

GAINES COUNTY IPM NEWSLETTER

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General Situation

The weather has quieted down around Gaines County. We have not received any more reports of cotton fields being hailed out. Cotton plants have started to bloom. Peanut plants continue to bloom and are starting to form more pods. Insect pressure has remained low.

Bollworm/Tobacco budworm eggs have been observed in cotton and peanut fields. A majority of the cotton acres in Gaines County are Bollgard, Bollgard II or Widestrike, therefore the larvae that are hatching should die after ingesting the Bt toxin. Scattered larvae have been observed in some peanut fields, however, very little damage has been observed. Peanut plants can tolerate some foliage loss and treatment for "worms" is rarely justified.

Verticillium wilt is starting to show up in the southwestern part of the county in cotton fields that do and do not have a history of Verticillium wilt. During the last two weeks our average daily high temperature was around 87 degrees. These cooler and humid conditions are favorable weather for disease development. Southern blight was found in a peanut field in the southwestern part of the county.

Description of *Verticillium Wilt* from the August 10, 2007 FOCUS on South Plain Agriculture (reported by Dr. Jason Woodward, Extension Plant Pathologist)

The fungus causing this disease is capable of residing in the soil for an extremely long time. Initial infections take place early in the season, and development of the diseases is favored by cool air and soil temperatures. As the disease progresses, the fungus blocks water channels. Infected cotton plants have a yellowing of leaves between the veins, which may result in premature defoliation. These



Figure 1. Verticillium wilt on cotton

symptoms may be similar in appearance to Fusarium wilt. Management options for Verticillium wilt are limited. A major factor in management of Verticillium wilt is the concentration of the pathogen (fungal inoculum) in the soil. When soil populations are low, very little (if any) disease may be present in the field; however, as the soil population increases and the disease incidence increases and

severe yield losses may be experienced. Therefore, it is important to 1) know which wilt pathogen you are dealing with, and 2) know the density of the pathogen in the soil. Within the season,

Verticillium can be identified in the laboratory by examining stem sections from the bottom 2-3 inches of the stem. In order to determine soil populations, more detailed study is required. Composite soil samples can be collected in the fall and winter, and assayed for Verticillium. If soil populations are excessive, information generated from variety testing becomes very important. In the case of severely infested fields, crop rotation with a non-host may be necessary.

This year we have three on-farm trials in Gaines County which are screening for tolerant/resistant cotton varieties. The results from these trials will be sent out at the end of the season.

Southern Blight

Southern blight, caused by the soilborne fungus *Sclerotium rolfsii*, has course, initially persistent white fungus strands that develop at a moderate rate on all plant parts and on the soil surface, often in a flat-fan pattern (See Figure 3). Nearby plant tissue becomes desiccated due to digestion by the fungus, and the mycelium disintegrates gradually over several days or weeks. On this white fungus growth, mostly-round sclerotia (seed-like long-term survival structures) age from white to tan to black and are almost never found inside stems, pods, or seeds. Southern blight is favored by warm weather. Control methods include: Rotate to avoid peanut after peanut if possible. Plant irrigated peanuts on a raised bed at least 4 inches high. Use a variety with partial resistance if available. Avoid very high seeding rates in problem fields (early development of a dense canopy retains humidity that favors the southern blight fungus). Do not throw soil onto peanut plants during cultivation. Control foliar diseases with fungicides to prevent leaf shed. Several fungicides can contribute to southern blight control. Multiple applications as preventative treatments in problem fields are suggested rather than single applications or rescue treatments after southern blight injury has occurred.

This information was obtained from the Texas AgriLife Extension Service, Texas Peanut Production Guide.



Figure 2. Dark brown streaks in the stem of a cotton plant with Verticillium wilt



Figure 3. Desiccated peanut plants infected with Southern Blight

The following information was provided by Calvin Trostle, Extension Agronomy, 806-746-6101, ctrostle@ag.tamu.edu ----- Grain Sorghum—Gaines/Yoakum Co. Follow-up

Below is a summary of the most common questions during our grain sorghum producer updates last Wednesday.

Is it too late to still plant grain sorghum?

As of July 9th quite a few producers were still planting. For Gaines Co. that meant that 'safe' dates for planting medium maturity hybrids were past, and as of this writing (7/14) for counties like Gaines, Dawson, Howard, Martin we have reached the point that ideally all medium-early maturity grain sorghums should already be planted. Our last recommended planting date for **early** maturity grain sorghum is July 15 for this southern area though some plantings later still have potential. An early maturity grain sorghum—which has lower yield potential—at a typical ~85 days to maturity will flower by about Sept. 10-15, and is pushing it in the cool weather in the first week of October to full maturity.

I have quite a bit of pigweed in my young sorghum. What are my options?

The two herbicides that have the best activity on pigweed are 2,4-D (regulated in Gaines Co.; cannot be applied at this point) and dicamba (Banvel, Clarity), but both have specific guidelines on their application to reduce the potential for injury on grain sorghum. Banvel may not be applied when the sorghum is more than 15" tall (and must use drop nozzles after 8" tall). This is to minimize the contact of the dicamba with the plant and especially to keep the herbicide out of the whorl lest the developing head be injured and result in 'blasting' or failure to develop grain later in the season.

