GLASSCOCK, REAGAN, and UPTON COUNTIES PEST MANAGEMENT PROGRAM

2020

ANNUAL REPORT

Prepared by:

Brad Easterling
Extension Agent-Integrated Pest Management

Glasscock, Reagan and Upton Counties

In cooperation with
Cody Trimble, Extension Agent-Agriculture, Glasscock County
Dakota Kempken – Assistant Agent, 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 demonstration 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 all the following producers for their cooperation with applied research/result demonstration projects this season.

Carl & Austin Hoelscher
Chris Hirt
Mitchell Jansa & Joe D. Schwartz
Anthony Hoelscher
Colton Schwartz
Garrett Kellermeier
David Meyer
Cole Schwartz
Galen Schwartz
Duke Goodwin
Darrell Halfmann
Ricky Halfmann
Allen Jansa

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
Katie Lewis……Assist. Professor, Dept. of Soil and Crop District 2, Lubbock
Mr. Cody Trimble……Extension Agent – Agriculture, Garden City
Mr. Dakota Kempken……Glasscock County Extension Assist. Agent, Garden City
Ms. Erica Rauschuber……Glasscock County Extension Secretary, Garden City
Mr. Chase McPhaul……Reagan County Extension Agent –Agriculture, Big Lake
Mr. Raymond Quigg……Upton County Extension Agent-Agriculture, Rankin
Dr. Reagan Noland……Assist. Professor & Extension Agronomist District 7, San Angelo
Dr. Tom Isakeit……Prof. & Extension Specialist, Field Crops, College Station
Dr. Paul DeLaune……Associate Professor of Environmental Soil Science, Vernon

Appreciation is also extended to the pest management scouts for 2020.
Scouts were Shay Miller and Logan Seidenberger.

TABLE OF CONTENTS

INTRODUCTION

A "survey type" pest management program was operated in 2020 in the St. Lawrence Area. The program has been in operation for the past forty-one years in Glasscock, Reagan and Upton Counties. The major objectives of the program are to alert producers of pest population buildup in their area and teach them to identify and manage these problems.

Cotton is the major crop produced in the three counties. Additionally, acreages of wheat, grain sorghum, corn, pecans, and watermelons are grown. In Table 1 below are the estimated cotton acreage combined for each county and the approximate lint yields. There were 88,592 dryland acres planted with very few acres harvested this season due to basically no rainfall during the growing season despite a very wet February, March and first half of April. Irrigated yields were approximately half of the historical average.

TABLE 1

COTTON LINT YIELDS FOR 2020

COUNTY	COTTON ACREAGE	AVERAGE YIELD
GLASSCOCK	111,430	672
REAGAN	48,829	672
UPTON	12,730	672

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 resistant pigweed, silverleaf nightshade, hog potato, bundleflower, devil's claw, prairie sunflower, dwarf crownbeard, morning glory, field bindweed, and other perennial weeds. Cotton root rot, verticillium wilt, bacterial blight, and seedling disease 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. High winds, hail and blowing sand can cause severe damage to cotton. However, temperature and length of growing season are sufficient for good cotton growth.

The pest management annual report includes information concerning the survey scouting program, the pest situation and result demonstrations for 2020. I hope it will be informative to all persons interested in the program.

STEERING COMMITTEE

The Board of Directors of the St. Lawrence Cotton Growers Association acts as the local pest management steering committee. The board consists of nine dedicated producers from the three county area. These board members are elected by the producers in nine districts. The board has worked diligently throughout the year to make the program a total effort. The members of the board are as follows:

President.....Pat Pelzel
Vice-President.....Wayne Jansa
Secretary-Treasurer.....Chris Hirt
.....Ricky Halfmann
.....Garrett Kellermeier
.....Jeremy Gully
.....Bo Eggemeyer
.....Cody Wilson
.....Russell Halfmann
.....Wilbert Braden

TABLE 2

RAINFALL FOR 2020

	BIG LAKE	LOMAX	ST. LAWRENCE
JAN-	1.05	1.05	0.78
FEB-	1.21	1.76	2.01
MAR-	2.19	2.88	3.18
APRIL-	0.40	0.55	0.58
MAY-	3.38	2.08	0.20
JUNE-	0.58	2.68	0.09
JULY-	0.43	1.33	0.03
AUG-	0.03	0.14	0.15
SEPT-	3.27	3.14	1.91
OCT-	0.17	0.41	0.28
NOV-	0.03	0.10	0.07
DEC-	0.48	0.33	0.32
TOTAL	**13.22**	**16.45**	**9.63**

TABLE3

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

FUNDS ON HAND, JANUARY 1, 2020	6.19
BUDGET RECEIPTS	
UNIT SCOUTING CONTRIBUTIONS	15,000.00
TOTAL INCOME	15,000.00
SCOUTING EXPENSE	
ACCOUNT TRANSFER EXPENSE	2,280.00
ADMINISTRATIVE FEE	2,250.00
PAYROLL TAXEXPENSE	467.68
TRAVEL-SCOUT	2,511.50
WAGES (SALARY AD WAGES)	5,463.50
TOTAL SCOUTING EXPENSE	12,972.68
OPERATING BALANCE AS OF DATE CASH IN BANK	2,033.51

SCOUTING PROGRAM ACTIVITIES

The St. Lawrence Area covering Glasscock, Reagan and Upton Counties had a total of 172,989 acres of cotton. There are approximately 130 producers that are members of the St. Lawrence Cotton Growers Association. The survey type program gathers information to alert producers of possible insect pest problems. Most of the scouting was directed toward thrips, fleahoppers, aphids, and stinkbugs. The two scouts checked fields all across the St. Lawrence area.

Following is a table of the 2020 scouting statistics.

TABLE 4 – ST. LAWRENCE AREA SCOUTING STATISTICS - 2020

AVERAGE SIZE OF FIELDS	120 ACRES
NUMBER OF SCOUTS	2
PROGRAM FINANCING - IRRIGATED	$0. 25 PER BALE
PROGRAM FINANCING - DRYLAND	$0.25 PER ACRE
TOTAL ACRES - IRRIGATED	36,216
TOTAL ACRES - DRYLAND	136,772
PROGRAM EXPENDITURES	$12,972
MILEAGE RATE	.52/MILE
SCOUT HOURLY RATE	$10.50

The two field scouts began work by attending a scout training seminar in Garden City for scouts and county agents. This training allows the scouts to practice insect identification and scouting techniques in cotton fields similar to what they will see later in the season. During the first couple of weeks the scouts familiarize themselves with the early season pests such as grasshoppers, thrips, aphids and various worms. These insects were reported on a 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 scouts' attention was targeted at fleahopper scouting. They counted the number of fleahoppers per 100 terminals and also determined the percent square set.

As the cotton began squaring, the scouts 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. 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 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, similar to a podcast weekly to bi-weekly concerning important crop issues. Reports were sent by text to producers and posted on the Extension Entomology Website.

