



## **Result Demonstration/Applied Research Report**

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### **Irrigated Cotton Variety Evaluation**

Chris Bubenik Farm, 2005

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#### **Summary:**

Fourteen cotton varieties were compared under similar growing conditions to determine which cotton varieties consistently have higher yields and favorable fiber qualities. Stoneville ST 5242 BR, PhytoGen 470 WR and Deltapine 444 BR topped this test in gross returns of \$740.14 per acre, \$703.98 per acre and \$616.63 per acre, respectively. When comparing lint yields only, Stoneville ST 5242 BR and PhytoGen 470 WR were significantly better than any other cotton varieties evaluated 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:**

Commercial cotton varieties require testing each year for determinations of consistency 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:**

Fourteen cotton varieties were planted in the Wall farming community using an eight row John Deere planter. These cotton varieties were planted as four row plots and replicated four times across the field. The field was furrow irrigated twice during the growing season. The following is a list of materials and methods used in this test.

Planting Date: June 10, 2005  
 Seeding Rate: 50,000 seeds/ row acre  
 Planting Pattern: Every Row  
 Soil Type: Angelo Clay Loam  
 Irrigation Method: Furrow  
 Previous Crop: Corn  
 Herbicides: ½ pt. Direx® plus ½ pt. Caperol® in a 20 in. band at planting, 1 over the top application of Round Up®  
 Fertilizer: 71-36-0, 18S knifed in side of bed @ matchhead square stage  
 Insecticides: Intruder® at .6 oz. per Acre at matchhead square stage  
 Harvest Date: December 9, 2005

Variety	Plant Stand Avg. # per 10'
FM 800 B2R	21
ST 5242 BR	20
DP 488 BR	22
FM 800 RR	22
PHY 470 WR	26
DP 444 BG RR	25
ST 6636 BR	23
DP 455 BR	24
FM 989 B2R	19
FM 960 RR	18
ST 4575 BR	22
FM 960 RR	20
DP 445 BR	21
ST 5599 BR	23

Results and Discussion:

Table 1 contains the yield and fiber quality information for each of the fourteen cotton varieties evaluated in this test. Stoneville ST 5242 BR, PhytoGen 470 WR and Deltapine 444 BR topped this test in gross returns of \$740.14 per acre, \$703.98 per acre and \$616.63 per acre, respectively. There was no significant differences in lint yields between Stoneville ST 5242 BR and PhytoGen 470 WR. Stoneville ST 5242 BR and PhytoGen 470 WR were significantly better than any other cotton varieties evaluated in this test. There was no significant difference in lint yields between Deltapine 445 BR, Stoneville ST 5599 BR and Stoneville ST 4575 BR but fiber quality discounts reduced the lint value and impacted the gross returns per acre. Due to the lateness of the crop, many of the cotton varieties received fiber quality discounts. This test was replanted on June 10, 2005 due to severe thunderstorms early in the growing season. This replant situation is the reason for the lateness of the crop.

All cotton varieties were planted in four row plots and replicated four times across the field. Each four row plot was stripper-harvested using a John Deere four row cotton stripper. 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 Chris Bubenik's Irrigated Cotton Variety Test (Tom Green County, 2005)**

Variety	Yield Per Acre				Fiber Quality						Lint Return (\$/acre)	Seed Return (\$/acre)	Total Gross Return (\$/acre)
	In Pounds		% Turnout		Color- Leaf	Fiber Length (staple)	Mic	Strength (gram/tex)	Uniformity	CCC Loan Value			
	Lint	Seed	Lint	Seed									
Stoneville ST 5242 BR	1186 a	2027	34.1	58.3	212	34	3.8	25.3	79.7	53.85	638.77	101.37	740.14
PhytoGen 470 WR	1135 a	2132	31.5	59.3	313	35	3.0	27.6	82.7	52.65	597.36	106.62	703.98
Deltapine 444 BR	999 bc	1725	29.4	50.8	211	35	3.0	27.2	81.7	53.10	530.37	86.26	616.63
Deltapine 445 BR	1024 b	1784	30.2	52.7	312	35	2.7	29.3	80.9	49.60	507.82	89.19	597.01
Deltapine 455 BR	966 bcd	1635	28.0	47.4	211	35	2.9	30.0	80.2	50.45	487.37	81.74	569.11
Stoneville ST 6636 BR	920 cde	1869	28.3	57.6	312	36	2.7	31.8	81.7	50.85	467.57	93.45	561.01
FiberMax 989 B2R	845 ef	1783	27.1	57.2	212	35	3.4	27.1	79.7	54.80	462.82	89.13	551.95
Stoneville ST 5599 BR	931 bcde	1760	28.9	54.6	312	35	2.9	28.3	79.6	49.60	461.62	88.02	549.64
FiberMax 960 B2R	902 cdef	1741	27.8	53.6	211	35	2.8	29.4	79.5	50.20	452.94	87.04	539.99
Deltapine 488 BR	885 def	1695	27.3	52.3	312	36	2.9	31.0	81.7	50.85	450.09	84.73	534.83
Stoneville ST 4575 BR	926 bcde	1737	29.4	55.1	311	34	2.7	27.2	79.4	47.15	436.71	86.86	523.58
FiberMax 800 R	814 fg	1378	28.2	47.8	312	36	3.1	33.4	83.0	54.05	439.92	68.92	508.84
FiberMax 960 R	863 ef	1559	31.7	57.4	312	35	2.5	30.2	80.7	47.25	407.55	77.95	485.50
FiberMax 800 B2R	732 g	1419	24.1	46.7	211	37	2.9	32.1	81.5	51.80	378.98	70.95	449.93

- NOTE:
- 1) In Table 1, the individual or combination of letter a, b, c, d, e, f, or g beside the number in the lint yield column are to indicate statistical significance. There is no statistical difference between numbers that have the same letter to the side (even when there appears to be a large numerical difference).
  - 2) Seed income calculated using a price of \$100 per ton.

**Acknowledgments:**

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Delta and Pine Land Company who provided Deltapine 444 BR, Deltapine 445 BR, Deltapine 455 BR and Deltapine 488 BR.

Bayer CropScience who provided the FiberMax 989 B2R, FiberMax 960 B2R, FiberMax 800 R, FiberMax 960 R and FiberMax 800 B2R.

Dow Agrosciences who provided Phytogen 470 WR.

Stoneville Southwest, Inc. who provided Stoneville ST 5242 BR, Stoneville ST 6636 BR, Stoneville ST 5599 BR and Stoneville ST 4575 BR.

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