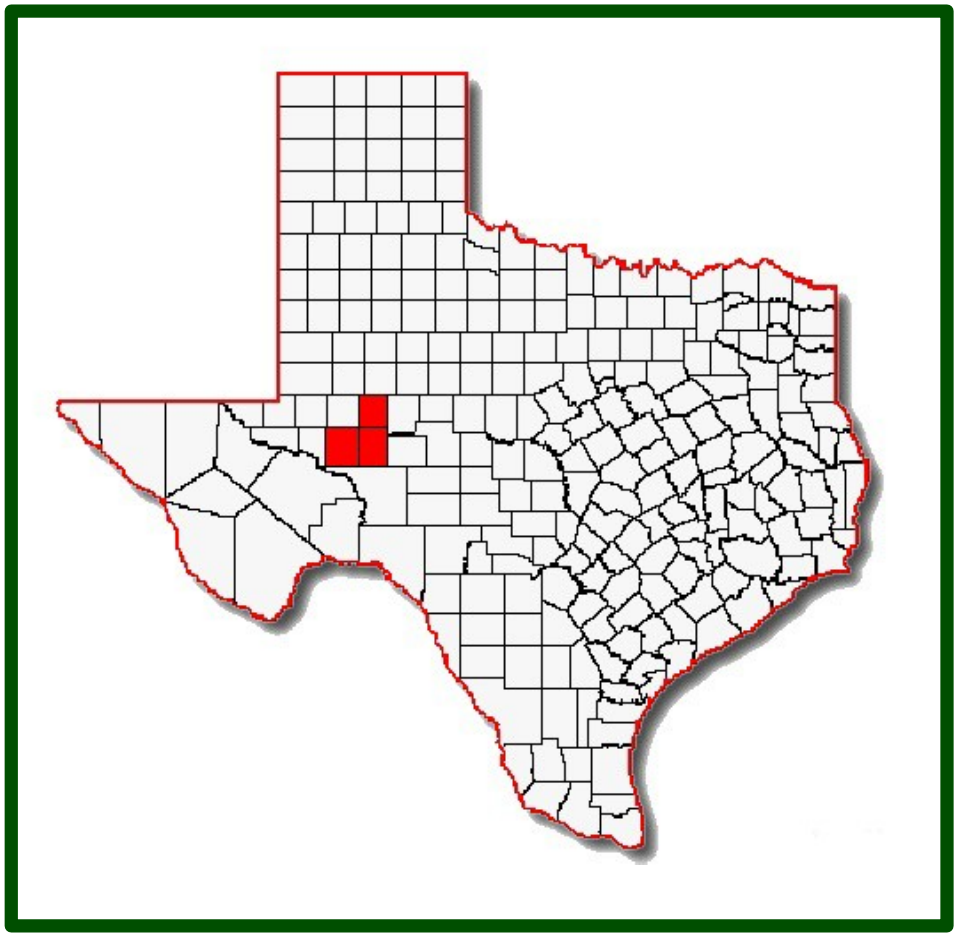
INTEGRATED PEST MANAGEMENT



Glasscock, Reagan & Upton
IPM Program

2019

TEXAS A&M AGRILIFE EXTENSION

TEXAS IPM
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GLASSCOCK, REAGAN, and UPTON COUNTIES PEST MANAGEMENT PROGRAM

2019

ANNUAL REPORT

Prepared by:

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Glasscock, Reagan and Upton Counties

In cooperation with

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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 the following people for their help in planning and implementing the 2019 program.

Board of Directors of the St. Lawrence Cotton Growers:

Chris Hirt	Pat Pelzel	Garrett Kellermeier
Ricky Halfmann	Wayne Jansa	Jeremy Gully
Cody Wilson	Marcus Halfmann	Russell Halfmann

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

Carl & Austin Hoelscher	Garrett Kellermeier	Russell Halfmann
Chris Hirt	Phillip Bales	Darrell Halfmann
Mitchell Jansa & Joe D. Schwartz	Cole Schwartz	Ricky Halfmann
Darren Jost	Randy Braden	Bo & Russ Eggemeyer
Cody Wilson		

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
Dr. Calvin Trostle……Prof. & Extension Agronomist, District 2, Lubbock
Mr. Cody Trimble……Extension Agent – Agriculture, Garden City
Ms. Erica Rauschuber……Glasscock County Extension Secretary, Garden City
Mrs. Tara Stiles……Former 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

Appreciation is also extended to the pest management scouts and intern for 2019. Scouts were Shay Miller and Ryan Halfmann. Intern was Jonah Trevino.

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INTRODUCTION

A "survey type" pest management program was operated in 2019 in the St. Lawrence Area. The program has been in operation for the past forty 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 e s t i m a t e d cotton acreage combined for each county and the approximate lint yields. There were 134,612 dryland acres planted with very few acres failed this season due to good soil moisture early despite a very dry July and an extremely hot and dry August.

TABLE 1

COTTON LINT YIELDS FOR 2019

COUNTY	COTTON ACREAGE	AVERAGE YIELD
GLASSCOCK	109,626	650
REAGAN	45,821	650
UPTON	12,200	650

Several pests attack cotton in the St. Lawrence Area. Fleahoppers are generally the major pests, 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. This season, almost no fain fell during the growing season, limiting cotton yields across the area.

The pest management annual report includes information concerning the survey scouting program, the pest situation and result demonstrations for 2019. 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 ten dedicated producers from the three county areas. 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
.....Marcus Halfmann
.....Cody Wilson
.....Russell Halfmann
.....Wilbert Braden

TABLE 2

RAINFALL FOR 2019

	BIG LAKE	LOMAX	ST. LAWRENCE
JAN-	0.37	0.12	0.11
FEB-	0.16	0.06	0.16
MARCH-	0.79	0.63	0.85
APRIL-	5.89	4.05	3.52
MAY-	4.85	5.15	3.51
JUNE-	1.73	0.55	0.12
JULY-	0.66	0.28	0.45
AUG-	0.75	0.90	0.17
SEPT-	0.28	3.40	1.57
OCT-	0.12	0.02	0.05
NOV-	0.90	1.91	0.77
DEC-	1.34	0.75	1.12
TOTAL	17.84	17.82	12.40

TABLE3

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

FUNDS ON HAND, JANUARY 1, 2019		534.96
BUDGET RECEIPTS		
UNIT SCOUTING CONTRIBUTIONS	20,000.00	
ACCT TRANSFER FROM UNIT ACCT	4,920.00	
TOTAL INCOME		24,920.00
SCOUTING EXPENSE		
ACCOUNT TRANSFER EXPENSE		4,480.00
ADMINISTRATIVE FEE		3,000.00
ENTOMOLOGY FEE		500.00
PAYROLL TAXEXPENSE		1,034.96
TRAVEL-SCOUT		4,413.31
WAGES (SALARY AD WAGES)		12,020.50
TOTAL SCOUTING EXPENSE		25,448.77
OPERATING BALANCE AS OF DATE CASH IN BANK		6.19

SCOUTING PROGRAM ACTIVITIES

The St. Lawrence Area covering Glasscock, Reagan and Upton Counties had a total of 167,647 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 2019 scouting statistics.

TABLE 4 – ST. LAWRENCE AREA SCOUTING STATISTICS - 2019

AVERAGE SIZE OF FIELDS	120 ACRES
NUMBER OF SCOUTS	2
PROGRAM FINANCING - IRRIGATED	$0. 50 PER BALE
PROGRAM FINANCING - DRYLAND	$0.25 PER ACRE
TOTAL ACRES - IRRIGATED	33,036
TOTAL ACRES - DRYLAND	134,612
PROGRAM EXPENDITURES	18,620.71
MILEAGE RATE	.53/MILE
SCOUT HOURLY RATE	$10.00

The two field scouts began work by attending a scout training seminar in Garden City for scouts, interns 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 here. During the first couple of weeks the scouts familiarize themselves with the early season pests such as grasshoppers, thrips, aphids and various armyworms. 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 in bi-weekly newsletters and posted online and on the St. Lawrence IPM Blog. This information was used by all producers to determine when to intensify scouting.

