



# California Cotton Review

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## In This Issue

Farm Advisor / Specialist Approved Acala Variety Trial Yields  
 California Uplands Advanced Strains Variety Trial Yields  
 Farm Advisor / Specialist Pima Variety Trial Yields  
 San Joaquin Valley Cotton Board Trial Yields  
 Announcements

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**FARM ADVISOR AND SPECIALIST VARIETY TRIALS:  
 APPROVED ACALA TRIALS, CA UPLANDS TRIALS — 2003**  
**Bob Hutmacher, Ron Vargas, Bruce Roberts, Brian Marsh, Steve Wright,  
 Dan Munk, Mark Keeley, Raul Delgado, Shane Ball**

In the San Joaquin Valley production area, a broad range of variety options exist for growers, including Approved Acalas and Pimas plus a wide range of CA Upland and even a few CA Pima varieties. This issue of the *CA Cotton Review* provides the primary yield data summaries for the "Approved Acala", "Pima", "CA Uplands Advanced Strains" trials run by the UCCE Farm Advisors, Specialists and staff, plus a brief summary of yield data from SJV Cotton Board / UC variety trials. Most of these include large field trials with growers. However, due to what we perceived as reduced levels of interest in CA Upland varieties in the past two years, we only ran relatively small scale trials with CA Uplands.

The lint yield data across locations plus over-location averages for gin turnouts are summarized for the following trials in this issue of the *California Cotton Review*:

- Approved Acala variety trials
- CA Upland Advanced Strains trials
- Pima variety trials
- SJV Cotton Board / UC variety trials (yield data summaries from Dr. Shane Ball's program)

The information that follows is by no means a comprehensive presentation of all available data from these variety trials. Information on HVI lint quality in the Farm Advisor/Specialist trials will be available sometime between late-January and mid-February on the UCCE cotton web site: (<http://cottoninfo.ucdavis.edu>), and more detailed information can be obtained on individual test plot sites by contacting your county UC Cooperative Ex-

tension Farm Advisor. The methods used to determine entries in the Approved Acala and CA Uplands trials were reviewed in the Jan. 2002 issue of the *CA Cotton Review* (older issues are available on the web site), so will not be reviewed here. Nine Approved Acala varieties were planted in UCCE variety trials at 8 locations in 2003, 6 of them in large grower fields in Kern, Tulare, Kings, Fresno, Madera and Merced Counties. At 2 locations at the West Side and Shafter Research and Extension Centers, the Approved Acala variety trials also added two CA Upland varieties for yield comparisons. Planting date, soil type and management practices varied across locations and with grower choices.

Approved Acala variety trial yield and gin turnout summaries for 2003 are in Table 1, while Table 2 shows a long-term summary of Acala variety yield performance during the period of 1994 through 2003, using data from both Farm Advisor and SJV Cotton Board trials. Table 3 shows results from small-plot CA Upland variety trials which were conducted in 2003 to maintain an ongoing UCCE evaluation of newly available Upland varieties.

This information can be compared with prior year variety trial information by viewing January or February *CA Cotton Review* issues from earlier years on the website. As in prior years, the recommendation stands that you should consider variety trial results only as a relative indicator of yield performance. Consider planting at least several varieties to get a better handle on performance and potential problems in your own fields under your own preferred management practices.

Table 1. **APPROVED ACALA VARIETY TRIALS (Farm Advisors & Specialist Trials) – 2003.** Lint yields, gin turnouts, statistical analyses in 2003 Acala Approved Variety Trials (9 Approved Acala entries at 8 locations). For comparison purposes, the CA Upland varieties Delta and Pine Land Co. "DP-5415 RR" and Bayer Fibermax "FM-989 BR" were also included in the Shafter and West Side REC trial locations (*UCCE Cooperators: Hutmacher, Vargas, Roberts, Wright, Munk, Marsh, Keeley, Delgado in grower/cooperator fields and fields at the West Side and Shafter Research & Extension Centers*). *Appreciation is extended to Dr. Shane Ball and the San Joaquin Valley Cotton Board for assistance with harvest operations at several of the field sites.*

