MISSISSIPPI COTTON

VARIETY TRIALS, 2021

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MISSISSIPPI'S OFFICIAL VARIETY TRIALS

MISSISSIPPI STATE UNIVERSITY™
MS AGRICULTURAL AND
FORESTRY EXPERIMENT STATION

Mississippi Cotton Variety Trials, 2021

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The authors would like to express their appreciation first and foremost to the producers who participated in the 2021 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 Cliff Heaton and Brian Fife (Clarksdale), 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 Steven Hall, Tyler Soignier, Eli Hobbs, Ty Dickson, Kaylin McKay, Spencer Land, John Lowe, 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.

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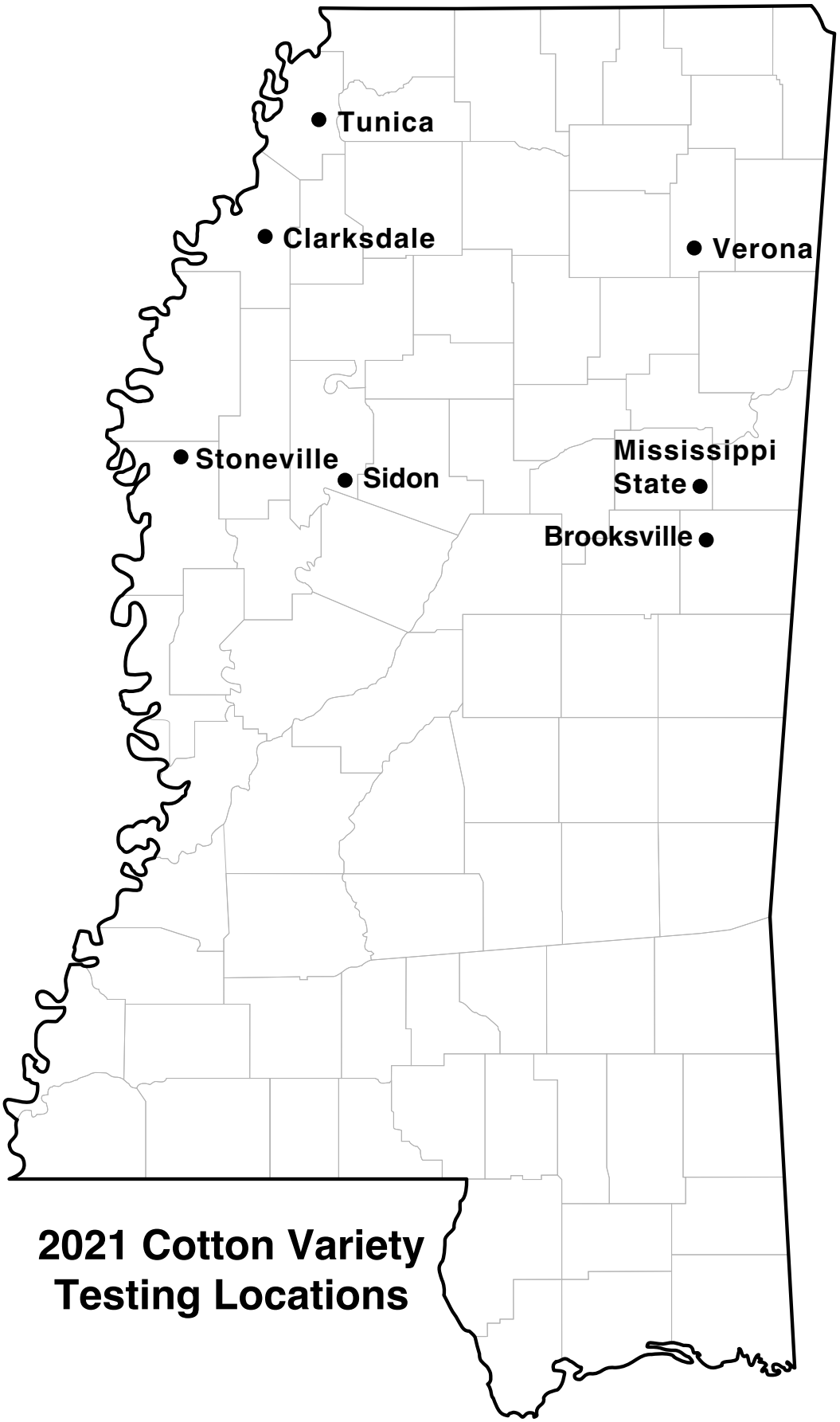
Find variety trial information online at ***mafes.msstate.edu/variety-trials***.

