VARIETY PERFORMANCES IN 2007 MISSISSIPPI STATE COTTON VARIETY TRIALS

P. M. Thaxton
Delta Research and Extension Center, Mississippi State University
Stoneville, MS
W.E. Clark
Susan Shi
T. P. Wallace
Dept. of Plant and Soil Science, Mississippi State University
Mississippi State, MS
M. W. Shankle
Northest Mississippi Research and Extension Center, Mississippi State University
Pontotoc, MS
N.W. Buehring
Northest Mississippi Research and Extension Center, Mississippi State University
Verona, MS

Introduction

To aid Mississippi cotton producers in variety selection decisions, cotton varieties are tested and evaluated annually at locations across the state representing a wide range of soil and climatic conditions. 2007 Mississippi cotton variety trials were conducted at nine locations, which are divided into the Delta and Hill regions of the state. Sixty-two varieties were divided into two groups, Early and MID, based on the maturity as determined by the company submitting each variety. The performance, including yield, fiber quality and the Gross Return value of each variety, are presented in this report.

Material and Methods

All test plots consisted of two rows, 40 feet in length, with a row spacing of 38 or 40 inches. Experimental design for each trial consisted of a Randomized Complete Block with 4 replications. Recommended management practices were followed in each test. The on-farm cooperators decided planting dates, fertilizer rates, amount of supplemental irrigation, defoliation dates, insect and weed control strategies, and harvest dates.

The Early-Maturity and Mid-Maturity Variety Tests were conducted at five Delta locations (Stoneville, Clarksdale, Rolling Fork, Tribbett, Tunica) and four hill locations (Miss. State, Senatobia, Raymond, and Verona). Commercial varieties DP444BG/RR, DP555BG/RR, ST5599BR, and PHY370WR were designated as check varieties in all tests.

Varieties were evaluated under standard management practices, including chemical control of weeds and insects with conventional herbicides and insecticides. For transgenic varieties, any potential advantage due to trans-genes was not evaluated.

Estimation of lint percentage, boll size, seed index (weight in grams of 100 fuzzy seed), and fiber properties was based upon hand-picked 50-boll samples from 4 replications at each location. Samples were ginned on a 10-inch laboratory saw gin. HVI fiber property determinations were made by Starlab, Inc., Knoxville, TN. Yield determinations were based on the weight of seed cotton mechanically harvested from two-row plots and the seed cotton weight of the hand picked samples. 2007 Crop Cotton Loan Evaluation Program (Larry Falconer, 2007) was used to calculate the Gross Return value. Calculations were based on fiber properties, lint yield and a seed value of $130/ton. Gross Return Value provides a figure that incorporates both yield and fiber quality. Results from this research are intended to be an aid for the growers to select varieties for next growing season. Certain data will also be of interest to ginners, millers, and other sectors of cotton industry.

Results and Conclusions

The 2007 growing season could be described as "nearly" normal. Some locations experienced medium water stress. Plant bugs and spider mites were also problems at several locations, especially at Stoneville, and most likely had an impact on yield; even though insecticides were sprayed over ten times. Due to rainy weather at some locations, harvest was delayed much later than normal.

The results of Early Maturity Test were presented in Table 1, 2, and 3; MID Maturity Test results were reported in Table 4, 5, and 6; Tables 7 -10 show the two year averages for the two tests in both Delta and Hill region. All result values represent least squares means.

Summary statistics are presented at the bottom of the by location data tables to aid in interpreting the test results. Despite efforts to provide a uniform test environment, all experiments are subject to a certain degree of error due to variation between plots arising from differences in soil type, fertility, insect damage, weed pressure, etc. Therefore, yield potential (and performance with respect to other characteristics) cannot be measured with complete accuracy. By conducting replicated trials we can account for or remove some, but not all of the effect of non-uniform conditions among plots. As a result, the mean performance of some varieties may be numerically different, but not statistically different when variability in the test is taken into account. The Least Significant Difference (LSD) value estimates the smallest difference between two varieties that should be considered something other than natural variation.

The coefficient of variation (CV) is a measure of relative precision of a given trial and is generally considered to be an estimate of the amount of unexplained variation in that trial. In general, the higher the CV value, the less precise a given trial. The R^2 value is another measure of relative precision. The higher the R^2 value, the more precise a given trial.

For the results across locations, the averages were presented without statistics. Due to the differences in soil texture, rainfall, and management level among the different test locations, the interactions between locations are highly significant and were not presented.

A given variety may perform extremely well or extremely poorly due either to chance variation or to its response to environmental conditions in a particular site and year. Because of that, it is important to base variety selection decisions on as many environments as possible. While it is hoped that newer varieties will perform better than older varieties, this is not always the case. Greater confidence should be put in varieties that have performed well over two or more years than varieties in their first year of testing. Producers should consider these new varieties/technologies as not being thoroughly evaluated until multiple year, multiple locations results are available.

These tests do not encompass all growing and environmental conditions in the state, but they provide a guide to producers in selecting among varieties best suited for their growing conditions.