Seed Company	Variety	Lint Yields at Specific Test Plot Locations—row spacings as shown								Average Lint Yield		Average Gin Turn-out (%)
		40" rows Shafter REC	40" rows West Side REC	40" Rows Kern County	40" Rows Kings County	30" Rows Tulare County	40" Rows Fresno County	30" Rows Madera County	30" Rows Merced County	Across all Sites	As % of variety Maxxa	
		(lbs/ac)	(lbs/ac)	(lbs/ac)	(lbs/ac)	(lbs/ac)	(lbs/ac)	(lbs/ac)	(lbs/ac)	(lbs/ac)		
CPCSD	Maxxa	1357	991	1522	1222	1258	1188	1303	1654	1312	100	33.9
Phytogen	Phy-72	1781	1362	1648	1463	1456	1484	1394	1863	1556	119	32.7
CPCSD	Riata RR	1583	1190	1547	1339	1422	1319	1431	1744	1447	110	34.5
CPCSD	Ultima	1572	994	1511	1275	1282	1155	1312	1669	1346	103	35.1
Delta and Pine Land	DP-6207	1517	1188	1519	1330	1280	1487	1365	1702	1424	109	32.9
Delta and Pine Land	DP-6100 RR	1491	1089	1372	1226	1130	1312	1150	1516	1286	98	31.4
Phytogen	Phy-78	1609	1662	1513	1423	1478	1675	1378	1849	1573	120	32.3
CPCSD	Summit	1339	1107	1603	1266	1322	1178	1366	1632	1352	103	34.7
CPCSD	Sierra RR	1571	1313	1513	1319	1291	1386	1351	1696	1430	109	34.0
<b>Mean</b>		<b>1536</b> (above Acalas only)	<b>1211</b> (above Acalas Only)	<b>1528</b>	<b>1318</b>	<b>1324</b>	<b>1354</b>	<b>1339</b>	<b>1703</b>	<b>1414</b> (above Acalas only)	108	<b>33.5</b>
Bayer Fibermax	FM-989 BR	1444	966	-	-	-	-	-	-	1205* (only 2 sites)	103* (only 2 sites)	34.3*
Delta and Pine Land Co.	DP-5415 RR	1603	1320	-	-	-	-	-	-	1462* (only 2 sites)	126* (only 2 sites)	34.5*
LSD 0.05		138	126	82	46	69	123	79	89	32		0.3
C.V. (%)		6.2	7.3	3.7	2.4	3.6	6.2	4.0	3.6	4.4		1.5
Probability (P)		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000

\* data from these varieties not included in over-location averages or statistics LSD = least significant difference between yields required to be significantly different at the 5% level of significance; C.V. = coefficient of variation; P = probability VARIETY by LOCATION (for yields) : LSD (0.05) = 151; C.V. (%) = 7.6; P = 0.000 VARIETY by LOCATION (for gin turnout): LSD (0.05) = 0.8; C.V. = 1.8; P = 0.000

**NOTE :** STATISTICS SHOWN BELOW EACH COLUMN (trial site) APPLY TO ALL VARIETIES GROWN AT THAT LOCATION—HOWEVER, STATISTICS FOR ALL-LOCATION AVERAGES WERE CALCULATED USING ONLY THE FIRST 9 ENTRIES SHOWN ON THE TABLE (did not include the two CA Upland entries at the two locations where they were grown (Shafter and West Side REC)

Table 2. **APPROVED ACALA TRIALS (Farm Advisor / Specialist / SJVCB)**. Lint yields of Approved Acala varieties (1994 - 2003) (as % of Maxxa yield). Yields were evaluated at 7 to 8 locations per year in either Farm Advisor / Specialist trials or San Joaquin Valley Cotton Board (SJVCB) trials. Values shown in *“italics”* and outlined are from SJVCB tests in years prior to approval of variety. All other values shown were determined in "Approved Acala" variety trials of the University of CA Cooperative Extension Farm Advisors and Specialist. "Blank" areas in the table indicate that the varieties were not included in tests (either because they were not yet released (more recent varieties) or because acreage was limited and earlier testing had been done (older varieties)).

