

2022 Mississippi Cotton Official Variety Trials

2022 Mississippi Cotton Official Small Plot Variety Trials

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PREFACE

The main objective of the Mississippi Cotton Official Variety Trials (OVT) is to provide unbiased evaluation of yield and fiber performance of commercial and experimental cotton varieties. The ultimate goal is to provide Mississippi producers with adequate information to make well informed seed selection decisions for cultivation in the major production regions in Mississippi. This Mississippi Agricultural and Forestry Experiment Station bulletin is a summary of research conducted at numerous on and off station locations throughout Mississippi. The interpretation of these data may change after further experimentation over years or environments. The information included is not to be construed as a recommendation for use or as an endorsement of a particular product or variety by Mississippi State University or the Mississippi Agriculture and Forestry Experiment Station. Trade Names of commercial products used in this report are included only to provide greater clarity to the information presented.

2022 OVT Testing Locations

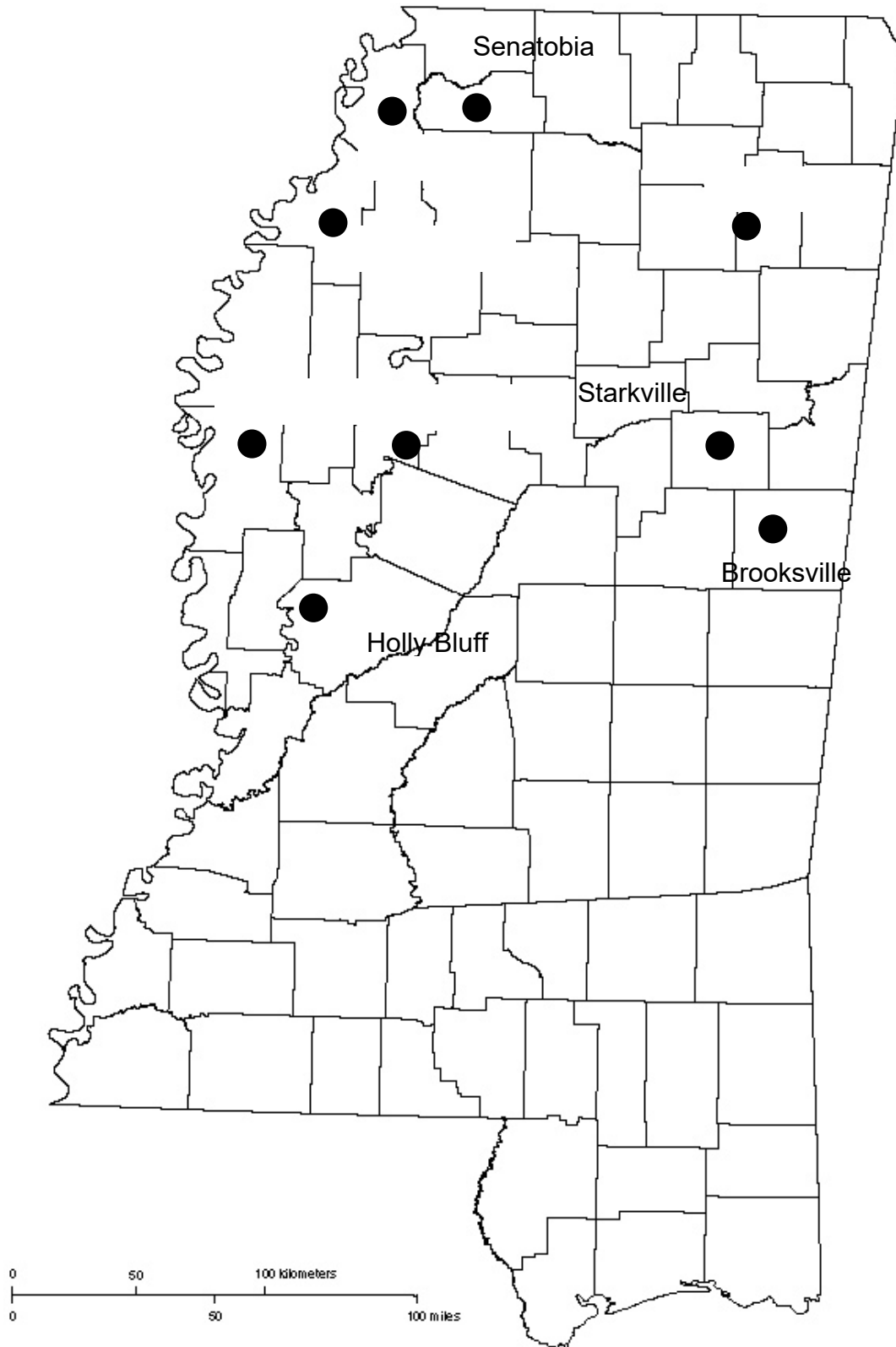


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Acknowledgements

The authors would like to express their appreciation first and foremost to the producers who participated in the 2022 Official Cotton Variety Trial locations that were conducted on-farm. The on-farm trials provide an added benefit to the data by expanding the footprint of the trials into differing areas in the state to better represent the environmental, soil textural, and management differences that are present throughout the state of Mississippi. Thank you to Bowen Flowers (Clarksdale), Smith Stoner (Holly Bluff), and Pace Perry (Senatobia and Tunica); your hard work and willingness to participate in the variety trials are deeply valued. We at the Mississippi Agriculture and Forestry Experiment Station look forward to working with you and other willing producers in the future.

Gratitude is expressed to all of the student workers in the Agronomy program in the Department of Plant and Soil Sciences at Mississippi State University for your assistance with all aspects of conducting the trials. Without your diligent work and assistance, the variety trials would not be a success, thanks again for all you do. We would also like to recognize Tyler Soignier, Eli Hobbs, Bryce Bullock, Kaylin McKay, Sheffield Anthony, Chase Felsher, and Will Duke for their assistance with hand harvesting, ginning, and preparing fiber quality samples. Your work allows us to provide data in a timely fashion.

Annually, Mississippi State researchers evaluate cotton varieties at numerous locations within the cotton growing regions in the state. The purpose of the Mississippi State Official Variety Trials is to provide an unbiased comparison of varieties across a range of environments. Trial evaluation of standard, commercially available, and new and upcoming cotton cultivars throughout the state provides producers data to make well informed variety selection decisions based upon how a particular cotton variety performed close to their base of operation.

The Official Variety Trial (OVT) for cotton is conducted annually at the Delta Research and Experiment Station in Stoneville, the North Mississippi Research and Extension Center near Verona, the R.R. Foil Plant Science Research Center at Mississippi State University, and at the Black Belt Branch Experiment Station in Brooksville as well as at cooperating producer locations in both the Delta and Hill cotton producing regions. At each location, all varieties entered into the trial are treated identical (conventional) with respect to herbicide and insecticide input to strive for unbiased evaluation of genetic potential. Mississippi State personnel attempt to conduct at minimum eight small-plot official variety trials per year in areas that well represent the majority of the state's cotton producing acreage.

Testing Procedures

All varieties submitted for testing are grown utilizing conventional chemical control for insect and weed pests. Each test plot consists of two rows of cotton 35 to 40 ft in length with a row spacing of 38" or 40". Each plot is analyzed statistically as a randomized complete block with four blocks or replications.

Management practices are determined and implemented by cooperators at each location based on soil texture, soil test value, and scouting for pest pressures. However, seeding rate and operation is controlled by the cotton variety testing coordinator. In addition, all locations are maintained free of lepidopteran insect pests in order to create parity among varieties with differing *Bt* technologies.

All fiber parameters such as lint percent as well as HVI fiber quality assessment are based upon a hand-picked 25 boll sample or a random grab sample from each replicated plot at each location. Samples from all locations are ginned on the same 10-saw Continental laboratory gin to determine gin turnout. Utilization of the same gin for all samples is important to not bias fiber quality across locations. High Volume Instrumentation (HVI) analysis for fiber property determinations are conducted by the United States Department of Agriculture Classing Office in Memphis, TN.

Lint yields are calculated using the seed cotton weight mechanically harvested from each plot, and the turnout percentage determined from hand-picked boll samples. Mean lint yields are presented as pounds lint per acre.

Interpreting the Data

Field variability is inherent to production research with any cropping system. Unlike strip trials, small plot research allows for replication with a very minimal footprint. The smaller area and replication of treatments helps reduce variability due to various factors commonly found in the field (i.e. soil textural changes, pest variations). Reduced variability lends us a greater understanding of a varieties genetic potential cultivated under uniform conditions. However, strip trial research may lend greater information about how a variety will perform across a range of conditions (e.g. low spot in the field). Data from both small plot and strip trials should be considered when making final variety selection decisions.

Mississippi State separates the greatest performing varieties by use of a Fishers Protected Least Significant Difference (LSD) at a five percent level of significance. The LSD associated with the five percent level, lends us 95 percent positive identification of the greatest yielding varieties at each specific location. In each individual trial the collection of varieties that yield the greatest statistically is represented in bold. These varieties will all have a numerical difference less than the LSD value shown at the bottom of the data variable columns.

The varieties listed in bold may have slightly differing numerical yields, but will perform very similar at a given location. Producers should review data tables for the geographical closest location that is representative of their operation, but should also review yield information across locations to get an idea of a variety's yield stability over a wide range of production environments.

