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Texas IPM Partners With Nature

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Gaines County IPM Newsletter

Volume V, No. 5

General Situation

A majority of the fields have very low insect pest pressure. We are only picking up really light populations of the following insects in cotton: aphids, spidermites, bollworms, fall armyworms, and lygus. In peanuts we are picking up light populations of bollworms, fall armyworms, wireworms, grubworms, and southern corn root worm. Lorsban 15G is labeled for southern corn root worm, however, it is generally considered a preventative treatment. Once the larvae begin feeding, insecticide treatment is fairly ineffective. There is no rescue treatment for corn root worm.

Southern corn root

We are still picking up relatively high populations of beneficial insects in most fields. The beneficial insects are likely one of the key players in helping to keep most insect pest at bay.

Bollworm and Fall armyworm continue to be present in cotton and peanuts. Ages of worms range from one day old to 12 days old. Therefore, we are starting to see more of a continuous egg lay and overlapping generations. The continuous egg lay makes scouting tricky. We can quickly go from a light population to above economic thresholds and then we will have several ages of worms, with the larger worms being harder to kill. Fields need to be scouted more frequently to determine when economically damaging populations are present. However, we don't want to be to quick to pull the trigger because small worms can be killed by beneficial insects or mother nature. If an insecticide is warranted then we need to be prepared to scout for and possibly treat for secondary pests. Remember that peanuts can with stand a lot more worm pressure than cotton. Spanish and Valencia peanuts can tolerate 6-8 worms per foot of row. Whereas, runners and Virginias have more foliage area and can tolerate 10-12 worms per foot of row. Treat worms only when necessary, because you will likely flare secondary pests (ie., spidermites and aphids).

Weed Management

As we continue to battle or try to prevent herbicide resistance from developing, we need to use all the tools available. **If you have applied glyphosate twice and it has not been effective in managing the weeds, then it is time to use mechanical or physical means to remove the weeds and apply a pre-emergent residual herbicide.** Adding residual herbicides will reduce the risk of developing herbicide resistances because it prevents seeds, produced by the tolerant weeds, from germinating.

Seed produced by a weed that was not killed by two applications of glyphosate

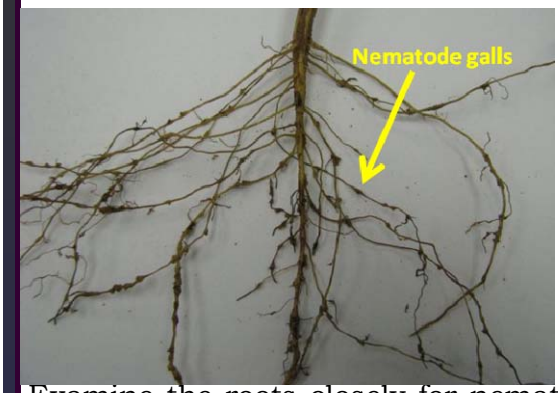
Cotton Agronomy

As we reach peak bloom in cotton we should have all of our fertilizer out. Carrying out fertilizer applications much later could result in plants that are harder to defoliate come harvest time.

Several producers are considering the use of plant growth regulators. If the length of the top internodes average greater than 1.5" then a

plant growth regulator may be justified. Plant growth regulators are not recommended in fields that are already under some kind of stress, including stresses incurring due to drought or disease presence (root-knot nematode, Verticillium wilt, Fusarium wilt, etc…)

Root-knot Nematode



Examine the roots closely for nematode galls. Galls are easier to detect if roots are dug rather than pulled from soil, because galled roots break off easily when plants are pulled. Root-knot nematodes inhibit root function, by reducing the plants ability to utilize water and nutrients. The plant stunting and leaf discoloration typically associated with certain nutrient deficiencies may be evident in root-knot nematode infected plants.

Verticillium wilt and Fusarium wilt

Verticillium wilt and Fusarium wilt have started to show up in some cotton fields. Both of these diseases cause the leaves to become discolored and a darkening of the vascular system (cut into the stem length wise to check for vascular discoloration). Therefore, it is hard to determine which disease is present.