As the Crop continued to progress the scouts began to turn much of their attention to blooming cotton and progress of blooms up the plant (NAWF.) They continue to monitor for bollworms while at the same time increasing their 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 September 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 for 2020 were not much of a concern in St. Lawrence cotton due to the extreme heat and lack of rain experienced this season. February through mid-March saw just over 5.0 inches of rainfall in the area. The rest of the year received a little over 4.0 inches. This lack of rain and above average temperatures kept pests down most all season.

Thrips were very light the first half of the season as they are in many years. They were present, they fed a little, but did not cause enough damage to warrant treatment. Aphids overall were fewer than in most years. Generally low levels early in the season help to build beneficial populations.

As far as insects were concerned, our biggest concern in 2020 was cotton fleahoppers. We had several areas which required treatment early on as we generally do. A big problem for many fields was very low levels of fleahoppers, extreme heat and low fruit set. The handful of fleahoppers per 100 terminals were feeding on the few squares the heat did not get. Growers however were still reluctant to spend too much money on this crop. However, in several of those fields, treatments lowered fleahopper numbers and improved square sets enough to be economical.

Worm pressure was again almost non-existent. This was even evident in a couple of non-Bt trials that were conducted as well as our trap counts.

Stink bugs spiked in mid-July on some early cotton and they tapered off the remainder of the year.

Overall it was a disappointing year as there was basically no dryland and irrigated yields were down by as much as half.

Grains were disappointing as well in 2020, especially wheat, considering how wet it was in February and March. Wheat yields were not what was expected, and test weights were light.

Corn yields were down considerably due to heat and dryness and very little sorghum was harvested.

TABLE 5 Total Planted Acres in Glasscock, Reagan, and Upton Counties

Glasscock	2020	2019	2018	2017
Cotton	111,430	109,625	124,163	101,667
Corn	898	463	181	280
Pecans	935	941	941	875
Sorghum	1,521	1,056	1,279	2,427
Watermelon	295	216	235	175
Wheat	15,159	11,510	10,820	9,127

Reagan	2020	2019	2018	2017
Cotton	48,829	45,821	50,892	41,482
Corn	656	379	411	615
Pecans	109	112	105	153
Sorghum	1,729	461	639	1,224
Watermelon	47	23	24	73
Wheat	7,158	7,118	7,984	10,443

Upton	2020	2019	2018	2017
Cotton	12,730	12,200	15,712	15,258
Corn	52	85	48	49
Pecans	90	90	90	90
Sorghum	375	62	396	723
Watermelon	0	0	183	237
Wheat	7,725	8,578	12,717	10,859

TABLE 6

Cotton Production in the St. Lawrence Area

	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	97,801	66,310	31,491
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	56,633	40,115	16,518
2019	125,005	85,018	39,987
2020	59,729	41,177	18,552
Total	2,270,691	1,605,870	664,821
Average	113,535	80,294	33,241
10 Year	108,756	75,095	33,661

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, personal contacts, newsletters, Facebook, audio updates and blog posts are methods used in the educational program. An emphasis is directed to training producers, spouses, and family members to scout insects. The 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 7, below, is an overview of educational activities.

Several educational activities were limited this season such as face-to-face producer contacts and producer meetings due to Covid-19. Result Demonstrations were reduced due to the extreme drought.

TABLE 7

Educational Activities

Producer Contacts	620
Turn row Meetings	22
Newsletters	18
Tours	1
Audio Updates	20
Miscellaneous Crop Producer Meetings	8
Total Persons Provided Scout Training	4
Result Demonstrations	11
Pest Management Committee Meetings	5

Result Demonstration Reports

Result Demonstration Report

MICRONUTRIENT FERTILITY ON OLDER DRIP SYSTEMS

Cooperators: Ricky Halfmann, Duke Goodwin

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
Dakota Kempken, Assistant CEA-AG, Glasscock County

Summary

This is the second year of a series of trials conducted to determine why many fields in the St. Lawrence region are not yielding as much as they previously were despite having as much water as they had many years ago. Fields were split in half, soil sampled and then petiole and tissue samples were taken during the growing season to determine if any nutrients were short which would limit production. The half which had additional fertilizer made an additional 120 lbs/ac of cotton as well as having an increased loan rate of $.4967 vs $.4860 for the half that did not receive the additional fertilizer.

Objective

Most producers in the St. Lawrence area try to go by the rule of thumb that they should yield one bale per gallon per minute per acre. Many of these fields are no longer achieving these yields despite still having approximately the same water by either drilling more wells or reducing the number of acres that they are irrigating. In addition, many of these fields primarily receive only nitrogen, phosphorus and zinc most years as far as fertilizer goes with only the occasional micronutrients and generally only small amounts. Over the past couple of years, the number of fields in this program has fluctuated from one to three fields with data only being collected from one field per year.

Materials and Methods

Fields were split in half at the beginning of the season and soil samples were taken to determine what the initial fertility levels were. We began taking both petiole and tissue sampling approximately one

week prior to bloom to determine what nutrients were being taken up by the plants. The samples were sent off to three different labs to compare results. Results for most samples were very similar each sampling. After receiving samples back, we came up with a fertilizer recommendation consisting of mostly micronutrients. These included: zinc, iron, manganese, copper, and boron. This season the fertilized portion of the fields received primarily a higher level of phosphorus along with a minor application of micronutrients. A second set of petiole and tissue samples was taken two weeks later which showed there was still a deficiency in most all these micronutrients as well as nitrogen and phosphorus, but not as low as the control which did not receive the additional application. However, since this season's crop matured so quickly the producer decided not to make a second application.

Results and Discussion

With this being the second year of this trial, our results are not conclusive but tend to point towards a trend of soils being limited in several micronutrients. These micronutrients play an integral role not only in plant growth but in being able to free up the availability of several of our macronutrients. We are also noticing that the application of PeakAcid as a source of phosphorus may be able to lower the pH and free up micronutrients that are tied up in our soil due to our high pH. Without an overall balanced fertility program maximum yields cannot be attained. From the limited data this season we were able to produce 23 bales of cotton on 15 acres with an average loan of $.4967 with one additional application vs 19 bales on 15 acres with an average loan of $.4860 on the traditional fertility program. We were unable to keep the water consistent and the cotton from the two treatments were combined during harvest, so we had to throw the results out on the second trial location.

Conclusions

As seen in Table 8, differences in cotton yields, and loan value can be seen from a small number of micronutrients applied to a field that is deficient. The results of this test are still not conclusive, however, there appears to be a trend in at least improving the fertility level of these older fields that may have been neglected. As to whether they need additional nutrients or if we need to free up what is there by lowering the pH is still a question to be answered. There also is a trend of sample consistency among laboratories, were samples taken from the same lab throughout the season remain consistent. However, comparing samples between labs does not prove to be reliable. Keep in mind that there is not a tremendous amount of university information concerning the validity of petiole or tissue sampling. Several companies perform the tests and make the recommendations but there are no official deficiency levels for many of these nutrients, especially the micros. Seasonal growing conditions, moisture, insects, disease can have a huge impact on how plants take up nutrients and how they may respond to a fertilizer application. More work needs to be performed before putting too much faith in these results.

Acknowledgements

The authors would like to thank Mr. Ricky Halfmann, and Duke Goodwin for cooperating with this demonstration.

