



Irrigated Cotton Variety Test

Kenny Gully Farm, 2013

Rick Minzenmayer, Extension Agent-IPM
Brady Evans, County Extension Agent-Agriculture
and Dr. David Drake, Extension Agronomist
Concho County

Summary:

Twelve cotton varieties were compared under similar growing conditions to determine which cotton varieties consistently have higher yields and favorable fiber qualities. Deltapine 1219 B2RF, Deltapine 1321 B2RF, and FiberMax 2989 GLB2 topped this test in Total Gross Returns (\$/acre), of \$578.29 per acre, \$564.84 per acre, and \$530.55 per acre, respectively. Producers should keep in mind that these results can change under different field conditions, soil fertility and irrigation practices, it is suggested that you look at the better cultivars on your farm to determine if they are compatible with your management style.

Objective:

Commercial cotton varieties require testing each year for determinations of consistency of yield and fiber quality. Through the use of a field test, a comparison is made of new varieties of cotton with varieties that have proven to be successful, long term yielders. Testing of said varieties within a geographic area of production is important to provide local producers with the latest information on old and new varieties.

Materials and Methods:

Twelve cotton varieties were planted using an eight row John Deere Maxi-Merge planter in a block design using eight planted row plots replicated three times across the field in the Vick farming community. The following is a list of materials and methods used in this test:

Planting Date: June 13, 2013
 Planting Rate: 39,000 Seeds/Acre
 Row Width: 40" centers
 Rows Planted: 8 rows, replicated 3 times across the field (rows were 1320 ft. long)
 Planting Pattern: 8 rows, 1 out
 Last Year's Crop: Cotton with Grain Sorghum on corners
 Irrigated: Center Pivot
 Soil Moisture: Good
 Fertilizer: none
 Herbicide: June 13, 2013 RoundUp & FirstShot and had Treflan pre-plant
 Fungicide: T-Band 4.5 gal, 1 ½ pts/acre of TopGuard®
 Harvest Date: December 30, 2013

Variety	Plant Stand Avg. #/10 ft. 3 rd - 4 th True Leaf Stage July 3, 2013		
	REP I	REP II	REP III
Deltapine 1044 B2RF	14	11	25
Deltapine 1219 B2RF	18	16	12
Deltapine 1321 B2RF	17	16	18
Deltapine 1359 B2RF	15	11	16
Fibermax 1944 GLB2	15	14	18
FiberMax 2484 BRF	16	16	18
FiberMax 2989 GLB2	13	22	14
NexGen 1511 B2RF	11	20	6
NexGen 5315 B2RF	4	1	19
Phytogen 367 WRF	11	13	20
Phytogen 499 WRF	14	17	19
Stoneville 4946 GLB2	16	21	20

Average plant populations were determined from three different locations within each plot at each growth stage.

Results and Discussion:

Typically this cotton field would produce two bales per acre each year. Due to significant herbicide drift from a neighboring field to the east, yields were drastically reduced. Herbicide damage early (around 6-7th true leaf) resulted in partial stand loss and delayed crop maturity. The NG 5315 B2RF plant stand was weak from the start but following the herbicide drift, the stand was reduced to less than one plant per foot in many areas. Due to weak plant stand, yields were not measured. Lint samples were collected from plots and fiber analysis is presented in Table 1.

Table 1 contains the yield and fiber quality information for each of the twelve cotton varieties evaluated in this test. Deltapine 1219 B2RF, Deltapine 1321 B2RF, and FiberMax 2989 GLB2 topped this test in Total Gross Returns (\$/acre) of \$578.29 per acre, \$564.84 per acre, and \$530.55 per acre, respectively. NexGen 1511 B2RF, Deltapine 1359 B2RF, and Phytogen 499 B2RF performed equally as well with Total Gross Returns (\$/acre) of \$484.62 per acre, \$477.36 per acre and \$470.36 per acre, respectively. All cotton varieties were planted on 40 inch centers across the field and stripper-harvested using a John Deere eight row cotton stripper. Each cotton variety consisted of eight planted rows per plot replicated three times across the field. Plots were individually harvested and weights were determined using a weigh wagon. Fiber quality analysis were determined by the Fiber & Biopolymer Research Institute in Lubbock.