Variety Name or Number	Lint Yields Across All Variety Trial Sites <i>(as a percent of average yields of the variety “Maxxa”)</i>										Average Yields During Period 1994 – 2003 <i>(as percent of yields of the variety “Maxxa” within each set of locations)</i>				
											Shafter, Kern & Tulare Co. sites	West Side REC, Fresno & Kings Co.	Madera and Merced Co. sites	Average Across All Trial Sites	
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003					
Maxxa	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
SJ-2	94	99	99	97	98	98	105					103	97	96	99
Phy-33	<i>97</i>	<i>102</i>	102	103	105	101	105	107				109	102	96	103
DP-6211 **			<i>104</i>	<i>103</i>	104	99	105	103				106	104	98	103
DP-6207				<i>104</i>	<i>106</i>	102	108	106	100	109		106	107	101	105
C-141 Ultima		<i>99</i>	<i>103</i>	98	102	98	102	105	100	103		104	103	96	101
GTO Maxxa		<i>104</i>	<i>102</i>	106	104	104	108	104	105			108	107	98	105
GC-500 **		<i>94</i>	<i>93</i>	99	100	102	101	100				100	99	96	99
BR-9605				<i>98</i>	<i>97</i>	100	102					101 *	101 *	96 *	99 *
CPCSD-GLS				<i>96</i>	<i>89</i>	97	100					98 *	94 *	94 *	95 *
GC-505 **					<i>102</i>	<i>99</i>	107	100				104 *	103 *	103 *	103 *
Riata RR					<i>101</i>	<i>106</i>	112	105	101	110		107	106	104	106
C-181 Nova					<i>102</i>	<i>101</i>	<i>98</i>	98	93			99 *	98 *	96 *	99 *
Phy-72					<i>119</i>	<i>109</i>	<i>109</i>	119	109	119		118	114	105	114
OA-249						<i>101</i>	<i>103</i>					98 ***			
GC546 RR					<i>95</i>	<i>93</i>				90		94 *	92 *	91 *	93 *
Phy-78							<i>111</i>	<i>105</i>	105	120		110 *	112 *	108 *	110 *
DP 6100RR					<i>100</i>	<i>92</i>	<i>Not in test</i>	<i>94</i>	94	98		101 *	97 *	84 *	96 *
C-192 Summit							<i>105</i>	<i>107</i>	100 ***	104		104 *	104 *	104 *	104 *
C-104 Sierra RR								<i>109</i>	<i>105</i>	109		107 *	113 *	103 *	108 *
<b>Average Yield in tests (lbs lint/ac)</b>	<b>1227</b>	<b>935</b>	<b>1354</b>	<b>1482</b>	<b>1092</b>	<b>1551</b>	<b>1495</b>	<b>1326</b>	<b>1803</b>	<b>1414</b>					

\* = less than 6 years of test results

\*\* = varieties no longer widely available

\*\*\* = not grown at all test sites in 2002

Table 3. CALIFORNIA UPLANDS ADVANCED STRAINS (Farm Advisors & Specialist Trials) – 2003. Lint yields (in lbs/acre and as % of Approved Acala variety “Phytogen-72”) by test location and average gin turnout for each variety in *2003 California Upland Advanced Strains Variety Trial* (2 locations with 2 Acala varieties (Phytogen-72 and CPCSD “Sierra”) and 21 California Upland varieties). (UCCE Cooperators: R. Hutmacher, B. Marsh, M. Keeley, R. Delgado, S. Ball, F. Leal, E. Scott and J. Ross in fields at the UC Shafter & West Side Research & Extension Centers).

Seed Company Or Breeder	Variety Name or Number	40" rows Shafter REC (Kern County) Lint Yields		40" rows West Side REC (Fresno Co.) Yields		Average Lint Yields Across 2 Locations		Average Gin Turn-out Across Two locations (%)
		(lbs lint per acre)	(as % of Phy-72 Yield)	(lbs lint per acre)	(as % of Phy-72 Yield)	(lbs lint per acre)	(as % of Phy-72 Yield)	
Phytogen	Phytogen-72 (Acala for comparison)	1487	100.0	1058	100.0	1273	100.0	33.0
CPCSD	Sierra (Acala variety for comparison)	1351	90.9	981	92.7	1166	91.6	33.6
Bayer / Fibermax	FM-960 BR	1400	94.1	1249	118.1	1325	104.1	33.5
Bayer / Fibermax	FM-989 BR	1350	90.8	1025	96.9	1188	93.3	33.1
Bayer / Fibermax	FM-989 RR	1295	87.1	922	87.1	1109	87.1	34.0
Bayer / Fibermax	FM-991 RR	1338	90.0	783	74.0	1061	83.3	32.5
Stoneville	STX-0202 B2R	1245	83.7	1109	104.8	1177	92.5	31.9
Stoneville	STX-0203 BR	1600	107.6	1530	144.6	1565	122.9	34.6
Stoneville	STX-0204 BR	1443	97.0	1193	112.8	1318	103.5	32.5
Stoneville	ST-5303 R	1352	90.9	1221	115.4	1287	101.1	33.9
Stoneville	ST-5599 BR	1235	83.1	1406	132.9	1321	103.8	32.7
Olvey & Assoc.	OAX-300 BR	1556	104.6	1484*	140.3*	1520*	119.4	34.9 *
Olvey & Assoc.	OAX-303	1302	87.6	1179	111.4	1241	97.5	35.4
Olvey & Assoc.	OA-85	1541	103.6	1531	144.7	1536	120.7	35.7
Delta & Pine Land Seed Company	DPLX-03X177 R	1115	75.0	969	91.6	1042	81.9	34.1
Delta & Pine Land Seed Company	DP-444 BR	1374	92.4	1477	139.6	1426	112.0	34.6
Delta & Pine Land Seed Company	DP-493	1366	91.9	985	93.1	1176	92.4	34.6
Delta & Pine Land Seed Company	DP-555 BR	1456	97.9	1002	94.7	1229	96.5	35.2
Delta & Pine Land Seed Company	DP-5415 RR	1375	92.5	1020	96.4	1198	94.1	33.6
CPCSD	FM-20415-167	1359	91.4	981	92.7	1170	91.9	31.6
CPCSD	FM-20414-97	1391	93.5	1095	103.5	1243	97.6	33.3
CPCSD	FM-20414-213	1343	90.3	979	92.5	1161	91.2	33.0
CPCSD	FM-20414-214	1313	88.3	958	90.5	1136	89.2	33.7
<b>Average</b>		<b>1373</b>		<b>1121</b>		<b>1247</b>		<b>33.7</b>
LSD (0.05)		153		144		108		0.6
C.V. (%)		7.9		9.1		8.7		1.9

