INTEGRATED PEST MANAGEMENT

Glasscock, Reagan, & Upton
IPM Program
2023

TEXAS
IPM
Partners with Nature

TEXAS A&M
AGRILIFE
EXTENSION

GLASSCOCK, REAGAN, and UPTON COUNTIES PEST MANAGEMENT PROGRAM

2023

ANNUAL REPORT

Prepared by:

Brad Easterling (signature)

Brad Easterling

Extension Agent-Integrated Pest Management Glasscock, Reagan, and Upton Counties

in cooperation with

Cody Trimble, Extension Agent-Agriculture, Glasscock County

Chase McPhaul, Extension Agent-Agriculture, Reagan County

Raymond Quigg, Extension Agent-Agriculture, Upton County

and

TEXAS PEST MANAGEMENT ASSOCIATION

PREFACE

The Texas Pest Management program began in 1972 with four county based staff members. The program was founded by participating producers, the U.S. Department of Agriculture and the Texas Pest Management Association (TPMA), whose membership is made up of commodity organizations across Texas. TPMA administers the funds of the local Pest Management Program. The objectives are to improve pest control and increase net profits through the adoption of sound principles of pest management.

The St. Lawrence Pest Management Program strives to increase producer knowledge of new scouting techniques and to use them to make sound management decisions. Our program is also aimed toward being an alert system for area producers when economic pest problems arise. Result demonstrations and applied research are also an integral part of the overall program. The pest management program in this area was initiated to conduct the early diapause programs and has diversified to meet other needs as they are identified.

ACKNOWLEDGMENTS

Cooperation of all area producers is very important for a successful pest management program. We would like to express our sincere appreciation to all producer members of the St. Lawrence Cotton Growers Association for their participation and aid in the Pest Management Program.

Appreciation is also extended to the St. Lawrence Cotton Growers Association Board of Directors for their help in planning and implementing the 2023 program.

STEERING COMMITTEE

President……………………………………………………….…Pat Pelzel

Vice-President…………………………………….…………....Ricky Halfmann

Secretary-Treasurer……………………………………………….Chris Hirt

....Russell Halfmann

....Garrett Kellermeier

....Daniel Michalewicz

....Bo Eggemeyer

....Bart Belew

....Brent Gully

Appreciation is also extended to all of the following producers for their cooperation with applied research/result demonstration projects this season.

Chris Hirt	Travis Gully
Darrell Halfmann	Phillip Bales
Andy Wheeler	Justin Schwartz
Allen and Michael Fuchs	Randy Braden
Brent Gully	

Acknowledgment is also extended to the following members of Texas A&M AgriLife Extension Service and Texas A&M AgriLife Research for their program-planning support:

Rebel Royall……………………………………………District Extension Administrator, Ft. Stockton

Robert Pritz……………………………………………………West Region Program Leader, San Angelo

Dr. David Kerns………………………………...Professor and Extension IPM Coordinator, College Station

Dr. Phillip Kaufman………………………………...Head of Department of Entomology, College Station

Greg Wilson……….………...Extension Program Specialist, Entomology, Districts 6 & 7, San Angelo

Dr. Reagan Noland……………………………………...Extension Agronomist, District 7, San Angelo

Mr. John Robinson..………………………………...Professor and Extension Economist, College Station

Mr. Cody Trimble...………….………….Glasscock County Extension Agent-Agriculture, Garden City

Mr. Chase McPhaul……………….………...…Reagan County Extension Agent-Agriculture, Big Lake

Mr. Raymond Quigg………………….…………...Upton County Extension Agent-Agriculture, Rankin

Mrs. Erica Batla……..………………………..……...Secretary to the Extension Agent-IPM, Garden City

Ms. Melissa Harrell………………..……..………..Secretary to the Extension Agent-IPM, Garden City

TABLE OF CONTENTS

RESULT DEMONSTRATIONS

INTRODUCTION

Cotton is the major crop produced in the three counties. Additionally, acreages of wheat, grain sorghum, corn, pecans, and watermelons are grown. There were few acres of dryland harvested as most acres were failed due to extreme drought conditions. Irrigated acres are projected as close as possible with numbers from FSA.

Several pests attack cotton in the St. Lawrence Area. Fleahoppers are generally the major pest, along with stink bugs. Grasshoppers, thrips, and spider mites are occasional pests in the area. The major weed problems in the area are glyphosate tolerant pigweed, silverleaf nightshade, hog potato (mesquite weed), morning glory, field bindweed, tumbleweed, devil's claw, prairie sunflower, dwarf crownbeard, and other perennial weeds. Cotton root rot, verticillium wilt and seedling diseases are the primary diseases of cotton in the three-county area.

Weather conditions are the major limiting factor to crop production in the area. Rainfall is important in the area because irrigation water is limited. Successful crops can not be produced in this area on irrigation alone as timely rainfall during the growing season is required. High winds, hail and blowing sand can cause severe damage to cotton. However, generally the temperature and length of growing season are sufficient for good cotton growth. Table 1 below shows the monthly rainfall received from our three closest weather stations.

The pest management annual report includes information concerning the survey scouting program, the pest situation and result demonstrations for 2023. I hope it will be informative to all persons interested in the program.

Table 1

RAINFALL FOR 2023	BIGLAKE	LOMAX	ST. LAWRENCE
JANUARY	0.27	0.32	0.28
FEBUARY	0.64	0.47	0.60
MARCH	0.11	0.21	0.10
APRIL	0.02	0.40	0.11
MAY	1.80	3.24	3.20
JUNE	0.08	2.41	1.05
JULY	1.55	0.00	0.04
AUGUST	0.07	0.68	0.06
SEPTEMBER	2.76	2.27	2.07
OCTOBER	3.05	1.97	1.45
NOVEMBER	1.53	0.57	1.01
DECEMBER	0.79	1.33	0.47
TOTAL	**12.67**	**13.87**	10.44

STATUS OF ACCOUNT BALANCE FOR GLASSCOCK, REAGAN, AND UPTON COUNTIES

TABLE 2

FUNDS ON HAND, JANUARY 1, 2023		$,3862.85
BUDGET RECEIPTS		
UNIT SCOUTING CONTRIBUTIONS		$10,000.00
MEMBERSHIP FEE	$2,280.00	
ADMINISTRATIVE FEE	$1,500.00	
PAYROLL TAX EXPENSE	$ 263.27	
TRAVEL—SCOUT (SCOUT TRAVEL)	$1,514.48	
WAGES (SALARY AND WAGES)	$3,104.50	
TOTAL EXPENSE		$8,662.25
NET ORDINARY INCOME		$1,337.75
FUNDS ON HAND, DECEMBER 31, 2023		$5,200.06

SCOUTING PROGRAM ACTIVITIES

The St. Lawrence Area covering Glasscock, Reagan, and Upton Counties had a total of approximately 173,485 planted acres of cotton this year. Of this, only around 33,000 irrigated acres and a tiny amount of dryland were harvested.

The survey type scouting program gathers information to alert producers of possible insect pest problems. Most of the scouting was directed towards thrips, fleahoppers, aphids, and stinkbugs. Our one scout checked fields all across the St. Lawrence area.

Following is a table of the 2023 scouting statistics.

TABLE 3 – ST. LAWRENCE AREA SCOUTING STATISTICS - 2023

AVERAGE SIZE OF FIELDS	120 ACRES
NUMBER OF SCOUTS	1
TOTAL ACRES - IRRIGATED	32,128
TOTAL ACRES - DRYLAND	N/A
TOTAL ACRES - PIMA	1,040
PROGRAM EXPENDITURES	$8,662.25
MILEAGE RATE	$0.60/MILE
SCOUT HOURLY RATE	$13.00

Our one field scout began work by attending a scout training in Garden City. This training allowed the scout to practice insect identification and scouting techniques in cotton fields like what she would see later in the season. During the first couple of weeks the scout familiarized herself with early season pests such as grasshoppers, thrips, and aphids. These insects were reported on number per plant basis. Plant stand counts and crop phenology were recorded as well. This information is used to help determine if a sufficient and uniform stand has been established as well as if replanting may need to occur. As the first pinhead squares began appearing, the scout's attention was targeted at fleahopper scouting. She counted the number of fleahoppers per 100 terminals and determined the percent square set.

As the cotton began squaring, the scout examined 10 plants in four locations of each field for bollworm eggs and different size larvae. Although bollworm is generally not an issue for St. Lawrence, with the increase in potential resistance to Bt, we continue to scout. Beneficial arthropod populations were monitored by counting the number on 40 plants and converting this number to number per acre. This is very important when making bollworm control decisions.