The leaves on a plant infected with Fusarium will have chlorosis that starts on the margins of the leaf and these areas eventually turn necrotic. Whereas, leaves on a plant infected with Verticillium wilt will have chlorosis that starts between the veins before becoming necrotic.

Another clue is whether or not root-knot nematodes are present. Fusarium wilt is associated with fields infested with root-knot nematodes. Whereas, Verticillium wilt may or may not be associated with root-knot nematode infestations. Therefore, if there are no signs of root-knot nematodes on the cotton roots, then the plants are likely infected with Verticillium wilt.

There are no in season cures for these two diseases. The best management tool for these two diseases is to plant varieties that are less susceptible to the respective disease. Varieties that have are partially resistant to Verticillium wilt may be very susceptible to Fusarium wilt or vise versa. We have several tests this season that are looking at variety performance under Fusarium and Verticillium wilt pressure. These results will be presented at the fall meetings. For now, it is extremely important that you note which fields are infested with Fusarium wilt and which fields are infested with Verticillium wilt. This will help you with your seed selection in 2013.

Peanut Blooming, Pollination, and Pegging

Peanuts are blooming, setting pegs, and forming small-medium pods. The cooler temperatures (in comparison to last year) have helped with flower and fruit set. The fuller canopies have also helped to reduce temperatures and increase humidity in the canopy, which has created a more favorable environment for flowering, pollination, pegging and pod development. **More frequent irrigations at this time will also help to increase the humidity in the canopy.** Peg penetration into the soil requires adequate moisture. Once active pegging and pod formation have begun, it is recommended that the pegging zone be kept moist, even if adequate moisture is present in

the soil profile. Failure of pegs to penetrate soil and develop pods can result from low relative humidity and high soil temperatures. Therefore, it is extremely important to supply additional moisture during pegging, even if deeper soil moisture is adequate.

The high humidity and moist conditions which create a favorable environment for pollination and pegging, also creates a favorable environment for disease development.

Leaf Spot

We have had reports of leaf spot in Spanish peanuts. Initial symptoms of leaf spot generally occur in the lower canopy and consist of small chlorotic flecks on the leaf surface. As the disease progresses lesions become evident throughout the canopy. Chemical burns can often be confused with leaf spot. Early leaf sot usually has a prominent yellow halo. There are numerous products labeled for leaf spot control. For further information on peanut diseases please refer to the Texas Peanut Program website: http://agrilife.org/peanut/

Pod Rot

Over the last couple of years, Dr. Terry Wheeler, Dr. Jason Woodward, Scott Russell and I have conducted extensive research on scouting for pod rot and timing of fungicide applications. We compared calendar based applications to applications based on threshold levels. **Pod rot tended to be lower in plot where the producer made earlier applications based on their experience (called calendar applications) and before pod rot had been found, then delaying application for a low threshold to trigger.** Growers generally make initial calendar pod rot fungicide applications at 60 to 75 days after planting. Getting the fungicide to the target site (pegging and pod development zone) is an important factor in pod rot management. For further details on the results from our pod rot research, please click on the following link http://gaines-agrilife-org.wpengine.netdna-cdn.com/files/2012/02/PodRotReport-2011dataonly.pdf

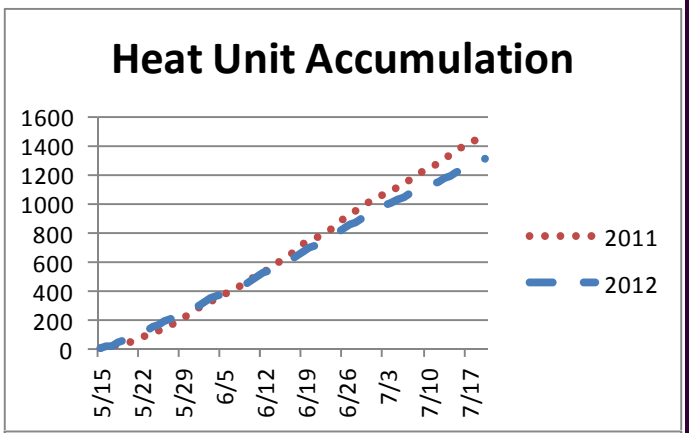
Comparisons between the 2011 and 2012 Growing Season

