



Dryland Cotton Variety Evaluation

Curtis Kalina, 2003

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Summary:

The Southern Rolling Plains has experienced a severe drought for the past seven years and cotton producers have become quite frustrated with trying to manage their crop with such unsure moisture conditions. The "03" crop started off with relatively good soil moisture conditions but dry conditions in July and August hurt most cotton fields. Several rainfall events in late August and September with the warm open fall in October and November allowed many cotton fields to produce adequate lint yields. This coupled with high cotton prices made this crop a profitable one.

Ten cotton varieties were compared under similar growing conditions to determine which cotton varieties consistently have higher yields and favorable fiber qualities. Stoneville 5303 RR, Deltapine 5415 RR and BCG 24 RR topped this test in gross returns of \$284.57 per acre, \$260.19 per acre and \$260.16 per acre, respectively. When evaluating the cotton varieties on just lint yields, Stoneville 5303 RR, Stoneville 5599 BG/RR and BCG 24 RR topped the test with lint yields of 471 lbs. per acre, 437 lbs. per acre and 416 lbs. per acre, respectively. Due to the late maturity of the crop, fiber quality had a detrimental effect on a number of cotton varieties in this test. 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:

Cotton cultivars and commercial cotton varieties require testing each year for determinations of continuity of yield and fiber quality measurements. 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:

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

Planting Date: June 18, 2003
Seeding Rate: 7 lbs./acre in 4 row plots
Planting Pattern: Solid on 40' centers
Soil Type: Rowena Tabosa
Previous Crop: Cotton
Herbicides: None
Harvest Date: December 08, 2003

Plant Populations

Sample date: July 1st, 2003. Plant stage: 2nd true leaf.

Variety	Plants / ten foot of planted row
Stoneville 5303 RR	22
BCG 24 RR	22
FiberMax 989 RR	27
Deltapine 5690 RR	23
FiberMax 989 BG/RR	20
Deltapine 458 BG/RR	29
FiberMax 819 RR	23
Deltapine 5415 RR	26
FiberMax 800 BG/RR	22
Stoneville 5599 BG/RR	22

Results and Discussion:

Table 1 contains the yield and fiber quality information for each of the ten cotton varieties evaluated in this test. Stoneville 5303 RR, Deltapine 5415 RR, BCG 24 RR and Stoneville 5599 BG/RR topped the test with total gross returns of \$284.57 per acre, \$260.19 per acre, \$260.16 per acre and \$259.26 per acre, respectively. If looking at lint yields only, Stoneville 5303 RR and Stoneville 5599 BG/RR topped the test with lint yields of 471 lbs. per acre and 437 lbs. per acre, respectively. Due to the lateness of the crop, the fiber quality of many of the cotton varieties had a negative impact on gross returns.

All cotton varieties are planted in four row plots across the field and stripper-harvested using a John Deere four row cotton stripper and weights were determined using a boll buggy. Fiber quality analysis was determined by the Texas Tech Textile Center in Lubbock.

Acknowledgments:

Sincere appreciation is expressed to Curtis Kalina for establishing and managing this test. Also a word of thanks to the seed companies that provided cottonseed, they include:

Stoneville Southwest, Inc. who provided the Stoneville ST 5303 RR and Stoneville ST 5599 BG/RR.

Delta and Pine Land Company who provided Deltapine 5415 RR, Deltapine 5690 RR, and Deltapine 458 BG/RR

Beltwide Cotton Genetics who provided the BCG 24 RR.

Bayer CropScience who provided the FiberMax 800 BG/RR, FiberMax 989 BG/RR, FiberMax 819 RR and FiberMax 989 RR.

Table 1. Agronomic Data from Curtis Kalina's Cotton Variety Test (Runnels County, 2003)

Variety	Yield Per Acre				Fiber Quality					CCC Loan Value	Lint Gross Return (\$/acre)	Seed Gross Return (\$/acre)	Total Gross Return (\$/acre)
	In Pounds		% Turnout		Color- Leaf	Fiber Length (staple)	Mic	Strength (gram/tex)	Uniformity				
	Lint	Seed	Lint	Seed									
Stoneville 5303 RR	471	808	30.6	52.6	422	34	4.4	28.5	82.0	49.75	234.08	50.49	284.57
Deltapine 5415 RR	405	684	31.4	53.0	412	35	4.5	26.7	81.7	53.65	217.44	42.75	260.19
BCG 24 RR	416	658	34.0	53.7	412	34	4.1	27.9	80.6	52.60	219.02	41.14	260.16
Stoneville 5599 BG/RR	437	685	33.7	52.8	412	33	4.8	26.3	79.6	49.50	216.44	42.82	259.26
FiberMax 800 BG/RR	387	662	31.4	53.7	413	38	4.2	30.7	83.2	54.90	212.36	41.39	253.75
FiberMax 989 BG/RR	373	663	32.0	56.8	412	34	3.9	28.4	80.0	52.60	196.33	41.43	237.76
FiberMax 819 RR	372	628	31.4	53.0	513	36	4.3	27.6	81.5	49.80	185.17	39.24	224.41
Deltapine 5690 RR	276	502	31.3	57.0	412	34	4.0	30.2	81.7	52.95	146.23	31.40	177.63
Deltapine 458 BG/RR	265	481	30.9	56.1	412	35	4.1	28.4	81.9	53.85	142.55	30.08	172.63
FiberMax 989 RR	261	446	30.7	52.5	412	35	3.9	28.2	79.3	53.50	139.53	27.86	167.40

Seed income calculated using a price of \$125 per ton.