The information from these complete count fields was intended for all area producers. The information was presented bi-weekly in newsletters and posted weekly online and on the St. Lawrence IPM Blog. This information was used by all producers to determine when to intensify scouting. In addition, reports were recorded as audio updates, sent by text to producers and posted on the Extension Entomology Website.

As the crop continued to progress our scout began to turn much of her attention to blooming cotton and progress of blooms up the plant (NAWF.) She continued to monitor for bollworms while at the same time increasing her focus on stinkbugs.

Generally by the time stinkbugs become extremely active is when our scouts return to school. Around the first couple of weeks of August, I try to scout as many acres as I can and inform producers of the pest situation. As the crop sets the majority of its bolls, we are free from most pest problems.

PEST SITUATION

Pest populations in 2023 were mostly non-existent. Thrips numbers were very low with basically no wheat or other hosts present including weed hosts to harbor early season thrips. Fleahopper populations were light as well and only a couple of fields in the area had populations that required monitoring but still failed to reach economic threshold. Again, this was due to the fact that the severe drought eliminated all host plants early in the season, therefore the fleahoppers did not have a food source available to reproduce on and build up to damaging numbers. Tarnished plant bugs however, were higher than I have seen in this area in the previous ten years. They surpassed economic threshold in a couple of fields and were very near threshold in several others. It is possible that a combination of plant bugs, a few fleahoppers, and the intense heat, contributed to a reduction in some of our yields. Stink bugs were at low levels in most fields this season with a few fields having to have applications made. This was still a much lower number of treatments than in an average year.

Anywhere from 3.0-5.0" of rain, in mid-May through early June, allowed for most growers to get both their irrigated and dryland crops up, however without additional rain, the dryland acres did not yield and the irrigated acres underperformed. Irrigated cotton had average to below average yields. Most yields were 50-60% of average. The reason yields were off this much was due to the extreme heat, lack of rainfall, and the continuous drought we have been in which left us with no subsoil moisture to start the season. Most all dryland cotton acreage was failed by the end of the season. The months of June through September were among the hottest, windiest, and driest on record. We had a total of 65 days over 100°F and 76 nights over 70°F.

Most all other crops suffered this season as well as it was not a particularly good year for grains, melons, or pecans. The heat, wind, and drought had an impact on all of our crops.

Total Planted Acres in Glasscock, Reagan, and Upton Counties

TABLE 4

Glasscock	**2023**	**2022**	**2021**	**2020**
Cotton	110,697	129,645	111,946	111,430
Corn	382	130	464	898
Pecans	1,102	1,067	1,065	935
Sorghum	4,215	3,346	4,445	4,282
Melons	434	401	486	300
Wheat	21,812	7,377	11,399	15,159

Reagan	**2023**	**2022**	**2021**	**2020**
Cotton	48,433	57,093	44,471	48,829
Corn	494	399	558	656
Pecans	137	137	218	109
Sorghum	2,340	404	3,076	3,178
Melons	115	107	97	47
Wheat	8,512	3,861	10,625	7,158

Upton	**2023**	**2022**	**2021**	**2020**
Cotton	14,355	18,922	13,707	12,730
Corn	67	59	95	52
Pecans	90	90	76	90
Sorghum	1,213	958	3,076	1,101
Melons	0	42	26	0
Wheat	10,620	5,490	7,412	7,725

Cotton Production in the St. Lawrence Area

TABLE 5

	Total	**Glasscock**	**Midkiff**
2001	47,351	34,129	13,222
2002	55,450	37,870	17,580
2003	76,662	55,732	20,930
2004	118,266	86,966	31,300
2005	207,480	155,889	51,591
2006	77,424	56,949	20,475
2007	252,465	180,317	72,148
2008	68,907	48,206	20,701
2009	119,737	86,410	33,327
2010	159,387	112,454	46,933
2011	52,610	35,657	16,953
2012	97,804	66,310	31,494
2013	115,398	83,997	31,401
2014	124,261	87,422	36,839
2015	122,729	88,184	34,545
2016	151,765	100,743	51,022
2017	181,631	122,325	59,306
2018	56,632	40,115	16,517
2019	125,005	85,018	39,987
2020	59,729	41,177	18,552
2021	250,018	163,257	86,761
2022	34,214	23,191	11,023
2023	47,721	29,774	17,947
Total	2,602,646,	1,822,092	780,554
AVG	113,159	79,221	33,937
10 YR Avg	115,371	78,127	37,250
20 YR Avg	121,159	84,718	36,441

EDUCATIONAL ACTIVITIES

The St. Lawrence Pest Management Program includes many educational programs. The primary objective of the program is education. Producers are taught how to identify, scout, and manage their pest populations in an economic way. Scout training meetings and personal contacts are methods used in the educational program. The emphasis is directed to training producers, spouses, and family members to scout insects. Personal contacts with one-on-one scout training and management decision making are probably the most valuable techniques used. The result demonstration program and applied research projects are an integral part of the program. The turnrow meetings are held weekly in each county to discuss current insect problems and to get hands-on scouting experience. Table 6, below, is an overview of educational activities.

Educational Activities

TABLE 6

Producer Contacts	3,612
Turnrow Meetings	26
Newsletters	11
Tours	1
Audio Updates	17
Miscellaneous Crop Producer Meetings	13
Youth Presentations	6
Total Persons Provided Scout Training	2
Result Demonstrations	12
Pest Management Committee Meetings	7

TEXAS A&M
AGRILIFE
EXTENSION

Result Demonstration Reports

Result Demonstration Report

Irrigated Cotton Variety Trial
Andy Wheeler

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties
Cody Trimble, CEA-AG, Glasscock County
Chase McPhaul, CEA-AG, Reagan County
Raymond Quigg, CEA-AG, Upton County

Summary

Seven cotton varieties were evaluated under similar growing conditions to compare yield and fiber quality. FiberMax 2398 GLTP topped this test in Gross Return ($/acre) with $569.79 per acre. Delta Pine 2335 B3XF had the highest lint yield at 892 pounds per acre and Stoneville 4993 B3XF lead the trial in loan value at $0.5223 per pound of lint. Producers should keep in mind that these results can change under different irrigation levels, field conditions, soil fertility, and management practices.

Objective

Commercial cotton varieties require testing each year for determinations of consistency for both yield and fiber quality. Field tests allow for side-by-side comparisons between new and proven cotton varieties. Field testing varieties within a geographic area of production is important to provide local cotton producers with the latest information on new varieties.

Materials and Methods

Each cotton variety consisted of eight planted rows and was replicated three times.
Varieties were individually harvested, and weights were determined using the scale on the stripper.

Planting Date: May 26, 2023
Planting Rate: 39,000 Seeds/Acre
Rows Planted: 8 row plots
Planting Pattern: Solid
Irrigation: Drip
Harvest Date: November 4, 2023

Results and Discussion

Table 7 contains the Agronomic data for each of the seven cotton varieties evaluated. Table 8 contains the HVI fiber property results. Fiber quality analysis was determined by the Fiber & Biopolymer Research Institute in Lubbock.

Table 7

TEXAS A&M AgriLife EXTENSION

2023 Cotton Variety Trial

Producer: **Andy Wheeler**
County: Glasscock
Irrigation: Irrigated
Plant Date: 5/26/2023
Harvest Date: 11/4/2023

Variety	Yield Per Acre			% Turnout		Loan Value	Lint Gross Return	Seed Gross Return	Gross Return[1]
	Bur Cotton	Lint	Seed	Lint	Seed				
FM 2398 GLTP	2122	884	917	35.3%	36.6%	0.5202	459.78	110.01	569.79
DG 3469 B3XF	2128	883	860	35.2%	34.4%	0.5200	459.24	103.24	562.48
DP 2335 B3XF	2113	892	740	35.8%	29.6%	0.5160	460.39	88.78	549.17
ST 4993 B3XF	1996	862	785	36.5%	33.2%	0.5223	450.23	94.20	544.43
NG 4098 B3XF	2289	825	951	30.5%	35.1%	0.5178	427.29	114.11	541.40
PHY 415 W3FE	2036	827	836	34.3%	34.7%	0.5200	429.96	100.30	530.26
DP 2239 B3XF	1963	874	679	37.7%	29.3%	0.5012	436.45	81.44	517.89
Average	2092	864	824	35.0%	33.3%	0.5168	446.19	98.87	545.06
Max.	2289	892	951	37.7%	36.6%	0.5223	460.39	114.11	569.79
Min.	1963	825	679	30.5%	29.3%	0.5012	427.29	81.44	517.89

Grab samples ginned at the Texas A&M AgriLife Research and Extension Center, Lubbock. Quality analysis is at the FBRI, Lubbock.

