Volume 5, Issue 8

12 May, 2008

LSU AgCenter Cotton Extension

Louisiana Cotton Bulletin

Early Weed Competition and Concerns

Sandy Stewart, Ph.D. and Daniel Stephenson, Ph.D.

As of the end of last week, a number of cotton fields in Louisiana had large populations of emerged weeds. Some are probably due to less than optimal or late burndown applications, delayed glyphosate applications, and most have no preemergence herbicides applied.

The detrimental effects of early weed completion on cotton are well documented. In the recently developed *First Forty Days and Fruiting to Finish* publication of Best Management Practices in cotton, more than 65 cotton experts from across the US cotton belt agreed that a key component of any cotton production system was to totally eliminate weed completion for the first 6-9 weeks after planting.

Eliminating weed competition is probably more important when seedling growth and development is slow as it has been in Louisiana due to cooler than normal temperatures. Similar to thrips and seedling disease, the slower a cotton seedling emerges and develops, the more sensitive it is to weed competition. Unlike most cases of thrips and seedling dis-

(Continued on page 2)

New Insecticides for 2008—Ralph Bagwell, Ph.D.

The following article, by Dr. Scott Stewart with the University of Tennessee, describes some of the new insecticides that will be available this year on several crops. Dr. Stewart did a very good job assessing the activity and fit of the new insecticides. Louisiana's expectations for the new insecticides should be similar. The Zephyr 0.15EC label is not new for Louisiana, just for states east of the Mississippi river.

By Dr. Scott Stewart,
IN University of Tennessee IPM Newsletter Update for Field Crops and Their Pests. Number 7, May 9,2008.

The entire newsletter can be found at:
http://www.utextension.utk.edu/fieldCrops/cotton/cotton_insects/newsletters/2008/IPM7-08.pdf

(Continued on page 4)

Inside this issue:

Early Weed Competition	1
New Insecticides for 2008	1

Upcoming Dates:

Northeast Research Station Field Day, St. Joseph—June 24

Dean Lee Field Day, Alexandria—Aug. 21

Early Weed Competition (cont'd from Page 1)

(Continued from page 1)

ease, there may not be any evidence of plant injury or death from early weed competition. It is a "silent killer" that will reduce yield if left unchecked.

The poor early weed control observed in many fields is troubling. In some fields, large horseweed populations have been observed, some have emerged pigweed (Palmer amaranth and others), larger morningglories, and almost all have emerged grass. This indicates that the use of preemergence herbicides is no more common this year than in the past. Therefore, we will be relying on glyphosate as postemergence control for a large population of emerged weeds, whether or not a residual such as metolachlor is used. All of this places additional selection pressure for glyphosate resistance on troublesome weeds.

These situations are numerous and need to be addressed very soon to minimize the effect of the weed competition that is present in many fields. Some of the options for over-the-top applications that need to be considered are discussed below.

Mixture of crabgrass, nutsedge, morningglory, pigweed, henbit, and spotted spurge. There isn't much this field doesn't have. All compete with cotton and can reduce yield.

Poor early season weed control results in competition for young cotton seedlings.

Glyphosate Alone

Most of the cotton varieties we grow are Roundup Ready or Roundup Ready Flex, so an over-the-top application to RR cotton or RRFlex cotton can be made now. In most cases glyphosate at labeled rates will provide good control. However, some fields have large morningglories and/or horseweed and control from glyphosate alone cannot be expected with these weed species.

Glyphosate plus Metolachlor

Glyphosate plus Dual Magnum or Sequence is a fairly common application in Louisiana. Metolachlor will not provide any postemergence activity but can be a good PRE material for grasses and small-seeded broadleaves such as pigweed. The major limitation is that it cannot be applied over-the-top to cotton less than 3 inches tall. Apply 1.33 pt/acre of Dual Magnum and Sequence at 2.5 pt/acre.

There are other formulations such as Cinch, Me-Too-Lachlor, Parrlay, etc that can be applied to

(Continued on page 3)

Early Weed Competition (cont'd from Page 2)

Note the presence of a large morningglory in the lower right of the picture. Glyphosate alone probably will not control at this size.

(Continued from page 2)

cotton. However, these formulations are a less active isomer of Metolachlor than Dual Magnum. Their maximum labeled rate is 1.33 pt, but they will be less active than Dual Magnum or Sequence at the rates listed above. All restrict applications to cotton that is at least 3 inches tall.

Some crop injury can occur with Glyphosate plus Metolachlor combinations. Injury is typically minor and appears as temporary speckling of leaves. Injury is greatest if additional adjuvants are added and can also be increased with the addition of organophosphate insecticides.

