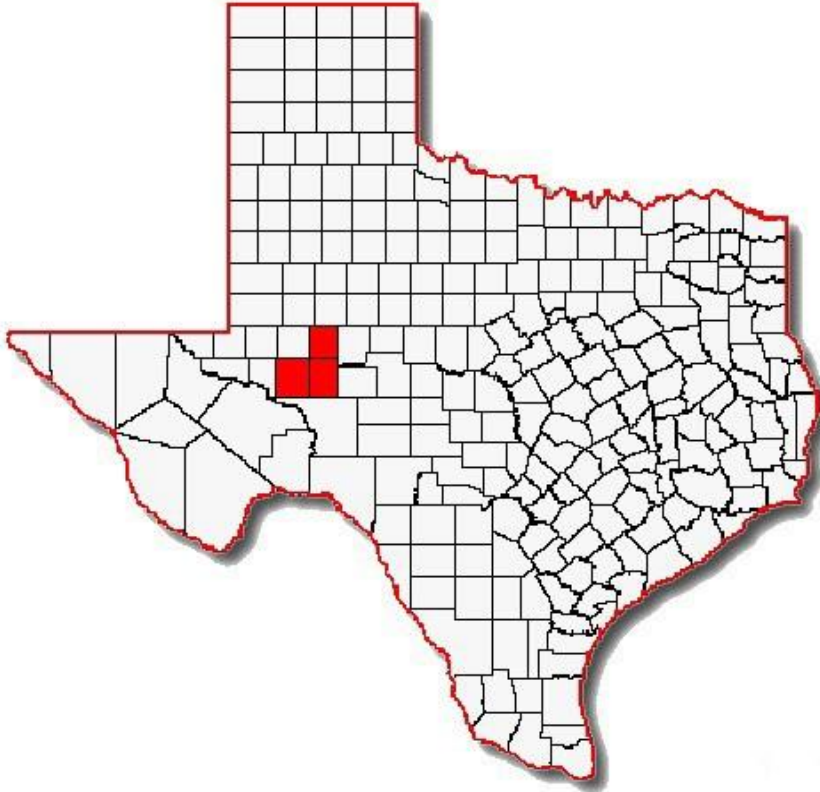


<h1>INTEGRATED PEST MANAGEMENT</h1>	
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Glasscock, Reagan & Upton
IPM Program
2021



TEXAS A&M
AGRILIFE
EXTENSION

GLASSCOCK, REAGAN, and UPTON COUNTIES PEST MANAGEMENT PROGRAM

2021 ANNUAL REPORT

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And

TEXAS PEST MANAGEMENT ASSOCIATION



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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 earlydiapause 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.

Phillip Bales	Garrett Kellermeier	Duke Goodwin
Chris Hirt	Vance Smith	Darrell Halfmann
Tommy Hoelscher	Cole Schwartz	Andy Wheeler
Anthony Hoelscher	Scotty Halfmann	Russ & Bo Eggemeyer
Nathan Halfmann	Doug Jost	Russell Halfmann

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- Mr. Raymond Quigg.....Upton County Extension Agent-Agriculture, Rankin
- Dr. Reagan Noland.....Assist. Professor & Extension Agronomist District 7, San Angelo
- Dr. Paul DeLaune.....Associate Professor of Environmental Soil Science, Vernon
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Appreciation is also extended to the pest management scouts for 2021.
Scouts were Brock Braden and Logan Seidenberger

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INTRODUCTION

A “survey type” pest management program was operated in 2021 in the St. Lawrence Area. The program has been in operation for the past forty two 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 acres combined for each county and the approximate yields. There were 172,989 acres of cotton planted with very few acres failed this season. Dryland yields were well above average.

TABLE 1

COTTON LINT YIELDS FOR 2021

COUNTY	COTTON ACREAGE	AVERAGE YIELD
GLASSCOCK	111,430	687
REAGAN	48,829	687
UPTON	12,730	687

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 2021. 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
-Bart Belew
-Russell Halfmann
-Wilbert Braden

TABLE 2

RAINFALL FOR 2021			
	<u>BIG LAKE</u>	<u>LOMAX</u>	<u>ST. LAWRENCE</u>
JAN-	1.64	1.16	1.18
FEB-	0.40	0.04	0.08
MAR-	0.59	0.47	0.94
APRIL-	0.23	3.43	0.76
MAY-	2.23	5.08	2.44
JUNE-	5.78	3.20	3.07
JULY-	2.06	4.57	1.23
AUG-	1.62	1.08	4.41
SEPT-	1.10	1.85	0.37
OCT-	1.02	0.14	0.78
NOV-	0.05	0.01	0.04
DEC-	0.02	0.02	0.00
<u>TOTAL</u>	16.74	21.05	15.30

TABLE3

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

FUNDS ON HAND, JANUARY 1, 2021	2,033.51
BUDGET RECEIPTS	
UNIT SCOUTING CONTRIBUTIONS	15,050.00
TOTAL INCOME	15,050.00
SCOUTING EXPENSE	
ACCOUNT TRANSFER EXPENSE	2,280.00
ADMINISTRATIVE FEE	2,257.50
ENTOMOLOGY FEE	2.50
PAYROLL TAX EXPENSE	298.81
TRAVEL-SCOUT	2,611.22
WAGES (SALARY AND WAGES)	3,490.63
TOTAL SCOUTING EXPENSE	10,940.66
OPERATING BALANCE AS OF DATE CASH IN BANK	<u>6,142.85</u>

SCOUTING PROGRAM ACTIVITIES

The St. Lawrence Area covering Glasscock, Reagan and Upton Counties had a total of 170,123 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 2021 scouting statistics.

TABLE 4 – ST. LAWRENCE AREA SCOUTING STATISTICS - 2021

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	33,949
TOTAL ACRES - DRYLAND	136,174
PROGRAM EXPENDITURES	\$10,940
MILEAGE RATE	.52/MILE
SCOUT HOURLY RATE	\$10.25

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 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 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 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

Insect pest populations were a sporadic concern this season with cotton fleahoppers and stink bugs being the primary concern. Weeds were by far a much larger issue with most growers.

2021 began drier than normal with just over 3 inches of moisture with the bulk of that coming in an early January snow. As planting began in May it began to rain and growers battled weeds before, during and after planting. Rain continued until we finished planting and then returned in late June through the 4th of July. Weed control continued as well as the use of PGR's on may fields. Cotton fleahoppers were present in high numbers in quite a few areas. The combination of fleahoppers and cooler temperatures led to reduced square sets on lower fruiting positions.

Fortunately, temperatures were mild as no rain was received for about 45 days. About mid-August more rain and another flush of weeds came. Stink bugs began to show up at this time but were sporadic and localized.

Overall, yields were above average this season, especially dryland.

Aside from wheat, this was a very good year for grain. Due to dry conditions almost no wheat was harvested. Although dry, spring rains and cooler temperatures made for very good corn and sorghum yields. This was the worst year for sugarcane aphids in sorghum in several years and most every field was sprayed.

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

Glasscock	2021	2020	2019	2018
Cotton	111,946	111,430	109,625	124,163
Corn	464	898	463	181
Pecans	1,065	935	941	941
Sorghum	2,086	1,521	1,056	1,279
Watermelon	449	295	216	235
Wheat	11,399	15,159	11,510	10,820

Reagan	2021	2020	2019	2018
Cotton	44,471	48,829	45,821	50,892
Corn	558	656	379	411
Pecans	218	109	112	105
Sorghum	1,093	1,729	461	639
Watermelon	97	47	23	24
Wheat	10,625	7,158	7,118	7,984

Upton	2021	2020	2019	2018
Cotton	13,706	12,730	12,200	15,712
Corn	95	52	85	48
Pecans	76	90	90	90
Sorghum	1,516	375	62	396
Watermelon	26	0	0	183
Wheat	7,412	7,725	8,578	12,717

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
2021	250,016	163,255	86,761
Total	2,520,707	1,769,125	751,582
Average	120,034	84,244	751,582
10 Year	128,497	87,855	40,642

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.

TABLE 7

Educational Activities

Producer Contacts	620
Turn row Meetings	24
Newsletters	10
Tours	1
Audio Updates	25
Miscellaneous Crop Producer Meetings	12
Total Persons Provided Scout Training	6
Result Demonstrations	20
Pest Management Committee Meetings	6



Result Demonstration Reports



Result Demonstration Report

MICRONUTRIENT FERTILITY ON OLDER DRIP SYSTEMS

Cooperators: Duke Goodwin

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

Summary

This is the third 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 164 lbs./ac of cotton as well as having an increased loan rate of \$.5561 vs \$.5461 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. The treated field required an additional 40 lbs. of nitrogen, 40 lbs. of phosphorus, and 10 lbs. of potassium compared to the untreated field. This is primarily due to the additional 120 lbs. of cotton made the previous year. The recommendations appear to be high. We began taking both petiole and tissue samples 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 for each sampling. Samples all showed that most micronutrients were on the lower end of the range or deficient except sulfur which was very high. Nitrogen levels looked good starting out, phosphorus was a little low, and potassium was extremely high. Along with N-P-K, sulfur and zinc were applied. A second set of petiole and tissue samples was taken two weeks later which showed that even with the addition of sulfur the levels decreased. Zinc levels came down slightly as did most all other micronutrients. Copper stayed the same. Nitrogen dropped considerably, but stayed within range, phosphorus came down but was within range. Potassium came down some.

Results and Discussion

With this being the third year of this trial, results are showing that our soils tend to be 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 as well as secondary and micronutrients. Without an overall balanced fertility program maximum yields cannot be attained. This season we were able to produce 35 bales of cotton on 15 acres with an average loan of \$.5561 with the one additional application vs 29 bales on 15 acres with an average loan of \$.5461 on the traditional fertility program. Staple/Length, mic, strength, and uniformity was all increased in the plot with the additional fertilizer. Over the course of the past three years this trial has averaged an additional 167 lbs. ac. or .34 bales and \$0.0082 in the loan.

Conclusions

As seen in Table 8, differences in cotton yields, and loan value can be seen from a small number of micronutrients to a field that is deficient. The results of this test are 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 balancing the level of micronutrients is still a question to be answered. There also is a trend of sample consistency among laboratories, where 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, and diseases 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.

The interaction between nutrients is the most difficult aspect of soil fertility. Increasing one nutrient directly effects the utilization of one or more nutrients. Therefore, it is difficult to explain why in some years additional fertilizer increases nutrient levels, while other years the



levels decrease. This most likely has to do with nutrient interactions and excess and deficiencies in the soil. Although we were not able to come up with conclusive evidence on what the exact rates or sufficiency levels of any of the micronutrient levels are, we were able to determine that with small amounts of fertilizer at a relatively low cost it not too difficult to increase levels of manganese and boron and to an extent iron and sulfur. Care should be taken however as it is not difficult for these micronutrients to go from deficient levels to toxic in a short period of time or to become out of balance due to too high of levels and to tie up other nutrients. This is where soil testing and tissue sampling becomes important. It is also important to remember that petiole sampling is only accurate for testing for macronutrients such as N-P-K, whereas tissue sampling is accurate for our secondary and micronutrients.