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 information 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.



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INTRODUCTION

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 Extension Center, the North Mississippi Research and Extension Center, the R.R. Foil Plant Science Research Center at Mississippi State University, and 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 identically (conventional) with respect to herbicide and insecticide input to strive for unbiased evaluation of genetic potential. Mississippi State personnel attempt to conduct at least 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 feet in length with a row spacing of 38 or 40 inches. 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 analysis for fiber property determinations are conducted by the United States Department of Agriculture Classing Office in Memphis, Tennessee.

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 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 the genetic potential of a given variety 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 Fisher's Protected Least Significant Difference (LSD) at a 5% level of significance. The LSD associated with the 5% level, lends us 95% positive identification of the greatest yield-producing 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 presented at the bottom of the data variable columns.

The varieties listed in bold may have slightly differing numerical yield, but they will perform very similarly at a given location. Statistical analysis is not conducted for cross-location averages. Producers should review data tables for the closest location that is geographically representative of their operation, but should also review yield information across locations to get an idea of a variety's yield stability over a 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 greater yield with all other things being considered equal. Careful consideration should go into selecting varieties that are well adapted to the Midsouth 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. Following 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 tolerant 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. 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/sites/default/files/publications/publications/p1532_1.pdf

Bollgard 2 — designated 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
https://extension.msstate.edu/sites/default/files/publications/publications/p2471_0.pdf

Bollgard 3 — designated B3 on the seed bag or in the brand name; contains genes that produce protein toxic to heliothis. For more information on utilization of transgenic traits with insecticidal properties, consult *Insect Control Guide for Agronomic Crops.*

WideStrike — 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 I*nsect Control Guide for Agronomic Crops.*

WideStrike 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 *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 *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 *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 yield-producing varieties. Newer varieties with limited data available 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 2021, data were submitted to the upland cotton loan valuation aid. This tool was developed by Dr. Larry Falconer (retired) and is supported by Cotton Incorporated. The loan calculator was updated 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 yield and HVI classing information.

TOP-YIELDING VARIETIES

There are numerous methods to choose or highlight the top yield-producing varieties across locations to develop a "short list" of promising varieties for the future. 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 Midsouth is short on its own. The recent trend in cotton varieties submitted for testing to university OVT programs across the Midsouth has declined over the last 10 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 Midsouth University OVT trials.

Planting and harvest dates.			
Location	**Planting date**	**Harvest date**	**Seeding rate**
Brooksville	**01 June**	**17 November**	**45,000**
Clarksdale	**20 May**	**02 November**	**45,000**
Mississippi State	**15 June**	**16 November**	**45,000**
Sidon	**19 May**	**15 November**	**45,000**
Stoneville	**18 May**	**14 October**	**45,000**
Tunica	**20 May**	**25 October**	**45,000**
Verona	**19 May**	**11 November**	**45,000**

Table 1. Varieties submitted for testing by participating industry partners, 2021.

