Arizona Upland Cotton Variety Testing Program, 2003

S. Husman, R. Norton, E. Norton, P. Clay, M. Zerkoune, K. White
University of Arizona Cooperative Extension

Abstract

Each year the University of Arizona conducts variety trials across the state to evaluate the performance of Upland cotton varieties. These tests provide unbiased data on the performance of varieties when tested side-by-side under typical production practices. In 2003, a total of 11 trials were planted. Two in the Yuma region (Yuma County), two in the western region (La Paz and Mohave counties), four in the central region (Maricopa and Pinal counties), one in the southern region (Pima county), and two in the eastern region (Graham, Greenlee, and Cochise counties). We tested eight to fourteen commercially available varieties at each test site. This article presents the results of the 2003 variety tests conducted at each location.

Introduction

Each year the University of Arizona conducts variety trials across the state to evaluate the performance of upland cotton varieties. These trials provide many segments of the cotton industry with unbiased data on yield, fiber quality, and agronomic performance of commercially available varieties when tested side-by-side under typical production practices.

The Arizona Upland Cotton Variety Trial is our most intensive testing program. The tests in this program are conducted at several locations throughout the cotton producing regions of the state, usually on grower's fields. The test plots are large-scale "strip plots" which are replicated and randomized using proper field-plot techniques. Several seed companies enter the varieties they feel have the best chance of producing high yields of good quality fiber. The results of these trials are the closest possible to obtaining "on-farm" experience with a particular variety.

The purpose of this report is to present the results of the 2003 tests conducted in the following regions: Yuma, western, central, southern, and eastern, Arizona.

Materials and Methods

Locations and varieties: Trials were planted at eleven locations in 2003 – two in the Yuma region (Somerton and Wellton), two in the western region (Mohave Valley and Parker), four in the central region (Buckeye, Stanfield, Maricopa, and Coolidge), one in the southern region (Marana), and two in the eastern region (Thatcher, and Kansas Settlement). Eight to fourteen varieties were planted at each site. Varieties included in the 2003 tests were submitted to the university by the cooperating seed companies that included Deltapine, Stoneville, Buttonwillow Research, the Arizona Cotton Grower's Association, AgriPro, CPCSD, FiberMax, Salcot Seed Company, and New Mexico State University.

Experimental design and test protocols: Most tests were conducted on grower-cooperator fields. All cultural practices, including planting date, fertilizer regimes, pest control, irrigation, defoliation, and harvest date were made by the cooperator. The tests at Maricopa and Marana were located on University of Arizona Experimental stations, but production practices typical for the area were used in making all cultural decisions. Insect control regimes were followed for conventional varieties in all tests. Plots were a minimum of 4 rows wide (38 to 40 inch spacing), and extended the full length of the irrigation run. All treatments (varieties) were arranged in a randomized complete block design with three or four replications. At least two rows per plot were machine harvested and the seed cotton from each plot was weighed at the field. Sub-samples of the harvested seed cotton were ginned for turnout and lint yield was calculated from the seed cotton and turnout data. Lint from the grab samples was sent to the USDA classing office for HVI fiber quality analysis. Average premium or discount on the lint for each variety was determined by applying the CCC loan schedule to the HVI data collected from each plot. Price was determined by using the base value for Arizona (52.0 cents per pound) and adding or subtracting the proper premium or discount to the base value. Value per acre was determined by multiplying lint yield by the price per pound.

Results

Variety selection within the last five years has become more complicated with the increasing importance of fiber quality in the market and with the advent of transgenic technology. In our tests, for example, the value of the crop depended on both lint yield and fiber quality. The highest yielding varieties did not always produce the highest value per acre (See Tables).

The introduction of high yielding varieties with transgenic traits has been a great benefit to Arizona growers. However, new conventional varieties are also being developed and released.

Many sources of information on variety performance are publicly available to the industry. The data presented in this report is a good source of information on the performance of these varieties, and they represent a solid staring point for determining the actual performance of a given variety on each individual farm. Other sources of information should be considered when selecting varieties. Seed companies also provide performance data for their varieties. Other growers in the area may have experience with a particular variety. If possible, more than one year of data should be considered in evaluating the performance of a particular variety.

Once the decision to try a new variety is made, incorporating that new variety into each cultural program should proceed in increments. Growers should test it on a limited scale at first to determine how the variety performs on their own farm and to gain experience on the cultural needs of the variety.

Acknowledgments

The valuable cooperation, land, and resources provided by the following cooperators are greatly appreciated: CRIT Farms, Bruce Heiden, Dennis Layton, Marlatt Brothers, Paul Ollerton, John Peach, Milton Schmitt, Lee Smith, and Del Wakimoto, and the UofA Experiment stations at Maricopa and Marana. The support and cooperation provided by the participating seed companies – Delta and Pine Land Co., Stoneville, Buttonwillow Research, the Arizona Cotton Grower's Association, AgriPro, CPCSD, FiberMax, Salcot Seed Company, and New Mexico State University is gratefully acknowledged.

