GAINES COUNTY IPM NEWSLETTER

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General Situation

If I was a betting woman, I would have laid some money down yesterday afternoon and bet that we were going to get a good hard rain. Thank goodness I am not a betting woman, because all we got was a few rain drops, wind, and blowing sand. One farmer said that at his house, "The rain couldn't keep the concrete wet; it dried faster than it came down." But we do have another chance for rain tonight and the clouds are already starting to build. So come on rain!

We saw a few cracked bolls and open cotton in a couple of fields this week. We picked up some more Rhizoctonia and Pythium pod rot in peanut fields this week.

In my last couple of newsletters, I discussed how more frequent irrigations will help increase the humidity within the peanut canopy, which in turn will help with flower pollination. However, we have reached the point at which blooms will likely not have a chance to make a mature peanut. It takes 10 to 12 weeks from bloom to a mature harvestable pod. Therefore, efforts need to be directed at maturing the current crop load instead of setting more blooms. For that reason, it is time to slow down the pivots and give the field a deeper soaking irrigation. For more information on the current peanut crop, please see the latest edition of Peanut Progress at http://peanut.tamu.edu/2011Newsletter04.pdf

Beet armyworms, fall armyworms, & garden webworms in peanuts and grazing crops

Figure 1. **Beet armyworms in peanuts**

Figure 2. **Garden webworms on weeds in a hay grazer field**

Figure 3. **Garden webworms and Fall armyworms feeding on hay grazer**

The only pests of real concern this week are worms in peanuts and grazing crops. We found as many as 18 beet armyworms and fall armyworms per foot of row in one field, with the field averaging between 8 and 13 worms per foot of row. Since the worm populations are made up of beet armyworms and fall armyworms, you can use products that are specific for armyworms. The following thresholds are suggested for peanuts. Spanish and Valencia peanuts economic threshold is 6-8 worms/ft., while Virginia and runner market types threshold is 10-12 worms/ft. Always be on the lookout for secondary pest outbreaks following an insecticide application. This year we need to be extra cautious and try not to flare spider mites in treated fields.

With hay shortages, some growers may be considering bailing crops or grazing. Therefore, any leaf loss due to insects can hinder these plans. An integrated approach will help in reducing the likelihood of insect infestations. When scouting fields, be sure to stop and check insect pressure on the weeds in the field or surrounding the field. Insects, like "worms", can build up on the weeds and then migrate to the crop following a herbicide application or tillage. It will be easier to control the worms on the weeds, rather than trying to control them once they have started feeding on the crop, especially if they have started to feed in the whorl of the plants. Above are some pictures of a worm infestation in hay grazer. The worms initially built up on the pig weeds and started migrating to the hay grazer after the pig weeds where killed with a herbicide.

In the August 9, 2011 edition of Focus on South Plains Agriculture, Dr. David Kerns had some really good points about determining if an insecticide application is justifiable. He said "Remember that we do not protect cotton (or in this case any crop) from insect pests for the sake of pure protection, but to preserve profit. Essentially, if an insecticide application costs less than what the insect damage would cause, then it is justified. If the insect will cause less damage than it costs to control it, then the application is not justified."
http://lubbock.tamu.edu/focus/focus_2011/August_9/August_9.pdf

FSA Acreage Report as of August 8, 2011

Table 2. FSA acreage report for Gaines County

Cotton	Irrigated	Standing	175,590
Cotton	Irrigated	Failed	36,908
Cotton	Non-Irrigated	Standing	13,340
Cotton	Non-Irrigated	Failed	113,841
Peanuts	Irrigated	Runners	8,488
Peanuts	Irrigated	Spanish	1,141
Peanuts	Irrigated	Valencia	26
Peanuts	Irrigated	Virginia	10,909

Heat Units (H.U.)

Use the table below to estimate the number of H.U. your cotton field has accumulated since cutout. For example, if your field reached cutout on July 22, then it has accumulated approximately 574 H.U.

Table 1. Accumulated Heat Units (H.U.) since July 15, July 22, and July 29, 2011

Date	July 15	July 22	July 29	August 5
Accumulated H.U.	745	574	389	216

Here is some information that may help you evaluate your peanut crop

Even though we have potential to set blooms for one more week, the lack of canopy in some fields has greatly reduced the growers ability to increase the humidity within the canopy, which would result in more flowers being pollinated. Additionally, we are running out of time for blooms to produce harvestable pods which can be harvested before our first freeze. Please see the paragraphs below for a breakdown of the various factors. I realize a lot of this is very evident for producers who have been watching their crops struggle during this entire season.

In the August 2011 edition of Peanut Progress Dr. Todd Baughman, State Peanut Agronomist, had the following discussion. "One thing we have noticed is where we have increased the speed of the pivot, it has appeared to help bloom set and pod development. What growers are doing is applying 0.75 inches of water every 3-4 days versus applying 1.5 inches in 7- 10 days for instance. What I think is happening is we are keeping the canopy wetter at night and early morning for more days during the week. This in turn has increased the humidity in the canopy more often which has enhanced pollination of the blooms and subsequent peg and pod development." However, if a field does not have sufficient canopy to increase the humidity in, then the plant canopy cannot take advantage of the more frequent irrigations. 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 a question of when, how long, and how bad? Even with irrigation, extreme climatic factors can be very difficult to overcome. According to the National Weather Service Forecast Office from 1981-2010, Seminole had an average rainfall of 9.19 inches between May 1 and August 31. In 2011, Seminole has received 0.03 inches for this same time period.

Optimum temperature for peanut growth and development is about 86°F. Very high temperatures slow down crop growth rate. Even in conditions of adequate water, temperatures above 95°F can impair crop development. Peanuts have a higher rate of flower and fruit set and better pod development at temperatures less than 90°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°F to 80°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. Since May 1, we have had several days of excessive temperatures. In the last 103 days, 77 days have been 95°F or greater, and 46 of these days have been 100°F or greater.

Additionally, we are running out of time for the peanut crop to develop. Dr. Baughman, also stated that "the developing peg should reach the ground in 10-14 days after pollination. This requires that we also keep the ground moist so that the peg can enter the soil and develop into a mature pod. Keeping the soil wet will also help to keep the surface cool so that the developing peg is not burned off. While the pod will reach full size in 3-4 weeks, the developing kernel will require 10-12 weeks to reach full size. Therefore, we are reaching the final stages of the season where we can develop a full pod. However, with some help from Mother Nature, we hopefully can continue to mature this crop out through the end of October. However, that means we are reaching the last week or two of potentially effective bloom period."

Growers need to be able to mature their crop and harvest before our first freeze. According to the National Weather Service Forecast Office http://www.srh.weather.gov/maf/?n=cli_maf_freeze_data_seminole starting on October 18th, there is a 10% probability of freeze (32 degrees F), and starting on November 3rd, there is a 50% chance of a freeze. Therefore, peanut flowers pollinated on August 8, should be mature pods around October 17 (10 weeks) to October 31st (12 weeks). This all depends on the weather during September and October. If the weather turns cooler, then it will take longer for these pods to develop.

Information on peanut development was obtained from the *Texas Peanut Production Guide*.

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