FOCUS on South Plains Agriculture

A newsletter from the Texas AgriLife Research and Extension Center at Lubbock

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Scout School is June 1

Texas AgriLife Extension and the High Plains Integrated Pest Management program will conduct a field scout school June 1, 2012 at the Lubbock AgriLife Research Extension Center (1102 East FM 1294, Lubbock). This field scouting school is designed to train persons doing field scouting of cotton, corn or sorghum. Attendees will learn how to monitor cotton growth, identify major diseases of cotton, identify insect pests of cotton and corn and identification of beneficial insects.

Texas Department of Agriculture representatives will provide the EPA Worker Protection Standard training for pesticide handlers. This training is a safety training required for anyone who works where pesticides may be applied.

The High Plains Field Scout School will begin with registration at 8:15 AM and instruction will begin promptly at 8:30 AM. There is a registration fee of $15.00. Continuing Education Units toward the Texas Department of Agriculture Pesticide Applicator license will also be provided to registrants (3 C.E.U.s in IPM). The program will end at approximately noon, lunch on your own. No pre-registration is needed. Contributed by **Kerry Siders**, IPM Agent in Hockley and Cochran counties.

Insect Roundup

For the time being we are going to give brief updates on insect situations developing in area crops. We are grateful to the area IPM Agents for submitting reports to FOCUS.

Cotton Thrips 5 Times Threshold in Places

Monti Vandiver, IPM Agent in Bailey and Parmer counties, is reporting unusually high thrips numbers in some places. "Heavy thrips pressure has been observed in area cotton which did not have a preventative thrips treatment applied. **Untreated plants have been observed with 5 times the recommended action threshold**. Thrips are slender, straw colored insects about 1/15 inch long, with rasping and sucking mouthparts. Adults are winged but are not strong fliers but can drift long distances in the wind. Cotton should be monitored closely to prevent excessive damage. Once adults begin to infest emerging unprotected cotton it can be quickly overwhelmed. **Local research on foliar only thrips management strategies indicate that the most important insecticide application is very early, at emergence and the week following.** Late applications may provide some personal satisfaction (revenge treatment) but may not provide an economic return. If infestation is assessed by visual plant damage you will be late.

Fields with no preventative treatment (soil applied or seed treatment insecticide) for thrips will likely require at least one and probably two foliar insecticide applications to keep thrips suppressed. Under extreme thrips pressure and poor growing conditions, a third insecticide

application may be justified. Foliar applications of acephate are very effective but residual activity lasts less than a week.

Do not assume that a preventative treatment is working, close inspection of plant leaves and terminals for adult and immature thrips will tell the tale. The presence of immature thrips is an indication that the preventative treatment is no longer preventing colonization.

I cannot stress enough the need make timely insecticide applications especially when a purely foliar thrips management strategy is employed. Well established and rapidly growing plants can tolerate more thrips pressure. The established action threshold for thrips is one thrips per true leaf but should be reduced to 1/2 per true leaf in slow developing cotton.

Scott Russell, IPM Agent in Terry and Yoakum counties, had the following thrips information in his newsletter this week. "Thrips will be a potential threat as cotton emerges and comes to a stand. With a seed applied insecticide, producers should expect only 14 to 21 days post emergence control, potentially less depending on conditions. **The action threshold for thrips is one thrips per true leaf, with good vigorous growing conditions. If cotton is growing slower due to stress (wind, drought, cool temperatures) a lower threshold may be justified**. Individual plant inspections for thrips are necessary; one should examine the undersides of leaves and cotyledons for the tiny, straw colored insects. The thrips will hide within the folded (yet to emerge) leaves, so use a fine tipped pencil or pen to tease apart the terminal bud. Foliar applied insecticides for thrips control include acephate and dimethoate."