University of Arizona
Cooperative Extension

2003 Upland Cotton Variety Trial Results

Mohave, AZ

Planting Date 1 MAY 2003 | Final Irrigation Date | Harvest Date 21 OCT 2003
Total Number of Irrigations | Total N Applied 265 lbs. N | General Soil Texture Sandy loam

				Fiber Quality						
Company	**Variety**	**Lint Yield** (lbs/Acre)	**Percent Lint**	**Micronaire**	**Fiber Length** (100ths)	**Staple Length** (32nds)	**Fiber Strength** (g/tex)	**Uniformity Index**	**Premium/ Discount[5]** (points)	**Value[6]** ($/acre)
Stoneville	ST5599BR	961 a[1]	29.8 a	4.7 a	1.08 de	35.0 cd	27.9 d	79.5 de	176	515
Delta and Pine	DP448B	944 ab	28.0 ab	4.6 ab	1.11 dc	35.7 bc	28.5 d	80.0 cd	401	529
Stoneville	ST5303R	943 ab	28.5 a	4.7 ab	1.11 bc	35.7 bc	31.0 bc	81.8 a	429	531
Delta and Pine	DP555BR	867 ab	31.0 a	4.4 bc	1.10 cd	35.2 cd	29.2 cd	78.8 e	353	482
Delta and Pine	DP449BR	814 bc	30.2 a	4.6 ab	1.14 ab	36.5 ab	30.6 bc	81.0 ab	458	461
Salcot	SCX-7	686 c	29.0 a	4.2 c	1.12 abc	36.5 ab	31.5 b	80.5 bc	485	390
FiberMax	FM960BR	531 d	28.0 ab	4.5 ab	1.07 e	34.5 d	30.5 bc	80.8 bc	325	293
ACGA	ACG3601	387 e	25.0 b	3.9 d	1.14 a	37.03 a	33.6 a	81.0 ab	506	221
$LSD_{0.05}$[2]		143	3.2	0.3	0.03	0.8	1.8	1.0		
OSL[3]		0.0001	0.0305	0.0001	0.0002	0.0001	0.0001	0.0001		
CV (%)[4]		12.7	7.6	4.2	1.6	1.6	4.1	0.8		

[1]Means followed by the same letter are not significantly different according to a Fisher's LSD means separation test.
[2]LSD: Least Significant Difference.
[3]OSL: Observed Significance Level.
[4]CV: Coefficient of Variation.
[5]Average premium or discount applied to the lint based on CCC loan schedule.
[6]Value of lint per acre based on CCC loan schedule of discounts and premiums and assuming a base value of 52.00 cents per pound.

University of Arizona
Cooperative Extension

2003 Upland Cotton Variety Trial Results

Parker, AZ

Planting Date 15 MAR 2003 | Final Irrigation Date 14 SEP 2003 | Harvest Date 10 OCT 2003
Total Number of Irrigations 9 Irrigations | Total N Applied 125 lbs. N | General Soil Texture Silt loam

				Fiber Quality						
Company	**Variety**	**Lint Yield** (lbs/Acre)	**Percent Lint**	**Micronaire**	**Fiber Length** (100ths)	**Staple Length** (32nds)	**Fiber Strength** (g/tex)	**Uniformity Index**	**Premium/ Discount[5]** (points)	**Value[6]** ($/acre)
Delta and Pine	DP449BR	842 a[1]	33.5 bc	5.5 ab	1.06	34.0	29.0 cd	80.3 cd	-316	413
Stoneville	ST5303R	815 a	33.0 cd	5.5 ab	1.06	33.8	30.0 bc	82.0 a	-323	398
Delta and Pine	DP555BR	804 a	36.0 a	5.4 bc	1.04	33.3	27.4 de	79.5 d	-531	376
Stoneville	ST5599BR	791 a	34.3 b	5.4 bc	1.03	33.0	26.5 e	79.8 cd	-557	365
Salcot	SCX-7	781 ab	32.8 cd	5.3 cd	1.07	34.5	31.0 ab	81.3 ab	-101	398
Delta and Pine	DP448B	734 ab	32.3 d	5.2 d	1.06	34.0	28.0 de	80.5 bc	-219	367
ACGA	ACG3601	669 bc	30.8 e	5.6 a	1.08	34.8	33.0 a	81.8 a	-131	338
FiberMax	FM960BR	621 c	33.0 cd	5.2 d	1.06	34.0	31.4 ab	81.5 a	-170	313
$LSD_{0.05}$[2]		112	1.2	0.2	NS	NS	1.9	1.0		
OSL[3]		0.0060	0.0001	0.0001	0.0945	0.1253	0.0001	0.0001		
CV (%)[4]		10.1	2.4	2.1	2.2	2.5	4.4	0.8		