Acknowledgements

The authors would like to thank 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:

			Low	Marginal	Desired	Excess					
Plant Date:			Sulfur	Sodium	Calcium	Magnesium	Zinc	Iron	Manganese	Copper	Boron
Lab No.	Sample ID	Sample Date	S	Na	Ca	Mg	Zn	Fe	Mn	Cu	B
Tissue			%	%	%	%	ppm	ppm	ppm	ppm	ppm
A&L	Duke N-UT	7/20/2021	1.24	0.08	3.74	0.33	16	113	80	8	19
	Duke N-UT	8/4/2021	1.17	0.04	2.69	0.38	19	72	63	7	38
	Duke S-T	7/20/2021	1.37	0.11	4.06	0.41	18	110	80	8	19
	Duke S-T	8/4/2021	0.45	0.05	2.69	0.39	19	75	64	7	31
Servi-Tech	Duke N-UT	7/20/2021	1.00	0.091	4.27	0.47	24	78	100	8	33
	Duke N-UT	8/4/2021	0.97	0.031	2.72	0.43	24	62	74	7	39
	Duke S-T	7/20/2021	1.11	0.104	4.46	0.51	31	96	96	8	35
	Duke S-T	8/4/2021	0.88	0.051	2.62	0.45	28	107	74	7	36
TPS	Duke N-UT	7/20/2021	1.29	0.09	4.79	0.52	66	90	117	8	34
	Duke N-UT	8/4/2021	1.46	0.05	3.56	0.54	38	66	83	8	39
	Duke S-T	7/20/2021	1.43	0.12	5.05	0.58	107	79	110	7	28
	Duke S-T	8/4/2021	1.39	0.07	3.50	0.54	52	46	98	9	39

Duke S-T - Fertilized

Duke U-T - Unfertilized

Table 9:

Duke-21	Color	Staple	Leaf	MIC	Length	Strength	Uniformity		
Duke-ST	11.0	35	1.0	4.3	109.0	30.8	81.2		
Duke-UT	11.0	34	1.0	4.3	108.0	30.8	80.6		
480 lb									
Loan	WT	lbs	bales	lbs/ac	bales/ac	<u>Total Profit</u>		<u>per ac</u>	
0.5561	454	15901	35	1060	2.20	\$8,842.55		\$589.50	
0.5461	464	13445	29	896	1.86	\$7,342.31		\$489.49	
0.0100		2456	6	164	0.34	\$1,500.24		\$100.01	



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

Summary

Eight cotton varieties were compared in a randomized complete block design under similar field conditions. Lint yields varied with a low of 1456 lbs./acre (ST 5707 B2XF) to a high of 1851 lbs./acre (ST 4993 B3XF). Lint loan values averaged \$0.5576/lb. and ranged from a low of \$0.5313/lb. (PH 480 W3FE) to a high of \$0.5768/lb. (FM 1730 GLTP). Gross Return/acre among varieties ranged from a high of \$1,329.82 (ST 4993 B3XF) to a low of \$1,095.34 (ST 5707 B2XF), a difference of \$234.48.

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 26th. The seeding rate was around 28,000 seed per acre and the irrigation capacity was about 2.75 gallons at the beginning of the season. Rows were 706 feet long and each plot was .43 acres in size. The middle four rows of each treatment were stripper harvested on October 29th 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 10, lint yields varied with a low of 1456 lbs./acre for Stoneville 5707 B2XF to a high of 1851 lbs./acre for Stoneville 4993 B3XF. Lint loan values averaged \$0.5576/lb. and ranged from a low of \$0.5313/lb. for Phytogen 480 W3FE to a high of \$0.5768/lb. for FiberMax 1730 GLTP. Gross Return/acre among varieties ranged from a high of \$1,329.82 for Stoneville



4993 B3XF to a low of \$1,095.34 for Stoneville 5707 B2XF, a difference of \$234.48. Lint turnout ranged from a low of 31.61% to a high of 38.21% for Stoneville 5707 B2XF and Stoneville 4993 B3XF, respectively. Micronaire values ranged from a low of 3.54 for Stoneville 5707 B2XF to a high of 4.29 for Stoneville 4993 B3XF. Several samples came back between 3.3 and 3.4 which lead to lower loan rates this season. Staple averaged 36.92 across all varieties with a low of 35.3 for DeltaPine 2127 B3XF and a high of 38.7 for both DeltaPine 1845 B3XF and NexGen 4098 B3XF. The highest percent uniformity was observed for FiberMax 1730 GLTP at 82.57% and NexGen 4098 B3XF had the lowest with 79.50%. Strength values ranged from 28.5 g/tex for DeltaPine 2127 B3XF to 32.9 g/tex for NexGen 4098 B3XF. Color grades were mixed with four 11's, two 21's and one 31. Leaf grades were mixed as well between 1's, 2's and 3's. These data indicate that substantial differences can be obtained in terms of Gross Return/acre due to variety and technology selection.

Table 11 contains emergence, stand counts, string out, and fall out ratings in this report to give an idea on how varieties performed in each of these areas. All ratings are based on a 1-10 scale with 1 being the worst and 10 being the best.

Conclusions

As seen in Table 10, significant differences in cotton yields, grades, and loan value can be 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 soil 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.

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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 4098 B3XF.

BASF who provided FM 1730 GLTP, ST 4993 B3XF, ST 5707 B3XF.

Bayer CropScience who provided DP 1845 B3XF, DP 2127 B3XF.

Corteva who provided PHY 350 W3FE, PHY 480 W3FE



Table 10

2021 Cotton Variety Trial

Producer: **Anthony Hoelscher** Plant Date: 5/26/2021
 Name of County: Reagan Harvest Date: 10/29/2021
 Design: Irrigated

Variety	Yield Per Acre/lbs		% Turnout		Lint Gross Return \$/Acre	Seed Gross Return \$/Acre	Total Gross Return \$/Acre
	Lint	Seed	Lint	Seed			
ST 4993 B3XF	1851	2212	38.21%	45.68%	\$1,062.12	\$267.70	\$1,329.82
NG 4098 B3XF	1689	2782	32.23%	53.01%	\$918.34	\$336.68	\$1,255.01
PHY 350 W3FE	1623	2469	32.35%	49.27%	\$926.07	\$298.75	\$1,224.83
DP 2127 B3XF	1677	2080	37.74%	46.65%	\$937.87	\$251.69	\$1,189.56
DP 1845 B3XF	1612	2122	32.90%	43.46%	\$892.27	\$256.82	\$1,149.09
PHY 480 W3FE	1566	2387	31.98%	48.72%	\$831.73	\$288.82	\$1,120.55
FM 1730 GLTP	1486	2088	32.30%	45.50%	\$857.25	\$252.68	\$1,109.93
ST 5707 B2XF	1456	2466	31.61%	53.51%	\$797.01	\$298.33	\$1,095.34
Average	1620	2326	33.7%	48.2%	\$902.83	\$281.43	\$1,184.27
Max.	1851	2782	38.2%	53.5%	\$1,062.12	\$336.68	\$1,329.82
Min.	1456	2080	31.6%	43.5%	\$797.01	\$251.69	\$1,095.34

Fiber Quality

Variety	Color	Leaf	Length	Staple	Mic	Strength	Uniformity	Loan Rate	Total Gross Return \$/Acre
									\$/Acre
ST 4993 B3XF	11	1	1.13	36.3	4.29	31.1	82.03	\$0.5737	\$1,329.82
NG 4098 B3XF	31	3	1.20	38.7	3.56	32.9	79.50	\$0.5447	\$1,255.01
PHY 350 W3FE	11	1	1.13	36.3	4.10	29.2	81.10	\$0.5708	\$1,224.83
DP 2127 B3XF	11	1	1.10	35.3	4.15	28.5	81.80	\$0.5592	\$1,189.56
DP 1845 B3XF	21	3	1.22	38.7	3.78	30.7	81.70	\$0.5560	\$1,149.09
PHY 480 W3FE	11	2	1.12	36.0	3.59	29.4	81.40	\$0.5313	\$1,120.55
FM 1730 GLTP	21	3	1.19	38.0	4.04	32.6	82.57	\$0.5768	\$1,109.93
ST 5707 B2XF	11	1	1.13	36.0	3.54	31.5	81.40	\$0.5480	\$1,095.34
Average	-	2	1.15	36.92	3.88	30.74	81.44	\$0.5576	\$1,184.27
Max.	-	3	1.22	38.67	4.29	32.90	82.57	\$0.5768	\$1,329.82
Min.	-	1	1.10	35.33	3.54	28.47	79.50	\$0.5313	\$1,095.34

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

¹Lint Values were calculated using the 2021 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on \$242/ton

For Questions Contact: Brad Easterling



Table 11:



2021 Cotton Variety Trial

Producer: **Anthony Hoelscher** Plant Date: 5/26/2021
 Name of County: Reagan Harvest Date: 10/29/2021
 Design: Irrigated Seeding Rate: 28,000

Variety	Emergence	Final Plant Stand	Emergence %	String Out	Fall Out
DP 1845 B3XF	6.3	23,670	84.5%	6.7	6.7
DP 2127 B3XF	6.3	23,330	83.3%	5.7	5.7
FM 1730 GLTP	7.0	22,670	81.0%	6.7	6.7
NG 4098 B3XF	7.7	24,670	88.1%	5.7	7.0
PHY 350 W3FE	8.0	27,670	98.8%	5.7	5.7
PHY 480 W3FE	7.7	25,000	89.3%	7.3	7.3
ST 4993 B3XF	6.3	22,000	78.6%	8.0	8.3
ST 5707 B2XF	7.7	24,330	86.9%	6.0	7.0
Average	7.1	24,168	86.3%	6.5	6.8

Emergence rating - Scale of 1-10 where 10 is excellent.
 String Out - Scale of 1-10 where 10 = no cotton strung out.
 Fall Out - Scale of 1-10 where 10 = no cotton fallen out.



Result Demonstration Report

IRRIGATED COTTON VARIETY DEMONSTRATION

Cooperators: Phillip Bales

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

Summary

Seven cotton varieties were compared in a randomized complete block design under similar field conditions. Lint yields varied with a low of 1235 lbs./acre (FM 2398 GLTP) to a high of 1602 lbs./acre (PHY 443 W3FE). Lint loan values averaged \$0.5337/lb. and ranged from a low of \$0.4335/lb. (NG 4098 B3XF) to a high of \$0.5718/lb. (NG 3930 B3XF). Gross Return/acre among varieties ranged from a high of \$1,188.34 (PHY 443 W3FE) to a low of \$829.69 (NG 4098 B3XF), a difference of \$358.65.