On the other end of the spectrum, **Manda Anderson**, IPM Agent is Gaines County, is reporting relatively light thrips numbers. She also reported that planting in Gaines county is a bit behind and the largest plants are one true leaf. RPP

GRASSHOPPERS ON THE RADAR

Seedlings can be destroyed or damaged very quickly by grasshoppers, and we are seeing unusually high numbers in some locations. There are several species present and they all do the same type of damage, which is to eat leaf and stem tissue. Here is a summary of the situation.

From **Scott Russell**: Pallid-winged grasshoppers are abundant in CRP, pasture and rangeland areas. With the current conditions and minimal green vegetation to feed on, these may become a pest of emerging cotton and peanuts. All the grasshoppers I have observed are adults, which means these pests overwintered in the nymphal stage. Populations can be highly variable from location to location and food preferences differ from species to species. Cotton will likely not be their first choice as a food source, however, if it is the only food source, then it is. Peanuts do seem to be very attractive to most grasshopper species.

Emerging cotton seedlings will be very susceptible to damage by grasshoppers. There are no economic thresholds for grasshopper populations in cotton or peanut. However, in seedling cotton if the grasshoppers are destroying the terminal by feeding on it, and this is reducing the plant stand, one should consider taking action. In peanuts, one may be able to tolerate larger numbers and more feeding, due to the growth pattern of the peanut plant. One might be able to treat field margins and adjoining grass/CRP sufficiently to reduce the pest numbers and not suffer economic loss. Numerous products are labeled for cotton or peanuts or grassland/pasture; however the same product may not be labeled for both grassland/pasture and crop land.

Table 1. A partial listing of products labeled for management of grasshoppers on cotton, peanuts and/or grassland/non-cropland.

Cotton	**Peanut**	**Grassland/CRP/Non-cropland**
Chlorpyrifos (Lorsban 4E)	Carbaryl (Sevin XLR Plus)	Carbaryl (Sevin XLR Plus)
Beta-cyflutrin (Baythroid XL)	Lambda-cyhalothrin (Karate Z)	Lambda-cyhalothrin (Karate Z)
Dicrotphos (Bidrin 8E)		
Esfenvalerate (Asana XL)	Esfenvalerate (Asana XL)	Esfenvalerate (Asana XL)

Check label for appropriate rates. Always read and follow all label directions. SR

From **Sydney Glass**, IPM Intern: We are finding significant numbers of pallid-winged grasshoppers at the Lubbock Research Center. Any species of grasshopper, when present in significant numbers, has the potential to cause significant crop damage quickly. Be especially watchful with plants near the edges of fields because the grasshoppers will be eating the grasses and weeds in the bar ditches, CRP, etc., and will start to migrate into the field. Insecticides used for other grasshopper species should work on the pallid-winged grasshopper. This grasshopper is not rare here, but it is not one of our most common species either. It thrives in grasslands, deserts, and semi-arid areas. The grasshopper is attracted to sparsely vegetated areas and bare ground. Basically, dry open areas. Its preferred foods are grasses and forbs, but it can eat almost any type of crop plant. The pallid-winged grasshopper is a strong flier and this species disperses widely. Because of an outbreak in Hawaii in September 1966, the grasshopper is believed to depend on wind travel for swarms, and these grasshoppers can travel long distances. They are also attracted to the lights of the city.

Pallid-winged grasshopper adults

Moth Flights Still Small, Trapping Project to Start

Lubbock Research Center pheromone traps are catching very low numbers of fall armyworm and cotton bollworm (corn earworm) moths. Next week will be the start of a wider trapping project, and there will be data from Parmer county (Benji Henderson), Castro County (Chance Crossland), Hale County (Gary Cross), Lubbock County (Pat Porter) and several counties closer to Amarillo. This areawide project is funded by the Texas Corn Producers Board so that growers and consultants can get information on when flight peaks are occurring. It is being led by Ed Bynum, Extension Entomologist in Amarillo, and we will trap for fall armyworm, southwestern corn borer and western bean cutworm. Future editions of FOCUS will present the current catch data. The data for all of the counties being trapped will be available weekly at http://amarillo.tamu.edu/facultystaff/ed-bynum/insects/ . RPP

