

FOCUS on South Plains Agriculture

Texas AgriLife Research and Extension Center at Lubbock
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Cotton Agronomy

Crop Update

August ended up being a hot month with about 13% above normal cotton heat unit accumulation at Lubbock ([Click here to view August temperatures](#) and [click here to view September temperatures](#)). Thus far at Lubbock, the first 8 days of September have also been very hot coming in about 13% above normal. All of this heat is moving the crop rapidly toward maturity. The dryland in many areas is extremely moisture stressed, but the irrigated is moving ahead very well. Harvest aid applications will begin soon, if not already being made in some advanced fields.

Countdown After Cutout Update

Crop progress is still good to excellent at this time, but we need to remain warm for the next month if possible. If we can get normal temperatures, we may have good to excellent maturity in most of this crop. The dryland crop will likely be a fairly mature one due to the stress we are observing at this time.

Thoughts concerning end of season management inspire me to encourage producers to consider the following. I really like to track nodes above white flower (NAWF) and the date where we reach "hard cutout." I define that as the date the crop reaches less than 4-5 followed by "blooming out the top." We can sometimes see irrigated crops stay around 5 NAWF for 2-3 weeks depending upon irrigation capacity and rainfall events. What we're interested in here is the date when the crop drops below 4-5 and then goes to zero in a few more days. Based on long-term temperature data at Lubbock, we can still get about 850 heat units past this if it occurs before about August 15.



Recording and then tracking heat units past this date can be beneficial, as many management considerations can be triggered using COTMAN. Insecticide terminations for lygus and bollworm egg lay can be considered beginning at approximately 350 to 450 heat units after this date. Irrigation termination certainly varies from field to field based upon soil profile moisture and even with the type of system (drip vs. pivot or furrow) and boll load. Based on irrigation termination work conducted in Texas, producers should look seriously at using about 500 heat units past cutout. Along with the three usual crop termination decision techniques (percent open bolls, sharp knife technique to observe seed maturity in unopened bolls, nodes above cracked boll method), the 850 heat units past cutout crop landmark can also be a good tool for harvest aid application consideration.

Many fields have recently reached cutout (here defined as Nodes Above White Flower or NAWF=5 on a steep decline followed by "hard cutout"). COTMAN uses 850 heat units past bloom as a point at which a bloom can make a "normal" boll. In the High Plains, heat unit accumulations of 750 past bloom will probably make an "acceptable boll" that may not have "normal" lint production and may be lower quality (low micronaire).

We have updated a [table that indicates where we are as of September 8](#). It is based on actual Lubbock 2010 heat units from August 1, August 10, and August 20 cutout dates (date on which NAWF=5 encountered) and from September 8 forward, it uses "temperature normals" (30-year long-term average) as projections for each day.

For example, the table shows that for a field that reached cutout on August 10, that bloom should be able to obtain 350 heat units (probably safe from Lygus) by about August 28. The 450 total (probably safe from a bollworm egg lay), should occur around September 2. If we encounter "normal" heat units from September 8 forward, this boll should obtain good maturity (850 heat units) about October 16.

Based on some irrigation termination projects with COTMAN, the possible irrigation

termination date could occur sometime around September 6. One can tell that unless we have an outstanding fall, the cotton blooms on August 20th at Lubbock will encounter difficulty in making a "fully mature boll." In many years, we can begin seeing open bolls at about 1850 heat units after planting. Many earlier planted fields are exhibiting significant percentages of open bolls at this time, and some lower yielding cotton is actually being targeted for harvest aid application soon.

2010 High Plains Cotton Harvest-Aid Guide

[The 2010 version of the cotton harvest-aid guide](#) has been posted on the Lubbock Center Web site. There are not many significant changes in this year's version compared to 2009. The main issue is that Prep (ethephon) and Def (tribufos), two long-term excellent products are being phased out by Bayer CropScience. There may still be some in inventory across the region, but this will likely be the last year for these two brands. Another tribufos product is still in the market, and of course numerous competitive ethephon brands are still out there. Also, Parazone (3 lb/gallon paraquat product) has received a Federal label change that allows similar high use rates in our area for stripper harvested cotton for more information concerning this and to download the 2010 guide, [click here](#).