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 6 row plots in a solid row pattern on 40" spacing on June 6th. The seeding rate was around 40,000 seed per acre and the irrigation capacity was about 2.5 gallons at the beginning of the season. Rows were 1330 feet long and each plot was .61 acres in size. The trial was stripper harvested on December 2nd and the cotton was weighed using the scales on the stripper. 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 1235 lbs./acre for FiberMax 2398 GLTP to a high of 1602 lbs./acre for Phytogen 443 W3FE. Lint loan values averaged \$0.5337/lb. and ranged from a low of \$0.4335/lb. for NexGen 4098 B3XF to a high of \$0.5718/lb. for NexGen 3930 B3XF. Gross Return/acre among varieties ranged from a high of \$1,188.34 for Phytogen 443 W3FE to a low of \$829.69 for NexGen 4098 B3XF, a difference of \$358.65. Lint turnout



ranged from a low of 27.06% to a high of 33.65% for NexGen 4098 B3XF and Stoneville 4993 B3XF, respectively. Micronaire values ranged from a low of 2.87 for NexGen 4098 B3XF to a high of 3.58 for NexGen 3930 B3XF. A couple of samples came back between 3.3 and 3.4 as well as a couple more which were below 3.0 which led to lower loan rates this season. Staple averaged 37.67 across all varieties with a low of 36.67 for Phytogen 443 W3FE and a high of 39.0 for both FiberMax 1730 GLTP and NexGen 4098 B3XF. The highest percent uniformity was observed for FiberMax 1730 GLTP at 83.17% and NexGen 4098 B3XF had the lowest with 80.15%. Strength values ranged from 29.7 g/tex for NexGen 3930 B3XF to 33.4 g/tex for NexGen 4098 B3XF. Color grades were mixed with three 11's, three 21's and one 31. Leaf grades were mixed as well between 1's, 2's and 3's and one 5. These data indicate that substantial differences can be obtained in terms of Gross Return/acre due to variety and technology selection.

Table 13 contains emergence, stand counts, and plant vigor ratings in this report to give an idea on how varieties performed in each of these areas. All ratings are based on a 1-10 scale with 1 being the worst and 10 being the best.

Conclusions

As seen in Table 12, significant differences in cotton yields, grades, and loan value can be 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 soil 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. Phillip Bales 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.

BASF who provided FM 1730 GLTP, FM 2398 GLTP, ST 4993 B3XF.

Corteva who provided PHY 332 W3FE, PHY 443 W3FE



Table 12:

2021 Cotton Variety Trial



Producer: **Phillip Baes**
 Name of County: Reagan
 Design: Irrigated

Plant Date: 6/7/2021
 Harvest Date: 12/2/2021

Variety	Yield Per Acre/lbs			% Turnout		Loan Rate	Lint Gross Return \$/Acre	Seed Gross Return \$/Acre	Total Gross Return \$/Acre
	Lint	Seed		Lint	Seed				
PHY 443 W3FE	1602	2412		30.81%	46.37%	\$0.5588	\$896.51	\$291.82	\$1,188.34
FM 1730 GLTP	1592	2434		30.19%	46.17%	\$0.5533	\$881.40	\$294.49	\$1,175.89
PHY 332 W3FE	1526	2428		28.69%	45.65%	\$0.5408	\$826.03	\$293.81	\$1,119.84
NG 3930 B3XF	1420	2147		30.21%	45.64%	\$0.5718	\$811.71	\$259.78	\$1,071.48
ST 4993 B3XF	1271	1760		33.65%	46.57%	\$0.5383	\$682.79	\$213.02	\$895.81
FM 2398 GLTP	1235	1833		30.71%	45.61%	\$0.5372	\$665.97	\$221.82	\$887.79
NG 4098 B3XF	1293	2204		27.06%	46.12%	\$0.4355	\$563.00	\$266.69	\$829.69
Average	1420	2174		30.2%	46.0%	\$0.5337	\$761.06	\$263.06	\$1,024.12
Max.	1602	2434		33.6%	46.6%	\$0.5718	\$896.51	\$294.49	\$1,188.34
Min.	1235	1760		27.1%	45.6%	\$0.4355	\$563.00	\$213.02	\$829.69

Variety	Color	Leaf	Length	Staple	Mic	Strength	Uniformity	Loan Rate	Total Gross Return \$/Acre
PHY 443 W3FE	11	1	1.14	36.7	3.48	31.5	82.00	\$0.5588	\$1,188.34
FM 1730 GLTP	21	3	1.22	39.0	3.54	32.5	83.17	\$0.5533	\$1,175.89
PHY 332 W3FE	21	3	1.19	38.0	3.49	30.7	81.07	\$0.5408	\$1,119.84
NG 3930 B3XF	21	2	1.15	37.0	3.58	29.7	82.05	\$0.5718	\$1,071.48
ST 4993 B3XF	11	1	1.14	37.0	3.49	31.7	82.87	\$0.5383	\$895.81
FM 2398 GLTP	11	1	1.16	37.0	3.38	30.8	81.67	\$0.5372	\$887.79
NG 4098 B3XF	31	5	1.22	39.0	2.87	33.4	80.15	\$0.4355	\$829.69
Average	-	2	1.17	37.67	3.40	31.46	81.85	\$0.5337	\$1,024.12
Max.	-	5	1.22	39.00	3.58	33.35	83.17	\$0.5718	\$1,188.34
Min.	-	1	1.14	36.67	2.87	29.65	80.15	\$0.4355	\$829.69

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 2021 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on \$242/ton

For Questions Contact: Brad Easterling



Table 13:



2021 Cotton Variety Trial

Producer: Phillip Bales **Plant Date:** 6/7/2021
Name of County: Reagan **Harvest Date:** 12/2/2021
Design: Irrigated **Seeding Rate:** 40,000

Variety	Emergence	Final Plant Stand	Emergence %	Vigor
FM 1730 GLTP	5.3	26,330	65.8%	5.7
NG 3930 B3XF	8.0	37,000	92.5%	7.0
NG 4098 B3XF	7.0	31,000	77.5%	7.5
PHY 332 W3FE	7.3	38,000	95.0%	7.7
PHY 443 W3FE	7.3	35,670	89.2%	8.3
ST 4993 B3XF	4.7	21,000	52.5%	5.0
Average	6.6	31,500	78.8%	6.9

Emergence rating - Scale of 1-10 where 10 is excellent.

Vigor - Scale of 1-10 where 10 is excellent.



Result Demonstration Report

IRRIGATED COTTON VARIETY DEMONSTRATION

Cooperators: Andy Wheeler

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

Summary

Six cotton varieties were compared in a randomized complete block design under similar field conditions. Lint yields varied with a low of 1592 lbs./acre (ST 5707 B3XF) to a high of 1951 lbs./acre (PHY 332 W3FE) when ginned at the Texas A&M AgriLife Research and Extension Center in Lubbock while the low was 1419 lbs./ac (ST 5707 B3XF) and the high was 1810 lbs./ac for (NG 5150 B3XF) when ginned at the co-op. A portion of this difference could be in the fact that the module weights shrank anywhere from 2.17% to 9.08% or 294 lbs. to 1186 lbs. per module from the time of harvest on November 10th to the time they were ginned on December 20th.

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 26th. The seeding rate was around 40,000 seed per acre. Rows were 1417 feet long and each plot was .87 acres in size. The trial was stripper harvested on December 2nd and all three replications were stripped as one treatment removing the replication. Three samples were removed from separate bales to obtain replicated grade samples. The cotton was weighed using the scales on the stripper and since the total amount of lint from each variety equaled approximately one module it was also ginned separately through the Glasscock County Co-op and samples were sent off for classifying. Samples were also ginned *at the Texas A&M AgriLife Research and Extension Center in Lubbock*, and fiber samples were sent off for classing at the FBRI lab in Lubbock. Yields and grades are compared in the following tables between the Extension samples ginned and classified and the co-op samples ginned and classified.



Results and Discussion

As seen in Table 14, lint yields varied between the two ginning methods used in this trial. Phytogen 332 W3FE had the highest lint yield in the Extension ginned results with 1951 lbs./ac while NexGen 5150 B3XF had the highest lint yield of the cotton ginned at the co-op. The primary difference between the two is the percent turnout. The percent turnout for the Phytogen 332 W3FE was 2.71% higher in the Extension ginned samples vs. the NexGen 5150 B3XF which was 1.27% lower. DeltaPine 2127 B3XF and Stoneville 5707 B3XF also had much higher turnouts in the Extension ginned samples than the co-op ginned cotton. Loan values were similar between both ginning methods but there were differences between both methods. One of the largest impacts on the loan values was if one of the three Extension samples came back too far out of line it affected the overall loan value considerably compared to just taking a single sample. Most quality parameters were very similar. Gross Return/acre among varieties remained the same except for DeltaPine 2127 B3XF which dropped considerably from mid-pack to the bottom. This was primarily due to the 3.4% difference in turnout.

Table 16 contains emergence, stand counts, string out and fall out ratings in this report to give an idea on how varieties performed in each of these areas. All ratings are based on a 1-10 scale with 1 being the worst and 10 being the best.

Conclusions

As seen in Tables 14 and 15, significant differences in cotton yields, grades, and loan value can be seen from different varieties. Differences can also be seen in how they are ginned, whether they are ginned at a research station or another gin down the road. Different gins provide different results. The important thing to keep in mind with this data is that when ginning trials, all samples are ginned at the same location which creates consistency among varieties. Also, it takes multiple trials and multiple years to determine a variety's true potential.

Acknowledgements

The authors would like to thank Mr. Andy Wheeler for cooperating in this demonstration.

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

Americot Inc. who provided NG 5150 B3XF.

BASF who provided ST 5707 B2XF.

