

COTTON VARIETY TEST RESULTS FOR LOUISIANA, 2004**W. D. Caldwell and James A. Hayes****Louisiana State University****Bossier City, LA****D. J. Boquet****Louisiana State University****Winnsboro, LA****E. Clawson****Louisiana State University****St. Joseph, LA****A. M. Stewart****Louisiana State University****Alexandria, LA****J. I. Dickson****Louisiana State University****Baton Rouge, LA****Abstract**

The selection of a variety or varieties for maximum economic return is the first and most critical decision a cotton producer makes each season. To ensure that Louisiana cotton growers remain competitive in the U.S. and global textile markets, cotton varieties are tested and evaluated annually at test locations that represent the soil and climatic conditions of the state. These locations are: Dean Lee Research Station, Alexandria; Red River Research Station, Bossier City; Northeast Research Station, St. Joseph; and Northeast Research Station (Macon Ridge), Winnsboro. In 2004, a total of 50 varieties from private seed companies were evaluated for lint yield, and agronomic and fiber traits. Varieties submitted for testing were divided into two groups based on maturity classification (early or medium) determined by the company submitting the variety. Deltapine DP 444 BG/RR, Stoneville 4892 BR, Deltapine DP 555 BG/RR, and Stoneville ST 5599 BR were used as check varieties in both maturity groups. The medium maturing varieties produced higher cross-location lint yield averages than the early maturing varieties.

Materials and Methods

Experimental procedures were similar for all locations. Plots were arranged in a randomized complete block design with four replications. Plots were four rows wide on 40-inch beds and 40 or 45 feet in length depending on location. All transgenic varieties received the same recommended cultural practices as the non-transgenic varieties. Yield was determined after defoliation by harvesting the center two rows with a two-row mechanical harvester. Grab samples were collected at harvest time from 4 replications to determine lint percentage and fiber quality.

Results

The results for the Early and Medium Maturity Tests are presented in Tables 1 and 2. Deltapine DP 555 BG/RR, Stoneville ST 5599BR, OAX 303, and Deltapine DP 493 produced the highest lint yield across all locations in the medium maturing tests. In the early maturing tests, the medium maturing check varieties Stoneville ST 5599BR and Deltapine DP 555 BG/RR produced the first and fourth highest lint yields, respectively. Stoneville ST 3636 B2R and OAX 303 produced the second and third highest lint yields in the early maturing test, respectively. Farmers should not base their variety selections based only on one-year data. Two and three-year variety data can be found at the LSU AgCenter website: <http://www.lsuagcenter.com>.

Table 1. Lint yield (lbs/acre) across LSU Ag Center Research Stations for early maturing cotton varieties, 2004.

Variety	Alexandria		Bossier City	St. Joseph		Winnsboro		Average
	Silt	Clay		Loam	Clay	Irrigated	Non-irrigated	
‡ST 5599BR	1374 6	1214 7	1452 4	1520 4	1387 1	1500 4	1273 5	1389
ST 3636B2R	1412 3	1505 1	1292 17	1333 17	1339 4	1605 1	1112 20	1371
OAX 303	1303 9	1359 2	1458 3	1421 8	1337 6	1441 5	1240 8	1366
‡DP 555 BG/RR	1461 1	1105 17	1425 6	1421 9	1302 9	1532 3	1312 4	1365
DP 393	1240 13	1179 11	1246 20	1583 1	1337 5	1378 10	1483 1	1349
ST 5242BR	1300 10	1154 12	1562 1	1367 10	1340 3	1225 22	1396 2	1335
ST 4575BR	1412 4	1027 25	1187 26	1501 5	1373 2	1392 8	1344 3	1319
ST 4892BR	1386 5	1100 18	1308 14	1542 3	1177 21	1352 12	1194 11	1294
DP 432 RR	1188 19	1057 23	1240 22	1547 2	1332 7	1398 7	1208 10	1281
DP 1218 BG/RR	1436 2	1127 15	1333 11	1304 19	1296 11	1201 23	1261 7	1280
DP 449 BG/RR	1269 12	1088 20	1305 15	1362 13	1301 10	1304 18	1263 6	1270
ST 4646B2R	1177 21	1184 9	1248 19	1422 7	1195 19	1534 2	1078 21	1263
DP 434 RR	1340 7	1239 5	1211 24	1316 18	1249 16	1305 17	1154 15	1259
FM 960 BR	1100 27	1265 3	1452 5	1296 20	1081 30	1429 6	1148 16	1253
DP 444 BG/RR	1233 14	1002 26	1500 2	1366 11	1207 18	1279 19	1166 14	1250
ST 4686R	1170 22	1076 21	1390 8	1340 16	1134 25	1319 16	1235 9	1238
ST 4793R	1216 15	1132 14	1244 21	1358 14	1212 17	1364 11	1117 19	1235
FM 960 RR	1321 8	1153 13	1191 25	1096 28	1275 13	1381 9	1176 12	1228
DP 445 BG/RR	1196 18	959 27	1217 23	1436 6	1268 14	1327 15	1172 13	1225
BCG 28R	1120 25	1031 24	1329 13	1288 21	1288 12	1342 14	1119 18	1217
DP 451 BG/RR	1149 23	1205 8	1304 16	1365 12	1135 24	1253 21	1077 23	1213
PHY 410 R	1282 11	1181 10	1280 18	1348 15	1103 28	1201 24	1064 26	1208
FM 966 LL	1129 24	1261 4	1357 10	1180 26	1304 8	1114 26	1027 27	1196
FM 958 LL	1085 28	1230 6	1381 9	1177 27	1168 22	1258 20	1069 25	1195
DP 455 BG/RR	1109 26	953 28	1331 12	1277 22	1252 15	1347 13	1076 24	1192
FM 960 B2R	1197 17	1106 16	1398 7	1246 24	1126 26	1083 30	1078 22	1176
DP 424 BGII/RR	1181 20	861 29	1170 27	1269 23	1112 27	1112 27	1022 28	1104
FM 819 RR	1018 29	1058 22	1140 29	1049 29	1185 20	1158 25	926 30	1076
DP 436 RR	1197 16	778 30	1169 28	1186 25	1140 23	1100 28	954 29	1075
BCG 295	916 30	1098 19	1092 30	984 30	1084 29	1084 29	1123 17	1054
Mean	1231	1123	1307	1330	1235	1310	1162	1243
LSD (0.05)	292	380	173	201	231	196	182	
C.V. (%)	14.4	23.9	11	11	13.3	10.8	9	

