# FOCUS on South Plains Agriculture

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



## Cotton Insects

### Thrips about done

The hot temperatures have been working in our favor in regard to thrips. Thrips prefer cooler temperatures and have their highest reproduction at about 86° F. Beyond that their reproductive capacity declines sharply, and we have been well above that mark for the past two week. About the only area where we are seeing significant thrips reproduction is up around Dumas. We are still seeing adults is some locations, such as Lamb, Castro, Bailey, Swisher, Hale, Floyd and Parmer counties, but these populations are not producing many offspring; it's just too hot. Thrips have crashed in most other areas. High temperatures also help when it comes to thrips by promoting rapid plant growth, thus allowing the plants to outgrow the thrips damage. With the exception of the cotton north of Amarillo, I think we are pretty much safe from thrips from this year.

### Armyworms increasing

Manda Cattaneo, IPM Agent, Gaines County and Scott Russell, IPM Agent, Terry and Yoakum counties have reported some fairly high beet armyworm hits in non-Bt cotton in Gaines County, with one field requiring treatment to prevent stand loss.

Other fields that experienced armyworm hits did not justify treatment. In most cases, larval survivorship appeared to be very low with only a few worms being found per hit. Thus, do not become too alarmed if you come across armyworm hits, but look for the larvae. On pre-squaring cotton we really do not have a good working action threshold, but if hits are common and you can still easily find enough larvae that stand is threatened, you may con-

sider treating. If you do treat, do not use a pyrethroid, but rely on products with known armyworm activity such as Belt, Coragen, Demin, Diamond, Intrepid, Steward or Tracer. Elsewhere in cotton I have only observed a few armyworms here and there, however, Dr. Pat Porter has reported localized, severe fall armyworms infestations in corn, but none have been observed infesting cotton.

*Seedling cotton being fed on by beet armyworm (photo by Manda Cattaneo)*

**Grasshoppers**

Large populations of grasshoppers have been noted in CRP and weedy areas particularly in the western South and High Plains counties. So far I haven't seen or heard of these moving into cotton but the potential remains, and stand loss on field margins is a possibility. The action threshold for grasshopper is 10 grasshoppers per 3 row ft out in the field, or 20 grasshoppers per sq-yd along the field margin. If treating weedy or CRP areas outside the cotton field, you might consider using Sevin. Sevin is a very good grasshopper material but it can't be used in cotton. If you need to treat within the cotton field as well, then a pyrethroid that is labeled for use in both cotton and for the non-crop habitat may be the best choice. Additionally, it is best to treat the grasshoppers before they molt into adults.

**Cotton Fleahoppers**

Fleahoppers remain numerous in the weeds and I have already observed few in pre-squaring cotton. We need to be watching for this pest as soon as squaring begins. In next weeks edition of FOCUS I will dedicate quite a bit of space to this pest. DLK

**Cotton Pests Around the State**

**Upper Coastal Bend (reported by Clyde Crumley, IPM Agent, Matagorda, Wharton, and Jackson counties)**

There was a significant amount of rainfall that fell on the upper coastal bend in the middle of last week, with reports up to 2- 2.5" received in the El Campo and Pierce area of Wharton County, whereas in the past two days 1"+ has been widely reported. Blooming cotton can be found across the entire area with the majority of cotton having 8-9 nodes above white flower (NAWF). The balance of the cotton in the IPM program is in the bloom/boll stage, so we are continuing to monitor for bollworms, stink bugs, spider mites, aphids, and Creontiades.

**Southern Blacklands (reported by Marty Jungman, IPM Agent, Hill and McLennan counties)**

Rainfall was recorded on June 9 and 10. Hillsboro and areas south will range to 1-7 inches of

rain. Four to seven inches of rain is common. North of Hillsboro remains dry at the time of this writing. Cotton growth stage will range from three true leaves to just past 1/3 grown square. The majority of the cotton will range from match-head to 1/3 grown square. Cotton continues to grow-off well but percent square sets are poor to fair. Fleahoppers continue to be seen in moderate to high numbers in area fields. Fleahoppers
have been in higher numbers this year than in recent memory. Aphids are light but may be on the increase. Spider mites have been high in some fields and required miticide applications.

**Northern Blacklands (reported by Glen Moore, IPM Agent, Ellis and Navarro counties)**

Scattered thunderstorms fell over parts of North Central Texas during the latter near the end of the past week. Unfortunately, many area's did not receive measurable precipitation, at least as of Thursday and are still in dire need of a good rain. Cotton growth varies from late planted fields which are in the first true leaf stage to those nearing 1/3 rd grown squares. Without question, pressure from fleahoppers has been much heavier this season. Fleahopper numbers have ranged from 10 to 57 adults and nymphs per 100 plant terminals in fields inspected this the past week. Spider mites have been observed in border rows of a few area fields next to dusty gravel roads. Grasshoppers and Lygus have been in a few fields.