Selecting a Variety/Trait

Cultivar selection is one of the most important management decisions a producer must make each growing season. Improper variety selection generally cannot be overcome with management. Starting with the greatest genetic potential will generally produce the highest yield with all other things being considered equal. Careful consideration should go into selecting varieties that are well adapted to Mid-South growing region and to certain geographical regions within the state due to the rising cost of seed and associated technology fees.

Multiple available transgenic traits can make selecting a variety cumbersome. At most locations the top yielding varieties represent a range of available trait packages. This lends the producer multiple options to choose from with respect to herbicide and insecticide traits. Below is a synopsis of the transgenic traits that were represented in this year's trials.

Glyphosate tolerance – generally indicated on the seed bag with either a G, RF, XF, or FE. Varieties with these designations can tolerate over the top applications of glyphosate. XtendFlex (XF) varieties are also tolerant to glufosinate and dicamba. Enlist (FE) varieties are also tolerant to glufosinate and 2,4-D.

Glufosinate tolerance: - generally indicated on the seed bag with an LL. These varieties can withstand over the top applications of Liberty. XtendFlex (XF) varieties are also tolerant to glyphosate and dicamba. Enlist (FE) varieties are also tolerant to glyphosate and 2,4-D.

<http://extension.msstate.edu/publications/weed-control-guidelines-for-mississippi>

It is important to note that producers utilizing a multitude of varieties with differing herbicide tolerant traits in close proximity must use caution to avoid crop injury from spray drift, improperly cleaned applicators, and or a combination of both. For more information on utilizing herbicide resistant traits and alternative weed control practices consult MSU extension publication # 1532 “Weed Control Guidelines for Mississippi” available online at

<http://extension.msstate.edu/publications/publications/insect-control-guide-for-agronomic-crops>

Bollgard 2 – Varieties with designations B2 on the seed bag or in the brand name contain genes that produce protein toxic to heliothis. However, under high and persistent pressure supplemental chemical control strategies are necessary to prevent economic damage from caterpillar pests. For more information on utilization of transgenic traits with insecticidal properties consult MSU extension publication # 2471 “Insect control guide for agronomic crops” available online at

<http://extension.msstate.edu/sites/default/files/publications/publications/p2471web.pdf>

Bollgard 3 – Varieties with designations B3 on the seed bag or in the brand name contain genes that produce protein toxic to heliothis. For more information on utilization of transgenic traits with insecticidal properties consult MSU extension publication # 2471 “Insect control guide for agronomic crops” available online at

<http://extension.msstate.edu/publications/publications/insect-control-guide-for-agronomic-crops>

WideStike – PhytoGen varieties with the designation W on the bag or in the variety name. Like Bollgard 2, Widestrike varieties contain two genes that produce proteins toxic to caterpillar pests. For more information on utilization of transgenic traits with insecticidal properties consult MSU extension publication # 2471 “Insect control guide for agronomic crops” available online at

<http://extension.msstate.edu/publications/publications/insect-control-guide-for-agronomic-crops>

WideStike 3 – PhytoGen varieties with the designation W3 on the bag or in the variety name. Like Bollgard 3, Widestrike varieties contain three genes that produce proteins toxic to caterpillar pests. For more information on utilization of transgenic traits with insecticidal properties consult MSU extension publication # 2471 “Insect control guide

for agronomic crops” available online at

<http://extension.msstate.edu/publications/publications/insect-control-guide-for-agronomic-crops>

TwinLink – Bayer varieties with the designation T on the bag or in the variety name. Like Bollgard 2 or Widestrike, TwinLink varieties contain two genes that produce proteins toxic to caterpillar pests. For more information on utilization of transgenic traits with insecticidal properties consult MSU extension publication # 2471 “ Insect control guide for agronomic crops” available online at

<http://extension.msstate.edu/publications/publications/insect-control-guide-for-agronomic-crops>

TwinLink Plus – Bayer varieties with the designation TP on the bag or in the variety name. Like Bollgard 3 or Widestrike 3, TwinLink Plus varieties contain three genes that produce proteins toxic to caterpillar pests. For more information on utilization of transgenic traits with insecticidal properties consult MSU extension publication # 2471 “ Insect control guide for agronomic crops” available online at

<http://extension.msstate.edu/publications/publications/insect-control-guide-for-agronomic-crops>

Considerations for Selection

Yield performance among common varieties evaluated over multiple locations, environments or years will normally vary. Therefore, selection decisions should be made from within the range of top yielding varieties. Newer varieties with limited available data should be cultivated to minimal acreage until further testing validates performance across multiple years and locations. Generally, there is no one variety that is the ‘silver bullet’; therefore, choosing multiple varieties allows for flexibility in relative maturity, management decisions, and risk aversion.

Lint yield and potential profitability should be the primary factor when attempting to select a variety, but do not discount fiber quality and traits contained within a given variety. Do not underestimate the discounts associated with high micronaire which can be significant.

A good performance indicator when selecting a variety is the overall mean of the trial. Comparing an individual variety to the trial mean can lend an indication of how that particular variety “stacked up” to the trial as a whole. A variety with a mean lint yield greater or much greater than the overall trial mean generally will perform well.

Remember, there can be a full 14-day difference in maturity between cotton varieties. However, most leading varieties including those submitted to this year’s trial tend to be more mid to early maturing than varieties of the past.

Loan Valuation Decision Aid

For each trial conducted in 2022, data was submitted to the upland cotton loan valuation aid. This tool was developed by Dr. Larry Falconer and is supported by Cotton Incorporated. The loan calculator was updated and provided by Dr. Will Maples, assistant professor of agricultural economics at Mississippi State University. The tool allows for calculation of Commodity Credit Corporation cotton loan premium and discount values based on yields and HVI classing information.

Top Yielding Varieties

There are numerous methods to pick or highlight the top yielding varieties across locations to develop a “short list” of promising varieties for future plantings. For soybean and corn, the short list is a powerful aid in selecting varieties due to the sheer number of available varieties. However, for cotton the list of available varieties that perform well and are adapted to the Mid-South is short on its own. The recent trend in cotton varieties submitted for testing to University OVT trials across the Mid-South has declined over the last ten years with changes in the cotton industry. Therefore, it is important to select a variety that has performed well in the Mississippi OVT or other Mid-South University OVT trials.

Planting and Harvest Dates

Location	Planting Date	Harvest Date	Seeding Rate
Brooksville	19 May	4 November	45,000
Clarksdale	1 June	26 October	45,000
Mississippi State	4 April	15 September	45,000
Sidon	19 May	28 September	45,000
Stoneville	12 May	19 October	45,000
Senatobia	20 May	17 October	45,000
Tunica	20 May	17 October	45,000
Verona	19 May	6 October	45,000

Table 1. Varieties submitted for testing by participating industry partners in 2022.

Industry Contact	Official Variety Trial Entries	
Americot Inc. – NexGen Varieties <i>Terry Campbell</i>	NG 3195 B3XF NG 3299 B3XF NG 4190 B3XF	
BASF <i>Andy White</i>	ST 4595 B3XF ST 4990 B3XF ST 5091 B3XF	BX 2392 B3XF BX 2394 B3XF ST 2396 B3XF BX 2398 B3XF
Crop Production Services/Dyna-Gro Seed <i>Scott Cummings</i>	DG 3456 B3XF DG 3511 B3XF DG 3519 B3XF DG 3535 B2XF	DG 3555 B3XF DG 3615 B3XF DG 3799 B3XF
DeltaPine <i>Dave Albers</i>	DP 1646 B2XF DP 2012 B3XF DP 2038 B3XF DP 2141NR B3XF DP 2333 B3XF	DP 2020 B3XF DP 2115 B3XF DP 2127 B3XF DP 2239 B3XF DP 2143NR B3XF
PhytoGen Seed Co. <i>Jonathan Siebert</i>	PHY 332 W3FE PHY 360 W3FE PHY 390 W3FE PHY 400 W3FE	PHY 411 W3FE PHY 443 W3FE PHY 415 W3FE PX 1130B333-04 W3FE PX 1140B336-04 W3FE PX 1140B373-04 W3FE
Winnfield Solutions LLC <i>Robert Cossar</i>	Armor 9371 B3XF Armor 9831 B3XF	

Table 2. Two-year mean yield performance of varieties cultivated at 4 locations in the Delta region during 2021 and 2022.

