



## Cotton Management Meeting

Early Season Cotton Management Meeting

**April 9, 2014**

Carson County Gin  
11:00am - 1:30pm

\$10 Partial Cost Recovery Fee

Dr. Peter Dotray, Texas A&M AgriLife Extension  
· Early Season Weed Management

Dr. Jourdan Bell, Texas A&M AgriLife Extension  
· Early Season Water/Irrigation Issues

Dr. Ed Bynum, Texas A&M AgriLife Extension  
· Early Season Insect Management

Lunch will be provided  
RSVP by 5:00pm April 7, 2014  
806-537-3882

### Calendar of Events

April 9, 2014  
Cotton Management  
Meeting  
White Deer  
Community Center

### Informational Article

Glyphosate Survey

Cotton Weed  
Management

Panhandle Pest Update

Complicated Farm Bill

## Glyphosate-resistant Palmer amaranth

Glyphosate-resistant Palmer amaranth is becoming a new reality in the Texas High Plains. This pest has already caused costly impacts on cotton production in the Southeast and Mid-south. As part of our efforts to reduce its impact to cotton production in our area, we are conducting a survey to determine weed management systems commonly used by our growers, as well as the current extent of glyphosate-resistance.

The survey can be reached by link below; simply enter the password "pigweed" and the survey should take approximately 5 to 10 minutes to complete. We ask that you please forward this link and password to your growers so that we get the best participation possible. Please contact me if you have any questions. Thank you for your help!

Link: [https://agrilife.az1.qualtrics.com/SE/?SID=SV\\_0eJnLoAvUuXMoV7](https://agrilife.az1.qualtrics.com/SE/?SID=SV_0eJnLoAvUuXMoV7)

Password: pigweed

Rand Merchant  
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# Cotton Weed Management on the Texas Southern High Plains

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\*Please make sure and completely understand the information especially in regards to 2,4-D and tank mixtures in regards to timing of planting cotton.

## PREPLANT OPTIONS

One of the initial “keys” to effective, season-long weed management is to start clean. In conventional tillage, normal land preparation practices and herbicide incorporation, followed by a rodweeder prior to planting should provide a clean start for uniform crop emergence and allow the crop to “get a head start” on the weeds. For growers in some type of reduced or no-tillage system, the use of tillage is replaced by burn down herbicides prior to or at planting. In this semiarid region, there are plant back restrictions to be aware of to avoid crop damage after planting. Below are a number of herbicide options labeled for use preplant.

**Roundup (glyphosate)** is a Group 9 herbicide based on the mode of action classification system of the Weed Science Society of America. The following information was obtained from the Roundup PowerMax label (<http://www.cdms.net/LDat/ld8CC010.pdf>).

**USE INSTRUCTIONS.** This product may be applied before, during or after planting cotton, but prior to crop emergence (unless it’s a Roundup Ready or Glytol cotton variety).

**TANK MIXTURES.** This product may be tank-mixed with 2,4-D, Valor, and FirstShot prior to planting (see restrictions on the 2,4-D, Valor, and FirstShot label). This product may also be tank-mixed with several herbicides and applied prior to emergence (see preemergence section) or postemergence (see postemergence section). Normal use rates of this product are 22 to 32 ounces.

Allow at least 1 to 2 weeks from application before any tillage operation is used to ensure adequate uptake and translocation.

**2,4-D** (a group 4 herbicide). Specific time, rate, and irrigation restrictions are essentially impossible to find on 2,4-D labels. **In general, applications made prior to March 1 with any moisture accumulation (0.5 inches) should be enough to effectively dissipate the herbicide prior to planting. According to the Weed Management in Texas Cotton guide (ESC-008, 3/14), wait a minimum of 30 days following the application and a minimum of 1 inch rainfall or irrigation within a 24 hr period.** A “normal use rate” of 2,4-D formulated at 4 pounds per gallon is 1 to 2 pints per acre. 2,4-D + glyphosate is an effective preplant burndown treatment to control winter weeds.

**Clarity.** According to the Clarity label (<http://www.cdms.net/LDat/ld797012.pdf>), do not make applications in regions with less than 25 inches of average annual precipitation.

