



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

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### **2005 Stacked Dryland Cotton Variety Test**

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Fisher County

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#### **Summary**

Nine varieties of cotton were planted May 20, 2005 by Jeff Posey on his farm 3 miles south of Rotan. All varieties in the test were stacked with either Bt or Bt2 technology and resistant to Roundup. This test was established to monitor yield and quality traits on newer varieties of genetically modified cotton.

#### **Objective**

Due to the increased interest in genetically modified cotton, primarily for the control of problem weeds, field tests are needed to determine the production potential of the available varieties. A field test established in Fisher County would allow producers the opportunity of observing the growth and development patterns of the cotton through the growing season. Taking the plots to harvest would provide producers information on yield and fiber quality.

A field test was established in northern Fisher County with 1.64 acres of each variety being planted and harvested with a self propelled stripper. This test provided the additional potential to see if the increased cost of the genetically modified cotton could be offset by additional lint production.

## Materials and Methods

Cooperators: Jeff Posey

Plot Location: 3 miles south of Rotan (adjacent to the Fisher County Airport)

### Crop Production Information:

Planting Date: May 20, 2005  
 Planting Pattern: 2 X 1, 30" spacing  
 Planting Rate: 44,805 seed per acre  
 Herbicide Applied: April 3, 2005 applied 16 ounces of Barrage (2,4-D) to kill broadleaf weeds, May 1, applied 16 ounces of Rounup Original Max. June 15 applied 32 ounces of Glyphosate with ammonium sulphate and Induce included in the mix. July 21, applied 32 ounces of Glyphosate with ammonium sulphate and Induce included in the mix using a hooded sprayer.  
 Insecticides Applied: None  
 Fertilizer Applied: March 15, 150 pounds of 20-10-0-4 plus 0.10 pound of zinc  
 Previous Crop: Cotton with a wheat cover crop planted February 25, 2005  
 Harvest Aids: Crop terminated on September 27, using 3 ounces of Gramoxone Max and 15 ounces of Ethephon plus Induce

## Results and Discussion

The cotton variety test established by Jeff Posey provided very useful information to producers. The desired cotton emergence was achieved in seven days after planting. Weed competition was kept to a minimum by the herbicide program used by the producer. The two applications of Roundup resulted in excellent weed control for the entire growing season.

Table 1. Agronomic Data from Jeff Posey's Cotton Variety Test (Fisher County, 2005)

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			Uniformity					
	Lint	Seed	Lint	Seed		Length (staple)	Mic	Strength (gram/tex)						
Deltapine 488 BR	837	1211	39.9	57.7	321	35	4.4	27.6	81.9	53.00	443.61	60.53	1031.81	
FiberMax 960 B2R	762	1184	35.7	55.5	312	36	4.2	33.3	80.9	57.65	439.49	59.18	883.29	
FiberMax 800 B2R	736	1146	35.1	54.6	312	37	4.0	31.5	82.0	57.80	425.40	57.28	879.10	
FiberMax 989 B2R	715	1083	35.3	53.5	312	36	4.3	31.9	82.0	57.35	409.83	54.14	837.32	
Stoneville ST 5599 BR	727	1131	35.1	54.6	412	35	4.5	30.1	81.5	54.15	393.75	56.56	694.21	
Deltapine 455 BR	685	923	39.6	53.3	322	34	3.8	29.0	80.6	52.10	356.85	46.16	687.05	
Deltapine 555 BR	654	891	39.2	53.3	311	34	4.2	27.6	80.0	54.30	355.35	44.55	670.49	
Deltapine 445 BR	631	978	35.4	54.9	322	35	4.2	27.7	81.3	53.25	335.80	48.89	625.75	
Paymaster 2200 BR	607	918	35.8	54.2	322	34	4.1	29.6	81.4	52.35	317.66	45.92	613.79	

NOTE: 1) Yield was determined stripper harvesting 1.64 acres of each variety

2) Gross return per acre for cottonseed was based on a sale price of \$100 per ton

The lint yields in this test ranged from 607 to 837 pounds per acre. Deltapine 448 BR had the highest gross return per acre numerically, however, most of the varieties were close in yield and fiber quality for all varieties was very good. FiberMax 800 B2R had the highest loan value at 57.80 cents per pound.

As you look at Table 1, several varieties performed well in most categories and would be worth testing on a five acre plot on the farm to see how it performs under your management. Remember that this is only one years result and continued testing is recommended before making a significant switch to a new variety.

### Economic Analysis

Let me stress that looking at the total gross return can be deceiving in selecting varieties from one test. Year to year variation and differences in plots and production practices make a difference. The variability between the samples collected showed significant difference in yield only between the top and bottom variety. It is recommended that producers look at tests conducted in the region for the last 2 to 3 years and from ten or more field tests and find a variety that is in the upper third. Those selected varieties can then be tested on your farm under your production practices to determined if increased acreage of that variety is justified. Most of the varieties in this test have a fiber quality that is desired by the buyers with high strength, length, and uniformity.

### **Acknowledgements:**

I want to take this opportunity to thank Jeff Posey for establishing and managing this cotton variety test.

A word of appreciation is extended to the following seed companies for providing seed for this plot they include:

- ! Delta and Pineland Company who provided Deltapine 488 BR, Deltapine 455 BR, Deltapine 555 BR, and Deltapine 445 BR
- ! Bayer CropScience provided the FiberMax 960 B2R, FiberMax 800 B2R and FiberMax 989 B2R
- ! Monsanto/Stoneville Pedigreed Seed who provided the Stoneville ST 5999 BR
- ! Paymaster Seed Company who provided the 2200 R

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