	Stoneville		Clarksdale		Sidon		Tunica		Average across location and year
	2021	2022	2021	2022	2021	2022	2021	2022	
Lint yield (lb lint/acre)									
DP 2127 B3XF	1695	2214	1608	1169	899	1184	1781	1490	1505
PHY 411 W3FE	1573	2112	1845	1000	1250	700	1628	1654	1470
NG 3195 B3XF	1668	2017	1625	1250	955	915	1893	1319	1455
PHY 390 W3FE	1421	2239	1505	856	1191	1064	1559	1664	1437
PHY 415 W3FE	1390	2170	1519	1197	1061	942	1375	1544	1400
Armor 9371 B3XF	1608	2100	1546	864	906	874	1503	1551	1369
PHY 443 W3FE	1434	2064	1495	897	1078	804	1550	1575	1362
ST 4595B3XF	1400	2052	1475	1423	1122	1006	1372	1046	1362
PHY 400 W3FE	1378	1834	1484	927	1134	917	1430	1743	1356
PHY 332 W3FE	1363	2032	1710	1014	1029	916	1206	1473	1343
DP 2115 B3XF	1641	1908	1501	868	1054	860	1314	1462	1326
PHY 360 W3FE	1424	2010	1542	998	971	992	1437	1196	1321
DP 2020 B3XF	1477	1728	1435	1007	987	988	1302	1554	1310
NG 4190 B3XF	1447	2046	1454	816	1051	985	1558	1039	1299
DG 3456 B3XF	1585	1708	1402	1098	1048	893	1286	1300	1290
ST 5091 B3XF	1662	1870	1169	1142	807	1007	1274	1325	1282
DG 3555 B3XF	1412	1757	1447	886	827	797	1502	1465	1262
DP 2333 B3XF	1285	1737	1152	1116	816	1108	1399	1433	1256
ST 4990 B3XF	1582	1719	1336	718	898	1066	1483	1211	1252
DP 2012 B3XF	1353	1777	1421	850	1011	859	1291	1264	1228
DP 2038 B3XF	1472	1914	1258	850	936	971	1205	1217	1228
DG 3535 B3XF	1263	1978	1246	761	906	873	1364	1415	1226
DP 1646 B2XF	1399	1909	1339	898	919	1007	1054	1210	1217
Armor 9831 B3XF	1218	1979	1250	737	780	869	1323	1158	1164

Table is sorted based on average lint yield means across location and year (i.e. from greatest to lowest lint yield).

Table 3. Two-year mean yield performance of varieties cultivated at 3 locations in the Hill region during 2021 and 2022.

	Location and Year						Average across location and year
	Brooksville		MSU		Verona		
	2021	2022	2021	2022	2021	2022	
Lint yield (lb lint/acre)							
ST 5091 B3XF	554	1393	572	1144	1176	1653	1082
DP 1646 B2XF	673	1179	627	1206	1165	1477	1055
Armor 9371 B3XF	618	1345	435	1238	937	1536	1018
PHY 400 W3FE	686	1228	622	998	1086	1435	1009
DP 2020 B3XF	690	1328	453	1073	1069	1344	993
DP 2038 B3XF	573	1069	620	953	1157	1574	991
DG 3456 B3XF	798	1176	427	988	1023	1492	984
ST 4595B3XF	976	1278	287	840	892	1617	981
PHY 390 W3FE	617	1252	491	874	1044	1600	980
NG 4190 B3XF	739	1098	548	1173	709	1557	971
DP 2012 B3XF	661	1277	336	1127	1067	1309	963
PHY 332 W3FE	731	1199	507	764	955	1621	963
ST 4990 B3XF	616	1271	484	1109	1030	1252	960
DP 2127 B3XF	786	1450	514	880	686	1442	960
DG 3535 B3XF	484	1290	549	852	960	1566	950
DP 2333 B3XF	691	1364	423	833	873	1511	949
PHY 443 W3FE	707	896	624	1113	929	1407	946
PHY 415 W3FE	652	1280	490	985	899	1356	944
Armor 9831 B3XF	433	1178	415	1136	895	1469	921
DP 2115 B3XF	777	1202	415	722	999	1355	911
PHY 360 W3FE	690	1364	358	783	807	1431	905
NG 3195 B3XF	597	1284	399	933	741	1339	882
PHY 411 W3FE	612	1015	439	754	812	1634	878
DG 3555 B3XF	455	1023	584	916	902	1382	877

Table is sorted based on average lint yield means across location and year (i.e. from greatest to lowest lint yield).

Table 4. One-year mean yield performance and fiber characteristics for OVT varieties submitted for testing in 2022 averaged across (8) testing locations excluding Holly Bluff due to missing entries.

Variety	Lint Yield†	Lint	Measurement				Loan Value
			Length	Mic.	Strength	Uniformity	
	(lb/acre)	%	(in.)	----	(g/tex)	-	¢/LB
DP 2127 B3XF	1449	45.04	1.16	4.7	31.2	84.5	52.71
PHY 415 W3FE	1424	44.32	1.22	4.5	34.3	84.1	52.90
ST 5091B3XF	1422	43.65	1.18	4.5	31.1	82.7	53.38
Armor 9371 B3XF	1419	45.25	1.17	4.5	30.8	83.9	53.23
PHY 400 W3FE	1414	44.95	1.20	4.4	33.4	83.8	54.71
NG 3195 B3XF	1393	43.70	1.19	4.5	32.1	84.3	53.39
PHY 390 W3FE	1370	43.57	1.19	4.2	33.0	83.2	54.24
PX1140B373-04	1366	43.92	1.19	4.5	34.0	84.7	53.49
ST 4595B3XF	1365	44.74	1.20	4.6	31.5	83.5	52.27
DP 2333 B3XF	1358	43.70	1.19	4.7	31.4	83.9	51.74
PHY 411 W3FE	1337	44.72	1.16	4.5	32.9	83.8	53.44
PX1130B333-04	1328	43.81	1.19	4.4	34.0	84.5	54.47
PHY 360 W3FE	1328	43.24	1.20	4.4	31.7	82.9	53.61
NG 4190 B3XF	1323	44.04	1.21	4.4	31.7	84.3	53.16
PHY 332 W3FE	1322	43.60	1.23	4.4	33.1	83.9	53.53
PHY 443 W3FE	1316	44.40	1.18	4.5	33.3	84.1	54.17
DG 3519 B3XF	1308	43.36	1.25	4.3	33.8	84.6	53.24
BX2392B3XF	1305	43.79	1.19	4.4	31.5	83.8	53.49
NG 3299 B3XF	1304	44.83	1.19	4.8	33.6	84.5	53.23
DP 2020 B3XF	1300	42.56	1.22	4.4	32.0	84.0	52.90
ST 4990B3XF	1298	41.70	1.22	4.6	31.3	84.2	53.68
DP 2038 B3XF	1294	46.15	1.15	4.7	31.2	82.9	52.41
DP 2012 B3XF	1294	42.88	1.21	4.4	32.2	84.0	53.71
DP 2141NR B3XF	1286	43.47	1.21	4.9	34.2	84.0	52.48
DG 3456 B3XF	1286	44.67	1.18	4.5	30.8	83.7	53.70
PX1130B336-04	1283	43.93	1.18	4.5	33.1	84.3	54.09
Armor 9831 B3XF	1277	43.65	1.20	4.6	32.7	83.2	53.69
DP 1646 B2XF	1275	44.11	1.25	4.5	31.3	84.0	52.83
DP 2115 B3XF	1253	44.89	1.19	4.7	31.8	83.9	53.40
DP 2239 B3XF	1246	44.23	1.24	4.5	31.5	83.7	52.91
DG 3511 B3XF	1231	44.32	1.21	4.8	34.2	84.9	53.69
DG 3555 B3XF	1221	42.46	1.23	4.2	32.1	84.3	52.77
BX2394B3XF	1216	43.48	1.19	4.4	31.7	82.7	53.03
DG 3535 B3XF	1209	43.29	1.19	4.4	32.0	83.4	53.73
DP 2143NR B3XF	1199	43.71	1.21	4.9	34.3	84.3	51.84
BX2396B3XF	1174	43.68	1.21	4.6	31.2	84.0	53.88
BX2398B3XF	1161	42.45	1.22	4.6	31.5	84.2	53.37
DG 3799 B3XF	1070	43.06	1.21	4.5	32.9	83.8	53.77
DG 3615 B3XF	1042	43.30	1.20	4.5	32.9	83.5	52.78
Overall Mean	1294	43.86	1.20	4.5	32.4	83.9	53.31
LSD (0.05)	110	1.15	0.01	0.2	0.8	0.6	1.32
C.V (%)	16.8	5.5	2.5	5.9	4.5	1.2	4.5

*Yield in bold type are not significantly different from the highest yielding variety.

Table 5. 2022 mean yield performance of varieties cultivated at 4 locations in the Delta Region excluding Holly Bluff due to missing entries.