**Valor (flumioxazin, group 14 herbicide).** According to the Valor label (<http://www.cdms.net/LDat/ld3LL041.pdf>), apply up to 2 ounces of product plus a tank mix partner (glyphosate) if weeds have emerged. **Thirty days and 1 inch of rainfall or overhead irrigation must occur between application and planting in conventional tillage (21 days in no-till or strip-till when 1.5 to 2 ounces of product is used, or 14 days if 1 ounce is used). Include MSO or crop oil concentrate (COC).**

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## Cotton Weed Management on the Texas Southern High Plains—Continued

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**Firstshot (thifensulfuron+tribenuron).** According to the FirstShot label (<http://www.cdms.net/LDat/ld871008.pdf>), apply 0.5 to 0.8 ounce/A as a burndown treatment to control emerged weeds prior to planting or 0.5 to 0.6 ounce/A when used in tank mixture with other herbicides like glyphosate or 2,4-D. **There is a 14 day interval between application and planting.** An additional 7 days must be added when used on light textured soils (sands, loamy sands and sandy loams). An additional 7 days must be extended when used on high pH soils (>7.9).

### PREPLANT INCORPORATED OPTIONS

**Trifluralin.** The following information was found in the Trifluralin 4 EC Herbicide label by Helena Chemical Company (<http://www.cdms.net/LDat/ld4AR000.pdf>). Trifluralin may be applied using water liquid fertilizer as the carrier, or impregnated on dry bulk fertilizer. Broadcast application rates range from 1 to 2 pints/A and are based on soil texture (1 to 1.5 pints in coarse soils, 1.5 to 2 pints in medium soils, 2 pints in fine soils). Use higher rates within the rate range where greater weed populations are anticipated. To prevent loss of herbicidal activity, it must be incorporated within 24 hours after application.

The soil surface should be smooth to allow for uniform application and incorporation. Apply when the soil moisture is sufficient to allow the breakup of large clods and uniform mixing during the incorporation process. Soil compaction and/or non-uniform incorporation may occur if the soil is excessively moist.

In a soil bedding culture, trifluralin should be incorporated 2 to 3 inches in the final seedbed. If the application is made prior to bedding, apply and incorporate one time with recommended equipment. The bedding operation serves as the second incorporation. Do not expose untreated soil during post-bedding operations such as planting since removal of treated soil during planting may allow weed seed germination and establishment in the drill row. When applications are made after bedding, knock off the beds to planting height before application, and incorporate with recommended equipment that will conform to the shape of the bed. Again, do not expose untreated soil.

Use incorporation equipment capable of uniformly mixing the herbicide into the top 2 to 3 inches of the final seedbed. Improper incorporation may result in erratic weed control and/or crop injury. Incorporation equipment will mix Trifluralin 4 EC approximately half as deep as the equipment is set to operate. For example, a disc set to cut four inches deep will mix the herbicide within the top two inches of soil.

A tandem disc should be set to cut 4 to 6 inches and run at 4 to 6 MPH. A field cultivator should be set to cut 3 to 4 inches and operated at a minimum of 5 MPH.

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## Cotton Weed Management on the Texas Southern High Plains—Continued

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A rolling cultivator should be set to cut 2 to 4 inches and run at 6 to 8 MPH. Rolling cultivators are adequate for use on coarse and medium soils. With most equipment and methods of application, a second incorporation is required and may occur any time before planting. The second incorporation should be in a different direction, and to avoid bringing untreated soil to the surface, should not be deeper than the first. No information is listed for stalk cutters, which suggests that these are questionable implements for herbicide incorporation.

Apply and incorporate after January 1 when soil can be worked and is in a condition which allows thorough mixing to insure uniform incorporation. Ground cover, such as crop residues and existing weeds, can interfere with uniform soil incorporation. A manageable level of ground cover will allow uniform incorporation into the top 2 to 3 inches of soil. Excessive ground cover and crop residues should be reduced by appropriate soil tillage prior to application. Break up clods using tillage equipment prior to application.

Spread the fertilizer/chemical mixture with properly calibrated application equipment. Be certain the material is applied uniformly to the soil surface. Trifluralin 4 EC should be incorporated 2 times with impregnated on dry bulk fertilizer. The first incorporated should occur within 24 hours after application. The second application should be delayed 3 to 5 days after the first and be completed prior to planting

Trifluralin 4 EC may be applied by chemigation. Apply in sprinkler irrigation equal to 0.5 to 1 inch of water. Our experience suggests that a minimum of 1 inch of water should be used.