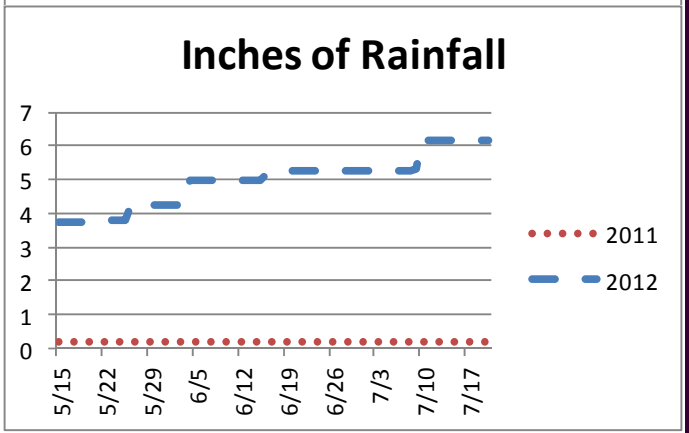
The weather is the driving force behind most of the other difference we are observing. We all know that last year was extremely dry and we had record heat. But how different was it from this year. The first table looks at Heat Unit accumulation from May 15 to July 20. During this time period we accumulated 1,480 and 1,306 in 2011 and 2012, respectively.

The differences in rainfall totals speak for themselves. However, like always the rain storms are spotty and there are some areas of the county that have received less rainfall and some areas that have received more rainfall in 2012. This along with pumping capacities has lead to the greatest differences observed in crop stage and development.

Very few fields showed signs of Verticillium wilt in 2011. Whereas, this year we are already starting to see signs of plants being infected with Verticillium wilt. This alone is a good indication that conditions are much more conducive for disease development in 2012.

July 17, 2011 is when we identified our first field infested with Kurtomathrips. Thankfully, this rare pest has not shown up in 2012. This pest flourished in the extreme hot dry conditions that were present in 2011. Hopefully, we will not see this pest in 2012, since we have more moderate temperatures and a little more rainfall.





Glyphosate Trial

I mixed up a 2% solution of glyphosate and applied it at a low (white flag), medium (yellow flag), high (orange flag), and very high rate (blue flag).

I applied these rates on small weeds (3-4 inches) and large weeds (3-4 feet tall). I also drenched several large weeds, until the spray was dripping off the plant (pink flag).

The large weeds had already received two applications of glyphosate, at the rates of 40 and 50 oz. Below are pictures taken when the glyphosate was applied and pictures taken one week after application.

All rates killed the small weeds. But the large weeds showed very little signs of injury or indication they were going to die.
(**Large Weed Pictures on Page 5)**