Mark Your Calendars: September Meetings

Fall crop tours have begun and we have several on the calendar, as well as some scheduled harvest aid meetings. Also, industry field days may also be of interest. **Here are the ones of which I am aware.** For specific information, call Extension agents or industry representatives for more details.

September 16 – Hale County Harvest Aid
 September 17 – Swisher County Harvest Aid
 September 21 – Dawson County Harvest Aid
 September 21 – Briscoe County Crop Tour
 September 21 – Randall County Crop Tour

September 22 – Lynn County Crop Tour

Industry Field Days:

All-Tex Field Day, Levelland, September 22
Monsanto Technology Showcase Field Day, Lorenzo, September 23

Americot/NexGen Field Days

Lamesa, September 27

Seminole, September 28

Ropesville, September 29

New Home, September 30

Idalou, October 1

Bayer CropScience Field Days, September 29 and 30. RKB

Sorghum Agronomy

When Can I Stop Irrigating Grain Sorghum?

When can I stop irrigating grain sorghum? As a rule of thumb if good soil moisture is still available to the plant—at least 1-2"—then terminate near soft dough. The sorghum seed will proceed through grain development from watery ripe to milky ripe to mealy ripe then begins to firm at soft dough on to hard dough. Then physiological maturity occurs at black layer, the appearance of a black dot on the tip of the seed. This usually occurs about 10-12 days after soft dough under warm conditions. Overall grain sorghum usually takes about 30-35 days from flowering to physiological maturity.

Seed moisture at black layer is ~25-35%, but harvest must be below 20% moisture with drying required. Grain can be harvested without drying at 13 to 14% grain moisture to avoid dockage (depends on delivery point).

Be sure to check many heads and check the whole head. Some difference in maturity will be observed on each head as seeds at the tip could easily be 7 days older than seeds at the bottom of the head. Sorghum flowers at the tip first then moves down, and there could be as

little as four days difference in flowering and pollination for a small head to as much as nine days for a large head.

Late Season Crop Desiccation/Drydown/Weed Control— Grain Sorghum & Sunflower

Farmers in general seem to be increasing their use of harvest aids in grain sorghum to manage harvest moisture, harvest timing, and cleaning up late season weeds. Use of glyphosate in particular interests farmers even for early planted grain sorghum in order to deliver grain sorghum by some of the region's price bonus opportunities if delivered by a certain date. For further information on the use of Roundup, sodium chlorate, etc. for grain sorghum see the [Sept. 18, 2009 edition of FOCUS](#).

Grain Sorghum Stubble Regrowth

Some early harvested fields are showing substantial regrowth from the stalks. Stopping regrowth stops soil moisture usage, which otherwise potentially diminishes your available soil moisture next spring. Farmers who debate whether to use glyphosate or sodium chlorate usually are thinking about drying down the sorghum crop for harvest and improving the threshability as well as some late season weed control. Sodium chlorate burns the leaves back and we can expect the sorghum may recover and resume vegetative growth. Glyphosate kills the plant. So if resumption of vegetative growth is a concern, then using glyphosate is clearly the better choice. Farmers who have regrowth now in harvested fields are wishing they had gone ahead and used Roundup as a harvest aid.

Texas AgriLife systems agronomist Wayne Keeling notes that sorghum that is terminated with Roundup may not stand as well in the spring when you plant next year's cotton into the standing sorghum stalks, however, it seems more important to stop the moisture consumption by the stubble. You should still have good ground cover for 2011 cotton if your sorghum yields were modest.

Wheat Agronomy

Optimum Planting Dates for Wheat Grain

The optimum range of planting dates for wheat grain is centered on the targets noted below. These targets represent typical planting dates that allow for good stand establishment before cold can diminish germination, stands, and tillering. On the other hand significantly earlier planting may not enhance yields and can in fact reduce yield or economic potential due to more water use, more insect pressure in warm temperatures, etc. See additional comments about dryland below.

- Northwest Counties—October 10-15
- Central South Plains—October 20
- Lower South Plains (Lamesa)—October 25

Producers can achieve similar yields in most years planting after these dates, but at some point yield potential does decline. In recent years many wheat fields are planted throughout November and some even in to December, especially to the south of Lubbock. As an example, in 2006, producers who were able to seed before the teens of November did pretty well, but in contrast to 2005 fields that were planted in mid-November and later, 2006 seedings appeared to suffer in establishment, and never caught up. For the central South Plains I expect a significant reduction in yield potential begins about mid-November, and I would further expect that a December 1 planting date (which would require a higher seeding rate) would experience a reduction in yield potential of one fourth to one third (25-33%) relative to the more optimum planting date noted above.