PEST SITUATION

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 boll we are free from most pest problems.

Pest populations in 2019 were fairly low. Thrips numbers were light in most fields this year with minor exceptions near wheat. Aphids were at low but constant levels most of the season. Fleahopper populations were very light and very few fields were treated in the area.

The most prevalent pest early in the season was lubber or jumbo grasshoppers. They were very heavy in most fields on the Eastern side of Glasscock County around FM 33 and East with sporadic infestations to the West. Many of the fields were treated 2, 3, 4 or more times to control jumbos while quite a few acres were replanted. They hung around for a good portion of the summer, up until about mid-July.

Worm pests were extremely low and almost all cotton had a worm control gene.

Stink bugs were present for an extended period of time this year, first showing up in wheat in June and moving to successive crops throughout the season. They were found in wheat, sorghum, corn, watermelons and cotton. They reached economic levels in some watermelon and cotton fields and were treated in some sorghum to prevent movement into cotton. Some damage including boll rot and hard lock could still be found in cotton.

Irrigated and Dryland cotton had average to below average yields. Extreme heat also played a large part in lowering yields. Most of this cotton was made on preseason moisture as the growing season was dry.

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

Glasscock	2019	2018	2017	2016
Cotton	109,625	124,163	101,667	100,971
Corn	463	181	280	270
Pecans	941	941	875	975
Sorghum	1,056	1,279	2,427	1,828
Watermelon	216	235	175	186
Wheat	11,510	10,820	9,127	7,232

Reagan	2019	2018	2017	2016
Cotton	45,821	50,892	41,482	37,867
Corn	379	411	615	1,008
Pecans	112	105	153	148
Sorghum	461	639	1,224	2,771
Watermelon	23	24	73	80
Wheat	7,118	7,984	10,443	11,022

Upton	2019	2018	2017	2016
Cotton	12,200	15,712	15,258	16,018
Corn	85	48	49	0
Pecans	90	90	90	90
Sorghum	62	396	723	804
Watermelon	0	183	237	221
Wheat	8,578	12,717	10,859	6,690

Overall, both irrigated and dryland cotton yields were average to below average this year. This was a huge disappointment for everyone. As both topsoil and subsoil moisture was wetter than it had been in many years. Going into this season everyone was expecting a very good crop. With may very wet, June cool, despite being dry everyone still felt good. July was cool and dry as well and then the heat of august arrived. The average high for the month was 99.23. with an official total of only 0.74” of rain from June-August the crop shed its boll load. In many cases the hot, dry weather had an impact on quality as well

TABLE 6

Cotton Production in the St. Lawrence Area

	Total	Glasscock	Midkiff
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
Total	1,628,329	1,137,158	491,171
Average	125,256	87,474	37,782
10 Year Avg.	118,722	82,223	36,500

EDUCATIONALACTIVITIES

The St. Lawrence Pest Management Program includes many educational programs. The primary objective of the program is education. Producers are taught how to identify, scout and manage their pest populations in an economic way. Scout training meetings and personal contacts are methods used in the educational program. 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	955
Turn row Meetings	26
Newsletters	13
Tours	1
Miscellaneous Crop Producer Meetings	9
Total Persons Provided Scout Training	8
Result Demonstrations	22
Pest Management Committee Meetings	12

Result Demonstration Reports

Result Demonstration Report

IRRIGATED COTTON VARIETY DEMONSTRATION

Cooperators: Randy Braden

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 611 lbs./acre (NG 5711 B3XF) to a high of 744 lbs./acre (ST 5707 B2XF). Lint loan values averaged $.5103/lb. and ranged from a low of $0.4863/lb. (NG 4777 B2XF) to a high of $0.5413/lb. (DP 1845 B3XF). Gross Return/acre among varieties ranged from a high of $475.69 (ST 5707 B2XF) to a low of $375.86 (NG 5711 B3XF), a difference of $99.83.

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 31st. Rows were 1466 feet long and each plot was .90 acres in size. They were stripper harvested on October 15th 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 8, lint yields varied with a low of 611 lbs./acre for NexGen 5711 B3XF to a high of 744 lbs./acre for Stoneville 5707 B2XF. Lint loan values averaged $0.5103/lb and ranged from a low of $0.4863/lb. for NexGen 4777 B2XF to a high of $0.5413/lb. for DeltaPine 1845 B3XF. Gross Return/acre among varieties ranged from a high of $475.69 for Stoneville 5707 B2XF to a low of $375.86 for NexGen 5711 B3XF, a difference of $99.83. Lint turnout ranged from a low of 32.32% to a high of 39.43% for Deltapine 1612 B2XF and NexGen 5711 B3XF, respectively.

Micronaire values ranged from a low of 4.5 for Deltapine 1612 B2XF, NexGen 4777 B2XF, NexGen 5711 B3XF to a high of 4.9 for Stoneville 5707 B2XF. Staple averaged 33 across all varieties with a low of 32 for Stoneville 5707 B2XF and NexGen 4777 B2XF and a high of 34 for DeltaPine 1845 B3XF. The highest percent uniformity was observed for DeltaPine 1845 B3XF at 79.8% and NexGen 4777 B2XF had the lowest (79.29%). Strength values ranged from 27.77 g/tex for NexGen 4777 B2XF to 31.03 g/tex for DeltaPine 1845 B3XF. Color grades were mostly 11's with a few 21's. Leaf grades were consistent with most everything being either a 1 or 2. However, all 3 samples from Stoneville 5707 B2XF 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 8, 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. Randy Braden for cooperating in this demonstration.

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

Americot Inc. who provided NG 4777 B2XF, NG 5711 B3XF.

BASF who provided ST 5707 B2XF.

Bayer CropScience who provided DP 1612 B2XF, DP 1845 B3XF.

Table 8:

2019 Cotton Variety Trial

Producer: **Randy Braden**
Name of County: Glasscock
Design: Solid

Plant Date: 5/31/2019
Harvest Date: 10/15/2019
Herbicide
Fertility:

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Variety	Yield Per Acre		% Turnout		Loan Value	Lint Gross Return	Seed Gross Return	Color	Leaf	Length	Staple	Mic	Strength	Unif.	Gross Return ($/acre)[1]
	Lint	Seed	Lint	Seed											
ST 5707 B2XF	744	1173	33.42%	52.67%	$0.5097	$378.90	$96.79	-	-	1.01	32	4.9	30.53	79.67	$475.69
DP 1845 B3XF	697	885	36.34%	46.05%	$0.5413	$375.77	$72.99	-	-	1.07	34	4.6	31.03	79.80	$448.77
DP 1612 B2XF	696	1068	32.32%	49.59%	$0.5030	$350.08	$88.09	-	-	1.03	33	4.5	29.13	79.47	$438.17
NG 4777 B2XF	621	955	34.34%	52.90%	$0.4863	$300.49	$78.77	-	-	0.99	32	4.5	27.77	78.07	$379.27
NG 5711 B3XF	611	769	39.43%	49.85%	$0.5110	$312.40	$63.47	-	-	1.03	33	4.5	28.45	79.45	$375.86
Average	674	970	35.17%	50.21%	$0.5103	$343.53	$80.02	-	-	1.03	33	4.6	29.38	79.29	$423.55
Max.	744	1173	39.43%	52.90%	$0.5413	$378.90	$96.79	-	-	1.07	34	4.9	31.03	79.80	$475.69
Min.	611	769	32.32%	46.05%	$0.4863	$300.49	$63.47	-	-	0.99	32	4.5	27.77	78.07	$375.86

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 $165/ton

For Questions Contact: Brad Easterling

Result Demonstration Report

IRRIGATED COTTON VARIETY DEMONSTRATION

Cooperators: Russ and Bo Eggemeyer

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

Four cotton varieties were compared in randomized complete block design under similar field conditions. Lint yields varied with a low of 643 lbs./acre (NG 4936 B3XF) to a high of 925 lbs./acre (PHY 480 W3FE). Lint loan values averaged $.5145/lb. and ranged from a low of $0.4985/lb. (PHY 480 W3FE) to a high of $0.5325/lb. (NG 4936 B3XF). Gross Return/acre among varieties ranged from a high of $549.19 (PHY 480 W3FE) to a low of $404.61 (DP 1820 B3XF), a difference of $144.58.

