

GAINES COUNTY IPM NEWSLETTER

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General Situation

Unfortunately Mother Nature has yet to have mercy on the area crops. During the last couple of weeks we have lost several more fields to hail. Being said, several growers have decided to plant grain sorghum in those fields that have been failed out. On July 9, we will have three sorghum field days at various locations to provide growers with a quick overview of sorghum production and management. Please see the attached flier for further details.

The cotton and peanut fields that have escaped the destructive weather are beginning to benefit from the much needed rainfall. Insect populations have remained low and no diseases have been observed. Peanut fields continue to bloom and have begun pegging. Pods have been observed in some fields (See *Figure 1*). Several cotton fields have out grown the wind and sand damage and are starting to grow and set fruit. Heat Units are accumulating rapidly. Last week we accumulated on average 20 heat units per day. It takes approximately 1064 heat units from the time of planting until first bloom (See *Table 1*). Cotton fields that were planted during the later part of April and earlier part of May have accumulated around 1000 to 1100 heat units. Therefore, we should be seeing blooms in these fields. However, plant development may have been slowed earlier in the season due to the wind and blowing sand along with the couple of weeks in which we had temperatures above 100 degrees.



Figure 1. Peanuts plants with pods starting to develop on the tip of the pegs.

Table 1. Cotton Development by Heat Units

Growth Interval	Accumulated Heat Units (DD 60's from planting required*)
Planting to:	
Stand establishment	78
Squaring	526
First bloom	1064
First open boll	1641
95% mature bolls	2271

* Calculated by the formula: $DD\ 60 = (Daily\ High + Daily\ Low) / 2 - 60$

The following information was provided by Calvin Trostle, Extension Agronomy, 806-746-6101, ctrostle@ag.tamu.edu 2 July 2008

If you are still making decisions on how to handle replanting of failed crops, especially cotton, or late planting, the primary discussion of options remains “2008 Alternative Crop Options after Failed Cotton & Late-Season Crop Planting for the Texas South Plains” as noted in last week’s FOCUS. It is available through county offices of Texas AgriLife Extension Service or online at <http://lubbock.tamu.edu/cotton/pdf/croreplantoptions08.pdf>

Producers replanting to certain crops or certain maturities within several crops must move quickly in order to minimize the potential of a cool fall foiling proper crop maturity. Again, see the above document for guidelines on last recommended planting dates for numerous crops.

What are my replant options after Staple herbicide?

Essentially none. The only labeled options are 1) replanting cotton (too late for that), 2) STS soybeans, which I would not recommend in Gaines Co. (no seed available anyway), 3) wheat or other small grains in 120 days, and 4) cotton next year. Grain sorghum is not labeled after Staple for a minimum of 18 months.

How late can I plant particular maturities of grain sorghum in Gaines County?

Practical target cut off dates, which give a high probability of ensuring crops are not hurt by an early fall weather are:

- Medium-long maturity, June 30 (these hybrids appropriate for a minimum of 6-8” of irrigation)
- Medium, July 5
- Medium-early, July 10
- Early, July 15

Planting past these dates in general increases risk of failure to mature out the crop. Yields on many early maturity sorghum hybrids are low. For early July, each day planted earlier is worth two days of heat unit accumulation in early October for grain sorghum (DD50 basis).

General Grain Sorghum Seeding Rates

For failed cotton is going back to grain sorghum:

- Dryland, low soil profile moisture, target ~26,000 seeds/A (2.0 seeds/ft. on 40” rows)
- Dryland, high soil profile moisture, no more than 32,000 seeds/A (2.5 seeds/ft. on 40” rows)
- Limited irrigation (5-6”), low soil profile moisture, target ~40,000 seeds/A
- Limited irrigation (5-6”), high soil profile moisture, target ~50,000 seeds/A
- Full irrigation (12-16”), target 68,000-80,000 seeds/A.

Extension suggests you cap your seeding rates at 80,000 seeds/A in just about any high irrigation scenario, though by late June/early July consider up to 90,000-100,000 seeds/A for non-tillering hybrids.

The above are general guidelines. If you are debating whether to go with a higher seeding rate, then usually the safe bet is “Don’t”. Too high sorghum seeding rates actually hurt grain sorghum production when water is limiting.

Producers interested in a more precise target on grain sorghum seeding rates may consider the attached grain sorghum seeding rate calculator. Assumptions are made about 90-day rainfall, and then you include your current soil moisture estimate, as well as targeted irrigation level. This will adjust your seeding rate accordingly.