**Prowl (pendimethalin).** The following information was obtained from the Prowl 3.3 EC label (<http://www.cdms.net/LDat/ld867008.pdf>). Prowl 3.3 EC may be applied by ground or air and subsequent must take place within 7 days after application by rainfall, sprinkler irrigation, or mechanical tillage prior to weed seedling emergence. Use rates range from 1.2 to 4.8 pints/A depending on soil texture and tillage (conventional or minimum tillage: 1.2 to 2.4 pints/A in coarse soils, 1.8 to 2.4 pints/A in medium soils, 2.4 to 3.6 pints/A in fine soils; No-tillage: 1.8 to 2.4 pints/A in coarse soils, 2.4 to 3.6 pints/A in medium soils, 3.6 to 4.8 pints/A in fine soils). Incorporate into the upper 1 to 2 inches of soil up to 60 days before planting. Water or sprayable fluid fertilizer (such as 32-0-0 or 28-0-0) may be used as the carrier. Apply using 10 or more GPA water or 20 or more GPA liquid fertilizer (or 5 or more GPA by air). Prowl 3.3 EC may also be impregnated on dry bulk fertilizer. Use an implement capable of giving uniform incorporation. For surface incorporation, uniformly apply as a broadcast or banded treatment and incorporate within 7 days using 1 to 2 inches using sprinkler irrigation or shallow mechanical incorporation. A two-pass incorporation usually results in a more consistent result. For use in minimum tillage or no-tillage systems, apply Prowl 3.3 EC alone or in tank mixes up to 45 days before planting.

**Prowl H2O** (<http://www.cdms.net/LDat/ld6CT007.pdf>) may be preplant surface applied up to 15 days prior to planting, up to 60 days prior to planting and incorporation, and applied via chemigation. Rates range between 1 to 4 pints/A depending on soil texture and tillage.

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# Panhandle Pest Update



TEXAS A&M  
**AGRI LIFE**  
EXTENSION

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March 12, 2014

Volume VI, issue 3

## Wheat Pests

### Situation

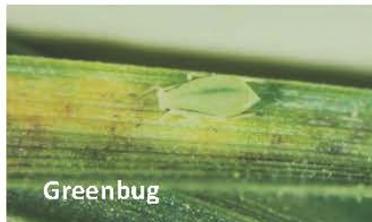
Unfortunately, we know all too well that the dry land wheat is hurting for water. And, irrigated fields with limited water are just hanging on. The freezing temperatures are also burning back the leaves. This is not a very encouraging report, but if you are an eternal optimist the rains will be coming soon.

Our extreme cold temperatures have also had a detrimental impact on the pest complex. There is very little or no pest activity at this time. Usually by the middle of March, aphid infestations (greenbugs, Russian wheat aphids, Bird cherry oat aphids) are beginning to be a concern. And with the drought

conditions the past few years, brown wheat mites are usually active by now.

Just because these pests are not active now, do not think they will not become a problem. As temperatures do begin to warm up, damaging populations could still develop from those that have survived the extreme conditions. This is because aphids and mites have a high reproductive capacity.

The reproductive capacity of greenbugs increases dramatically at temperatures between 55° F to 75° F and Russian wheat aphid at temperatures between



50° F to 70° F. Both of these aphids give birth to two to five living young per day, depending on the temperatures. The young nymphal aphids will mature to an adult in five to seven days and will begin giving birth to more living nymphal aphids. All of the aphids are females and each female will reproduce for about

three weeks. As an example of the high reproductive capacity, if we start with 1,000 female adults and each gave birth to an average 3 nymphs/day within a week (3 x 7days = 21 nymphs/female) there would be 21,000 aphids in week 2. Then if the population continued increasing by 3 per day there could be 441,000 aphids by week 3. So, depending on the temperatures and the number of aphids starting out, heavy damaging infestations can develop quickly.



Brown wheat mites are just as prolific as the aphids. All brown wheat mites are females. They lay eggs which hatch in about 7 days, giving rise to multiple generations in a very short period of time. And, drought conditions are ideal for the build up of heavy infestations.



<http://txppipm.blogspot.com>



## Panhandle Pest Update

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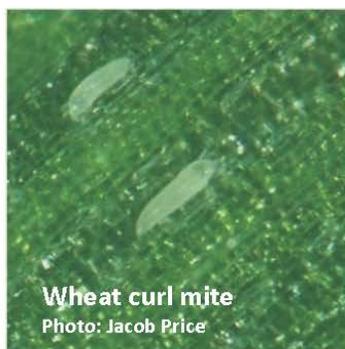
Brown wheat mite

Since these wheat pests can become problematic rather quickly, begin checking fields if you have not already begun scouting.

### Wheat Viral

#### Diseases and the Wheat Curl Mite

The viral diseases of wheat (*Wheat streak mosaic virus*, *Wheat mosaic virus*, and *Triticum mosaic virus*) are all vectored by the wheat curl mite, *Aceria tosichella* Keifer. These diseases cause devastating yield losses. Unfortunately, our current practices for managing these diseases are the same practices that were used in the early 1970's. These practices are delayed planting, clean tillage, and destruction of volunteer wheat in August and early September in order to break the "green bridge" cycle of wheat curl mites moving onto the wheat seedlings in the fall.