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 24 row plots in a 2 x 1 pattern on 40" spacing on May 27th. Rows were 1150 feet long and each plot was 2.11 acres in size. They were stripper harvested on October 23rd and the bales were 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 643 lbs./acre for NexGen 4936 B3XF to a high of 925 lbs./acre for PhytoGen 480 W3FE. Lint loan values averaged $0.5325/lb and ranged from a low of $0.4985/lb. for PhytoGen 480 W3FE to a high of $0.5325/lb. for NexGen 4936 B3XF. Gross Return/acre among varieties ranged from a high of $549.19 for PhytoGen 480 W3FE to a low of $404.61 for Deltapine 1820 B3XF, a difference of $144.58. Lint turnout ranged from a low of 32.16% to a high of 39.81% for Deltapine 1820 B3XF and PhytoGen 480 W3FE,

respectively. Micronaire values ranged from a low of 4.8 for NexGen 4936 B3XF and Deltapine 1820 B3XF to a high of 5.0 for Fibermax 2398 G L T P . Staple averaged 33 across all varieties with a low of 32 for PhytoGen 480 W3FE and a high of 34 for NexGen 4936 B3XF. The highest percent uniformity was observed for Fibermax 2398 G L T P and NexGen 4936 B3XF at (80.9%) and Deltapine 1820 B3XF had the lowest (79.3%). Strength values ranged from 27.2 g/tex for NexGen 4936 B3XF to 28.9 g/tex for PhytoGen 480 W3FE. Color grades were 11 across the board. Leaf grades were consistent with most everything being either a 1 or 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. Russ and Bo Eggemeyer 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.

Corteva who provided PHY 480 W3FE.

Bayer CropScience who provided DP 1820 B3XF

Table 9:

2019 Cotton Variety Trial

Producer: **Eggemeyer**
Name of County: Upton
Design: 2x1

Plant Date: 5/27/2019
Harvest Date: 10/23/2019
Herbicide
Fertility:

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Variety	Yield Per Acre		% Turnout		Loan Value	Lint Gross Return	Seed Gross Return	Color	Leaf	Length	Staple	Mic	Strength	Unif.	Gross Return ($/acre)[1]
	Lint	Seed	Lint	Seed											
PHY 480 W3FE	925	1065	39.81%	45.81%	$0.4985	$461.32	$87.87	11	1	1.01	32	4.9	28.9	80.6	$549.19
FM 2398 GLTP	718	962	35.59%	47.70%	$0.5160	$370.46	$79.37	11	2	1.04	33	5.0	28.1	80.9	$449.83
NG 4936 B3XF	643	979	32.16%	48.98%	$0.5325	$342.21	$80.75	11	1	1.07	34	4.8	27.2	80.9	$422.96
DP 1820 B3XF	645	907	34.69%	48.72%	$0.5110	$329.81	$74.79	11	2	1.03	33	4.8	28.3	79.3	$404.61
Average	733	978	35.56%	47.80%	$0.5145	$375.95	$80.69	-	-	1.04	33	4.9	28.1	80.4	$456.65
Max.	925	1065	39.81%	48.98%	$0.5325	$461.32	$87.87	-	-	1.07	34	5.0	28.9	80.9	$549.19
Min.	643	907	32.16%	45.81%	$0.4985	$329.81	$74.79	-	-	1.01	32	4.8	27.2	79.3	$404.61

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 $165/ton

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Chase McPhaul, Reagan County, Big Lake, Texas

Summary

Ten cotton varieties were compared in randomized complete block design under similar field conditions. Lint yields varied with a low of 1488 lbs./acre (FM 2322 GL) to a high of 2147 lbs./acre (ST 5471 GLTP). Lint loan values averaged $.5717/lb. and ranged from a low of $0.5705/lb. (FM 2574 GLT) to a high of $0.5730/lb. (FM 2322 GL). Gross Return/acre among varieties ranged from a high of $1430.42 (ST 5471 GLTP) to a low of $1032.50 (FM 2322 GL), a difference of $397.92.

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 except for the FM 2322 GL which was planted in 8 row plots on May 15th. Rows were 1732 feet long. They were picker harvested around October 22nd and weighed on October 29th and the bales were 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 1488 lbs./acre for FiberMax 2322 GL to a high of 2147 lbs./acre for Stoneville 5471 GLTP. Lint loan values averaged $0.5717/lb and ranged from a low of $0.5705/lb. for FiberMax 2574 GLT to a high of $0.5730/lb. for FiberMax 2322 GL. Gross Return/acre among varieties ranged from a high of $1,430.42 for Stoneville 5471 GLTP to a low of $1,032.50 for FiberMax 2322 GL, a difference of $397.92. Lint turnout ranged from a

low of 35.23% for FiberMax 2498 GLT and FiberMax 2322 GL to a high of 40.39% for Stoneville 5471 GLTP. Micronaire values ranged from a low of 4.4 for FiberMax 2322 GL to a high of 4.9 for DynaGro 3555 B3XF and PhytoGen 350 W3FE. Staple averaged 38 across all varieties with a low of 37 for PhytoGen 350 W3FE, NexGen 3930 B3XF, FiberMax 2498 GLT and FiberMax 2574 GLT and a high of 40 for FiberMax 2334 GLT. The highest percent uniformity was observed for FiberMax 2322 GL at 84.2% and FiberMax 2574 GLT and NexGen 3930 B3XF had the lowest (81.5%). Strength values ranged from 30.0 g/tex for FiberMax 2398 GLTP to 34.1 g/tex for NexGen 3930 B3XF. Color grades were mostly 11's with a few 21's. Leaf grades were consistent with most everything being either a 1 or 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 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.

Americot Inc. who provided NG 3930 B3XF.

BASF who provided FM 2322 GL, FM 2334 GLT, FM 2398 GLTP, FM 2498 GLT, FM 2574 GLT, ST 5471 GLTP.

Bayer CropScience who provided DP 1845 B3XF.

Corteva who provided PHY 350 W3FE.

Nutrien who provided DG 3555 B3XF.