Industry contact	Variety trial entries	
Americot Inc. – NexGen Varieties *Terry Campbell*	NG 3195 B3XF NG 4190 B3XF NG 4936 B3XF	NG 5150 B3XF NG 5711 B3XF AMX20B037 B3XF
BASF *Andy White*	ST 4990 B3XF ST 4993 B2XF ST 5091 B3XF BX 2297 B3XF	BX 2298 B3XF ST 4595 B3XF BX 2296 B3XF
Crop Production Services/Dyna-Gro Seed *Scott Cummings*	DG 3317 B3XF DG 3456 B3XF DG 3520 B3XF DG 3535 B2XF	DG 3469 B3XF DG 3555 B3XF DG 3644 B3XF
DeltaPine *Dave Albers*	DP 1646 B2XF DP 2012 B3XF DP 2038 B3XF DP 20R744 B3XF DP 20R 745 B3XF	DP 2020 B3XF DP 2115 B3XF DP 2127 B3XF DP 20R733 B3XF DP 20R734 B3XF
PhytoGen Seed Co. *Tom Eubank*	PHY 332 W3FE PHY 360 W3FE PHY 390 W3FE PHY 400 W3FE PHY 411 W3FE	PHY 443 W3FE PX 1130A329-04 W3FE PX 1140A383-04 W3FE PX 1140A385-04 W3FE
Seed Source Genetics *Ed Jungmann*	SSG CT 114 SSG UA 222	
Winnfield Solutions, LLC *Robert Cossar*	Armor 9608 B3XF Armor 9371 B3XF Armor 9831 B3XF	

Table 2. Two-year mean lint yield performance of varieties cultivated at four locations in the Delta, 2020 and 2021.

Variety	Clarksdale		Sidon		Stoneville		Tunica		Average
	2020	2021	2020	2021	2020	2021	2020	2021	
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*lb/A*
PHY 411 W3FE	1928	1845	2289	1250	1531	1573	1578	1628	1703
PHY 443 W3FE	2311	1495	2760	1078	1398	1434	1432	1550	1682
DP 2127 B3XF	2420	1608	1126	899	1624	1695	1684	1781	1604
PHY 390 W3FE	1937	1505	2096	1191	1480	1421	1296	1559	1560
PHY 332 W3FE	2165	1710	1902	1029	1473	1363	1432	1206	1535
PHY 360 W3FE	1960	1542	2009	971	1309	1424	1531	1437	1523
NG 5150 B3XF	2204	1674	1172	1098	1470	1295	1427	1689	1504
NG 3195 B3XF	1811	1625	931	955	1553	1668	1414	1893	1481
PHY 400 W3FE	1840	1484	1797	1134	1388	1378	1392	1430	1480
Armor 9371 B3XF	1839	1546	831	906	1399	1608	1677	1503	1414
DP 2115 B3XF	1957	1501	827	1054	1505	1641	1506	1314	1413
DG 3456 B3XF	2098	1402	853	1048	1564	1585	1438	1286	1409
Armor 9608 B3XF	1869	1432	971	1036	1393	1336	1418	1413	1358
DG 3520 B2XF	1741	1425	973	715	1606	1361	1164	1802	1348
DG 3535 B2XF	1988	1246	1035	906	1459	1263	1373	1364	1329
DP 2012 B3XF	1928	1421	777	1011	1293	1353	1503	1291	1322
DP 2020 B3XF	1734	1435	839	987	1254	1477	1354	1302	1298
DP 2038 B3XF	1664	1258	817	936	1426	1472	1452	1205	1278
DG 3317 B3XF	1829	1290	897	904	1240	1412	1259	1383	1277
NG 4936 B3XF	1819	1297	777	847	1436	1520	1299	1163	1270
NG 5711 B3XF	1788	1005	711	929	1534	1208	1511	1293	1247
UA222	1722	790	1316	682	1554	1359	1156	1310	1236
DP 1646 B2XF	1678	1339	877	919	1252	1399	1342	1054	1232
UA114	1529	490	1156	591	1421	1266	867	1247	1071

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 lint yield performance of varieties cultivated at three locations in the Hill region, 2020 and 2021.