[1]Means followed by the same letter are not significantly different according to a Fisher's LSD means separation test.
[2]LSD: Least Significant Difference.
[3]OSL: Observed Significance Level.
[4]CV: Coefficient of Variation.
[5]Average premium or discount applied to the lint based on CCC loan schedule.
[6]Value of lint per acre based on CCC loan schedule of discounts and premiums and assuming a base value of 52.00 cents per pound.

University of Arizona
Cooperative Extension

2003 Upland Cotton Variety Trial Results

Somerton, AZ

Planting Date 1 APR 2003 | Final Irrigation Date 9 AUG 2003 | Harvest Date 15 SEP 2003
Total Number of Irrigations 8 Irrigations | Total N Applied 127 lbs. N | General Soil Texture Sandy loam

				Fiber Quality						
Company	**Variety**	**Lint Yield** (lbs/Acre)	**Percent Lint**	**Micronaire**	**Fiber Length** (100ths)	**Staple Length** (32nds)	**Fiber Strength** (g/tex)	**Uniformity Index**	**Premium/ Discount[5]** (points)	**Value[6]** ($/acre)
Stoneville	ST5599BR	1370 a[1]	33.8 abc	5.3 abc	1.07 ef	34.3 fg	29.3 def	81.3 bc	-165	693
Stoneville	ST4892BR	1318 ab	34.3 ab	5.5 a	1.10 cde	35.3 cdef	29.6 cdef	82.7 ab	-80	674
Delta and Pine	DP444BR	1260 ab	34.7 ab	4.8 f	1.07 ef	34.3 fg	27.8 f	82.0 abc	265	689
Delta and Pine	DP449BR	1248 abc	32.8 bc	5.4 ab	1.08 def	34.7 efg	29.2 ef	81.0 dc	-170	627
Buttonwillow	BR303	1179 abcd	29. de	4.9 ef	1.18 a	37.7 a	31.3 abcde	82.3 abc	372	658
Stoneville	ST5303R	1175 abcd	32.9 bc	5.4 abc	1.08 def	35.0 defg	31.9 abcd	83.0 a	-55	605
FiberMax	FM989BR	1119 bcde	33.3 bc	5.1 cde	1.06 f	34.0 g	28.2 f	82.3 abc	-253	552
AgriPro	AP7126	1049 cdef	31.4 cd	5.2 bcd	1.14 ab	36.7 ab	30.9 bcde	81.7 abc	75	554
Salcot	SCX-7	1044 cdef	31.3 cd	5.0 def	1.11 cd	36.0 bcd	32.0 abc	82.0 abc	303	623
FiberMax	FM960BR	1021 def	32.8 bc	5.3 abcd	1.11 cd	35.7bcde	32.4 ab	82.3 abc	5	531
Delta and Pine	DP555BR	925 ef	35.9 a	5.3 abcd	1.08 def	35.0 defg	29.1 ef	81.0 cd	-123	470
ACGA	ACG3601	893 f	28.4 e	5.1 cde	1.13 bc	36.3 bc	33.8 a	82.7 ab	90	473
$LSD_{0.05}$[2]		199	2.6	0.3	0.03	1.2	2.6	1.3		
OSL[3]		0.0009	0.0001	0.0007	0.0001	0.0001	0.0016	0.0018		
CV (%)[4]		10.0	4.5	3.2	1.9	2.0	5.0	0.9		

[1]Means followed by the same letter are not significantly different according to a Fisher's LSD means separation test.
[2]LSD: Least Significant Difference.
[3]OSL: Observed Significance Level.
[4]CV: Coefficient of Variation.
[5]Average premium or discount applied to the lint based on CCC loan schedule.
[6]Value of lint per acre based on CCC loan schedule of discounts and premiums and assuming a base value of 52.00 cents per pound.

