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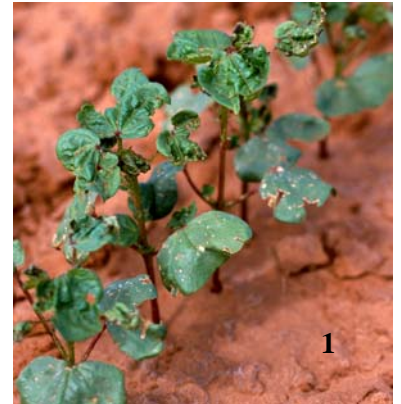
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## COTTON INSECTS

Fields that survived our severe weather problems in late May and earlier June are responding nicely to the present hot, dry conditions. Late planted or replanted fields will also benefit from the latest weather pattern. These conditions appear to be “pushing” cotton past the thrips vulnerability window, greatly reducing the risk from this earlier pest. More fields are squaring and with the appearance of

squares, the risk for fleahoppers or Lygus bugs reducing square set goes up. These two pests are not very common in our cotton fields yet. Pink bollworm moths continue to emerge at a fairly steady pace with most areas approaching or past 50% emergence. Only a few non-Bt fields have needed treatment. Boll weevil numbers are on the rise as more emerge from overwintering sites and search for squaring cotton. Weevils have only been caught in the Permian Basin, Northern Rolling Plains, Rolling Plains Central and St. Lawrence zones and in Garza and Crosby counties below the Caprock in the Southern High Plains eradication zone.

**Problems with western flower thrips are winding down** as good cotton growing conditions push plant development, and thrips movement out of alternate hosts comes to an end. Any late replanted cotton will probably skate through the seedling stage without much problem, possibly avoiding the need for a foliar spray. Many fields were treated for thrips with foliar sprays this year, even many that were protected earlier by at-planting insecticide treatments. Thrips still remain one of our most consistent yield-robbing pests.



**There is some spraying for pink bollworms** in non-Bt fields. Very few fields are involved at this time both because there is very little non-Bt cotton in the area with the most pinkie activity and because many who used the 20% sprayed refuge option moved to the 5% unsprayed option. The heat unit model

predictions on the [Plains Cotton Growers](#) site indicates that emergence of overwintering pinkies in areas to the south of Lubbock has

passed the 50% mark with Lubbock achieving this mark after this weekend. Our overwintering studies at the Lubbock Center indicate low

survival of pink bollworms with only about 2.3% emerged as of the 22<sup>nd</sup>. Pink bollworm moths have been emerging in cages since May 11, but significant numbers did not appear until May 25<sup>th</sup>, within 3 days of the HU model predicted emergence start.



**Pink bollworm larvae**

Spraying non-Bt cotton for emerging pinkies is important because it prevents or significantly reduces the number of infested bolls in fields until September when movement between fields increases significantly. But only those non-Bt fields with nightly trap catches averaging over 5 should be sprayed. Also, once small bolls are present, infested boll counts should be used instead of trap counts. If you are catching pink bollworm moths in traps around flowering non-Bt fields and want a quick and relatively easy method to determine if there are any pinkies

that made it into your fields, do rosetted bloom counts.

Flowers that develop from infested squares will be

rosetted or have a pinwheel appearance. Do these counts toward the end of the first week of blooming when there aren't very many flowers present. A walk through the field would in short order allow one to look at lots of flowers.



**Rosetted blooms**

The only counties we have not caught pink bollworm moths in now are Cochran, Hockley and Swisher counties. IPM Agent Greg Cronholm caught moths in the Cotton Center area the week ending June 13. The 2005 pink bollworm trapping program is funded by the Texas Department of Agriculture and is coordinated by Gaines County IPM Agent, Andy Cranmer. Traps are in 21 counties and have been run since the 1<sup>st</sup> week in May. See the [Pink Bollworm Table](#) for numbers caught per trap per night.