Table 10:

2019 Irrigated Cotton Variety Trial

Producer: **Mitchell Jansa/Joe D. Schwartz**
Name of County: Glasscock
Design: Solid
Irrigation: 4 GPMA

Plant Date: 5/15/2019
Harvest Date: 10/29/2019
Seeding Rate 42,100

TEXAS A&M AGRILIFE EXTENSION

Variety	Yield Per Acre		% Turnout		Loan Value	Lint Gross Return	Seed Gross Return	Color	Leaf	Length	Staple	Mic	Strength	Unif.	Gross Return ($/acre)[1]
	Lint	Seed	Lint	Seed											
ST 5471 GLTP	2147	2467	40.39%	46.42%	$0.5715	$1,226.88	$203.55	11	1	1.20	38	4.7	32.9	81.6	$1,430.42
DG 3555 B3XF	2089	2720	39.55%	51.50%	$0.5725	$1,196.00	$224.38	11	1	1.18	38	4.9	32.2	83.3	$1,420.37
PHY 350 W3FE	1989	2813	37.35%	52.84%	$0.5715	$1,136.44	$232.07	21	1	1.17	37	4.9	32.2	83.0	$1,368.51
DP 1845 B3XF	1986	2710	37.99%	51.84%	$0.5720	$1,135.82	$223.54	11	1	1.22	39	4.6	31.2	82.2	$1,359.37
NG 3930 B3XF	1978	2635	37.87%	50.45%	$0.5715	$1,130.22	$217.40	21	1	1.17	37	4.5	34.1	81.5	$1,347.61
FM 2498 GLT	1850	2759	35.23%	52.53%	$0.5715	$1,057.46	$227.62	11	2	1.16	37	4.7	31.7	83.5	$1,285.09
FM 2334 GLT	1877	2409	38.61%	49.54%	$0.5720	$1,073.93	$198.74	11	1	1.25	40	4.5	31.8	82.3	$1,272.66
FM 2574 GLT	1793	2620	37.96%	55.46%	$0.5705	$1,023.04	$216.13	11	1	1.16	37	4.5	32.2	81.5	$1,239.17
FM 2398 GLTP	1757	931	35.95%	52.96%	$0.5710	$1,003.25	$76.77	11	1	1.18	38	4.5	30.0	83.3	$1,080.02
FM 2322 GL	1488	2178	35.23%	51.54%	$0.5730	$852.83	$179.67	11	2	1.18	38	4.4	32.8	84.2	$1,032.50
Average	1895	2424	37.61%	51.51%	$0.5717	$1,083.59	$199.99	-	-	1.19	38	4.6	32.1	82.6	$1,283.57
Max.	2147	2813	40.39%	55.46%	$0.5730	$1,226.88	$232.07	-	-	1.25	40	4.9	34.1	84.2	$1,430.42
Min.	1488	931	35.23%	46.42%	$0.5705	$852.83	$76.77	-	-	1.16	37	4.4	30.0	81.5	$1,032.50

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 2019 Upland Cotton Loan Valuation Model from Cotton Incorporated

Gross Seed Return based on $165/ton

For Questions Contact: Brad Easterling

Result Demonstration Report

DRY LAND 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, 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 187 lbs./acre (NG 4777 B2XF) to a high of 363 lbs./acre (ST 5707 B2XF). Lint loan values averaged $.5331/lb. and ranged from a low of $0.5105/lb. (NG 3956 B3XF) to a high of $0.5382/lb. (DP 1820 B3XF). Gross Return/acre among varieties ranged from a high of $239.89 (ST 5707 B2XF) to a low of $127.49 (NG 4777 B2XF), a difference of $112.40.

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 dry land, planted in 10 row plots in a 10 x 1 pattern on 40" spacing on June 7th. Rows were 695 feet long and each plot was .53 acres in size. They were stripper harvested on November 1st 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 187 lbs./acre for NexGen 4777 B2XF to a high of 363 lbs./acre for Stoneville 5707 B2XF. Lint loan values averaged $0.5331/lb and ranged from a low of $0.5105/lb. for NG 3956 B3XF to a high of $0.5585/lb. for DeltaPine 1820 B3XF. Gross Return/acre among varieties ranged from a high of $239.89 for Stoneville 5707 B2XF to a low of $127.49 for NexGen 4777 B2XF, a difference of $112.40. Lint turnout ranged from a low of 26.85% to a high of 30.93% for DeltaPine 1820 B3XF respectively. Micronaire values ranged from a low of 4.3 for NexGen 4777 B2XF to a high of 5.2 for Stoneville 5707 B2XF. Staple averaged 35 across all varieties with a low of 33 for NG 3956 B3XF and a high of 36 for Stoneville 5707 B2XF

and DeltaPine 1820 B3XF. The highest percent uniformity was observed for Stoneville 5707 B2XF at (81.9%) and NG 3956 B3XF had the lowest (79.2%). Strength values ranged from 29.2 g/tex for NG 3956 B3XF to 33.7 g/tex for DeltaPine 1820 B3XF. Color grades were mostly 21's and 31's. Leaf grades were consistent with most everything being either a 1 with 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 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. Cody Wilson for cooperating in this demonstration.

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

Americot Inc. who provided NG 3956 B3XF NG 4777 B2XF.

BASF who provided ST 5707 B2XF.

Bayer who provided DP 1612 B2XF, DP 1820 B3XF

Table 11:

2019 Cotton Variety Trial

Producer: **Carl/Austin Hoelscher**
Name of County: Reagan
Design: 10x1

Plant Date: 6/7/2019
Harvest Date: 11/1/2019
Herbici
Fertility

TEXAS A&M AGRILIFE EXTENSION

Variety	Yield Per Acre		% Turnout		Loan	Lint	Seed	Color	Leaf	Length	Staple	Mic	Strength	Unif.	Gross
	Lint	Seed	Lint	Seed	Value	Gross Return	Gross Return								Return ($/acre)[1]
ST 5707 B2XF	363	590	30.27%	49.22%	0.5277	$191.18	$48.70	-	-	1.11	36	5.2	33.17	81.9	$239.89
NG 3956 B3XF	281	496	28.91%	50.89%	0.5105	$143.85	$40.93	-	-	1.04	33	4.4	29.20	79.2	$184.78
DP 1612 B2XF	261	389	30.41%	45.07%	0.5373	$140.42	$32.06	-	-	1.07	34	4.9	30.83	80.8	$172.48
DP 1820 B3XF	227	235	30.93%	41.72%	0.5585	$126.65	$19.42	-	-	1.14	36	5.0	33.70	81.8	$146.08
NG 4777 B2XF	187	340	26.85%	48.87%	0.5317	$99.45	$28.04	-	-	1.05	34	4.3	29.73	79.4	$127.49
Average	264	410	29.47%	47.15%	0.5331	$140.31	$33.83	-	-	1.08	35	4.8	31.33	80.6	$174.14
Max.	363	590	30.93%	50.89%	0.5585	$191.18	$48.70	-	-	1.14	36	5.2	33.70	81.9	$239.89
Min.	187	235	26.85%	41.72%	0.5105	$99.45	$19.42	-	-	1.04	33	4.3	29.20	79.2	$127.49

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 $165/ton

For Questions Contact: Brad Easterling

Result Demonstration Report

DRY LAND COTTON VARIETY DEMONSTRATION

Cooperators: Cody Wilson

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 206 lbs./acre (FM 2574 GLT) to a high of 267 lbs./acre (PHY 350 W3FE). Lint loan values averaged $.5059/lb. and ranged from a low of $0.4573/lb. (PHY PX3BO7E W3FE) to a high of $0.5382/lb. (FM 2574 GLT). Gross Return/acre among varieties ranged from a high of $174.58 (PHY 350 W3FE) to a low of $130.42 (FM 2398 GLTP), a difference of $44.16.

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 dry land, planted in 12 row plots in a 2 x 1 pattern on 40" spacing on June 11th. Rows were 1781 feet long and each plot was 1.5 acres in size. They were stripper harvested on November 19th 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 206 lbs./acre for FiberMax 2574 GLT to a high of 267 lbs./acre for PhytoGen 350 W3FE. Lint loan values averaged $0.5059/lb and ranged from a low of $0.4573/lb. for PhytoGen PX3BO7E W3FE to a high of $0.5382/lb. for FiberMax 2574 GLT. Gross Return/acre among varieties ranged from a high of $174.58 for PhytoGen 350 W3FE to a low of $130.42 for FiberMax 2398 GLTP, a difference of $44.16. Lint turnout ranged from a low of 30.05% to a high of 32.07% for PhytoGen 350 W3FE and NexGen 3930 B3XF, respectively. Micronaire values ranged from a low of 4.6 for PhytoGen PX3BO7E W3FE to a high of 5.1 for FiberMax 2398 GLTP. Staple averaged 33 across all varieties with a low of 31 for PhytoGen PX3BO7E W3FE and a high of 34 for PhytoGen 350 W3FE, FiberMax 2574 GLT, and FiberMax 2398 GLTP. The highest percent uniformity was observed for FiberMax 2574 GLT at

(80.5%) and PhytoGen PX3BO7E W3FE had the lowest (77.4%). Strength values ranged from 27.2 g/tex for NexGen 3930 B3XF to 29.9 g/tex FiberMax 2574 GLT. Color grades were mostly 21's and 22's. Leaf grades were consistent with most everything being either a 1 with one 2 except for FiberMax 2398 GLTP which had 3's and 4's in each replication. These data indicate that substantial differences can be obtained in terms of Gross Return/acre due to both yield and grade.