[1] Lint Values were calculated using the 2023 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on $240/ton

For Questions Contact: Brad Easterling, EA-IPM, Glasscock, Reagan, Upton Counties

Table 8

2023 Cotton Variety Trial

TEXAS A&M AgriLife EXTENSION

Producer: **Andy Wheeler**
County: Glasscock
Irrigation: Irrigated

Plant Date: 5/26/2023
Harvest Date: 11/4/2023

Variety	Fiber Quality						Loan Value	Gross Return[1]
	Color	Leaf	Staple	Mic	Strength	Uniformity		
FM 2398 GLTP	31,31,31	3	33.3	5.6	27.5	81.03	0.5202	569.79
DG 3469 B3XF	31,31,31	3	33.0	5.5	26.9	80.90	0.5200	562.48
DP 2335 B3XF	21,21,21	2	33.7	5.2	27.4	79.17	0.5160	549.17
ST 4993 B3XF	31,31,31	3	33.3	5.5	30.0	82.33	0.5223	544.43
NG 4098 B3XF	31,41,31	5	35.3	4.7	29.5	80.13	0.5178	541.40
PHY 415 W3FE	31,31,31	3	34.3	5.3	28.4	81.50	0.5200	530.26
DP 2239 B3XF	21,31,31	3	34.7	5.6	26.7	80.43	0.5012	517.89
Average	-	3	34.0	5.3	28.0	80.79	0.5168	545.06
Max.	-	5	35.3	5.6	30.0	82.33	0.5223	569.79
Min.	-	2	33.0	4.7	26.7	79.17	0.5012	517.89

Grab samples ginned at the Texas A&M AgriLife Research and Extension Center, Lubbock. Quality analysis at the FBRI, Lubbock.

[1] Lint Values were calculated using the 2023 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on $240/ton

For Questions Contact: Brad Easterling, EA-IPM, Glasscock, Reagan, Upton Counties

Table 9

2023 Cotton Variety Trial

TEXAS A&M AGRILIFE EXTENSION

Producer: **Andy Wheeler**
County: Glasscock
Irrigation: Irrigated

Plant Date: 5/26/2023
Harvest Date: 11/4/2023
Seeding Rate: 39,000

Variety	Emergence	Emergence %	Final Plant Stand	Vigor
DG 3469 B3XF	4.0	67.9%	26,500	6.0
DP 2239 B3XF	6.3	83.8%	32,670	7.0
DP 2335 B3XF	6.0	85.5%	33,300	5.7
FM 2398 GLTP	5.0	79.5%	31,000	6.0
NG 4098 B3XF	7.7	89.7%	35,000	7.3
PHY 415 W3FE	8.3	94.0%	36,670	8.0
ST 4993 B3XF	6.0	86.3%	33,670	7.3
Average	6.2	83.8%	32,687	6.76

Early Season Ratings

EMERGE- Emergence rating. Scale of 1-10 where 10 is excellent.
 Take 7-10 days after planting.
PLT/13' - numer of plants/13 row ft for each variety. Take at 4-6 lf stage.
VIGOR - Plant vigor at 4-6 lf stage. Scale of 1-10 where 10 is excellent.

For Questions Contact: Brad Easterling, EA-IPM, Glasscock, Reagan, Upton Counties

Conclusions

The greatest Gross Return ($/acre) was achieved by FM 2398 GLTP with $569.79 along with DG 3469 B3XF at $562.48. Greatest yields in pounds of lint/A were produced by DP 2335 B3XF and FM 2398 GLTP with 892 and 884 pounds of lint/A respectively. ST 4993 B3XF had the highest loan value at $0.5223 per pound of lint along with FM 2398 GLTP at $0.5202. Outstanding strength and uniformity contributed to the loan rate for ST 4993 B3XF. All varieties in the trial had high Micronaire except for NG 4098 with 4.7.

Emergence ratings, percent emergence, final plant stand, and early season plant vigor are shown in Table 9 above.

Acknowledgements

Irrigated Cotton Variety Trial
Phillip Bales

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties
Cody Trimble, CEA-AG, Glasscock County
Chase McPhaul, CEA-AG, Reagan County
Raymond Quigg, CEA-AG, Upton County

Summary

Six cotton varieties were evaluated under similar growing conditions to compare yield and fiber quality. NexGen 4098 B3XF topped this test in Gross Return ($/acre) with $497.62 per acre. Stoneville 4993 B3XF had the highest lint yield at 753 pounds per acre and Stoneville 4993 B3XF lead the trial in loan value at $0.5228 per pound of lint. Producers should keep in mind that these results can change under different irrigation levels, field conditions, soil fertility, and management practices.

Objective

Commercial cotton varieties require testing each year for determinations of consistency for both yield and fiber quality. Field tests allow for side-by-side comparisons between new and proven cotton varieties. Field testing varieties within a geographic area of production is important to provide local cotton producers with the latest information on new varieties.

Materials and Methods

Each cotton variety consisted of eight planted rows and was replicated three times.
Varieties were individually harvested, and weights were determined using the scale on the stripper.

Planting Date: June 1, 2023
Planting Rate: 35,000 Seeds/Acre
Rows Planted: 8 row plots
Planting Pattern: Solid
Irrigation: Drip
Harvest Date: November 27, 2023

Results and Discussion

Table 10 contains the Agronomic data for each of the six cotton varieties evaluated. Table 11 contains the HVI fiber property results. Fiber quality analysis was determined by the Fiber & Biopolymer Research Institute in Lubbock.

Table 10

TEXAS A&M AgriLife EXTENSION

2023 Cotton Variety Trial

Producer: **Phillip Bales**
Name of Count: Reagan
Irrigation: Irrigated

Plant Date: 6/1/2023
Harvest Date: 11/27/2023

Variety	Yield Per Acre			% Turnout		Loan Value	Lint Gross Return	Seed Gross Return	Gross Return[1]
	Bur Cotton	Lint	Seed	Lint	Seed				
NG 4098 B3XF	2017	748	923	29.9%	36.5%	0.5168	$386.81	$110.81	$497.62
ST 4993B3XF	1755	753	811	34.4%	37.0%	0.5228	$393.65	$97.28	$490.93
NG 4190 B3XF	1678	691	774	32.5%	36.7%	0.5207	$359.60	$92.84	$452.44
DP 2317 B3TXF	1714	697	710	32.8%	33.4%	0.5202	$362.30	$85.24	$447.54
DP 2239 B3XF	1469	657	620	35.6%	33.6%	0.5167	$339.21	$74.40	$413.61
DP 2335 B3XF	1335	536	596	31.4%	35.8%	0.5190	$277.63	$71.53	$349.16
Average	1661	680	739	32.8%	35.5%	0.5194	$353.20	$88.68	$441.88
Max.	2017	753	923	35.6%	37.0%	0.5228	$393.65	$110.81	$497.62
Min.	1335	536	596	29.9%	33.4%	0.5167	$277.63	$71.53	$349.16

Grab samples ginned at the Texas A&M AgriLife Research and Extension Center, Lubbock. Quality analysis at the FBRI, Lubbock.