Table 1. Averages for lint yield, fiber quality, and gross return over locations in the Delta Region Early Maturity Test in the 2007 Mississippi State University Cotton Variety Trials.

Variety	Lint Yield	Lint Percent	Seed Index	Boll Size	Length	Uniformity Index	Strength	Elongation	Micronaire	Gross Return
	lb/a	%	g	g	inch	%	g/tex	%	mic	$/ton
DP 434 RR	1583	41.97	10.02	5.55	1.19	84.94	28.83	8.02	4.96	1017
DP 445 BG/RR	1518	41.11	10.12	5.57	1.17	85.45	31.74	8.55	5.15	939
DP 117 B2RF	1509	40.45	10.40	5.48	1.17	84.85	33.27	8.31	5.15	922
DP 515 BG/RR	1435	41.38	9.74	5.06	1.16	84.38	31.43	7.98	5.27	912
DP 454 BG/RR	1421	42.85	9.59	5.41	1.12	84.63	30.53	7.78	4.87	948
PHY 370 WR--CK	1412	41.95	10.30	5.37	1.12	84.64	32.44	8.51	5.44	892
ST 4664 RF	1404	40.49	10.35	5.64	1.15	84.92	31.17	8.76	5.14	897
ST 4498 B2RF	1396	39.69	10.15	5.42	1.15	85.63	33.53	9.02	5.05	885
DG CT07343 RF	1395	42.82	10.45	5.54	1.15	85.11	30.57	8.75	5.16	878
DG 2490 B2RF	1394	39.05	10.44	5.08	1.14	84.87	29.53	8.35	4.56	910
PHY 310 R	1389	42.55	10.41	5.40	1.11	84.42	33.09	8.69	5.43	857
DP 444 BG/RR--CK	1384	41.05	10.56	5.52	1.15	84.64	30.90	8.03	4.82	903
DP 455 BG/RR	1383	42.15	9.31	5.03	1.17	84.34	32.38	7.71	4.84	900
ST 4596 B2RF	1373	38.27	10.52	5.44	1.20	85.50	32.09	8.93	5.38	848
PHY 485 WRF	1371	39.94	9.69	4.97	1.16	85.21	32.55	8.90	5.20	860
DP 432 RR	1368	40.74	9.88	5.05	1.14	85.20	32.06	8.60	5.31	839
ST 5599 BR--CK	1354	39.97	11.21	6.05	1.16	84.63	31.84	7.98	5.30	851
PHY 425 RF	1352	39.56	10.30	4.87	1.16	85.29	32.65	8.95	5.40	835
ST 4427 B2RF	1346	39.32	10.16	5.06	1.16	84.69	32.22	8.05	5.04	848
ST 4357 B2RF	1335	40.06	10.31	4.85	1.19	84.98	29.11	8.02	4.86	876
CG 3020 B2RF	1335	38.87	10.67	5.05	1.13	84.78	29.74	8.38	4.96	875
DG 2520 B2RF	1335	39.76	10.37	5.05	1.20	85.19	28.75	8.04	4.86	872
ST 4678 B2RF	1314	37.64	10.78	5.27	1.18	85.58	31.26	8.25	5.30	828
ST 4554 B2RF	1310	39.56	10.67	5.45	1.16	85.02	31.61	8.86	5.27	835
DP 121 RF	1308	42.09	9.60	5.22	1.17	85.13	32.70	8.55	5.31	820
CG 4020 B2RF	1307	39.60	10.13	5.02	1.19	85.05	29.17	8.05	4.91	860
ST 5242 BR	1304	40.24	12.03	6.08	1.13	84.55	29.35	7.97	5.00	821
DG 2100 B2RF	1302	38.69	10.78	5.01	1.14	85.28	29.48	8.26	4.93	852
DG 2242 B2RF	1299	38.92	10.11	4.82	1.18	84.92	28.48	8.18	4.93	832
CG 3520 B2RF	1292	39.10	10.09	4.66	1.18	85.16	28.62	8.15	4.88	825
ST 5327 B2RF	1290	40.99	9.85	5.12	1.17	85.46	32.17	8.48	5.09	795
PHY 480 WR	1285	38.95	10.30	4.81	1.17	85.45	32.29	8.84	5.15	789
MISCOT 0141-15ne	1249	38.84	11.44	5.91	1.11	84.15	35.37	8.70	5.82	768
DP 393	1237	40.46	10.40	5.36	1.18	85.68	32.33	8.76	5.30	780
MISCOT 8824-8	1206	39.76	10.64	5.59	1.15	85.01	33.45	8.69	5.53	762
DP 147 RF	1204	40.17	10.32	5.44	1.24	85.20	31.77	7.79	4.78	804
DP 555 BG/RR--CK	1197	43.85	8.24	5.01	1.15	83.96	30.64	7.55	5.18	771
MISCOT 8913-2	1193	38.80	10.67	5.23	1.16	84.87	31.97	8.16	5.28	770
FM 1600 LL	1181	39.75	11.24	5.63	1.19	85.44	34.82	7.86	5.08	768
ST 6351 B2RF	1172	37.37	11.09	5.65	1.21	85.22	30.90	8.03	5.05	758
FM 9068 F	1145	38.68	11.94	5.73	1.23	85.71	33.38	8.07	4.86	787
DP 143 B2RF	1138	38.43	10.34	5.33	1.25	85.05	30.00	7.83	4.82	776
FM 9063 B2F	1073	37.83	12.01	5.49	1.23	85.39	33.54	7.95	4.92	772
FM 955 LLB2	1070	36.05	12.87	5.77	1.22	85.32	32.11	7.91	5.25	727
FM 9060 F	1066	39.82	10.65	5.29	1.22	85.00	30.71	7.57	4.79	745
FM 1735 LLB2	1059	38.38	11.04	5.20	1.16	85.08	33.86	7.80	5.08	713
MEAN	1304	39.96	10.48	5.32	1.17	85.02	31.53	8.27	5.10	837