Cotton Agronomy

Overview of the Season

Planting of the 2012 crop is well underway. Some much needed rainfall was received this month and allowed some producers to plant into moisture even under dryland production systems. To date, the annual total of rainfall for Lubbock is 3.65 inches according to the National Weather Service. Even with this rainfall, the subsoil moisture in some areas is still lacking. Furthermore, winds and recent high temperatures have depleted what little upper profile moisture that may have been available for planting dryland in areas east of Lubbock. Many fields (dryland and irrigated) in the region may require additional rainfall to ensure good stand establishment. Temperatures in early May were above average; however, a cool spell was experienced beginning on the 7th that continued until the 15th with temperatures rebounding nicely in recent days. Cotton planted prior to the cool spell, for the most part, emerged quickly; however, the cooler temperatures slowed development substantially, and those crops are just now starting to regain vigor. For some of the cotton crops planted just prior to the cool and wet spell, emergence issues have been observed. One issue that has been reported from some producers is crusting of the surface and delayed emergence. There have also been some reports of "big shanking" which is a result of cotton being unable to push through the soil surface. In the most severe instances, replanting may need to be considered (see below for more details on making replant decisions). With temperatures rebounding nicely, and where planting moisture is available, producers in the Texas High Plains are rigorously returning to the fields to continue planting. With weather forecasters predicting a slight chance of showers and thunderstorms this coming weekend, producers may get another round of beneficial rainfall.

Based on the most recent crop reports from Texas AgriLife County Extension Agricultural agents, those reporting estimated an overall average of 40% of cotton acres are planted. As compared to the planting progress for the last several years for this same time period,

we are probably slightly below average. However, with all of the producer activity this week, and generally good conditions, I suspect that we are likely headed for a timely completion of planting of irrigated acres across most of the region. With final planting dates fast approaching, dryland producers continue to hold on in hopes of receiving more precipitation.

2011 Cotton Resource DVD

Recently, Texas AgriLife Extension Service released the 2011 Cotton Resource DVD, which is an update of the 2007 Cotton Resource DVD. The effort was spearheaded by Dr. Gaylon Morgan, Texas AgriLife Extension State Cotton Specialist with assistance provided by area Extension Specialists across the state. To use the DVD, a computer with a DVD reader is required, however, an online version is available with a link located on the Lubbock Website (http://cotton.tamu.edu/cottonDVD/click%20here%20to%20start.html). With several additions made to the 2007 DVD content and a new section, "Kid's Educational Materials", this DVD is an extensive collection of articles, publications, photographs, and more of all things related to Texas cotton production from planting to harvest. With the low temperatures observed during the second week of May, especially up north, there may be some concern about chilling injury. There is a good Cotton Physiology Today Newsletter publication from the National Cotton Council. This publication is included on the 2011 Cotton Resource DVD mentioned above and can be obtained from the Lubbock Center Web site at http://cotton.tamu.edu/cottonDVD/content/cottonphysiologytoday/VarietySelection/Planting%20and%20Replanting%20Decisions-2007.pdf .

This issue includes discussions of the following topics: Planting and Replanting Decisions, Photographs of Chilling Injury, and Cotton Stand Establishment.

Cotton Root Disorder Guide

The Cotton Root Disorder Guide might also be a useful tool. This guide was published by Cotton Incorporated a few years ago. It was generated by several workers across the Cotton Belt and was funded by the Texas and Arkansas State Support Committees. Cotton root disorders detailed in the publication include: herbicide injury from amino acid synthesis inhibitors, photosynthetic inhibitors, and seedling growth inhibitors; pathogens including fungi and nematodes; fertilizer injury; chilling injury; and soil compaction. The guide is available at http://pestdata.ncsu.edu/cottonpickin/disorders/ .