Variety	Brooksville		MSU		Verona		Average
	2020	2021	2020	2021	2020	2021	
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*lb/A*
DP 2012 B3XF	622	661	702	336	933	1165	737
PHY 411 W3FE	544	612	844	439	881	1086	734
DP 1646 B2XF	363	673	971	627	792	975	734
PHY 400 W3FE	603	686	630	622	810	1044	732
DP 2127 B3XF	737	786	290	514	1015	999	723
NG 5711 B3XF	674	436	748	552	940	867	703
PHY 332 W3FE	443	731	983	507	694	833	698
DG 3456 B3XF	656	798	440	427	813	1043	696
DP 2020 B3XF	586	690	443	453	920	1067	693
PHY 443 W3FE	490	707	651	624	860	812	691
PHY 360 W3FE	756	690	540	358	844	955	690
DP 2115 B3XF	415	777	428	415	934	1157	688
DP 2038 B3XF	427	573	646	620	789	1069	687
DG 3535 B2XF	674	484	539	592	737	1037	677
DG 3520 B2XF	499	631	504	538	838	1050	677
PHY 390 W3FE	709	617	568	491	785	807	663
Armor 9608 B3XF	451	721	444	740	685	843	647
UA222	497	393	828	449	810	904	647
DG 3317 B3XF	548	587	574	510	843	752	636
NG 5150 B3XF	526	521	543	619	917	656	630
NG 4936 B3XF	532	541	666	466	853	709	628
Armor 9371 B3XF	653	618	435	435	518	937	599
UA114	569	366	663	530	838	425	565
NG 3195 B3XF	272	597	318	399	696	686	494

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 averaged across all seven testing locations, 2021.[1]

Variety	Lint yield	Lint	Length	Micronaire	Strength	Uniformity value	Loan
	lb/A	*%*	*in*		*g/tex*	*%*	*¢/lb*
PHY 411 W3FE	**1181**	0.42	1.16	4.2	32.9	83.1	51.94
DP 2127 B3XF	**1154**	0.41	1.18	4.5	32.1	84.4	51.24
DP 2115 B3XF	**1123**	0.41	1.20	4.4	32.3	84.0	49.97
PHY 400 W3FE	**1118**	0.41	1.21	4.1	34.1	83.4	50.13
20R744 B3XF	**1111**	0.42	1.21	4.0	31.4	82.8	49.08
NG 3195 B3XF	**1111**	0.41	1.19	4.2	32.6	83.6	48.72
ST 4595 B3XF	**1109**	0.41	1.23	4.1	31.3	83.7	51.01
PHY 443 W3FE	**1100**	0.42	1.18	4.2	33.9	83.9	48.96
PHY 390 W3FE	1084	0.41	1.19	4.0	33.1	83.1	50.98