\* 2 reps of this variety at West Side site treated as missing plots due to planter problem in one row out of four planted rows in those plots  
 VARIETY by LOCATION interaction (for yields): LSD( 0.05) = 150; C.V. = 8.5 %; P = 0.000

**Approved Acala Trials—2003.** Average lint yields in Approved Acala trials were 1414 lbs per acre in 2003. This compares with across-site averages of 1625 lbs/acre (2002), 1326 lbs/acre (2001), 1495 lbs/acre (2000), 1552 lbs/acre (1999), 1092 lbs/acre (1998), 1525 lbs/acre (1997), 1353 lbs/acre (1996) and 935 lbs/acre in 1995.

Of the Approved Acalas in the eight-location analysis (Table 1), 7 out of the 8 varieties had significantly higher (LSD, 0.05) yields than the Approved Acala SJV Cotton Board standard “Maxxa” averaged across eight sites. These 7 varieties were Phytogen-78 at 120% of Maxxa yields (261 lbs/acre higher than Maxxa average lint yields), Phytogen-72 at 119% (244 lbs/acre higher), CPCSD-Riata at 110% (135 lbs/acre higher), CPCSD-Sierra at 109% (118 lbs/acre higher), Delta and Pine Land DP-6207 at 109% (112 lbs/acre higher), CPCSD Summit at 103% (40 lbs/acre higher), and CPCSD Ultima at 103% (34 lbs/acre higher).

The two CA Upland varieties we selected to include in the Approved Acala variety trials at the Shafter and West Side REC sites for comparison purposes were a Roundup-Ready entry (Delta and Pine Land DP-5415 RR) and a stacked gene Roundup-Ready and Bt variety (Bayer/Fibermax FM-989 BR). At the two sites where

these varieties were included in comparisons with Acalas, DP-5415 RR averaged 126 percent of Maxxa yields, while FM-989 BR averaged 103 percent of Maxxa yields. To keep yield data in perspective, it can be useful to look at long-term relative yield performance. Table 2 shows lint yields (as a % of variety “Maxxa” yields) during the period from 1994 through 2003. Although the regional grouping of data shown in Table 2 is somewhat arbitrary, the analysis shows some regional differences in yields that may be worth your consideration.

### **CA Upland Advanced Strains Trials—2003.**

Objectives in these trials were to extend the data base for yield performance and quality characteristics of “CA Upland” varieties available to SJV growers. All of these varieties (and many more) are potentially available to SJV growers, depending upon interest and seed availability. HVI fiber quality averages for varieties included in the trials in 2003 will be available on the UCCE cotton web site in mid-February, and quality data from prior years is already posted on that web site. Yields shown in Table 3 indicated that four varieties had significantly higher yields than the high-yielding Acala “Phytogen-72”, Stoneville STX-0203 BR (123% Phy-72), OA-85 (121% of Phy-72), OAX-300 BR (119% Phy-72) and DP-444 BR at 112% of Phytogen-72 average yields.

**FARM ADVISOR / SPECIALIST  
PIMA VARIETY TRIALS — 2003**  
**Bob Hutmacher, Dan Munk, Bruce Roberts,  
Brian Marsh, Ron Vargas, Steve Wright,  
Mark Keeley, Raul Delgado**

The information that follows is by no means a comprehensive presentation of all available data from these variety trials. Information on HVI lint quality in the Farm Advisor/Specialist trials will be available by early to mid-February on the UCCE cotton web site: (<http://cottoninfo.ucdavis.edu>), and more detailed information on individual county test plot sites can be obtained by contacting your county UCCE Farm Advisor.