Making Replant Decisions

With a chance of thunderstorms in the forecast and the ever present threat of associated significant hail damage as well as assorted emergence problems, producers may be facing a difficult decision of whether or not to replant. Although we have yet to receive any substantial storm damage, there have been some issues with early planted crop emergence. Because of this it is important to inspect fields to determine the amount of damage incurred. Replanting decisions vary from producer to producer and many times county to county. Many times it is important to get a handle on the root health of the plants, stem bruising, etc. In 2007, Drs. Randy Boman and Robert Lemon developed a departmental publication concerning the difficult replant decision

making process. Making Replant Decisions in Cotton -2007 is available on the Lubbock website at http://lubbock.tamu.edu/files/2011/10/makingreplantdecisions07.pdf , or on the Cotton Resource DVD at http://cotton.tamu.edu/cottonDVD/content/cottondvd/General%20Production/Making%20Replant%20Decisions_2007.pdf

TANK CLEANOUT CONCERNS

This time of year, producers may request personnel from Texas AgriLife Extension or Research to make field inspections concerning hormone-type herbicide damage on cotton. Typical phenoxy herbicide symptomology includes "strapping of leaves." Based on field research conducted by Dr. Wayne Keeling, the severity of yield decrease is related to the actual dose and the crop stage. Severe damage incurred when the crop begins to fruit is more likely to reduce yield than when the crop is younger with less severe damage. Doses of sufficient level to continue "strapping" of newer leaves for weeks after application will probably significantly negatively 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 sprayers can be a real problem. ***My suggestion for our growers is that tanks, hoses, and sprayers which 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 or using a large sprayer which has been spraying any other products besides those labeled for cotton.*** 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. ***Replace hoses when changing out tanks or using a large sprayer which has been spraying any other products besides those labeled for cotton.*** 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 smaller sprayer.

An excellent publication on tank cleanout can be found at http://extension.missouri.edu/explorepdf/agguides/crops/g04852.pdf. This publication has good information concerning herbicides, recommended cleaning solutions and sensitive crops. MSK

Cotton Disease Update

The status of this year's cotton crop is variable; however, things are progressing relatively well. Early planted cotton I have seen ranges from 1-3 true leaves with uniform stands. Cooler conditions experienced throughout the middle of the month slowed germination somewhat and may have increased the risk for seedling disease. Numerous fungi are known to infect cotton prior to, during or after emergence. Three causal agents, *Pythium* spp., *Rhizoctonia solani* and *Thielaviopsis basicola* are the most common on the High Plains. The few instances of seedling disease I have seen to date have been caused by *R. solani*, symptoms of which consist of sunken lesion that develop around the soil surface. This results in a girdling of the hypocotyl, also known as shore shin. Seedlings experiencing delayed emergence due to cool wet soil conditions or extreme planting depths, and those injured by blowing sand are more susceptible to infection. Several species of *Pythium* cause seedling disease in cotton. *Pythium* spp. are often referred to as 'water molds', thus, damage is generally more severe in saturated or poorly drained soils. Plants infected by *Pythium* spp. exhibit symptoms similar to those caused by *R. solani*. Symptoms caused by *T. basicola* (the black root rot pathogen) are somewhat similar to those of *R. solani* and *Pythium* spp.; however, subtle differences can be observed. For example, mortality is seldom experienced with black root rot, rather plants appear extremely stunted. Examination of tissue below rotted areas will reveal healthy cortical tissue which will give rise to secondary roots as the plants recover. Black root rot is more prevalent in heavier textured soils, and disease severity is more severe when plants are also infected by the root-knot nematode (*Meloidogyne incognita)*. Warm soil temperatures will halt any new infections from the seedling disease pathogens from occurring; however, plants previously infected with *R. solani* or *Pythium* spp. may die due to increased ambient temperatures, low relative humidity and gusty winds. Various fungicide seed treatments are currently available to minimize damage caused by seedling disease with others being tested annually. If you are experiencing stand or emergence issues due to seeding disease make note of the field, describe the characteristics of the area(s). If problems persist, tactics should be taken to prevent seedling disease from occurring. If you have any questions regarding seedling disease or any other cotton disease issues contact Jason Woodward @ 806-746-4053. JW

Sorghum and Sunflower Agronomy

Forage Sorghum & Sorghum Sudan Hybrid Summaries

Texas AgriLife has posted 2011 results from both the forage sorghum hybrid trials (including a four-year summary), as well as sorghum/sudan results.