For further management tips go to: [Pink Bollworm Management Tips I.](#)

**There have been very few fleahoppers or Lygus bugs found in area cotton fields to date.** However, there are some fields in which square retention has declined to lower but not critical levels for unexplained reasons. I say

this because very few plant bugs are found in these fields, certainly not enough to justify spraying. But some of these fields will end up being sprayed because the producer or consultant lacks the confidence in

their scouting ability or are just not willing to take a chance. Most of these so called "problem fields" are blamed on Lygus bugs. As you know, [Lygus bug adults](#) are highly mobile and will readily move into and out of fields. Folks are just concerned that they are missing these bugs. My experience tells me that we are being overly aggressive in managing the newer varieties for square retention in the absence of enough observed bugs. Some folks used to refer to the [fleahopper](#) as the "mythical fleahopper". I think that Lygus bugs could be called "phantom Lygus bugs".



**Blasted square, damaged pinhead-size square**

Square sets in most fields are generally excellent. Once cotton plants are one to three weeks into flowering, fleahoppers are no longer a concern (depending upon water and yield expectations). This tiny pest feeds only on pinhead-sized squares. Lygus bugs feed on all sizes of squares, flowers and small to medium bolls. This larger pest usually does not move into cotton fields in any kind of numbers until flowers appear. They can be forced into fields early if their other hosts are lost or destroyed. Mowing of roadside vegetation can certainly encourage fleahoppers and Lygus bugs to move into cotton. Fields with [adjacent weedy areas](#), near weedy harvested wheat, etc. can have more bug problems. Usually these problem fields can be picked up early by comparing counts and square sets in field margins with those in field middles. Lygus bugs remain relatively low in [wild hosts surveyed](#) by Lubbock Experiment Station entomologist, Dr. Megha Parajulee.

Our treatment suggestion for fleahoppers is 25-30 fleahopper adults or nymphs per 100 plants. This translates out to 12,500-15,000 per acre on a 50,000 per acre plant stand. The Lygus bug threshold in pre-bloom cotton is 1 per 3 row feet or about 4,400 per acre. Nymphs and adults count the same but I would have great difficulty spraying a field for Lygus bugs unless nymphs were present. Acceptable square set during this period would be around 80%. See [“Cotton Fleahopper Management Tips”](#) in the FOCUS Crop Production Guide Series for more information on fleahoppers.

**Boll weevil eradication watch.** Boll weevil trap catches decreased in the Permian Basin Zone but were up in the St. Lawrence and Southern High Plains/Caprock zones. No weevils have been caught this year in other High Plains zones. Almost 9,000 acre treatments have been made thus far in the Permian Basin Zone with probably about 2,200 acres to be



sprayed this week in the SHP Zone off the Caprock in Garza and Crosby counties. The Northern Rolling Plains Zone finally caught a couple of weevils in the Post area. The Rolling Plains Central Zone is catching more than it did since before 2001. The Texas Boll Weevil Eradication Foundation will need to be on its toes to cap this increase in weevil activity this year and remove this menace from our west Texas area. The TBWEF was to start the Valley eradication program on the 23<sup>rd</sup> with about 5,000 acres to be sprayed.

**Average number of boll weevils caught per trap inspection and sprayed acreage through June 19. Number of boll weevils caught for the week ending June 19, 2005.**

High Plains Zone	2005	2004	Sprayed acres	Total weevils caught this week
Permian Basin	0.0611	0.011	8,934	1,763
Western High Plains	0	0	0	0
Southern High Plains	0.00003	0.00002	0	4
Northern High Plains	0	0.0001	0	0
Northwest Plains	0	0	0	0
Panhandle	0	NA	0	0
St. Lawrence	1.2351	NA	0	11,348

Did you know that between 1996 and 2000, yield losses to boll weevils averaged 525,720 bales of cotton per year? But because of the increase in area covered by the eradication program (High Plains, Northern Rolling Plains) and increased eradication efforts by the TBWEF, yield losses for the period from 2001 to 2004 declined to 24,949 bales on average per year. **This is over a 95% reduction!**

For more management information on west Texas cotton insects, including a list of recommended insecticides, go to: [Managing](#)

[Cotton Insects in the High Plains, Rolling Plains and Trans Pecos Areas of Texas 2005 \(E-6\)](#) and [Suggested Insecticides for Managing Cotton Insects in the High Plains, Rolling Plains and Trans Pecos Areas of Texas 2005 \(E-6A\)](#).