Five Approved Pima varieties and one CA Pima (actually an Upland/Pima hybrid from Hazera Seed Co.) were planted in UCCE Pima variety trials in 2003. We made the choice to plant the Hazera hybrid within the tests this year based on grower interest and the strong yield performances seen in two years of SJV Cotton Board trials in 2001 and 2002. Six trial locations were planted in 2003, 4 of them in large grower fields in Kern, Kings, Fresno, and Merced Counties, plus 2 locations at the West Side and Shafter Research and Extension Centers. Planting date,

soil type and management practices varied across locations and with grower preferences for specific management practices. Pima variety trial yield and gin turnout summaries for 2003 are shown in Table 4, plus a summary of Pima variety yield performance during the period of 1998 through 2003, using data from both UCCE and San Joaquin Valley Cotton Board trials. This information can be compared with prior year variety trial information by viewing January or February *CA Cotton Review* issues from earlier years on the UC cotton web site.

Four varieties included in the 2003 Pima tests had yield averages across 6 sites that were significantly higher than the SJV Cotton Board Pima “standard” variety “S-7”. DP-744 had yields averaging 105 percent of “S-7” (62 lbs /acre higher), Phytogen-76 averaged 107 percent (84 lbs/acre higher), DP-340 averaged 108 percent (94 lbs/acre higher), while the hybrid Hazera HA-195 averaged 146 percent of average S-7 yields (515 lbs/acre higher). While the magnitude of yield differences across varieties differed with location, HA-195 had yields significantly higher than all other varieties in the test at four out of the six locations. Data from our 2003 trials is similar to the relative yield performance noted for this variety in 2001 and 2002 SJV Cotton Board tests as shown in Table 4.

Table 4. **PIMA VARIETY TRIALS (Farm Advisor & Specialist Trials) - 2003.** Lint yields (in lbs/acre) by test location and average gin turnout across all locations. Average lint yields across all sites are expressed as pounds of lint per acre and as percent of yield average for variety “S-7” (the SJV Cotton Board Approved Pima “standard”). Statistics shown are as described in table footnote. Average yields across locations shown in bold italics and underlined are from SJV Cotton Board tests in years prior to 2003 (Dr. Shane Ball, UC-Shafter REC, Coordinator). *UCCE Cooperators: Hutmacher, Vargas, Roberts, Wright, Munk, Marsh, Keeley, Delgado in grower/cooperator fields; Shane Ball and staff in SJVCB tests; staff at the West Side and Shafter Research & Extension Centers).*

Seed Company	Variety	Lint Yields at Specific Test Plot Locations (in lbs / acre) <i>Row spacings also shown</i>						Average Lint Yield (lbs / acre)	Average Gin Turnout (%)	Average Lint Yields by Year of Trial (as a % of variety “S-7” yields)					
		40" rows Shafter REC	40" rows West Side REC	38" rows Kern Co.	38" rows Kings Co.	30" rows Fresno Co.	30" rows Merced Co.			1998	1999	2000	2001	2002	2003
Public variety	S-7	1093	1324	876	1276	1103	1098	<b>1128</b>	<b>31.2</b>	100	100	100	100	100	<b>100</b>
Phytogen Seed Co.	<b>Phy-76</b>	1206	1335	1054	1375	1067	1232	<b>1212</b>	<b>30.6</b>	<u>97</u>	<u>99</u>	<u>98</u>	102	121	<b>107</b>
Delta & Pine Land	<b>DP-744</b>	1116	1381	1024	1568	1039	1013	<b>1190</b>	<b>31.8</b>	<u>110</u>	92	110	104	116	<b>105</b>
Delta & Pine Land	<b>DP-340</b>	1239	1478	907	1489	1143	1075	<b>1222</b>	<b>31.7</b>	<u>107</u>	<u>111</u>	<u>104</u>	106	114	<b>108</b>
Delta & Pine Land	<b>DP-HTO</b>	1018	1417	901	1354	1049	1070	<b>1135</b>	<b>33.4</b>	102	95	104	96	100	<b>101</b>
Hazera Seed Co.	<b>HA-195</b>	1791	1851	1502	1525	1262	1927	<b>1643</b>	<b>32.0</b>	- *	- *	- *	<u>170</u>	<u>159</u>	<b>146</b>
<b>Mean</b>		1244	1464	1044	1431	1111	1236	<b>1255</b>	<b>31.8</b>						
<b>LSD 0.05</b>		97	151	58	106	137	59	54	0.4						
<b>C.V.(%)</b>		5.2	6.8	3.7	4.9	8.2	3.2	7.0	2.2						
<b>P</b>		0.000	0.000	0.000	0.000	0.032	0.000	0.000	0.000						

\* not included in UCCE or SJVCB tests these years C.V. = coefficient of variation; P = probability at 5% level of significance; LSD = least significant difference (means differing by this amount or more are significantly different).

