

# FOCUS on South Plains Agriculture

Texas AgriLife Research and Extension Center at Lubbock  
1102 E. FM 1294, Lubbock, Texas 79403

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## Cotton Insects

### Thrips

Over the past 10 days, thrips have blossomed in a number of areas. Extremely high numbers have caused significant damage to seedling cotton in portions of Dawson, Lynn, Crosby, Hale and Floyd counties. Numbers have also been high in areas of Bailey, Parmer, Lamb and Castro counties. In the Sunray area, thrips have remained rather static in number, but with the cool conditions experienced in that area, it doesn't take many thrips to cause damage.

Thrips can colonize a crop very quickly. In Castro County, I noted a field on Wednesday that was averaging less than one adult thrips per plant just prior to the rain storm. The next morning, that same field was averaging about 8 adult thrips per plant. Where Temik or a seed treatment of Cruiser, Aeris or Avicta Complete Cotton have been used, be watchful for these products to play out. For the most part, it looks like Temik at 3.5 – 5 lbs is providing about 4 weeks of control, but where soil moisture is low, it may play out in as little as 24 days. Likewise, the seed treatments appear to be holding about 3 weeks with good soil moisture, but may last only 16-18 days where conditions are dry.

To determine if your preventive treatment is beginning to fail, watch for the immature thrips. The appearance of immature thrips will indicate that the adults are surviving long enough to lay eggs, and the progeny are surviving. Do not go by adults. I was in a field of 2 leaf cotton in Lamb County on Thursday that had been treated with Cruiser seed treatment for thrips. In that field the thrips were averaging 5-8 adults per plant, however, these were simply migratory adults

trying to colonize and should be controlled by the Cruiser.



*Immature thrips are very small and white to yellow in color*

If you are needing to spray thrips with a foliar insecticide, I would consider using Orthene (Acephate), Dimethoate or Bidrin. We have been looking at Orthene 97 at 3 oz/ac and Dimethoate 4E at 0.5 pt/ac under high thrips pressure in a test just north of Dimmitt, and both of these treatments look good and are comparably priced. We did not look at Bidrin in this study but historically it has demonstrated good activity. For the organic cotton growers we also included Sprayable Sulfur at 4.2 lbs/ac. Although I have not had the opportunity to fully analyze the data, it does appear to offer some suppression; but not a whole lot.

## Aphids

It is not uncommon to see aphids in early-season cotton, and we have been seeing a few throughout the region. In most areas we are picking up a few cowpea aphids. These aphids are brown to shiny black in color. Usually we will find only a few out of a hundred plants infested with aphids, although the infested plant may have as many as 30-40 aphids on it. In Moore County we have been picking up predominantly green peach aphids. The wingless form of this aphid tends to be light green in color. At one location near Sunray, we were averaging about 0.5 aphids per plant. Unless extremely numerous, aphids on

seedling cotton are actually a good thing. Their presence will attract predators which can help alleviate other pest problem that may arise later on. DLK



*Adult cowpea aphids are shiny black while the nymphs are usually dull gray in color*



*An adult winged green peach aphid with nymphs*

## Cotton Agronomy

### Crop Update

We anticipated that in 2009 we would perhaps plant about 3.4 million acres in Texas Agricultural Statistics Service Districts 1N and 1S. This is up some from about 3.2 million last year, likely due to some irrigated folks moving out of peanuts (due to salmonella issues and value of contracts) and wheat (very dry winter and spring, with several late freezes also) and perhaps some corn acres going to cotton. Although the month of May at Lubbock ended up with about 3% above normal for cotton heat units, the temperature distribution was very poor. We were very warm early on and around May 17 - about the time that a lot of irrigated cotton was being planted or was germinating low temperatures were much cooler than normal. This continued until about June 4. For the May 17-June 4 time period, cotton heat units at Lubbock were only about 86% of normal. Monti Vandiver, Parmer-Bailey EA-IPM provided 2009 and long-term weather data and I calculated the heat units for Muleshoe. For the higher elevation Muleshoe area, the May 17-June 4 time period produced only 79% of the long-term average heat units. This helps explain the poor growth experienced in many fields.