Table 2. Averages for lint yield, fiber quality, and gross return over locations in the Hill Region Early Maturity Test in the 2007 Mississippi State University Cotton Variety Trials.

Variety	Lint Yield	Lint Percent	Seed Index	Boll Size	Length	Uniformity Index	Strength	Elongation	Micronaire	Gross Return
	lb/a	%	g	g	inch	%	g/tex	%	mic	$/ton
PHY 370 WR--CK	1552	42.64	5.46	10.45	1.10	84.18	32.13	8.27	5.39	958
DP 117 B2RF	1481	40.72	5.83	10.58	1.14	84.39	33.45	8.08	5.02	937
DP 515 BG/RR	1453	42.56	5.50	9.61	1.12	83.39	30.67	7.76	5.42	904
ST 5242 BR	1441	41.65	6.30	12.16	1.10	83.86	28.30	7.63	4.89	933
DP 555 BG/RR--CK	1438	43.64	5.16	8.84	1.11	82.69	30.88	7.51	5.25	899
DP 445 BG/RR	1430	41.74	5.68	10.02	1.13	84.57	31.36	8.27	4.92	942
PHY 485 WRF	1415	40.78	5.05	9.89	1.14	84.73	31.93	8.68	5.20	896
DP 454 BG/RR	1393	43.25	5.28	9.69	1.08	83.79	30.77	7.55	4.77	891
MISCOT 8824-8	1385	40.64	5.77	11.37	1.12	84.49	32.60	8.40	5.55	863
ST 5327 B2RF	1383	41.45	5.06	9.76	1.13	84.11	31.31	8.06	5.05	875
ST 4596 B2RF	1377	39.57	5.45	10.64	1.17	85.01	31.03	8.78	5.16	872
ST 6351 B2RF	1369	38.35	6.12	10.93	1.18	84.32	30.04	7.96	4.91	899
ST 5599 BR--CK	1365	41.15	6.57	11.61	1.12	83.97	32.84	7.97	5.43	851
DP 432 RR	1356	41.15	5.29	10.03	1.12	84.53	31.10	8.30	5.31	846
ST 4678 B2RF	1356	38.67	5.19	10.78	1.16	84.90	30.16	8.06	5.01	857
PHY 480 WR	1344	39.50	4.93	10.47	1.14	85.00	32.38	8.81	5.26	852
FM 1600 LL	1341	40.17	5.79	11.34	1.17	84.82	34.41	7.53	5.06	851
DP 444 BG/RR--CK	1338	41.71	5.35	10.23	1.11	84.39	29.65	7.74	4.49	878
DP 143 B2RF	1338	38.81	5.43	9.67	1.22	84.10	29.61	7.52	4.74	879
ST 4498 B2RF	1337	40.82	5.59	9.98	1.13	84.69	32.56	8.70	4.82	881
ST 4427 B2RF	1330	40.56	5.06	9.92	1.13	84.24	31.73	7.98	5.10	842
FM 1735 LLB2	1330	39.31	5.17	11.05	1.14	84.33	33.28	7.46	4.95	876
DP 147 RF	1325	40.22	5.65	10.34	1.21	84.54	31.73	7.55	4.74	874
MISCOT 8913-2	1317	39.70	5.20	10.93	1.14	84.64	31.75	8.07	5.22	835
PHY 425 RF	1313	40.42	5.02	10.47	1.15	85.08	31.89	8.70	5.41	820
DP 455 BG/RR	1311	42.83	5.17	9.20	1.14	83.68	31.47	7.52	4.61	864
MISCOT 0141-15ne	1306	39.48	6.05	11.61	1.10	83.85	34.67	8.44	5.79	805
PHY 310 R	1299	42.73	5.69	10.53	1.11	84.13	32.33	8.41	5.32	802
DP 393	1268	40.90	5.45	10.84	1.17	85.38	33.01	8.62	5.11	804
ST 4357 B2RF	1259	40.17	5.36	10.40	1.16	84.65	28.28	7.88	4.78	825
DG CT07343 RF	1254	43.04	5.65	10.40	1.13	84.49	30.71	8.45	5.06	793
ST 4554 B2RF	1245	41.20	5.41	10.31	1.12	84.04	31.09	8.76	5.23	787
DG 2490 B2RF	1245	39.08	4.92	10.13	1.09	83.94	29.01	8.16	4.51	806
FM 9063 B2F	1229	37.99	6.15	12.09	1.20	84.57	33.54	7.89	4.89	811
FM 955 LLB2	1220	36.67	6.12	12.38	1.19	84.95	30.58	7.79	5.15	773
DP 121 RF	1218	42.45	5.24	9.76	1.14	84.46	31.85	8.29	5.31	759
ST 4664 RF	1217	41.24	5.37	9.99	1.12	84.40	31.06	8.80	5.08	770
DG 2520 B2RF	1215	39.97	5.11	10.25	1.16	84.31	28.24	7.81	4.75	795
DG 2242 B2RF	1212	39.18	4.61	9.84	1.16	84.46	27.71	7.94	4.67	793
CG 3020 B2RF	1196	39.58	5.08	10.51	1.12	84.45	28.36	8.00	4.67	782
CG 4020 B2RF	1191	40.29	5.25	10.39	1.16	84.61	27.81	7.75	4.73	781
FM 9060 F	1180	40.06	5.85	11.70	1.21	85.02	30.96	7.42	4.70	779
FM 9068 F	1170	39.19	6.15	12.14	1.19	85.03	33.22	7.98	4.85	772
DG 2100 B2RF	1146	39.42	5.12	10.34	1.10	83.96	28.02	7.87	4.65	743
DP 434 RR	1128	41.90	5.55	9.97	1.18	84.80	29.45	7.93	4.71	740
CG 3520 B2RF	1125	39.23	4.61	9.91	1.15	84.50	27.69	7.88	4.67	738
MEAN	1307	40.56	5.45	10.51	1.14	84.40	31.01	8.06	5.01	838