Some producers following the label guidelines still report injury, and in fact dicamba often does result in leaf rolling and leaning of plants, but they usually grow out of it in 10-14 days. This application of dicamba is best for weeds that are <3" tall. For buster planted grain sorghum pigweed is often the worst down in the furrow with the grain sorghum, and in this case the producer needs to ensure dicamba application at a time when the small sorghum can be sprayed over the top. Once you move to drop nozzles, you can't get enough where the weeds are.

For crisis situations (pigweed 12" or more, or as tall as the sorghum) where late attempts are made to salvage the sorghum crop then sweeps and herbicide with hooded and layby sprayers might be attempted to knock the pigweed back. There are no easy options at this point.

The 2008 grain sorghum weed control options guide from Texas AgriLife Extension Service is on the web at <http://lubbock.tamu.edu/sorghum/pdf/sorghumweedcontrolguide08.pdf>

Should I even consider post-emerge atrazine in my grain sorghum if I may go to fall wheat or 2009 cotton?

According to Brent Bean, extension weed scientist, Amarillo (806.677.5610, bbean@ag.tamu.edu), atrazine over the top when sorghum is 6-12" tall is effective for good weed control. POST is often the best way to put atrazine out, and some producers find that applying over the top when sorghum is shorter is also successful. Use crop oil, pigweed should be less than 6" tall, but expect minimal grass control. Atrazine, however, is not labeled for coarse soils and for soils with less than 1% organic matter.

Propazine (Milo-Pro) which is labeled for sandy loams and any level of organic matter is not labeled for POST applications.

Rotation after atrazine to wheat is not labeled until the following year, and injury may be anticipated unless high rainfall, high irrigation levels occur. In contrast, propazine is labeled at 120 days to wheat though some of our Texas A&M weed scientists disagree on the potential for injury to wheat.

Producer experience suggests that cotton injury from atrazine can be a gamble especially if rates are not reduced to at or below ¾ lb./A and in dry years. The last thing we would want is to inhibit our 2009 cotton due to atrazine residues. Some atrazine labels are vague about cotton the next

year, and others say no cotton the next year if applied after June 20 and/or specify a minimum amount of rainfall + irrigation (often >20") to reduce risks to next season's cotton. The rotation restriction to cotton for propazine is 12 months at the full rate of 1.2 quarts per acre.

I have nutgrass/nutsedge in my grain sorghum. What are my options?

Gaines Co. fields in sorghum that have significant yellow and purple nutsedge might consider an application of Permit (halosulfuron), which controls yellow nutsedge and should have good activity on purple as well. Sorghum stage should be 2-leaf to layby. Control of pigweed would not be expected unless tank mixed with 2,4-D or dicamba. Crop rotation restrictions are 2, 4, and 6 months to wheat, cotton, and peanut, respectively.

I have a lot of volunteer wheat in my grain sorghum. What are my options?

There are no good options here. Sweeps are the best bet, but most of the fields in Gaines Co. with this problem are meant to be conservation tillage, and have a lot of stubble which we would prefer to not disturb. Sorghum and wheat are in the same grass family. There isn't any herbicide that can distinguish between the two. Some of these problem fields are dryland where wheat was planted for cover, then went to seed. Since wheat is a cool season grass, the return to open sunny weather with highs in the mid-90s should enable the sorghum to eventually pull ahead, but some fields are currently nearly a carpet of volunteer wheat, and if the sorghum stands are there and sorghum prices remain strong then perhaps we reconsider the sweeps.

Going forward options to manage wheat in grain sorghum fields are to use Dual Magnum herbicide (Concep seed safener required), which has significant grass control, and perhaps a tillage to trigger wheat germination with later sorghum planting during a warmer time of the summer.

I applied Pursuit or Cadre in my 2007 crop. Will that affect grain sorghum?

Potentially yes. The rotation for both herbicides to grain sorghum is 18 months. For questions about other cotton and peanut herbicides in your grain sorghum field contact Dr. Peter Dotray, Extension weed scientist, 806.746.6101, pdotray@ag.tamu.edu

My dryland sorghum looks pretty thin. Is it thick enough to make a decent crop, should I replant, or should I let it go?

We looked at a dryland buster-planted field at Denver City that had 18,000 plants/acre or 1.4 plants per foot of row. Yes, it looked thin, but it was a good stand for a dryland field. With the likelihood of at least a little tillering, this field pending favorable rainfall and modest N fertility could readily deliver a 3,000 lbs./A yield potential, but the population is low enough that it is much less likely to burn up in a very dry year and still produce a dryland yield worth harvesting.

What kind of fertility should I put on my grain sorghum?