Variety	Lint Yield [†] (lb/acre)	Lint %	Measurement				
			Length (in.)	Mic. ----	Strength (g/tex)	Uniformity -	Loan Value ¢/LB
DP 2127 B3XF	1483	45.8	1.16	4.8	31.1	83.9	52.01
PHY 390 W3FE	1482	45.5	1.18	4.5	32.6	83.3	54.28
PHY 415 W3FE	1463	45.8	1.22	4.6	33.7	84.1	50.85
PHY 400 W3FE	1461	45.8	1.20	4.6	32.3	83.7	54.23
PHY 411 W3FE	1436	45.6	1.18	4.6	32.8	83.7	52.75
NG 3195 B3XF	1422	44.2	1.19	4.7	32.3	84.5	53.74
PHY 332 W3FE	1409	44.5	1.21	4.6	32.6	84.0	53.47
ST 4595B3XF	1382	45.2	1.19	4.6	31.3	83.4	52.11
DG 3519 B3XF	1365	44.1	1.23	4.3	33.3	84.3	53.51
DP 2333 B3XF	1348	44.6	1.21	4.6	31.8	84.3	51.59
PX1130B333-04	1338	45.1	1.18	4.6	33.1	84.2	54.03
DP 2141NR B3XF	1336	43.9	1.20	4.8	33.3	84.1	52.97
ST 5091B3XF	1336	43.4	1.19	4.5	31.7	83.3	52.30
PHY 443 W3FE	1335	45.5	1.19	4.6	32.8	83.8	53.59
NG 3299 B3XF	1320	45.0	1.19	4.7	32.7	84.2	54.15
DP 2020 B3XF	1319	43.1	1.21	4.4	32.0	83.7	52.75
Armor 9371 B3XF	1318	45.5	1.17	4.6	31.3	84.0	53.53
DP 2143NR B3XF	1313	44.3	1.20	5.0	33.2	84.3	51.88
PX1140B373-04	1310	44.5	1.19	4.7	33.1	84.5	52.70
BX2394B3XF	1309	44.0	1.20	4.4	32.1	83.0	54.21
DP 2038 B3XF	1305	46.8	1.16	4.8	31.0	83.2	51.65
BX2392B3XF	1297	44.2	1.20	4.5	31.9	84.1	53.89
PHY 360 W3FE	1296	44.1	1.19	4.5	31.6	83.2	52.81
DP 1646 B2XF	1273	44.4	1.25	4.5	31.5	84.4	53.20
DG 3511 B3XF	1271	45.2	1.20	4.7	33.6	84.4	53.92
DP 2115 B3XF	1258	45.4	1.20	4.7	32.3	83.9	53.89
DG 3555 B3XF	1255	42.9	1.23	4.4	31.4	84.2	53.64
DG 3456 B3XF	1250	44.4	1.19	4.5	31.6	84.0	53.00
DP 2012 B3XF	1246	43.1	1.20	4.6	32.0	83.8	54.23
DP 2239 B3XF	1242	44.7	1.22	4.6	31.5	83.7	54.10
NG 4190 B3XF	1234	42.5	1.21	4.5	31.4	84.4	53.58
ST 4990B3XF	1209	42.6	1.19	4.7	31.3	83.8	53.24
DG 3535 B3XF	1209	43.1	1.20	4.6	31.9	83.5	54.58
PX1130B336-04	1204	44.5	1.17	4.7	32.2	83.8	53.32
Armor 9831 B3XF	1186	44.7	1.19	4.6	32.5	83.5	52.98
BX2396B3XF	1178	44.2	1.19	4.7	31.0	83.8	54.16
BX2398B3XF	1145	42.8	1.21	4.6	31.6	84.2	52.87
DG 3615 B3XF	1002	44.7	1.20	4.7	33.0	83.5	51.30
DG 3799 B3XF	999	43.5	1.21	4.6	32.3	83.5	53.10
Overall Mean	1293	44.3	1.19	4.6	32.2	83.8	53.17
LSD (0.05)	156	1.5	0.02	0.2	1.2	0.9	2.45
C.V (%)	16.8	4.7	2.7	5.6	4.5	1.4	5.6

*Yield in bold type are not significantly different from the highest yielding variety.

Table 6. 2022 mean yield performance of varieties cultivated at 4 locations in the Hill region.

Variety	Lint Yield [†] (lb/acre)	Lint %	Measurement				
			Length (in.)	Mic. ----	Strength (g/tex)	Uniformity -	Loan Value ¢/LB
Armor 9371 B3XF	1520	44.61	1.17	4.2	30.5	84.0	53.94
ST 5091B3XF	1513	43.52	1.18	4.3	31.0	82.5	54.85
NG 4190 B3XF	1426	45.29	1.21	4.2	32.0	84.6	54.32
PX1140B373-04	1425	43.33	1.20	4.2	34.8	85.0	54.29
PHY 415 W3FE	1402	42.71	1.23	4.3	35.0	84.2	55.02
ST 4990B3XF	1387	41.02	1.24	4.4	31.1	84.5	55.06
DP 2127 B3XF	1380	44.29	1.16	4.6	31.0	84.9	54.17
PHY 400 W3FE	1374	44.20	1.20	4.3	34.3	83.9	55.10
DP 2333 B3XF	1369	42.08	1.18	4.7	31.4	83.6	52.47
Armor 9831 B3XF	1369	42.56	1.20	4.3	32.5	82.8	55.36
NG 3195 B3XF	1365	43.29	1.18	4.3	31.7	84.2	53.66
PX1130B336-04	1362	43.33	1.20	4.3	34.0	84.9	54.86
PHY 360 W3FE	1354	42.51	1.21	4.2	31.7	82.6	54.35
ST 4595B3XF	1348	44.26	1.22	4.4	31.4	83.5	54.02
DP 2012 B3XF	1341	42.87	1.23	4.2	32.5	84.3	54.23
DG 3456 B3XF	1322	44.93	1.19	4.3	30.4	83.6	55.28
PX1130B333-04	1318	42.47	1.20	4.2	34.9	84.8	54.91
PHY 443 W3FE	1296	43.23	1.17	4.3	34.0	84.4	54.80
NG 3299 B3XF	1288	44.57	1.19	4.8	34.3	84.8	53.39
DP 2038 B3XF	1285	45.21	1.16	4.4	31.5	82.8	53.61
DP 2020 B3XF	1281	42.06	1.25	4.2	32.5	84.5	54.10
DP 1646 B2XF	1278	43.79	1.26	4.3	31.1	83.8	52.84
PHY 390 W3FE	1265	41.79	1.20	3.9	33.3	83.1	54.21
DG 3519 B3XF	1255	43.31	1.26	4.2	34.1	84.8	53.95
BX2392B3XF	1253	43.14	1.20	4.2	31.4	83.6	53.58
PHY 411 W3FE	1252	43.91	1.15	4.3	33.0	83.8	54.06
DP 2239 B3XF	1250	43.40	1.26	4.1	31.7	83.8	52.99
DP 2115 B3XF	1249	44.26	1.19	4.6	31.6	84.1	53.83
DG 3535 B3XF	1246	43.18	1.20	4.1	32.4	83.8	54.30
PHY 332 W3FE	1244	42.84	1.24	4.3	33.6	83.8	53.58
DP 2141NR B3XF	1236	43.12	1.21	4.8	34.8	83.9	53.62
BX2396B3XF	1206	43.21	1.22	4.3	31.6	84.2	54.66
DG 3511 B3XF	1189	43.19	1.22	4.7	34.8	85.1	54.11
DG 3555 B3XF	1188	42.37	1.23	4.0	32.8	84.4	52.82
BX2398B3XF	1178	42.54	1.23	4.5	30.9	84.2	54.36
DG 3799 B3XF	1142	42.73	1.20	4.3	33.2	83.9	55.20
BX2394B3XF	1136	42.71	1.20	4.1	31.9	82.7	53.45
DP 2143NR B3XF	1092	43.14	1.22	4.7	35.3	84.1	53.49
DG 3615 B3XF	1082	42.21	1.19	4.2	32.6	83.3	55.15
Overall Mean	1292	43.26	1.20	4.3	32.6	84.0	54.15
LSD (0.05)	160	1.99	0.02	0.2	1.2	0.8	1.51
C.V (%)	17.4	6.6	2.2	6.9	4.5	1.1	3.4

*Yield in bold type are not significantly different from the highest yielding variety.

Table 7. Mean yield performance and fiber characteristics for cotton varieties cultivated on a non-irrigated Brooksville silty clay at the Black Belt Experiment Station near Brooksville, MS during 2022.

Variety	Lint Yield†	Lint	Measurement				Loan Value
			Length	Mic.	Strength	Uniformity	
	(lb/acre)	%	(in.)	----	(g/tex)	-	¢/LB
DP 2127 B3XF	1450	44.33	1.21	4.7	31.5	84.2	53.31
DP 2239 B3XF	1403	44.30	1.18	5.0	31.9	83.9	52.76
ST 5091B3XF	1393	42.63	1.22	4.9	33.5	85.3	52.88
DP 2333 B3XF	1364	45.70	1.19	4.8	33.5	82.9	53.98
PHY 360 W3FE	1364	43.50	1.16	5.3	31.3	85.0	50.80
Armor 9371 B3XF	1345	45.13	1.17	4.7	30.2	82.2	53.04
DP 2020 B3XF	1328	42.85	1.17	5.2	31.7	83.2	51.28
DG 3535 B3XF	1290	42.23	1.16	4.7	30.3	82.9	53.66
PX1130B333-04	1286	42.55	1.15	4.9	29.9	82.6	52.95
NG 3195 B3XF	1284	44.20	1.18	4.8	32.3	82.8	53.24
PHY 415 W3FE	1280	42.73	1.23	4.9	32.3	84.0	53.40
ST 4595B3XF	1278	43.95	1.10	5.2	32.2	82.9	50.65
DP 2012 B3XF	1277	42.85	1.13	5.1	31.4	81.6	51.68
ST 4990B3XF	1271	40.40	1.14	4.7	31.2	82.2	51.99
PHY 390 W3FE	1252	42.28	1.15	4.7	32.3	82.4	53.00
PX1130B336-04	1238	43.65	1.26	4.9	31.7	84.4	52.74
PHY 400 W3FE	1228	44.48	1.15	4.9	32.7	82.9	52.46
DP 2115 B3XF	1202	45.28	1.18	5.2	32.1	84.2	51.38
PHY 332 W3FE	1199	43.93	1.24	4.5	34.8	84.9	54.10
DP 2141NR B3XF	1189	43.78	1.18	5.0	32.0	84.1	52.35
PX1140B373-04	1188	44.53	1.19	4.9	30.5	84.5	52.65
DP 1646 B2XF	1179	44.35	1.15	4.9	33.3	83.1	52.11
Armor 9831 B3XF	1178	43.58	1.19	5.2	34.9	84.5	51.96
DG 3456 B3XF	1176	45.25	1.21	4.8	32.4	83.8	53.35
BX2394B3XF	1162	44.15	1.11	5.3	30.6	82.2	49.56
BX2392B3XF	1160	43.33	1.15	4.7	34.3	85.1	52.56
NG 3299 B3XF	1149	44.23	1.14	4.8	33.9	84.5	53.91
DG 3519 B3XF	1147	44.40	1.21	4.7	31.4	84.5	53.94
NG 4190 B3XF	1098	42.75	1.19	5.2	34.9	83.8	51.51
DP 2038 B3XF	1069	48.13	1.25	4.7	31.3	85.0	53.40
DG 3511 B3XF	1065	43.28	1.24	4.7	31.9	83.9	53.38
DG 3555 B3XF	1023	43.50	1.24	5.1	34.6	86.1	51.78
PHY 411 W3FE	1015	44.78	1.17	4.0	33.3	83.4	46.81
BX2398B3XF	961	42.60	1.23	4.8	31.0	84.6	52.74
DG 3615 B3XF	952	42.98	1.14	4.9	32.6	83.9	52.68
BX2396B3XF	939	43.65	1.21	4.9	29.7	83.5	53.16
PHY 443 W3FE	896	42.70	1.17	5.3	29.9	83.4	51.02
DG 3799 B3XF	791	41.75	1.19	5.1	34.2	83.7	51.86
DP 2143NR B3XF	759	45.13	1.16	5.2	32.7	82.6	50.70
Overall Mean	1178	43.73	1.18	4.9	32.2	83.7	52.33
LSD (0.05)	260	2.20	0.05	NS	1.6	1.5	2.75
C.V (%)	15.2	3.6	3.17	NS	3.4	1.2	3.15