VARIETY BY LOCATION interaction (for yields): LSD (0.05) = 154; C.V. = 8.7%; P = 0.000

VARIETY BY LOCATION interaction (for gin turnout): LSD (0.05) = 0.8; C.V. = 1.9%; P = 0.000

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**SPECIAL THANKS** to the many growers, seed companies and their representatives, and others who helped with these variety trials and other field studies again in 2003, and to the Cotton Incorporated State Support Committee (Acala Trials) and Supima Association (Pima trials) for partial support of variety trials. These trials take up considerable space and require grower cooperators to change field operations and provide equipment to accommodate these studies. Your help and patience assist in providing information to the CA cotton industry, and your extra efforts are very much appreciated !  
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**SAN JOAQUIN VALLEY COTTON BOARD  
ON-FARM VARIETY TESTING PROGRAM**

**Shane T. Ball and Debra Andreotti**

On March 4, 2003, one Acala variety was approved by the San Joaquin Valley Cotton Board (SJVCB) and released for commercial production in 2003:

- C-104 (marketed as “Sierra”) from California Planting Cotton Seed Distributors

Sierra was a high-yielding, Roundup-Ready herbicide-resistant Acala variety. It averaged 1,659 pounds of lint per acre in the SJVCB tests in 2003, which was 119 pounds per acre more than the Acala standard, Maxxa. Its key beneficial trait is resistance to the herbicide glyphosate. In 2003, nine on-farm variety trials (four Acala, three Pima, two A1-screening) totaling about 201 acres were planted in the San Joaquin Valley. A total of 10 Acala and 11 Pima varieties, as well as 16 advanced-generation lines were planted on commercial fields in Randomized Complete Block (RCB) designs with four replicates.

**Acala Tests—2003.** The Acala lint yields for the 2003 growing season were from 10 varieties grown at four locations (Table 1). Generally, the yields ranged from good to very good, averaging 147 lbs lint per acre (1511 lbs lint/acre) lower than the average obtained across all trials and varieties in 2002. The highest yielding Acala variety was Olvey and Associates (O & A’s) OA-265, which averaged 1643 lbs lint per acre. At the highest yielding location near Los Banos in Merced County, four varieties yielded 1700 lbs per acre or more (>3.4 bales per acre). Five of the varieties have completed the third year of testing (C-101, C-201, OA-262RR, OA-265BR, OA-270) and will be eligible to be considered for approval by the Board at their March 2, 2004 meeting. Some top-yielding varieties include O&A’s OA-265 (273 lbs/acre > Maxxa) and OA-270 (258 lbs/acre > Maxxa) and CPCSD’s C-702 (226 lbs/acre > Maxxa). The Acala gin turnouts ranged from 31.6% (OA-262) to 37.6% (C-402) as shown in Table 1. Of the five varieties up for approval, all had gin turnouts that were either comparable to or significantly lower ( $P \geq 0.05$ ) compared to the standard, Maxxa (33.9%).

**Table 1.** Acala lint yields (in lbs per acre) in the San Joaquin Valley Cotton Board on-farm variety trials by location in 2003. Also shown are mean lint yield and mean gin turnout calculated across all sites.

Entry #	Variety	Mean Lint Yield (lbs/ac)	Location of Trial—2003 Lint Yields (lbs lint per acre)				Mean Gin Turnout (%)
			Five Points	Los Banos	Mendota	Waukena	
1	OA-265	1643 a	1556 a	1623 cd	1614 a	1781 a	32.2 f
2	OA-270	1628 ab	1490 ab	1821 a	1508 b	1692 abc	32.2 f
3	C-702	1596 b	1445 b	1722 b	1547 ab	1669 bcd	35.9 b
4	C-402	1541 c	1221 de	1715 bc	1520 b	1708 ab	37.6 a
5	C-602	1506 cd	1321 c	1721 b	1433 cd	1549 e	33.6 e
6	OA-262	1486 de	1275 cd	1528 e	1535 b	1606 cde	31.6 g
7	Summit	1470 de	1237 cd	1683 bc	1370 de	1590 de	34.6 c
8	C-101	1455 ef	1295 cd	1537 de	1434 cd	1555 e	32.5 f
9	C-201	1416 f	1104 f	1655 bc	1480 bc	1427 f	34.2 cd
10	Maxxa	1370 g	1144 ef	1622 cd	1310 e	1404 f	33.9 de
<b>Mean</b>		<b>1511</b>	<b>1309</b>	<b>1663</b>	<b>1475</b>	<b>1598</b>	<b>33.8</b>
<b>Standard Deviation</b>		184	154	109	104	132	2.2
<b>Least Significant Difference (LSD) (0.05)</b>		42	89	93	72	92	0.4
<b>Coefficient of Variation (C.V.) (%)</b>		4	5	4	3	4	2

**Table 2.** Pima trial lint yields (in lbs per acre) in the San Joaquin Valley Cotton Board on-farm variety trials by location in 2003. Also shown are mean lint yield and mean gin turnout calculated across all sites.

