



# Gaines County IPM Newsletter

Volume VI, No. 12

## Cotton General Situation

Open bolls have been observed in a several cotton fields, with a few fields having as much as 20% open bolls.



Below is the number of Heat Units (H.U.) accumulated since cutout (5 NAWF), for those fields that reached cutout on various dates in August. For example, if your field reached cutout around August 22, then it has accumulated 406 H.U. since cutout.

Date of Cutover	Accumulated Heat Units Since Cutout
August 1	848
August 8	676
August 15	539
August 22	406
August 29	279

Cotton that has reach 450 H.U. should be safe from all insect pests, except for aphids.

## Peanut General Situation

Overall, the peanut crop continues to look very good.



We will likely see our first fields dug within the next two weeks. Overall pod rot has been relatively light this year, but growers need to continue to scout their later fields for pod rot development. Leaf spot is also a concern in some fields.

Leaf spot can often be confused with herbicide spray. Farmers have been diligent about using spider sprayers to spot spray weeds in peanut fields. Often the herbicide spray can hit the leaves and can cause spotting on the leaves that looks similar to leaf spot. Look for spores within the lesion to confirm that it is leaf spots. **Before applying fungicides check the label for pre-harvest intervals.**



## Aphids in Cotton

Aphids are being picked up in some cotton fields. Some of these fields have aphid populations that are close to economic thresholds. These aphid populations have several factors working in their favor: 1— low beneficial insect populations, 2— cooler weather.

Cotton aphids range in color from light yellow to dark green to almost black. The immature or nymphal stage looks like the adult stage, only smaller. Most adults do not have wings. Aphids usually are found on the undersides of leaves, on stems, in terminals and sometimes on fruit. Heavy and prolonged infestations can cause leaves to curl downward, older leaves to turn yellow and shed, bolls to be reduced in size, resulting in incomplete fiber development. Honeydew excreted by aphids can drop on fibers of open bolls. A black, sooty fungus sometimes develops on the honeydew deposits during wet periods.

The threshold up to open boll is an average of 50 aphids per leaf. Once there are open bolls, the threshold drops to 15 aphids per leaf.

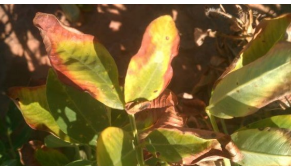
Rick Minzenmayer, Extension Agent—IPM for Runnels & Tom Green Counties provided some valuable information for aphid control in his [September 5, 2013 Newsletter](#).

“If treatment is necessary, coverage is extremely important. Our sprayers are rigged up for herbicides not insecticides. When applying insecticides, it is necessary to have small droplets to increase penetration into the plant canopy. It works best when gallonage is

increased to 8-10 gallons of total solution per acre and pressure is 80 PSI or higher. Recommended insecticides would include: Intruder® 0.8-0.9 oz/acre; Centric 1.6 oz/acre; Carbine 2.0-2.8 oz/acre and others.”

**Soil with a White Crust and Dead Peanut Leaf Tips**

Salts are commonly brought to the soil surface by evaporating waters, creating a white crust.



Additionally, salts enter the plant transpiration stream and damage leaf cells.

As it progress down the plant, we are seeing dead plants in some of these fields.



We have started sorting through some our preliminary results from an extensive soil sampling and water sampling project that Scott Russell, EA-IPM Terry & Yoakum Counties, and I are working on in conjunction Dr. Mark Kelley, Extension Agronomist and with some county Ag Agents. The preliminary results suggest that we are not dealing with saline or sodic soils. The textbook definition of saline soils is a soil that has a Sodium Adsorption Ratio (SAR) less than 13, but the Electrical Conductivity (EC) is greater than 4. Sodic soils have a SAR that is greater than 13, but the EC is less than 4.

Instead of soil issues, our preliminary data suggest that our water could be the main culprit in these fields. Several water samples have come back with above critical values for Total Dissolved Salts, Electrical Conductivity, and Chloride. Below is a table of Critical Values for Cotton and Peanut taken from the [Texas A&M AgriLife Extension Service Irrigation Water Quality Publication](#).

	<b>Cotton Critical</b>	<b>Peanut Critical</b>
<b>Total Dissolved Salts ppm</b>	3264	1344
<b>Electrical Conductivity 5100umhos/cm</b>	5100	2100
<b>Chloride ppm</b>	710	400-500

We will provide further information in future newsletters and upcoming meetings. Until then, below is a few tips that may help with late season water management in peanut fields showing similar symptoms and have water samples indicating above critical values for peanuts.

- Water between 6pm and 10am, this will reduce the amount of water evaporation. Evaporation is slower at lower temperatures. As the water evaporates, the salts are left behind.
- Use drag hoses instead of sprinkler irrigation. Drag hoses will put the water directly on the soil instead of the water begin sprayed on the foliage.
- If using sprinkler irrigation, use nozzles that have a larger droplet size instead of a fine mist. Finer droplets have an increased chance of evaporation.
- Slow down the pivots & let the irrigation seep deep into the ground. Shallow watering, such as light frequent sprinkling, increases evaporation water loss from the soil.
- Cover crops or surface residue help to keep the soil surface cooler and lower evaporation.

**Kurtomathrips Populations Heaviest on Cotton Plants Struggling due to Nematode Damage**

Kurtomathrips have been seen in more fields during the last couple of weeks. Kurtomathrips populations are highest on cotton plants that are already struggling due to nematode damage.

Pockets of nematode infested plants are easy to spot in cotton fields. Look for an area of stunted plants and upon examining the roots, you will likely see nematode galls.



Nematode Galls



You will likely have to use a hand lens to see the Kurtomathrips. But some classic signs of Kurtomathrips infestation are prominent veins & leaves cupping upwards.

### Verticillium wilt in Cotton & Peanut

Verticillium wilt is more prevalent in cotton this year than it has been in the previous 2 years. Leaves of plants infected with Verticillium wilt will have interveinal chlorosis or necrosis. Cut stems length wise to see if the vascular system is discolored.



We are seeing some plants that have complete leaf loss due the vascular system being clogged by Verticillium wilt. The vascular infection of Verticillium cuts off the movement of water and nutrients.

Verticillium wilt is also starting to show up in Peanuts.

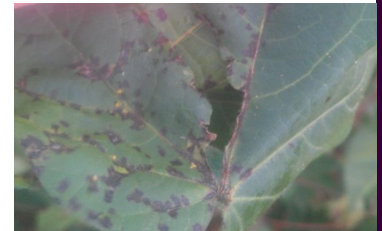


In the picture above, the three peanut petioles on the right have clogged vascular systems, confirming that they are infected with Verticillium wilt. The peanut petiole on the left does not have a clogged vascular system, confirming that the it is not infected with Verticillium wilt.

Be sure and note which fields have Verticillium wilt, so that you can plant a Verticillium wilt tolerant variety in that field in future years.

### Bacterial Blight in Cotton

We are starting picking up bacterial blight this week. Leaves will have small dark green water-soaked angular spots. For further information on bacterial blight, please see the [August 7, 2009 Gaines County IPM Newsletter](#).



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