They would also like to thank Cotton Incorporated and the Texas State Support Committee for the funding of this project.

Table 8:

Ru Half-19	Color	Staple	Leaf	MIC	Length	Strength	Uniformity	Loan	bales	lbs/ac
Fertilized	21.5	35.2	2.3	4.73	110.2	31.9	80.8	0.5523	87	1202
Unfertilized	21.3	35.9	2.0	4.68	109.0	31.4	79.8	0.5482	71	986
								0.0041	16	216
Duke-20	**Color**	**Staple**	**Leaf**	**MIC**	**Length**	**Strength**	**Uniformity**	**Loan**	**bales**	**lbs/ac**
Fertilized	11.2	32	1.0	4.5	100.5	29.5	80.4	0.4967	23	688
Unfertilized	11.0	31	1.0	4.2	98.0	29.2	79.7	0.4860	19	568
								0.0107	4	120

Result Demonstration Report

IRRIGATED COTTON VARIETY DEMONSTRATION

Cooperators: Anthony Hoelscher

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties, Garden City, Texas
Cody Trimble, CEA-AG, Glasscock County, Garden City, Texas
Chase McPhaul, CEA-AG, Reagan County, Big Lake, Texas
Raymond Quigg, CEA-AG, Upton County
Dakota Kempken, Assistant CEA-AG, Glasscock County

Summary

Eight cotton varieties were compared in randomized complete block design under similar field conditions. Lint yields varied with a low of 991 lbs./acre (DP 1646 B2XF) to a high of 1135 lbs./acre (PHY 480 W3FE). Lint loan values averaged $.5112/lb. and ranged from a low of $0.4963/lb. (FM 2498 GLT) to a high of $0.5198/lb. (PHY 480 W3FE). Gross Return/acre among varieties ranged from a high of $714.81 (PHY 480 W3FE) to a low of $607.17 (DP 1646 B2XF), a difference of $107.64.

Objective

To find cotton varieties that will 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

The field used for this test was drip irrigated, planted in 8 row plots in a solid row pattern on 40" spacing on May 21st. The seeding rate was around 23,500 seed per acre and the irrigation capacity was about 2.75 gallons at the beginning of the season. Rows were 665 feet long and each plot was .41 acres in size. It was stripper harvested on October 7th and the cotton was weighed on platform scales. Samples were ginned, and fiber samples were sent off for classing.

Results and Discussion

As seen in Table 9, lint yields varied with a low of 991 lbs./acre for DeltaPine 1646 B2XF to a high of 1135 lbs./acre for Phytogen 480 W3FE. Lint loan values averaged $0.5112/lb and ranged from a low of $0.4963/lb. for FiberMax 2498 GLT to a high of $0.5198/lb. for Phytogen 480 W3FE.

Gross Return/acre among varieties ranged from a high of $714.81 for Phytogen 480 W3FE to a low of $607.17 for DeltaPine 1646 B2XF, a difference of $107.64. Lint turnout ranged from a low of 31.65% to a high of 37.05% for Phytogen 350 W3FE and Phytogen 480 W3FE, respectively. Micronaire values ranged from a low of 4.64 for Phytogen 400 W3FE to a high of 5.13 for FiberMax 2498 GLT. Staple averaged 34 across all varieties with a low of 33 for Phytogen 350 W3FE and a high of 35 for NexGen 4936 B3XF and DeltaPine 1648 B2XF. The highest percent uniformity was observed for Stoneville 5707 B2XF at 81.43% and DeltaPine 1646 B2XF had the lowest (79.83%). Strength values ranged from 26.63 g/tex for DeltaPine 1646 B2XF to 30.87 g/tex for Stoneville 5707 B2XF. Color grades were mostly 11's with one 21 and one 12. Leaf grades were consistent with all 1's except for one 2. These data indicate that substantial differences can be obtained in terms of Gross Return/acre due to variety and technology selection.

Conclusions

As seen in Table 9, significant differences in cotton yields, grades, and loan value can been seen from different varieties. However, it is important to keep in mind that for several of these varieties this is the first or second year that they have been out on the market. Also, seasonal growing conditions can have a huge impact on how varieties perform as some respond better to heat, drought, better moisture, cooler temperature, different soils types, etc. We must also remember that these varieties are not all the exact same maturity so they do not necessarily get harvested at the most optimum time as they may in a production field which could affect grades. However, this becomes difficult in these trials as we must treat each variety equally. We must defoliate when most of the varieties are at the optimum stage to defoliate.

Acknowledgements

The authors would like to thank Mr. Anthony Hoelscher for cooperating in this demonstration.

They would also like to thank the seed companies who donated the seed.

Americot Inc. who provided NG 4936 B3XF.

BASF who provided FM 2398 GLTP, FM 2498 GLT, ST 5707 B2XF.

Bayer CropScience who provided DP 1646 B2XF.

Corteva who provided PHY 350 W3FE, PHY 400 W3FE, PHY 480 W3FE

Table 9:

2020 Cotton Variety Trial

Producer: **Anthony Hoelscher**
Name of County: Reagan
Design: Irr

Plant Date: 5/21/2020
Harvest Date: 10/7/2020

TEXAS A&M AGRILIFE EXTENSION

Variety	Yield Per Acre Lint	Yield Per Acre Seed	% Turnout Lint	% Turnout Seed	Loan Value	Lint Gross Return	Seed Gross Return	Length	Staple	Mic	Strength	Unif.	Gross Return ($/acre)[1]
PHY 480 W3FE	1135	1187	37.05%	38.5%	$0.5198	$590.16	$124.66	1.05	34	4.75	28.93	81.03%	$714.81
PHY 350 W3FE	1105	1398	31.65%	40.1%	$0.5010	$553.87	$146.79	1.03	33	4.89	27.27	80.33%	$700.66
ST 5707 B2XF	1031	1436	32.83%	45.7%	$0.5160	$531.43	$150.80	1.07	34	4.98	30.87	81.43%	$682.23
FM 2498 GLT	1041	1355	33.50%	43.5%	$0.4963	$516.55	$142.31	1.06	34	5.13	28.17	81.03%	$658.86
NG 4936 B3XF	993	1228	32.16%	39.7%	$0.5197	$515.88	$128.99	1.09	35	4.72	27.70	80.83%	$644.87
FM 2398 GLTP	984	1138	34.68%	40.2%	$0.5103	$500.98	$119.45	1.05	34	4.88	27.63	80.37%	$620.43
PHY 400 W3FE	950	1094	34.31%	39.5%	$0.5188	$493.30	$114.90	1.05	34	4.64	28.93	79.93%	$608.20
DP 1646 B2XF	991	974	35.11%	34.5%	$0.5075	$504.85	$102.32	1.09	35	4.74	26.63	79.83%	$607.17
Average	1029	1226	33.91%	40.2%	$0.5112	$525.88	$ 128.78	1.06	34	4.84	28.27	80.60%	$654.65
Max.	1135	1436	37.05%	45.7%	$0.5198	$590.16	$ 150.80	1.09	35	5.13	30.87	81.43%	$714.81
Min.	950	974	31.65%	34.5%	$0.4963	$493.30	$ 102.32	1.03	33	4.64	26.63	79.83%	$607.17