Entry #	Variety	Mean Lint Yield (lbs/ac)	Location of Trial—2003 Lint Yields (lbs lint per acre)			Mean Gin Turnout (%)	Location of Trial—2003 Gin Turnout (percent)		
			Corcoran	Huron	Los Banos		Corcoran	Huron	Los Banos
1	OA-356	1426 a	1218 a	1809 b	1249 a	32.2 a	33.1 a	31.0 abcd	32.5 ab
2	OA-353	1422 a	1136 ab	1928 a	1202 ab	31.7 abc	31.5 b	31.8 a	31.9 bc
3	PH00P-601	1410 a	1155 ab	1818 b	1259 a	30.8 ef	30.8 bc	30.4 cd	31.2 c
4	E-303	1385 ab	1144 ab	1732 bcd	1278 a	31.0 def	31.4 b	30.3 d	31.2 c
5	E-503	1338 bc	1159 ab	1663 cd	1191 ab	31.5 bcd	31.5 b	31.2 abc	32.0 bc
6	PH00P-612	1317 c	1109 bc	1748 bc	1095 cd	32.0 ab	31.2 b	31.4 ab	33.4 a
7	OA-354	1299 cd	1040 cd	1736 bcd	1121 bc	31.5 bcd	31.4 b	31.2 abc	32.0 bc
8	S-7	1248 de	951 def	1649 de	1145 bc	31.2 cde	31.3 b	30.6 bcd	31.8 bc
9	OA-355	1239 e	1000 de	1645 de	1073 cd	30.5 f	30.0 c	30.6 bcd	30.8 c
10	E-203	1151 f	884 f	1555 ef	1015 de	28.2 h	27.6 e	27.6 f	29.5 d
11	E-403	1117 f	919 ef	1478 f	953 e	29.8 g	28.8 d	29.5 e	31.0 c
<b>Mean</b>		<b>1305</b>	<b>1065</b>	<b>1706</b>	<b>1144</b>	<b>31.0</b>	<b>30.8</b>	<b>30.5</b>	<b>31.6</b>
<b>Standard Deviation</b>		314	122	145	117	1.5	1.6	1.3	1.2
<b>LSD (0.05)</b>		52	93	98	89	0.6	1.1	0.8	1.2
<b>C.V. (%)</b>		5	6	4	5	2	3	2	3

**Pima Tests-2003.** Pima lint yields for 11 varieties grown at three locations during the 2003 growing season are shown in Table 2. Generally, yields were good, averaging 1305 lbs lint per acre, or 114 lbs/acre lower than the average in 2002. The highest yielding Pima variety was O&A's OA-356 with 1426 lbs per acre. At the highest yielding location near Huron in Kings County, three varieties yielded more than 1,800 lbs (or 3.6 bales) per acre. Two varieties have completed the third year of testing (OA-353, OA-354) and will be eligible for approval by SJVCB at their March meeting in 2004. Top-yielding varieties include O&A's OA-356 (178 lbs/acre>S-7), OA-353 (174 lbs/acre>S-7) and Phytogen's PH00P-601 (162 lbs/acre>S-7). Pima gin turnouts ranged from 28.2% (E-203) to 32.2% (OA-356) (Table 2). Of the five varieties up for approval, O&A's OA-256 and Phytogen's PH00P-612 had significantly higher gin

turnouts ( $P \geq 0.05$ ) compared to the standard, S-7 (31.2%).

**Screening Tests - 2003.** The screening lint yields for the 2003 growing season were from 16 varieties grown at two locations (Table 3). The yields were good, averaging 1437 lbs lint per acre, or 389 lbs/acre less than averages in the 2002 season. At the Five Points location (WSREC), one variety (C-403) yielded over 1800 lbs (over 3.6 bales) per acre. The screening trial gin turnouts ranged from 30.7% (OA-280) to 38.1% (C-603) (Table 3). The top four varieties were significantly ( $P \leq 0.05$ ) higher for gin turnout values compared to Maxxa (33.9%). Based on the lint yield results, there is great potential for new varieties to out-perform the current standard. The new varieties offer great promise for SJV cotton producers.