### Irrigated Crop

Irrigated typically comprises about 55% of our planted acres. We had poor rainfall during most of May across the region. Therefore, center pivots, row watered and subsurface drip acres were pretty much planted first. The pivot and row watered irrigated crop is moving along and stands are generally good to excellent, but much of this cotton can be characterized as late based on the calendar date it was planted. Many drip acres have skippy stands due to lack of rainfall in many areas during May. Estimates of drip acres in 1N and 1S vary, but many think 300 thousand is probably a good number. We essentially now have the irrigated acres planted.

There has recently been some storm activity in the area, and I suspect we may have about 40-50 thousand acres affected. Some of these acres were lost and replanted to cotton earlier; some were planted to other crops and some were relatively undamaged; Wednesday, storms affected another sizable acreage which is unknown at this time. Actual crop damage is difficult to determine as many times our irrigated acreage is interspersed with dryland. Due to the lack of emergence of dryland cotton in many areas, hail cannot obviously affect it, but emerged irrigated cotton can be damaged from weather events.



*Conventional cotton in Dawson County*



*Conventional cotton in Yoakum County*

### Dryland Crop

On average perhaps about 45% of our acres are dryland. The vast majority of dryland acres in the High Plains are in TASS District 1S. Dry conditions kept the seed in the barn up near the close of the final planting dates. These dates are May 31 for counties



from about Littlefield north/northwest (Lamb, Bailey, Castro, Deaf Smith and further north through the higher elevations in the Panhandle; June 5 for central counties pretty much running east and west through Cochran, Hockley, Lubbock, Crosby, Yoakum, Gaines, Floyd, Hale, Terry; June 10 for counties south of Lubbock on, near, or straddling the Caprock (Lynn, Dawson, Borden, Garza, Glasscock, Howard, Martin). Obviously the final planting dates have now closed for all of these counties. We have had minimal rainfall in a lot of these counties until just recently. Over the last couple of weeks we've had spotty rains, some substantial, plus the usual requisite hail, high winds and blowing sand. We have a lot of dryland that is still in serious trouble. Even with some of the rainfall, we may have enough moisture to get a stand, but have a dry zone under the seed as "the moisture did not meet" in many fields. We had some good rain, especially west of Lamesa and Lubbock and in some northern counties Wednesday. This will be a tough year to judge the dryland crop situation. Some may be up now, but could die when the surface moisture runs out IF no further rainfall is obtained. We suspect that out of about 1.5 million dryland acres we might fail about 500-750 thousand or more dryland acres due to non-emergence. Some of the dryland cotton now emerged may have profile moisture issues described above. If we fail 750 thousand acres, that would indicate about 750 thousand acres left struggling.

Using these estimates of 1.8 million irrigated acres + 750 thousand dryland acres = about 2.5 million PERHAPS in 1N and 1S in 2009 that could be left standing soon. Your guess is a good as mine as to how much storm damage and drought will affect these possible standing acres by harvest time. The bottom line is that it's another cliff hanger in our region.



*Blank dryland cotton in Yoakum County*



*Dry soil zone in Yoakum County dryland*

### **Drought Relief Programs for Seed and Technology**

With the losses that have occurred out there, I have received some questions concerning how companies are handling these relative to refunds. Plains Cotton Growers has some of this information on their Web site, and it is [available here](#). My suggestions are to contact your technology provider representatives and seed company representatives for questions pertaining to how they are handling these losses.

### **Weed Resistance to Glyphosate Issues**

Several states now have confirmed glyphosate resistant palmer amaranth. The National Cotton Council recently released a video concerning weed resistance issues. I know that producers like to hear testimonials from other growers concerning performance of products, varieties, etc. This video has interviews with

producers from other regions who are "in the trenches" so to speak with weed resistance issues on their own farms. I highly suggest that anyone involved in cotton production in the High Plains take the time to watch this short video. It is [available here](#) on the National Cotton Council Web site.

Also, Dr. Bob Nichols with Cotton Incorporated worked with a team of weed scientists from across the U.S. and assembled an excellent publication a while back concerning weed resistance in cotton. It is entitled [Managing Herbicide Resistance in Cotton Cropping Systems](#). The best way to prevent this from occurring in the High Plains is to use multiple herbicides with varying modes of action. **This would include NOT relying solely on glyphosate as your only weed control option.** Producers should target using at least two varying modes of action besides glyphosate products.