*Yield in bold type are not significantly different from the highest yielding variety.

Table 8. Mean yield performance and fiber characteristics for cotton varieties cultivated on a furrow irrigated Dubbs/Dundee very fine sandy loam on Bowen Flowers farm near Clarksdale, MS during 2022.

Variety	Lint Yield [†] (lb/acre)	Lint %	Measurement				
			Length (in.)	Mic. ----	Strength (g/tex)	Uniformity -	Loan Value ¢/LB
ST 4595B3XF	1423	43.90	1.17	4.8	31.7	84.3	53.30
NG 3195 B3XF	1250	41.68	1.26	4.5	31.6	83.4	53.90
DG 3519 B3XF	1246	45.10	1.22	4.5	31.5	83.0	53.89
PHY 415 W3FE	1197	46.95	1.17	4.6	32.3	83.6	53.87
DP 2127 B3XF	1169	43.10	1.20	4.4	31.9	83.0	53.87
ST 5091B3XF	1142	41.38	1.17	3.5	32.1	84.7	49.33
DP 2333 B3XF	1116	43.25	1.23	4.5	32.0	84.5	53.98
BX2392B3XF	1103	42.10	1.23	4.4	32.1	83.6	53.98
DG 3456 B3XF	1098	42.48	1.19	4.7	35.6	85.4	54.13
PHY 332 W3FE	1014	44.15	1.16	4.8	31.8	84.5	53.12
DP 2020 B3XF	1007	40.90	1.19	4.7	34.0	84.4	53.99
PHY 411 W3FE	1000	45.73	1.23	4.4	32.2	83.3	53.96
PHY 360 W3FE	998	43.35	1.22	4.3	32.9	83.3	54.03
BX2394B3XF	934	41.53	1.23	4.8	32.3	85.3	53.04
PHY 400 W3FE	927	45.48	1.20	4.2	32.7	83.4	54.05
DP 1646 B2XF	898	41.73	1.19	4.6	34.1	85.3	54.05
PHY 443 W3FE	897	44.83	1.21	4.4	32.9	83.3	53.98
DP 2141NR B3XF	890	42.63	1.19	4.7	30.7	83.9	53.80
DG 3555 B3XF	886	40.23	1.21	4.4	33.0	83.8	53.99
DP 2115 B3XF	868	43.13	1.22	4.7	33.5	84.3	53.44
Armor 9371 B3XF	864	42.80	1.17	4.4	32.8	84.6	53.90
PHY 390 W3FE	856	44.15	1.24	4.5	30.9	83.6	53.80
NG 3299 B3XF	854	43.05	1.17	4.9	32.3	84.1	53.17
DP 2012 B3XF	850	39.88	1.16	4.5	31.4	83.2	53.52
DP 2038 B3XF	850	44.50	1.21	4.4	32.6	84.7	54.08
PX1130B333-04	835	43.55	1.18	4.3	32.2	84.2	53.98
PX1140B373-04	828	45.68	1.18	4.7	31.9	83.2	52.67
NG 4190 B3XF	816	34.68	1.20	4.6	32.0	84.2	53.85
DP 2143NR B3XF	795	41.78	1.19	3.5	32.0	84.5	49.28
DP 2239 B3XF	780	41.05	1.15	4.8	32.0	82.7	52.78
DG 3535 B3XF	761	39.68	1.21	4.6	33.1	84.6	54.06
DG 3511 B3XF	759	42.40	1.21	4.6	31.3	84.3	53.90
Armor 9831 B3XF	737	43.33	1.11	4.8	33.3	83.1	52.70
ST 4990B3XF	718	37.17	1.23	4.6	31.3	84.3	53.95
PX1130B336-04	690	43.05	1.22	4.6	32.0	84.0	53.95
BX2398B3XF	654	39.83	1.19	4.8	31.9	84.3	53.97
BX2396B3XF	588	42.20	1.18	4.3	32.9	84.0	53.99
DG 3615 B3XF	565	41.78	1.22	4.7	33.6	83.2	53.03
DG 3799 B3XF	537	42.35	1.22	4.5	32.9	85.5	54.10
Overall Mean	907	42.51	1.20	4.5	32.4	84.0	53.49
LSD (0.05)	353	4.05	0.05	NS	NS	1.6	NS
C.V (%)	27.6	6.8	2.83	NS	NS	1.2	NS

*Yield in bold type are not significantly different from the highest yielding variety.

Table 9. Mean yield performance and fiber characteristics for cotton varieties cultivated on a non-irrigated Marietta Fine Sandy Loam at the Plant Science Research Center Mississippi State, MS during 2022.

Variety	Lint Yield†	Lint	Measurement				Loan Value
			Length	Mic.	Strength	Uniformity	
	(lb/acre)	%	(in.)	----	(g/tex)	-	¢/LB
BX2396B3XF	1248	43.98	1.19	4.4	32.4	84.0	55.21
Armor 9371 B3XF	1238	45.20	1.12	4.6	30.1	83.4	54.08
DP 1646 B2XF	1206	46.50	1.23	4.7	32.0	84.1	52.73
NG 4190 B3XF	1173	45.03	1.19	4.4	32.0	84.5	53.75
DG 3799 B3XF	1160	44.30	1.17	4.2	33.3	84.0	56.34
ST 5091B3XF	1144	46.38	1.13	4.8	29.9	81.8	54.96
Armor 9831 B3XF	1136	43.45	1.16	4.6	32.8	82.3	55.65
DP 2012 B3XF	1127	46.18	1.21	4.4	32.5	84.2	55.35
PHY 443 W3FE	1113	44.83	1.14	4.4	33.2	83.8	55.84
ST 4990B3XF	1109	43.85	1.21	4.5	30.7	84.1	54.94
DP 2020 B3XF	1073	45.50	1.22	4.4	32.4	84.7	54.38
DP 2141NR B3XF	1036	45.45	1.15	5.1	35.4	83.7	53.04
BX2398B3XF	1008	44.83	1.21	4.8	31.2	84.4	55.71
PHY 400 W3FE	998	45.95	1.18	4.4	34.4	83.8	56.25
DG 3456 B3XF	988	46.60	1.14	4.7	29.6	83.2	56.00
PHY 415 W3FE	985	43.83	1.21	4.3	36.0	83.9	57.09
DG 3511 B3XF	980	43.85	1.19	5.1	36.0	85.3	54.16
DP 2038 B3XF	953	43.38	1.09	4.8	31.5	81.7	52.60
PX1130B336-04	950	43.95	1.17	4.3	34.0	85.0	55.21
NG 3195 B3XF	933	44.23	1.15	4.6	31.9	84.1	54.11
BX2392B3XF	927	44.93	1.16	4.5	31.2	83.0	55.49
DG 3555 B3XF	916	44.58	1.16	4.3	32.1	83.1	54.73
PX1140B373-04	884	44.85	1.17	4.5	36.7	84.9	54.58
DP 2127 B3XF	880	44.43	1.13	4.9	30.7	85.0	53.15
PHY 390 W3FE	874	44.88	1.17	3.9	33.7	83.4	56.21
DG 3535 B3XF	852	46.38	1.18	4.0	33.0	83.7	54.64
ST 4595B3XF	840	45.18	1.16	4.8	31.5	83.0	54.99
DP 2333 B3XF	833	45.58	1.15	4.5	32.5	83.6	53.16
NG 3299 B3XF	814	45.25	1.16	4.9	33.9	84.7	52.24
DP 2239 B3XF	810	44.28	1.23	4.5	31.7	84.0	55.63
DP 2143NR B3XF	798	43.90	1.20	5.2	37.1	84.3	54.40
PHY 360 W3FE	783	43.20	1.19	4.4	32.3	82.6	54.14
PHY 332 W3FE	764	44.80	1.23	4.5	36.1	84.6	53.90
PHY 411 W3FE	754	44.30	1.13	4.1	33.2	84.0	54.31
DG 3519 B3XF	738	45.33	1.23	4.3	34.4	84.6	55.25
DP 2115 B3XF	722	46.00	1.16	5.0	32.1	84.5	53.66
DG 3615 B3XF	719	43.20	1.15	4.1	31.7	83.0	56.31
BX2394B3XF	702	43.98	1.17	4.3	31.8	82.2	54.56
PX1130B333-04	652	43.33	1.17	4.0	35.8	84.7	54.65
Overall Mean	942	44.76	1.17	4.5	32.9	83.8	54.70
LSD (0.05)	321	NS	0.04	0.5	2.7	1.3	NS
C.V (%)	24.0	4.3	2.4	7.1	5.7	1.1	3.5

*Yield in bold type are not significantly different from the highest yielding variety.

