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TEXAS A&M AGRILIFE EXTENSION

General Area Crop Progress

Fieldwork has resumed after about a week of dryer weather following the wettest September on record. Just under 10 inches of rain was recorded in Greenville with more in other locations.

Cotton: Preparing for cotton harvest has been an immense challenge with the moisture and is of concern with more moisture in the long term forecast. Much of the current crop situation has to do with the physiology of the cotton plant. In its original climate cotton is a perennial tree and under the current conditions it has returned with a flush of new growth. Many fields were self defoliated by the hot dry conditions in August and others were defoliated by an initial harvest aid defoliation. Regrowth from the first scenario, self defoliation, seems to be more difficult to control. Some fields will require up to 3 applications and spray coverage with higher carrier volumes is essential. A second application to the Greenville harvest aid trial has focused on controlling regrowth with some differences observed between products. Trial results and a discussion start on page 2.

Fall Armyworms: Dr. Knutson encourages continued scouting for fall armyworms until freezing tempertures occur. See more in the insect update on Page 3.

Inside this issue:

General Area Crop Progress	*1*
2018 Cotton Harvest Aid Trial Results and Discussion	*2-3*
2018 Cotton Harvest Aid Trial Results	4-5
Fall Armyworm Update	*6*
Hunt County Pecan Sale Flyer	*7*
Calendar	*8*

David Drake
Extension—IPM
drdrake@ag.tamu.edu
903-468-3295

Figure 1. Replicated cotton harvest aid trial 6 days after a second application with 2 treated rows separated by 1 untreated row. The second application of Ginstar is in the foreground with ETX in the middle and Gramoxone at the back. Greenville TX Sept. 2018.

Cotton Defoliation in a Wet Weather Cycle

Introduction: Cotton is a perennial plant grown as an annual and will keep growing when there are favorable conditions. When harvest is delayed because of wet weather it becomes challenging not only for coordinating field operations but managing the plant to mesh with the field operations. There are many choices in harvest aid applications and fitting the product, rate, and timing to the crop and environment is both an art and a science.

Sequential Harvest Aid Applications at Greenville, TX 2018

Twenty initial harvest aid treatments were applied on Aug. 31st in replicated complete blocks. After the initial treatment the field received 276 growing degree day (60° F) units and 2.19 inches of rain. A second set of treatments was applied on Sept 19th and the field received 207 growing degree day (60° F) units and 7.14 inches of rain. The plants were rated for the percentage of green leaves left on the plants, the amount of desiccated leaves stuck on the plants, the amount of plant terminal regrowth, and the amount of regrowth from the nodes. On the rating scale 1 is best. See examples of plants in Figures 2-4. Three products were used for the second application with one being applied to a complete set of the original 20. A forth replication received a one of the three treatment that varied by plot. The average ratings for the three treatments are in Table 1.

Table 1. Second harvest aid applications with ratings at 6 days (d) and 13 d after treatment. Lower ratings are preferred

Sequential application On all 20 initial treatments	% green leaf 6d/13d	Stuck leaves 6 days	Terminal Regrowth 6d/13d	Node regrowth 13 d
Ginstar 4 fl oz + Ethephon 8 fl oz + NIS	54/29	3.9	4/2.9	2.9
ETX 1.3 fl oz + Ethephon 8 fl oz + COC	61/61	4.3	3/4	5
Gramoxone 32 fl oz + NIS	38/31	6.15	2/1.4	2.5

Discussion evaluating the second treatment. At the time of the second application many of the plots had regrown to the point of looking similar to the adjacent untreated rows. The plots with the least regrowth were the Thidiazuron containing treatments (Ginstar, Dropp, and several generics) and surprisingly the high rate (32 fl oz) Gramoxone treatments. This field had not self defoliated, the leaves and stems were perhaps older and the Gramoxone effectively killed the terminal growing points. This is not always the case but seems to have worked well in the current conditions. Many times paraquat applications appear to stimulate regrowth. In general early morning and evening applications of paraquat provide better kill and not just desiccation. This trend in regrowth control was similar in both 6d and 13 d after treatment (DAT) on the second application.