**El Paso Valley (reported by Dr. Salvador Vitanza, IPM Agent, El Paso County)**

Most fields are in 8-9 true leaf stage and cotton is growing well. In the following days, the weather will be scorching hot with temperatures above 100°F and fields will require adequate soil moisture. Thrips population levels have been low and no applications are expected to be needed against this pest in the near future.

## Cotton Agronomy

**Overview of Week**

We are now through the June 10 Final Planting Date for Insurance Purposes and planting is getting wrapped up in most areas. For the first 9 days of June, we are about 39% above normal for cotton heat units at Lubbock Click here to view June temperatures. This obviously means that we are well above normal in terms of temperatures. On June 5, the high was 105. Low temperatures have also been well above normal during this time period. Seedling stands that have no disease or other injury issues are rapidly growing. With the exception of a few thunderstorms with some rain, hail, and high winds, we have been very dry, and the official rain gauge at Lubbock received 1.08 inches on June 1. The crop is getting the root system established. Undamaged cotton planted in mid-May is now reaching the 5$^{th}$ leaf stage based on observations from our variety trials. Some areas such as eastern Gaines County have not received much spring rainfall and much dryland has not emerged. Some dryland fields which had marginal moisture and high winds following planting have skippy stands. Unfortunately, many of these fields have not had subsequent rainfall to provide adequate moisture to fill in these types of stands or to allow a replant. Thunderstorm events worked over parts of Gaines, Terry, Yoakum, Lamb and Parmer counties during the last week or so. Gaines County has not had much spring rainfall and irrigation has been underway there for some time, with producers having to irrigate in order to establish the crop. According to the South Plains ET Network, cotton planted on May 15 is now using about 0.16 inches per day, with about 2.5 inches seasonal water use since planting.

**Weed Control Issues**

I have seen some weedy fields out there, particularly with Russian thistle. These weeds are many times difficult to kill. Consider your situation and with large weeds and drier conditions in some areas, 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**

I have been seeing sprayer activity in many fields over the last week. It's obvious that many producers have shifted from planting/sand fighting mode to spray mode. Some of the management changes available with the Roundup Ready Flex varieties include delayed glyphosate over-the-top application. Producers should not forget about timely weed control. 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. **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 and Roundup Ready Flex Varieties**

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 glyphoste 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. The University of Illinois IPM Extension Web site has a good article explaining the herbicidal activity of metolachlor isomers and various brand names.

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

In 2010, 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 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 herbicide, 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/insectici00de 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

## Corn and Sorghum Insects

### Fall armyworm severe but spotty

Fall armyworm larvae are heavy in some corn fields. As of yet this infestation appears to be more localized and spotty than the huge infestation in 2008. I was in a field last Friday that had six larvae per plant as a high number and two as an average number. This was small, non-Bt corn. However, Bt corn is not immune; a seed company representative came to the office this week and reported high numbers in non-Bt corn and lesser, but still high, numbers in some types of Bt corn. Mid to late whorl stage corn and sorghum can tolerate a lot of damage, but very small plants can't tolerate as much. We don't have any thresholds, and even if we did there is not much one can do about whorl feeders. Over the top applications are not very effective. Chemigation is more effective and the best way to achieve good control.

### Spider mites declining

Early spider mite infestations have largely been destroyed by thrips in many corn fields. Ed Bynum, Extension Entomologist in Amarillo, called this morning to say that a spider mite trial he sprayed last week (at high mite numbers) was now almost mite-free thanks to an average of 10 thrips per leaf. Similarly, I have a field at the Halfway Experiment Station that has zero mites per leaf and an average of six thrips per leaf. We don't like thrips in cotton, but in corn and sorghum they can be considered beneficial.

### False chinch bug knocking

*False chinch bugs on drying mustard near Olton, June 7th*

I have observed extremely high numbers of false chinch bug adults in areas that have a lot of mustard weeds. As soon as the mustards have dried down the bugs will move to row crops. We had a problem in 2008 where huge numbers of false chinch bugs were killing very young sorghum plants. It would be a good idea to scout, especially on field margins. There is

no threshold for false chinch bugs on young sorghum, but Greg Cronholm, Extension Agent IPM (retired but still working) in Hale and Swisher counties, uses an informal threshold of 60 per plant. RPP

We are aware that it is bad form to end the last page of the newsletter with just six lines on the page. So here are a few photos taken this week on the Experiment Station.

*Whitelined sphinx moth feeding on alfalfa*

*Preparing to spray potatoes at the Lubbock Research Center, June 11th*

*Southern cabbageworm butterfly on alfalfa*

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