Table 3. Average lint yield for each location in Early Maturity Test in the 2007 Mississippi State University Cotton Variety Trials.

Variety	STONEVILLE Lint Yield	CLARKSDALE† Lint Yield	ROLLING FORK Lint Yield	TRIBBETT Lint Yield	TUNICA Lint Yield	RAYMOND Lint Yield	MISS. STATE†† Lint Yield	VERONA Lint Yield	SENATOBIA Lint Yield
	lb/a	lb/a	lb/a	lb/a	lb/a	lb/a	lb/a	lb/a	lb/a
CG 3020 B2RF	1171	1375	1237	1391	1500	1285	981	1029	1487
CG 3520 B2RF	1095	1392	1183	1260	1531	1201	869	1045	1382
CG 4020 B2RF	1178	1438	1132	1294	1493	1297	936	1064	1466
DG 2100 B2RF	1107	1421	1198	1413	1371	1234	786	1111	1454
DG 2242 B2RF	1064	1372	1243	1352	1464	1307	878	1188	1474
DG 2490 B2RF	1198	1652	1305	1278	1534	1237	1065	1117	1559
DG 2520 B2RF	1167	1476	1323	1336	1371	1285	1046	1039	1490
DG CT07343 RF	1137	1614	1219	1322	1683	1479	929	1292	1315
DP 117 B2RF	1321	1522	1499	1470	1732	1544	1268	1414	1698
DP 121 RF	1119	1447	1117	1217	1640	1555	798	1317	1201
DP 143 B2RF	915	1397	918	1114	1345	1417	1199	1326	1409
DP 147 RF	1036	1367	1083	1086	1449	1692	961	1400	1246
DP 393	997	1563	1060	1340	1224	1516	914	1391	1252
DP 432 RR	1140	1686	1265	1381	1366	1632	981	1328	1485
DP 434 RR	1316	2193	1251	1416	1739	1322	881	1019	1292
DP 444 BG/RR--CK	1228	1780	927	1445	1540	1522	1076	1255	1498
DP 445 BG/RR	1266	1804	1223	1391	1905	1683	1118	1398	1520
DP 454 BG/RR	1109	1547	1283	1334	1828	1393	1382	1382	1417
DP 455 BG/RR	996	1780	1201	1268	1669	1469	1143	1333	1299
DP 515 BG/RR	1115	2047	1332	1267	1416	1691	1343	1466	1313
DP 555 BG/RR--CK	970	1615	1285	1097	1021	1671	1445	1483	1152
FM 1600 LL	1049	1561	936	1139	1218	1507	1359	1408	1089
FM 1735 LLB2	1040	1295	996	898	1063	1301	1373	1293	1354
FM 9060 F	906	1301	966	979	1179	1482	976	1195	1068
FM 9063 B2F	980	1216	962	1139	1070	1299	1208	1138	1269
FM 9068 F	1012	1625	861	1120	1105	1276	1068	1272	1064
FM 955 LLB2	864	1452	760	1053	1219	1393	1079	1153	1253
MISCOT 0141-15ne	1101	1258	1090	1322	1472	1628	1082	1377	1138
MISCOT 8824-8	1059	1309	985	1266	1413	1713	1308	1435	1085
MISCOT 8913-2	1019	1208	1011	1255	1474	1522	1261	1273	1214
PHY 310 R	1106	1555	1244	1402	1640	1701	847	1304	1345
PHY 370 WR--CK	1180	1340	1487	1325	1727	1892	1462	1293	1563
PHY 425 RF	1187	1603	1084	1467	1417	1670	1191	1316	1075
PHY 480 WR	1121	1520	1196	1309	1279	1560	1326	1135	1356
PHY 485 WRF	1133	1740	1061	1411	1510	1499	1401	1356	1402
ST 4357 B2RF	1236	1239	1328	1333	1539	1340	1128	1106	1462
ST 4427 B2RF	1233	1454	1248	1325	1469	1447	1088	1213	1574
ST 4498 B2RF	1083	1685	1360	1258	1593	1501	1002	1188	1656
ST 4554 B2RF	1012	1449	1133	1374	1584	1532	753	1195	1502
ST 4596 B2RF	1004	1714	1148	1325	1676	1483	1342	1159	1521
ST 4664 RF	1106	1762	1209	1394	1551	1545	792	1251	1281
ST 4678 B2RF	1255	1148	1201	1388	1579	1502	1065	1337	1522
ST 5242 BR	1196	1532	929	1249	1616	1597	1253	1271	1643
ST 5327 B2RF	1077	1439	1102	1312	1519	1534	1115	1328	1557
ST 5599 BR--CK	1132	1668	1163	1222	1587	1440	1161	1420	1441
ST 6351 B2RF	957	1516	955	1030	1404	1516	1208	1351	1399
MEAN	1102	1523	1146	1282	1470	1485	1104	1265	1375
LSD (.10)	119	414	163	151	201	227	236	150	155
CV (%)	9.22	16.20	12.14	9.87	11.45	13.04	15.68	9.98	9.63
R-square	0.65	0.70	0.67	0.60	0.66	0.46	0.66	0.66	0.69