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 2020 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on $210/ton

For Questions Contact: Brad Easterling

TEXAS A&M AGRILIFE EXTENSION

Result Demonstration Report

IRRIGATED COTTON VARIETY DEMONSTRATION

Cooperators: Mitchell Jansa and Joe D. Schwartz

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties, Garden City, Texas
Cody Trimble, CEA-AG, Glasscock County, Garden City, Texas
Chase McPhaul, CEA-AG, Reagan County, Big Lake, Texas
Raymond Quigg, CEA-AG, Upton County
Dakota Kempken, Assistant CEA-AG, Glasscock County

Summary

Seven cotton varieties were compared in a randomized complete block design under similar field conditions. Lint yields varied with a low of 1871 lbs./acre (DP 1845 B3XF) to a high of 2446 lbs./acre (ST 5610 B3XF). Lint loan values averaged $.5654/lb. and ranged from a low of $0.5565/lb. (FM 2202 GL) to a high of $0.5720/lb. (ST 4990 B3XF). Gross Return/acre among varieties ranged from a high of $1,663.95 (ST 5610 B3XF) to a low of $1,290.30 (DP 1845 B3XF), a difference of $373.65.

Objective

To find cotton varieties that will 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

The field used for this test was drip irrigated, planted in 8 row plots in a solid row pattern on 40" spacing except for the FM 2202 GL which was planted in a 24-row plot on April 29th. Rows were 1700 feet long. They were picker harvested around October 5th and weighed at the Glasscock County Coop as separate modules. Samples were taken from each bale at the gin and results were obtained from producers recap sheets.

Results and Discussion

As seen in Table 10, lint yields varied with a low of 1871 lbs./acre for DeltaPine 1845 B3XF to a high of 2446 lbs./acre for Stoneville 5610 B3XF. Lint loan values averaged $0.5654/lb and ranged

from a low of $0.5565/lb. for FiberMax 2202 GL to a high of $0.5720/lb. for Stoneville 4990 B3XF. Gross Return/acre among varieties ranged from a high of $1,663.95 for Stoneville 5610 B3XF to a low of $1,290.30 for DeltaPine 1845 B3XF, a difference of $373.65. Lint turnout ranged from a low of 32.6% for DeltaPine 1845 B3XF to a high of 45.5% for Stoneville 5610 B3XF. Micronaire values ranged from a low of 3.8 for DeltaPine 2055 B3XF to a high of 4.7 for FiberMax 2398 GLTP. Staple averaged 36 across all varieties with a low of 35 for FiberMax 2202 GL and a high of 38 for DeltaPine 1845 B3XF. The highest percent uniformity was observed for Stoneville 4990 B3XF at 81.1% and DeltaPine 2055 B3XF had the lowest (78.5%). Strength values ranged from 30.2 g/tex for DeltaPine 2055 B3XF to 33.0 g/tex for FiberMax 2202 GL. Color grades were mostly 21's with a few 11's. Leaf grades were consistent with most everything being either a 1 or 2. Color and leaf grades had no effect on overall grades. These data indicate that substantial differences can be obtained in terms of Gross Return/acre due to variety and technology selection.

Conclusions

As seen in Table 10, significant differences in cotton yields, grades, and loan value can been seen from different varieties. However, it is important to keep in mind that for several of these varieties this is the first or second year that they have been out on the market. Also, seasonal growing conditions can have a huge impact on how varieties perform as some respond better to heat, drought, better moisture, cooler temperature, different soils types, etc. We must also remember that these varieties are not all the exact same maturity so they do not necessarily get harvested at the most optimum time as they may in a production field which could affect grades. However, this becomes difficult in these trials as we must treat each variety equally. We must defoliate when most of the varieties are at the optimum stage to defoliate.

Acknowledgements

The authors would like to thank Mr. Mitchell Jansa and Joe D. Schwartz for cooperating in this demonstration.

They would also like to thank the seed companies who donated the seed.

BASF who provided FM 2202 GL, FM 2398 GLTP, ST 4990 B3XF, ST 5610 B3XF.

Bayer CropScience who provided DP 1845 B3XF, DP 2055 B3XF.

Corteva who provided PHY 350 W3FE.

Table 10:

2020 Cotton Variety Trial

Producer: **Mitchell Jansa/Joe D. Schwartz**
Name of County: Glasscock
Design: Irrigated

Plant Date: 4/29/2020
Harvest Date: 10/5/2020

TEXAS A&M AGRILIFE EXTENSION

Variety	Yield Per Acre		% Turnout		Loan	Lint	Seed	Length	Staple	Mic	Strength	Unif.	Gross
	Lint	Seed	Lint	Seed	Value	Gross Return	Gross Return						Return ($/acre)[1]
ST 5610 B3XF	2446	2663	45.5%	49.6%	$0.5660	$1,384.34	$279.61	1.12	36	4.0	30.9	80.0%	$1,663.95
FM 2398 GLTP	2348	2683	40.3%	46.1%	$0.5675	$1,332.53	$281.76	1.13	36	4.7	31.3	80.2%	$1,614.29
PHY 350 W3FE	2321	2914	40.7%	51.1%	$0.5625	$1,305.72	$305.98	1.12	36	4.3	31.2	79.9%	$1,611.70
DP 2055 B3XF	2311	2568	44.5%	49.5%	$0.5645	$1,304.60	$269.63	1.15	37	3.8	30.2	78.5%	$1,574.23
ST 4990 B3XF	2157	2754	36.6%	46.7%	$0.5720	$1,233.94	$289.19	1.17	37	4.4	31.1	81.1%	$1,523.13
FM 2202 GL	2092	2337	41.0%	45.6%	$0.5565	$1,164.09	$245.37	1.10	35	4.2	33.0	80.7%	$1,409.47
DP 1845 B3XF	1871	2147	32.6%	37.4%	$0.5690	$1,064.87	$225.43	1.18	38	3.9	31.3	79.3%	$1,290.30
Average	2221	2581	40.2%	46.6%	$0.5654	$1,255.73	$271.00	1.14	36	4.2	31.3	80.0%	$1,526.72
Max.	2446	2914	45.5%	51.1%	$0.5720	$1,384.34	$305.98	1.18	38	4.7	33.0	81.1%	$1,663.95
Min.	1871	2147	32.6%	37.4%	$0.5565	$1,064.87	$225.43	1.10	35	3.8	30.2	78.5%	$1,290.30

Weights were calculated from modules delivered to the Glasscock Gin and number of bales ginned.

