



Concho County Irrigated Cotton Variety Test

Kenny Gully Farm, 2006

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Summary:

Eleven cotton varieties were compared under similar growing conditions to determine which cotton varieties consistently have higher yields and favorable fiber qualities. PhytoGen 485 WRF, FiberMax 9063 B2F and FiberMax 9060 F topped this test with gross lint returns of \$634.71 per acre, \$629.68 per acre and \$616.92 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:

Eleven cotton varieties were planted using an eight row John Deere Maxi-Merge planter in a strip test fashion using eight planted row plots replicated three times across the field in the Eola farming community. Table 1 shows the seeding rates and plant stand counts for each variety evaluated in this test. The following is a list of materials and methods used in this test.

Planting Date: June 14, 2006
 Seeding Rate: See Table 1
 Planting Pattern: Every row on 40-inch centers
 Soil Type: Mereta Clay Loam
 Pervious Crop: Cotton
 Irrigation Type: Drip-irrigated (SSI) 0.14 inches per day for 86 days beginning on June 3rd and ending on August 28th.
 Herbicides: 1 qt. Treflan® pre-plant; 1 qt. RoundUp® at 5th true leaf stage
 Fertilizer: 180 lbs. 11-52-0 pre-plant; applied 126.7 lbs. N through sub-surface irrigation system during growing season
 Insecticides: None
 Harvest Date: December 4 & 5, 2006

Table 1. Seeding Rate and Plant Stand Data for Kenny Gully Irrigated Cotton Variety Test. (Concho County, 2006).

Variety	Seeding Rate	Plant Stand Avg. # per foot Cotyledon Stage	Plant Stand Avg. # per foot 2 nd True Leaf Stage	Plant Stand Avg. # per foot 4 th True Leaf Stage
Phy 485 WRF	41,000	2.5	2.5	3.3
St 4357 B2RF	40,000	3.0	2.7	3.0
St 4554 B2RF	38,300	2.5	1.6	3.4
St 4700 B2RF	40,000	2.2	2.9	3.5
St 5007 B2RF	38,300	3.0	2.9	2.8
DP 164 B2RF	40,000	2.7	2.9	3.2
DP 143 B2RF	39,000	3.1	3.3	3.1
DP 117 B2RF	39,000	2.6	2.9	2.6
FM 9068 F	38,400	1.6	1.4	2.1
FM 9063 B2F	40,400	2.8	2.5	3.0
FM 9060 F	39,100	2.7	3.0	3.5

Average plant populations were determined by taking three different plant stand counts within each variety at each listed growth stage

Results and Discussion:

Table 2 contains the yield and fiber quality information for each of the eleven cotton varieties evaluated in this test. PhytoGen 485 WRF, FiberMax 9063 B2F and FiberMax 9060 F topped this test with gross lint returns of \$634.71 per acre, \$629.68 per acre and \$616.92 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 24 planted rows.

Table 2. Agronomic Data from Kenny Gully's Irrigated Cotton Variety Test. (Concho County, 2006).

Variety	Lint Yield per acre	Grade	Fiber Quality					CCC Loan Value	Lint Gross Return (\$/acre)
			Leaf	Staple	Mic	Strength	Uniformity		
PhytoGen 485 WRF	1133	31	3	36	4.1	28.9	80.5	56.02	\$634.71
FiberMax 9063 B2F	1076	21	3	38	3.6	31.2	80.8	58.52	\$629.68
FiberMax 9060 F	1062	21	3	38	3.5	30.4	81.1	58.09	\$616.92
Stoneville 4554 B2RF	1074	21	3	36	3.8	28.1	81.2	57.22	\$614.54
Deltapine 164 B2RF	1059	21	3	37	3.6	28.6	80.8	57.86	\$612.74
Stoneville 4357 B2RF	1054	21	3	37	3.8	26.1	80.1	57.69	\$608.05
Deltapine 143 B2RF	1116	31	4	38	3.4	27.6	79.5	54.24	\$605.32
Stoneville 5007 B2RF	1048	31	3	38	3.8	27.5	82.2	57.62	\$603.86
Stoneville 4700 B2RF	1060	31	3	36	4.0	27.5	81.2	56.87	\$602.82
FiberMax 9068 B2F	1027	21	3	39	3.6	31.6	82.3	58.51	\$600.90
Deltapine 117 B2RF	1055	41	5	37	4.0	31.0	81.9	51.31	\$541.32

Each cotton variety was stripper harvested and placed in separate modules. Cotton modules were weighed and ginned separately and lint yields were determined from seed cotton weights. Fiber quality information listed in Table 2 is an average of all bales produced within each module.

Table 3. Field Observation by Producer While Harvesting Cotton Variety Test. (Concho County, 2006).

Phytogen 485 WRF	No green bolls, fluffy, white, loose. Stripped easy & clean at 2.3 mph. Loaded up off ground, short stature.
Stoneville 4357 B2RF	No green bolls, fairly tight boll, white. Stripped easy & clean at 3.0 mph, loaded high off ground, short stature.
Stoneville 4554 B2RF	No green bolls, a little loose in the boll, loaded close to the ground, a little more sticks in it but still very clean, fairly short in stature, a little cotton on the ground before harvest. Harvested at 3.0 mph.
Stoneville 4700 B2RF	No green bolls, not very loose, high off the ground, very compact, clean and good yielder, Harvested at 2.8 mph.
Stoneville 5007 B2RF	No green bolls, very clean and compact, short stature and good yielder. Strips very clean at 2.8 mph. Very dense and loaded high off the ground.
Deltapine 164 B2RF	No green bolls, very clean of leaves, a little taller stalk, a little loose but not bad, very white, dense and fluffy. Harvested at 3.1 mph. A little root rot on last replication but real good cotton.
Deltapine 143 B2RF	No green bolls, a little taller stalk, not a very good yield, not as white and fluffy as the DP 164 B2RF. Harvested at 3.6 mph.
Deltapine 117 B2RF	No green bolls, a little shorter stature and loose in the burr, fair yield but below the DR 164 B2RF and DP 143 B2RF. Stripped real good, loaded well above the ground. Harvested at 2.8 mph.
FiberMax 9068 F	A few green bolls, taller and more branches, not as showy, greener and had more leaves on the plant, tight boll, Stripped slower but clean. Harvested at 2.5 mph.
FiberMax 9063 B2F	A few green bolls, short and compact, cleaner cotton than the FM 9068 B2F. Not as clean at Stoneville or Deltapine varieties, fairly tight boll. Harvested at 3.5 mph.
FiberMax 9060 F	A few green bolls, fairly short plant, stripped real good, a few leaves left on the plants, a good yielder, tight boll. Harvested at 3.3 mph.

Acknowledgments:

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Dow Agrosiences who provided Phytogen 485 WRF

Bayer CropScience who provided the FiberMax 9063 B2F, FiberMax 9060 F, and FiberMax 9068 F

Stoneville Pedigreed Seed owned by Monsanto who provided Stoneville 4554 B2RF, Stoneville 4357 B2RF, Stoneville 5007 B2RF and Stoneville 4700 B2RF

Delta and Pine Land Company who provided Deltapine 164 B2RF, Deltapine 143 B2RF, Deltapine 117 B2RF and

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