[1]Lint Values were calculated using the 2023 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on $240/ton

For Questions Contact: Brad Easterling, EA-IPM, Glasscock, Reagan, Upton Counties

Table 11

2023 Cotton Variety Trial

Producer: **Phillip Bales**
Name of County: Reagan
Irrigation: Irrigated

Plant Date: 6/1/2023
Harvest Date: 11/27/2023

Variety	Color	Leaf	Staple	Mic	Strength	Uniformity	Loan Value	Gross Return[1]
NG 4098 B3XF	41,41,32	4	35.7	4.5	28.8	79.53	0.5168	$497.62
ST 4993B3XF	31,31,31	2	35.3	4.9	30.6	82.33	0.5228	$490.93
NG 4190 B3XF	41,31,32	3	37.0	4.7	28.7	82.23	0.5207	$452.44
DP 2317 B3TXF	41,41,32	3	35.3	4.5	27.6	81.10	0.5202	$447.54
DP 2239 B3XF	31,31,31	3	35.3	5.0	26.9	79.70	0.5167	$413.61
DP 2335 B3XF	32,43,32	3	35.3	4.3	29.1	80.17	0.5190	$349.16
Average	-	3	35.7	4.6	28.6	80.84	0.5194	$441.88
Max.	-	4	37.0	5.0	30.6	82.33	0.5228	$497.62
Min.	-	2	35.3	4.3	26.9	79.53	0.5167	$349.16

(Columns Color through Uniformity are grouped under "Fiber Quality")

Grab samples ginned at the Texas A&M AgriLife Research and Extension Center, Lubbock. Quality analysis at the FBRI, Lubbock.
[1] Lint Values were calculated using the 2023 Upland Cotton Loan Valuation Model from Cotton Incorporated
Gross Seed Return based on $240/ton

For Questions Contact: Brad Easterling, EA-IPM, Glasscock, Reagan, Upton Counties

Conclusions

The greatest Gross Return ($/acre) was achieved by NG 4098 B3XF with $497.62 along with ST 4993 B3XF at $490.93. Greatest yields in pounds of lint/A were produced ST 4993 B3XF and NG 4098 B3XF with 753 and 748 pounds of lint/A respectively. ST 4993 B3XF had the highest loan value at $0.5228 along with NG 4190 B3XF at $0.5207. NG 4190 B3XF had the highest staple of all varieties with a 37.0 DP 2239 B3XF was the only variety in this trial to have high Micronaire at 5.0, the rest of the varieties fell between 4.3 and 4.9 which would be no deduction. ST 4993 B3XF had a strength of 30.6 which comes with a 20-point premium and ST 4993 B3XF and NG 4190 B3XF both had uniformity over 82.0.

Acknowledgements

Result Demonstration Report

RACE TRIALS
Randy Braden

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties
Cody Trimble, CEA-AG, Glasscock County
Chase McPhaul, CEA-AG, Reagan County
Raymond Quigg, CEA-AG, Upton County

Summary

Nine cotton varieties were evaluated under similar growing conditions to compare yield and fiber quality. Two varieties were entered into the trial by each of four companies, Americot/NexGen, BASF, Bayer, and Phytogen. One grower variety was also added as a standard check variety. These varieties are entered into multiple Replicated Agronomic Cotton Evaluation (RACE) trials across the state of Texas. This project is made possible by Cotton Incorporated and the Texas State Support Committee.

Objective

Variety selection is the most important decision that a producer must make all season. Once this decision has been made there is no way to correct or change the decision or outcome. Variety decisions should start with the agronomic characteristics such as yield, maturity and fiber quality first and then match the transgenic technology with the highest pest management priority second.

Materials and Methods

Each cotton variety consisted of eight planted rows and was replicated three times.
Varieties were individually harvested, and weights were determined using the scale on the stripper.

Planting Date: May 23, 2023
Planting Rate: 39,000 Seeds/Acre
Rows Planted: 8 row plots
Planting Pattern: 2x1
Irrigation: Drip
Harvest Date: November 8, 2023

Conclusions

The greatest Lint Return ($/acre) was achieved by DP 2239 B3XF with $448.06 along with DP 1646 B2XF at $435.96. Greatest yields in pounds of lint/A were produced by PHY 332 W3FE and ST 4993 B3XF with 851 and 850 pounds of lint/A respectively. FM 2398 GLTP had the highest loan value at $0.5360 per pound of lint. Staple lengths varied from a low of 33.7 for NG 4190 B3XF to a high of 35.3 for DP 2239 B3XF. Micronaire varied considerably across all varieties. Due to the inconsistencies between treatments within the trial, average grades do not necessarily reflect the average loan rate for respective varieties.

Acknowledgements

Results and Discussion

Table 12 contains the Agronomic data as well as the HVI fiber property results for each of the nine cotton varieties evaluated. Fiber quality analysis was determined by the Fiber & Biopolymer Research Institute in Lubbock.

Table 12

2023 Cotton RACE Trial

Producer: **Randy Braden** Plant Date: 5/23/2023
County: Upton Harvest Date: 11/8/2023
Irrigation: Irrigated
Irr Capacity: 1.5 GPA

Variety	Lint lbs/ac	% Turnout Lint	Loan Value	Return ($/acre)	Fiber Quality			
					Staple	Mic	Strength	Uniformity
DP 2239 B3XF	847	33.7%	0.5290	$448.06	35.3	5.16	29.5	82.00
DP 1646 B2XF	840	34.6%	0.5190	$435.96	34.1	4.97	26.0	80.10
PHY 332 W3FE	851	32.4%	0.5090	$433.16	34.5	4.96	27.1	79.80
PHY 400 W3FE	813	32.8%	0.5200	$422.76	34.2	4.99	27.1	79.40
FM 2398 GLTP	765	31.8%	0.5360	$410.04	34.5	4.80	27.7	79.20
ST 4993 B3XF	850	34.9%	0.4820	$409.70	34.2	5.21	26.9	80.40
NG 4098 B3XF	765	31.7%	0.5100	$390.15	35.0	5.02	27.4	80.20
NG 4190 B3XF	688	32.3%	0.5080	$349.50	33.7	5.12	27.2	80.00
DP 2335 B3XF	654	27.5%	0.5280	$345.31	34.9	4.66	27.6	79.70
Average	786	32.4%	0.5157	$404.96	34.5	4.99	27.4	80.09
Max.	851	34.9%	0.5360	$448.06	35.3	5.21	29.5	82.00
Min.	654	27.5%	0.4820	$345.31	33.7	4.66	26.0	79.20

Grab samples ginned at the Texas A&M AgriLife Research and Extension Center, Lubbock. Quality analysis at the FBRI, Lubbock.

[1]Lint Values were calculated using the 2023 Upland Cotton Loan Valuation Model from Cotton Incorporated

For Questions Contact: Brad Easterling, EA-IPM, Glasscock, Reagan, Upton Counties

Result Demonstration Report

EVALUATION OF COTTON VARIETIES

Darrell Halfmann, Allen and Michael Fuchs, Bart Belew, Chris Hirt, Justin Schwartz

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties
Cody Trimble, CEA-AG, Glasscock County
Chase McPhaul, CEA-AG, Reagan County
Raymond Quigg, CEA-AG, Upton County

Summary

Five separate cotton variety trials were evaluated this season for three different companies to evaluate both existing varieties as well as experimental lines which may possibly be released for the 2024 growing season.

Objective

To evaluate new cotton varieties as well as experimental varieties that may be released in the future that may increase net profits with an increase in yield and fiber qualities. These varieties must also fit the limited irrigation of the St. Lawrence cotton growing region as well as yield consistently year after year.

Materials and Methods

Cotton varieties are provided by all the major companies to evaluate their varieties before commercial release. All trials are maintained using typical farming practices of each producer including planting, irrigation, fertilizer, weed and insect control, and harvest.

Results and Discussion

The following pages contain three APT trials with BASF, one FACT trial with Bayer, and one Innovation trial with Corteva.

Conclusions

Harvest of the trials was completed by the producers and agents. The company representatives collected the samples and had them ginned. All results for the trials were conducted and reported by the company representatives themselves.

Table 13

2023 DeltaPine FACT Trial								
Producer:	**Chris Hirt**				Plant Date:		6/8/2023	
County:	Glasscock				Harvest Date:		11/21/2023	
Irrigation:	Irrigated							
Location	**Variety**	**Vigor**	**FIBL**	**FIBSTR**	**FUNIFI**	**MIC**	**LP**	**LYLD**
	DP 2239 B3XF	4	1.19	30.3	82.1	4.94	38.08	1419
	DP 2335 B3XF	6	1.20	31.5	81.6	4.32	35.18	1414
	23R 8028 B3XF	3	1.19	31.4	80.6	4.64	37.12	1352
	23R 8041 B3XF	3	1.18	30.8	82.3	5.05	35.88	1337
	DP 1646 B2XF	4	1.19	30.1	82.0	4.83	36.11	1239
	23R 8035 B3XF	3	1.15	33.4	82.8	4.95	33.71	1235
	DP 2044 B3XF	5	1.20	32.7	79.9	4.22	30.85	1233
	23R 8027 B3XF	3	1.18	35.6	82.0	4.86	37.42	1216
	DP 2317 B3TXF	3	1.15	29.8	82.5	4.71	34.59	1209
	23R 9152 B3TXF	7	1.17	32.8	83.0	4.62	33.33	1207
	23R 8025 B3XF	5	1.16	32.4	81.5	4.60	34.85	1174
	23R 8038 B3XF	4	1.19	32.6	81.9	4.68	32.01	1172
	23R 9145 B3TXF	4	1.14	31.8	81.8	4.74	33.33	1137
	22R 138 B3XF	6	1.19	32.4	80.7	4.36	32.76	1028
	23R 9149 B3TXF	6	1.16	31.2	81.7	4.39	31.22	1013
DP 2414 B3TXF	22R 2112 B3TXF	8	1.16	30.8	82.3	4.49	33.24	918
Average		5	1.18	31.9	81.8	4.65	34.36	1206