Table 1. Agronomic Data from Kenny Gully's Irrigated Cotton Variety Test (Concho County, 2013)

Fiber Quality													
Variety ¹	Yield Per Acre				Fiber Quality					CCC \$ Loan	Lint Gross Return (\$/acre)	Seed Gross Return (\$/acre)	Total Gross Return (\$/acre)
	In Pounds		% Turnout		Color- Leaf	Fiber Length (inches)	Mic	Strength (gram/tex)	Uniformity				
	Lint	Seed	Lint	Seed									
DP 1219 B2RF	817	1362	0.24	0.40	*34-3	1.09	3.3	30.2	80.1	.4578	374.06	204.23	578.29
DP 1321 B2RF	790	1163	0.26	0.38	*33-1	1.15	3.5	32.1	81.2	.4942	390.36	174.47	564.84
FM 2989 GLB2	713	1241	0.23	0.40	*43-2	1.10	4.1	30.5	81.7	.4833	344.44	186.11	530.55
NG 1511 B2RF	671	1025	0.27	0.41	*33-2	1.13	3.6	29.7	81.1	.4927	330.81	153.81	484.62
DP 1359 B2RF	668	1084	0.24	0.38	*34-2	1.13	3.4	29.5	80.8	.4713	314.80	162.56	477.36
PHY 499 WRF	672	1103	0.23	0.38	*34-2	1.11	3.3	30.5	79.6	.4540	304.91	165.45	470.36
PHY 367 WRF	610	1064	0.23	0.40	*34-3	1.09	3.6	28.9	81.1	.4695	286.42	159.58	446.00
DP 1044 B2RF	589	1090	0.22	0.40	*34-3	1.10	3.7	30.6	82.0	.4787	281.75	163.47	445.22
FM 1944 B2F	602	1088	0.23	0.42	*34-1	1.10	3.4	29.4	81.2	.4620	278.06	163.18	441.24
FM 2484 B2F	561	960	0.22	0.38	*44-3	1.11	3.9	30.7	81.6	.4863	273.04	144.04	417.08
ST 4946 GLB2	572	957	0.24	0.40	*34-2	1.10	3.5	29.9	81.2	.4722	270.28	143.49	413.77
NG 5315 B2RF	-	-	0.21	0.37	*44-2	1.10	3.9	30.5	82.1	.4822	-	-	-
Average	629	1054	0.23	0.39	-	1.11	3.6	30.2	81.2	\$.4753	\$313.54	\$165.49	\$479.03
P>(F) ⁶	0.02	0.02	0.02	0.09	-	0.09	0.00	0.01	0.01	0.14	-	-	-
LSD (P=0.05)	202.62	302.38	0.02	n.s.	-	n.s.	0.3	1.1	1.0	n.s.	-	-	-
C.V. %	22.42	19.99	7.37	4.59	-	2.11	5.9	2.6	0.9	\$.3660	-	-	-

Values in a column that are background highlighted are not statistically different than the highest value in the test.

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

Gross Seed Return based on \$300/ton. For Questions Contact: Rick Minzenmayer (325) 365-1292 or Dr. David Drake (325) 653-4576

Note: Yield data from NG 5315 B2RF was removed due to a poor stand.

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Bayer CropScience who provided the FiberMax 1944 GLB2, FiberMax 2484 B2F, and FiberMax 2989 GLB2

Stoneville Pedigreed Seed owned by Bayer CropScience who provided Stoneville 4946 GLB2

Dow AgroScience who provided Phytogen 499 WRF and Phytogen 367 WRF

Delta and Pine Land Company who provided Deltapine 1219 B2RF, Deltapine 1321 B2RF, Deltapine 1359 B2RF and Deltapine 1044 B2RF

Americot Inc. who provided NexGen 1511 B2RF and NexGen 5315 B2RF

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