[1]Lint Values were calculated from samples sent off from Glasscock Gin to the classing office

Gross Seed Return based on $210/ton

For Questions Contact: Brad Easterling

TEXAS A&M AGRILIFE EXTENSION

Result Demonstration Report

DRYLAND COTTON VARIETY DEMONSTRATION

Cooperators: Carl and Austin Hoelscher

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties, Garden City, Texas
Cody Trimble, CEA-AG, Glasscock County, Garden City, Texas
Chase McPhaul, CEA-AG, Reagan County, Big Lake, Texas
Raymond Quigg, CEA-AG, Upton County
Dakota Kempken, Assistant CEA-AG, Glasscock County

Summary

Ten cotton varieties were compared in randomized complete block design under similar field conditions. Lint yields varied with a low of 86 lbs./acre (NG 4098 B3XF) to a high of 147 lbs./acre (NG 5711 B3XF and DG 3615 B3XF). Lint loan values averaged $.5059/lb. and ranged from a low of $0.4830/lb. (NG 3930 B3XF) to a high of $0.5150/lb. (NG 5711 B3XF, DG 3615 B3XF and ST 5707 B2XF). Gross Return/acre among varieties ranged from a high of $99.50 (NG 5711 B3XF) to a low of $57.68 (NG 4098 B3XF), a difference of $41.82.

Objective

To find cotton varieties that will increase net profits with an increase in yield and fiber qualities. These varieties must also fit the limited rainfall environment of the St. Lawrence cotton growing region as well as yield consistently year after year.

Materials and Methods

The field used for this test was dryland, planted in 10 row plots in a solid row pattern on 40" spacing on May 28th. The seeding rate was around 22,000 seed per acre. Rows varied but were approximately 1000 feet long. Due to the drought all three replications were combined to have enough cotton to weigh and sample. The trial was stripper harvested on October 7th and the middle 8 rows of the planted 10 rows was harvested and the cotton was weighed on platform scales. Samples were ginned, and fiber samples were sent off for classing.

Results and Discussion

As seen in Table 11, lint yields varied with a low of 86 lbs./acre for NexGen 4098 B3XF to a high of 147 lbs./acre for NexGen 5711 B3XF and DynaGro 3615 B3XF. Lint loan values averaged $0.5059/lb and ranged from a low of $0.4830/lb. for NexGen 3930 B3XF to a high of $0.5150/lb. for NexGen 5711 B3XF, DynaGro 3615 B3XF and Stoneville 5707 B2XF. Gross Return/acre among

varieties ranged from a high of $99.50 for NexGen 5711 B3XF to a low of $57.68 for NexGen 4098 B3XF, a difference of $41.82. Lint turnout ranged from a low of 25.72% to a high of 28.92% for Stoneville 5707 B2XF and NexGen 5711 B3XF, respectively. Micronaire values ranged from a low of 3.7 for DeltaPine 2044 B3XF and NexGen 4098 B3XF to a high of 4.6 for NexGen 5711 B3XF and DynaGro 3615 B3XF. Staple averaged 33 across all varieties with a low of 31 for DeltaPine 1549 B2XF and Stoneville 5610 B3XF and a high of 34 for DynaGro 3615 B3XF and NexGen 4098 B3XF. The highest percent uniformity was observed for DynaGro 3615 B3XF at 79.5% and DeltaPine 2044 B3XF had the lowest (76.2%). Strength values ranged from 24.6 g/tex for NexGen 3930 B3XF to 28.7 g/tex for Stoneville 5707 B2XF. Color grades were mostly 11's with one 21 and one 22. Leaf grades varied with about one third of the varieties with a leaf grade 1, one third a 2, and one third, a 3. In this trial leaf and color grades had an impact on loan value as ST 5707 B2XF had a 3 leaf and 22 color. Both DP 2044 B3XF and NG 4098 B3XF had a 3 leaf and a 21 color. These data indicate that substantial differences can be obtained in terms of Gross Return/acre due to variety and technology selection. We also had DeltaPine 1845 B3XF entered in this trial, but due to a harvest error we were not able to obtain yield data for this variety.

Conclusions

As seen in Table 11, significant differences in cotton yields, grades, and loan value can been seen from different varieties. However, it is important to keep in mind that for several of these varieties this is the first or second year that they have been out on the market. Also, seasonal growing conditions can have a huge impact on how varieties perform as some respond better to heat, drought, better moisture, cooler temperature, different soils types, etc. We must also remember that these varieties are not all the exact same maturity so they do not necessarily get harvested at the most optimum time as they may in a production field which could affect grades. However, this becomes difficult in these trials as we must treat each variety equally. We must defoliate when most of the varieties are at the optimum stage to defoliate.

Acknowledgements

The authors would like to thank Mr. Carl Hoelscher for cooperating in this demonstration. They would also like to thank the seed companies who donated the seed.

Americot Inc. who provided NG 3930 B3XF, NG 4098 B3XF, NG 5711 B3XF.

BASF who provided ST 5610 B3XF, ST 5707 B2XF.

Bayer CropScience who provided DP 1549 B2XF, DP 1646 B2XF, DP 1845 B3XF, DP 2044 B3XF.

Nutrien who provided DG 3615 B3XF.

Table : 11

2020 Cotton Variety Trial

Carl Hoelscher
Glasscock
Dry

Plant Date: 5/28/2020
Harvest Date: 10/14/2020
Herbicide: 0
Fertility: 0

Variety	Yield Per Acre Lint	Seed	% Turnout Lint	Seed	Loan Value	Lint Gross Return	Seed Gross Return	Length	Staple	Mic	Strength	Unif.	Gross Return ($/acre)[1]
NG 5711 B3XF	147	224	28.92%	44.01%	$0.5150	$75.93	$23.56	1.04	33	4.6	27.9	79.3%	$99.50
DG 3615 B3XF	147	215	28.38%	41.44%	$0.5150	$75.96	$22.62	1.06	34	4.6	28.5	79.5%	$98.58
ST 5707 B2XF	126	222	25.72%	45.31%	$0.5150	$64.91	$23.32	1.01	32	4.5	28.7	79.1%	$88.23
DP 1646 B2XF	140	155	28.65%	31.71%	$0.5095	$71.53	$16.31	1.04	33	4.3	26.2	77.0%	$87.85
DP 1549 B2XF	126	155	26.52%	32.54%	$0.5095	$64.20	$16.24	0.98	31	3.8	26.3	77.6%	$80.44
DP 2044 B3XF	113	170	27.61%	41.38%	$0.5090	$57.74	$17.85	1.04	33	3.7	26.2	76.2%	$75.59
NG 3930 B3XF	121	145	28.73%	34.49%	$0.4830	$58.40	$15.24	1.00	32	4.3	24.6	79.1%	$73.64
ST 5610 B3XF	117	134	26.86%	30.71%	$0.4875	$57.05	$14.05	0.98	31	4.0	25.0	78.5%	$71.09
NG 4098 B3XF	86	134	26.20%	40.98%	$0.5095	$43.62	$14.06	1.05	34	3.7	27.1	77.2%	$57.68
Average	125	173	27.51%	38%	$0.5059	$63.26	$18.14	1.02	33	4.2	26.72	78.2%	$81.40
Max.	147	224	28.92%	45%	$0.5150	$75.96	$23.56	1.06	34	4.6	28.70	79.5%	$99.50
Min.	86	134	25.72%	31%	$0.4830	$43.62	$14.05	0.98	31	3.7	24.60	76.2%	$57.68

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 2018 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on $210/ton

For Questions Contact: Brad Easterling

TEXAS A&M AGRILIFE EXTENSION

Result Demonstration Report

IRRIGATED Non-Bt COTTON VARIETY DEMONSTRATION

Cooperators: Galen 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
Dakota Kempken, Assistant CEA-AG, Glasscock County

Summary

Five non-Bt cotton varieties were compared in randomized design under similar field conditions. Lint yields varied with a low of 546 lbs./acre (FM 1621 GL) to a high of 677 lbs./acre (FM 2202 GL). Lint loan values averaged $.5209/lb. and ranged from a low of $0.5150/lb. (FM 1888 GL) to a high of $0.5245/lb. (FM 2202 GL). Gross Return/acre among varieties ranged from a high of $434.57 (FM 2202 GL) to a low of $351.90 (FM 1621 GL), a difference of $82.67.