University of Arizona
Cooperative Extension

2003 Upland Cotton Variety Trial Results

Wellton, AZ

Planting Date	20 MAR 2003	Final Irrigation Date	24 JUL 2003	Harvest Date	3 SEP 2003
Total Number of Irrigations	7 Irrigations	Total N Applied	165 lbs. N	General Soil Texture	Silt loam

				Fiber Quality						
Company	**Variety**	**Lint Yield** (lbs/Acre)	**Percent Lint**	**Micronaire**	**Fiber Length** (100ths)	**Staple Length** (32nds)	**Fiber Strength** (g/tex)	**Uniformity Index**	**Premium/ Discount[5]** (points)	**Value[6]** ($/acre)
Stoneville	ST5599BR	2015	34.2	4.7 abc[1]	1.08 de	35.0 bcd	27.7	80.0 cd	365	1121
Delta and Pine	DP449BR	1864	33.8	4.5 abcd	1.13 bcd	36.0 bc	30.4	81.5 ab	433	1049
Delta and Pine	DP555BR	1797	33.7	4.4 bcd	1.07 de	34.5 bc	26.4	78.5 e	205	949
Stoneville	ST4892BR	1744	32.6	4.8 ab	1.09 de	35.0 bcd	27.3	81.5 ab	360	970
Buttonwillow	BR303	1741	32.1	4.3 cde	1.22 a	38.5 a	28.8	81.0 bc	420	978
Salcot	SCX-7	1677	32.7	4.4 cde	1.11 bcd	35.5 bc	27.9	80.0 cd	395	939
AgriPro	AP7126	1608	32.1	4.3 def	1.15 b	36.5 b	29.1	81.5 ab	415	904
Stoneville	ST5303R	1595	33.9	4.5 abcd	1.09 cde	34.5 cd	30.9	82.5 a	363	887
FiberMax	FM989BR	1594	32.9	4.3 de	1.09 bcde	35.5 bc	28.2	79.5 de	388	891
FiberMax	FM960BR	1533	32.6	4.3 cde	1.05 e	33.5 d	28.8	80.0 cd	88	812
Delta and Pine	DP444BR	1442	29.2	4.0 e	1.11 bcd	36.0 bc	26.3	88.5 bcd	445	814
ACGA	ACG3601	1327	29.0	4.9 a	1.14 bc	36.5 b	29.8	81.5 ab	470	758
$LSD_{0.05}$[2]		NS	NS	0.4	0.05	1.6	NS	1.4		
OSL[3]		0.0579	0.6673	0.0197	0.0013	0.0035	0.0656	0.0029		
CV (%)[4]		7.7	6.4	3.8	2.1	2.1	4.5	0.8		

[1]Means followed by the same letter are not significantly different according to a Fisher's LSD means separation test.
[2]LSD: Least Significant Difference.
[3]OSL: Observed Significance Level.
[4]CV: Coefficient of Variation.
[5]Average premium or discount applied to the lint based on CCC loan schedule.
[6]Value of lint per acre based on CCC loan schedule of discounts and premiums and assuming a base value of 52.00 cents per pound.

University of Arizona
Cooperative Extension

2003 Upland Cotton Variety Trial Results

Buckeye, AZ

Planting Date: 15 APR 2003 | Final Irrigation Date: 25 SEP 2003 | Harvest Date: 8 DEC 2003

Total Number of Irrigations: 21 Irrigations | Total N Applied: 10 tons manure/ac, 50 lbs. N | General Soil Texture: Silt loam

				Fiber Quality						
Company	**Variety**	**Lint Yield** (lbs/Acre)	**Percent Lint**	**Micronaire**	**Fiber Length** (100ths)	**Staple Length** (32nds)	**Fiber Strength** (g/tex)	**Uniformity Index**	**Premium/ Discount[5]** (points)	**Value[6]** ($/acre)
Delta and Pine	DP448B	1792 a[1]	31.4 bcd	4.4 d	1.10 c	35.2 bc	28.5 cde	80.5 bc	344	993
Delta and Pine	DP555BR	1758 ab	34.6 a	4.9 b	1.07 d	34.3 cde	28.5 cde	79.5 c	70	928
Delta and Pine	DP449BR	1677 b	32.1 b	4.9 cb	1.10 c	35.2 bc	30.1 bcd	80.8 b	369	934
FiberMax	FM960BR	1494 c	31.7 bc	4.8 bc	1.08 cd	35.0 c	34.2 a	81.2 ab	308	822
Delta and Pine	DP33B	1483 c	29.5 e	4.7 bc	1.09 cd	34.8 cd	30.0 bcde	80.5 bc	269	812
Stoneville	ST5599BR	1425 cd	31.9 bc	4.9 bc	1.04 e	33.3 e	27.7 de	79.5 c	-134	721
Stoneville	ST4892BR	1336 de	32.3 b	5.3 a	1.06 de	33.8 ed	27.2 e	80.8 b	-369	646
Stoneville	ST5303R	1312 e	30.3 de	5.2 a	1.09 cd	34.8 cd	31.0 b	82.3 a	-79	672
Salcot	SCX-7	1300 ef	30.8 cd	4.7 bc	1.10 bc	35.2 bc	31.7 b	81.0 b	310	689
FiberMax	FM989BR	1248 efg	30.2 de	4.8 bc	1.08 cd	34.8 cd	30.4 bc	81.0 b	271	684
ACGA	AG3601	1225 fg	28.2 f	4.7 c	1.13 ab	36.2 ab	31.3 b	81.0 b	406	687
Buttonwillow	BW303	1200 g	28.0 f	4.7 cb	1.15 a	36.5 a	31.0 b	80.5 bc	245	653
$LSD_{0.05}$[2]		97	1.2	0.2	0.02	1.1	2.5	1.1		
OSL[3]		0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0009		
CV (%)[4]		4.7	2.7	2.8	1.7	2.1	5.7	0.9		

