



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

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### **2005 EL PASO COUNTY PIMA COTTON VARIETY DEMONSTRATION**

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#### **SUMMARY**

Five pima cotton varieties were planted to compare fiber yield and quality characteristic under similar irrigated production conditions. Hazera 195 was the highest yielding variety in this test. PhytoGen 800 and Deltapine 744 had the highest loan value at 82.90 cents per pound. This is only one years result and continued testing is recommended before making a significant switch to a new variety.

#### **PROBLEMS**

Several new varieties of cotton become available each year and when combined with the varieties already available makes planting seed selection increasingly difficult. Producers need local data to help in selecting adapted high yielding varieties with desirable fiber quality traits. Higher strength and longer staple are the primary fiber quality characteristics they are looking for.

#### **OBJECTIVE**

With improved varieties being introduced each season, testing is a necessary part of any farming operation. This field test was established to compare new and traditional varieties. The main focus will be to find those varieties that provide high lint yield with desirable fiber traits. Since some varieties have a limited success within a narrow range of production conditions, local testing is necessary and justified. This test will allow area producers to determine if new varieties being introduced are more productive than what they currently planting. Also, it will provide area producers with the opportunity to examine the differences in plant development between the old and new varieties.

## **MATERIALS AND METHODS**

Cooperator: Ramon Tirres

County Precinct: 3

Planting Date: April 20, 2005

Planting Rate: 22 pounds per acre

Planting Pattern: Solid on 40 inch rows

Previous Crop: Cotton

Irrigation: Furrow applied preplant plus 3 during the season

Fertilizer: Applied 120 units of nitrogen prior to planting plus 100 pounds of 18-46-0 during the growing season

Herbicide: Prowl and Staple

Insecticide: Some spraying necessary

Soil Type: Silt Clay Loam

Harvest Date: November 14, 2005

Two to three weeks after planting the varieties were visually rated for vigor. At the one- to four-leaf stage stand counts were made within each plot. Fields were monitored on a weekly basis through the IPM scouting program to document plant growth and insect activity.

The test plots were stripper harvested to determine the yield per acre. A five pound sample of seed cotton was ginned at the U.S.D.A. Lab in Las Cruces, New Mexico to determine the percent turnout of lint and seed. A sample of the ginned cotton was taken to the International Textile Center in Lubbock to have fiber properties determined using a HVI classing machine.

## **RESULTS, DISCUSSION AND ECONOMIC ANALYSIS**

The lint yields in this test ranged from 1074 to 2008 pounds per acre. Hazera 195 had significantly more lint and seed production than any variety in this test. In this test all of the varieties had significantly more lint and seed production than PhytoGen 810 R. PhytoGen 800 and Deltapine 744 had the highest loan value at 82.90 cents per pound.

As you look at Table 1 you can see a distinct break in the lint and seed yield. Hazera 195 was statistically the highest producing variety in the test and PhytoGen 810 R was statistically the lowest producing variety in the test. Most of the 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.

Table 1. Data from Ramon Tirres' 2005 Irrigated Pima Cotton Variety Test (El Paso County)

Variety	Yield Per Acre				Fiber Quality						CCC Loan Value	Lint Gross Return (\$/acre)	Seed Gross Return (\$/acre)	Total Gross Return (\$/acre)
	In Pounds		% Turnout		Grade Color Leaf	Fiber Length (staple)	Mic	Strength (gram/tex)	Uniformity					
	Lint	Seed	Lint	Seed										
Hazera 195	1954	2846	39.9	58.1	2-2	46	3.9	30.6	85.7	72.45	1415.87	142.28	1558.16	
Hazera 195	2125	3094	39.9	58.1	2-2	46	3.9	30.6	85.7	72.45	1539.39	154.70	1694.09	
Hazera 195	1945	2832	39.9	58.1	2-2	46	3.9	30.6	85.7	72.45	1408.87	141.58	1550.46	
Average	2008 a	2924 a	39.9	58.1	2-2	46	3.9	30.6	85.7	72.45	1454.71	146.19	1600.90	
Deltapine 340	1319	1781	41.7	56.3	2-2	46	4.2	39.0	86.1	82.45	1087.59	89.05	1176.64	
Deltapine 340	1476	1993	41.7	56.3	2-2	46	4.2	39.0	86.1	82.45	1217.16	99.66	1316.81	
Deltapine 340	1554	2098	41.7	56.3	2-2	46	4.2	39.0	86.1	82.45	1281.21	104.90	1386.10	
Average	1450 b	1957 b	41.7	56.3	2-2	46	4.2	39.0	86.1	82.45	1195.32	97.87	1293.18	
Deltapine 744	1362	1839	41.7	56.3	2-2	48	4.4	43.7	85.2	82.90	1129.38	91.97	1221.35	
Deltapine 744	1505	2032	41.7	56.3	2-2	48	4.4	43.7	85.2	82.90	1247.69	101.60	1349.30	
Deltapine 744	1141	1540	41.7	56.3	2-2	48	4.4	43.7	85.2	82.90	945.85	77.02	1022.88	
Average	1336 b	1804 b	41.7	56.3	2-2	48	4.4	43.7	85.2	82.90	1107.64	90.20	1197.84	
Phytogen 800	1328	1831	41.2	56.8	2-2	48	4.0	41.3	88.7	82.90	1101.08	91.56	1192.64	
Phytogen 800	1261	1738	41.2	56.8	2-2	48	4.0	41.3	88.7	82.90	1045.19	86.91	1132.10	
Phytogen 800	1259	1736	41.2	56.8	2-2	48	4.0	41.3	88.7	82.90	1044.02	86.81	1130.83	
Average	1283 b	1769 b	41.2	56.8	2-2	48	4.0	41.3	88.7	82.90	1063.43	88.43	1151.86	
Phytogen 810 R	1120	1531	41.4	56.6	2-2	44	3.8	38.5	86.2	78.15	875.06	76.54	951.61	
Phytogen 810 R	1040	1422	41.4	56.6	2-2	44	3.8	38.5	86.2	78.15	813.08	71.12	884.20	
Phytogen 810 R	1061	1450	41.4	56.6	2-2	44	3.8	38.5	86.2	78.15	828.83	72.50	901.33	
Average	1074 c	1468 c	41.4	56.6	2-2	41	3.8	38.5	86.2	78.15	838.99	73.39	912.38	

- Note: 1) A cottonseed price of \$100 per ton was used for income calculation.  
 2) In Table 1 the individual or combination of letter a, b or c shown to the side of the average lint and seed yield are to indicate statistical significance. There is no statistical difference between numbers that have the same letter (even when there appears to be a large difference in results between the varieties).

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