Bayer CropScience who provided DP 2127 B3XF, DP 2055 B3XF

Corteva who provided PHY 332 W3FE, PHY 443 W3FE



Table 14:

2021 Cotton Variety Trial



Producer: **2021 Wheeler - Irrigated** Plant Date: 5/26/2021
 Name of County: Glasscock Harvest Date: 11/10/2021
 Design: Irrigated Ginned: 12/20/2021

Extension Ginned

Variety	Yield Per Acre/lbs		% Turnout		Loan Rate	Gross Return \$/Acre	Seed Gross Return \$/Acre	Total Gross Return \$/Acre
	Lint	Seed	Lint	Seed				
PHY 332 W3FE	1951	2615	33.01%	44.25%	\$0.5742	\$1,119.98	\$316.37	\$1,436.35
PHY 443 W3FE	1827	2394	33.65%	44.10%	\$0.5705	\$1,042.20	\$289.69	\$1,331.89
NG 5150 B3XF	1847	2190	35.19%	41.73%	\$0.5678	\$1,048.50	\$264.96	\$1,313.46
DP 2127 B3XF	1929	2096	38.00%	41.30%	\$0.5482	\$1,057.12	\$253.59	\$1,310.71
DP 2055 B3XF	1817	1800	36.19%	35.84%	\$0.5750	\$1,044.79	\$217.73	\$1,262.52
ST 5707 B2XF	1592	2561	30.56%	49.17%	\$0.5720	\$910.43	\$309.87	\$1,220.30
Average	1827	2276	34.43%	42.73%	\$0.5680	\$1,037.17	\$275.37	\$1,312.54
Max.	1951	2615	38.00%	49.17%	\$0.5750	\$1,119.98	\$316.37	\$1,436.35
Min.	1592	1800	30.56%	35.84%	\$0.5482	\$910.43	\$217.73	\$1,220.30

Co-op Ginned

Variety	Yield Per Acre/lbs		% Turnout		Loan Rate	Gross Return \$/Acre	Seed Gross Return \$/Acre	Total Gross Return \$/Acre
	Lint	Seed	Lint	Seed				
PHY 332 W3FE	1746	2551	30.30%	44.25%	\$0.5780	\$1,009.46	\$267.82	\$1,277.28
PHY 443 W3FE	1805	2288	34.79%	44.10%	\$0.5544	\$1,000.55	\$240.21	\$1,240.76
NG 5150 B3XF	1810	2072	36.46%	41.73%	\$0.5584	\$1,010.77	\$217.55	\$1,228.33
DP 2055 B3XF	1656	1636	36.28%	35.84%	\$0.5614	\$929.79	\$171.79	\$1,101.58
ST 5707 B2XF	1419	2505	27.84%	49.17%	\$0.5725	\$812.11	\$263.05	\$1,075.16
DP 2127 B3XF	1609	1920	34.60%	41.30%	\$0.5353	\$861.17	\$201.63	\$1,062.80
Average	1674	2162	33.38%	42.73%	\$0.5600	\$937.31	\$227.01	\$1,164.32
Max.	1810	2551	36.46%	49.17%	\$0.5780	\$1,010.77	\$267.82	\$1,277.28
Min.	1419	1636	27.84%	35.84%	\$0.5353	\$812.11	\$171.79	\$1,062.80



Table 15:

2021 Cotton Variety Trial



Producer: **2021 Wheeler - Irrigated** Plant Date: 5/26/2021
 Name of County: Glasscock Harvest Date: 11/10/2021
 Design: Irrigated Ginned: 12/20/2021

Fiber Quality - Extension

Variety	Color	Leaf	Length	Staple	Mic	Strength	Uniformity	Loan Rate	Total Gross Return \$/Acre
PHY 332 W3FE	21	1	1.16	37.3	4.2	29.9	81.13	\$0.5742	\$1,436.35
PHY 443 W3FE	21	1	1.11	36.0	4.3	30.4	81.87	\$0.5705	\$1,331.89
NG 5150 B3XF	21	1	1.12	36.3	4.2	28.0	80.30	\$0.5678	\$1,313.46
DP 2127 B3XF	21	1	1.09	34.7	4.6	28.1	81.80	\$0.5482	\$1,310.71
DP 2055 B3XF	11	1	1.17	37.7	4.2	28.2	80.30	\$0.5750	\$1,262.52
ST 5707 B2XF	21	2	1.13	36.3	4.2	31.3	82.07	\$0.5720	\$1,220.30
Average	-	1	1.13	36.39	4.3	29.3	81.25	\$0.5680	\$1,312.54
Max.	-	2	1.17	37.67	4.6	31.3	82.07	\$0.5750	\$1,436.35
Min.	-	1	1.09	34.67	4.2	28.0	80.30	\$0.5482	\$1,220.30

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

¹Lint Values were calculated using the 2021 Upland Cotton Loan Valuation Model from Cotton Incorporated, Gross Seed Return based on \$242/ton, For Questions Contact: Brad Easterling

Fiber Quality - Co-op

Variety	Color	Leaf	Length	Staple	Mic	Strength	Uniformity	Loan Rate	Total Gross Return \$/Acre
PHY 332 W3FE	11	2	1.15	37.0	4.00	31.3	80.40	\$0.5780	\$1,277.28
PHY 443 W3FE	11	1	1.10	35.0	4.28	30.4	80.31	\$0.5544	\$1,240.76
NG 5150 B3XF	11	1	1.10	35.7	4.21	27.9	79.00	\$0.5584	\$1,228.33
DP 2055 B3XF	11	1	1.13	36.0	3.94	27.6	78.16	\$0.5614	\$1,101.58
ST 5707 B2XF	11	2	1.11	36.0	4.00	31.9	81.20	\$0.5725	\$1,075.16
DP 2127 B3XF	11	1	1.05	34.0	4.43	27.8	79.99	\$0.5353	\$1,062.80
Average	-	1	1.11	35.62	4.14	29.50	79.84	\$0.5600	\$1,164.32
Max.	-	2	1.15	37.00	4.43	31.90	81.20	\$0.5780	\$1,277.28
Min.	-	1	1.05	34.00	3.94	27.62	78.16	\$0.5353	\$1,062.80

Samples ginned at the Glasscock County Co-op. Quality analysis at the USDA Classing Office, Lamesa.

¹Lint Values were calculated using the Glasscock County Co-op Recap Sheets, Gross Seed Return based on \$242/ton, For Questions Contact: Brad Easterling



Table 16:



2021 Cotton Variety Trial

Producer: Andy Wheeler **Plant Date:** 5/26/2021
Name of County: Reagan **Harvest Date:** 11/10/2021
Design: Irrigated **Seeding Rate:** 40,000

Variety	Emergence	Final Plant Stand	Emergence %	String Out	Fall Out
DP 2055 B3XF	6.0	30,330	75.8%	4.3	6.0
DP 2127 B3XF	6.3	28,000	70.0%	4.3	6.3
NG 5150 B3XF	6.7	29,330	73.3%	4.7	7.0
PHY 332 W3FE	7.3	36,000	90.0%	7.0	8.0
PHY 443 W3FE	8.3	34,330	85.8%	6.3	6.3
ST 5707 B2XF	7.0	33,330	83.3%	6.0	7.0
Average	6.9	31,887	79.7%	5.4	6.8

Emergence rating - Scale of 1-10 where 10 is excellent.

String Out - Scale of 1-10 where 10 = no cotton strung out.

Fall Out - Scale of 1-10 where 10 = no cotton fallen out.



Result Demonstration Report

IRRIGATED COTTON VARIETY DEMONSTRATION

Cooperators: Scotty Halfmann

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

Summary

Four cotton varieties were compared in a strip trial design under similar field conditions. FM 2334 GLT was harvested twice to show the difference in location in the field and importance of replication. Lint yields varied with a low of 992 lbs./acre (FM 2334 GLTP) to a high of 1143 lbs./acre (PHY 444 WRF). Lint loan values averaged \$0.5673/lb. and ranged from a low of \$0.5490/lb. (DG 3402 B3XF) to a high of \$0.5780/lb. (FM 1730 GLTP). Gross Return/acre among varieties ranged from a high of \$824.40 (PHY 444 WRF) to a low of \$721.72 (FM 2334 GLTP), a difference of \$102.68.

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 June 10th. Rows were 1261 feet long and each plot was .77 acres in size. The trial was stripper harvested on November 30th 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 17, lint yields varied with a low of 992 lbs./acre for the second FiberMax 2334 GLT pass to a high of 1143 lbs./acre for PhytoGen 444 WRF. Lint loan values averaged \$0.5673/lb. and ranged from a low of \$0.5490/lb. for DynaGro 3402 B3XF to a high of \$0.5780/lb. for FiberMax 1730 GLTP. Gross Return/acre among varieties ranged from a high of \$824.40 for PhytoGen 444 WRF to a low of \$721.72 for the second FiberMax 2334 GLT pass, a difference of \$102.68. Lint turnout ranged from a low of 31.76% to a high of 35.38% for the



second and first passes of FiberMax 2334 GLT, respectively. Micronaire values ranged from a low of 3.5 for Phytogen 444 WRF to a high of 4.36 for the first FiberMax 2334 GLT pass. Staple averaged 36.40 across all varieties with a low of 35.0 for DynaGro 3402 B3XF and a high of 37.0 for FiberMax 1730 GLTP and both FiberMax 2334 GLT passes. The highest percent uniformity was observed for FiberMax 1730 GLTP at 81.30% and Phytogen 444 WRF had the lowest with 79.70%. Strength values ranged from 27.6 g/tex for DynaGro 3402 B3XF to 31.0 g/tex for FiberMax 1730 GLTP. Color grades were all 21's and leaf grades were all 1's. 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 17, significant differences in cotton yields, grades, and loan value can be 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 soil 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. Scottie Halfmann for cooperating in this demonstration and for providing all the seed for this trial.



Table 17:

2021 Cotton Variety Trial



Producer: **Scottie Halfmann**
 Name of County: **Glasscock**
 Design: **Irrigated**

Plant Date: **6/10/2021**
 Harvest Date: **11/30/2021**

Variety	Yield Per Acre/lbs		% Turnout		Loan Rate	Lint Gross Return \$/Acre	Seed Gross Return \$/Acre	Total Gross Return \$/Acre
	Lint	Seed	Lint	Seed				
PHY 444 WRF	1143	1733	32.93%	49.92%	\$0.5620	\$642.44	\$181.97	\$824.40
FM 1730 GLTP	1061	1477	32.76%	45.60%	\$0.5780	\$613.15	\$155.07	\$768.22
FM 2334 GLT-1	1086	1357	35.38%	44.18%	\$0.5735	\$622.91	\$142.43	\$765.34
DG 3402 B3XF	1072	1512	34.35%	48.44%	\$0.5490	\$588.79	\$158.79	\$747.58
FM 2334 GLT-2	992	1453	31.76%	46.55%	\$0.5740	\$569.12	\$152.60	\$721.72
Average	1071	1506	33.4%	46.9%	\$0.5673	\$607.28	\$158.17	\$765.45
Max.	1143	1733	35.4%	49.9%	\$0.5780	\$642.44	\$181.97	\$824.40
Min.	992	1357	31.8%	44.2%	\$0.5490	\$569.12	\$142.43	\$721.72