Conclusions

As seen in Table 12, 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. Cody Wilson 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.

BASF who provided FM 2398 GLTP, FM 2574 GLT.

Corteva who provided PHY 350 W3FE, PHY PX3BO7E W3FE.

Table 12:

2019 Cotton Variety Trial

Producer: **Cody Wilson**
Name of County: Upton
Design: Dryland

Plant Date: 6/11/2019
Harvest Date: 11/19/2019
Herbicid
Fertility

TEXAS A&M AGRILIFE EXTENSION

Variety	Yield Per Acre		% Turnout		Loan	Lint	Seed	Color	Leaf	Length	Staple	Mic	Strength	Unif.	Gross
	Lint	Seed	Lint	Seed	Value	Gross Return	Gross Return								Return ($/acre)[1]
PHY 350 W3FE	267	418	30.05%	47.04%	$0.5255	$140.13	$34.46	22	1	1.06	34	4.7	29.1	80.5	$174.58
NG 3930 B3XF	250	363	32.07%	46.61%	$0.5115	$127.43	$29.99	22	2	1.04	33	4.7	27.2	80.1	$157.42
PX3BO7E W3FE	247	341	31.45%	43.50%	$0.4573	$112.69	$28.10	22	2	0.98	31	4.6	27.5	77.4	$140.79
FM 2574 GLT	206	275	32.07%	43.02%	$0.5382	$111.26	$22.71	21	2	1.07	34	5.0	29.9	80.5	$133.97
FM 2398 GLTP	211	305	32.02%	46.29%	$0.4972	$105.24	$25.17	21	3	1.05	34	5.1	29.2	80.2	$130.42
Average	236	340	31.53%	45.29%	$0.5059	$119.35	$28.09	-	-	1.04	33	4.8	28.6	79.7	$147.44
Max.	267	418	32.07%	47.04%	$0.5382	$140.13	$34.46	-	-	1.07	34	5.1	29.9	80.5	$174.58
Min.	206	275	30.05%	43.02%	$0.4573	$105.24	$22.71	-	-	0.98	31	4.6	27.2	77.4	$130.42

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 $165/ton

For Questions Contact: Brad Easterling

Result Demonstration Report

COTTON ROW PATTERN DEMONSTRATION

Cooperators: Ricky Halfmann and Darrell Halfmann

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties, Garden City, Texas

Summary

Two trials were established this year to try and determine whether yields were higher when cotton was planted in an 8 x 1 planting or a 2 x 1 pattern. One trial was established on the farm of Ricky Halfmann and the other was at Darrell Halfmann' s. Both trials were replicated four times and all replications for both trials have been combined to get an overall average. Lint yields were higher in the 2 x 1 pattern in each replication with an average yield of 308 lbs vs 216 lbs. Loan values varied between the two trials with lint loan values averaging $.5296/lb. overall for the 8 x 1 row pattern and $.5329 for the 2 x 1. For both of these trials results were calculated on planted acres.

Objective

To try and determine if there is a difference in yield or grade between a two and one or eight and one row planting pattern. Both row patterns are popular in the St. Lawrence area for dry land cotton production, but much of the reasoning for planting on these patterns is due to thinking the plant will use stored soil moisture more efficiently. Without properly testing this thought process we do not truly know for sure which pattern will yield more.

Materials and Methods

Two separate trials were established with four replications each in which we compared dry land cotton planted in both a 2x1 and 8x1 planting pattern. There were 4 replications each of the 2x1 and the 8 x 1 row pattern on 40" spacings at both Ricky Halfmann's farm and Darrell Halfmann's farm. Row lengths varied from 1300 to 3000 ft. with harvested acreage anywhere from 1.2 to 3.8 acres. All yields were factored on land acres. They were stripper harvested on October 8th October 19th 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 13, lint yields varied with a low of 216 lbs./acre for the 8x1 row spacing to a high of 308 lbs./acre for 2x1. Within treatments the 8x1 varied from 275 lbs to 290 lbs at Ricky's and

132 lbs to 214 lbs at Darrell's. For the 2x1, yields varied for 360 to 388 lbs for Ricky and 149 to 342 for Darrell. Lint loan values averaged $0.5296/lb for the 8x1 and $0.5329 for the 2x1. Loan values for Ricky's 8x1 averaged $0.5141 while Darrell's was $0.5451. On Ricky's 2x1, loan value was $0.5376, and Darrell's was $0.5283. Gross Return/acre among row patterns ranged from a high of $198.50 for the 2x1 to a low of $135.25 for the 8x1, a difference of $66.25. Lint turnout was slightly higher in the 2x1 for each producer when comparing their 2x1 versus their 8x1. Micronaire values were also a little higher for the 2x1 compared to the 8x1 which stands to reason. There was no difference in staple length, uniformity, color, or leaf among treatments. These data indicate that some differences can be obtained in terms of Gross Return/acre due to both yield and grade due to row pattern.

Conclusions

As seen in Table 13, differences in cotton yields, grades, and loan value can been seen from differences in row pattern. However, it is important to keep in mind that this is only one year's worth of data and this would require several, possibly up to ten or more years of testing to get a comfortable feel for which row pattern would consistently yield a higher gross return to the producer. Also, seasonal growing conditions can have a huge impact on how these row patterns are going to yield as some respond better to heat, drought, better moisture, cooler temperature, different soils types, etc. We must also remember that these row patterns do not have the 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. The higher Micronaire seen in the 2x1 could have been reduced by harvesting a little earlier. However, this becomes difficult in these trials as the 8x1 may not be ready.

Acknowledgements

The authors would like to thank Mr. Ricky Halfmann and Mr. Darrell Halfmann for cooperating in this demonstration.

Table 13:

2019 Cotton Row Pattern Trial

Producer:	**Ricky Halfmann**	**Darrell Halfmann**	
Planting Date:	6/1/2019	Planting Date:	6/1/2019
Harvest Date:	10/8/2019	Harvest Date:	10/11/2019
Variety:	PHY 444 WRF	Variety:	FM 2574 GLT