DG 3456 B3XF	1084	0.41	1.20	4.2	31.2	83.3	52.62
Armor 9371 B3XF	1081	0.42	1.19	4.2	31.7	84.2	49.48
PX1130A329-04 W3FE	1080	0.43	1.21	4.3	33.3	83.5	50.60
NG 5150 B3XF	1071	0.40	1.21	4.2	32.0	83.4	49.26
BX 2297 B3XF	1070	0.42	1.19	4.4	31.1	83.3	52.17
ST 4993 B3XF	1068	0.41	1.19	4.4	33.9	84.2	51.73
NG 4190 B3XF	1068	0.41	1.22	4.1	32.3	84.1	48.56
PHY 360 W3FE	1054	0.40	1.20	4.1	32.2	82.8	49.36
PX1140A383-04 W3FE	1043	0.41	1.22	4.1	34.0	84.0	51.24
ST 5091 B3XF	1043	0.41	1.20	4.2	31.0	83.0	52.28
DP 1646 B2XF	1041	0.41	1.23	4.1	32.0	83.5	50.11
Armor 9608 B3XF	1040	0.43	1.20	4.2	31.6	83.3	50.13
PHY 332 W3FE	1039	0.40	1.22	4.1	33.2	83.4	48.21
ST 4990 B3XF	1032	0.39	1.22	4.3	32.1	84.4	49.05
DP 2020 B3XF	1030	0.39	1.23	4.2	32.5	84.0	51.45
PX1140A385-04 W3FE	1025	0.42	1.19	4.3	34.1	84.2	47.05
DG 3644 B3XF	1017	0.40	1.22	4.4	33.9	83.6	50.84
DP 2012 B3XF	1009	0.40	1.22	4.3	32.9	83.8	51.15
DP 2038 B3XF	1005	0.43	1.17	4.3	32.4	82.8	48.78
AMX20B037 B3XF	1001	0.41	1.21	4.5	34.1	84.5	52.61
BX 2298 B3XF	991	0.41	1.16	4.4	31.4	83.3	50.66
20R734 B3XF	984	0.41	1.20	4.4	31.7	82.9	51.01
DG 3317 B3XF	978	0.41	1.18	4.3	31.9	83.8	51.15
DG 3535 B3XF	968	0.40	1.21	4.2	32.1	83.8	50.57
DG 3555 B3XF	967	0.40	1.24	4.0	33.0	84.1	48.63
20R733 B3XF	948	0.41	1.25	4.1	32.1	83.4	48.03
NG 4936 B3XF	948	0.40	1.24	4.2	32.0	84.3	51.38
DG 3520 B2XF	946	0.39	1.25	3.9	32.7	83.9	48.77
DG 3469 B3XF	945	0.40	1.20	4.4	31.5	84.0	50.14
Armor 9831 B3XF	922	0.41	1.22	4.4	32.8	83.3	50.44
NG 5711 B3XF	909	0.39	1.23	4.2	32.5	83.6	52.52
BX2296 B3XF	896	0.42	1.19	4.5	32.5	83.6	46.23
20R745 B3XF	851	0.42	1.20	4.0	33.4	82.1	50.53
UA 222	841	0.39	1.23	4.2	32.7	83.8	51.23
UA 114	695	0.39	1.21	4.0	33.0	83.6	51.29
Overall Mean	1018	0.4	1.20	4.2	32.5	83.6	50.25
LSD (0.05)	87.79	0.01	0.01	0.1	0.7	0.6	NSD
C.V. (%)	16	5.5	2.70	7.2	4.0	1.3	NSD