Main Observations:

- Ginstar is slower in defoliation and desiccation than the PPO and paraquat treatments but has across the board better regrowth control. .

Figure 2. Cotton regrowth from nodes on the lower stem

Figure 3. Cotton regrowth on the terminal

Figure 4. A killed terminal with leaves stuck on the plant.

- Sharpen was numerically better on regrowth than the other PPO products.
- Despite having a very high percentage of bolls open Ethephon was still used in the Ginstar and ETX treatments as it seems to improve performance of defoliant products.
- It is important to remember that the performance of Thidiazuron will decrease with cooler temperatures requiring higher rates and will make Dropp alone not effective.
- Lastly all of the treatments, including Ginstar had stuck leaves probably due to the fact that the leaves were new leaves that had regrown and not as susceptible to forming an abscission layer for physiological leaf drop.

The complete results are in the following table.

2018 Cotton Harvest Aid Evaluatic — Texas A&M AgriLife Extension

Greenville, Hunt Co., TX - Dryland — Established Aug 31, 2018 15 gpa, 30 psi, flat fan nozzles

for questions contact David Drake drdrake@ag.tamu.edu or 903-468-3295 or 325-716-3364

Trt	Treatment	Rate	Rate	Total Product Price/acre	14 DAT Initial Treatment			6 DAT 2nd App.	13 DAT Second Application		
No.	Name		Unit		% GL	Regrowth	% Stuck Lf	Stuck Leaf	% GL	terminal regrowth	node regrowt
1	Ginstar	4	fl oz/a								
1	Ethephon	21	fl oz/a		30 cd	3.7 c-f		3.2 b	37.1 a-e	2.6 a	3 bc
1	Non-Ionic Surfactant	0.25	% v/v								
2	Ginstar	4	fl oz/a								
2	Finish	21	fl oz/a		45	3.7 c-f		3.6 b	35.6 a-e	1.6 ab	3 bc
2	Non-Ionic Surfactant	0.25	% v/v								
3	Adios	4	fl oz/a								
3	Ethephon	21	fl oz/a		37.5	3.5 def		3.6 b	33.7 a-e	2.4 ab	3 bc
3	Non-Ionic Surfactant	0.25	% v/v								
4	Adios	6	fl oz/a								
4	Ethephon	21	fl oz/a		32.5	3.2 def		4.3 ab	34.9 a-e	2.1 ab	2.7 bc
4	Non-Ionic Surfactant	0.25	% v/v								
5	Ginstar	6	fl oz/a								
5	Ethephon	21	fl oz/a		43.8	3.4 def		3.6 b	25.4 cde	1.8 ab	2.3bc
5	Non-Ionic Surfactant	0.25	% v/v								
6	Ginstar	4	fl oz/a								
6	Dropp	2	fl oz/a		51.3	3.2 def		3.3 b	23.0 de	1.9 ab	2 c
6	Ethephon	21	fl oz/a								
6	Non-Ionic Surfactant	0.25	% v/v								
7	Ginstar	2	fl oz/a								
7	Dropp	2			38.8	2.7 f		4.3 ab	31.0 b-e	1.9 ab	2.7 bc
7	Ethephon	21	fl oz/a								
7	Non-Ionic Surfactant	0.25	% v/v								