■ **Special Thanks.** We wish to express our gratitude to the University of California, Davis, San Joaquin Valley Cotton Board, cooperator ranchers, seed companies and their plant breeders, cotton growers for support of this program, Dr. Bob Hutmacher, the Shafter and West Side Research and Extension Centers and Shafter REC Gin Crew.

■ \* For more information on the testing program associated with the San Joaquin Valley Cotton Board, or with questions regarding the information on these pages, please contact Shane Ball at:

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**Table 3.** Screening trial lint yields (lbs per acre) in the San Joaquin Valley Cotton Board on-farm screening trials for Acala entries by location in 2003. Also shown are mean lint yield and mean gin turnout calculated across all sites.

Entry #	Variety	Mean Lint Yield (lbs/ac)	Location of Trial—2003 Lint Yields (lbs lint per acre)		Mean Gin Turnout (percent)	Location of Trial—2003 Gin Turnout (percent)	
			Shafter REC	Five Points		Shafter REC	Five Points
1	P02X-7001	<b>1669 a</b>	1648 a	1691 abcd	<b>32.9 e</b>	32.0 efg	33.9 g
2	C-403	<b>1658 a</b>	1487 bcd	1830 a	<b>36.7 b</b>	35.0 bc	38.4 b
3	C-503	<b>1624 ab</b>	1541 abc	1706 abc	<b>37.8 a</b>	36.3 ab	39.4 a
4	C-203	<b>1580 ab</b>	1392 def	1768 ab	<b>33.1 e</b>	31.2 fgh	34.9 ef
5	P02X-7002	<b>1563 abc</b>	1596 ab	1531 cdef	<b>31.7 gh</b>	30.7 gh	32.7 ij
6	DPX-03L0401	<b>1521 bcd</b>	1404 cde	1638 abcde	<b>34.3 d</b>	32.8 e	35.9 cd
7	OA-283	<b>1501 bcd</b>	1543 abc	1459 defgh	<b>32.6 ef</b>	31.1 gh	34.2 fg
8	C-303	<b>1442 cde</b>	1348 defg	1535 bcdef	<b>35.5 c</b>	34.6 cd	36.6 c
9	Maxxa	<b>1419 de</b>	1372 defg	1465 defg	<b>33.9 d</b>	32.6 ef	35.2 de
10	STX-00C022	<b>1336 ef</b>	1269 efgh	1403 efghi	<b>32.0 fg</b>	31.1 gh	32.9 hi
11	DPX-03L0402	<b>1331 ef</b>	1262 fgh	1401 fghi	<b>32.8 e</b>	31.9 efg	33.7 gh
12	C-603	<b>1330 ef</b>	1434 cd	1227 hi	<b>38.1 a</b>	36.7 a	39.5 a
13	DPX-02L9961	<b>1329 ef</b>	1197 h	1461 defgh	<b>34.6 d</b>	33.3 de	35.9 cd
14	OA-280	<b>1253 f</b>	1167 h	1338 fghi	<b>30.7 i</b>	29.3 i	32.0 j
15	OA-282	<b>1231 f</b>	1175 h	1288 ghi	<b>31.2 hi</b>	30.2 hi	32.1 ij
16	OA-281	<b>1208 f</b>	1239 gh	1177 i	<b>32.3 efg</b>	32.0 efg	32.6 ij
<b>Mean</b>		<b>1437</b>	<b>1380</b>	<b>1495</b>	<b>33.8</b>	<b>32.5</b>	<b>35.0</b>
<b>Standard Deviation</b>		198	161	216	2.6	2.1	2.4
<b>LSD (0.05)</b>		132	142	235	0.8	1.4	0.9
<b>C.V. (%)</b>		6	5	7	2	2	1

**ANNOUNCEMENTS**

**VARIETY TRIALS—HVI & YIELD SUMMARIES (UCCE Variety Trials)**

- Yield data for UCCE trials will be posted on cotton web site (<http://cottoninfo.ucdavis.edu>) by mid-January
- HVI Fiber Quality Summaries: When data summarized it will be posted on web site (early to mid-February)

**CA PLANT AND SOIL CONFERENCE— February 3-4, 2004 (Visalia)** - contact your Farm Advisor for details and registration information

**COTTON INCORPORATED STATE SUPPORT COMMITTEE— March 4, 2004 (Tulare UCCE office)** - contact Mike Kelley (Cotton Board) or Bob Hutmacher at (661) 746-8020 for more information

**CA COTTON GROWERS ASSOC. / UCCE ANNUAL WINTER MEETINGS— March 9, 2004 —Visalia Conv. Ctr.** - contact CA Cotton Growers Association (559) 252-0684 or Bob Hutmacher for more details