### Weed Control Issues

I have seen quite a few weedy fields out there, particularly with Russian thistle. These weeds are often difficult to kill. Consider your situation and with large weeds and drier conditions you might consider going to higher rates of glyphosate. Producers and applicators should use a nozzle type that provides 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.

The control suggestion for Horseweed (Marestail) escapes is spot spraying of high doses of glyphosate, or cultivation/hoeing. The best time to control this weed is in the spring at early rosette to about 2 inches tall. 2,4-D is a good product for application at least 30 days and preferably 45-60 days ahead of the planter.

### Roundup Ready Flex Cotton

Some of the management changes available with the Roundup Ready Flex varieties include delayed glyphosate over-the-top

application. With the Roundup Ready Flex system, more or less, producers have the option of making glyphosate applications essentially full season, and at higher rates to target more difficult to control weeds. Since the 4th leaf stage window of the older Roundup Ready technology is now moot with the new Roundup Ready Flex technology, many producers may opt to wait for larger crop/weed size to spray for the first time. Also, with the current situation of high time demands on producers for management (finishing planting, sand fighting, etc.), producers should not forget about timely weed control. **Caution should be taken here to not allow the larger weed size to cause competition losses in the cotton.** Page 18 of the Roundup Power Max label (in the section for Roundup Ready Flex cotton) provides a list of products that can be tank mixed and applied post emergence OT, and a list that can be tank mixed and applied using post-directed or hooded sprayers in Roundup Ready Flex cotton varieties.

### Glyphosate/Staple Tank Mixes for Roundup Ready Varieties *(This paragraph was revised on 6/15 to reflect different rates)*

The addition of Staple LX herbicide at 1.3-3.8 oz/acre (per label) to the first OT application of glyphosate may enhance control of several annual weed species and also provide some residual control. Improved control of some morning glory species and Palmer amaranth is stated. Rainfall or sprinkler irrigation (0.5 to 1") after application is required for residual control.

### Dual Magnum (S-Metolachlor)/Glyphosate Tank Mixes for Roundup Ready and Roundup Ready Flex Cotton

Dual Magnum (Syngenta's brand of S-metolachlor) has a label for Touchdown or Roundup/Dual Magnum postemergence over-the-top tank (OT) mixes for use on Roundup Ready cotton. Dual Magnum should be tank mixed with the supported labeled glyphosate

material for residual control of pigweed, annual grasses and yellow nutsedge at 1 to 1.33 pt/acre. According to Syngenta personnel, OT tank mixes of Dual Magnum with glyphosate (Syngenta's Touchdown and Monsanto's Roundup brands) in Roundup Ready and Roundup Ready Flex cotton can be applied from emergence through 100 day preharvest interval (PHI). Of course glyphosate should not be applied OT after the fourth leaf stage of the older Roundup Ready varieties, so producers need to be on point here. For Dual Magnum, a 100 PHI for postemergence OT or 80 day PHI for post-directed applications is required. Dual Magnum plus glyphosate may be post directed anytime up to the PHI. Also, it is suggested that ammonium sulfate, spray adjuvants, surfactants, fertilizer additives, or other pesticides NOT be included in the spray mix as phytotoxicity/crop injury may occur with the Dual Magnum formulation. The label states that "postemergence OT applications of this tank mixture may cause temporary injury in the form of necrotic spotting to exposed cotton leaves which will not affect normal plant development. Do not apply Touchdown or Roundup postemergence OT to cotton past the growth stage limit specified on their respective labels. Do not use on sand or loamy sand soils in Gaines County, TX." Potential for reduced weed control from supported glyphosate materials could exist in extremely hard water areas due to the exclusion of ammonium sulfate. Best results are obtained when the Dual Magnum is incorporated 24 hours after application using 0.5 to 1 inch of irrigation water. There is a premix formulation of glyphosate and S-metolachlor (Dual Magnum) available called Sequence. For specific questions concerning any of these applications contact your local Syngenta representative. [Here is a good article](#) from the University of Illinois IPM Extension Web site that explains the herbicidal activity of metolachlor isomers and various brand names.