[1]Means followed by the same letter are not significantly different according to a Fisher's LSD means separation test.
[2]LSD: Least Significant Difference.
[3]OSL: Observed Significance Level.
[4]CV: Coefficient of Variation.
[5]Average premium or discount applied to the lint based on CCC loan schedule.
[6]Value of lint per acre based on CCC loan schedule of discounts and premiums and assuming a base value of 52.00 cents per pound.

University of Arizona
Cooperative Extension

2003 Upland Cotton Variety Trial Results

Stanfield, AZ

Planting Date	23 APR 2003	Final Irrigation Date	13 SEP 2003	Harvest Date	4 NOV 2003
Total Number of Irrigations	9 Irrigations	Total N Applied	199 lbs. N	General Soil Texture	Sandy loam

				Fiber Quality						
Company	**Variety**	**Lint Yield** (lbs/Acre)	**Percent Lint**	**Micronaire**	**Fiber Length** (100ths)	**Staple Length** (32nds)	**Fiber Strength** (g/tex)	**Uniformity Index**	**Premium/ Discount[5]** (points)	**Value[6]** ($/acre)
Stoneville	ST5599BR	1264 a[1]	34.1 c	4.8 b	1.10 b	35.3 b	29.5 e	79.3 c	253	669
Delta and Pine	DP449BR	1250 a	33.5 d	4.8 b	1.12 b	36.0 b	32.5 abc	81.0 ab	350	683
Stoneville	ST4892BR	1220 a	34.9 b	5.2 a	1.11 b	35.6 b	30.7 de	81.3 ab	27	615
Delta and Pine	DP448B	1155 ab	31.4 l	4.3 c	1.12 b	36.3 b	30.3 de	80.0 bc	420	625
Salcot	SCX-7	1061 bc	32.5 f	4.2 c	1.13 b	36.3 b	32.5 abc	80.6 bc	472	581
Buttonwillow	BR303	1017 c	30.3 j	4.6 b	1.22 a	39.0 a	31.9 bcd	81.0 bc	452	587
FiberMax	FM960BR	982 cd	33.3 e	4.6 b	1.09 b	35.3 b	33.2 ab	80.3 bc	413	533
Stoneville	ST5303R	974 dc	31.9 h	4.3 c	1.13 b	36.3 b	32.9 abc	82.3 a	457	551
ACGA	AG3601	966 cd	29.1 k	4.0 d	1.20 a	38.3 a	34.0 a	81.3 ab	485	524
Delta and Pine	DP555BR	955 cd	36.5 a	4.0 d	1.10 b	35.6 b	30.5 de	79.3 c	395	525
FiberMax	FM989BR	885 d	32.0 g	4.7 b	1.10 b	35.6 b	31.3 cd	80.3 bc	373	506
$LSD_{0.05}$[2]		123	--	0.3	0.04	1.0	1.7	1.5		
OSL[3]		0.0001	--	0.0001	0.0001	0.0001	0.0003	0.0127		
CV (%)[4]		8.0	--	3.9	1.9	1.7	3.1	1.1		

[1]Means followed by the same letter are not significantly different according to a Fisher's LSD means separation test.
[2]LSD: Least Significant Difference.
[3]OSL: Observed Significance Level.
[4]CV: Coefficient of Variation.
[5]Average premium or discount applied to the lint based on CCC loan schedule.
[6]Value of lint per acre based on CCC loan schedule of discounts and premiums and assuming a base value of 52.00 cents per pound.