†The data of two replications were deleted because of effects due to row-spacing test planted in 2006.

†† The data of one replication were deleted due to high variation.

Table 4. Averages for lint yield, fiber quality, and gross return over locations in the Delta Region Mid Maturity Test in the 2007 Mississippi State University Cotton Variety Trials.

Variety	Lint Yield	Lint Percent	Seed Index	Boll Size	Length	Uniformity Index	Strength	Elongation	Micronaire	Gross Return
	lb/a	%	g	g	inch	%	g/tex	%	mic	$/ton
ST 5599 BR--CK	1411	40.86	10.54	5.57	1.14	84.06	31.66	7.90	5.15	893
DP 455 BG/RR	1369	42.68	8.98	4.77	1.15	83.78	32.18	7.55	4.65	903
ST 5283 RF	1353	41.05	9.60	4.54	1.14	84.51	32.01	8.30	4.99	892
ST 5458 B2RF	1349	41.22	10.25	5.27	1.15	83.88	31.60	8.06	5.31	842
DP 445 BG/RR	1324	41.19	9.88	5.05	1.15	84.94	31.60	8.42	4.98	874
DP 454 BG/RR	1315	42.79	9.32	5.00	1.11	84.56	30.38	7.63	4.78	857
DP 444 BG/RR--CK	1313	40.87	10.25	5.18	1.13	84.58	30.53	8.00	4.66	866
DP 515 BG/RR	1292	41.48	9.19	4.84	1.13	83.87	30.92	7.77	5.19	817
ST 5327 B2RF	1287	41.10	9.42	4.80	1.15	85.00	31.94	8.27	4.98	850
PHY 370 WR--CK	1270	41.72	10.38	4.82	1.11	84.18	32.47	8.44	5.23	803
DP 143 B2RF	1256	39.41	9.73	5.01	1.21	84.16	29.87	7.60	4.76	825
DP 167 RF	1203	39.81	9.54	4.91	1.19	84.67	31.54	7.93	4.87	794
DP 164 B2RF	1151	39.28	9.81	4.87	1.20	84.79	31.26	7.77	4.96	759
DP 147 RF	1078	40.32	9.77	5.00	1.20	84.50	31.49	7.72	4.80	711
DP 555 BG/RR--CK	1069	42.88	8.29	4.85	1.13	83.80	30.45	7.57	5.07	674
FM 1880 B2F	961	38.38	10.58	5.00	1.18	84.39	31.23	7.87	4.76	634
MEAN	1250	40.94	9.72	4.97	1.15	84.35	31.32	7.92	4.94	812

Table 5. Averages for lint yield, fiber quality, and gross return over locations in the Hill Region Mid Maturity Test in the 2007 Mississippi State University Cotton Variety Trials.