### **Ignite 280 SL Herbicide on Liberty Link Cotton**

In 2009, we have more cotton varieties with the transgenic glufosinate herbicide tolerant cotton system. These are the Liberty Link varieties from FiberMax (Bayer CropScience). Ignite 280 SL herbicide (glufosinate-ammonium) is the formulation that was labeled for Liberty Link cotton in 2006. Liberty Link cotton varieties have excellent full-season tolerance (both crop size and rate) to the labeled herbicide, but applications must cease at 70 days prior to harvest to comply with the designated PHI.

Ignite 280 SL has an amended federal label which allows higher rates for each application, as well as higher total in-season application rates for the glufosinate active ingredient. If producers opt to use a 29 ounce/acre first application, then two additional sequential applications may be made at the 29 ounce/acre rate (for a total of 87 ounces/acre per season). However, the new Ignite 280 SL label will allow producers to apply up to 43 oz/acre in a single first application, up to a total of 72 oz/acre/season (or only ONE more sequential 29 ounce/acre application), with noted rotational restrictions. With all of the field work underway with planting, replanting, sand fighting, etc., some weeds are getting very large at this time. Always read and follow label directions.

This herbicide works well against many problem weeds including morningglory. The label suggests that the 29 oz/acre rate be used when weeds exceed specific heights, and a higher single application rate of 43 oz/acre is now allowed under the new federal label. When a field has a mixture of weed species, use the highest rate required to control all targeted species.

There are two critical issues surrounding this herbicide system. One such issue is weed size. Typically, most weeds should be targeted at very small size (see label for 80 plus specific broadleaf species and about 30 grass species and size restrictions). An additional 25 plus species can be either controlled or suppressed with the 29 oz/acre rate or by two sequential applications (see label for specifics).

The other critical issue is thorough spray coverage. Since this is a contact material, it is critical that outstanding spray coverage be obtained. The label states that "Uniform, thorough spray coverage is important to achieve consistent weed control. Select nozzles and pressure that deliver MEDIUM spray droplets as indicated in the nozzle manufacturer's catalogs and in accordance with ASAE Standard S-572." Bayer personnel suggest using flat fan nozzles, or Turbo-TeeJet types (if 60 psi pressure is used). It is NOT recommended to use air induction, raindrop nozzles, or flood-jet tips. A minimum total spray volume of 15 gallons/acre is required. For dense weed/crop canopies, a spray volume of 20 to 40 gallons/acre is required for thorough coverage. Also, ground speeds should not exceed 10 mph. Ammonium sulfate at 17 lb/100 gallons of spray mix is also recommended.

The label also states that "For cotton tolerant to Ignite 280 SL herbicide, Syngenta's Dual Magnum or DuPont's Staple herbicide may be tank-mixed with Ignite 280 SL herbicide and applied over-the-top post-emergence to enhance weed control and/or provide residual control."

### **Roundup or Ignite/Insecticide Tank Mixes**

Some questions have been asked concerning the use of glyphosate or Ignite/insecticide tank mixes. Generally Orthene (acephate), dimethoate, and Bidrin have been the tank-mix partners mentioned for thrips control. No problems with cotton phytotoxicity or product efficacy have generally been noted. RKB

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## **Corn and Sorghum Insects**

### **Things are fairly quiet so far**

A few flea beetles, a few caterpillars and a few spider mites are what I am seeing in area corn. I have not seen any treatable mite populations yet this far south, but Monti Vandiver, IPM Agent in Parmer and Bailey counties

is reporting higher numbers there. He has an excellent weekly newsletter to which you can subscribe by [sending him an e-mail](#).

I have found a few Russian wheat aphids and yellow sugarcane aphids on sorghum. At high numbers, Russian wheat aphid can cause bleaching of the leaves. We don't have any thresholds for Russian wheat aphid on sorghum and the aphids won't survive well on the plants.

### **All uses of Carbofuran (Furadan) cancelled after December 31**

We usually use carbofuran as Furadan 4F for control of corn rootworms and other pests. EPA's revocation of tolerance takes effect on August 13, but carbofuran may be sold and used until December 31st, 2009. [Here is a link to the Federal Register article](#). In our area this will affect alfalfa, corn for forage and grain, popcorn, sweet corn, cucumber, grape, melons, oats, peppers, pumpkins, sorghum, soybean, squash, sunflower and wheat.