University of Arizona
Cooperative Extension

2003 Upland Cotton Variety Trial Results

Maricopa, AZ

Planting Date 18 APR 2003 | Final Irrigation Date 25 AUG 2003 | Harvest Date 7 NOV 2003
Total Number of Irrigations 11 Irrigations | Total N Applied 180 lbs. N | General Soil Texture Loam

				Fiber Quality						
Company	**Variety**	**Lint Yield** (lbs/Acre)	**Percent Lint**	**Micronaire**	**Fiber Length** (100ths)	**Staple Length** (32nds)	**Fiber Strength** (g/tex)	**Uniformity Index**	**Premium/ Discount[5]** (points)	**Value[6]** ($/acre)
Delta and Pine	DP449BR	1532 a[1]	33.9	5.1 a	1.10 a	35.7 a	32.6 a	80.7 a	120	817
Stoneville	ST5599BR	1430 ab	33.7	5.3 a	1.06 a	34.0 a	29.8 a	80.7 a	-277	704
Delta and Pine	DP448B	1396 ab	32.8	5.0 a	1.08 a	34.3 a	31.4 a	80.7 a	62	734
ACGA	AG3601	1340 bc	30.9	5.3 a	1.11 a	35.7 a	31.6 a	81.0 a	-15	695
Stoneville	ST4892BR	1337 bc	34.8	5.2 a	1.10 a	35.3 a	32.3 a	80.7 a	75	700
Stoneville	ST5303R	1315 bc	32.7	5.1 a	1.08 a	34.7 a	32.1 a	81.3 a	-32	680
Salcot	SCX-7	1307 bc	32.6	5.1 a	1.10 a	35.7 a	31.0 a	80.3 a	148	699
Delta and Pine	DP555BR	1240 cd	36.0	5.0 a	1.10 a	35.3 a	31.7 a	81.0 a	2	645
FiberMax	FM960BR	1133 d	32.9	5.3 a	1.08 a	34.7 a	32.0 a	80.0 a	-107	577
Buttonwillow	BR303	1121 d	29.8	5.2 a	1.11 a	35.3 a	31.7 a	81.7 a	83	595
FiberMax	FM989BR	1098 d	32.2	5.4 a	1.08 a	34.7 a	31.3 a	80.7 a	-148	555
$LSD_{0.05}$[2]		152	--	NS	NS	NS	NS	NS		
OSL[3]		0.0001	--	0.5301	0.7182	0.7361	0.8288	0.5899		
CV (%)[4]		6.9	--	4.7	3.3	3.5	6.3	1.1		

[1]Means followed by the same letter are not significantly different according to a Fisher's LSD means separation test.
[2]LSD: Least Significant Difference.
[3]OSL: Observed Significance Level.
[4]CV: Coefficient of Variation.
[5]Average premium or discount applied to the lint based on CCC loan schedule.
[6]Value of lint per acre based on CCC loan schedule of discounts and premiums and assuming a base value of 52.00 cents per pound.

University of Arizona
Cooperative Extension

2003 Upland Cotton Variety Trial Results

Coolidge, AZ

Planting Date 11 APR 2003 | Final Irrigation Date 1 SEP 2003 | Harvest Date 24 OCT 2003
Total Number of Irrigations 10 Irrigations | Total N Applied 280 lbs. N | General Soil Texture Loam

				Fiber Quality						
Company	**Variety**	**Lint Yield** (lbs/Acre)	**Percent Lint**	**Micronaire**	**Fiber Length** (100ths)	**Staple Length** (32nds)	**Fiber Strength** (g/tex)	**Uniformity Index**	**Premium/ Discount[5]** (points)	**Value[6]** ($/acre)
Delta and Pine	DP448B	1475 a[1]	34.6	4.9cdef	1.11 de	35.5 bcd	29.8 de	80.0 ef	230	801
Delta and Pine	DP555BR	1465 ab	37.5	4.6 f	1.12 bcd	36.5 ab	30.6 cd	80.2 def	371	815
Stoneville	ST5599BR	1456 ab	35.9	5.3 ab	1.06 g	34.0 e	29.2 e	79.5 f	-289	716
Delta and Pine	DP449BR	1450 ab	34.4	4.7 ef	1.22 bcd	36.0 abc	31.9 bc	81.0 bcd	789	825
Stoneville	ST4892BR	1384 bc	36.9	5.5 a	1.08 fg	34.7 de	29.6 de	81.0 bcd	-154	699
Salcot	SCX-7	1363 c	33.0	4.7 ef	1.14 bc	36.5 ab	32.6 ab	81.0 bcd	496	776
Stoneville	ST5303R	1342 c	34.0	5.2 abc	1.11 cde	36.0 abc	32.8 ab	82.7 a	41	704
Buttonwillow	BR303	1334 c	31.5	4.7 def	1.19 a	37.0 a	32.8 ab	81.7 b	300	734
ACGA	AG3601	1190 d	30.7	5.1 bcd	1.15 b	37.0 a	33.8 a	81.2 bc	294	656
FiberMax	FM960BR	1189 d	34.0	5.0 bcde	1.09 efg	35.0 cde	33.1 ab	81.5 b	109	631
FiberMax	FM989BR	1147 d	32.4	5.0 bcde	1.10 def	35.7 bcd	32.1 b	80.5 cde	189	617
$LSD_{0.05}$[2]		82	--	0.4	0.03	1.2	1.3	0.9		
OSL[3]		0.0001	--	0.0001	0.0001	0.0002	0.0001	0.0001		
CV (%)[4]		4.2	--	5.0	1.7	2.3	2.8	0.7		

[1]Means followed by the same letter are not significantly different according to a Fisher's LSD means separation test.
[2]LSD: Least Significant Difference.
[3]OSL: Observed Significance Level.
[4]CV: Coefficient of Variation.
[5]Average premium or discount applied to the lint based on CCC loan schedule.
[6]Value of lint per acre based on CCC loan schedule of discounts and premiums and assuming a base value of 52.00 cents per pound.