Variety	Lint Yield	Lint Percent	Seed Index	Boll Size	Length	Uniformity Index	Strength	Elongation	Micronaire	Gross Return
	lb/a	%	g	g	inch	%	g/tex	%	mic	$/ton
DP 454 BG/RR	1581	43.28	5.35	9.78	1.10	84.44	29.96	7.49	4.66	1028
DP 515 BG/RR	1577	42.29	5.31	9.49	1.13	84.12	30.43	7.74	5.11	994
DP 555 BG/RR--CK	1528	43.52	5.27	8.73	1.11	83.03	30.59	7.43	5.18	965
PHY 370 WR--CK	1523	42.46	5.48	10.51	1.12	84.44	31.77	8.16	5.15	963
ST 5458 B2RF	1491	41.54	5.84	10.67	1.15	84.04	31.33	7.94	5.24	943
DP 455 BG/RR	1486	43.26	5.39	9.19	1.15	83.80	31.60	7.51	4.55	979
ST 5599 BR--CK	1486	41.42	6.49	11.53	1.13	84.10	32.21	7.87	5.21	940
DP 445 BG/RR	1470	42.07	5.41	9.61	1.16	84.92	31.86	7.96	4.66	970
DP 143 B2RF	1418	38.89	5.45	10.33	1.23	84.05	28.99	7.41	4.59	928
DP 444 BG/RR--CK	1363	41.55	5.35	9.93	1.13	84.52	29.38	7.78	4.48	893
DP 147 RF	1344	40.01	5.77	10.60	1.23	84.86	31.71	7.53	4.56	887
DP 164 B2RF	1314	39.30	5.17	9.89	1.19	84.45	30.28	7.69	4.85	863
ST 5327 B2RF	1300	41.25	5.05	9.67	1.14	84.88	31.53	8.09	4.89	858
ST 5283 RF	1243	41.12	5.06	9.72	1.15	84.62	31.31	7.97	4.76	820
FM 1880 B2F	1129	38.98	5.38	10.57	1.18	84.46	31.23	7.67	4.48	744
DP 167 RF	1122	39.48	5.17	10.19	1.20	85.12	31.59	7.85	4.78	740
MEAN	1398	41.28	5.43	10.02	1.15	84.36	30.98	7.76	4.82	907

Table 6. Average lint yield for each location in the Mid Maturity Test in 2007 Mississippi State University Cotton Variety Trials.

Variety	STONEVILLE Lint Yield	CLARKSDALE† Lint Yield	ROLLING FORK Lint Yield	TRIBBETT Lint Yield	TUNICA Lint Yield	RAYMOND Lint Yield	MISS. STATE Lint Yield	VERONA Lint Yield	SENATOBIA Lint Yield
	lb/a	lb/a	lb/a	lb/a	lb/a	lb/a	lb/a	lb/a	lb/a
DP 143 B2RF	1028	1821	1023	1007	1401	1466	1204	1505	1498
DP 147 RF	834	1083	1037	1068	1367	1542	1189	1524	1119
DP 164 B2RF	953	1299	1143	1121	1238	1263	1267	1288	1439
DP 167 RF	792	1614	1104	1197	1306	1297	891	1239	1059
DP 444 BG/RR--CK	1020	1798	1065	1349	1334	1474	993	1487	1496
DP 445 BG/RR	970	1398	1230	1339	1686	1457	1339	1476	1607
DP 454 BG/RR	1062	1617	1130	1229	1537	1490	1599	1708	1528
DP 455 BG/RR	1025	1872	1207	1192	1551	1457	1499	1595	1393
DP 515 BG/RR	1054	1669	1210	1246	1283	1726	1569	1591	1420
DP 555 BG/RR--CK	824	1372	1149	970	1029	1596	1619	1680	1218
FM 1880 B2F	679	1105	845	948	1231	1036	1088	1121	1270
PHY 370 WR--CK	1151	1490	1285	1184	1239	1637	1262	1525	1667
ST 5283 RF	1216	1386	1107	1299	1756	1413	855	1439	1264
ST 5327 B2RF	1073	1422	1232	1241	1468	1461	980	1307	1453
ST 5458 B2RF	1200	1664	1406	1147	1330	1362	1410	1450	1741
ST 5599 BR--CK	1065	2050	1207	1246	1486	1466	1397	1545	1536
MEAN	997	1541	1149	1161	1413	1446	1269	1468	1416
LSD (.10)	189	404	172	122	232	194	222	165	141
CV (%)	15.98	14.96	12.59	8.24	11.66	11.32	12.88	9.45	8.23
R-square	0.55	0.83	0.54	0.70	0.67	0.60	0.78	0.71	0.79

†The data of two replications were deleted because of effects due to row-spacing test planted in 2006.

Table 7. Averages for lint yield and fiber quality traits over two years (2006-2007) in the Delta Region Early Maturity Mississippi State University Cotton Variety Trials.