Table 14

FiberMax® Cotton

On Farm Trial Results

BASF ASA:
Noble Laminack
(325) 716-8839
noble.laminack@basf.com

Planting Date: 5/23/2023
Harvest Date: 10/16/2023
Tillage: Conventional
Soil Texture: Silty Clay Loam

Seeding Rate: 35000
Row Spacing: 40
Irrigation: Irrigated
Yield Env. <1 bale

Darrel Halfmann
Glasscock County TX
near St. Lawrence

Variety	Lint Yield	Value Rank	Value / Acre	Lint %	Length	Staple	Strength	Mic	Unif.	Color	Leaf	Loan Value	Plant Ht. (in)	% Open	Storm Tolerance*
ST 6000AXTP	571	1	$334	37.7%	1.18	38	33.3	4.5	83.2	21.0	2.0	58.5	18.7	23.5	5
ST 4993B3XF	641	2	$329	39.2%	1.02	33	28.4	4.9	81.3	21.0	1.0	51.3	20.2	58.6	7
DP 2335 B3XF	472	3	$261	37.5%	1.10	35	27.0	4.5	80.2	21.0	2.0	55.4			8
FM 2398GLTP	474	4	$260	37.7%	1.11	35	28.6	5.2	82.0	21.0	2.0	54.8	18.4	49.2	8
PHY 444 WRF	432	5	$248	38.6%	1.12	36	30.2	4.2	82.0	21.0	2.0	57.5			8
FM 823AXTP	434	6	$247	36.3%	1.11	35	29.4	4.6	81.7	21.0	2.0	57.2	18.1	67.8	7
PHY 415 W3FE	450	7	$227	38.2%	1.08	35	28.8	4.9	82.0	21.0	3.0	54.9			6
FM 868AXTP	395	8	$224	37.3%	1.11	35	30.4	4.7	82.6	21.0	2.0	57.4	18.4	41.4	8
DP 2239 B3XF	424	9	$220	38.6%	1.10	35	26.2	5.0	81.0	21.0	2.0	53.0			6
FM 1730GLTP	410	10	$192	34.8%	1.05	34	28.2	4.6	81.6	21.0	2.0	53.6	17.7	76.5	7
ST 4990B3XF	347	11		36.3%	1.09	35	26.6	4.6	81.3	21.0	2.0	55.4	18.8	63.4	4
Test Mean	459		$254	37.5%	1.1	35	28.8	4.7	81.7	21.0	2.0	55.3	18.6	54.35	6.7

BASF Agronomist:
Rick Minzenmayer
(325) 365-1292
richard.minzenmayer@basf.com

*Storm Tolerance 1 = No Storm Tol. 9 = Very Storm Tol

Powered by the
© EnviroNome, ToreTies

1/4/2024

ST 6000AXTP tested as BX 2453 AXTP
FM 823AXTP tested as BX 2423 AXTP
FM 868AXTP tested as BX 2330 AXTP

Table 15

On Farm Trial Results

FiberMax® Cotton

BASF ASA:
Noble Laminack
(325) 716-8839
noble.laminack@basf.com

Planting Date: 6/2/2023
Harvest Date: 11/24/2023
Tillage: Conventional
Soil Texture: Silty Clay Loam

Seeding Rate: 35000
Row Spacing: 40
Irrigation: Irrigated
Yield Env. 1-2 bales

Allen Fuchs
Reagan County TX
near St. Lawrence

Variety	Lint Yield	Value Rank	Value / Acre	Lint %	Length	Staple	Strength	Mic	Unif.	Color	Leaf	Loan Value	Plant Ht. (in)	% Open	Storm Tolerance*
ST 4993B3XF	1228	1	$628	38.7%	1.09	35	31.8	5.1	82.5	41.0	3.0	51.2	27.3	60.3	8
ST 4990B3XF	970	2	$528	32.9%	1.14	36	28.6	4.6	82.6	41.0	3.0	54.4	23.7	67.1	4
ST 6000AXTP	928	3	$509	40.5%	1.17	38	33.4	4.7	82.1	41.0	3.0	54.9	25.5	27.9	5
FM 823AXTP	928	4	$502	35.4%	1.14	36	31.3	4.7	82.3	41.0	4.0	54.1	20.3	69.3	6
FM 868AXTP	849	5	$473	34.3%	1.10	35	31.2	4.8	81.4	31.0	4.0	55.7	23.9	44.6	7
Test Mean	981		$528	36.4%	1.1	36	31.3	4.8	82.2	39.0	3.4	54.1	24.1	53.85	6.0

BASF Agronomist: **Rick Minzenmayer**
(325) 365-1292
richard.minzenmayer@basf.com

1/4/2024

ST 6000AXTP tested as BX 2453 AXTP
FM 823AXTP tested as BX 2423 AXTP
FM 868AXTP tested as BX 2330 AXTP

*Storm Tolerance 1 = No Storm Tol. 9 = Very Storm Tol

Table 16

FiberMax® Cotton

On Farm Trial Results

BASF ASA:
Noble Laminack
(325) 716-8839
noble.laminack@basf.com

Planting Date: 5/24/2023
Harvest Date: 10/19/2023
Tillage: Conventional
Soil Texture: Silty Clay Loam

Seeding Rate: 38000
Row Spacing: 40
Irrigation: Irrigated
Yield Env. 1-2 bales

Bart Belew
Glasscock County TX
near St. Lawrence

Variety	Lint Yield	Value Rank	Value / Acre	Lint %	Length	Staple	Strength	Mic	Unif.	Color	Leaf	Loan Value	Plant Ht. (in)	% Open	Storm Tolerance*
FM 823AXTP	991	1	$569	40.5%	1.14	36	30.3	4.9	78.5	21.0	2.0	57.4	17.7	56.7	8
ST 4990B3XF	958	2	$554	38.4%	1.14	37	28.1	4.8	80.8	21.0	1.0	57.8	19.8	57.9	6
ST 6000AXTP	933	3	$543	41.4%	1.17	37	32.8	4.6	80.3	21.0	2.0	58.2	19.6	19.4	6
ST 4993B3XF	1005	4	$529	41.2%	1.09	35	30.1	5.2	79.1	21.0	2.0	52.7	20.3	68.8	8
FM 868AXTP	900	5	$468	38.4%	1.09	35	30.2	5.0	77.6	21.0	2.0	52.1	21.6	36.5	7
Test Mean	957		$533	40.0%	1.1	36	30.3	4.9	79.3	21.0	1.8	55.6	19.8	47.85	7.0

*Storm Tolerance 1 = No Storm Tol, 9 = Very Storm Tol

BASF Agronomist: **Rick Minzenmayer**
(325) 365-1292
richard.minzenmayer@basf.com

1/4/2024

ST 6000AXTP tested as BX 2453 AXTP
FM 823AXTP tested as BX 2423 AXTP
FM 868AXTP tested as BX 2330 AXTP

Table 17

PhytoGen COTTONSEED
W3FE Innovation Trial

Enlist Cotton

Grower Cooperator:	Justin Schwartz
Trial Conductor	Brad Easterling
PhytoGen CDS:	Scott Fuchs
Location:	St. Lawrence, TX
Replicates:	4
Plot Size:	8 entries x 4 reps
Row Spacing:	40"
Beds:	Yes
Previous crop(s):	Fallow
Soil type:	Reagan Loam
Irrigation:	Drip

Planting Date:	5/19/2023
Seed Treatments:	TRiO
Moist. @ planting:	Good
Seed/Acre:	~42K
GPS Lat:	31.744528
GPS Long:	-101.607216
Elevation:	2717
Harvest Date:	11/20/2023