Objective

The objective of this trial was to determine if producers could reduce seed costs and still maintain yields and/or profit with the use of non-Bt cotton varieties. These varieties must fit into our West Texas growing environment and maintain yields, where typically the most limiting factor being water. Originally this project was designed for dryland acres, but we performed this trial on an irrigated field instead.

Materials and Methods

The field used for this test was furrow irrigated, planted in 16 row plots in a solid row pattern on 40" spacing on June 8th. Rows varied but were approximately 750 feet long and each plot averaged 1.93 acres in size except for FM 2334 GLT which was 2.5 acres. They were picker harvested on November 20th and the cotton was weighed on platform scales. Samples were ginned, and fiber samples were sent off for classing.

Results and Discussion

As seen in Table 12, lint yields varied with a low of 546 lbs./acre for FiberMax 1621 GL to a high of 677 lbs./acre for FiberMax 2202 GL. Lint loan values averaged $0.5209/lb. and ranged from a low of $0.5150/lb. for FiberMax 1888 GL to a high of $0.5245/lb. for FiberMax 2202 GL. Gross Return/acre among varieties ranged from a high of $434.57 for FiberMax 2202 GL to a low of $351.90 for FiberMax 1621 GL, a difference of $82.67. Lint turnout ranged from a low of 32.3% to a high of 36.8% for FiberMax 1888 GL and FiberMax 2322 GL, respectively. Micronaire values ranged from a low of 4.6 for FiberMax 2202 GL to a high of 5.0 for FiberMax 1888 GL and FiberMax 1621 GL. Staple averaged 35.6 across all varieties with a low of 34 for FiberMax 1621 GL and a high of 38 for FiberMax 2334 GLT. The highest percent uniformity was observed for FiberMax 2334 GLT at 82.7% and FiberMax 1888 GL had the lowest with 79.5%. Strength values ranged from 28.9 g/tex for FiberMax 1888 GL to 32.9 g/tex for FiberMax 2202 GL. Color grades were mostly 11's with a few 21's. Leaf grades were consistent with everything being either a 1 or 2. However, FiberMax 1621 GL which had an obviously hairier leaf, had a 3 leaf. There were no other 3's amongst all grades in this trial. These data indicate that substantial differences can be obtained in terms of Gross Return/acre due to variety and technology selection.

Conclusions

As seen in Table 12, differences in cotton yields, grades, and loan value can been seen from different non-Bt varieties. However, it is important to keep in mind that these non-Bt varieties have not typically been grown in our area and this was a very difficult year. This was not a particularly heavy bollworm year, and we have not experienced a heavy year for about 4 years now. Also, seasonal growing conditions can have a huge impact on how varieties perform as some respond better to heat, drought, better moisture, cooler temperature, different soils types, etc. We must also remember that these varieties are not all the exact same maturity so they do not necessarily get harvested at the most optimum time as they may in a production field which could affect grades. Ultimately, we will most likely never get back to 50-70% non-Bt acres, but we may be able to plant 15-20% of our dryland acres to non-Bt varieties. This would allow us to maintain our current yield potential and reduce seed costs at the same time. I would like to continue this research next year with representation from every company.

Acknowledgements

The authors would like to thank Mr. Galen Schwartz for cooperating in this demonstration.

They would also like to thank BASF for providing seed for this trial

Table 12:

2020 Non-Bt Irrigated Cotton Variety Trial

Producer: **Galen Schwartz**
Name of County: Glasscock
Design: Solid
Irrigation: Row Watered

Plant Date: 6/8/2020
Harvest Date: 11/20/2020

TEXAS A&M AGRILIFE EXTENSION

Variety	Yield Per Acre Lint	Yield Per Acre Seed	% Turnout Lint	% Turnout Seed	Loan Value	Lint Gross Return	Seed Gross Return	Color	Leaf	Length	Staple	Mic	Strength	Unif.	Gross Return ($/acre)[1]
FM 2202 GL	677	759	36.0%	40.4%	$0.5245	$354.90	$79.67	11	1	1.09	35	4.6	32.9	81.80%	$434.57
FM 1888 GL	634	946	32.3%	48.2%	$0.5150	$326.31	$99.35	21	2	1.08	35	5.0	28.9	79.50%	$425.66
FM 2322 GL	606	696	36.8%	42.3%	$0.5200	$315.01	$73.11	21	2	1.12	36	4.8	29.8	80.90%	$388.12
FM 2334 GLT	560	703	33.1%	41.6%	$0.5225	$292.46	$73.79	11	1	1.18	38	4.8	30.9	82.70%	$366.25
FM 1621 GL	546	633	34.0%	39.4%	$0.5225	$285.40	$66.50	21	3	1.07	34	5.0	30.2	81.90%	$351.90
Average	604	747	34.4%	42.4%	$0.5209	$314.81	$78.48	17	2	1.11	35.60	4.8	30.5	81.36%	$ 393.30
Max.	677	946	36.8%	48.2%	$0.5245	$354.90	$99.35	21	3	1.18	38.00	5.0	32.9	82.70%	$ 434.57
Min.	546	633	32.3%	39.4%	$0.5150	$285.40	$66.50	11	1	1.07	34.00	4.6	28.9	79.50%	$ 351.90

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 2020 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on $210/ton

For Questions Contact: Brad Easterling

TEXAS A&M AGRILIFE EXTENSION

Result Demonstration Report

ST LAWRENCE RACE TRIALS

Cooperators: Cole Schwartz

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties
Reagan Noland, Extension Agronomist, San Angelo
Dakota Kempken, Assistant CEA-AG, Glasscock County

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. According to USDA, transgenic varieties made up more than 99% of all cotton varieties planted in Texas in 2020, consistent with the past decade or more. Bt varieties accounted for approximately 93% of varieties planted, which is up slightly from the 90% planted in 2019. 58% of varieties planted were XtendFlex varieties while just over 23% were Enlist and 9% were Liberty Link.

Texas A&M AgriLife Extension RACE Trials offer an opportunity to evaluate each companies' best varieties and technology head-to-head under the same conditions to evaluate relatively new varieties for a given area. These trials are conducted across the State in nearly 60 trials both irrigated and dryland with many of the same varieties in many of the trials. There all multiple trials in most all regions in which data can be pooled from to obtain results.