Variety	Lint Yield	Lint Percent	Seed Index	Boll Size	Length	Uniformity Index	Strength	Elongation	Micronaire
	lb/a	%	g	g	inch	%	g/tex	%	mic
DP 434 RR	1363	42.35	9.44	5.29	1.14	83.96	27.48	7.78	4.81
DP 445 BG/RR	1292	40.89	9.59	5.35	1.13	84.50	30.63	8.44	4.89
DP 454 BG/RR	1288	42.82	9.00	5.18	1.07	83.36	28.65	7.44	4.76
ST 4664 RF	1276	40.61	9.58	5.30	1.10	83.79	30.00	8.66	4.98
DP 117 B2RF	1263	40.47	9.82	5.38	1.12	83.67	31.33	8.00	5.02
PHY 310 R	1251	42.63	9.62	5.25	1.06	83.25	30.87	8.26	5.19
PHY 485 WRF	1250	40.17	9.14	4.79	1.12	84.21	30.41	8.62	5.01
ST 5599 BR	1234	40.04	10.75	5.86	1.12	83.40	30.14	7.69	5.18
DP 432 RR	1232	40.96	9.29	4.95	1.10	84.11	30.55	8.43	5.22
PHY 370 WR	1222	41.89	9.73	5.15	1.08	83.67	30.66	8.20	5.16
ST 4427 B2RF	1210	39.65	9.60	4.97	1.12	83.76	30.54	7.79	4.91
DP 444 BG/RR	1189	40.74	9.99	5.18	1.11	83.93	29.16	7.73	4.59
DP 455 BG/RR	1179	42.06	8.92	4.88	1.12	83.06	30.64	7.42	4.69
ST 4357 B2RF	1177	39.76	9.83	4.84	1.14	83.90	27.31	7.70	4.64
DP 393	1170	40.77	9.76	5.18	1.13	84.54	31.02	8.64	5.14
ST 4554 B2RF	1161	39.55	9.95	5.24	1.12	83.80	30.51	8.72	5.04
ST 5242 BR	1158	40.66	11.30	5.85	1.09	83.61	27.99	7.67	4.88
PHY 480 WR	1158	39.10	9.71	4.79	1.13	84.48	30.71	8.66	4.97
CG 3020 B2RF	1139	38.34	10.07	4.95	1.09	83.84	28.00	8.00	4.61
CG 4020 B2RF	1127	39.57	9.75	4.94	1.14	83.89	27.42	7.68	4.71
DP 147 RF	1126	40.06	9.76	5.40	1.19	83.96	29.75	7.44	4.67
DP 555 BG/RR	1126	43.54	8.05	4.87	1.11	82.81	28.74	7.13	5.08
DG 2100 B2RF	1125	38.26	10.04	4.83	1.09	84.06	27.89	7.93	4.58
CG 3520 B2RF	1122	38.86	9.40	4.67	1.12	83.91	26.92	7.81	4.67
DG 2242 B2RF	1119	38.81	9.43	4.69	1.12	83.59	26.85	7.89	4.70
DP 143 B2RF	1055	38.81	9.80	5.24	1.20	83.64	28.12	7.42	4.69
MEAN	1193	40.44	9.66	5.12	1.12	83.79	29.32	7.97	4.87

Table 8. Averages for lint yield and fiber quality traits over two years (2006-2007) in the Hill Region Early Maturity Mississippi State University Cotton Variety Trials.

Variety	Lint Yield	Lint Percent	Seed Index	Boll Size	Length	Uniformity Index	Strength	Elongation	Micronaire
	lb/a	%	g	g	inch	%	g/tex	%	mic
PHY 370 WR	1438	43.17	9.92	5.15	1.08	83.52	31.16	8.18	5.17
DP 555 BG/RR	1408	44.43	8.43	4.86	1.09	82.29	29.06	7.14	5.14
ST 5242 BR	1388	42.35	11.26	5.91	1.09	83.54	27.59	7.54	4.88
PHY 485 WRF	1358	41.87	9.21	4.58	1.11	84.14	30.97	8.62	5.08
DP 454 BG/RR	1355	44.22	9.05	4.78	1.06	83.26	29.08	7.29	4.54
DP 445 BG/RR	1351	42.42	9.56	5.18	1.12	84.06	30.74	8.31	4.79
ST 5599 BR	1347	41.84	10.76	6.01	1.10	83.23	31.26	7.74	5.23
PHY 310 R	1341	43.53	9.86	5.19	1.08	83.57	31.28	8.24	5.12
DP 147 RF	1340	41.22	9.73	5.32	1.18	83.71	30.13	7.32	4.69
PHY 480 WR	1331	40.43	9.75	4.56	1.12	84.53	31.07	8.61	5.04
ST 4427 B2RF	1316	41.39	9.39	4.66	1.11	83.60	30.36	7.71	4.93
DP 393	1305	42.05	10.10	5.09	1.14	84.79	31.92	8.67	5.10
DP 432 RR	1290	41.91	9.44	4.80	1.09	83.91	30.45	8.28	5.17
DP 117 B2RF	1288	41.43	9.95	5.26	1.12	83.67	32.31	7.94	4.87
DP 143 B2RF	1287	39.89	9.33	5.10	1.19	83.28	28.40	7.33	4.55
DP 444 BG/RR	1266	42.44	9.71	4.95	1.10	83.91	28.93	7.64	4.43
ST 4664 RF	1265	42.02	9.36	4.97	1.10	83.74	30.51	8.69	4.95
DP 455 BG/RR	1262	43.37	8.85	4.75	1.12	83.10	30.52	7.35	4.54
ST 4554 B2RF	1203	41.55	9.55	4.92	1.10	83.52	30.46	8.72	5.01
ST 4357 B2RF	1187	40.85	9.71	4.87	1.13	83.74	27.49	7.68	4.68
DP 434 RR	1144	43.15	9.44	5.20	1.15	84.01	28.18	7.77	4.70
CG 4020 B2RF	1137	40.90	9.61	4.80	1.13	83.92	27.06	7.57	4.58
CG 3020 B2RF	1129	40.39	9.89	4.74	1.10	83.83	27.50	7.84	4.52
DG 2242 B2RF	1115	39.93	9.23	4.33	1.13	83.78	26.91	7.81	4.54
DG 2100 B2RF	1105	40.08	9.69	4.77	1.09	83.72	27.49	7.80	4.50
CG 3520 B2RF	1093	39.95	9.36	4.35	1.13	83.79	26.66	7.67	4.48
MEAN	1271	41.80	9.62	4.97	1.11	83.70	29.52	7.90	4.82