Sorted by Lint Value

Variety	Lint Yield (lbs/A)	Turnout (%)	Mic	Length (in)	Staple (1/32 in)	Strength (g/tex)	Uniformity (%)	Color Grades	Leaf Grade	Loan Value ($/lbs)	Lint Value ($/A)
PHY480W3FE	566	35.7	4.5	1.05	33.7	30.3	81.3	31,41,32,41	4.0	0.5188	$294
PHY400W3FE	585	36.1	4.3	1.04	3B.2	28.1	79.4	31,31,31,41,	4.3	0.4926	$290
PHY332W3FE	559	34.4	4.5	1.07	34.3	28.6	80.1	31,42,32,42	3.8	0.5073	$285
PHY415W3FE	537	34.6	4.6	1.06	33.8	29.5	79.9	32,41,41,42	4.3	0.5016	$270
PHY411W3FE	561	35.8	4.8	1.00	31.9	28.9	79.7	31,31,41,41	3.3	0.4693	$263
PX1124B236-04W3FE	528	34.6	4.8	1.04	33.3	30.9	79.7	41,41,41,41	3.8	0.4881	$258
PX1125B234-04W3FE	526	33.4	5.1	1.02	32.8	28.2	78.8	41,41,41,41	4.0	0.4533	$239
PX1150B437-04W3FE	465	33.6	4.5	1.00	32.0	27.9	78.5	31,41,41,42	3.5	0.4649	$216
Mean	541	34.8	4.6	1.04	33.1	29.0	79.7		3.8	0.4870	$264

Variety	Final Plant Height (in)	Node of 1st Fruiting Branch	Final Total Nodes	Nodes Above Cracked Boll	Early Vigor* (in/internode)	Height/Node Ratio
PHY332W3FE	23.1	8.2	18.4	3.7	0.9	1.25
PHY400W3FE	19.7	6.3	18.6	3.2	0.7	1.06
PHY411W3FE	21.8	7.9	20.0	3.7	0.8	1.09
PHY415W3FE	20.7	7.6	18.8	3.7	0.7	1.10
PHY480W3FE	21.4	7.0	20.9	3.9	0.7	1.02
PX1125B234-04W3FE	19.1	7.3	17.2	3.9	0.9	1.11
PX1124B236-04W3FE	19.1	8.2	17.7	3.3	0.9	1.08
PX1150B437-04W3FE	21.5	8.5	20.9	4.5	0.6	1.03

Visit PhytoGenCottonseed.com for the latest data and information.

DO NOT USE THIS OR ANY OTHER DATA FROM A LIMITED NUMBER OF TRIALS AS A SIGNIFICANT FACTOR IN PRODUCT SELECTION.

Product responses are variable and subject to any number of environmental, disease and pest pressures. Please use this information as only part of your product positioning decision. Refer to a PhytoGen Cotton Development Specialist for the latest information and complete listing of traits and scores for each product and for product placement and management suggestions specific to your region and local conditions.

Result Demonstration Report

Globe Mallow Control Field Trial
Phillip Bales

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties
Reagan Noland, Extension Agronomist, San Angelo

Summary

Globe mallow, native to West Central Texas has arisen as problematic perennial weed in no-till and reduced tillage crop fields. Producers and crop industry professionals have reported difficulty managing these weeds once established in reduced tillage annual crop systems, generally cotton and wheat. Infested acreage and percent weed coverage vary widely among affected farms, but in severe cases, these weeds are persisting in high densities across >40% of some fields. In the absence of mechanical weed control, no-till and strip-till producers in this region rely heavily on herbicides for weed management. Pre-emergence residual herbicides may prevent new weeds from establishing but have no efficacy on perennial weeds once established. The most common post-emergence herbicides used for broadleaf weed control in these systems are glyphosate (in glyphosate-tolerant crops, or as a burndown during fallow periods) and dicamba (in XtendFlex cotton). Per grower reports, glyphosate alone and combinations of glyphosate and dicamba have provided little to no control of the target weed species.

Objective

The objective of this trial was to determine if any of the commonly used chemicals for cotton production or tank-mixes of these chemicals would provide sufficient efficacy on globe mallow during the cotton production season.

Materials and Methods

The site was sprayed on July 22, 2023, with six treatments of the most commonly used products in cotton, compared to a UTC for a total of seven treatments (Table 18). Dicamba, 2,4-D, and glyphosate were applied both alone and tank mixed. Plots were 8-rows by 125 feet long with only the middle 4 rows being treated to prevent drift between plots. Applications were made using a self-propelled sprayer at 12.0 GPA with 40 psi using TTJ60-02 nozzles. Control was rated as percent damage at 14 and 28 days after application (DAA).

Table 18

Herbicide treatments applied to narrow-leaf globemallow in Glasscock County, TX 2023.

		Treatment	Product	Rate	Unit	
	1	Glyphosate	glyphosate	32.0	oz/ac	
			AMS	2.0	% v/v	
	2	Dicamba	dicamba	32.0	oz/ac	
			NIS	2.0	% v/v	
			AMS	2.0	% v/v	
	3	2,4-D	2,4-D	32.0	oz/ac	
			NIS	2.0	% v/v	
			AMS	2.0	% v/v	
	4	Dicamba + Glyphosate	dicamba	32.0	oz/ac	
			glyphosate	32.0	oz/ac	
			NIS	2.0	% v/v	
			AMS	2.0	% v/v	
	5	2,4-D + Glyphosate	2,4-D	32.0	oz/ac	
			glyphosate	32	oz/ac	
			NIS	2.0	% v/v	
			AMS	2.0	% v/v	
	6	Dicamba + 2,4-D	dicamba	16.0	oz/ac	
			2,4-D	16.0	oz/ac	
			NIS	2.0	% v/v	
			AMS	2.0	% v/v	
	7	UTC	Untreated	-	-	

Results and Discussion

Herbicide treatments affected weed damage and mortality in this trial. Dicamba, 2,4-D, and 2,4-D + glyphosate resulted in the greatest weed damage at 14 DAA (mean = 38.8% control) (Table 18), with 2,4-D and 2,4-D + glyphosate resulting in greater control than all other treatments containing glyphosate as well as dicamba + 2,4-D. At 28 DAA, dicamba, 2,4-D, and 2,4-D + glyphosate resulted in greater control than glyphosate, dicamba + glyphosate, and the untreated check. At both assessment timings, the effects of glyphosate and dicamba + glyphosate were not different than the untreated check.

Conclusions

Herbicide control of perennial Malvaceae species is complicated by the inefficacy of glyphosate alone, as well as apparent tank-mix antagonism between glyphosate and dicamba. This necessitates accom-modation of other herbicide options within cropping systems to achieve no-till
control of these weeds. This work indicates that potentially useful herbicide options for narrow-leaf globemallow are 2,4-D and dicamba alone and in combination, as well as 2,4-D + glyphosate.
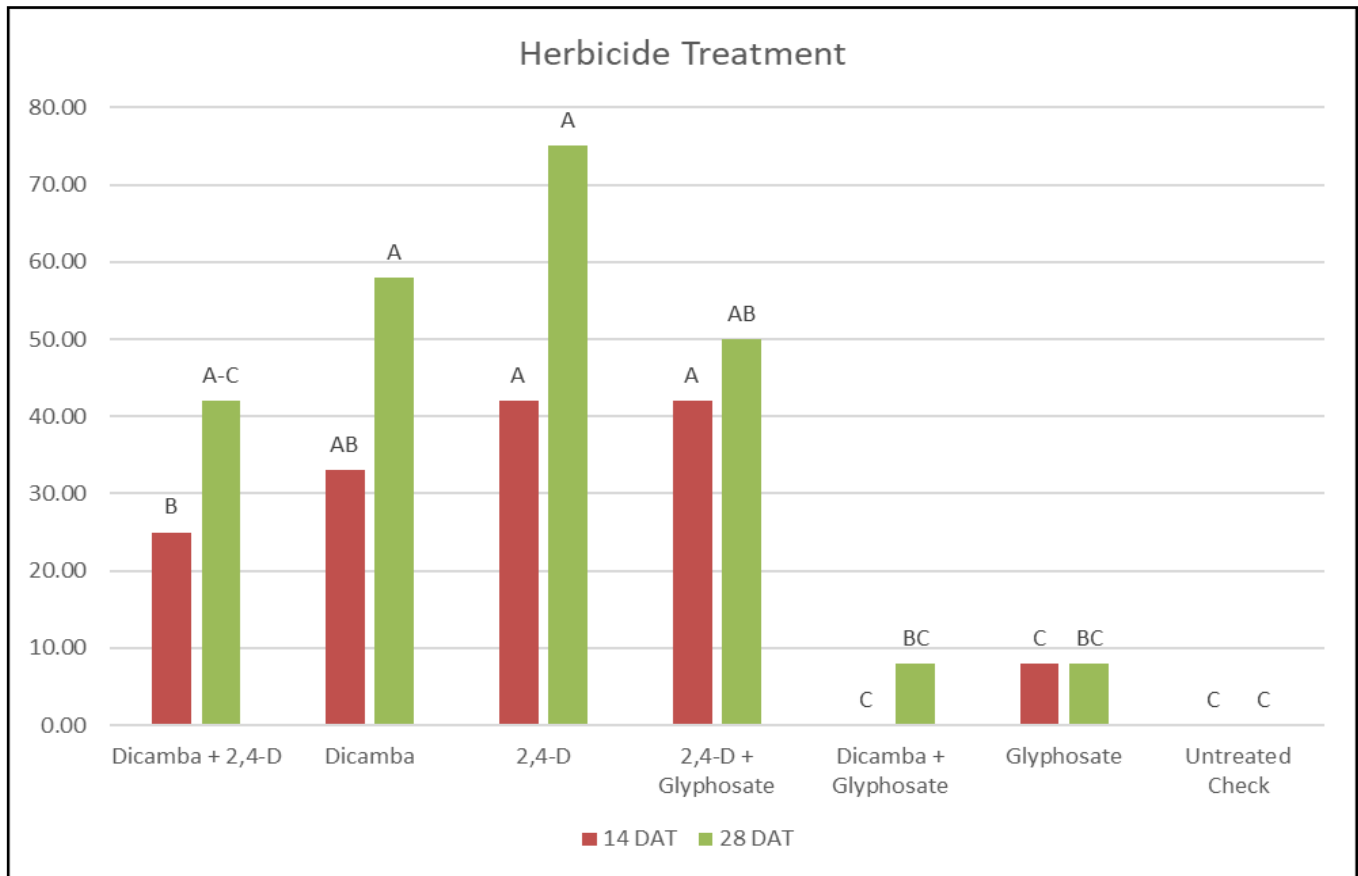
Table 19