TEXAS A&M AGRILIFE EXTENSION

Variety	Yield Per Acre		% Turnout		Loan	Lint	Seed	Color	Leaf	Length	Staple	Mic	Strength	Unif.	Gross Return
	Lint	Seed	Lint	Seed	Value	Gross Return	Gross Return								($/acre)[1]
Ricky 8 x 1	277	130	33.85%	47.09%	0.5100	$141.07	$10.75	11	3	1.03	33	3.90	23.90	79.10	$151.82
	266	377	33.42%	47.27%	0.5095	$135.73	$31.08	11	3	1.04	33	3.84	28.20	79.30	$166.82
	275	392	32.67%	46.55%	0.5260	$144.54	$32.30	11	3	1.05	34	3.80	26.70	79.90	$176.85
	290	393	34.70%	46.92%	0.5110	$148.39	$32.40	11	1	1.04	33	3.82	26.90	78.20	$180.79
Average	277	323	33.66%	46.96%	0.5141	$142.44	$26.63	11	3	1.04	33	3.84	26.43	79.13	$169.07
Ricky 2 x 1	378	512	33.89%	45.91%	0.5335	$201.48	$42.20	11	1	1.07	34	3.92	28.60	80.40	$243.68
	388	526	34.36%	46.62%	0.5500	$213.32	$43.42	11	1	1.09	35	4.00	28.90	81.30	$256.74
	386	523	34.45%	46.63%	0.5335	$206.10	$43.14	11	1	1.06	34	3.83	28.30	80.00	$249.24
	360	493	33.31%	45.61%	0.5335	$192.15	$40.68	11	1	1.07	34	3.97	28.90	80.10	$232.83
Average	378	513	34.00%	46.19%	0.5376	$203.26	$42.36	11	1	1.07	34	3.93	28.68	80.45	$245.62
Darrell 8 x 1	214	274	34.90%	44.79%	0.5495	$117.42	$22.62	11	1	1.08	35	4.90	29.90	80.00	$140.04
	135	177	33.33%	43.79%	0.5515	$74.26	$14.59	11	1	1.08	35	4.93	30.00	80.50	$88.85
	141	182	34.99%	45.18%	0.5280	$74.64	$15.06	11	1	1.05	34	4.82	29.70	79.20	$89.69
	132	171	35.58%	45.81%	0.5515	$73.07	$14.07	21	1	1.08	35	4.91	30.00	81.00	$87.14
Average	156	201	34.70%	44.89%	0.5451	$84.85	$16.59	14	1	1.07	35	4.89	29.90	80.18	$101.43
Darrell 2 x 1	297	384	35.33%	45.60%	0.5280	$156.99	$31.66	11	1	1.06	34	4.93	29.50	79.30	$188.66
	168	214	35.62%	45.31%	0.5330	$89.47	$17.62	11	1	1.06	34	4.91	29.30	80.30	$107.09
	149	194	35.40%	46.09%	0.5235	$77.98	$16.00	11	1	1.08	35	5.01	30.70	79.90	$93.98
	342	428	37.24%	46.64%	0.5285	$180.52	$35.30	11	1	1.09	35	5.01	30.00	80.60	$215.82
Average	239	305	35.90%	45.91%	0.5283	$126.24	$25.14	11	1	1.07	35	4.97	29.88	80.03	$151.39
8 x 1	216	262	34.18%	45.92%	0.5296	$113.64	$21.61	12.25	1.75	1.06	34	4.37	28.16	79.65	$135.25
2 x 1	308	409	34.95%	46.05%	0.5329	$164.75	$33.75	11.00	1.00	1.07	34	4.45	29.28	80.24	$198.50

Result Demonstration Report

COTTON ROW PATTERN DEMONSTRATION

Cooperators: Garrett Kellermeir

Brad Easterling, EA-IPM, Glasscock, Reagan, and Upton Counties, Garden City, Texas

Summary

A trial was established by Garrett Kellermeir comparing three different types of tillage operations on dryland cotton. He no-tilled cotton into wheat stubble from two consecutive years of wheat, no-till into wheat stubble on a crop that he was not able to terminate in time and felt it used up too much moisture, and then a conventional treatment. All three treatments were single pass treatments. The two years of wheat yielded the most with 243 lbs and had the highest gross return with $140.48/ac. The late terminated wheat was the lowest with 92 lbs and $51.18/ac.

Conclusions

As seen in Table 14, two consecutive years of wheat can have a large impact on cotton yields. However, this is not always economical in the arid climate of West Texas where the winter months are generally our driest, especially with the low wheat prices that we have seen over the past several years. A single year of rotating to an alternative crop can boost yields quite a bit the following year, but if using wheat as a cover crop, timely termination is critical. Even then, it is not known how much soil moisture is taken out of soil and how much spring rain will be needed to replace it.

Acknowledgements

The authors would like to thank Mr. Garrett Kellermeir for cooperating in this demonstration.

Table 14:

2019 Cotton Variety Trial

Producer: **Garrett Kellermeir**
Name of County: 0
Design: 8 row, solid

Plant Date:
Harvest Date: 10/11/2019

TEXAS A&M AGRILIFE EXTENSION

Variety	Yield Per Acre		% Turnout		Loan Value	Lint Gross Return	Seed Gross Return	Color	Leaf	Length	Staple	Mic	Str.	Unif.	Gross Return ($/acre)[1]
	Lint	Seed	Lint	Seed											
No-Till Wh./Wh	243	337	35.75%	49.68%	0.4645	$112.67	$27.81	11	1	0.92	29	4.34	25.10	76.80	$140.48
No-Till Wh. Late Kill	92	118	34.00%	43.85%	0.4520	$41.43	$9.75	11	3	0.89	28	3.75	22.20	75.50	$51.18
Conventional	176	255	34.80%	50.39%	0.4575	$80.59	$21.04	11	3	0.92	29	4.59	25.10	75.50	$101.63
Average	170	237	34.85%	47.97%	0.4580	$78.23	$19.53	-	-	0.91	29	4.23	24.13	75.93	$97.77

2019 Monsanto FACT Plot	**Name: Chris Hirt**	**Researcher Name:**	
	Grower Address:	Brad Easterling	
County: Glasscock	**Set Name: A0-05**	**Planting Population:** 32,000	
GPS Reference: (all 4 corners)		**Planting**	6/4/2019
Lat. 1: 31.65684	**Lat. 3:** 31.658	**Depth:**	
Long. 1: -101.46548	**3:** -101.47	**Row**	40"
Lat. 2: 31.6581	**Lat. 4:** 31.656	**Length**	877
Long. 2: -101.46552	**4:** -101.47	**# of Rows**	8

	Early Season Rating				**Harvest**											
	Date:	6-13 &	6-27		**Date:**		10/25/2019									
Variety	**Planting Order**	**Vigor**	**Total Plants (1)**	**Total Plants (2)**	**SOR**	**FOR**	**acres**	**Plot wt.**	**Turnout**	seed cotton	Lint yld	bales/a	MIC	Length	Strength	Uniformity
19R229B3XF	**3**	6	25	20	4	5	0.54	1010	44%	1885.9	827.1	1.7	5.2	1.1	31.0	82.8
19R236B3XF	**7**	5	24	23	4	4	0.54	980	43%	1829.9	783.5	1.6	5.2	1.2	34.5	81.6
19R230B3XF	**4**	5	23	24	6	7	0.54	1020	39%	1904.6	743.1	1.5	5.2	1.2	32.3	81.2
19R227B3XF	**1**	5	23	26	5	6	0.54	920	43%	1717.9	732.6	1.5	5.4	1.1	30.4	83.1
19R233B3XF	**5**	4	27	27	4	5	0.54	970	39%	1811.2	713.5	1.5	4.8	1.2	32.8	82.0
19R228B3XF	**2**	4	26	27	5	3	0.54	1080	35%	2016.6	706.4	1.5	5.1	1.1	33.5	83.3
19R249B3XF	**10**	4	24	29	8	8	0.54	880	40%	1643.2	656.4	1.4	5.1	1.1	33.3	81.5
DP 1845 B3XF	**15**	5	26	26	3	2	0.54	900	39%	1680.5	655.0	1.4	4.9	1.2	37.6	83.0
19R244B3XF	**8**	4	25	26	3	3	0.54	890	39%	1661.9	646.3	1.3	4.7	1.2	33.0	82.6
19R234B3XF	**6**	5	25	22	3	4	0.54	930	36%	1736.6	626.1	1.3	4.7	1.2	35.6	82.5
DP 1646 B2XF	**13**	4	29	27	5	5	0.54	800	42%	1493.8	620.9	1.3	4.9	1.2	33.7	82.3
19R245B3XF	**9**	3	27	28	3	3	0.54	820	40%	1531.2	606.8	1.3	4.4	1.2	34.1	82.7
18R445B3XF	**11**	5	25	23	6	5	0.54	780	40%	1456.5	575.8	1.2	4.8	1.2	33.7	82.7
18R628NRB3XF	**14**	6	28	24	6	5	0.54	720	40%	1344.4	536.4	1.1	4.9	1.1	35.2	82.1
18R448B3XF	**12**	4	27	30	3	2	0.54	780	36%	1456.5	520.2	1.1	4.5	1.2	35.8	81.8
ST 5707 B2XF	**16**	3	25	31	4	2	0.54	660	38%	1232.4	470.3	1.0	5.6	1.1	36.4	83.8

Vigor: 1 = good, 9 = poor. To be taken 7-10 days after emergence.