**Snowy tree cricket adults have been reported in some fields** by Gaines County IPM Agent, Andy Cranmer. This insect has been quite

common in a few fields causing concern for some growers and consultants. This insect is white to pale green in color and feeds mainly on other insects--- thus it is primarily a predator. There may be a little



vegetation fed upon but this would be minor and of no concern. I have never had a problem infestation reported in my 29 years in the High Plains, but Andy is reporting some high numbers. This cricket is sometimes called the “temperature cricket” because the rate at which males produce loud, high-pitched trills increases with increasing temperatures. **JFL**

## COTTON AGRONOMY

**Overview for the week.** We have been very warm, indeed hot – well over 100 for a couple days over the last week. [June](#) is now running about 11% above our long-term average for heat units. According to recent forecasts, we are expecting near normal to slightly above normal temperatures for the next week or so.

Undamaged cotton is really growing well and many damaged fields are showing signs of good recovery. Other fields are still in the doldrums as far as growth is concerned. Some producers were still scrambling last week to replant fields that had been lost due to weather

events. The cotton planting window has closed in most counties of the High Plains. Some older cotton is now squaring and on track for early July blooms. It is interesting to note that while the first bale of U.S. cotton was ginned in South Texas a week or so back, we still had some planters rolling in the High Plains.

It is still fuzzy as to how many cotton acres have actually been lost. Many fields that had been destroyed by weather events were replanted and are thus somewhat behind based on calendar date. I suspect that we are still looking at 200,000-300,000 acres lost out of the system. There are still a lot of fields that I have seen in Hale, Parmer, Lamb and Castro counties that look pretty bad at this time.

**Tank cleanout concerns.** I have had some calls over the last week concerning hormone-type herbicide. Based on field research conducted by Dr. Wayne Keeling and others last year, the severity of yield decrease is related to the actual dose and the crop stage. If severe damage incurs when the crop begins to fruit, it is more likely to reduce yield than when the crop is younger with less severe damage. Doses sufficient to continue “strapping” of newer leaves for weeks after application will probably significantly impact yield.



Producers should be aware, especially in light of the “tank and hose cleaning ability” of some of the newer herbicides, that phenoxy residue in tanks can be a real problem. **My suggestion for our growers is that tanks, hoses, and sprayers that are used for applying phenoxy type herbicides be dedicated SOLELY to that purpose.** If producers are unable to purchase separate tanks, hoses and/or sprayers, then it is imperative that several issues be addressed. Do

not leave herbicides in tanks for an extended period of time. It is best to use “chemical resistant” hoses. Replace hoses when changing out tanks. The last thing a cotton field needs is for a phenoxy material (even at low concentrations) to get “pulled from the tank or hoses” and get sprayed on cotton – especially those fields with high yield potential (i.e. subsurface drip or high capacity pivots).

If multiple herbicides are used in the sprayer, then I suggest that producers purchase various tank cleaning agents from their dealers and follow the directions, including cleaner concentration, religiously. If a tank/sprayer is to be used on cotton, I suggest that the tank be flushed out with clean water and the appropriate tank cleaner be mixed at the appropriate concentration. The producer should then spray the cleaning solution through the booms and nozzles. Leave the booms in a horizontal position and let the cleaning solution sit in the tank at least overnight. This might help reduce some anxiety over phenoxy damage later. It doesn't take very many lost bales of production to pay for an additional tank and hoses or sprayer.

A good [publication](#) on cleaning sprayers is available from the University of Missouri.