The following is data from Glasscock (irrigated), Runnels (dryland), and Tom Green (irrigated) Counties.

We would like to thank Americot/NexGen, BASF, Bayer, and Phytogen for providing seed for these trials.

Table 13:

Irrigated Sites (summary of combined sites)

Variety	Lint Yield	turnout	loan	lint value
	(lbs/acre)	(%)	(cents/lb)	($/acre)
FM2398GLTP	**713 a**	**30.6 a**	**54.1 ab**	**390 a**
NG4098B3XF	**669 ab**	25.9 c	53.9 bc	**361 ab**
DP2020B3XF	626 bc	27.7 b	53.2 bc	337 bc
PHY350W3FE	631 bc	27.2 bc	52.6 cd	334 bc
DP2055B3XF	584 c	**29.7 a**	**55.6 a**	326 c
NG5711B3XF	589 c	**29.7 a**	**54.3 ab**	321 c
ST4990B3XF	586 c	27.3 bc	**54.4 ab**	321 c
PHY480W3FE	622 bc	26.7 bc	51.1 d	320 c
P > F	0.002	0.0002	0.0012	0.0057
LSD (α = 0.1)	73	1.7	1.5	31

Table 14:

Glasscock (irrigated)

Variety	Lint (lbs/ac)	Turnout (%)	Mic	Length (in)*	Strength (g/tex)	Uniformity	Loan Value (¢/lb)	Lint Value ($/ac)
NG4098B3XF	575	25.0	4.4	**1.07**	**28.9**	78.5	**53.6**	308
FM2398GLTP	554	**29.9**	4.5	1.04	26.7	80.0	**52.0**	289
NG5711B3XF	539	**31.0**	4.6	1.05	26.9	79.1	**52.9**	285
PHY350W3FE	547	26.0	4.5	1.01	25.9	79.9	49.6	272
PHY480W3FE	521	26.0	4.3	1.01	26.9	79.5	49.6	259
ST4990B3XF	486	25.5	4.5	**1.06**	26.2	79.7	**52.4**	256
DP2020B3XF	495	26.6	4.3	1.05	24.7	78.7	50.6	251
DP2055B3XF	449	27.8	4.7	**1.10**	**28.2**	80.0	**55.0**	247
P > F	0.38	0.003	0.92	0.005	0.04	0.36	0.08	0.59
LSD (α = 0.1)	n.s.	2.35	n.s.	0.033	1.9	n.s.	3.1	n.s.
CV (%)	12.8	6.1	8.3	2.2	5	1.2	4.2	15

Table 15:

Runnels County

Final Plant Stands – Runnels (dryland)

Variety	plants/ac	% emergence
NG4098B3XF	**27104**	97
PHY480W3FE	22022	79
FM2398GLTP	19844	71
DP2022B3XF	18876	67
ST5707B3XF	18150	65
PHY350W3FE	16214	58
DP2020B3XF	13794	49
NG5711B3XF	10890	39
P > F	0.0008	
LSD (α = 0.1)	4589	

Table 16:

Runnels (dryland)

Variety	Lint (lbs/ac)	Turnout (%)	Mic	Length (in)*	Strength (g/tex)	Uniformity	Loan Value (¢/lb)	Lint Value ($/ac)
DP2020B3XF	154	28.3	4.2	1.02	24.9	78.7	47.2	73
ST5707B3XF	148	23.8	**4.7**	1.04	**29.1**	79.6	49.1	72
PHY350W3FE	149	27.1	**4.5**	1.01	26.2	78.4	47.4	71
PHY480W3FE	155	26.0	**4.6**	0.96	25.4	78.8	45.0	70
FM2398GLTP	137	26.7	**4.6**	1.03	26.5	79.2	50.1	68
NG4098B3XF	134	23.8	4.3	1.03	**28.0**	78.4	49.8	67
NG5711B3XF	132	25.1	4.3	**1.08**	**27.8**	79.8	47.9	63
DP2022B3XF	130	24.4	4.4	1.00	23.8	78.7	47.9	62
P > F	0.38	0.13	0.004	0.0002	0.0001	0.45	0.16	0.73
LSD (α = 0.1)	n.s.	n.s.	0.21	0.03	1.4	n.s.	n.s.	n.s.
CV (%)	11.5	8.1	3.4	2.1	3.8	1.1	4.3	12.6

Table 17:

Tom Green

Final Plant Stands – (irrigated)

Variety	plants/ac	% emergence
PHY480W3FE	**36808**	90
FM2398GLTP	**35284**	86
DP2020B3XF	**34195**	83
PHY350W3FE	**33759**	82
NG4098B3XF	32234	79
NG5711B3XF	32017	78
ST4990B3XF	29839	73
DP2055B3XF	26572	65
P > F	0.015	
LSD (α = 0.1)	4101	

Table 18:

Tom Green (irrigated)

Variety	Lint (lbs/ac)	Turnout (%)	Mic	Length (in)*	Strength (g/tex)	Uniformity	Loan Value (¢/lb)	Lint Value ($/ac)
FM2398GLTP	**872**	**31.3**	**4.6**	**1.13**	29.8	**82.1**	**56.3**	**491**
DP2020B3XF	757	28.7	3.9	1.11	28.4	80.9	**55.8**	423
NG4098B3XF	**763**	26.8	3.4	**1.16**	**33.0**	79.9	54.2	414
DP2055B3XF	720	**31.6**	4.2	**1.14**	28.5	80.1	**56.2**	405
PHY350W3FE	716	28.5	3.9	1.10	29.8	**81.3**	**55.5**	397
ST4990B3XF	686	29.1	4.3	**1.14**	28.8	**81.4**	**56.3**	387
PHY480W3FE	723	27.3	3.6	1.09	29.8	81.2	52.5	381
NG5711B3XF	640	28.5	3.9	1.11	29.6	80.8	**55.8**	357
P > F	0.07	0.02	<.0001	0.0007	<.0001	0.003	0.03	0.09
LSD (α = 0.1)	108.8	2.29	0.28	0.023	1	0.76	1.8	65.8
CV (%)	10.4	5.5	4.9	1.5	2.4	0.7	2.3	11.3

Result Demonstration Report

EVALUATION OF COTTON VARIETIES

Cooperators: Chris Hirt, Darrell Halfmann, Ricky Halfmann, and Russell Halfmann

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
Dakota Kempken, Assistant CEA-AG, Glasscock County

Objective

To evaluate new cotton varieties that will 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 from most major companies to evaluate their varieties, many before commercial release.

Results and Discussion

The following pages contain two APT trials, one FACT trial, and two Innovation trials.

Acknowledgements

The authors would like to thank:

Chris Hirt for help with the FACT trial.
Darrell Halfmann for help with one of the APT trials.
Ricky Halfmann for help with one of the Innovation trials.
Russell Halfmann for help with one the Innovation trials.
The Fuchs' for help with one of the APT trials.

They would also like to thank Americot/NexGen, BASF, Bayer, and Phytogen for providing seed for this trial.

