs that the residual is wearing off. These fields need to be monitored closely as heavy infestations may destroy terminal buds resulting in stunted growth. Treatment is advised when the number of thrips averages 1 or more per true-leaf present. **Be careful when scouting as thrips damage and wind damage are often confused with each other. Also remember that insecticidal control is rarely justified once plants reach the 5-7 true leaf stage, or when plant begin to square.**

Lygus and Fleahopper:

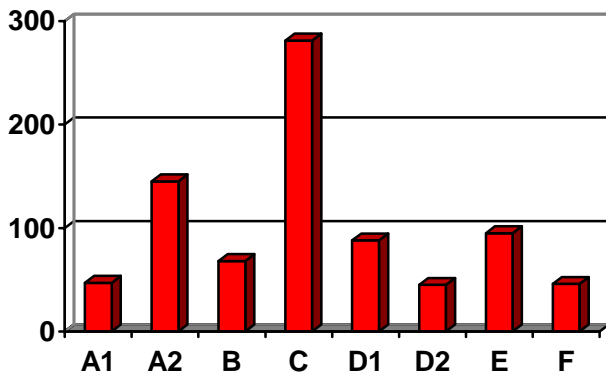
The dry spring this year has given rise to few weed hosts that in turn has a lower potential to harbor significant numbers of different cotton insect pests. These insects include *Lygus*, fleahopper and Stink bugs. However, with cotton beginning to square, fleahopper and *Lygus* numbers will need to be monitored. The past two weeks I have conducted a survey of various weeds in Gaines County using a standard Sweepnet taking 100 sweeps and have captured very few *Lygus* or fleahoppers. Now, this does not necessarily mean populations are nonexistent or that they will not be a threat to the cotton crop, rather it simply suggests that the weed sources that we see in a “normal” wet spring are low. 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 you attention.

Pink Bollworm:

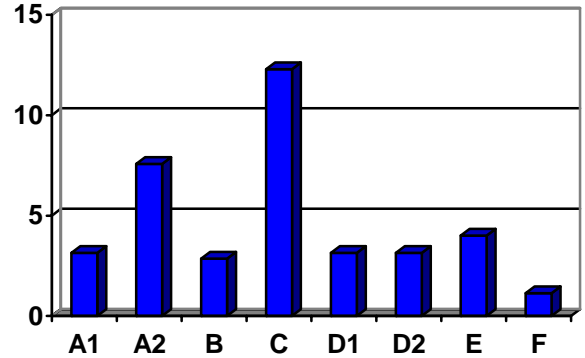
Numbers are from traps set on April 25 and have been run weekly since. Locations of the traps are as follows in each section of Gaines County.

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 May 25th.



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

PBW	Avg. HU Accumulation
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 7th and have currently accumulated 1152 HU as of June 12th. 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 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/>

What We are Seeing in Peanut

As mentioned earlier in this newsletter the biggest concern that I have is the lack of pegging this year. During the bloom period, water stress can delay formation of flowers, or under extreme conditions flowering can be completely inhibited. In Texas, it's not a matter of if there will be extreme heat and moisture stress, it's just a question of when and for how long a duration. Even with irrigation, these climatic factors can be very difficult to overcome. The optimum temperature for peanut growth and development is about 86 degrees F.

Very high temperatures slow down the crop growth rate. Even in conditions of adequate water, temperatures above 95 degrees F can impair development of the crop. Research has shown that photosynthetic activity can be reduced by as much as 25 percent at temperatures above 100 degrees F.

Peanuts have a higher rate of flower and fruit set and better pod development at temperatures less than 90 degrees F. High temperatures, occurring both day and night, can reduce flower set. Research has shown that the optimum temperature for flowering and peg set ranges between 68 degrees F to 80 degrees F. An exposed sandy soil can get very, very hot, thus affecting flower set. High temperatures reduce the number of flowers produced, and when coupled with low humidity, flowers may not pollinate well. Under hot and dry conditions, flower structures may not develop properly, resulting in poor fertilization. Fortunately, the peanut plant can compensate by developing a large flush of flowers when the environmental conditions become more favorable. Crop canopy closure reduces temperatures and increases humidity in the canopy, creating a more favorable environment for flowering, pegging and pod development. Also, as plants become older they become less sensitive to stress.

Lesser Cornstalk Borers (LCB):

LCB's are currently being found in several fields at subeconomic levels. The lesser cornstalk borer is an important insect pest of Texas peanuts. This small, slender larva is primarily a subterranean feeder, living beneath the soil surface in a silken tube. Late-planted peanuts are particularly susceptible to damage in the seedling stage, which often results in reduced plant stands. Worms injure mature plants by feeding on pegs, pods, stems and roots. Pegs are cut off below the ground surface and developing nuts are hollowed out. Stems and roots are scarred and may be girdled.

The lesser cornstalk borer is usually more harmful to peanuts grown under dryland conditions and during drought years. Prolonged rainfall and irrigation contribute to larval mortality. Proper timing and adequate water applied at each irrigation may reduce larval populations. Keeping land free of volunteer peanuts, weeds and grasses several weeks before planting helps reduce pest populations during early season.

Frequently inspect fields to determine when to treat for LCB's. In this way, insecticide applications can be timed precisely and unnecessary treatments avoided. If the producer is unable to

make field checks regularly, he should employ competent consultant for the season.

How to Make Inspections

Begin field checks when plants emerge and continue inspections at least once a week. Select field check locations at random, with one location for each 5 acres in a field with a minimum of five sample sites in any field. Select sites away from field borders. Examine soil surface for feeding damage, larval tubes and larvae. Later in the season, also examine pegs and peanuts. To obtain a percent infestation figure, divide the total number of plants inspected into the number of infested plants found. Do not use dead larvae, old larval tubes or plant damage to derive an infestation level.

When to Begin Control

Yield or quality losses do not occur until certain infestation levels are reached. Treatment of infestations lower than the threshold would not be profitable. In addition to the cost of the insecticide, the producer could destroy beneficial insects and cause problems with certain foliage feeders and spider mites.

Treatment levels for lesser cornstalk borer in both dryland and irrigated peanuts are as follows:

	Dryland	Irrigated
Before initial pegging	5 percent	10 percent
After initial pegging	10 percent	15 percent

Thrips:

Populations are currently at moderate to high levels in most fields locally. These increases and decreases in population levels are something that we will be seeing almost all year long. In peanuts, thrips feed in the terminal leaf clusters between the folds of the young leaflets. The damage they cause is dwarfing and malformation of the leaves. This type of injury normally occurs during the first month after plant emergence. It has been documented that in other peanut growing regions of Texas that thrips feeding damage does not significantly affect yields or grades. Young peanut plants (35 days or less) have repeatedly been shown to tolerate over 75% defoliation without yield reduction or delay in maturity.

Upcoming Events & Announcements

> Next week on June 20th there will be a Horticultural Meeting at the Gaines County Extension office, please contact them at 432-758-4006 for details.

> 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.

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.

AG Aero
Ag Texas Farm Credit Service
Birdsong Peanut
Bobby King Jr. Pump Service
Carter and Company Irrigation
First United Bank
McKinzie Insurance
Moore-Haralson Agency
Nolen Ag
Peters Irrigation
Pioneer Gin
Stateline Gin
Valley Irrigation and Pump Service
West Texas Center Pivots
West Texas National Bank
Western Peanut Growers Association
Whittenburg & Higginbottom Insurance

Special Thanks to our \$1000 Contributors

Oasis Gin

Ocho Gin

TriCounty Producers Co-op Gin

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