Table 9. Averages for lint yield and fiber quality traits over two years (2006-2007) in the Delta Region Mid Maturity Mississippi State University Cotton Variety Trials.

Variety	Lint Yield	Lint Percent	Seed Index	Boll Size	Length	Uniformity Index	Strength	Elongation	Micronaire
	lb/a	%	g	g	inch	%	g/tex	%	mic
ST 5599 BR	1241	40.76	10.44	5.70	1.10	83.22	30.31	7.63	5.13
DP 515 BG/RR	1209	41.94	8.88	4.90	1.09	83.19	29.29	7.46	5.10
DP 454 BG/RR	1201	43.24	8.82	4.80	1.06	83.33	28.76	7.31	4.67
DP 445 BG/RR	1186	41.06	9.58	5.00	1.12	84.23	30.78	8.44	4.89
DP 455 BG/RR	1160	42.33	8.85	4.79	1.12	83.02	30.70	7.23	4.53
DP 444 BG/RR	1150	40.96	9.72	5.08	1.10	83.73	29.09	7.78	4.64
DP 143 B2RF	1132	39.34	9.48	5.04	1.18	83.12	28.23	7.29	4.69
DP 147 RF	1089	40.44	9.41	5.12	1.17	83.47	29.57	7.35	4.77
DP 167 RF	1084	40.09	9.16	4.90	1.14	83.67	29.92	7.62	4.84
DP 164 B2RF	1073	39.22	9.20	4.92	1.15	83.63	29.80	7.51	4.90
DP 555 BG/RR	994	43.18	8.17	4.86	1.10	82.82	28.95	7.15	5.00
MEAN	1138	41.14	9.25	5.01	1.12	83.40	29.58	7.52	4.83

Table 10. Averages for lint yield and fiber quality traits over two years (2006-2007) in the Hill Region Mid Maturity Mississippi State University Cotton Variety Trials.

Variety	Lint Yield	Lint Percent	Seed Index	Boll Size	Length	Uniformity Index	Strength	Elongation	Micronaire
	lb/a	%	g	g	inch	%	g/tex	%	mic
DP 515 BG/RR	1516	43.01	8.81	4.90	1.11	83.46	29.97	7.70	5.06
DP 555 BG/RR	1500	44.16	8.29	4.92	1.10	82.77	29.36	7.26	5.07
DP 454 BG/RR	1449	43.73	9.21	4.89	1.08	83.72	29.04	7.42	4.52
ST 5599 BR	1425	41.83	10.72	6.00	1.11	83.48	30.98	7.73	5.15
DP 455 BG/RR	1389	43.82	8.63	4.86	1.12	83.08	30.75	7.46	4.59
DP 147 RF	1364	41.17	9.88	5.36	1.19	84.14	30.49	7.44	4.65
DP 143 B2RF	1350	39.90	9.79	5.15	1.20	83.28	28.59	7.33	4.59
DP 445 BG/RR	1347	42.44	9.33	5.07	1.13	84.53	31.05	8.14	4.67
DP 444 BG/RR	1279	42.22	9.49	5.00	1.11	84.08	28.81	7.67	4.49
DP 164 B2RF	1275	40.11	9.28	4.90	1.15	83.71	29.47	7.58	4.83
DP 167 RF	1157	40.27	9.50	4.88	1.16	84.11	30.45	7.68	4.79
MEAN	1368	42.06	9.36	5.08	1.13	83.67	29.91	7.58	4.76