Small weed plots prior to application

Small weed plots one week after application

Special Thanks to the 2012 Gaines County TPMA Scouting Program Sponsors

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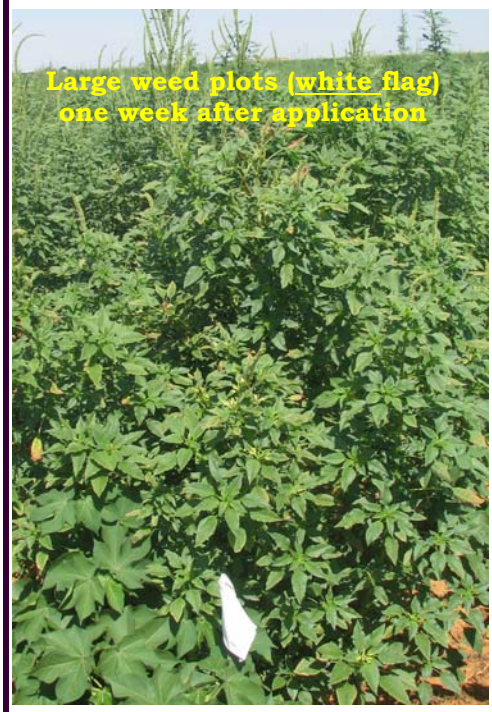
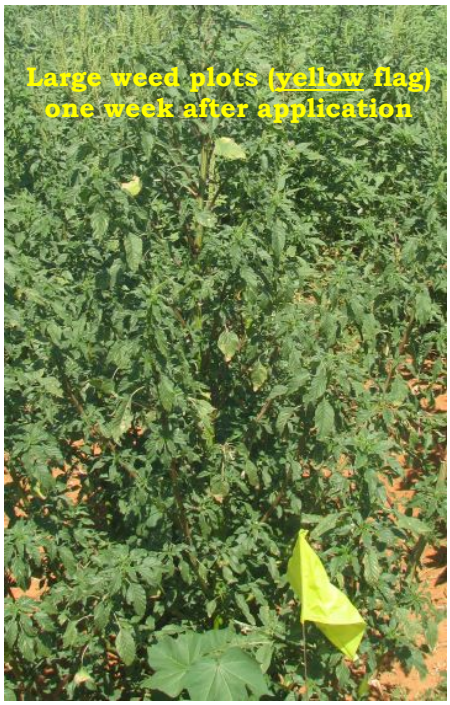
Gaines County IPM Blog
http://agrilife.org/gainesipm/

Gaines County Website
http://gaines.agrilife.org/

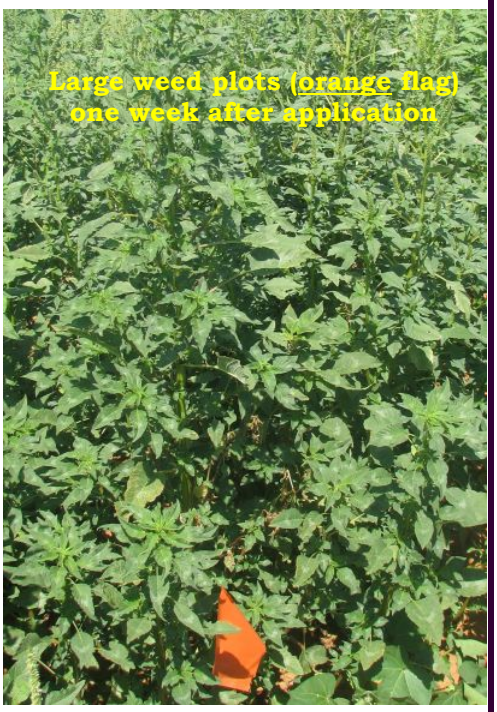
Large weed plots prior to application



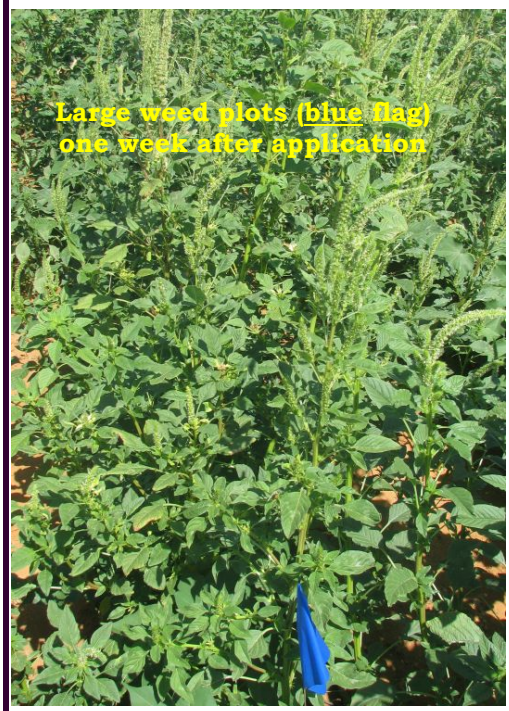
Large weed plots (white flag) one week after application



Large weed plots (yellow flag) one week after application



Large weed plots (orange flag) one week after application



Large weed plots (blue flag) one week after application

Large weed plots (pink flag) one week after application