### **Moth trap captures will be reported here**

I am operating moth traps in Lubbock County and will present cotton bollworm (corn earworm) and beet armyworm captures each week. I will also begin reporting fall armyworm captures in a couple of weeks. I will attempt to also include last year's captures of cotton bollworm and beet armyworm for comparison purposes. The trap data appear at the end of FOCUS. RPP

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## **Grain Sorghum Agronomy**

### **Don't Be in a Rush to Plant Grain Sorghum**

You might be surprised to hear me say this after all the late sorghum planting in 2008, especially when many farmers couldn't find shorter maturity hybrids for late planting (e.g., a medium maturity hybrid planted in Hockley Co. the first week of July; a medium-long planted in Gaines Co. during the same



time). This compounded the lack of maturity when coupled with cool days in both August and September and the October 23 freeze. Calculations of heat unit accumulation on grain sorghum growth and development, however, showed that for the 2008 sorghum crop that planting date (if late) had a much greater impact on lack of maturity (low test weights, low yields) than the weather. If a farmer planted that same hybrid noted above even 5 days earlier it made a great difference in maturing the crop.

For 2009 some growers might be shy about delaying planting grain sorghum if you can get it done soon. But remember 2008 was highly abnormal, yet for the most part producers that hit recommended last planting dates for their particular county and for a particular hybrid avoided the serious damage even in those exceptionally dire conditions.

Extension publishes suggested last recommended planting dates for grain sorghum hybrids of particular maturity for each South Plains county. See the current summary in our annual [Hailout/Replant/Late Plant Guide](#) updated last week. Unless you are planting a full-season hybrid, which few producers do in the South Plains, there are some potential advantages to holding off on sorghum for a couple of weeks, especially for limited irrigation and dryland with medium and shorter maturity hybrids:

- 1) Especially for dryland grain sorghum, we like to 'schedule' flowering outside the window of about July 1 to mid-August, the hottest time of the season.
- 2) Late June and some early July plantings (more so south of Lubbock) increase the opportunity to store more soil moisture, especially for dryland crops. A delay from say June 15 to June 25 could mean an extra September rain to put toward grain yield.
- 3) This also places the period of maximum water use in grain sorghum (boot stage to just after flowering) further from the hottest time of year and toward September, which is historically is the wettest month

of the year for many South Plains counties along the state line.

- 4) If you are sharing limited irrigation resources with cotton on a split pivot, planting a medium or medium-early sorghum hybrid in late June or even early July can minimize the overlap of peak water requirements of both crops. For example, a medium maturity sorghum hybrid planted in Lubbock Co. in late June would flower near Sept. 1, after cutout on cotton, so both cotton and grain sorghum could benefit from a little more potential irrigation.
- 5) Finally, if you are planting grain sorghum after wheat, a rain or a pre-plant irrigation would give you time and opportunity to reduce potential volunteer wheat problems in the sorghum (see below).
- 6) Caveat: Later sorghum planting dates can increase sorghum midge potential, though that has been a problem in West Texas only one year (2007) in at least the past 10 years or more. The generally recognized date is that sorghum in the Texas High Plains should be unlikely to have sorghum midge if flowering by August 1.

If you are interested in better understanding the potential benefits of delaying grain sorghum plantings visit with your local Extension agent or Calvin Trostle. If you are planting hundreds of acres of grain sorghum then it is often advantageous to spread your planting dates out.

### **Controlling Volunteer Wheat in Fields Going to Grain Sorghum**

Several producers have inquired about the best means to control volunteer wheat when grain sorghum is planted afterwards. There are some options to minimize the volunteer wheat though perhaps no magic bullet, especially herbicides, to eliminate the potential problem. Strategies to reduce volunteer wheat include:



- 1) If you have planter equipment that can plant into wheat stubble consider no-till or strip-till to keep as much of the wheat seed on the surface of the soil where it is less likely to germinate.
- 2) Delayed planting of a couple of weeks as described above can enable a rain or a light irrigation to germinate the first flush of volunteer wheat, which you can knock out with glyphosate or a burndown herbicide. This option might also address any potential weed problems in the wheat stubble like morningglory, Russian thistle, etc.
- 3) Herbicide options for control of volunteer wheat: I asked Texas AgriLife weed scientists Dr. Wayne Keeling, Lubbock, and Dr. Brent Bean, Amarillo, about this. Dr. Bean notes that generally Dual Magnum (which requires Concep safened grain sorghum seed) has better grass control than atrazine or propazine, which he rates as 'only fair' for controlling grasses. However, Dr. Keeling's research suggests that among grasses wheat is sometimes not controlled very well by Dual Magnum (s-metolachlor). Either of these still may provide modest control, however, there is the possibility that producers could tank mix both, probably at the full rate for Dual and 1 pint/A for propazine (sandy loam soil recommendation). Dr. Keeling notes that because either of these herbicides might have limited potential the early germination of the wheat as noted in #2 above could be the best strategy to address the wheat, yet you still may need the chemical control either s-metolachlor and/or propazine provides for other problem weeds.
- 4) Post-emerge use of herbicides may be considered if you have a good hooded sprayer, but there is some risk involved in potentially damaging the sorghum and of course you still won't control volunteer in the row.
- 5) Cultivator sweeps will help, but again no control in the row. Of course this is not an option on narrow rows and also may not

work very well if there is a lot of stubble remaining. CT

### **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 herbicide 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.

### **Grain Sorghum Production Mini-Workshops**

Two grain sorghum meetings are scheduled in the next few days for the lower South Plains.

- Friday, June 12, **O'Donnell**, 10 AM through lunch (provided), Slow Rolling Chemical Co., 301 Oak. For further info. contact Dawson Co. Extension, 806.872.3444, or Lynn Co. Extension, 806.561.4562.

- Monday, June 15, **Brownfield**, 9:00-11:30 AM, Coleman Park Party House, in Coleman Park along the draw southeast side of U.S. 62/385. For further info. contact Terry Co. Extension, 806.637.4060.

### **Hailout/Replant/Late Plant Guide is Updated**

The 9th annual edition of Texas AgriLife Extension Service "Alternative Crop Options after Failed Cotton & Late-Season Crop Planting for the Texas South Plains" was issued last week. Compiled by Extension agronomist Calvin Trostle the guide is a 'first things' approach to what you need for assessing hail damage and stands in current crops, and what your replant options are. Tips for planting dates, seeding rates, herbicides already applied, and contractor contact information are noted throughout the document. The document is available from county Extension offices, [on the web](#) or by calling the Texas AgriLife Research & Extension Center at Lubbock (806.746.6101).

Late-season guidelines are provided for the following crop in the South Plains region:

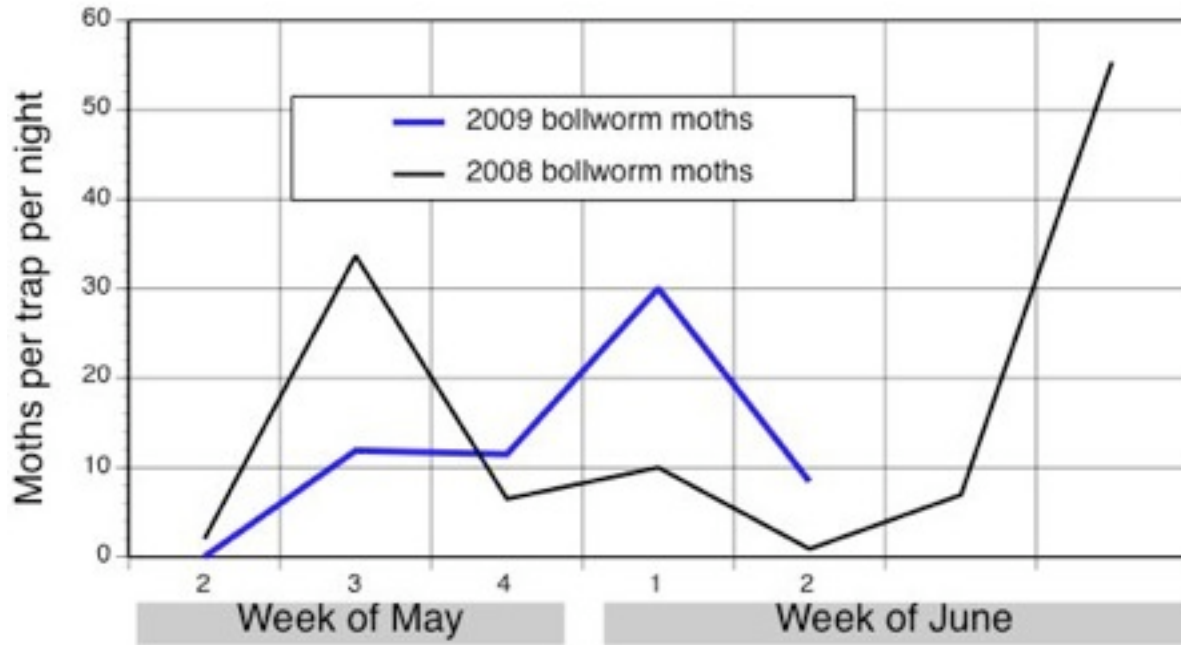
Grain sorghum  
Sunflower  
Sesame  
Black-eyed peas and other pea & bean crops  
Guar  
Soybeans  
Peanuts  
Corn & corn silage  
Summer annual forages including sorghum/  
sudan, hybrid pearl millet, and forage sorghum  
CT