Staple LX

Staple LX applied at 1.7 oz/acre can provide postemergence control of morningglories, pigweeds, and many other broadleaf weeds. Additionally, Staple LX can provide some residual activity of many broadleaf weeds. Tankmixes with glyphosate are allowed on the label.

Staple LX tankmixed with glyphosate occasionally cause some cotton injury. The potential for this injury seems to be greater when applications are made in cool and/or cloudy conditions, and when applied in combination with an insecticide for thrips. The overall impact of this injury on yield is not well documented, although plants visually appear to recover with favorable growing conditions.

Envoke

Envoke cannot be applied to cotton until after the fifth true leaf stage. Therefore, it is not an option for most fields at this point in time. Applied alone or in tankmix combinations with glyphosate, Envoke can improve control of morningglories, nutsedge, and smartweed.

There will be opportunities to control weeds and apply residual products with later post-directed or layby applications. For the elimination of early competition in many fields, however, time is running short and the options are somewhat limited. The importance of limiting early competition now to preserve maximum yield potential cannot be overstated.

Early competition from the grass right beside one-leaf cotton. Henbit also remaining from less than optimal burndown.

New Insecticides for 2008 (cont'd from Page 1)

(Continued from page 1)

New Insecticide Labels. Below is a list of several new products that have been labeled in the last year, some in the last few weeks. I can't cover everything in the short synopsis below, so please read the labels before using these products. Some testing has been done with most of these products. If you want to take a little extra time, some data summaries are posted online at http://www.utextension.utk.edu/fieldCrops/MultiState/MultiState.htm.

Bidrin XP (AMVAC) -- Cotton -- A premix of dicrotophos (Bidrin) and bifenthrin (Discipline) used at a rate of 5 - 8 oz/acre. This should be an excellent mid to late season choice for a complex of pests in cotton (i.e., stink bugs, plant bugs and bollworms in particular). The bifenthrin component may also help to suppress spider mite populations.

Endigo ZC (Syngenta) -- Cotton -- A premix of thiamethoxam (Centric) and lambda-cyhalothrin (Karate) used at a rate of 4 - 5.5 oz/acre. Endigo ZC would also be good for controlling a mid and late season complex of pests (i.e., stink bugs, plant bugs and bollworms). It has been very good on plant bugs in my testing program. Syngenta is also pursuing a label in soybean.

Leverage (Bayer CropScience) -- Cotton and soybean -- Not really new except in soybeans but the company is making a new push and at higher use rates -- a premix of imidacloprid (Trimax Pro) and cyfluthrin (Baythroid) used at a rate of 3.5 - 5 oz/acre in cotton and 3.8 oz/acre in soybean. This product has a similar fit as Bidrin XP and Endigo ZC in mid to late season cotton. Use 3.8^{+} oz/acre to get more consistent control of plant bugs. I have not looked at Leverage in soybeans, but it should have some play with activity on stink bugs, green cloverworms, bean leaf beetles and three cornered alfalfa hoppers.

Cobalt (Dow AgroSciences) -- Cotton, soybean, corn and sorghum -- A premix of chlorpyrifos (Lorsban) and gamma-cyhalothrin (Prolex). The rate varies considerably based on the crop and target pest. This product will probably get the most use in cotton and soybean. From my testing, the rate in cotton needs to be 24 oz/acre or higher for consistent plant bug control, and this product also has activity on stink bugs and bollworms. If the price is right, it should get some play in soybeans for a complex of pests similar to Leverage.

From a resistance management point of view, it concerns me how heavily we are relying on neonicotinoid insecticides like thiamethoxam (Cruiser, Centric, Endigo) and imidacloprid (Gaucho, Aeris, Trimax Pro, Leverage) in cotton. We are putting a lot of potential selection pressure on aphid and plant bug populations in particular. Also in cotton, we are trying to preserve pyrethroid insecticides until after first bloom, so I would normally not recommend Bidrin XP, Endigo ZC, Leverage or Cobalt prior to bloom because they all have a pyrethroid component.

Hero (FMC) -- Cotton, soybean and corn -- A 3 to 1 premix of bifenthrin (Capture or Brigade) and zeta-cypermethrin (Mustang Max). The rate varies considerably based on the crop and target pests (generally from 5.2 - 8 oz/acre). Both components are synthetic pyrethroids, and it will act accordingly. In cotton, the bifenthrin component should also provide spider mite control in some circumstances. I think this product will be a good choice in soybean and hotter than the other pyrethroid insecticides on brown stink bugs. Like Cobalt and Leverage, it will not be too spiffy on soybean loopers.