Total Plants: Total # of plants from two ratings from 0.001 acre row length when cotton is at the 1 to 4 leaf stage.

SOR: String out rating - 1 = no cotton strung out; 9 = all cotton strung out.

FOR: Fall out rating - 1 = no cotton fallen out of the bur; 9 = all cotton fallen out of the bur.

2019 Halfmann-Garden City Irrigated

Seed Advisor:	Noble Laminack	State:	TX	Planting Date:	5/25/2019	Seeding Rate:	35000
Phone:	(325) 716-8839	County:	Glasscock	Harvest Date:	10/16/2019	Row Spacing:	40
Email:	noble.laminack@basf.com	City:	Garden City	Tillage:	Conventional	Irrigation:	Yes
		Trial Type	APT	Soil Texture:	Silty Clay Loam	Yield Env.	1-2 bales

Variety	Yield	Rank	Lint %	Length	Staple	Strength	Mic	Unif.	Loan Value	Value / Acre	Plant Ht. (in)	% Open	Storm Tolerance*
NG 4689 B2XF	744	11	0.437	1.04	33.28	27.30	5.47	81.20	43.70	$325.05	25.90	16.13	8.0
ST 5610B3XF	691	15	0.479	1.08	34.56	30.90	4.90	81.70	55.15	$380.90	20.90	4.17	6.0
ST 4990B3XF	700	14	0.416	1.12	35.84	30.40	5.04	82.20	53.70	$376.10	23.00	14.29	5.0
ST 4480B3XF	612	16	0.392	1.12	35.84	29.00	4.71	81.80	55.75	$341.22	22.30	24.20	7.0
ST 5471GLTP	765	8	0.449	1.03	32.96	29.30	5.17	80.30	47.85	$366.02	20.85	11.03	7.0
FM 2574GLT	758	9	0.467	1.11	35.52	31.00	5.04	82.60	53.85	$408.27	20.95	15.69	6.0
ST 5517GLTP	709	12	0.448	1.03	32.96	29.40	4.95	79.40	50.75	$359.68	21.65	12.50	6.0
FM 2398GLT	797	5	0.468	1.09	34.88	30.80	5.04	82.50	52.30	$416.99	19.85	26.32	7.0
FM 2498GLT	837	4	0.464	1.06	33.92	27.90	5.34	81.90	48.20	$403.43	20.85	28.57	7.0
BX 2037GLT	864	2	0.474	1.08	34.56	31.90	4.88	80.60	54.70	$472.70	21.55	27.13	8.0
BX 2076GLTP	707	13	0.464	1.08	34.56	30.00	5.49	82.30	50.80	$359.05	21.70	32.24	5.0
ST 5707B2XF	793	6	0.417	1.11	35.52	34.90	5.63	83.10	52.50	$416.55	24.85	14.00	4.0
FM 1830GLT	753	10	0.458	1.12	35.84	31.50	4.98	82.50	55.85	$420.40	20.15	36.77	4.0
PX3B07 W3FE	843	3	0.429	1.05	33.60	28.70	5.35	81.40	48.95	$412.47	20.20	35.23	5.0
PHY 350 W3FE	766	7	0.430	1.07	34.24	29.30	5.51	81.70	49.00	$375.41	23.25	21.53	6.0
Test Mean	769		0.449	1.08	34.54	30.29	5.14	81.77	51.74	$397.67	22.08	21.33	6.1

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

Agronomist:	Rick Minzenmayer	Phone:	(325) 365-1292	Email:	richard.minzenmayer@basf.com
Date:	12/16/2019				

2019 Fuchs St Lawrence Irr

Seed Advisor:	Noble Laminack	State:	TX	Planting Date:	5/30/2019	Seeding Rate:	34800
Phone:	(325) 716-8839	County:	Glasscock	Harvest Date:	11/1/2019	Row Spacing:	40
Email:	noble.laminack@basf.com	City:	Garden City	Tillage:	Conventional	Irrigation:	Yes
		Trial Type	APT	Soil Texture:	Silty Clay Loam	Yield Env.	2-3 bales

Variety	Yield	Rank	Lint %	Length	Staple	Strength	Mic	Unif.	Loan Value	Value / Acre	Plant Ht. (in)	% Open	Storm Tolerance*
FM 2574GLT	1377	2	0.553	1.08	34.56	29.60	5.25	80.10	52.05	$716.58	31.40	82.14	5.0
ST 5600B2XF	1376	3	0.521	1.11	35.52	32.20	5.36	81.70	52.30	$719.67	32.10	88.24	5.0
ST 5610B3XF	1247	8	0.502	1.08	34.56	30.20	4.73	80.30	54.55	$680.23	33.70	89.88	7.0
FM 1830GLT	1254	7	0.464	1.14	36.48	30.70	4.83	80.80	55.95	$701.77	29.00	91.45	7.0
ST 5471GLTP	1222	9	0.456	1.07	34.24	29.30	5.01	80.10	50.05	$611.60	27.30	89.40	8.0
FM 2498GLT	1327	5	0.494	1.08	34.56	28.50	5.19	81.60	51.75	$686.48	28.10	84.62	7.0
FM 2398GLTP	1312	6	0.499	1.10	35.20	29.60	4.80	81.20	54.35	$713.31	27.60	88.24	8.0
BX 2076GLTP	1345	4	0.535	1.11	35.52	31.20	5.09	81.90	52.05	$700.16	31.30	92.21	8.0
NG 4689 B2XF	1174	10	0.470	1.11	35.52	29.00	4.95	80.10	55.75	$654.49	38.80	83.45	6.0
ST 4480B3XF	1071	11	0.421	1.15	36.80	29.30	4.54	81.30	54.20	$580.65	32.40	76.00	7.0
ST 4990B3XF	1475	1	0.563	1.12	35.84	28.50	4.73	81.10	55.70	$821.33	35.10	88.34	5.0
Test Mean	1289		0.498	1.10	35.35	29.83	4.95	80.93	53.52	$689.66	31.53	86.72	6.6

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

Agronomist: Rick Minzenmayer Phone: (325) 365-1292 Email: richard.minzenmayer@basf.com
Date: 12/16/2019

Stoneville

FiberMax cotton

2019 Gully St Lawrence Irr

Seed Advisor:	Noble Laminack	State:	TX	Planting Date:	5/31/2019	Seeding Rate:	
Phone:	(325) 716-8839	County:	Glasscock	Harvest Date:	10/22/2019	Row Spacing:	40
Email:	noble.laminack@basf.com	City:	Garden City	Tillage:	No-till	Irrigation:	Yes
		Trial Type	APT	Soil Texture:	Silty Clay Loam	Yield Env.	2-3 bales

