

GAINES COUNTY IPM NEWSLETTER

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General Situation

As the end of the 2008 cotton season draws near, several growers may be wondering which white flowers will make? It takes approximately 850 Heat Units (H.U.) from white flower to open boll. During the last four years we have accumulated approximately 369 H.U. during the month of September (See *Table 1*). Therefore, the white flowers we see today will likely not have a chance to develop into an open boll.

Table 1. Heat Units accumulated during September for the corresponding years.

Year	H.U. Accumulated
2004	324
2005	472
2006	262
2007	418
Average	369

Disease pressure has increased in cotton and peanut fields. Verticillium Wilt continues to be found in several cotton and peanut fields. Alternaria has been noted in a few more cotton fields. Sclerotinia and “Pod Rots” have been found in several more peanut fields. Several of these disease spread rapidly during cool wet weather. Therefore, growers should be extra vigilant because of the cool wet weather we had during Labor Day Weekend and the cooler week that is being forecasted for the first week of September. Positive disease identification is necessary to ensure maximum economic returns from chemicals. Signs and symptoms can be similar for two or more soilborne diseases and effective fungicides may differ greatly for cost.



Figure 1.



Figure 2.

Figure 1. (upper left) Verticillium wilt showing up in cut-out cotton.

Figure 2. (upper right) Sclerotinia blight white tufts of cottony-like fungal growth at leaf axils. Later stages of the disease show up as bleaching and severe shredding of the stem accompanied by the production of small black sclerotia that resemble mouse droppings.



Figure 3. Photo by Jason Woodward



Figure 4. Photo by Jason Woodward

Figure 3. (lower left) Pythium pod rot wet causing wet black decay.

Figure 4. (lower right) Rhizoctonia fungi causing dry dull surfaced light/dark brown pod lesions.

Grain Sorghum Headworms and Sampling for Headworms

Headworms are a major concern right now as several of the sorghum fields in Gaines County have headed out. These fields should be scouted on a regular basis to determine if “worm” populations have reached an economic injury levels.

Begin sampling for headworms after the sorghum head has emerged and continue at 5-day intervals until the hard dough stage. To sample headworms, grasp the stalk just below the sorghum head, bend the head into a clean, white, 5-gallon bucket, and vigorously beat the head against the side of the bucket. Headworms will fall into the bucket where they can be seen and counted. Sample at least 30 grain heads, selected at random from across the field. In field larger than 40 acres, sample at least one grain head per acre. Record the number of ***small*** (less than ¼ inch long), ***medium*** (¼ to ½ inch long) and ***larger*** (longer than ½ inch) headworms found in the samples. Divide the total number of medium or large headworms by the number of heads sampled to get the average number of headworms per head. Then multiple the average number of headworms per head by the number of heads per acre to calculate the number of headworms per acre. Using the tables provided in the August 16, 2008 Gaines County IPM Newsletter growers can determine if they have reached an economic injury level in their sorghum fields. For example; If growers are estimating their grain to be valued at \$10 per cwt and if control cost is approximately \$8 per acre, then the economic injury level for ***medium*** size worms is 41,750 bollworms or fall armyworms per acre. For ***large*** bollworms or fall armyworms at the same grain value and control cost, the economic injury level is 7,750 per acre. ***Larger*** worms will consume more grain, therefore it takes less worms to reach the economic injury level. ***Small*** worms consume very little grain and about 80 percent of them die in this stage. Therefore, small larvae should not be considered in determining the economic injury level. If most headworms are ***small*** in size, then sample the field again in 3 to 4 days.

Cotton Aphids

Cotton aphid populations have been found in some cotton fields. Most cotton aphid populations remain low and virtually undetectable. A few fields have seen an increase in cotton aphid numbers. However, the beneficial insects are responding quickly and none of the fields have been treated for aphids. These beneficial insects may have migrated from neighboring grain sorghum fields where they were feeding on corn leaf aphids (which rarely cause economic loss to sorghum). *Figures 5 through 8* are beneficial insects. These beneficial insects will also feeding on “worm” eggs and small worms. Therefore, before applying an insecticide the impact of beneficial insects on pest populations in your field and neighboring fields should be considered.



Figure 5. Ladybird beetle larvae



Figure 6. Parasitized aphids



Figure 7. Lacewing larvae



Figure 8. Syrphid fly pupa

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Irrigation Termination

Sprinkler irrigation should be continued for 1 to 2 weeks after first open boll or until 20 percent of the bolls are open. The goal is to provide adequate moisture for the last harvestable bolls to mature. Please refer to “2008 Late Season Irrigation Management for Cotton in the Texas Southern High Plains” publication for further information regarding late season irrigation.

Increasing Harvest Aid Efficacy

A good target would be to have the soil profile nearly depleted as harvest aid season begins. First, this reduces excessive pumping for unnecessary water applications, and second the moisture stress can actually aid in establishing a physiological state that results in some older leaf shed. Cotton generally responds better to harvest aid application when there is some moisture stress on the plants. If excessive moisture is available, defoliation of some varieties becomes more difficult, as is often encountered in years when substantial late rainfall occurs. This information is from the August 22, 2008 FOCUS on South Plain Agriculture (reported by Dr. Randy Boman, Extension Agronomist).

Information for this newsletter was obtained from the following publications:

- “2008 Late Season Irrigation Management for Cotton in the Texas Southern High Plains”
http://lubbock.tamu.edu/focus/Focus2008/August_29/2008_Late_Season_Irrigation.pdf
- Texas AgriLife Extension Service, “Texas Cotton Production, Emphasizing Integrated Pest Management”
- Texas AgriLife Extension Service, “Managing Insect and Mite Pests of Texas Sorghum”
- Texas AgriLife Extension Service, “Texas Peanut Production Guide”
- Texas AgriLife Extension Service, “Managing Cotton Insects in the High Plains, Rolling Plains, and Trans Pecos Areas of Texas”

These publications can be found on the web at <http://agrilifebookstore.org>

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