The rule of thumb for N is 2 lbs. of N per 100 lbs. of yield goal. For applications with a ground rig when you put it all out, it should be on within about 30 days of planting (irrigated and watered in). If making pivot application, then probably at least half of the N should be on by 30 days, and all but perhaps the last 10% completed before boot stage. Phosphorus requirement in grain sorghum is modest, about 3/8 lb. per 100 lbs. of yield goal. Unless you have a yield goal of 5,000 lbs./A or more, then mid-season applications are not a priority.

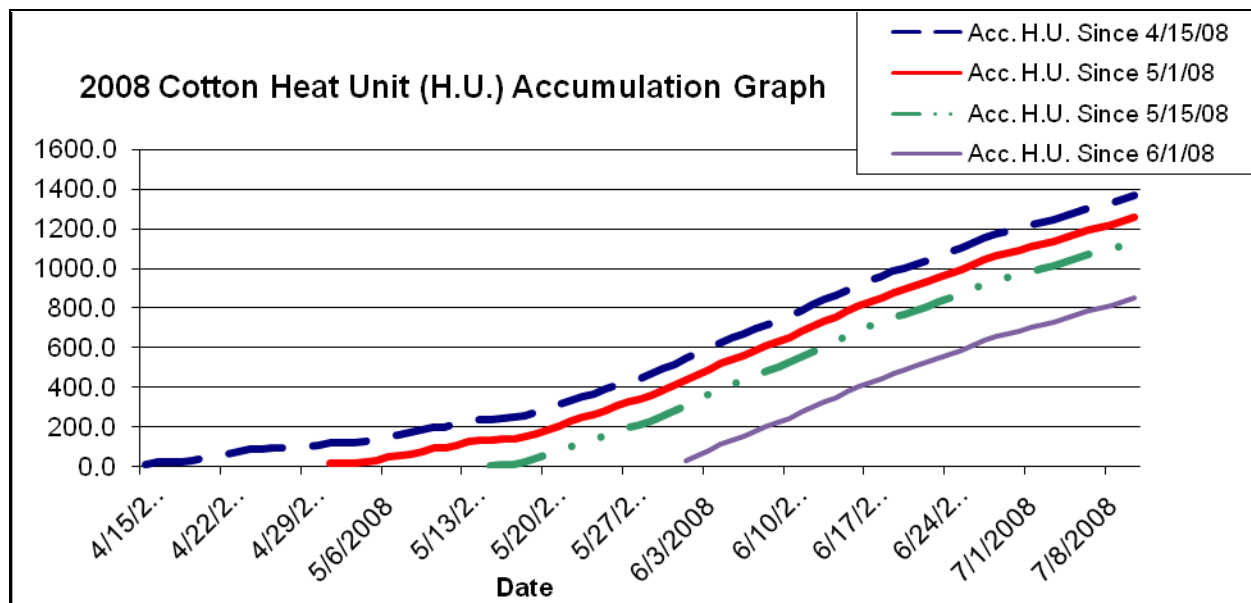
Grain sorghum is very sensitive to iron deficiency induced by high pH soils, especially caliche soils. If you soil has a lot of caliche and a whitish cast to the field, then iron deficiency will probably occur, and expensive foliar feeding is about the only way to address it.

Is irrigating grain sorghum 4-6" enough?

Several producers indicated that they would seek to limit their irrigation on grain sorghum to 4-6". The potential return on irrigation of sorghum per 1" of water is higher than it has ever been, and

potential gross returns per 1" currently are similar to cotton—with a crop that has much less input cost! As a rule of thumb grain sorghum, provided that adequate N fertility is in place, yields approximately 350-425 lbs. per inch of rainfall or irrigation. Producers with seed drops above ~45,000 seeds/A or stands above 39,000 plants/acre (e.g., 3 plants per foot) and medium or longer maturity grain sorghum hybrids may consider higher irrigation levels. One field in our July 10 tour had 40,000 plants per acre with Pioneer 84G62 medium-long hybrid. This hybrid has excellent yield potential, and is best managed in sandy Gaines Co. with at least 8" and preferably more inches of irrigation. This hybrid is frequently irrigated with up to 15" in the northwest South Plains with yields usually topping 8,000 lbs./A at that level of irrigation.

Four to six inches, however, is a good target for irrigation on medium maturity and shorter grain sorghums with modest plant populations about 25,000 to 32,000. If the crop is looking good later in the season, I would not hesitate to irrigate more as the return should be very good.



Mark Your Calendars

July 23, 2008

Pecan Field Day

(Please see attached Flier)

July 23, 2008

Taking the Bull by the Horns: Pricing Your Cotton in a Volatile Market

Presented by the Texas AgriLife Extension. This workshop is a part of the Cotton Profitability project sponsored by the Cotton State Support Committee.

Texas A&M Center at Lubbock, ½ Mile East of I-27 on Highway 1294

Instructors: John Robinson, Jay Yates, Jeff Pate, Jackie Smith and guest instructor Kelli Merritt.

To Register: Call Wendy at 806-746-6101 to reserve a seat. Pay \$20 fee at the door. (Checks only please.) Lunch and handouts provided.

Please join me in Thanking our Sponsors for the Grain Sorghum Field Day

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