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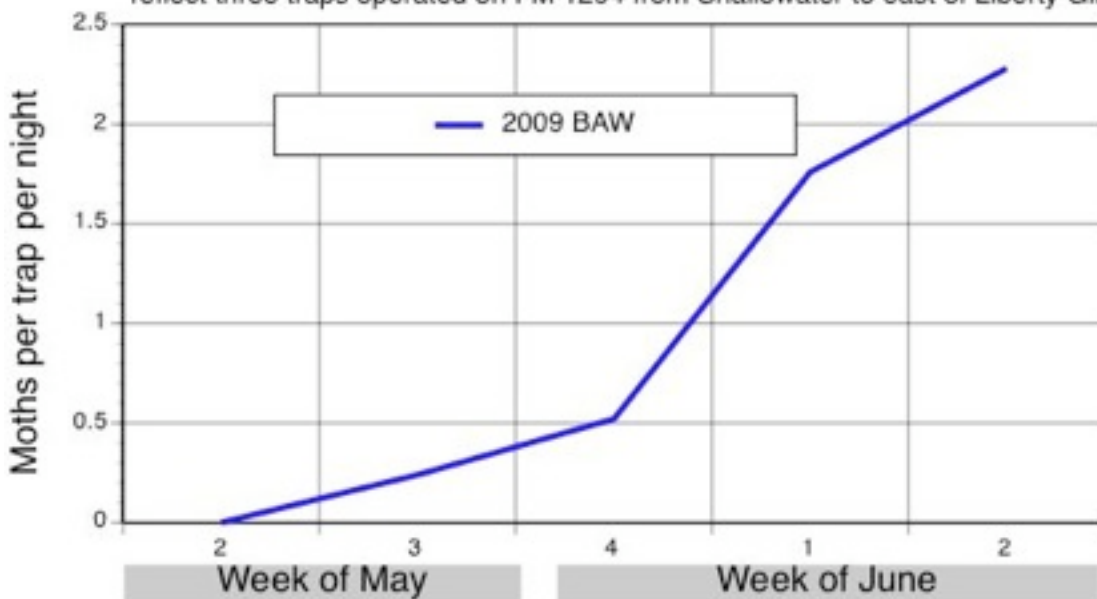
## Moth Trap Captures Through June 11th

Average number of **cotton bollworm** moths captured per trap per night. Data reflect three traps operated on FM 1294 from Shallowater to east of Liberty Gin.



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Average number of **beet armyworm** moths captured per trap per night. Data reflect three traps operated on FM 1294 from Shallowater to east of Liberty Gin.





# FOCUS on South Plains Agriculture

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## Useful Web Links

[Applied Research Reports \(Goldmine\)](#)  
[Texas High Plains ET Network](#)  
[Irrigation at Lubbock](#)  
[IPM How-To Videos](#)  
[Lubbock Center Homepage](#)  
[Texas Agricultural Experiment Station Home](#)  
[Texas Cooperative Extension Home](#)  
[Plains Cotton Growers](#)

## County IPM Newsletters

[Castro/Lamb](#)  
[Dawson/Lynn](#)  
[Crosby/Floyd](#)  
[Gaines](#)  
[Hale/Swisher](#)  
[Hockley/Cochran](#)  
[Lubbock](#)  
[Moore](#)  
[Nolan/Scurry/Mitchell/Jones](#)  
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