**Roundup WeatherMax application management tips.** Monsanto personnel provided me some management tips for producers using Roundup WeatherMax on Roundup Ready cotton. It is suggested that 22 oz/acre of Roundup WeatherMax be used for all over-the-top applications. Producers and applicators should use a nozzle type that gives good coverage (flat fan, flat fan XR, flat fan DG, Turbo Teejet). This is especially critical for Russian thistle, where coverage is key for



effective control. Avoid using air induction nozzles for Roundup applications.

Cotton can only be sprayed over-the-top with Roundup WeatherMax until the 5th true leaf is the size of a quarter; and with all of the wind, rain, and hail we have had in some areas, growers need to count nodes and not leaves. See the Crop Production Guide Series publication, [Staging Roundup Ready Cotton for](#)

[Glyphosate Over-The-Top Window Closure](#) to determine proper crop

staging. Make sure that if a hooded sprayer is used for post-directed applications, the spray contact on leaves is minimized. Use 17 lbs of dry ammonium sulfate per 100 gal of spray mix (or an equivalent rate of liquid AMS) with Roundup WeatherMax. It is suggested to use a drift retardant

agent if drift concerns are a problem, but do not use drift retardant agents in combination with air induction nozzles.

**The list of west Texas weeds which 22 oz/acre of Roundup WeatherMax is expected to control includes:**

Russian thistle  
Palmer amaranth (pigweed spp.)  
Cocklebur  
Barnyardgrass  
Devil's claw  
Annual morningglory (<3")

**The list of west Texas weeds which 22 oz/acre of Roundup WeatherMax is expected to suppress includes:**

Silverleaf nightshade  
Texas blueweed  
Lakeweed

You will get increased suppression of the above 3 weeds with another 22 ounce application, 14-20 days later.

The control suggestion for small Horseweed (Marestail) escapes would be diuron (Karmex or Direx) plus MSMA, post-directed or through a hooded sprayer. It is likely that cultivation or

hoeing will be required to take out large Mareetail.

For more publications on cotton weed control generated by a team led by Dr. Peter Dotray (TTU/TAMU weed scientist), go to: [FOCUS Crop Production Guide Series](#). **RB**

**SORGHUM AGRONOMY**

**Last recommended planting dates.** The following is a general and conservative guideline for last recommended plantings of grain sorghum hybrids on the South Plains. Note that many sorghum seed companies will have hybrids intermediate between medium and early (i.e., medium-early). A medium-early hybrid is a good compromise between these two categories if you have doubts, especially if your county is to the north and west within a particular group.

Group of Counties	Medium maturity	Early maturity
Parmer, Castro, Bailey, Cochran	June 25	July 5
Swisher, Lamb, Hale, Floyd, Hockley, Lubbock, Crosby, Yoakum, Terry	June 30	July 10
Lynn, Garza, Gaines, Dawson, Borden, Scurry, Jones, Fisher, Andrews, Martin, Howard, Mitchell, Nolan, Taylor	July 5	July 15

As planting moisture is available, mid- to late June is a preferred time to plant dryland sorghum, particularly medium and medium-early maturity hybrids as grain filling will occur in September after the worst of the summer heat is over and September rains assist the crop. Medium and medium-early sorghum hybrids are less likely to overextend available and expected moisture, hence these hybrids are more likely to make grain in dry years.

Furthermore, medium and medium-early hybrids still retain good yield potential whereas yield potential often declines significantly with early maturity sorghum hybrids.

**Two common sorghum replant mistakes.**

Producers that plant grain sorghum on what was to have been irrigated cotton sometimes need to think of producing a good sorghum crop with a fair level of irrigation. There are two problems in my opinion that happen, and they both diminish the farmer’s chance for success with replant grain sorghum:

1) How much irrigation is actually applied? When grain sorghum averages 350-425 lbs. per 1” of rainfall or irrigation and irrigation costs about \$7 per inch, then at \$3.60/cwt, the return is not large. Once farmers realize this they cut back on their irrigation, which leads to point number.

2) If the farmer has planted with a modest level of irrigation in mind then decides to cut back or just never gets around to watering, then his seeding rate is often too high. See the notes below about grain sorghum seeding rates.