Wheat curl mite  
Photo: Jacob Price

However, Dr. Charlie Rush with the Texas A&M AgriLife Research, Bushland, Tx and his research team are continuing to study the relationship of the wheat curl mite to disease infection and the impact of the progressive nature of the disease on additional crop inputs, such as fertilization and irrigation. Research findings are providing valuable information that are leading to management decisions which will reduce the losses from mite-vectored virus diseases. The research objectives are 1) evaluate the impact of cultivar mixes and deficit irrigation on mite infestations, 2) develop an economic threshold for mite-vectored virus diseases

of wheat, and 3) identify new chemistries for efficacy in controlling the wheat curl mite. Coupled with the research objectives there are objectives for Extension to 1) develop multi-media educational tools and programs for mite-vectored diseases and 2) develop a First Alert system for tracking the progression of the mite-vectored diseases across the Texas High Plains during a growing season.

A website "Wheat Virus Early Detection System" is being created so individuals can go to for information about mite-vectored virus diseases and the wheat curl mite. The site will show by county when each of the viruses have been positively detected. Individuals can follow where hot spots are occurring and the progression of virus development across the Texas High Plains. This system will provide an early detection for when virus infections are light or heavy each season. When the website is completed I will provide a link to it. We expect the website to be available before fall 2014.



Wheat curl mite damage  
Photo: Jacob Price

Currently, few samples have been submitted this year to the Plant Diagnostic Clinic at the Texas A&M AgriLife Research and Extension Center. Because of the limited number of samples there has not been wide spread detection of the diseases. We encourage submission of samples to the Plant Diagnostic Clinic because as wheat begins growing now the symptoms development of diseases may increase.

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AMARILLO – Crop producers may feel like they are back in school when they begin to deal with the new farm bill, because they certainly need to do their homework before going to sign up, according to one Texas A&M AgriLife Extension Service economist.

Speaking recently in Amarillo, Dr. Joe Outlaw, co-director of the Agricultural and Food Policy Center at Texas A&M University and an AgriLife Extension economist in College Station, said the new farm bill repeals direct payments, counter-cyclical payments and Average Crop Revenue Election, or ACRE. Producers now must choose between Agriculture Risk Coverage and Price Loss Coverage for their program crops.

Producers are also going to have the opportunity to reallocate their base acres to crops planted on the farm at any time during the 2009 to 2012 crop years. And, Outlaw said, all cotton base acres are now generic base acres.

“For the safety net to be the most effective, you really need to get your base as close as possible to what you are planting,” he said.

The generic base becomes whatever crop it is planted to each year, Outlaw said. The generic base acres can be assigned to other covered commodities.

“You have to do your own homework,” he said. “Don’t get stuck with something that may or may not be good for you for the life of the bill.”

If producers choose the price loss coverage option, or PLC as it is referred to in the farm bill, they have the opportunity to update their payment yields to 90 percent of the 2008-2012 crop year averages.

In explaining the flow of producers choices, Outlaw said after determining base reallocation, they will have to decide if they are going to choose the ARC, which covers losses in income for a commodity relative to a benchmark guarantee, or go the PLC route. And then there are more choices within each of those options.

For the 2014-2018 crop years, all producers on a farm must make a one-time, irrevocable election to obtain either price loss coverage under section 1116 on a commodity-by-commodity basis or agricultural risk coverage under section 1117. Price loss coverage is a set reference price and the payment is made if the market price falls below that.

“You can do part ARC and part PLC, unless you choose ARC individual,” Outlaw said. “But the fine print is if the producer and the landowner can’t come to a decision, then the farm will not be in the program for 2014, but you are automatically in the price loss program for 2015.”

All decisions will need to be made on a crop-by-crop basis for each farm, he said.

Additionally, a new area-wide insurance program, a supplemental coverage option, will be available to all producers beginning in 2015 and is designed to protect them against losses that would normally fall within their insurance deductible range.

“We are working on educational materials and tools to assist producers with all these decisions,” Outlaw said.

The decision aide, once available, will help with the many decisions that must be made, he said. It will include a lot of information about the specific choices and about crop insurance.

For more information about the farm bill or to find the decision aide once it is available, go to The Agricultural and Food Policy Center website at [www.afpc.tamu.edu](http://www.afpc.tamu.edu) . By Kay Ledbetter

Farm Bill decision aid and educational programs will be conducted through the Gray County Extension in the near future, please go to our county web-site ([gray.agrilife.org](http://gray.agrilife.org)) or watch for the next Ag Newsletter for Farm Bill information.

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Sincerely,

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