"I have a lot of wheat to drill, but I can't get to it for several weeks or even a month."

Wheat prices are in the \$6/bushel range and there is interest in wheat planting for Fall 2010 because of it. That sure is better than

\$3.50/bu or lower that unfortunately many of our producers received in 2010. However, we are sitting on a huge cotton crop, it will take a long time to harvest, and if you are going to seed wheat then this means that the typical wheat acre may get shifted well into November when yield potential will diminish.

If you have a lot of acres you plan to seed, but it might be well into November before you start, consider having someone drill at least some of your wheat. There is safety in getting some of your wheat seeded before mid-November—I usually feel pretty good about wheat planted in the single digits of November in the South Plains (exception is our northwest South Plains counties; seeding by ~November 1 should still be a priority for Bailey, Castro, Parmer Counties) in that you are ensuring preservation of yield potential. We don't know how cool it will get later. But if it turns off colder than normal then your germination, stand establishment, wind protection, and ultimately your yield potential could suffer.

Wheat Grain Seeding Rates

Recent recommendations for irrigated wheat at optimum planting dates target 60 lbs. of seed per acre. This is less than the rates Extension recommended as recently as about 2001, which was up to 90 lbs./A. Research has consistently shown that little to no yield increase has resulted from seeding rates above 60 lbs./A. If you have top end irrigation, you might bump it up a bit. Planting more than 3-4 weeks after your optimum planting date may require you begin increasing the seeding rate. If seeding after Thanksgiving it is advisable to increase the target seeding rate 50% to compensate for potential lack of tillering.

For dryland seeding rates 30 lbs./A should be adequate for most conditions, however, if seed bed and soil moisture is only fair, then a producer should err on the safe side to 40 lbs./A to ensure the stand is achieved. Similar to irrigated wheat noted above, for seedings from Thanksgiving on the seeding rate needs to be significantly increased.

Nitrogen Fertility Targets

There are two rules of thumb for nitrogen (N) in wheat depending on if you have soil test information available:

- No soil test: 1.2 lbs. N per bushel of yield goal
- With soil test: 1.5 lbs. N per bushel of yield goal, then adjust fertilizer N for the soil test

If residual fertility is good then you may choose to delay all N to topdressing in February and early March. Otherwise 1/3 of N in the fall pre-plant or at planting will ensure that the tillering, etc. is not limited.

Extension will discuss in future FOCUS newsletters the critical timing of topdress N for late winter applications before and up to jointing, which will affect potential seed number per spikelet and spikelet number per head. Applications after this growth stage will not have as much potential impact on yield.

Wheat Seed & the Plant Variety Protection Act

Strict law governs what producers can and cannot do if they purchase a protected variety of wheat seed and choose to harvest and save some for their own use to plant the following year. Almost all wheat varieties are protected. The few I know of that are not—they are very old and no longer recommended—include TAM 105 (old variety, protection expired), TAM 200, OK 101, OK 102. Several beardless wheats are not protected. The law states that you may only save enough of a protected variety to plant your own fields, and you may not sell any of it, even if you call it 'Variety Not Stated' (VNS). You as a buyer have the right to ask anyone if they are selling you a protected variety.

Some farmers will plant 'elevator run' seed for cover, grazing, or grain. Anywhere in the South Plains you could not obtain elevator run seed without having at least some protected varieties of wheat in the mix. So legally you would be liable to pay royalties if your wheat was tested and found to contain a protected variety. Producers and elevators do not

like to hear this, but one must understand the implications. I can give you another reason—a good one—to not plant elevator run wheat: ensuring that you are getting a known variety! Elevator run wheat will not be checked for test weight (can be done easily enough though), germination, seed-borne disease contamination, weed seed, etc. (certified seed is tested for these). And you won't have a seed treatment either.

For further information on how the Plant Variety Protection Act applies to wheat read the [Texas AgriLife Extension Service bulletin](#). CT

FOCUS on South Plains Agriculture

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