Bottom line? Use grain sorghum hybrids that are more adapted to dryland for replant, even if some irrigation is expected. And keep that seeding rate down. Producers who think they’re going to water quite a bit and change their mind too often end up with the wrong hybrid and too many plants per acre.

**Too much seed per acre problems.** Many producers err on the side of planting too much grain sorghum seed per acre. As a result, in droughty conditions, producers are at risk of inadequate moisture per plant during flowering and grain fill to produce grain. This problem was quite evident in 1999, 2000, and 2003 in the South Plains. When soil moisture levels are good (5-6” or more total stored soil moisture), a good target is 30,000-35,000 seeds/A. Sorghum seed ranges from about 12,000 to 18,000 seeds/lb., with most around 15,000-16,000 seeds/lb. This seeding rate is near 2.0

lbs./A for many sorghum hybrids. If soil moisture is low (2-4"), a seed drop of 25,000-30,000/A is advised. For any condition with poor soil moisture, especially as plantings approach July 1, consider even as low as 20,000 seeds/A. These seeding rates will seem unbelievably low to some prospective growers, but data has suggested over several years that these numbers are realistic. And if moisture conditions improve substantially after planting, sorghum's strong ability to compensate for low plant population will still make respectable yields.

These seeding rate suggestions are a risk management tool. Yes, in some years a higher seeding rate might in fact offer some additional return, but the difference is minimal compared to the downside potential of having too many plants for too little available moisture. Some farmers do, however, have trouble getting their planter to put out this low amount of seed.

If failed cotton is going back to irrigated sorghum under limited irrigation (4-8") with low soil profile moisture conditions, target 40,000-45,000 seeds/A. But if soil moisture is good, consider 50,000-55,000 seeds/A. For full irrigation levels (8-15"), target 80,000 seeds/A on June 1, but by July consider 100,000-110,000 seeds/A for non-tillering hybrids and 80,000-90,000 seeds/A for tillering hybrids.

A final note about sorghum, replant or otherwise. Expect more from your crop and do the little things that will help stand establishment, anchoring those brace roots (throw some dirt around the base of the plant), etc. In the words of one Dawson Co. farmer, "let's not farm sorghum the way we farm cotton." What D.P. means in part is that sorghum used to be planted by many producers with a buster planter (in the bottom), and the opportunity is there to readily move dirt around the base of the plant to help the plant stand better.

**Herbicide issues.** Dr. Brent Bean, Texas A&M University Center at Amarillo, has summarized available [herbicides and their use in grain sorghum](#).

We are frequently asked about atrazine in sorghum. Technically, the atrazine label restricts use on sandy loam soils, for high pH, etc. A specific recurring question about sorghum is "What rate can I use and go back to cotton next year?" The label would say that no application after June 10 should be made if you expect to return to cotton the next year. I believe that rates near 0.75 lb./A will still offer significant weed control in sorghum and will not likely harm cotton the following year. On the sandiest of soils where herbicidal activity will be higher, a producer might consider a 0.6 or even 0.5 lb./A rate. I believe this is in the range where producers might not be satisfied with control, but if soils are extremely sandy, then activity on weeds should still be significant.

**Production contracts priced above cash market.** Cash prices on grain sorghum are sitting in the \$3.40-3.50/cwt. range, but contracts are available that can bump the price up to near \$4.00/cwt. For a variety of contract offerings call DeBruce Grain, Dimmit, 806-647-2802 (delivered to Plainview area), Farmer's Co-op, Levelland, 806-894-8505, nearby Attebury Grain locations, and an acres-based contract through CC Grain, Brownfield, 806-637-4662. **CT**

<p><b>SUPRACIDE APPROVED FOR GRAIN SORGHUM</b></p>
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A Special Local Needs registration (24c) has been issued for [Supracide 2E](#) for most Texas High Plains counties for control of Banks grass mite and greenbug on sorghum grown for forage or grain. Call Kenny Zimmerhanel of the Gowan Company at 806-698-6272 for more information. **PP**

## COTTON INSECT PHOTO CREDITS

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