Fiber Quality

Variety	Color	Leaf	Length	Staple	Mic	Strength	Uniformity	Loan Rate	Total Gross Return \$/Acre
									Total Gross Return \$/Acre
PHY 444 WRF	21	1	1.13	36.0	3.50	28.4	79.70	\$0.5620	\$824.40
FM 1730 GLTP	21	1	1.15	37.0	3.93	31.0	81.30	\$0.5780	\$768.22
FM 2334 GLT-1	21	1	1.14	37.0	4.36	29.2	80.80	\$0.5735	\$765.34
DG 3402 B3XF	21	1	1.09	35.0	3.70	27.6	79.90	\$0.5490	\$747.58
FM 2334 GLT-2	21	1	1.15	37.0	4.08	28.6	81.10	\$0.5740	\$721.72
Average	-	-	1.13	36.40	3.91	28.96	80.56	\$0.5673	\$765.45
Max.	-	-	1.15	37.00	4.36	31.00	81.30	\$0.5780	\$824.40
Min.	-	-	1.09	35.00	3.50	27.60	79.70	\$0.5490	\$721.72

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

¹Lint Values were calculated using the 2021 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on \$242/ton

For Questions Contact: Brad Easterling



Result Demonstration Report

DRYLAND 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, Reagan County, Big Lake, Texas

Summary

Five cotton varieties were compared in randomized complete block design under similar field conditions. Lint yields varied with a low of 480 lbs./acre (ST 5707 B2XF) to a high of 585 lbs./acre (ST 4993 B3XF). Lint loan values averaged \$.5417/lb. and ranged from a low of \$.5305/lb. (PHY 350 W3FE) to a high of \$.5630/lb. (NG 4098 B3XF). Gross Return/acre among varieties ranged from a high of \$405.11 (ST 4993 B3XF) to a low of \$364.34 (NG 4098 B3XF), a difference of \$40.77

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 8 row plots in a solid row pattern on 40" spacing on May 26th. The seeding rate was around 22,300 seed per acre. Rows varied but were approximately 700 feet long and each plot was 0.43 acres in size. The trial was stripper harvested on October 29th and the middle 4 rows were 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 18, lint yields varied with a low of 480 lbs./acre for Stoneville 5707 B2XF to a high of 585 lbs./acre for Stoneville 4993 B3XF. Lint loan values averaged \$.5417/lb. and ranged from a low of \$.5305/lb. for Phytogen 350 W3FE to a high of \$.5630/lb. for NexGen 4098 B3XF. Gross Return/acre among varieties ranged from a high of \$405.11 for Stoneville 4993 B3XF to a low of \$364.34 for NexGen 4098 B3XF, a difference of \$40.77. Lint turnout ranged from a low of 30.81% to a high of 37.10% for Stoneville 5707 B2XF and Stoneville 4993 B3XF, respectively. Micronaire values ranged from a low of 4.27 for Stoneville 5707 B2XF to a high



of 4.95 for Stoneville 4993 B3XF. All varieties had a staple of 34 except Stoneville 5707 B2XF which had a 37. The highest percent uniformity was observed for Stoneville 4993 B3XF at 81.6% and Stoneville 5707 B2XF had the lowest with 79.5%. Strength values ranged from 27.8 g/tex for Phytogen 350 W3FE to 32.3 g/tex for Stoneville 5707 B2XF. Color grades were mostly 11's with one 21 and one 31. Leaf grades were all 1's with one 3. These data indicate that substantial differences can be obtained in terms of Gross Return/acre due to variety and technology selection.

Table 19 contains emergence, stand counts, string out, and fall out ratings in this report to give an idea on how varieties performed in each of these areas. All ratings are based on a 1-10 scale with 1 being the worst and 10 being the best.

Conclusions

As seen in Table 18, significant differences in cotton yields, grades, and loan value can be 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 soil 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 4098, B3XF.

BASF who provided ST 4993 B3XF, ST 5707 B2XF.

Corteva who provided PHY 350 W3FE, PHY 480 W3FE



Table 18:

2021 Cotton Variety Trial



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

Plant Date: 5/26/2021
 Harvest Date: 10/29/2021

Variety	Yield Per Acre/lbs		% Turnout		Loan Rate	Lint Gross Return \$/Acre	Seed Gross Return \$/Acre	Total Gross Return \$/Acre
	Lint	Seed	Lint	Seed				
ST 4993 B3XF	585	745	37.10%	47.24%	\$0.5380	\$314.92	\$90.18	\$405.11
PHY 480 W3FE	554	819	33.31%	49.20%	\$0.5360	\$297.06	\$99.06	\$396.12
PHY 350 W3FE	533	896	32.38%	54.49%	\$0.5305	\$282.58	\$108.46	\$391.03
ST 5707 B2XF	480	872	30.81%	55.90%	\$0.5410	\$259.86	\$105.47	\$365.33
NG 4098 B3XF	492	720	32.71%	47.85%	\$0.5630	\$277.19	\$87.15	\$364.34
Average	529	810	33.26%	50.94%	\$0.5417	\$286.32	\$98.07	\$384.39
Max.	585	896	37.10%	55.90%	\$0.5630	\$314.92	\$108.46	\$405.11
Min.	480	720	30.81%	47.24%	\$0.5305	\$259.86	\$87.15	\$364.34

Fiber Quality

Variety	Color	Leaf	Length	Staple	Mic	Strength	Uniformity	Loan Rate	Total Gross Return \$/Acre
ST 4993 B3XF	11	1	1.07	34.0	4.95	30.9	81.6	\$0.5380	\$405.11
PHY 480 W3FE	21	1	1.05	34.0	4.60	28.6	81.1	\$0.5360	\$396.12
PHY 350 W3FE	11	1	1.06	34.0	4.58	27.8	79.8	\$0.5305	\$391.03
ST 5707 B2XF	21	1	1.06	34.0	4.27	31.2	81.5	\$0.5410	\$365.33
NG 4098 B3XF	31	3	1.14	37.0	4.32	32.3	79.5	\$0.5630	\$364.34
Average	-	1	1.08	34.6	4.54	30.2	80.7	\$0.5417	\$384.39
Max.	-	3	1.14	37.0	4.95	32.3	81.6	\$0.5630	\$405.11
Min.	-	1	1.05	34.0	4.27	27.8	79.5	\$0.5305	\$364.34

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

¹Lint Values were calculated using the 2021 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on \$242/ton

For Questions Contact: Brad Easterling



Table 19:



2021 Cotton Variety Trial

Producer: Anthony Hoelscher **Plant Date:** 5/26/2021
Name of County: Reagan **Harvest Date:** 10/29/2021
Design: Dryland **Seeding Rate:** 22,300

Variety	Emergence	Final Plant Stand	Emergence %	String Out	Fall Out
NG 4098 B3XF	7.0	20,000	89.7%	6.0	9.0
PHY 350 W3FE	7.7	22,000	98.7%	6.0	8.7
PHY 480 W3FE	8.0	20,000	88.2%	8.3	8.3
ST 4993 B3XF	6.3	19,000	83.7%	9.0	9.0
ST 5707 B2XF	7.0	21,000	92.7%	5.7	6.3
Average	7.2	20,400	90.6%	7.0	8.3

Emergence rating - Scale of 1-10 where 10 is excellent.

String Out - Scale of 1-10 where 10 is tight.

Fall Out - Scale of 1-10 where 10 is tight.



Result Demonstration Report

IRRIGATED Non-Bt COTTON VARIETY DEMONSTRATION

Cooperators: Nathan Halfmann

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties

Cody Trimble, CEA-AG, Glasscock County

Chase McPhaul, CEA-AG, Reagan County

Summary

Three non-Bt cotton varieties and one Bt variety were compared in a replicated trial under similar field conditions. Lint yields varied with a low of 1211 lbs./acre (DP 1822 XF) to a high of 1335 lbs./acre (FM 2202 GL). Lint loan values averaged \$.5535/lb. and ranged from a low of \$.5235/lb. (PHY 444 WRF) to a high of \$.5720/lb. (DP 1822 XF). Gross Return/acre among varieties ranged from a high of \$882.50 (NG 4050 XF) to a low of \$811.36 (PHY 444 WRF), a difference of \$71.14. Gross Return/acre includes seed cost/acre based on seeding rate.

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. Seed for non-Bt varieties generally does not cost as much and we do not have high worm pressure in most years. With input costs being a bigger concern for producers every year, any way to cut costs and maintain production is a benefit. These varieties must fit into our West Texas growing environment and maintain yields. Typically, our most limiting factor is 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 drip irrigated, planted in 12 row plots in a solid row pattern on 40" spacing on May 24th. The seeding rate used was around 40,000 seed per acre and the irrigation capacity was about 2.25 gallons at the beginning of the season. Rows were 1274 feet long. They were stripper harvested on November 10th 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 20, lint yields varied with a low of 1211 lbs./acre for DeltaPine 1822 XF to a high of 1335 lbs./acre for FiberMax 2202 GL. Lint loan values averaged \$.5535/lb. and ranged from a low of \$.5235/lb. for PhytoGen 444 WRF to a high of \$.5720/lb. for DeltaPine



1822 XF. Gross Return/acre among varieties ranged from a high of \$882.50 for NexGen 4050 XF to a low of \$811.36 for Phytogen 444 WRF, a difference of \$71.14. Gross Return includes the seed cost/acre based on the seeding rate. Lint turnout ranged from a low of 33.0% to a high of 36.1% for DeltaPine 1822 XF and FiberMax 2202 GL, respectively. Micronaire values ranged from a low of 3.26 for Phytogen 444 WRF to a high of 4.27 for FiberMax 2202 GL. Staple averaged 35.25 across all varieties with a low of 36.25 for FiberMax 2202 GL and a high of 37.3 for Phytogen 444 WRF. The highest percent uniformity was observed for FiberMax 2202 GLT at 81.70% and NexGen 4050 XF had the lowest with 80.40%. Strength values ranged from 29.1 g/tex for NexGen 4050 XF to 30.9 g/tex for FiberMax 2202 GL. Color grades were mostly 21's with one 31. Leaf grades were split between 1's and 3's. These data indicate that substantial differences can be obtained in terms of Gross Return/acre due to variety and technology selection. When Using Plains Cotton Growers Seed Cost Comparison Worksheet for 2021 the seed cost per acre based on 40,000 seed per acre comes to DP 1822 XF - \$51.90, FM 2202 GL - \$45.45, NG 4050 XF - \$48.69, PHY 444 WRF - \$52.17.

Conclusions

As seen in Table 20, differences in cotton yields, grades, and loan value can be 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 different year with below normal temperatures, late season rain, and a late, long fall. This was not a particularly heavy bollworm year, however; we did have to make one application. It was still more economical to spray and harvest the additional cotton even when compared to an application on the Bt check variety, however; constant, consistent scouting must be maintained on non-Bt cotton. 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.

Acknowledgements

The authors would like to thank Mr. Nathan Halfmann for cooperating in this demonstration.