Table 19:

APT Trial

2020 Halfmann, St Lawrence, IRR., SSD

Variety	Yield, lbs.	Lint, %	Loan Rate, $	Value/Ac, $
Trial Average	756	0.39	53.72	406.00
ST 4993B3XF	967	0.429	51.70	499.99
FM 1730GLTP	882	0.388	55.60	490.65
ST 5707B2XF	914	0.385	53.00	484.41
PHY 350W3FE	868	0.378	53.40	463.44
FM 1830GLT	838	0.404	55.15	462.29
PHY 400W3FE	796	0.387	53.05	422.38
DP 2055B3XF	753	0.419	54.50	410.17
FM 2334GLT	734	0.391	55.15	404.57

COTTON FORWARD »

BASF We create chemistry

Table 20:

APT Trial

2020 Fuchs, Crossroads, IRR., SSD

Variety	Yield, lbs.	Lint, %	Loan Rate, $	Value/Ac, $
Trial Average	1318	0.375	55.18	726.97
FM 1830GLT	1453	0.372	57.25	831.84
ST4993B3XF	1518	0.41	53.70	815.20
FM 2398GLTP	1440	0.392	55.10	793.46
FM 1730GLTP	1307	0.363	55.55	726.12
ST 4480B3XF	1268	0.358	55.90	709.01
FM 2334GLT	1247	0.375	56.35	702.63
ST 5600B2XF	1286	0.372	53.50	687.77
NG 4777B2XF	1241	0.366	53.40	662.92

COTTON FORWARD »

BASF We create chemistry

Table 21: FACT Trial

2020 Cotton Individual Plot Yield Report

Cooperator: Chris

Planted: 6/2/2020
Harvested: 11/2/2020
Row Width: 40"

Tillage: Conv
Soil Texture: Sandy Loam
Irrigation: Drip

DELTAPINE® DEDICATED TO COTTON. COMMITTED TO TEXAS.®

Product Data			Crop Values $/Crop Yield			* Fiber Characteristics					
Entry	Status	Product Name	Crop Value ($/Acre)	Lint Yield (Lbs/Acre)	Loan Price	Staple (32nds)	Length (inches)	Strength (g/tex)	Micronaire	% Uniformity	% Lint
6	EXP	20R741B3XF	$572.21	1092	52.40	36	1.13	23.5	4.8	82	40.9
5	EXP	20R744B3XF	$553.21	987	56.05	37	1.14	28.7	4.6	83	40.4
3	NPE	19R132B3XF	$526.59	937	56.20	36	1.12	31.4	4.8	84	39.5
13	EXP	20R751B3XF	$515.31	949	54.30	35	1.09	28.4	4.7	82	39.4
11	EXP	20R746NRB3XF	$505.53	931	54.30	35	1.10	29.9	4.7	80	39.9
7	Com	DP 1646 B2XF	$501.07	890	56.30	37	1.16	30.6	4.7	82	41.5
2	EXP	20R745NRB3XF	$496.85	915	54.30	35	1.09	28.1	4.5	81	38.9
10	EXP	20R743B3XF	$492.50	931	52.90	34	1.07	28.0	4.8	82	40.5
14	NPE	19R237B3XF	$490.88	875	56.10	37	1.15	29.8	4.5	82	38.7
9	EXP	20R747B3XF	$473.48	844	56.10	36	1.12	31.8	4.5	81	35.3
12	Com	DP 2044 B3XF	$463.14	819	56.55	37	1.15	33.0	4.1	81	35.4
4	EXP	20R742B3XF	$460.98	903	51.05	35	1.08	23.8	4.6	82	38.1
1	EXP	20R750B3XF	$454.92	892	51.00	33	1.04	27.4	5.0	81	40.5
15	NPE	19R242NRB3XF	$431.17	826	52.20	35	1.09	30.4	5.1	82	37.5
8	EXP	20R736NRB3XF	$352.31	666	52.90	34	1.07	27.0	4.7	81	41.5
		DP 2143 NRB3XF									
TEST AVERAGE			$486.01	897	54.18	35.5	1.11	28.8	4.7	81.6	39.2

Value Calculation based on $0.52/Lb(+/-) discounts/premiums from the 2020 USDA Loan Chart (Ranked by Value $/A). All plots were assigned a base color (31) and leaf grade (3).

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and year whenever possible.

TEXAS A&M AGRILIFE EXTENSION

Table 22: Innovation Trial

Lint Yields and Fiber Properties from the Replicated On-Farm PhytoGen Innovation Trial Conducted in Glasscock Co., TX., 2020.
Cooperator: Ricky Halfmann

Variety	Turn Out	Yield	Mic	Length	Staple	Unif.	Strength	Leaf	Loan	Crop Value
PHY444WRF	0.391	1196	4.0	1.13	36.3	81.5	30.5	1.0	0.5237	$626
PHY480W3FE	0.374	1199	4.6	1.07	34.3	82.2	29.7	1.0	0.5212	$625
PX3D43W3FE	0.375	1163	4.8	1.04	33.4	81.2	30.1	1.0	0.5210	$606
PX3D32W3FE	0.355	1124	4.6	1.10	35.1	80.7	30.3	1.0	0.5215	$586
PHY580W3FE	0.395	1120	4.7	1.03	33.1	80.6	29.1	1.0	0.5198	$582
PHY400W3FE	0.370	1081	4.4	1.08	34.7	80.3	31.3	1.3	0.5225	$565
PHY350W3FE	0.358	1045	4.7	1.08	34.7	81.6	29.1	1.0	0.5203	$544
PHY394W3FE	0.322	1020	4.3	1.09	34.8	79.3	28.9	1.3	0.5150	$525
Mean	0.367	1118	4.5	1.08	34.5	80.9	29.9	1.1	0.5206	$582

Table 23:

Innovation Trial

Lint Yields and Fiber Properties from the Replicated On-Farm PhytoGen Innovation Trial Conducted in Glasscock Co., TX., 2020.
Cooperator: Russell Halfmann

Variety	Turn Out	Yield	Mic	Length	Staple	Unif.	Strength	Leaf	Loan	Crop Value
PHY580W3FE	0.370	1233	4.7	1.04	33.4	80.2	29.9	1.0	0.5207	$642
PHY480W3FE	0.348	1228	4.5	1.06	33.9	82.0	29.7	1.0	0.5212	$640
PHY400W3FE	0.348	1213	4.5	1.09	34.8	79.9	31.5	2.0	0.5203	$631
PX3D32W3FE	0.340	1191	4.6	1.11	35.4	80.6	30.7	1.0	0.5228	$623
PX3D43W3FE	0.348	1179	4.8	1.04	33.4	81.1	30.5	1.0	0.5223	$616
PHY350W3FE	0.335	1137	4.7	1.07	34.2	80.8	30.2	1.0	0.5207	$592
PHY500W3FE	0.345	1060	4.4	1.04	33.3	80.5	30.8	1.3	0.5228	$554
PHY394W3FE	0.307	1071	4.5	1.10	35.1	79.6	29.3	2.3	0.5172	$554
Mean	0.343	1164	4.6	1.07	34.2	80.6	30.3	1.3	0.5210	$606