Table 10. Mean yield performance and fiber characteristics for cotton varieties cultivated on a non-irrigated Dubbs Loam/Tensas Silty Clay Loam at Porter Farms near Sidon, MS during 2022.

Variety	Lint Yield [†] (lb/acre)	Lint %	Measurement				
			Length (in.)	Mic. ----	Strength (g/tex)	Uniformity -	Loan Value ¢/LB
BX2396B3XF	1202	46.47	1.12	4.7	32.3	82.7	50.95
DP 2127 B3XF	1184	45.30	1.16	4.7	31.4	82.2	51.58
DP 2141NR B3XF	1164	45.43	1.14	4.5	31.7	83.2	49.22
DP 2333 B3XF	1108	43.70	1.19	4.4	32.4	83.9	46.05
BX2398B3XF	1077	44.38	1.12	4.6	32.8	83.2	44.50
DG 3511 B3XF	1073	45.78	1.15	4.5	32.5	82.1	51.38
ST 4990B3XF	1066	46.38	1.10	4.7	30.9	80.8	51.85
PHY 390 W3FE	1064	44.70	1.15	4.3	31.5	82.3	52.58
BX2392B3XF	1057	44.88	1.18	4.6	34.6	83.6	49.94
DG 3799 B3XF	1023	45.33	1.15	4.5	31.6	82.0	51.00
DP 1646 B2XF	1007	46.40	1.17	4.6	31.5	83.3	50.45
ST 5091B3XF	1007	43.30	1.13	4.7	32.1	82.0	46.56
ST 4595B3XF	1006	44.18	1.12	4.3	31.8	81.4	50.29
DP 2143NR B3XF	999	45.05	1.14	4.6	31.7	82.3	51.36
PHY 360 W3FE	992	44.47	1.18	4.7	31.7	83.6	50.50
NG 3299 B3XF	991	46.30	1.13	4.5	30.6	82.1	50.96
DP 2020 B3XF	988	44.35	1.17	4.5	32.6	82.4	47.95
NG 4190 B3XF	985	46.00	1.15	4.6	32.3	82.5	51.45
PX1130B333-04	975	45.70	1.15	4.4	31.4	81.9	53.25
DP 2038 B3XF	971	44.93	1.17	4.7	31.4	82.9	44.65
PHY 415 W3FE	942	45.30	1.15	4.6	32.4	82.7	44.68
PHY 400 W3FE	917	44.60	1.16	4.6	30.6	82.6	53.95
PHY 332 W3FE	916	45.95	1.14	4.4	33.0	83.1	50.55
NG 3195 B3XF	915	45.33	1.14	4.9	32.4	82.7	51.36
DG 3615 B3XF	895	46.73	1.17	4.5	32.1	82.2	45.64
DG 3456 B3XF	893	45.33	1.16	4.5	32.2	83.1	46.48
Armor 9371 B3XF	874	45.00	1.11	4.7	31.0	81.3	51.14
DG 3535 B3XF	873	43.35	1.16	4.6	31.4	82.2	52.96
Armor 9831 B3XF	869	44.55	1.15	4.4	31.4	83.3	50.34
PX1140B373-04	866	45.73	1.15	4.7	32.4	83.2	52.04
DP 2115 B3XF	860	45.23	1.16	4.6	33.1	82.4	52.85
DP 2012 B3XF	859	44.15	1.14	4.6	32.0	82.1	53.26
DP 2239 B3XF	859	46.00	1.15	4.5	31.7	82.3	50.60
PX1130B336-04	856	45.95	1.12	4.3	30.8	80.6	50.48
PHY 443 W3FE	804	45.13	1.17	4.3	32.1	82.2	50.70
DG 3555 B3XF	797	43.33	1.15	4.7	31.6	82.4	52.38
DG 3519 B3XF	790	44.17	1.15	4.1	32.4	82.0	50.78
PHY 411 W3FE	700	44.90	1.19	4.7	32.3	82.7	49.80
BX2394B3XF	682	43.93	1.18	4.5	32.5	81.9	52.45
Overall Mean	954	45.07	1.15	4.5	31.9	82.4	50.14
LSD (0.05)	NS	NS	NS	NS	NS	NS	NS
C.V (%)	20.4	4.3	3.3	5.8	5.5	1.7	9.5

*Yield in bold type are not significantly different from the highest yielding variety.

Table 11. Mean yield performance and fiber characteristics for cotton varieties cultivated on a furrow irrigated Bosket very fine sandy loam soil at the Mississippi State University Delta Research and Extension Center near Stoneville, MS during 2022.

Variety	Lint Yield [†] (lb/acre)	Lint %	Length (in.)	Mic. ----	Measurement		Loan Value ¢/LB
					Strength (g/tex)	Uniformity -	
PHY 390 W3FE	2239	48.28	1.21	4.6	33.4	84.4	56.14
DP 2127 B3XF	2214	48.37	1.16	5.2	30.2	85.1	54.55
PHY 415 W3FE	2170	46.60	1.23	4.9	33.9	84.8	56.50
PX1130B333-04	2136	46.68	1.20	4.9	33.7	85.7	56.16
PHY 411 W3FE	2112	47.13	1.19	4.9	32.2	84.1	56.18
Armor 9371 B3XF	2100	48.05	1.21	4.6	32.5	85.7	57.19
PHY 443 W3FE	2064	47.00	1.21	4.9	33.2	85.7	56.50
ST 4595B3XF	2052	46.20	1.23	4.8	31.5	84.6	55.88
NG 4190 B3XF	2046	45.03	1.23	4.7	30.4	85.2	57.26
BX2394B3XF	2034	47.10	1.21	4.5	32.7	84.8	57.17
PHY 332 W3FE	2032	45.58	1.23	4.9	33.2	84.8	56.43
NG 3195 B3XF	2017	46.10	1.21	4.8	32.8	85.5	56.75
PHY 360 W3FE	2010	46.20	1.21	4.6	32.5	84.5	57.18
DP 2239 B3XF	2008	46.98	1.28	4.8	31.2	85.3	57.18
DG 3511 B3XF	2007	47.35	1.23	4.8	34.2	85.4	56.46
PX1140B373-04	1992	44.35	1.19	5.0	33.3	85.7	55.25
Armor 9831 B3XF	1979	46.78	1.21	5.0	33.6	84.4	56.13
DG 3535 B3XF	1978	45.80	1.22	4.6	32.0	84.3	56.49
DP 2038 B3XF	1914	49.05	1.16	4.8	31.0	83.9	56.36
DP 1646 B2XF	1909	45.70	1.28	4.5	32.6	85.4	57.43
DP 2115 B3XF	1908	46.90	1.24	4.9	32.2	85.2	56.00
BX2392B3XF	1901	47.60	1.21	4.6	30.6	84.9	57.06
DP 2141NR B3XF	1897	45.33	1.22	5.0	34.0	85.1	56.24
DG 3519 B3XF	1896	43.90	1.27	4.6	34.0	85.8	57.34
PX1130B336-04	1882	45.53	1.19	4.9	31.8	85.3	57.16
ST 5091B3XF	1870	45.38	1.21	4.5	32.1	84.2	57.34
DP 2143NR B3XF	1864	45.53	1.24	5.2	34.0	85.9	53.26
PHY 400 W3FE	1834	46.45	1.22	4.4	32.5	84.5	56.84
NG 3299 B3XF	1817	44.78	1.25	4.7	33.3	85.1	56.86
BX2398B3XF	1780	45.43	1.23	4.8	31.4	85.2	56.61
DP 2012 B3XF	1777	45.75	1.23	4.7	32.0	85.4	57.38
DG 3555 B3XF	1757	44.18	1.27	4.6	30.9	84.7	56.59
DP 2333 B3XF	1737	45.68	1.22	4.9	31.6	85.2	56.78
DP 2020 B3XF	1728	45.00	1.23	4.4	31.1	84.9	57.16
ST 4990B3XF	1719	44.65	1.23	5.0	31.2	85.9	56.48
DG 3456 B3XF	1708	44.73	1.22	4.7	31.9	84.8	56.59
BX2396B3XF	1693	45.00	1.24	4.6	31.1	84.8	57.35
DG 3615 B3XF	1565	45.43	1.21	5.0	34.5	84.6	55.11
DG 3799 B3XF	1238	44.18	1.25	4.8	32.6	84.7	55.91
Overall Mean	1910	46.01	1.22	4.8	32.4	85.0	56.49
LSD (0.05)	222	NS	0.05	0.4	2.4	NS	1.83
C.V (%)	7.9	4.4	2.8	5.2	5.1	1.3	2.3

*Yield in bold type are not significantly different from the highest yielding variety.