University of Arizona
Cooperative Extension

2003 Upland Cotton Variety Trial Results

Marana, AZ

Planting Date	9 APR 2003	Final Irrigation Date	25 AUG 2003	Harvest Date	30 OCT 2003
Total Number of Irrigations	8 Irrigations	Total N Applied	136 lbs. N	General Soil Texture	Clay loam

				Fiber Quality						
Company	**Variety**	**Lint Yield** (lbs/Acre)	**Percent Lint**	**Micronaire**	**Fiber Length** (100ths)	**Staple Length** (32nds)	**Fiber Strength** (g/tex)	**Uniformity Index**	**Premium/ Discount[5]** (points)	**Value[6]** ($/acre)
Delta and Pine	DP449BR	1230 a[1]	35.1 d	5.2 bc	1.09 bc	35.0 cd	29.3 bc	80.2 cde	-19	637
Stoneville	ST5599BR	1223 a	36.9 b	5.2 bc	1.06 c	34.2 de	28.7 bc	80.7 bcd	-72	624
Stoneville	ST5303R	1220 a	34.9 e	5.4 a	1.06 c	34.0 e	29.8 bc	81.7 a	-298	598
Delta and Pine	DP448B	1185 ab	32.7 h	5.0 ef	1.07 bc	34.7 cde	27.4 d	79.7 e	228	643
Delta and Pine	DP555BR	1144 b	38.7 a	5.0 de	1.07 bc	24.7 cde	27.5 d	78.5 f	-6	594
Salcot	SCX-7	1127 bc	32.9 g	4.9 f	1.10 b	35.5 bc	30.0 bc	80.0 ed	434	635
FiberMax	FM960BR	1125 bc	35.6 c	5.1 cd	1.10 b	35.0 cd	31.4 a	81.0 abc	50	591
ACGA	AG3601	1065 cd	32.9 g	5.2 b	1.13 a	36.2 ab	31.8 a	81.2 ab	0	554
Buttonwillow	BR303	1050 d	33.0 f	5.0 de	1.15 a	37.0 a	30.5 ab	80.0 de	176	564
$LSD_{0.05}$[2]		67	--	0.1	0.03	0.9	1.4	0.9		
OSL[3]		0.0001	--	0.0001	0.0001	0.0001	0.0001	0.0001		
CV (%)[4]		3.4	--	1.6	1.8	1.7	3.3	0.8		

[1]Means followed by the same letter are not significantly different according to a Fisher's LSD means separation test.
[2]LSD: Least Significant Difference.
[3]OSL: Observed Significance Level.
[4]CV: Coefficient of Variation.
[5]Average premium or discount applied to the lint based on CCC loan schedule.
[6]Value of lint per acre based on CCC loan schedule of discounts and premiums and assuming a base value of 52.00 cents per pound.

University of Arizona
Cooperative Extension

2003 Upland Cotton Variety Trial Results

Thatcher, AZ

Planting Date	28 APR 2003	Final Irrigation Date	26 SEP 2003	Harvest Date	30 OCT 2003
Total Number of Irrigations	7 Irrigations	Total N Applied	83 lbs. N	General Soil Texture	Clay loam