Updated Grain Sorghum Weed Control Guide & Mid-Season Weed Control Options

Extension agronomist Brent Bean, Amarillo, has updated his summary of weed control options for grain sorghum. It is available at

<http://lubbock.tamu.edu/sorghum/pdf/sorghumweedcontrolguide08.pdf>

The most common weed control inquiries from producers focus on the use of propazine (new in 2007 as Milo-Pro) or atrazine, metolachlor (e.g., Dual Magnum, Cinch, etc., which requires use of Concep treated seed), and 2,4-D or dicambas (including Clarity, Banvel).

Propazine Reformulated in 2008 for Improved Flowability

Propazine is a good choice on sorghum if returning to cotton in 2009. It is 'softer' on rotation to cotton. Some key points of the propazine label relative to atrazine are 1) labeled for sandy loam soils (but do not incorporate mechanically), and 2) no restriction of use if soil organic matter is less than 1%. Albaugh's label says no rotation to cotton for 12 months at the full rate of 1.2 quarts per acre, but seems to beg the question about rotation back to cotton if the rate is less than 1.2 quarts, and when that 2009 cotton could be planted. If you questions about this contact an Albaugh representative.

In 2007 producers spraying Milo-Pro had difficulties spraying propazine without plugging. Albaugh has reformulated any leftover and all new product. Albaugh staff report no spraying problems so far in 2008. The label still recommends, however, that you use a coarser screen, 50-mesh (not 100-mesh, a common size), keep pressure up 30-40, and use at least 10 gal/A by ground (minimum 3 gal/A by air). Maintaining strong agitation in the tank further minimizes any potential problems for propazine clogging screens and tips.

Avoid Mistakes with 2,4-D and Dicamba Injury to Grain Sorghum

Key to many herbicide options in grain sorghum after emergence is the stage of growth of sorghum when you wish to use the herbicide. Many labels note that applications can be made up to a certain height or leaf number (e.g. apply the dicamba herbicide Clarity prior to 15" tall, but use drop nozzles if sorghum is taller than 8"). Other herbicides will discuss application restrictions in terms of leaf number. Either restriction, height or leaf number, corresponds in part to the development of the growing point which switches over from producing leaves to initiating development of the spikelets and potential number of seed you may have for each head. The effort to guide herbicide applications such as dicamba and 2,4-D is to minimize any of these growth regulator type herbicides from getting in the whorl which could lead to 'blanking' or 'blasting' of the head hence no seed development.

Common problems over the past several years with these types of sorghum herbicide applications have been twofold: 1) spraying and getting too much herbicide on the sorghum plant and ultimately in the whorl; and 2) using hoods or directed spray (drop nozzles) that are not working the way they should and hence again putting too much herbicide on the plants. Consult your herbicide labels for additional details on your application.

A Final Note about Grain Sorghum in Gaines County Here are two things I have been told by producers in Gaines Co. about grain sorghum:

- 1) Plant 1 pound of seed for each 1,000 lbs. of grain sorghum yield goal;
- 2) Grain sorghum has never done that well here.

First, if the common mistakes I see in grain sorghum production see across the South Plains have occurred in Gaines Co., then the reasons that past grain sorghum has disappointed in Gaines Co. could include the following:

Too high seeding rate, especially for highly sandy soils which do have less water holding capacity.

I believe the rule of thumb in #1 above breaks down above 2 lbs./acre (which is about 28,000-32,000 seeds/acre for most hybrids). Too many plants, even in irrigated, means that fields transpire more moisture from unneeded leaves and stalks, leaving less moisture per plant to make grain. Many producers in the South Plains have learned that seeding rates of 60,000-75,000 seeds per acre (4-5 lbs./A) can readily produce yields at 8,000 lbs./A or more if the water and fertilizer inputs are taken care of.

Lack of N fertility—you can't get something from nothing; grain sorghum requires about 2 lbs. of N per 100 lbs. of yield.

Irrigation levels were low, or timing or irrigation was poor; in the sandy environment supplemental irrigation should produce in the range of 350-400 lbs./A of grain yield per inch of irrigation.

So for fields that haven't done that well in the past, whether in 2007 or 1987, I would ask how the fields were irrigated, were they fertilized, was the seeding rate too high, did we expect something for nothing? With grain sorghum contracts in the \$12/cwt. range then the inputs are much more easily justified. If you are still expecting 'something from nothing' but insist on planting grain sorghum, then you better cut the seeding rate down considerably.

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