Table 12. Mean yield performance and fiber characteristics for cotton varieties cultivated on a non-irrigated Keyespoint silty clay soil at Pace Perry Farms near Tunica, MS during 2022.

Variety	Lint Yield†	Lint	Measurement				
			Length	Mic.	Strength	Uniformity	Loan Value
	(lb/acre)	%	(in.)	----	(g/tex)	-	¢/LB
PHY 400 W3FE	1743	46.08	1.21	4.7	32.9	83.5	51.76
PHY 390 W3FE	1664	44.58	1.17	4.6	32.6	83.1	53.69
PHY 411 W3FE	1654	44.78	1.17	4.5	33.5	83.9	51.65
NG 3299 B3XF	1620	45.90	1.21	4.8	34.3	85.3	54.63
BX2394B3XF	1611	44.33	1.20	4.2	31.3	82.4	53.31
PHY 443 W3FE	1575	45.05	1.18	4.6	33.0	83.7	53.56
DP 2020 B3XF	1554	42.15	1.23	4.5	32.2	83.7	53.14
PX1140B373-04	1554	42.33	1.22	4.5	33.7	84.6	50.80
Armor 9371 B3XF	1551	46.30	1.20	4.4	30.4	85.0	52.26
PHY 415 W3FE	1544	44.53	1.27	4.5	35.0	84.8	51.39
DP 2127 B3XF	1490	47.23	1.17	4.6	31.5	84.8	50.54
PHY 332 W3FE	1473	42.95	1.24	4.4	31.8	83.7	51.98
DG 3555 B3XF	1465	43.83	1.26	4.0	31.9	85.0	51.64
DP 2115 B3XF	1462	46.35	1.20	4.6	31.7	83.8	52.55
DP 2333 B3XF	1433	45.60	1.23	4.7	31.3	83.7	51.94
DG 3535 B3XF	1415	43.68	1.22	4.5	32.4	84.1	54.30
DG 3519 B3XF	1383	43.13	1.25	4.3	33.3	84.5	51.73
DP 2141NR B3XF	1351	42.60	1.23	4.9	33.7	83.9	52.51
DP 2143NR B3XF	1333	44.68	1.22	5.1	34.0	84.9	51.00
ST 5091B3XF	1325	43.43	1.22	4.2	31.0	83.9	53.00
DP 2239 B3XF	1320	44.68	1.24	4.6	31.5	83.6	54.53
NG 3195 B3XF	1319	43.75	1.23	4.4	31.8	85.3	53.10
DG 3456 B3XF	1300	44.90	1.21	4.4	30.8	84.3	55.93
PX1130B333-04	1265	44.65	1.21	4.4	34.3	84.9	52.66
DP 2012 B3XF	1264	42.73	1.23	4.4	32.0	83.9	52.05
DG 3511 B3XF	1246	45.28	1.22	5.0	34.2	85.7	53.93
BX2396B3XF	1235	43.55	1.21	4.8	29.8	83.7	53.39
PX1130B336-04	1235	43.58	1.20	4.9	34.1	85.4	52.31
DG 3615 B3XF	1218	44.70	1.21	4.6	32.5	83.9	53.16
DP 2038 B3XF	1217	49.33	1.14	4.8	30.4	82.5	54.70
ST 4990B3XF	1211	40.90	1.25	4.5	31.8	84.9	51.39
DP 1646 B2XF	1210	44.38	1.28	4.5	30.5	84.2	51.03
DG 3799 B3XF	1203	42.65	1.20	4.5	32.6	83.6	51.85
PHY 360 W3FE	1196	42.88	1.17	4.3	30.9	82.0	51.26
Armor 9831 B3XF	1158	44.00	1.21	4.5	32.6	82.8	52.49
BX2392B3XF	1126	42.33	1.21	4.3	30.5	83.9	54.66
BX2398B3XF	1067	41.48	1.26	4.4	31.1	84.1	55.41
ST 4595B3XF	1046	46.35	1.22	4.6	30.8	84.3	50.16
NG 4190 B3XF	1039	44.43	1.25	4.2	31.4	85.6	52.03
Overall Mean	1361	44.22	1.21	4.5	32.2	84.1	52.63
LSD (0.05)	NS	1.73	0.03	0.4	1.4	1.3	2.73
C.V (%)	21.7	2.8	2.2	6.0	3.0	1.1	3.7

*Yield in bold type are not significantly different from the highest yielding variety.

Table 13. Mean yield performance and fiber characteristics for cotton varieties cultivated on a non-irrigated Leeper silt loam soil at the North Mississippi Research and Extension Center near Verona, MS during 2022.

Variety	Lint Yield†	Lint	Measurement				
			Length	Mic.	Strength	Uniformity	Loan Value
	(lb/acre)	%	(in.)	----	(g/tex)	-	¢/LB
ST 5091B3XF	1653	41.75	1.15	4.4	31.0	82.3	57.06
PHY 411 W3FE	1634	43.60	1.13	4.9	32.2	82.4	55.97
PHY 332 W3FE	1621	41.70	1.22	4.9	32.8	82.3	56.09
ST 4595B3XF	1617	43.53	1.21	4.9	31.4	83.3	55.43
PX1130B333-04	1612	41.73	1.20	4.7	34.7	84.9	57.49
PHY 390 W3FE	1600	42.50	1.18	4.5	33.1	82.5	57.21
DP 2038 B3XF	1574	45.93	1.11	4.8	31.0	82.3	54.92
DG 3535 B3XF	1566	42.75	1.17	4.4	31.1	82.4	56.88
NG 4190 B3XF	1557	42.15	1.20	4.4	32.1	84.4	56.80
PX1130B336-04	1545	42.40	1.19	4.8	33.9	84.5	56.88
Armor 9371 B3XF	1536	43.53	1.14	4.4	30.0	83.2	56.33
DP 2333 B3XF	1511	33.18	1.16	5.4	30.3	82.6	53.16
DG 3456 B3XF	1492	43.98	1.19	4.6	30.9	83.5	57.31
DP 1646 B2XF	1477	42.68	1.24	4.8	30.4	82.8	56.59
NG 3299 B3XF	1471	42.80	1.18	5.2	35.4	85.2	54.88
Armor 9831 B3XF	1469	40.75	1.20	4.7	32.4	82.0	56.76
BX2394B3XF	1468	41.63	1.19	4.7	31.7	81.7	57.31
BX2392B3XF	1447	42.15	1.18	4.6	31.3	83.2	57.34
DP 2127 B3XF	1442	43.65	1.14	4.8	30.2	83.6	56.09
PX1140B373-04	1440	41.28	1.20	4.5	33.7	84.6	57.44
PHY 400 W3FE	1435	42.15	1.19	4.7	33.5	83.3	57.49
BX2398B3XF	1432	40.75	1.24	5.0	30.8	83.7	56.16
DG 3519 B3XF	1432	40.88	1.25	4.6	33.9	84.1	56.59
PHY 360 W3FE	1431	40.90	1.17	4.7	31.2	82.2	56.95
BX2396B3XF	1408	42.77	1.20	5.2	30.7	83.8	54.48
PHY 443 W3FE	1407	42.23	1.16	4.8	33.6	83.8	55.87
DG 3555 B3XF	1382	40.43	1.23	4.4	33.4	84.8	57.41
PHY 415 W3FE	1356	40.90	1.21	4.6	34.7	83.7	56.39
DP 2239 B3XF	1355	43.53	1.24	4.8	31.7	83.3	57.41
DP 2115 B3XF	1355	42.23	1.16	5.1	31.2	83.6	54.94
DP 2020 B3XF	1344	40.25	1.23	4.7	32.5	84.0	57.36
NG 3195 B3XF	1339	41.13	1.17	4.6	31.2	84.0	56.25
DG 3799 B3XF	1338	41.25	1.18	5.0	33.1	82.8	56.24
DP 2012 B3XF	1309	40.23	1.23	4.6	32.2	84.2	57.50
ST 4990B3XF	1252	39.10	1.23	4.8	31.1	84.3	57.12
DG 3615 B3XF	1244	40.58	1.18	4.7	32.8	82.8	57.33
DP 2143NR B3XF	1204	40.68	1.19	5.1	34.9	83.1	54.81
DP 2141NR B3XF	1175	41.50	1.20	5.3	35.6	83.5	53.93
DG 3511 B3XF	1060	41.73	1.24	5.2	35.2	85.4	55.05
Overall Mean	1438	41.68	1.19	4.7	32.4	83.4	56.35
LSD (0.05)	305	NS	0.03	0.4	1.5	1.4	1.67
C.V (%)	14.2	8.8	2.1	5.3	3.2	1.2	2.1

*Yield in bold type are not significantly different from the highest yielding variety.

Table 14. Mean yield performance and fiber characteristics for cotton varieties cultivated on a non-irrigated Keyespoint silty clay soil at Pace Perry Farms near Senatobia, MS during 2022.