[1]Lint yields in bold type within a column are not significantly different from the numerically greatest yielding variety. NSD = No significant differences between treatments.

Table 5. Mean yield performance of varieties at four locations in the Delta, 2021.[1]

Variety	Lint yield	Lint	Length	Micronaire	Strength	Uniformity value	Loan
	lb/A	*%*	*in*		*g/tex*	*%*	*¢/lb*
PHY 411 W3FE	**1556**	0.42	1.17	4.2	32.7	83.2	53.18
NG 3195 B3XF	**1550**	0.42	1.19	4.2	32.0	83.7	49.64
NG 5150 B3XF	**1447**	0.40	1.22	4.2	31.8	83.5	51.33
DP 2127 B3XF	1440	0.41	1.19	4.6	31.6	84.4	50.71
PHY 390 W3FE	1419	0.42	1.20	4.1	33.2	83.2	51.58
Armor 9371 B3XF	1412	0.42	1.20	4.2	31.5	84.2	49.11
PHY 443 W3FE	1389	0.41	1.19	4.2	33.4	84.2	49.16
DP 2115 B3XF	1377	0.42	1.19	4.4	32.0	83.9	52.24
NG 4190 B3XF	1377	0.41	1.22	4.1	32.3	84.3	46.96
PX1140A383-04 W3FE	1370	0.41	1.24	4.1	34.1	84.5	52.02
20R744 B3XF	1367	0.42	1.22	4.0	31.6	83.1	50.52
PHY 360 W3FE	1343	0.41	1.20	4.0	31.9	82.8	49.21
PHY 400 W3FE	1341	0.41	1.21	4.1	34.2	83.7	52.49
PHY 332 W3FE	1337	0.40	1.23	4.1	33.4	83.6	49.28
DG 3456 B3XF	1330	0.41	1.20	4.1	31.3	83.3	52.05
ST 4993 B3XF	1326	0.42	1.20	4.4	33.7	84.8	53.95
BX2295 B3XF	1314	0.42	1.22	4.1	30.9	83.5	53.04
ST 4990 B3XF	1309	0.39	1.22	4.3	31.8	84.2	50.04
AMX20B037 B3XF	1308	0.42	1.21	4.5	34.1	84.9	52.04
PX1130A329-04 W3FE	1300	0.42	1.22	4.3	33.3	83.8	53.24
PX1140A385-04 W3FE	1287	0.43	1.20	4.1	34.0	84.5	50.20
DG 3644 B3XF	1286	0.39	1.23	4.3	34.0	83.5	51.78
DG 3317 B3XF	1267	0.41	1.19	4.3	32.1	84.0	51.98
DP 2020 B3XF	1265	0.39	1.22	4.1	32.5	83.8	52.98
Armor 9608 B3XF	1258	0.43	1.20	4.1	31.1	83.2	51.09
BX 2297 B3XF	1246	0.42	1.19	4.4	31.1	83.4	53.29
DG 3555 B3XF	1245	0.39	1.24	3.8	33.3	84.4	49.68
DP 2012 B3XF	1239	0.40	1.21	4.2	32.7	83.7	51.71
ST 5091 B3XF	1232	0.41	1.20	4.1	30.8	83.0	52.85
NG 4936 B3XF	1223	0.40	1.24	4.2	31.8	84.4	51.98
DP 2038 B3XF	1217	0.43	1.17	4.2	32.0	82.6	50.66
Armor 9831 B3XF	1195	0.41	1.21	4.2	32.5	83.3	52.40
20R734 B3XF	1192	0.42	1.19	4.3	31.2	82.8	50.21
DG 3535 B3XF	1191	0.40	1.22	4.1	31.8	83.9	50.75
DP 1646 B2XF	1177	0.41	1.23	4.1	31.6	83.3	51.13
BX 2298 B3XF	1176	0.41	1.16	4.4	31.4	83.5	52.39
DG 3520 B2XF	1167	0.38	1.25	3.7	33.1	84.4	49.66
20R733 B3XF	1163	0.42	1.25	4.1	31.8	83.5	48.13
DG 3469 B3XF	1158	0.39	1.20	4.3	32.0	83.9	52.07
NG 5711 B3XF	1158	0.39	1.23	4.1	32.5	83.6	52.67
20R745 B3XF	1094	0.42	1.20	4.0	33.4	82.2	51.47
BX2296 B3XF	1092	0.43	1.20	4.3	32.5	83.9	46.32
UA 222	1035	0.38	1.23	4.2	32.9	83.9	53.86
UA 114	899	0.38	1.23	4.2	33.4	84.3	52.45
Overall Mean	1274	0.4	1.21	4.2	32.4	83.7	51.21
LSD (0.05)	111	0.0	0.02	0.2	1.0	0.8	NSD
C.V. (%)	12.1	3.9	2.7	7.0	4.1	1.2	NSD

[1]Lint yields in bold type within a column are not significantly different from the numerically greatest yielding variety. NSD = No significant differences between treatments.

Table 6. Mean yield performance of varieties at three locations in the Hill region, 2021.[1]

