Terrell County Extension News – June 3, 2010

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Insects to watch for NOW:

Commercial Agriculture:
If your scouts have started, they will probably begin finding some different insects other than those listed below. Normally some of these will be just a curiosity, unless they are found in large numbers or are concentrated in areas of a field.

Corn: Stinkbugs (surrounding counties are finding mainly Brown stinkbugs now).
Cotton: Thrips, cutworms, grasshoppers, & stinkbugs (Stinkbugs are not an issue right now, but I'll bet you will find some).
Peanuts: Thrips, cutworms, & lesser cornstalk borer
Soybeans: Lesser cornstalk borer & cutworms

Homeowners:
Fire ants; below is a link to very informative and useful information about Fire ants. Please take the time to go to this link, read and even print the information. It is an excellent history of Fire ants and the current control choices are useful. The publication is 20 pages long and well worth the effort to print off and use for reference. The publication link is 16.3 Mb, so a dial-up connection will take a long time to download.
It is a regional publication developed by 9 Southern Land Grant Universities and USDA.
http://pubs.caes.uga.edu/caespubs/pubs/PDF/B1191.pdf

The following are excerpts from the link above;
The two species of imported fire ants (red imported fire ant, Solenopsis invicta Buren, and black imported fire ant, Solenopsis richteri Forel) and their hybrid are nuisance insects whose stings can cause serious medical problems.
While it is not possible to eradicate this species, controlling fire ants is highly desirable. The best control programs use a combination of non-chemical and chemical methods that are effective, economical and least harmful to the environment.
Properly identifying the ant species is the first step in determining whether and how to control them. In the following sections there are options for managing various kinds of imported fire ant problems. There may be other effective methods not mentioned.
There is rarely a single best method of control.

Nutrient Deficiencies can be a Major Issue This Year!

Everyone is well on their way to being finished planting peanuts, cotton, and soybeans.

Pigweeds were already growing in strip-till fields at planting time, so beware.

It is hard for a crop to overcome herbicide carryover, nematode infestation, and fungal pathogens when weakened by poor fertility. If you get behind you will stay behind.

Take a look back at soil samples pulled this winter. Do what the recommendation says. These new varieties don't have the fibrous root system to scavenge potash and nutrients from soil the way DP 555 did. Although potash is still expensive, it is a far cry from the prices of 2008. Don't cut back on fertilizer to save cash. You should see a minimum of 5 to 1 return on investment for fertilizer. If we don't feed the crop, it won't grow.

It's time to review some of the fundamentals of irrigation for peanuts, cotton, soybeans, & corn. More details can be found on the Terrell County web site: http://www.ugaextension.com/terrell

PEANUT IRRIGATION

John P. Beasley, Jr.

Condensed from a 2007 Peanut Update

The key to peanut irrigation is not if you can irrigate, but how you irrigate. The amount of water to be applied and the timing in which it is applied are the critical factors in maximizing return on investment when irrigating.

The total amount of water that is required from planting to harvest is about 22 inches. The time period of greatest water requirement in a peanut growing season is the 50 – 110 days after planting. In most years we do not receive that much rainfall so supplemental irrigation is needed.

What is the best method to determine when to irrigate? Below are 3 choices;

1. Irrigator Pro, developed by the USDA National Peanut Research Lab (NPRL) in Dawson.
2. UGA EASY Pan.
3. Check Book Method.

Cotton Irrigation Schedule Suggested For High Yields

2010 Georgia Cotton Production Guide

YIELD GOAL

	900/1000 lb/A	
	In. /Week	**In. /Day**
Wk. beginning at 1st bloom	**1.0**	**0.15**
2nd wk. after 1st bloom	**1.5**	**0.22**
3rd wk. after 1st bloom	**2.0**	**0.30**
4th wk. after 1st bloom	**2.0**	**0.30**
5th wk. after 1st bloom	**1.5**	**0.22**
6th wk. after 1st bloom	**1.5**	**0.22**
7th wk. after 1st bloom	**1.0**	**0.15**

	1200/1500 lb/A	
	In. /Week	**In. /Day**
Wk. beginning at 1st bloom	**1.5**	**0.22**
2nd wk. after 1st bloom	**1.5**	**0.22**
3rd wk. after 1st bloom	**2.5**	**0.36**
4th wk. after 1st bloom	**2.5**	**0.36**
5th wk. after 1st bloom	**2.5**	**0.36**
6th wk. after 1st bloom	**2.0**	**0.30**
7th wk. after 1st bloom	**2.0**	**0.30**

Weekly quantities should be increased to compensate for run-off.

Cotton is an excellent candidate for irrigation. Irrigation is particularly important in areas that frequently have drought in July through August 20 and on sandy soils. Irrigation may increase yields from a range of 0 to more than 800 lb/A, with increases of 200 to 400 lb/A common.

Irrigation is often used as a supplement to rainfall, as total reliance on irrigation would be difficult for some producers. The most critical period is during the bloom and boll maturation periods. At peak bloom, the plant needs about 0.3 inches of water per day. Many uncertainties exist as to HOW to irrigate. With the exception of 2003, 2005, and 2009, recent years have been characterized by severe, persisting drought, and many irrigated fields have fallen well below expectations in terms of yield and fiber quality. Considerable research is needed to improve our understanding of plant water use, irrigation timing, and irrigation efficiency.