Variety	Lint Yield [†] (lb/acre)	Lint %	Measurement				
			Length (in.)	Mic. ----	Strength (g/tex)	Uniformity -	Loan Value ¢/LB
PX1140B373-04	2016	42.65	1.24	3.7	34.0	84.7	50.86
PHY 415 W3FE	1985	43.40	1.29	3.9	34.2	85.1	51.59
NG 3195 B3XF	1898	43.05	1.23	3.8	31.9	84.2	51.28
Armor 9371 B3XF	1894	44.30	1.23	3.7	31.4	84.5	52.00
ST 4990B3XF	1883	40.25	1.28	4.0	31.5	84.3	53.65
ST 5091B3XF	1881	43.33	1.25	3.7	32.0	84.7	52.53
DP 2333 B3XF	1839	43.85	1.25	4.3	31.3	84.5	51.09
PHY 360 W3FE	1839	42.45	1.25	3.7	31.5	84.2	52.60
DP 2127 B3XF	1810	44.78	1.21	4.0	32.1	84.7	53.28
PHY 400 W3FE	1805	44.23	1.25	3.8	34.9	85.6	51.58
PHY 443 W3FE	1798	42.90	1.22	3.9	35.0	84.9	52.95
NG 4190 B3XF	1792	51.25	1.25	3.7	32.1	85.3	52.40
PHY 332 W3FE	1784	40.95	1.28	3.5	31.8	84.1	50.75
PX1130B333-04	1734	42.28	1.24	3.9	34.4	84.8	52.60
DP 2115 B3XF	1720	43.53	1.24	3.8	31.6	84.7	52.90
NG 3299 B3XF	1718	46.00	1.22	4.3	33.7	84.3	53.05
PX1130B336-04	1715	43.33	1.22	3.7	34.1	84.8	52.50
DG 3519 B3XF	1705	42.65	1.29	3.7	33.9	84.3	50.03
PHY 411 W3FE	1699	42.90	1.19	4.2	33.5	84.2	51.80
Armor 9831 B3XF	1692	42.48	1.25	3.8	32.4	86.1	53.68
ST 4595B3XF	1660	44.38	1.28	3.6	31.2	84.5	51.65
DP 2012 B3XF	1645	41.58	1.24	3.7	32.9	85.0	50.93
DG 3456 B3XF	1630	43.88	1.24	3.6	30.8	84.2	52.53
DG 3511 B3XF	1620	43.53	1.24	4.0	33.5	84.4	53.35
DP 2038 B3XF	1615	43.60	1.25	3.8	32.0	84.6	53.64
DP 2141NR B3XF	1529	41.75	1.27	4.1	33.5	85.1	53.89
BX2392B3XF	1529	42.15	1.26	3.3	31.7	84.3	47.91
DP 2239 B3XF	1433	41.50	1.32	3.1	31.7	83.0	45.93
DP 2143NR B3XF	1426	42.88	1.26	4.0	34.0	83.3	51.26
DP 2020 B3XF	1378	39.63	1.29	3.6	32.6	84.6	50.63
PHY 390 W3FE	1335	37.53	1.24	3.5	33.2	85.0	49.20
DG 3615 B3XF	1323	42.10	1.24	4.0	33.3	85.6	51.83
BX2398B3XF	1310	41.98	1.26	3.8	30.9	84.7	51.20
DG 3555 B3XF	1306	41.28	1.29	3.3	32.9	85.1	46.33
BX2394B3XF	1299	41.10	1.25	3.4	32.1	85.0	48.48
DG 3535 B3XF	1275	41.35	1.25	3.9	32.8	85.5	52.03
DP 1646 B2XF	1249	41.63	1.33	3.4	31.1	84.2	49.21
DG 3799 B3XF	1192	43.63	1.26	3.7	33.4	85.2	53.03
BX2396B3XF	1084	42.33	1.27	3.6	31.4	83.6	54.25
Overall Mean	1614	42.77	1.25	3.7	32.6	84.6	51.54
LSD (0.05)	397	5.00	0.03	0.4	1.9	1.3	3.21
C.V (%)	17.3	8.4	2.1	8.4	4.1	1.1	4.4

*Yield in bold type are not significantly different from the highest yielding variety.

Table 15. Mean yield performance and fiber characteristics for cotton varieties cultivated on a non-irrigated Keyespoint silty clay soil at Smith Stoner Farms near Holly Bluff, MS during 2022.

Variety	Lint Yield† (lb/acre)	Lint (%)	Measurement				
			Length (in.)	Mic. ----	Strength (g/tex)	Uniformity -	Loan Value ¢/LB
Armor 9371 B3XF	1669	46.5	1.15	5.1	29.9	83.5	50.36
DP 2127 B3XF	1486	45.0	1.17	5.1	32.3	85.0	50.26
NG 4190 B3XF	1475	45.0	1.19	5.0	31.4	83.3	48.40
DG 3535 B3XF	1374	44.4	1.17	5.1	30.8	82.3	49.58
BX2396B3XF	1355	43.6	1.22	5.0	30.7	83.9	50.94
ST 4595B3XF	1347	45.0	1.20	5.2	32.4	83.8	47.49
DP 2020 B3XF	1308	42.3	1.20	4.9	30.8	83.4	49.10
DP 2141NR B3XF	1302	43.3	1.23	5.3	35.1	84.0	47.70
ST 5091B3XF	1278	45.3	1.13	4.8	29.9	81.6	52.24
ST 4990B3XF	1266	40.8	1.22	4.9	31.8	84.5	51.18
DP 2012 B3XF	1236	41.9	1.21	4.8	31.7	83.7	50.86
DP 2239 B3XF	1232	45.8	1.20	5.2	31.3	83.4	49.08
DP 2143NR B3XF	1226	43.8	1.21	5.3	34.7	84.5	46.76
NG 3299 B3XF	1224	45.1	1.17	5.1	33.8	84.7	49.98
NG 3195 B3XF	1208	43.2	1.21	4.9	32.8	84.2	51.03
Armor 9831 B3XF	1163	43.9	1.21	5.1	33.6	83.4	50.80
DP 2333 B3XF	1136	46.8	1.15	5.1	30.6	83.3	49.99
BX2394B3XF	1105	44.6	1.14	4.9	30.2	81.8	48.79
DG 3519 B3XF	1094	40.9	1.27	4.8	34.7	84.8	50.38
BX2392B3XF	1086	44.7	1.17	5.0	30.3	83.2	52.00
DP 2038 B3XF	1076	47.2	1.13	5.0	30.8	82.3	51.23
DG 3456 B3XF	1035	44.9	1.14	4.9	29.5	82.7	51.05
DG 3511 B3XF	1004	45.0	1.19	5.1	34.3	85.8	51.88
DG 3555 B3XF	998	41.3	1.26	4.4	31.8	84.7	50.24
BX2398B3XF	980	40.8	1.25	4.9	32.7	84.3	51.78
DP 1646 B2XF	932	44.2	1.24	4.9	30.8	83.7	51.79
DG 3799 B3XF	928	42.7	1.26	4.8	33.7	84.6	51.33
DP 2115 B3XF	868	45.5	1.17	5.2	31.5	83.6	50.75
DG 3615 B3XF	837	42.3	1.25	5.0	33.3	83.8	50.08
Overall Mean	1175	44.0	1.20	5.0	32.0	83.7	50.24
LSD (0.05)	320	1.5	0.04	0.2	1.8	1.5	2.78
C.V (%)	18.7	2.3	2.4	3.2	3.9	1.2	3.70

*Yield in bold type are not significantly different from the highest yielding variety.

Table 16. Response of the cotton varieties in the 2022 Mississippi State University Official Variety Trial to inoculation with the bacterial blight bacterium at Stoneville, MS. (data Courtesy of Dr. Tom Allen)

Variety	Response	Variety	Response
Armor 9371 B3XF	MS	NG 3195 B3XF	S
Armor 9831 B3XF	R	NG 3299 B3XF	R
DG 3799 B3XF	R	ST 4990B3XF	MS
DG 3511 B3XF	R	ST 5091B3XF	S
DG 3615 B3XF	R	ST 4595B3XF	S
DG 3456 B3XF	S	BX2392B3XF	S
DG 3519 B3XF	R	BX2394B3XF	S
DG 3535 B3XF	S	BX2396B3XF	S
DG 3555 B3XF	R	BX2398B3XF	S
DP 2127 B3XF	S	PHY 332 W3FE	R
DP 2115 B3XF	S	PHY 360 W3FE	R
DP 2038 B3XF	R	PHY 390 W3FE	R
DP 2012 B3XF	R	PHY 400 W3FE	R
DP 2020 B3XF	R	PHY 411 W3FE	R
DP 2239 B3XF	S	PHY 443 W3FE	R
DP 2141NR B3XF	S	PX1130B333-04	R
DP 2143NR B3XF	S	PX1130B336-04	R
DP 1646 B2XF	MR	PHY 415 W3FE	R
DP 2333 B3XF	R	PX1140B373-04	R
NG 4190 B3XF	S		

Response is presented as a letter assessment based on the percentage of plant material exhibiting disease post-inoculation. Variety responses listed above are based on disease incidence following inoculation with the bacterial blight causal organism and based on evaluations of observable disease incidence on a 0-100% scale. Responses were assessed as S = susceptible; MS = moderately susceptible; MR = moderately resistance; and R = resistant based on the observational response of each variety in a replicated variety trial planted in Stoneville, MS. Plants were inoculated with the bacterium that causes bacterial blight and evaluated for the incidence and severity that resulted from bacterial blight.

NOTES