Variety	Yield	Rank	Lint %	Length	Staple	Strength	Mic	Unif.	Loan Value	Value / Acre	Plant Ht. (in)	% Open	Storm Tolerance*
ST 5471GLTP	1354	8	0.418	1.08	34.56	31.80	4.79	80.20	54.70	$740.76	31.20	80.57	7.0
FM 2574GLT	1432	3	0.465	1.11	35.52	32.10	5.07	80.90	54.20	$776.37	31.60	84.27	6.0
FM 2398GLTP	1480	1	0.458	1.13	36.16	31.70	5.16	82.30	53.75	$795.73	25.30	82.94	8.0
ST 4480B3XF	1245	11	0.383	1.08	34.56	28.70	4.71	79.00	52.35	$651.61	31.40	78.20	8.0
PHY 490 W3FE	1379	6	0.412	1.10	35.20	34.20	5.02	81.70	52.25	$720.36	34.00	75.92	7.0
FM 1830GLT	1419	4	0.441	1.15	36.80	33.80	4.97	81.90	56.30	$798.66	29.20	70.69	6.0
BX 2037GLT	1412	5	0.459	1.15	36.80	33.90	4.68	81.90	57.15	$807.19	28.20	79.09	7.0
ST 5610B3XF	1205	13	0.451	1.15	36.80	32.20	4.54	83.60	57.15	$688.73	30.60	63.64	8.0
ST 4990B3XF	1233	12	0.413	1.15	36.80	32.40	4.63	83.10	56.55	$697.02	29.10	81.82	6.0
BX 2076GLTP	1293	9	0.446	1.13	36.16	32.80	5.00	82.90	53.85	$696.07	31.30	85.89	6.0
ST 5707B2XF	1146	14	0.396	1.10	35.20	33.50	4.83	82.30	54.85	$628.34	40.60	80.00	7.0
FM 2498GLT	1286	10	0.443	1.13	36.16	31.80	5.52	82.20	52.35	$673.01	26.70	83.33	8.0
DP 1646 B2XF	1478	2	0.452	1.18	37.76	30.80	4.91	81.50	57.00	$842.57			
DP 1845 B3XF	1362	7	0.432	1.15	36.80	33.50	4.69	80.80	56.30	$766.61			
Test Mean	1337		0.433	1.13	36.09	32.37	4.89	81.74	54.91	$734.50	30.77	78.86	7.0

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

Agronomist:	Rick Minzenmayer	Phone:	(325) 365-1292	Email:	richard.minzenmayer@basf.com
Date:	12/16/2019				

Stoneville®

FiberMax® cotton

Schwartz Demo Plot

Seed Advisor:	Noble Laminack	State:	TX	Planting Date:		Seeding Rate:	
Phone:	(325) 716-8839	County:	Glasscock	Harvest Date:		Row Spacing:	40
Email:	noble.laminack@basf.com	City:	St. Lawrence	Tillage:	Conventional	Irrigation:	Yes
		Trial Type	Demo	Soil Texture:	Silty Clay Loam	Yield Env.	2-3 bales

Variety	Yield	Rank	Lint %	Length	Staple	Strength	Mic	Unif.	Loan Value	Value / Acre	Plant Ht. (in)	% Open	Storm Tolerance*
FM 1830GLT	1753	1	0.440	1.10	35.20	31.80	4.97	81.90	53.25	$933.46			
FM 2398GLTP	1497	4	0.460	1.12	35.84	33.20	5.13	81.30	53.60	$802.19			
FM 2498GLT	1592	2	0.450	1.08	34.56	30.90	5.57	82.00	49.35	$785.84			
FM 2574GLT	1313	7	0.460	1.09	34.88	32.40	5.03	83.00	51.05	$670.07			
ST 4480B3XF	1043	8	0.390	1.11	35.52	31.20	4.91	82.40	56.15	$585.47			
ST 4990B3XF	1441	5	0.420	1.14	36.48	31.40	4.67	83.40	56.20	$809.84			
ST 5610B3XF	1534	3	0.460	1.12	35.84	30.40	4.70	80.00	54.20	$831.31			
ST 5707B2XF	1396	6	0.390	1.08	34.56	34.20	5.21	82.90	52.55	$733.75			
Test Mean	1446		0.434	1.11	35.36	31.94	5.02	82.11	53.29	$768.99			

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

Agronomist:	Rick Minzenmayer	Phone:	(325) 365-1292	Email:	richard.minzenmayer@basf.com
Date:	12/16/2019				

Stoneville®

FiberMax® cotton

PhytoGen Innovation Trial

Cole Schwartz
Glasscock County
Planting Date: 5-29-19
Harvest Date: 10-17-19
8 Row Solid Pattern
40" Row Spacing
35,000 Seeding Rate

Lint Yields and Fiber Properties from the On-Farm PhytoGen Innovation Trial Conducted in Glasscock Co., TX., 2019.
Cooperator: Cole Schwartz

Variety	Yield	Turnout	Mic	Length	Staple	Unif.	Strength	Leaf	Loan	Crop Value
PHY 480 W3FE	533	0.409	4.9	0.99	31.6	81.0	27.8	1.3	0.4830	$257
PHY 580 W3FE	507	0.420	5.0	0.96	30.8	79.9	27.4	1.7	0.4898	$248
PHY 490 W3FE	478	0.384	4.6	0.98	31.5	81.0	28.7	1.0	0.4940	$236
PX 3B07 W3FE	473	0.398	4.4	1.00	32.0	79.1	25.7	1.3	0.4770	$225
PHY 350 W3FE	455	0.382	4.7	1.02	32.5	80.7	25.3	1.0	0.4963	$225
PHY 340 W3FE	469	0.380	4.6	1.00	32.0	79.9	24.9	1.7	0.4695	$220
FM 2574 GLT	392	0.402	4.7	1.04	33.3	79.4	26.1	1.3	0.5068	$199
PX 5D28 W3FE	389	0.395	4.6	0.99	31.8	79.9	27.6	1.7	0.4952	$193
Mean	462	0.396	4.7	1.00	31.9	80.1	26.7	1.4	0.4890	$226

Multi-Company Demonstration

Eric Seidenburger
Glasscock County

Lint Yields and Fiber Properties from the On-Farm Multi-Company Demonstration Trial Conducted in Glasscock Co., TX., 2019.
Cooperator: Eric Seidenberger

Variety	Yield	Turnout	Mic	Length	Staple	Unif.	Strength	Leaf	Loan	Crop Value
PHY 580 W3FE	1851	0.425	4.3	1.14	36.5	84.1	31.7	1.0	0.5665	$1,048.65
FM 2574 GLT	1814	0.426	4.8	1.24	39.7	83.3	34.3	2.0	0.5735	$1,040.13
FM 1830 GLT	1780	0.418	4.8	1.22	39.0	84.0	36.0	1.0	0.5740	$1,021.49
PHY 350 W3FE	1748	0.395	4.8	1.17	37.4	83.7	32.0	1.0	0.5715	$999.12
PX 3B07 W3FE	1749	0.407	4.6	1.17	37.4	82.8	31.6	1.0	0.5665	$991.00
PX 5D28 W3FE	1728	0.404	4.0	1.16	37.1	82.1	34.4	1.0	0.5730	$990.27
NG 4936 B3XF	1709	0.407	4.7	1.2	38.4	83.9	31.0	1.0	0.5725	$978.20
FM 2498 GLT	1796	0.415	5.3	1.15	36.8	82.4	33.2	1.0	0.5445	$977.94
PHY 340 W3FE	1708	0.412	4.9	1.16	37.1	82.2	33.0	1.0	0.5720	$976.70
FM 2398 GLTP	1793	0.438	5.3	1.17	37.4	83.2	32.6	1.0	0.5440	$975.59
PHY 480 W3FE	1714	0.414	4.4	1.12	35.8	83.0	30.6	2.0	0.5645	$967.27
ST 4990 B3XF	1680	0.396	4.8	1.21	38.7	84.5	31.4	1.0	0.5730	$962.68
NG 3930 B3XF	1666	0.402	4.9	1.16	37.1	84.0	31.4	1.0	0.5720	$952.99
ST 4480 B3XF	1426	0.384	4.7	1.19	38.1	82.7	31.9	1.0	0.5675	$809.53
NG 3994 B3XF	1409	0.412	5.2	1.14	36.5	81.6	30.8	2.0	0.5405	$761.67
Mean	1705	0.410333	4.8	1.17	37.5	83.2	32.4	1.2	0.5650	$963.55