In the past irrigation of cotton prior to blooming was initiated when planted wilted or showed stress by mid-day. Recent research has indicated that once cotton begins to wilt it has already been under physiological stress for some time. Prior to bloom cotton will utilize 0.75 to 1 inch of water per week. Thus, under hot and dry early season conditions to optimize yield potential the crop should be irrigated with this amount prior to the signs of stress. It should also be recognized however, that abundant moisture magnifies vegetative growth problems when excessive nitrogen is available and/or insect control is insufficient.

After first bloom, irrigate as needed to supply the quantities of water listed below. Rain gauges should be used to measure the water received from rain and the amount supplied by irrigation.

Examine the crop during the 7th week (900 to 1100 lb) and 8th week (1200 to 1500 lb) to determine if irrigation should be continued. Additional irrigation may be needed on deep sands and/or if hot dry conditions are predicted and the plants are experiencing wilt. Irrigation intervals can be determined by dividing the quantity/day for a period into ½ to b the available moisture holding capacity of the upper 2 ft of soil in fields. For example, if the available moisture capacity of the soil is 0.7 inches/ft and the quantity/day is 0.3 inches, the interval between irrigations or following rain that brings soil moisture to field capacity would be 0.66 (available moisture) x 2 ft x 0.7 inches/ft divided by 0.3 inches/day = 3.08, which is rounded to 3 days.

Intervals for most of the season will be 3 to 4 days for coarse textured sand, 4 to 6 days for more productive loamy sand and sandy loam, and 5 to 8 days for fine textured sandy loam or clay soils. A 4 to 6 day interval will fit a majority of the situations.

Growers with intensely managed production programs that are already harvesting 2-bale yields and are striving for 3-bale-plus yields on part of their crop may want to increase the amount of water supplied by irrigating to provide the quantities of water listed on the right side of the table above on a trial basis. This will provide 4 inches more during the 7-week period than is suggested for 2-bale yields.

Irrigation termination is a difficult decision. A final watering is often made when the crop begins to open. Commonly, NO additional irrigation is applied once the time the crop is 10 percent open to minimize problems with boll rot, hard lock, and light spot. Common sense factors include prevailing weather patterns and predictions, available soil moisture, and time of year.

SOYBEAN IRRIGATION - *(Harrison and Raymer)*

Irrigation Scheduling Methods for Soybeans

To schedule irrigation for most efficient use of water and maximum production, it is essential to frequently determine the soil water conditions throughout the root zone. You can obtain the full benefit of using tensiometers, electrical sensors or solid state blocks by recording readings and plotting them on a chart.

Irrigation is expensive and requires careful management to be economically feasible for soybeans. This can usually be accomplished when (1) soybean market prices are good, (2) irrigation overhead costs can be shared with a winter-spring crop and (3) when irrigation for soybeans can be targeted for soybean "critical periods" in July, August and September. The following water balance method is suggested for 45 to 50 bushel soybean yields:

1. If needed, apply 1.0 to 1.5 inches of water for stand establishment. (Application ahead of planting is preferred.)
2. Prior to first bloom, irrigate with 1.0 to 1.5 inches of water if wilting is observed by late afternoon.

3. From first bloom (R1) to beginning pod elongation (R4) irrigate with 1.0 to 1.5 inches of water if wilting is observed by midday.
4. From beginning pod fill (R5) to full-bean stage (R6) irrigate, using some means of irrigation scheduling, to keep soybeans from wilting. (See methods below.)
5. From full-bean stage (R6) to physiological maturity (R7) irrigate with 1.0 inch of water if wilting is observed by late afternoon.

Estimated Water Use of Corn in Georgia Growth Stage

	Days After Planting	Inches Per Day
Emergence and primary root	0-7	.03
developing.	8-12	.05
Two leaves expanded and nodal	13-17	.07
roots forming.	18-22	.09
Four to six leaves expanding.	23-27	.12
Growing point near surface.	28-32	.14
Other leaves and roots developing.	33-36	.17
Six to eight leaves.	37-41	.19
Tassel developing. Growing point above ground.	42-45	.21
Ten to twelve leaves expanded.	46-50	.23
Bottom 2-3 leaves lost. Stalks growing rapidly. Ear shoots developing. Potential kernel row number determined.	51-54	.25
Twelve to sixteen leaves. Kernels	55-59	.27
per row and size of ear	60-64	.29
determined. Tassel not visible but about full size. Top two ear shoots developing rapidly.		
Tassel emerging, ear shoots elongating.	65-69	.31
Pollination and silks emerging.	70-74	.32
	75-79	.33
Blister stage.	80-84	.33
Milk stage, rapid starch accumulation.	85-89	.34
Early dough stage, kernels rapidly increasing in weight.	90-94	.34
Dough stage.	95-99	.33
Early dent.	100-104	.30
Dent.	105-109	.27
Beginning black layer.	110-114	.24
Black layer (physiological maturity).	115-119	.21

Please call on us if you have questions, problems, ideas, or issues you think we can help you with.