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

Americot Inc. who provided NG 4050 XF.

BASF who provided FM 2202 GL.

Bayer CropScience who provided DP 1822 XF.

Corteva who provided PHY 444 WRF.



Table 20:

2021 Non-Bt Irrigated Cotton Variety Trial



Producer: **Nathan Halfmann** Plant Date: 5/24/2021
 Name of County: **Glasscock** Harvest Date: 11/10/2021
 Design: **Irrigated** Seeding Rate: 40,000

Variety	Yield Per Acre/lbs		% Turnout		Loan Rate	Lint Gross Return \$/Acre	Seed Gross Return \$/Acre	Seed Cost/acre	Total Gross Return \$/Acre
	Lint	Seed	Lint	Seed					
NG 4050 XF	1297	1632	33.69%	42.69%	\$0.5653	\$733.75	\$197.44	\$48.69	\$882.50
FM 2202 GL	1335	1490	36.11%	40.61%	\$0.5533	\$742.79	\$180.27	\$45.45	\$877.61
DP 1822 XF	1211	1737	33.00%	47.40%	\$0.5720	\$692.50	\$210.17	\$51.90	\$850.77
PHY 444 WRF	1250	1719	33.66%	46.32%	\$0.5235	\$655.57	\$207.96	\$52.17	\$811.36
Average	1273	1644	34.1%	44.3%	\$0.5535	\$706.15	\$198.96	\$49.55	\$855.56
Max.	1335	1737	36.1%	47.4%	\$0.5720	\$742.79	\$210.17	\$52.17	\$882.50
Min.	1211	1490	33.0%	40.6%	\$0.5235	\$655.57	\$180.27	\$45.45	\$811.36

Fiber Quality

Variety	Color	Leaf	Length	Staple	Mic	Strength	Uniformity	Loan Rate	Total Gross Return \$/Acre
FM 2202 GL	31	3	1.10	35.3	4.27	30.9	81.70	\$0.5533	\$877.61
DP 1822 XF	21	1	1.13	36.3	3.85	30.8	80.70	\$0.5720	\$850.77
PHY 444 WRF	21	1	1.17	37.3	3.26	29.3	80.87	\$0.5235	\$811.36
Average	-	-	1.13	36.25	3.86	30.00	80.92	\$0.5535	\$855.56
Max.	-	-	1.17	37.33	4.27	30.87	81.70	\$0.5720	\$882.50
Min.	-	-	1.10	35.33	3.26	29.07	80.40	\$0.5235	\$811.36

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

¹Lint Values were calculated using the 2021 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on \$242/ton

For Questions Contact: Brad Easterling



Table 21:



2021 Non-Bt Irrigated Cotton Variety Trial

Producer: Nathan Halfmann
Name of County: Glasscock
Design: Irrigated
Plant Date: 5/24/2021
Harvest Date: 11/10/2021
Seeding Rate: 40,000

Variety	Emergence	Final Plant Stand	Emergence %	Vigor
NG 4050 XF	5.3	26,330	65.8%	5.7
FM 2202 GL	8.0	37,000	92.5%	7.0
DP 1822 XF	7.0	31,000	77.5%	7.5
PHY 444 WRF	7.3	38,000	95.0%	7.7
Average	6.9	33,083	82.7%	7.0

Emergence rating - Scale of 1-10 where 10 is excellent.

Vigor - Scale of 1-10 where 10 is excellent.



Result Demonstration Report

DRYLAND Non-Bt COTTON VARIETY DEMONSTRATION

Cooperators: Nathan Halfmann

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties

Cody Trimble, CEA-AG, Glasscock County

Chase McPhaul, CEA-AG, Reagan County

Summary

Three non-Bt cotton varieties and one Bt variety were compared in a replicated trial under similar field conditions. Lint yields varied with a low of 699 lbs./acre (PHY 444 WRF) to a high of 765 lbs./acre (DP 1822 XF). Lint loan values averaged \$.5261/lb. and ranged from a low of \$.4973/lb. (PHY 444 WRF) to a high of \$.5508/lb. (DP 1822 XF). Gross Return/acre among varieties ranged from a high of \$504.36 (DP 1822 XF) to a low of \$435.35 (PHY 444 WRF), a difference of \$69.01. Gross Return/acre includes seed cost/acre based on seeding rate.

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. Seed for non-Bt varieties generally does not cost as much and we do not have high worm pressure in most years. With input costs being a bigger concern for producers every year, any way to cut costs and maintain production is a benefit. These varieties must fit into our West Texas growing environment and maintain yields. Typically, our most limiting factor is water. Originally this project was designed for dryland acres but has been performed on irrigated acres as well.

Materials and Methods

The field used for this test was dryland, planted in 12 row plots in a solid row pattern on 40" spacing on May 24th. The seeding rate used was around 26,000 seed per acre. Rows were 1300 feet long. They were stripper harvested on November 10th 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 22, lint yields varied with a low of 699 lbs./acre for Phytogen 444 WRF to a high of 765 lbs./acre for DeltaPine 1822 XF. Lint loan values averaged \$.5261/lb. and ranged from a low of \$.4973/lb. for Phytogen 444 WRF to a high of \$.5508/lb. for DeltaPine 1822 XF. Gross Return/acre among varieties ranged from a high of \$504.36 for DeltaPine 1822 XF to a



low of \$435.35 for Phytogen 444 WRF, a difference of \$69.01. Gross Return includes the seed cost/acre based on the seeding rate. Lint turnout ranged from a low of 32.20% to a high of 35.43% for Phytogen 444 WRF and DeltaPine 1822 XF, respectively. Micronaire values ranged from a low of 3.14 for Phytogen 444 WRF to a high of 4.12 for FiberMax 2202 GL. Staple averaged 35.13 across all varieties with a low of 34.0 for FiberMax 2202 GL and a high of 36.0 for Phytogen 444 WRF. The highest percent uniformity was observed for FiberMax 2202 GLT at 80.80% and Phytogen 444 WRF had the lowest with 79.90%. Strength values ranged from 29.2 g/tex for NexGen 4050 XF to 31.3 g/tex for FiberMax 2202 GL. Color and leaf were not presented due to the fact that we were only able to present two replications of data and averaging grades was not feasible. These data indicate that substantial differences can be obtained in terms of Gross Return/acre due to variety and technology selection. When Using Plains Cotton Growers Seed Cost Comparison Worksheet for 2021 the seed cost per acre based on 26,000 seed per acre comes to DP 1822 XF - \$33.74, FM 2202 GL - \$29.55, NG 4050 XF - \$31.65, PHY 444 WRF - \$33.91.

Conclusions

As seen in Table 22, differences in cotton yields, grades, and loan value can be 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 different year with below normal temperatures, late season rain, and a late, long fall. This was not a particularly heavy bollworm year, however; we did have to make one application. It was still economical to spray and harvest the additional cotton even when compared to an application on the Bt check variety, however; constant, consistent scouting must be maintained on non-Bt cotton. 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.

Acknowledgements

The authors would like to thank Mr. Nathan Halfmann for cooperating in this demonstration.

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

Americot Inc. who provided NG 4050 XF.

BASF who provided FM 2202 GL.

Bayer CropScience who provided DP 1822 XF.

Corteva who provided PHY 444 WRF.



Table 22:

2021 Non-Bt Dryland Cotton Variety Trial



Producer: **Nathan Halfmann**
 Name of County: **Glasscock**
 Design: **Dryland**

Plant Date: **5/24/2021**
 Harvest Date: **11/10/2021**
 Seeding Rate: **26,000**

Variety	Yield Per Acre/lbs		% Turnout		Loan Rate	Lint Gross Return \$/Acre	Seed Gross Return \$/Acre	Seed Cost/acre	Total Gross Return \$/Acre
	Lint	Seed	Lint	Seed					
DP 1822 XF	765	983	35.43%	45.74%	\$0.5508	\$419.19	\$118.91	\$33.74	\$504.36
NG 4050 XF	715	954	33.38%	44.55%	\$0.5375	\$384.29	\$115.39	\$31.65	\$468.03
FM 2202 GL	723	861	34.75%	41.30%	\$0.5190	\$375.58	\$104.13	\$29.55	\$450.16
PHY 444 WRF	699	1004	32.20%	46.30%	\$0.4973	\$347.72	\$121.53	\$33.91	\$435.35
Average	725	950	33.9%	44.5%	\$0.5261	\$381.70	\$114.99	\$32.21	\$464.48
Max.	765	1004	35.4%	46.3%	\$0.5508	\$419.19	\$121.53	\$33.91	\$504.36
Min.	699	861	32.2%	41.3%	\$0.4973	\$347.72	\$104.13	\$29.55	\$435.35

Fiber Quality

Variety	Color	Leaf	Length	Staple	Mic	Strength	Uniformity	Loan Rate	Total Gross Return \$/Acre
NG 4050 XF	-	-	1.10	35.0	3.76	29.2	79.95	\$0.5375	\$468.03
FM 2202 GL	-	-	1.07	34.0	4.12	31.3	80.80	\$0.5190	\$450.16
PHY 444 WRF	-	-	1.13	36.0	3.14	29.6	79.90	\$0.4973	\$435.35
Average	-	-	1.10	35.13	3.76	30.25	80.15	\$0.5261	\$464.48
Max.	-	-	1.13	36.00	4.12	31.30	80.80	\$0.5508	\$504.36
Min.	-	-	1.07	34.00	3.14	29.15	79.90	\$0.4973	\$435.35

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

¹Lint Values were calculated using the 2021 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on \$242/ton

For Questions Contact: Brad Easterling



Table 23:



2021 Non-Bt Dryland Cotton Variety Trial

Producer: Nathan Halfmann
Name of County: Glasscock
Design: Irrigated
Plant Date: 5/24/2021
Harvest Date: 11/10/2021
Seeding Rate: 26,000

Variety	Emergence	Final Plant Stand	Emergence %	Vigor
NG 4050 XF	6.0	27,000	103.8%	8.0
FM 2202 GL	7.0	24,000	92.3%	7.5
DP 1822 XF	8.0	25,000	94.2%	7.5
PHY 444 WRF	8.0	22,000	84.6%	8.5
Average	7.3	24,500	93.8%	7.9

Emergence rating - Scale of 1-10 where 10 is excellent.

Vigor - Scale of 1-10 where 10 is excellent.



Result Demonstration Report

EVALUATION OF COTTON VARIETIES

**Cooperators: Cole Schwartz, Vance Smith, Darrell Halfmann, Allan, Michael Fuchs,
Chris Hirt**

**Dr. Reagan Noland, Extension Agronomist, San Angelo
Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties
Cody Trimble, CEA-AG, Glasscock County
Chase McPhaul, CEA-AG, Reagan 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 all the major companies to evaluate their varieties before commercial release.

