Result Demonstration/Applied Research Report

Irrigated Stacked Cotton Variety Test

John and Doug Wilde Farm, 2005
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Summary:

Eight cotton varieties were compared under similar growing conditions to determine which cotton varieties consistently have higher yields and favorable fiber qualities. Phytogen 470 WR, Deltapine 445 BR and Deltapine 455 BR topped this test in gross returns of $1,268.06 per acre, $1,235.66 per acre and $1,190.37 per acre, respectively. Producers should keep in mind that these results can change under different field conditions, soil fertility and irrigation practices, so it is suggested that you look at the better cultivars on your farm for several seasons.

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:

Eight cotton varieties were planted using an eight row John Deere Maxi-Merge planter in a strip test fashion using 16 planted row plots in the Wall farming community. The following is a list of materials and methods used in this test.

Planting Date:	May 17, 2005
Seeding Rate:	50,800 seeds/ row acre
Planting Pattern:	Every row
Soil Type:	Angelo Clay Loam
Irrigation Method:	Sub-surface Drip
Previous Crop:	Cotton
Herbicides:	1 over the top application, of Round Up®
Fertilizer:	P was applied preplant, N was applied through the drip tape (approximately 125 lbs. N during growing season)
Insecticides:	All seed treated with Cruiser®, Riata were treated with Design® for bollworm control in July and treated again in August with Asana® for bollworm control
Harvest Date:	November 1, 2005

Variety	Plant Stand Avg. # per foot
FM 989 B2R	3.7
PHY 470 WR	4.0
PHY 480 WR	4.2
FM 960 B2R	3.2
DP 488 BG RR	3.9
DP 445 BG RR	3.8
DP 455 BG RR	4.2

Results and Discussion:

Table 1 contains the yield and fiber quality information for each of the eight cotton varieties evaluated in this test. Phytogen 470 WR, Deltapine 445 BR and Deltapine 455 BR topped this test in gross returns of $1,268.06 per acre, $1,235.66 per acre and $1,190.37 per acre, respectively.

All cotton varieties were planted on 40 inch centers across the field and stripper-harvested using a John Deere four row cotton stripper. Each cotton variety consisted of 16 planted rows. Weights were determined using a boll buggy. Fiber quality analysis was determined by the Texas Tech Textile Center in Lubbock.

Table 1. Agronomic Data from John and Doug Wilde's Irrigated Cotton Variety Test (Tom Green County, 2005)

	Yield Per Acre				Fiber Quality								
	In Pounds		% Turnout								Lint	Seed	Total
						Fiber				CCC	Gross	Gross	Gross
					Color-	Length		Strength		Loan	Return	Return	Return
Variety	Lint	Seed	Lint	Seed	Leaf	(staple)	Mic	(gram/tex)	Uniformity	Value	($/acre)	($/acre)	($/acre)
Phytogen 470 WR	2006	3380	27.4	46.2	413	37	3.8	27.6	83.4	54.80	1099.07	168.99	1268.06
Deltapine 445 BR	1908	2795	29.7	43.6	312	37	3.5	29.3	84.2	57.45	1095.90	139.76	1235.66
Deltapine 455 BR	1846	2633	27.6	39.4	312	37	3.5	29.3	82.7	57.35	1058.73	131.64	1190.37
Deltapine 488 BR	1793	2959	26.7	44.1	412	38	4.0	30.6	82.2	55.15	988.62	147.97	1136.60
FiberMax 960 B2R	1725	2803	26.6	43.2	412	37	3.6	32.7	81.2	54.95	947.90	140.16	1088.05
FiberMax 989 B2R	1565	2877	24.9	45.9	412	37	3.4	30.9	82.4	53.00	829.34	143.85	973.20
CPCSD Riata R	1582	2650	26.5	44.4	413	38	3.2	31.6	82.0	51.15	809.09	132.50	941.59
Phytogen 480 WR	1612	2823	25.4	44.5	515	36	3.6	28.8	82.4	48.50	781.98	141.16	923.14

Seed income calculated using a price of $100 per ton.

Table 2. General Field Observations Prior to Harvest.

Phytogen 470 WR	open burr; but remains tight in burr
Deltapine 445 BR	very open burr; loose in the burr
Deltapine 455 BR	tall stature; very open burr; loose in the burr
Deltapine 488 BR	open but tight in burr
FiberMax 960 B2R	tight in burr
FiberMax 989 B2R	tight in burr
CPCSD Riata R	greening back up; still large number of bolls present and very loose in burr
Phytogen 480 WR	very open and fairly loose in burr

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Delta and Pine Land Company who provided Deltapine 445 BR, Deltapine 455 BR and Deltapine 488 BR.

Bayer CropScience who provided the FiberMax 960 B2R and FiberMax 989 B2R.

Dow Agrosciences who provided Phytogen 470 WR and Phytogen 480 WR.

California Planning Cotton Seed Distributers who provided Riata R.