Table 19. Herbicide treatment effects on globemallow control 14 and 28 days after application.

Acknowledgements

Result Demonstration Report

PERENNIAL GRASS CONTROL DEMONSTRATION

Cooperators: Travis Gully

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties
Reagan Noland, Extension Agronomist, San Angelo

Summary

This test was initiated in 2022 in the Concho Valley and has since been modified and conducted in St. Lawrence as perennial grasses are becoming a larger issue and more difficult to control each year. With more fields being placed in no-till as well as the increased use of auxin herbicides each season, grasses are escaping control and becoming established in cotton throughout the area. These weeds are easier to control early in the first season, but after becoming established and especially after the first season they become difficult and costly to control. Most all of these weeds are being brought in from pastures and include: white tridens, windmill grass, tumble windmill grass, and several grama grass species.

Objective

The objective of this trial is to find a product or products which will effectively control perennial grass species, preferably over the top of cotton, have a plant back window which will allow producers to plant cotton the following season, and hopefully manage it cost effectively. Most trials have been conducted in the spring or summer to look at control of perennial grasses. This trial looks at control with a fall application and determines long-term control over a year or more.

Material and Methods

On September 22, 2022 a trial was initiated to determine which chemicals might provide some control of perennial grasses in a field planted to haygrazer after taking out the cotton crop earlier in the season. Ten individual plants were treated with each chemical as well as 80 inch strips 400-500 feet long. Individual plant treatments were targeting white tridens, the most dominant weed species in the field. The strips were measuring over all control of weeds present.

Individual plant treatment was randomized throughout the area and treated with a backpack sprayer applying 12 gallons per acre with TT 11002 tips at 35 psi. Application was made between 9:00 am and 12:00 pm with a temperature of 93°. The wind was out of the southwest at 9.5 mph and the humidity was 15%. Ratings for this trial were based on visual ratings based on percent of damage on a 1-10 scale with 1 being no damage and 10 being completely burned down. With these being perennial grasses, true control was not determined until the spring on 2023.

In this trial only glyphosate and Clethodim are labeled to be applied over the top of cotton. All products have a short enough rotational restriction to plant cotton the following year.
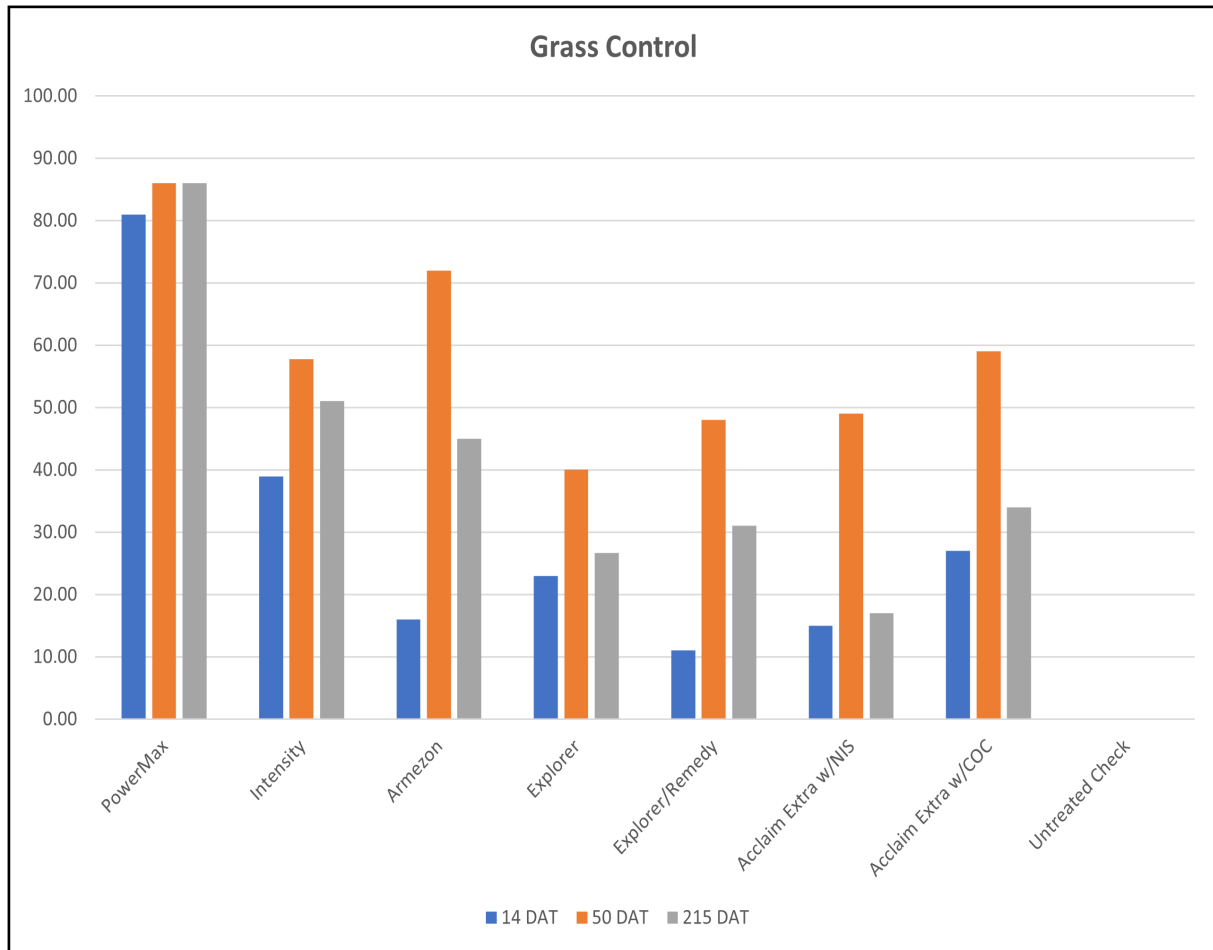
Table 20