Results and Discussion

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

Acknowledgements

The authors would like to thank:

Cole Schwartz for help with one of the RACE trials.
Vance Smith for help with one of the RACE trials.
Darrell Halfmann for help with one of the APT trials.
The Fuchs' for help with one of the APT trials.
Chris Hirt for help with the FACT trial.

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



Table 24:

RACE Trial

Glasscock County Irrigated RACE Trial – 2021

Variety	Lint (lbs/ac)	Turnout (%)	Mic	Length (in)*	Strength (g/tex)	Uniformity	Color	Leaf	Loan Value (c/lb)	Lint Value (\$/ac)
PHY332W3FE	1739	39.4	4.24	1.16	30.3	80.6	31,31,21	1,1,2	56.7	986
NG4190B3XF	1710	40.8	4.42	1.16	29.0	81.6	21,31,31	1,1,1	56.4	965
ST4950B3XF	1661	39.6	4.56	1.16	29.1	81.3	31,21,31	1,1,1	56.3	935
NG4098B3XF	1632	37.4	4.21	1.21	32.6	81.0	31,21,31	1,2,1	56.9	929
FM2398GLTP	1632	38.5	4.51	1.15	29.6	82.1	21,21,21	1,2,2	56.8	928
DP2020B3XF	1583	38.8	4.38	1.15	30.3	81.5	21,21,21	2,2,2	56.8	898
PHY443W3FE	1596	38.1	4.30	1.14	31.7 [†]	81.6	31,31,21	1,2,1	56.0	894
DP2055B3XF	1478	39.2	4.47	1.18	28.6	80.7	31,31,21	1,1,1	56.1	829
P > F	0.8	0.73	0.54	0.32	0.012	0.43	-	-	0.0005	0.4
CV	11.2	5.9	5.4	2.7	4.0	1.0	-	-	0.3	9.1
LSD	<i>n.s</i>	<i>n.s</i>	<i>n.s</i>	<i>n.s</i>	1.7	<i>n.s</i>	-	-	0.30	<i>n.s</i>

† Within columns, bold values represent the uppermost grouping, and are not statistically different from each other.

*Staple (32^{nds}) = Length (in) × 32

Key Results

- Variety did not significantly influence lint yield, micronaire, fiber length, or uniformity at this site.
- PHY 332 W3FE, FM 2398 GLTP, DP 2020 B3XF, and NG 4098 B3XF had the highest loan value.
- NG 4098 B3XF and PHY 443 W3FE had the greatest fiber strength.



Table 25:

RACE Trial

VARIETY PERFORMANCE ACROSS LOCATIONS

Table 5. Results of irrigated sites combined in 2021 West Central Texas RACE trials

Variety	Lint (lbs/acre)	Turnout (%)	Loan Value (cents/lb)	Lint Value (\$/acre)
PHY332W3FE	1392 a	32.6 bc	53.7	759
FM2398GLTP	1286 ab	34.5 ab	54.6	711
NG4190B3XF	1273 ab	34.7 a	53.6	695
NG4098B3XF	1247 b	31.6 c	53.9	686
ST4990B3XF	1221 bc	33.7 ab	54.5	674
PHY443W3FE	1236 bc	32.7 bc	53.6	670
DP2020B3XF	1225 bc	33.3 a-c	52.8	665
DP2055B3XF	1109 c	33.7 ab	55	613
P > F	0.10	0.14	0.8	0.18

Table 6. Results of dryland sites combined in 2021 West Central Texas RACE trials

Variety	Lint (lbs/acre)	Turnout (%)	Loan Value (cents/lb)	Lint Value (\$/acre)
ST4993B3XF	583 a	32.8 a	53.3 ab	315 a
FM2498GLT	570 a	31.6 b	53.9 a	310 a
NG4190B3XF	556 a	30.3 c	51.2 d	283 b
PHY480W3FE	551 a	28.8 d	50 d	273 b
DP1948B3XF	503 b	29.1 d	53.3 a-c	265 bc
PHY443W3FE	511 b	28.8 d	51.5 b-d	265 bc
DP2012B3XF	507 b	28.7 d	51.6 b-d	260 bc
NG4098B3XF	479 b	26.9 e	51.4 cd	242 c
P > F	<.0001	<.0001	0.017	<.0001

Key Results

- PHY 332 W3FE, FM 2398 GLTP and NG 4190 B3XF resulted in the greatest lint yield across irrigated locations (Table 5).
- ST 4993 B3XF, FM 2498 GLT, NG 4190 B3XF, and PHY 480 W3FE resulted in the greatest lint yields across dryland sites (Table 6).
- ST 4993 B3XF, FM 2498 GLT, and DP 1948 B3XF resulted in the greatest loan value across dryland sites (Table 6).
- ST 4993 B3XF and FM 2498 GLT resulted in the greatest lint value across dryland sites (Table 6).



Table 26:

RACE Trial

COTTON ESTABLISHMENT BY VARIETY

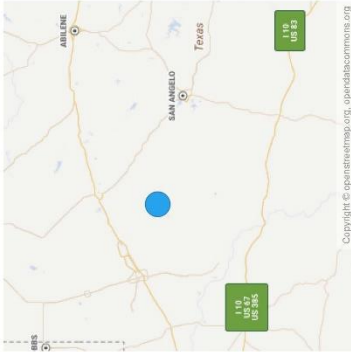
Table 3. Final cotton stands among varieties in irrigated RACE trials

Variety	Tom Green	North Glasscock	South Glasscock	All sites combined
	---- % established ----			
PHY332W3FE	95	62	75	85 a
PHY443W3FE	91	53	71	82 ab
DP2020B3XF	77	57	80	78 a-c
NG4098B3XF	67	54	82	74 b-d
ST4990B3XF	75	56	71	73 cd
FM2398GLTP	63	58	71	67 de
DP2055B3XF	65	52	68	66 de
NG4190B3XF	53	56	71	62 e
<i>P > F</i>	<.0001	0.4	0.12	0.001
<i>CV</i>	8.1	8.8	7.7	-
<i>LSD</i>	8.5	n.s.	n.s.	-



Table 27:

APT Trial



2021 Agronomic Performance Trial - Glasscock County, Texas

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

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

2021 Halfmann Garden City Irr										
Variety	Lint Yield	Value/Acre	Loan	Micronaire	Length	Strength	Uniformity			
ST 4993B3XF	1610	\$917	57.0	4.88	1.13	30.9	81.50			
FM 2498GLT	1565	\$898	57.4	4.35	1.14	29.4	81.80			
FM 2398GLTP	1564	\$889	56.9	4.53	1.13	29.5	82.10			
ST 4595B3XF	1558	\$884	56.8	4.36	1.15	28.9	81.60			
PHY 444 WRF	1621	\$853	52.6	3.45	1.21	29.9	82.40			
FM 1830GLT	1462	\$847	58.0	4.22	1.20	31.4	81.30			
FM 1730GLTP	1456	\$844	58.0	4.12	1.18	32.0	82.70			
TEST MEAN	1466	\$831	56.7	4.34	1.15	29.8	81.54			
FM 1953GLTP	1431	\$824	57.6	4.01	1.16	30.4	81.10			
DG 3402 B3XF	1427	\$822	57.6	4.02	1.16	30.2	81.50			
FM 2334GLT	1425	\$821	57.7	4.44	1.18	30.7	81.90			
ST 4990B3XF	1396	\$805	57.7	4.40	1.15	30.0	82.30			
DP 1845 B3XF	1359	\$773	56.9	4.11	1.19	30.2	80.90			
ST 5707B2XF	1349	\$771	57.2	4.53	1.11	31.2	81.70			

Sales Contact
 Noble Laminack

Irrigated
 Irrigated

Tillage
 Conventional

Soil Type
 Sandy Clay Loam

Harvest Date
 10/29/2021

Planting Date
 5/27/2021

Average Yield
 1,478

State
 TX

County
 Glasscock

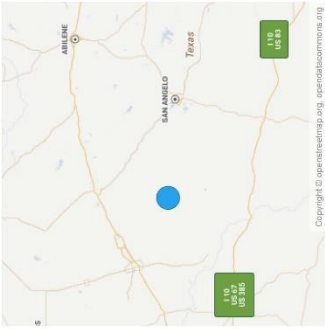
Location
 2021 Halfmann Garden City Irr

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Table 28:

APT Trial



2021 Agronomic Performance Trial - Glasscock County, Texas

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

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

Variety	2021 Fuchs St. Lawrence Irr									
	Lint Yield	Value/Acre	Loan	Micronaire	Length	Strength	Uniformity			
FM 2498GLT	2729	\$1565	57.4	4.35	1.16	28.6	82.20			
FM 2398GLTP	2595	\$1487	57.3	4.43	1.16	28.9	81.60			
FM 1730GLTP	2502	\$1439	57.5	4.01	1.20	31.5	82.80			
FM 1830GLT	2396	\$1384	57.8	3.77	1.21	30.3	81.50			
ST 4993B3XF	2589	\$1379	53.3	4.10	1.08	27.1	79.60			
ST 4595B3XF	2423	\$1377	56.9	4.05	1.17	27.1	81.80			
TEST MEAN	2404	\$1366	56.9	4.11	1.16	28.7	81.71			
ST 4990B3XF	2375	\$1365	57.5	4.25	1.17	28.4	82.80			
DP 1845 B3XF	2225	\$1280	57.5	3.68	1.20	29.0	81.20			
ST 5707B2XF	2054	\$1184	57.7	4.15	1.16	30.8	82.40			

Location: 2021 Fuchs St. Lawrence Irr | County: Glasscock | State: TX | Average Yield: 2.429 | Planting Date: 5/26/2021 | Harvest Date: 11/17/2021 | Soil Type: Silty Clay Loam | Tillage: Conventional | Irrigated: Irrigated | Sales Contact: Noble Laminack

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Table 29:

FACT Trial

2021 Cotton Individual Plot Yield Report											
Cooperator:		Tillage:		Soil Texture:		Irrigation:		drip		* Fiber Char	
Planted: 6/7/21		Harvested: 11/30/21		Row Width: 40		Crop Value (\$/Acre)		Lint Yield (Lbs/Acre)		Loan Price	
Entry	Status	Product Name	Crop Value (\$/Acre)	Lint Yield (Lbs/Acre)	Loan Price	Staple (32nds)	Length (inches)	Strength (g/tex)	Micronaire	Uniformity	% Lint
1		21R 634 B3XF	\$626.23	1272	49.25	37	1.14	28.4	3.1	79.1	42.6
2		DP 2044 B3XF	\$556.95	1179	47.25	39	1.21	31.7	2.75	79.2	35.1
3		DP 1845 B3XF	\$651.41	1294	50.35	38	1.19	31.1	3.22	80.7	38.3
4		21R 640 B3XF	\$700.90	1374	51.00	37	1.16	29.2	3.49	79.9	40.0
5		20R 734 B3XF	\$706.30	1373	51.45	36	1.11	25.6	4.11	79.0	39.7
6		21R 632 B3XF	\$658.01	1240	53.05	34	1.06	26.4	3.86	80.6	38.6
7		20R 745NR B3XF	\$707.46	1324	53.45	35	1.09	26.6	3.58	77.9	39.6
8		21R 630 B3XF	\$629.90	1274	49.45	38	1.18	29.7	3.14	79.6	38.8
9		21R 648 BRXF	\$685.68	1358	50.50	36	1.12	27.7	3.37	79.0	41.8
10		21R 644 B3XF	\$573.62	1178	48.70	36	1.11	27.3	3.19	78.4	39.2
11		DP 2239 B3XF 20R 741 B3XF	\$756.29	1335	56.65	38	1.20	29.0	3.57	81.2	39.7
12		20R 744 B3XF	\$613.54	1215	50.50	36	1.11	26.6	3.39	79.0	41.2
13		21R 638 B3XF	\$678.35	1242	54.60	35	1.08	26.8	3.82	81.0	39.4
14		DP 2055 B3XF	\$603.85	1185	50.95	37	1.15	27.7	3.46	79.6	39.2
TEST AVERAGE			\$653.46	1274	51.23	36.6	1.14	28.1	3.4	79.6	39.5

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.