Trt	Treatment	Rate	Rate	Total Product Price/acre	14 DAT Initial Treatment			6 DAT 2nd App.	13 DAT Second Application		
No.	Name		Unit		% GL	Regrowth	% Stuck Lf	Stuck Leaf	% GL	terminal regrowth	node regrowt
9	Display	0.6	fl oz/a		12.5	4.7 bcd		6.2 ab	49.4 ab	3.4 a	3.3 bc
9	Ethephon	21	fl oz/a								
9	COC	1	% v/v								
10	Sharpen	1.25	fl oz/a		32.5	4.2 cde		3.3 b	35.4 a-e	2.6 a	3.3 bc
10	Ethephon	21	fl oz/a								
10	MSO	1	% v/v								
10	UAN	1	% v/v								
11	Action	6	fl oz/a		12.5	4.7 bcd		4.6 ab	56.4 a	3.6 a	7.0 a
11	Ethephon	21	fl oz/a								
11	COC	1	% v/v								
12	Ethephon	21	fl oz/a		10	6.0 ab		5.3 ab	51.3 ab	3.3 a	4.0 bc
12	Folex	16	fl oz/a								
12	Non-Ionic Surfactant	0.25	% v/v								
13	Dropp	2	fl oz/a		15	4.0 c-f		4.4 ab	34.1 a-e	2.9 a	2.7 bc
13	Non-Ionic Surfactant	0.25	% v/v								
14	Folex	8	fl oz/a		22.3	4.0 c-f		5.5 ab	58.7 a	2.9 a	3.0 bc
14	Dropp	1	fl oz/a								
14	Ethephon	21	fl oz/a								
14	Non-Ionic Surfactant	0.25	% v/v								
15	Gramoxone SL (2 lbs/gal)	6	fl oz/a		17.3	6.7 a		7.0 a	50.4 ab	2.4 ab	4.0 bc
15	Folex	8	fl oz/a								
15	Ethephon	21	fl oz/a								
15	Non-Ionic Surfactant	0.25	% v/v								
16	Gramoxone SL (2 lbs/gal)	32	fl oz/a		13.9	3.4 def	56.7 b	4.2 ab	23.5 de	1.5 ab	3.0 bc
16	Action	6	fl oz/a								
16	COC	1	% v/v								
17	Gramoxone SL (2 lbs/gal)	6	fl oz/a		22.3	4.0 c-f		4.6 ab	36.7 a-e	2.7 a	4.7 b
17	Ginstar	4	fl oz/a								
17	Ethephon	21	fl oz/a								
17	Non-Ionic Surfactant	0.25	% v/v								
18	Gramoxone SL (2 lbs/gal)	16	fl oz/a		37.3	5.0 bc	26.7 c	6.3 ab	39.9 a-d	3.5 a	4.7 b
18	Non-Ionic Surfactant	0.25	% v/v								
19	Gramoxone SL (2 lbs/gal)	6	fl oz/a		25.6	2.8 ef		6.6 a	39.5 a-d	2.2 ab	3.0 bc
19	Dropp	2									
19	Ethephon	21									
19	Non-Ionic Surfactant	0.25	% v/v								
20	Gramoxone SL (2 lbs/gal)	32	fl oz/a		10.6	3.4 def	73.3 a	5.0 ab	21.1 e	1.0 b	1.7 c
20	Non-Ionic Surfactant	0.25	% v/v								
				Average	28.2	4.05	52.2	4.66	38.1	2.5	3.46
				P>(F)	0.0001	0.0001	0.001	0.0001	0.0001	0.0002	0.0001
				LSD (P=0.05)	11.4	0.8	12	1.18	8.45	0.8	1.38
				CV	29.5	6.94	10.09	8.7	5.39	16.5	24.2

Application +B95:L119Information	
Application Dates:	8/31/2018
	Sept 18 2018
Cooperator:	Scott Lake
GPS Coor. 33°10'29"N, 96°7'12"W	Hwy 69 CR 1569
Variety:	DP 1646 B2XF
Time:	7-8:30 pm
Temp (°F):	86° F
% RH:	52%
Wind Speed (mph) & Directio	3 mph / 161° S
Row Spacing("):	30"
Plot width (rows)	2 treated 1 skipped
Plot length	Replicated 50 feet
% Open	80%
Plant Height (mean inches)	30-36"
Sprayer Information	Hand boom
	pa / 80015 Turbo T
	32 psi

Terms

% GL: Percent of total leaves that are still green. Doesn't include regrowt

% Stuck Lf: Percent of herbicide dessicated leaves still attached to the pla

Note: %DEF, %DES, and % GL all sum to 100

Regrowth: Rating from 1-10 of the leaves that have grown from all nodes in response to defoliation treatments. 1=none 10=large leaves at all node