Both sets of data are organized to compare conventional, brown midrib (BMR), and photoperiod sensitive forages. Grain yield is also reported on the forage sorghums as an indication of their grain producing ability, which is important to some dairies. The BMR trait as a class still has some yield drag (~10%) associated with both forage classes, however, individual

BMR hybrids yield as well as most conventionals. Furthermore, the forage quality of BMR hybrids remains improved over conventional or non-BMR forages.

Hybrid Availability: Having noted forage results, the availability of individual hybrids for 2012 planting is low to none in some cases. Contact your preferred seed dealer immediately to see what may still be available.

Irrigated Grain Sorghum Seeding Rate Suggestions

Deciding on an appropriate yield goal and realistically evaluating irrigation capacity impacts grain sorghum seeding rates. Grain sorghum hybrids typically range from about 13,000 to 16,000 seeds per lb., and this differential is a major reason why we do not recommend basing seeding rate on lbs. per acre, especially when you likely have an air vacuum planter.

- For limited irrigation sorghum (6-8", typical of many producers in the South Plains & Texas Panhandle) with low soil profile moisture conditions—and there is essentially no profile moisture in most areas in 2012 unless you have pre-watered—target 40,000-45,000 seeds/A, but if soil moisture is good, consider 50,000-55,000 seeds/A.

- For full irrigation sorghum (12-16"), target 68,000-80,000 seeds/A if soil profile moisture is good, but reduce for dry soil. Cap 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 or when the development of tillers may cause difficulty with lack of uniform maturity across the field which causes problems at harvest time. High Plains producers report they regularly achieve 10,000 lbs./A grain sorghum with seed drops of 55,000-60,000 seeds per acre. "I have learned that is all I need," notes one Bailey Co. grower.

Do you have a copy of the United Sorghum Checkoff Program grain sorghum pocket production guide? If not, contact the USCP office in Lubbock at 806.687.8727, or info@sorghumcheckoff.com, for your free copy. You may review these pocket guides online at http://www.sorghumcheckoff.com/sorghum-production-handbooks Different editions cover the Texas South Plains as well as the Texas Panhandle.

Sunflower

Numerous fields in West Texas, particularly confectionary, are already 14-18" tall and growing well. Ensure that you are prepared for sunflower head moth control in advance. More information on sunflower moth and a list of suggested insecticides can be found at http://lubbock.tamu.edu/files/2011/11/Sunflower_Pests_E_579.pdf . Here are a few key tips on sunflower head moth spray:

- Scouting is essential, but do so early in the morning or after dark at night.
- Remember that timing is critical.
- If you are debating about whether you should go ahead and spray, then spray. It is better to be early than late.

- Furthermore, scout your field as soon as the re-entry period is completed to ensure that your spray was effective.
- For aerial applications, use at least 3 gallons per acre to ensure coverage, and if you can get 4 and even 5 gallons per acre that is better.

Sunflower moth

Sunflower hybrid confectionary and oilseed trial results for the Texas High Plains, including multi-year averages, are available at http://varietytesting.tamu.edu/sunflower . CT

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Useful Web Links

Water Management Website, TAMU, Irrigation at Lubbock, IPM How-To Videos, Lubbock Center Homepage, Texas AgriLife Research Home , Texas AgriLife Extension Home, Plains Cotton Growers

County IPM Newsletters

Castro/Lamb, Dawson/Lynn, Crosby/Floyd, Gaines, Hale/Swisher, Hockley/Cochran, Lubbock, Parmer/Bailey, Terry/Yoakum