‡Variety included for comparison purposes only.

Numbers in italics represent the variety's ranking at that location.

Table 2. Lint yield (lbs/acre) across LSU Ag Center Research Stations for medium maturing cotton varieties, 2004.

Table 2: Bmr yield (bbs/acre) across ESC Ag Center Research Stations for medium maturing cotton varieties, 2004.															
Variety	Silt		Clay		Bossier City	Loam		Clay		Irrigated	Non Irrigated		Average		
DP 555 BG/RR	1576	1	886	3	1598	1	1455	10	1691	1	1635	2	1165	8	1429
ST 5599BR	1230	6	903	2	1499	4	1650	1	1545	7	1610	3	1394	1	1404
OAX 303	1141	11	722	13	1582	2	1502	7	1677	2	1420	7	1296	2	1334
DP 493	964	23	838	4	1495	5	1437	12	1582	5	1693	1	1248	5	1322
‡ST 4892BR	1321	2	706	15	1329	16	1574	2	1472	15	1492	4	1210	6	1301
DP 488 BG/RR	1221	7	805	6	1572	3	1377	14	1569	6	1308	16	1103	11	1279
ST 5242BR	1270	3	738	11	1471	6	1538	4	1480	14	1318	14	1097	14	1273
DP 543 BGII/RR	1108	14	791	7	1433	7	1465	9	1508	10	1460	5	1092	15	1265
DP 494 RR	1247	5	699	16	1361	12	1376	15	1503	11	1361	9	1270	3	1260
ST 6636BR	1252	4	716	14	1257	21	1532	5	1596	4	1317	15	1142	9	1259
‡DP 444 BG/RR	1071	16	661	18	1433	8	1508	6	1603	3	1322	12	1175	7	1253
‡DP 451 BG/RR	1166	9	768	9	1325	17	1397	13	1359	19	1458	6	1121	10	1228
DynaGro N2429	1044	18	919	1	1423	9	1357	17	1494	13	1338	10	1007	20	1226
ST 5303R	1050	17	549	24	1345	13	1565	3	1418	18	1282	18	1266	4	1211
FM 991 BR	1123	12	834	5	1274	20	1314	18	1443	17	1302	17	1058	17	1193
FM 832 LL	942	24	766	10	1318	18	1448	11	1467	16	1134	24	1101	13	1168
ST 5454B2R	983	21	562	23	1297	19	1492	8	1509	9	1379	8	940	23	1166
DPLX 02T57R	997	20	656	19	1402	10	1360	16	1350	20	1228	21	1056	19	1150
FM 800 BR	1190	8	638	20	1399	11	1132	23	1285	23	1221	22	1057	18	1132
FM 991 B2R	1105	15	729	12	1341	14	1153	22	1271	24	1335	11	975	22	1130
FM 800 RR	1149	10	775	8	1336	15	1107	24	1318	22	1195	23	991	21	1124
ST 6848R	980	22	632	21	1095	23	1241	19	1499	12	1263	19	1103	12	1116
BCG 245 R	1026	19	679	17	1088	24	1162	21	1527	8	1247	20	1073	16	1115
FM 800 B2R	1121	13	627	22	1188	22	1194	20	1326	21	1321	13	892	24	1096
Mean	1137		733		1369		1389		1483		1360		1118		1226
LSD (0.05)	268		257		132		209		257		197		153		
C.V.	14.3		24.8		7.9		10.5		12.2		10.2		8.4		

‡Variety included for comparison purposes only.

Numbers in red represent the variety's ranking at that location.