For more information see

http://sanangelo.tamu.edu/extension/agronomy/crop-information/

http://lubbock.tamu.edu/files/2015/09/2015_Harvest_Aid_Guide.pdf

http://www.cdms.net/Label-Database

Daily Temperatures

Date	Low	High	GDD 60	Rain (in)
Totals from first application			276.5	2.19
9/18/2018	73	94	23.5	
9/19/2018	72	95	23.5	0.03
9/20/2018	73	91	22.0	0.12
9/21/2018	72	86	19.0	3.9
9/22/2018	66	76	11.0	1.52
9/23/2018	66	72	9.0	
9/24/2018	68	80	14.0	
9/25/2018	68	88	18.0	1.38
9/26/2018	62	73	7.5	0.34
9/27/2018	58	74	6.0	
9/28/2018	60	78	9.0	
9/29/2018	65	78	11.5	
9/30/2018	69	83	16.0	
10/1/2018	68	86	17.0	
		total	207.0	7.14

Fall Armyworm Update: October 2, 2018

Dr. Allen Knutson

The past weeks have seen intense fall armyworm infestations across much of northeast and central Texas south to the Coastal Bend. It is the most widespread and damaging outbreak I have seen in 30 odd years. Rainfall in late August and September this year has been well above average for much of the region, and it is well known (at least since 1916) that fall armyworm outbreaks occur after periods of heavy rainfall in late summer. Why this is so is not known. Apparently, more eggs and small larvae survive during cool, humid weather.

When will it end? Armyworm moths fly into north Texas in early summer, and complete 4-5 generation per season. By October, generations have overlapped so there are no longer distinct generations, or cycles. For this reason, its necessary to continue to monitor hay fields 1-2 times per week for new infestations. Wheat and other small grains are also at risk and must be scouted frequently. Fall armyworms remain active until the first freeze.

While pyrethroid insecticides are effective and inexpensive, they quickly breakdown, leaving the field subject to re-infestation if fall armyworm moths fly back into the field and lay eggs. The addition of Dimilin 2L insecticide to the pyrethroid can extend the residual control of the treatment in pastures and hay. Dimilin is not effective on armyworms larger than ½ inch, but it persists for a week or more and therefor can control young armyworms hatching from eggs. This effect can reduce the risk of having to re-treat the field.

While Dimilin 2L is labeled for pastures and hay, it is <u>not</u> labeled for use on wheat, oats, triticale or barley in Texas. Also, some areas have sold out of commonly used pyrethroids due to the demand for fall armyworm control. Intrepid, carbaryl, malathion, Tracer, and Prevathon are also labeled for fall armyworm control in pastures and hay. Note that chlorpyrifos is labeled for application to wheat and other small grains for control of armyworms, but it is NOT labeled for pastures and hayfields. Chlorpyrifos insecticide is sold as Lorsban, many generics (Nufos, Whirlwind, Warhawk, etc.) and in combination with a pyrethroid as Cobalt and Stallion.

Fall Armyworms from a Johnson grass plant Greenville TX 2018

ANNUAL FUND RAISER FOR HUNT COUNTY EXTENSION

Enjoy the sweet taste and nutritional benefits of these fresh, top quality, Texas pecans!

1 lb bag, pecan halves: $11.50

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  2. *email* us at hunt-tx@tamu.edu
  3. *call* us at 903-455-9885

TEXAS A&M AGRILIFE EXTENSION

David R. Drake,
Integrated Pest Management (IPM)

Texas A&M AgriLife Extension
Texas A&M University—Commerce
College of Agricultural Sciences and Natural Resources
PO Box 3011
Commerce, TX 75429-3011

Phone: 903-468-3295
Fax: 903-468-3291
Email: drdrake@ag.tamu.edu

Calendar

Oct. 10—Turf and Landscape Fieldday - Dallas Center

Oct. 12—Hunt County Fundraiser Pecan Orders Due

Oct. 26—Grasslands FieldDay—Hopkins Co

Nov. 1—Denton Co. CEU Program

Nov. 7—Hopkins County CEU Program (10 am)—Sulfur Springs

Nov. 15—Hunt & Rockwall County CEU Program—Rockwall

Dec. 3 - Lamar County CEU Program - Paris, TX

Dec. 6 - Ag. Technology Conference (5 CEU's) Texas A&M University - Commerce

Jan 8-10 2019 Beltwide Cotton Conference—New Orleans, LA