				Fiber Quality						
Company	**Variety**	**Lint Yield** (lbs/Acre)	**Percent Lint**	**Micronaire**	**Fiber Length** (100ths)	**Staple Length** (32nds)	**Fiber Strength** (g/tex)	**Uniformity Index**	**Premium/ Discount[5]** (points)	**Value[6]** ($/acre)
FiberMax	FM991BR	1690 a[1]	36.0 a	4.3 a	1.10 a	35.2 a	32.6 a	81.2 ab	85	864
Stoneville	ST5303R	1661 a	35.8 a	4.4 a	1.04 a	33.5 a	30.3 a	80.0 abc	81	877
Delta and Pine	DP655BR	1661 ab	35.0 a	4.4 a	1.07 a	34.5 a	30.5 a	80.5 abc	334	920
FiberMax	FM991R	1632 abc	34.1 a	4.5 a	1.05 a	33.5 a	28.8 a	79.0 c	430	952
Delta and Pine	DP5690R	1618 abc	35.5 a	4.7 a	1.07 a	34.5 a	30.9 a	81.2 ab	281	886
Delta and Pine	DP555BR	1593 abc	36.0 a	4.4 a	1.06 a	34.2 a	30.1 a	79.7 bc	231	863
Salcot	SCX-7	1517 bcd	33.9 a	4.4 a	1.08 a	34.5 a	31.0 a	80.0 abc	360	844
Delta and Pine	DP449BR	1496 cde	34.8 a	4.3 a	1.10 a	35.2 a	31.7 a	81.5 ab	423	841
ACGA	AG3601	1398 def	32.3 a	5.1 a	1.08 a	34.5 a	32.0 a	81.0 ab	-13	725
Stoneville	ST5599BR	1395 def	34.8 a	4.3 a	1.07 a	33.5 a	30.8 a	80.2 abc	280	766
CPCSD	Riata	1363 ef	35.5 a	4.7 a	1.08 a	34.5 a	31.8 a	81.7 a	354	757
FiberMax	FM989BR	1292 f	32.3 a	4.3 a	1.08 a	34.7 a	31.9 a	81.5 ab	380	721
$LSD_{0.05}$[2]		144	NS	NS	NS	NS	NS	1.8		
OSL[3]		0.0001	0.1218	0.0797	0.1035	0.2394	0.1690	0.0488		
CV (%)[4]		6.0	5.0	5.4	2.5	2.7	5.2	1.4		

[1]Means followed by the same letter are not significantly different according to a Fisher's LSD means separation test.
[2]LSD: Least Significant Difference.
[3]OSL: Observed Significance Level.
[4]CV: Coefficient of Variation.
[5]Average premium or discount applied to the lint based on CCC loan schedule.
[6]Value of lint per acre based on CCC loan schedule of discounts and premiums and assuming a base value of 52.00 cents per pound.

University of Arizona
Cooperative Extension

2003 Upland Cotton Variety Trial Results

Kansas Settlement, AZ

Planting Date 10 APR 2003 | Final Irrigation Date 10 SEP 2003 | Harvest Date 11 NOV 2003

Total Number of Irrigations Center Pivot | Total N Applied 104 lbs. N | General Soil Texture Sandy loam

				Fiber Quality						
Company	**Variety**	**Lint Yield** (lbs/Acre)	**Percent Lint**	**Micronaire**	**Fiber Length** (100ths)	**Staple Length** (32nds)	**Fiber Strength** (g/tex)	**Uniformity Index**	**Premium/ Discount[5]** (points)	**Value[6]** ($/acre)
FiberMax	FM991BR	1112 a[1]	36.3	3.9	1.12	36.0	32	81.0	505	634
FiberMax	FM991R	999 ab	35.7	3.8	1.11	36.0	31	79.0	415	561
Stoneville	ST5303R	907 bc	38.3	4.5	1.07	34.0	31	83.0	300	497
Stoneville	ST5599BR	879 bc	37.5	3.8	1.03	33.0	28	80.0	300	451
Salcot	SCX-7	855 bcd	35.5	3.6	1.09	35.0	30	81.0	400	479
FiberMax	FM989BR	848 bcd	37.2	4.1	1.00	32.0	27	79.0	-280	417
CPCSD	Riata	817 cd	37.7	4.0	1.12	36.0	32	82.0	505	466
NMSU	1517-99	798 cde	32.7	3.8	1.16	37.0	33	82.0	535	458
CPCSD	Nova	793 cde	37.2	4.5	1.11	36.0	33	83.0	525	454
CPCSD	Sierra	735 cde	34.6	4.0	1.12	36.0	31	82.0	5105	419
Delta and Pine	DP451BR	709 de	32.9	4.1	1.06	34.0	27	80.0	235	385
ACGA	AG3601	697 de	33.0	3.7	1.07	34.0	31	97.0	260	381
Delta and Pine	PM1199R	687 de	36.2	4.6	1.06	34.0	28	83.0	215	372
NMSU	1517-95	632 e	32.7	4.0	1.42	37.0	33	83.0	540	363
$LSD_{0.05}$[2]		170	--	--	--	--	--	--		
OSL[3]		0.0001	--	--	--	--	--	--		
CV (%)[4]		15.0	--	--	--	--	--	--		

[1]Means followed by the same letter are not significantly different according to a Fisher's LSD means separation test.
[2]LSD: Least Significant Difference.
[3]OSL: Observed Significance Level.
[4]CV: Coefficient of Variation.
[5]Average premium or discount applied to the lint based on CCC loan schedule.
[6]Value of lint per acre based on CCC loan schedule of discounts and premiums and assuming a base value of 52.00 cents per pound