Result Demonstration Report

DRYLAND SORGHUM VARIETY DEMONSTRATION

Cooperator: Jeremy Gully

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties

Cody Trimble, CEA-AG, Glasscock County

Chase McPhaul, CEA-AG, Reagan County

Summary

Ten grain sorghum varieties were planted in a strip trial under similar field conditions on April 18th. Yields ranged from a high of 3729 lbs./ac for DKS 37-07 to a low of 1959 lbs./ac for SP43M80. Test weights ran from 56.6 for SP43M80 to 62.4 for DKS 44-07. These varieties were raised under normal dryland grain sorghum production practices. When reviewing the test results, producers should keep in mind that this is only one year's data. Year to year consistency should be a primary consideration in selecting varieties of grain sorghum to be planted. Also note that soil moisture levels were short starting out and germination was slow. Rainfall was then received a few weeks later and continued through most of the grain production period. The temperatures were also excellent for grain production this season. Sugarcane aphids were higher this season than in past years and SCA ratings are included in this report. All varieties were beyond economic threshold regardless of their tolerance rating. All yields have been adjusted to 14% moisture.

Objective

Grain production has not been at the forefront of cropping systems in the tri-county area. Many producers have recently begun planting grains for the rotational benefits that they receive when rotated with cotton and to diversify their farming operations as well as to add residue for no-till or minimum tillage farming operations. New varieties of sorghum become available on a yearly basis. When combined with already available varieties planting decisions become very difficult. Variety tests provide producers with the opportunity of comparing new varieties of sorghum with more established varieties that have been successfully grown under varying weather conditions in the St. Lawrence area.



Materials and Methods

Varieties were planted in 8 row strips 2100 feet long on April 18th following cotton at a rate of 1.5 lbs./per acre. Moisture at the time of establishment was short and most all seed came up but slow and not until after we had a rain. Once the rains began the crop grew off fine and progressed well. Sugarcane aphids moved into the field in early-August and required treatment. The plots were harvested on September 10th, weighed on platform scales and samples taken to the Glasscock County Co-op and tested for moisture and test weight.

Results and Discussion

As seen in Table 30, grain yields ranged from a high of 3729 lbs./ac for DeKalb DKS 37-07 to a low of 1959 lbs./ac for Sorghum Partners SP43M80. Percent moisture varied from a low of 11.5% for BH Genetics XPS 4055, to a high of 13.7% for Sorghum Partners SP43M80. Test weights ranged from a high of 62.4 for DeKalb DKS 44-07, to a low of 56.6 for Sorghum Partners SP43M80. Sugarcane aphid (SCA) was a significant factor in the trial this year. SCA moved into the trial in early-August, and steadily built up. The ratings that follow are ranked 1-10 with 10 being excellent meaning better control and fewer aphids. Pioneer 85P75 had the best rating with an 8 while DeKalb DKS 36-07 had the lowest with a 2. All varieties were still well above economic threshold and an insecticide treatment was needed for control.

Conclusions

Grain sorghum can be grown in the St. Lawrence area, but proper variety selection, fertility, and moisture are keys. As was see in this trial, dryland with a well-timed rain can lead to some above average yields.

Acknowledgements

The authors would like to thank Mr. Jeremy Gully for cooperating in this demonstration.

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

BH Genetics who provided XPS 4055.

Bayer CropScience who provided DKS 36-07, DKS 37-07, DKS 44-07.

Corteva who provided 85P75, 86Y89.

Nutrien who provided M60GB31, M62GB77.



S&W Seed Company who provided SP43M80, SP65M57.

Table 30

2021 Sorghum Variety Trial



Producer: **2021 Gully Dryland Sorghum** Plant Date: 4/8/2021
 Name of County: Reagan Harvest Date: 9/10/2021
 Design: Dryland

Brand	Variety	% Moisture	Test WT.	Yield bu/per Acre	Yield lbs/per Acre	Maturity	SCA Rating
DeKalb	37-07	11.9	61.1	67	3729	62	6
Pioneer	86Y89	12.0	60.6	64	3566	68	7
BH Genetics	XPS 4055	11.5	60.3	60	3378	-	5
Pioneer	85P75	12.6	58.2	60	3360	70	8
DynaGro	M60GB31	12.0	61.4	58	3247	60	3
DeKalb	36-07	11.7	60.8	55	3099	62	2
DeKalb	44-07	12.3	62.4	53	2959	67	6
DynaGro	M62GB77	12.1	60.8	51	2846	62	4
Sorghum Partners	SP65M57	13.1	59.2	49	2735	68	7
Sorghum Partners	SP43M80	13.7	56.6	35	1959	60	5
Average		12.3	60.3	56	3135		
Max.		13.7	62.4	67	3729		
Min.		11.5	56.6	35	1959		

SCA Rating - 1-10 where 10 is excellent.
 Yields adjusted to 14% moisture



Result Demonstration Report

IRRIGATED CORN VARIETY DEMONSTRATION

Cooperator: Bo and Russ Eggemeyer

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties

Cody Trimble, CEA-AG, Glasscock County

Chase McPhaul, CEA-AG, Reagan County

Summary

Seven corn varieties were planted in a strip trial under similar field conditions on March 20th. Yields ranged from a high of 189 Bu/ac for P1464VYHR to a low of 166 Bu/ac for DKC 70-26RIB. Test weights ran from 58.3 for D56VC24 to 62.6 for DKC 70-27 and P1817VYHR. These varieties were raised under normal irrigated corn production practices. When reviewing the test results, producers should keep in mind that this is only one year's data. Year to year consistency should be a primary consideration in selecting varieties of corn to be planted. Soil moisture was very good at planting despite the dry conditions. Significant rainfall was not received until the end of March and continued through most of the grain production period. The temperatures were excellent for grain production this season. All yields have been adjusted to 15.5% moisture.

Objective

Grain production has not been at the forefront of cropping systems in the tri-county area. Many producers have recently begun planting grains for the rotational benefits that they receive when rotated with cotton and to diversify their farming operations as well as to add residue for no-till or minimum tillage farming operations. New varieties of corn become available on a yearly basis. When combined with already available varieties planting decisions become very difficult. Variety tests provide producers with the opportunity of comparing new varieties of corn with more established varieties that have been successfully grown under varying weather conditions in the St. Lawrence area.



Materials and Methods

Varieties were planted in 6 rows strips in a skip row pattern 3500 feet long on April, 18 following cotton. The seeding rate was 23,000 seed per acre and the irrigation capacity was about 1.50 gallons at the beginning of the season. Moisture at the time of establishment was very good and emergence was good. The plots were harvested on September 20th, weighed on platform scales and samples taken to the Glasscock County Co-op and tested for moisture and test weight.

Results and Discussion

As seen in Table 31, grain yields ranged from a high of 189 Bu/ac for Pioneer P1464VYHR to a low of 166 Bu/ac for DeKalb DKC 70-26RIB. Percent Moisture varied from a low of 9.8% for Pioneer P0622VYHR, to a high of 10.7% for Pioneer P1847VYHR. Test weights ranged from a high of 62.6 for DeKalb DKC 70-27 and Pioneer P1847VYHR, to a low of 58.3 for DynaGro D56VC24.

Conclusions

Corn can be grown in the St. Lawrence area, but proper variety selection, fertility, and moisture are keys. As was see in this trial, irrigation with a well-timed rain can lead to some above average yields.

Acknowledgements

The authors would like to thank Mr. Bo Eggemeyer and Mr. Russ Eggemeyer for cooperating in this demonstration.

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

Bayer CropScience who provided DKC 66-29, DKC 70-26RIB, DKC 70-27.

Corteva who provided P0622VYHR, P1464VYHR, P1847VYHR.

Nutrien who provided D56VC24.



Table 31.

2021 Corn Variety Trial



Producer: 2021 Eggemeyer Corn
Name of County: Upton
Design: Irrigated
Plant Date: 3/20/2021
Harvest Date: 9/20/2021

Brand	Variety	% Moisture	Test WT.	Yield bu/per Acre	Maturity
Pioneer	P1464VYHR	10.2	62.1	189	114
Dekalb	DKC 66-29	10.5	62.5	188	116
Pioneer	P1847VYHR	10.7	62.6	177	118
Dekalb	DKC 70-27	10.2	62.6	175	120
Pioneer	P0622VYHR	9.8	60.6	174	106
DynaGro	D56VC24	10.5	58.3	174	116
Dekalb	DKC 70-26RIB	10.1	62.3	166	120
Average		10.3	61.6	178	
Max.		10.7	62.6	189	
Min.		9.8	58.3	166	

Yields adjusted to 15.5% moisture



Table 32:

2021 Corn Variety Trial



Producer: 2021 Eggemeyer Corn **Plant Date:** 3/20/2021
Name of County: Upton **Harvest Date:** 9/20/2021
Design: Irrigated

VARIETY	EMERGE	Final Plant Stand	VIGOR
P1847VYHR	7	23,000	8
DKC 70-26RIB	8	23,000	8
P1464VYHR	9	20,000	8
D56VC24	7	23,000	6
DKC 70-27	7	23,000	6
P0622VYHR	9	24,000	9
DKC 66-29	6	23,000	7

Early Season Ratings

EMERGE- Scale of 1-10 where 10 is excellent.

VIGOR - Scale of 1-10 where 10 is excellent.