Field Crops

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2008 Cotton Variety Selection

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Table 1 is a summary of cotton yields from the testing of 17 different varieties over four years in the Sacramento Valley. In the far right of the table, average cotton lint yields over years are compared to DeltaPine (DP) 444 BG/RR in the upper part of the table, or to DP 388 in the lower part of the table. This over years average may not include all of the trials in each row for a particular variety because DP 444 BG/RR and DP 388 were not included in every trial over the years.

This is the fourth year several San Joaquin Valley Acala cotton varieties have yielded very close or higher than the two comparison varieties, DP 444 BG/RR and DP 388. **PHY 710R** has been tested in three trials over three years averaging 101 % of DP 444 BG/RR, but when including an estimate of the influence of the 2004 Butte trial yield of 112% of DP 388, it is closer to 106% of DP 444 BG/RR over the three trials.

Two experimental cotton varieties which will be contracted for seed production in 2008 were tested in single replicate plots next to the replicated trials. The varieties, now named ST 5458 B2RF and ST 4498 B2RF yielded 102% and 100%, respectively of DP 444 BG/RR.

Most of the varieties in these trials yielded within a few percent of the two standard varieties. The seed premium for any variety being grown for seed production will make them more desirable even though they may be a little lower yielding.

Varieties are changing so quickly that over two-thirds of the varieties in Table 1 have only been tested in one trial. Further testing could greatly change the results for varieties only tested once.

Tables 2, 3, and 4 show the quality results. Fiber length, fiber strength, and micronaire are typically the three fiber quality characteristics of most importance when comparing varieties being grown in the Sacramento Valley.

All of the yield and quality results reported are from large scale grower strip trials (4 to 6 rows by 1200 feet) with 3 to 4 replications. These trials would not be possible with the generous support of the growers and seed companies involved.

Table 1: 2004 to 2007 Sacramento Valley Cotton Variety Trial Yield Results

(Yields in pounds lint per acre & as a % of DP 444 BG/RR or DP 388 for each location)

	2004 Butte		2004 Colusa		2005 Colusa 1		2005 Colusa 2		2006 Colusa 1		2006 Colusa 2		2007 Glenn		Average	Average		
Variety	(lb/A)	DP 388 (%)	(lb/A)	DP 388 (%)	(lb/A)	DP 388 (%)	(lb/A)	DP 444 BG/RR (%)	(lb/A)	DP 388 (%)	(lb/A)	DP 444 BG/RR (%)	(lb/A)	DP 444 BG/RR (%)	% DP 444 BG/RR	% DP 388	# of trials	# of years
ST 4554 B2RF											1730	102			102	N/A	1	1
PHY 710 R	1885	112					1723	111			1560	92			101	112	3	3
DP 444 BG/RR	**1556**	**92**	**1580**	**94**			**1557**	**100**			**1692**	**100**	**1324**	**100**	**100**	**93**	**6**	**5**
FiberMax 9058 F													1314	99	99	N/A	1	1
ST 4427 B2RF											1586	94	1359	103	98	N/A	1	1
ST 5327 B2RF													1285	97	97	N/A	1	1
CPCSD Daytona RF													1281	97	97	N/A	1	1
PHY 725 RF											1607	95	1258	95	95	N/A	2	2
DP 121 RF													1224	92	92	N/A	1	1

In the 2004-07 average columns (3rd & 4th columns from right edge), varieties above are a % of DP 444 BG/RR and below are a % of DP 388

HA 175									1830	108					N/A	108	1	1
ST 5283 RF									1800	107					N/A	107	1	1
DP 393	1770	105	1711	102	1444	104									N/A	104	3	2
DP 388	**1685**	**100**	**1672**	**100**	**1384**	**100**			**1687**	**100**					**107**	**100**	**6**	**4**
FiberMax 958 LL					1299	94									N/A	94	1	1
PHY 629 Pima									1276	76					N/A	76	1	1
DP 340 Pima									1257	75					N/A	75	1	1
DP HTO Pima									1090	65					N/A	65	1	1

Trial results are available for over 100 other cotton varieties tested in the Sacramento Valley.

Table 2: 2004 to 2007 Sacramento Valley Cotton Variety Trials Fiber Length Results.

Length	2004 Colusa	2004 Butte	2005 Colusa 1	2005 Colusa 2	2006 Colusa 1	2006 Colusa 2	2007 Glenn
DP 444 BG/RR	33.1	35.7		35.0		36.7	34.3
DP 388	33.7	36.4	35.8		37.6		
PHY 710 R		37.7		36.7		37.7	
DP 393	35.1	37.3	37.3				
FiberMax 958 LL			36.5				
ST 5283 RF					37.5		
HA 175 (hybrid)					48.1		
DP 340 (pima)					49.0		
DP HTO (pima)					49.0		
PHY 629 (pima)					50.5		
PHY 725 RF						40.3	36.0
ST 4554 B2RF						37.7	
ST 4427 B2RF						37.0	35.0
DP 121 RF							35.0
ST 5327 B2RF							36.0
CPCSD Daytona RF							36.3
FiberMax 9058 F							36.7

Table 3: 2004 to 2007 Sacramento Valley Cotton Variety Trials Fiber Strength Results.

Strength	2004 Colusa	2004 Butte	2005 Colusa 1	2005 Colusa 2	2006 Colusa 1	2006 Colusa 2	2007 Glenn
DP 444 BG/RR	27.8	30.0		28.8		30.1	28.7
DP 388	30.5	31.6	30.5		32.4		
PHY 710 R		33.9		34.2		35.8	
DP 393	30.9	32.0	31.3				
FiberMax 958 LL			30.4				
ST 5283 RF					34.8		
HA 175 (hybrid)					37.2		
DP 340 (pima)					39.4		
DP HTO (pima)					39.7		
PHY 629 (pima)					40.7		
PHY 725 RF						35.4	32.1
ST 4554 B2RF						32.5	
ST 4427 B2RF						30.3	29.2
DP 121 RF							29.5
ST 5327 B2RF							31.5
CPCSD Daytona RF							32.7
FiberMax 9058 F							28.9

Table 4: 2004 to 2007 Sacramento Valley Cotton Variety Trials Micronaire Results.

Micronaire	2004 Colusa	2004 Butte	2005 Colusa 1	2005 Colusa 2	2006 Colusa 1	2006 Colusa 2	2007 Glenn
DP 444 BG/RR	4.8	3.6		3.3		4.0	4.3
DP 388	4.8	4.0	4.1		4.1		
PHY 710 R		4.0		3.7		4.4	
DP 393	4.9	4.0	4.2				
FiberMax 958 LL			4.1				
ST 5283 RF					4.1		
HA 175 (hybrid)					3.8		
DP 340 (pima)					3.7		
DP HTO (pima)					3.8		
PHY 629 (pima)					3.7		
PHY 725 RF						4.1	4.4
ST 4554 B2RF						4.1	
ST 4427 B2RF						3.8	4.4
DP 121 RF							4.7
ST 5327 B2RF							4.2
CPCSD Daytona RF							4.4
FiberMax 9058 F							4.3

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