EVALUATION OF COTTON VARIETIES FOR YIELD AND PROFITABILITY

Billy Buzek, Cooperator (2008)
Joe D. Janak, Jr., Stephen Biles and Robert Lemon
County Extension Agent - Ag/NR, Calhoun, Refugio & Victoria Extension IPM Agent and Professor and Extension Agronomist – Cotton, respectively
Victoria County

SUMMARY:

In a dry production season, ten cotton varieties planted in three replicated plots on March 24, 2008 yielded from 753 - 946 pounds per acre with a lint value from $377 - 466 per acre.

OBJECTIVES:

To determine the yield potential of cotton varieties offered by area seed companies. This demonstration will assist the producers by evaluating all major hybrids, comparing them with local and coastal counties actively participating in the standardized demonstration.

MATERIALS and METHODS:

Ten cotton varieties were planted March 24, 2008 at the rate of 44,697 seeds/acre with three reps per variety. Commercial seed companies represented included Fibermax (FM), Stoneville (ST), Deltapine (DPL), Phytogen (PHY), Dyna-Gro (DG), and Croplan Genetics (CG). All varieties were treated with either Aeris or Avicta Complete Pak seed treatment. The varieties were planted on a 38" row spacing with 6 rows per plot using a Case IH 1200 Series Air Planter. The previous crop planted was sorghum. Herbicides included an application of 1 pt/ac of Prowl H_20, 1 pt/ac of Caprool plus 0.50 pt/ac of Grounded. Fertilizer applied included 500 lbs of 18-9-3-5s-5zn. Insecticide at planting was 0.8 oz/ac of MustangMax.

During the production season, four management applications were made including: 1) Bidrin 2 oz/ac, 2) Intruder 0.6 oz/ac, 3) Centric 1.5 oz/ac plus PIX 12 oz/ac and 4) Drop 2 oz/ac and Prep 1 pt/ac.

The demonstration was harvested with a cotton picker on July 30, 2008 harvesting 1.22 acre per variety and weighing the seed cotton in a weigh wagon. Samples were collected, ginned on a 10-saw Eagle Laboratory gin and sent to a lab for fiber analysis.

RESULTS and DISCUSSIONS:

The crop grew with minimal moisture throughout the growing season. As an indicator of soil moisture, overall plant height at harvest was only about two feet tall. Insect pressure was also minimal throughout the production season.

Data featured in Table 1 includes, statistical analysis of yield, turnout, fiber quality parameters, loan and lint value results. Plot samples were ginned with a 10-saw table-top gin with no lint cleaner. This method consistently produces higher lint turnout percentages than would be common in a commercial gin. Consequently, higher turnouts equate to lint yields which are generally higher than area-wide commercial yields. Additionally, all data were standardized to a color grade and leaf of 41 - 4. Table 1 shows numerical rankings based upon lint yield.

ACKNOWLEDGMENTS:

Appreciation is expressed to contributing seed companies and to Billy Buzek, cooperator. Coordination of this Uniform Stacked-Gene Cotton Trial was established through Dr. Robert Lemon, Professor and Extension Agronomist – Cotton; Dr. Dan D. Fromme, Assistant Professor and Extension Agronomist; and Dale Mott, Extension Program Specialist – Cotton. Harvest was preformed by Dennis Stary and Glen Repka, local commercial cotton harvesters.

DISCLAIMER CLAUSE:

Trade names of commercial products used in this report are included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.

Table 1. Uniform Stacked-Gene Cotton Variety Trials, 2008
Victoria County
Cooperator: Bill Buzek
Joe Janak, County Extension Agent – Agriculture and Natural Resources
Stephen Biles, Extension Agent – IPM

Variety	Yield (lbs/acre)		Turnout %		Micronaire		Length (inches)		Strength (g/tex)		Uniformity		Loan Value (¢/lbs)		Lint Value ($/acre)	
PHY 375 WRF	946	a	43.7	a	5.53	bcd	1.07	d	28.77	d	83.47	a	49.18	c	466	a
FM 1740 B2RF	901	ab	42.2	ab	5.60	abc	1.10	cd	31.37	abc	83.47	a	50.03	bc	451	ab
DPL 161 B2RF	876	bc	41.8	bcd	5.67	ab	1.14	ab	30.93	abc	83.67	a	50.70	ab	444	ab
CG 3220 B2RF	868	bc	42.4	ab	5.70	a	1.14	ab	30.77	bcd	84.23	a	50.60	ab	439	abc
DPL 141 B2RF	860	bc	40.2	cd	5.17	f	1.11	bcd	29.53	cd	82.90	a	50.10	bc	431	bcd
ST 5327 B2RF	830	cd	42.4	ab	5.40	de	1.07	d	30.77	bcd	82.60	a	49.20	c	408	cde
ST 4498 B2RF	808	cde	41.8	bc	5.50	cd	1.08	d	32.20	ab	83.87	a	49.53	bc	400	de
PHY 485 WRF	807	cde	41.1	bcd	5.53	bcd	1.09	cd	30.47	bcd	84.27	a	50.08	bc	404	de
FM 840 B2RF	768	de	40.1	d	5.33	e	1.16	a	32.83	a	84.87	a	51.78	a	398	de
ST 4357 B2RF	753	e	41.8	bc	5.47	cde	1.12	abc	28.73	d	83.43	a	50.12	bc	377	e
Mean	**842**		**41.8**		**5.49**		**1.11**		**30.64**		**83.68**		**50.13**		**421**	
P>F	0.0040		0.0597		0.0001		0.0001		0.0400		0.2580		0.0636		0.0061	
LSD (P=.10)	70		1.73		0.14		0.04		2.042		NS		1.254		34.7	
STD DEV	49.44		1.22		0.1		0.03		1.442		0.977		0.886		24.5	
CV%	5.87		2.93		1.74		2.35		4.71		1.17		1.77		5.81	

Varieties that are statistically different from one another will not have the same letter next to the corresponding number value in a column. The statistical analysis presents a general overview of the uniformity of the test conditions (soil type, cultural practices, insect damage, etc.). Trial locations with large least significant differences (LSD's) in the range of 150 to 200 lbs of lint/acre generally offer little useful information due to non-uniform conditions (higher degree of variability). The smaller the LSD, the more precise are the test results. Non-significance is represented as "NS."
Means in a column followed by the same letter are not significantly different by ANOVA.
[1]Loan based on $0.5170/lb +/- premiums/discounts according to the 2008 USDA Loan Chart.