	Treatment	Product	Rate	Unit
1	Glyphosate	Roundup PowerMax	32	fl. oz.
		AMS	17	lbs/100gal
2	Clethodim	Intensity	16	fl. oz.
		COC	32	fl. oz.
		AMS	17	lbs/100gal
3	Topramezone	Armezon	2	fl. oz.
		COC	32	% v/v
		AMS	17	lbs/100gal
4	Mesotrione	Explorer	8	fl. oz.
		COC	32	fl. oz.
		AMS	17	lbs/100gal
5	Mesotrione	Explorer	8	fl. oz.
	Triclopyr	Remedy	32	fl. oz.
		COC	32	fl. oz.
		AMS	17	lbs/100gal
6	Fenoxaprop	Acclaim Extra	39	fl. oz.
		NIS	0.5	% v/v
7	Fenoxaprop	Acclaim Extra	39	fl. oz.
		COC	32	fl. oz.
8	UTC	Untreated	-	-

Results and Discussion

Ratings were taken on three separate occasions, 9/30/22, 7 days after treatment (DAT), 11/10/22, 50 DAT, and 5/30/23, 215 DAT. Despite the dry weather, plants had already greened up including the untreated check. All products showed improved control 50 days after application versus the 7-day rating. However, only glyphosate (Roundup PowerMax) continued to show increased control at the 215-day rating (86.0%). All other treatments showed reduced control by this rating date. We have seen glyphosate show good control in spring applications in the past, however, control later in the summer has not been satisfactory. Topramezone (Armezon) had control ratings slightly below that of glyphosate with 72% vs. 86% at 50 DAT but dropped off considerably by the 215-day rating to 45%. Clethodim (Intensity) is a product that has been used for grass control in cotton. It had a 50-day rating of 57.8%, not nearly as good as what we would have expected from this product.

Table 21

Grass Control

Legend: 14 DAT, 50 DAT, 215 DAT

Categories: PowerMax, Intensity, Armezon, Explorer, Explorer/Remedy, Acclaim Extra w/NIS, Acclaim Extra w/COC, Untreated Check

Conclusion

     The glyphosate (Roundup PowerMax) treatment had the highest 7-, 50-, and 215-day control rating of any of the products tested (81%, 86%, 86%). It was also the only product that did not show a reduction in control from the 50-day to 215-day rating. Clethodim (Intensity) was the only other product to have over 50% control after 215 days (51%). More work needs to be done to assess tank-mixes, timing, and rates of products to find the best control options for these perennial grass species.

Acknowledgements

Result Demonstration Report

Hog Potato Control Field Trial
County Facility

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties
Reagan Noland, Extension Agronomist, San Angelo

Summary

This test was initiated in the fall of 2022 in Glasscock County to look at chemicals to try and control hog potato (mesquite weed). Hog potato is a difficult to control perennial legume that is predominant in pastureland in West Texas. Five products were used in this trial, Tordon (picloram), Milestone (aminopyralid), Remedy (triclopyr), Staredown (fluroxpyr), and Reclaim (clopyralid). All the products except Staredown have shown to work on hog potato in the past, however they are labeled for pasture and range. Staredown is labeled for crop use, primarily grains but has not been evaluated for efficacy on hog potato.

Objective

The objective of this trial is to find a product or products which will effectively control hog potato, preferably over the top of cotton, have a plant back window which will allow producers to plant cotton the following season, and hopefully manage it cost effectively.

Materials and Methods

On September 22, 2022, a trial was initiated to determine which chemicals might provide some control of hog potato on a piece of property owned by Glasscock County west of Garden City. This area is next to the county maintenance barn, in an undisturbed area with a large amount of hog potato. Five treatments were made 40 inches by 10 feet long and replicated 3 times in a complete block randomization. The weed pressure was fairly uniform.

Materials were applied with a backpack sprayer applying 12 gallons per acre at 35 psi. Nozzles were TT 11002 and were 20 inches apart. The temperature was 93° with a wind speed out of the southwest of 9.5 mph and 15% humidity at 2:30 pm.

Table 22

	Product	Rate	Unit
1	Tordon	32.0	oz.
	NIS	0.5	% v/v
2	Milestone	7.0	oz.
	NIS	0.5	% v/v
3	Remedy	16.0	oz.
	NIS	0.5	% v/v
4	Staredown	11.2	oz.
	NIS	0.5	% v/v
5	Reclaim	21.3	oz.
	NIS	0.5	% v/v
6	UTC		

Results and Discussion

Plots were rated 7, 14, and 50 days after treatment (DAT) in 2022 on percent control. After 50 DAT the Tordon, Remedy, and Staredown treatments were identical with 100% control and no green leaf material showing. Milestone and Reclaim had 83% and 75% control respectively. On September 4, 2023, 347 DAT, I evaluated the trail again and Milestone had increased to 100% control. Tordon had dropped to 75% and Staredown dropped down to 66%. Remedy and Reclaim both had 58% control. However, the check had 33% control at the 347-day evaluation. This may have very well been due to the extreme drought and heat over the summer, but this does call into question the results of this trial.

Conclusions

Hog potato has been a difficult to control weed for decades and is not just an issue in St. Lawrence but elsewhere around the Rolling Plains and High Plains areas. There are options available to control this weed, however most all products with any decent control are generally not labeled for cotton but also come with long plant back restrictions which will damage cotton or other crops following the application. Finding viable, on label options for controlling hog potato will save producers money on chemicals as well as increase profits due to yield increases from less weed competition and chemical damage from residual herbicides in the soil. Control measures need to be found.
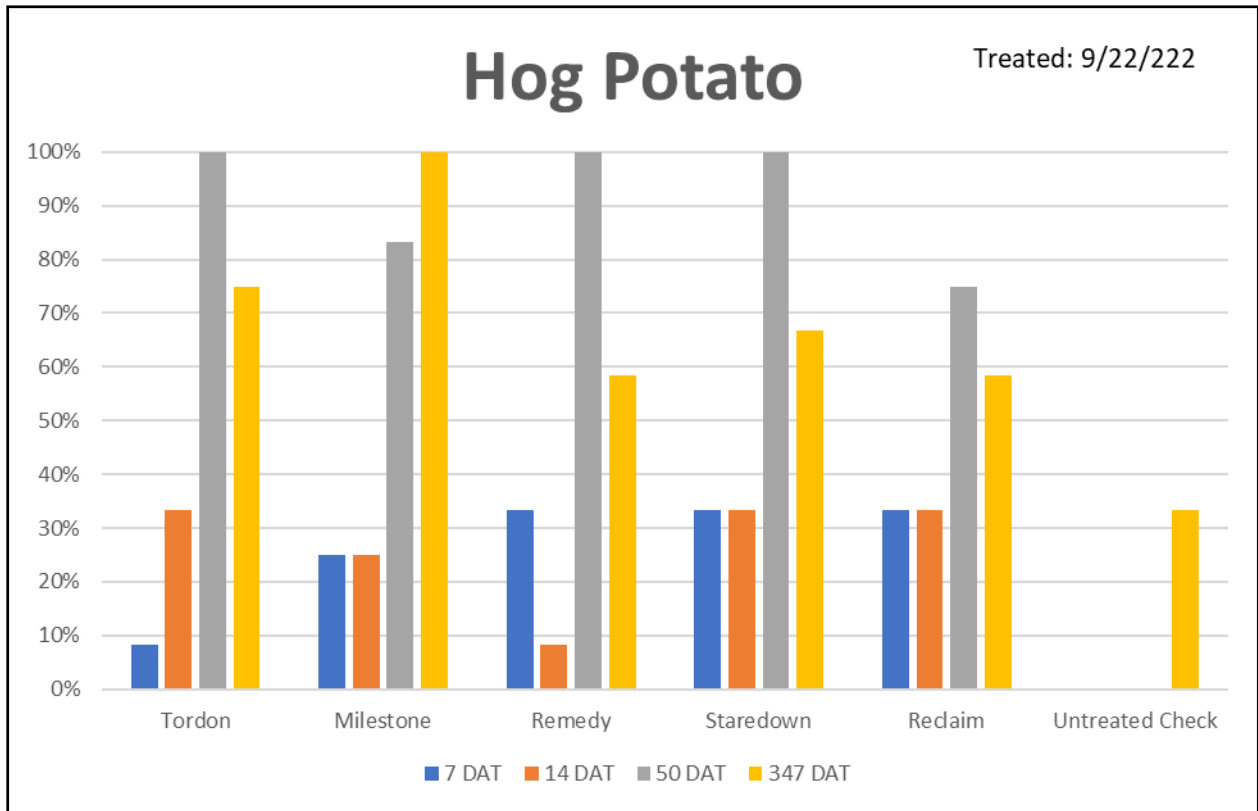
Acknowledgements

Table 23

Table 23. Herbicide treatment effects on hog potato control 7, 14, 50, and 347 days after application.