Zephyr 0.15 EC (Syngenta) -- Cotton -- A good choice for control specifically for spider mites and is generally used at 4-6 oz/acre to keep the cost down. A full Section 3 label has been approved. Zoro (Cheminova) and Temprano (Chemtura) have an identical formulation (0.15 lb abamectin per gallon).

Intrepid 2F (Dow AgroSciences) -- Pastures and forage crops -- A use rate of 4-6 oz/acre should provide excellent control of armyworms. It will not control non-caterpillar pests.

Dr. Sandy Stewart
Burch and D&PL Associate Professor
and Cotton Specialist

Dean Lee Research Station
8105 Tom Bowman Drive
Alexandria, LA 71302

Phone: 318-473-6522
Cell: 318-308-5625
E-mail: sstewart@agcenter.lsu.edu

LSU AgCenter Cotton Extension

www.lsuagcenter.com

Parish	County Agent	Phone	Email
Avoyelles	Carlos Smith	318-253-7526	Csmith@agcenter.lsu.edu
Bossier	Joe Barrett	318-965-2326	JBarett@agcenter.lsu.edu
Caddo	John Levasseur	318-226-6505	JLevasseur@agcenter.lsu.edu
Caldwell	Jim McCann	318-649-2663	JMcCann@agcenter.lsu.edu
Catahoula	Cliff Watts	318-334-0700	CWatts@agcenter.lsu.edu
Concordia	Glen Daniels	318-336-5315	GDaniels@agcenter.lsu.edu
DeSoto	Hubert Wilkerson	318-453-1615	HWilkerson@agcenter.lsu.edu
East Carroll	Donna Lee	318-282-1292	DRLee@agcenter.lsu.edu
Evangeline	Keith Fontenot	337-363-5646	KFontenot@agcenter.lsu.edu
Franklin	Carol Pinnel-Alison	318-267-3713	CPinnel-Alison@agcenter.lsu.edu
Grant	Matt Martin	318-627-3675	MMartin@agcenter.lsu.edu
Lasalle	Jim Summers	318-992-2205	JSummers@agcenter.lsu.edu
Madison	R.L. Frazier	318-267-6714	RFrazier@agcenter.lsu.edu
Morehouse	Terry Erwin	318-282-3615	TErwin@agcenter.lsu.edu
Natchitoches	Hubert Wilkerson	318-453-1615	HWilkerson@agcenter.lsu.edu
Ouachita	Richard Letlow	318-282-2181	RLetow@agcenter.lsu.edu
Pointe Coupee	Miles Brashier	225-281-9469	MBrashier@agcenter.lsu.edu
Rapides	Matt Martin	318-473-6605	MMartin@agcenter.lsu.edu
Red River	Hubert Wilkerson	318-453-1615	HWilkerson@agcenter.lsu.edu
Richland	Keith Collins	318-355-0703	KCollins@agcenter.lsu.edu
St. Landry	Keith Normand	337-296-6859	KNormand@agcenter.lsu.edu
Tensas	Dennis Burns	318-267-6709	DBurns@agcenter.lsu.edu
West Carroll	Myrl Sistrunk	318-267-6712	MSistrunk@agcenter.lsu.edu

SPECIALISTS			
Cotton Specialist	Sandy Stewart	318-473-6522	sstewart@agcenter.lsu.edu
Weeds Specialist	Daniel Stephenson	318-473-6590	DStephenson@agcenter.lsu.edu
Entomology Specialist	Ralph Bagwell	318-435-2157	Rbagwell@agcenter.lsu.edu
Nematodes Specialist	Charlie Overstreet	225-578-2186	Coverstreet@agcenter.lsu.edu
Pathology Specialist	Boyd Padgett	318-435-2157	bpadgett@agcenter.lsu.edu
Economics Specialist	Gene Johnson	504-388-4081	GJohnson@agcenter.lsu.edu
Fertility Specialist	J. Stevens	318-427-4408	JStevens@agcenter.lsu.edu
Extension Associate	Brandi C. Woolam	318-290-0625(cell)	bgarber@agcenter.lsu.edu

Louisiana State University Center Agricultural Center, William B. Richardson, Chancellor

Louisiana Agricultural Experiment Station, David J. Boethel, Vice-Chancellor and Director

Louisiana Cooperative Extension Service, Paul D. Coreil, Vice Chancellor and Director

Issued in furtherance of the Cooperative Extension work, Acts of Congress of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. The Louisiana Cooperative Extension Service provides equal opportunities in programs and employment.