Variety	Lint yield	Lint	Length	Micronaire	Strength	Uniformity	Loan value
	lb/A	*%*	*in*		*g/tex*	*%*	*¢/lb*
BX 2297 B3XF	**819**	0.41	1.19	4.4	31.2	83.3	50.96
DP 1646 B2XF	**799**	0.41	1.24	4.2	32.4	83.7	48.93
ST 4595 B3XF	**799**	0.40	1.23	4.2	31.8	83.9	48.65
DP 2127 B3XF	**790**	0.40	1.18	4.4	32.6	84.5	51.85
PX1130A329-04 W3FE	**786**	0.43	1.20	4.3	33.2	83.1	47.51
ST 5091 B3XF	**784**	0.41	1.19	4.3	31.2	82.9	51.61
DP 2115 B3XF	**783**	0.40	1.21	4.5	32.6	84.1	47.33
20R744 B3XF	**770**	0.42	1.20	4.0	31.2	82.4	47.41
Armor 9608 B3XF	**768**	0.43	1.20	4.4	32.1	83.4	49.00
BX 2298 B3XF	**760**	0.41	1.16	4.4	31.5	83.2	48.65
DG 3456 B3XF	**756**	0.41	1.20	4.4	31.0	83.2	53.29
DP 2020 B3XF	**737**	0.39	1.23	4.3	32.4	84.3	49.67
PHY 400 W3FE	**736**	0.41	1.20	4.1	33.9	83.1	47.37
DG 3469 B3XF	**728**	0.40	1.19	4.5	30.9	84.0	47.89
DG 3520 B2XF	**726**	0.40	1.24	4.1	32.2	83.4	47.73
DP 2038 B3XF	**722**	0.42	1.18	4.4	32.8	83.0	46.58
DP 2012 B3XF	**721**	0.39	1.22	4.3	33.0	84.0	50.48
ST 4993 B3XF	**717**	0.41	1.18	4.3	34.2	83.5	49.13
PHY 443 W3FE	**714**	0.43	1.17	4.2	34.5	83.6	48.73
PHY 411 W3FE	**712**	0.41	1.15	4.1	33.1	83.0	50.49
ST 4990 B3XF	**710**	0.39	1.22	4.4	32.3	84.6	47.89
20R734 B3XF	**706**	0.41	1.20	4.5	32.1	83.1	51.95
PHY 332 W3FE	**690**	0.40	1.21	4.2	32.9	83.1	46.97
DG 3535 B3XF	**690**	0.41	1.21	4.4	32.4	83.8	50.35
AMX20B037 B3XF	683	0.41	1.21	4.4	34.1	84.1	53.27
DG 3644 B3XF	680	0.41	1.21	4.5	33.7	83.8	49.75
PX1140A385-04 W3FE	676	0.41	1.18	4.5	34.2	84.0	43.38
PHY 360 W3FE	668	0.40	1.19	4.2	32.6	82.9	49.53
DG 3555 B3XF	666	0.40	1.23	4.1	32.7	83.8	47.41
20R733 B3XF	662	0.40	1.24	4.2	32.4	83.4	47.91
BX2296 B3XF	652	0.41	1.18	4.6	32.6	83.2	46.13
PHY 390 W3FE	638	0.40	1.18	4.0	32.9	82.9	50.29
PX1140A383-04 W3FE	634	0.41	1.20	4.2	33.9	83.4	50.33
Armor 9371 B3XF	619	0.41	1.19	4.2	31.8	84.1	49.90
NG 5711 B3XF	618	0.40	1.22	4.3	32.6	83.6	52.35
NG 4190 B3XF	618	0.40	1.21	4.0	32.3	83.9	50.42
NG 5150 B3XF	594	0.40	1.20	4.2	32.1	83.4	47.02
DG 3317 B3XF	584	0.41	1.17	4.3	31.6	83.6	50.18
UA 222	582	0.39	1.21	4.2	32.5	83.8	48.16
Armor 9831 B3XF	581	0.40	1.22	4.5	33.1	83.4	48.15
NG 4936 B3XF	572	0.40	1.23	4.3	32.2	84.3	50.68
NG 3195 B3XF	561	0.41	1.19	4.1	33.3	83.5	47.64
20R745 B3XF	497	0.41	1.22	4.1	33.4	81.9	49.43
UA 114	440	0.41	1.19	3.8	32.5	82.8	49.93
Overall Mean	685	0.41	1.20	4.2	32.5	83.4	49.14
LSD (0.05)	136	0.02	0.02	0.2	1.0	0.9	NSD
C.V. (%)	24.3	7.16	2.8	7.4	3.9	1.4	NSD

[1]Lint yields in bold type within a column are not significantly different from the numerically greatest yielding variety. NSD = No significant differences between treatments.

Table 7. Mean yield performance and fiber characteristics for cotton varieties cultivated on a nonirrigated Brooksville silty clay at the Black Belt Experiment Station near Brooksville, 2021.[1]

Variety	Lint yield	Lint	Length	Micronaire	Strength	Uniformity	Loan value
	lb/A	*%*	*in*		*g/tex*	*%*	*¢/lb*
BX2295 B3XF	**976**	0.39	1.27	4.2	31.1	84.9	40.94
20R744 B3XF	**873**	0.41	1.25	3.9	31.8	83.5	41.70
PX1130A329-04 W3FE	**858**	0.40	1.25	4.5	35.0	84.9	36.40
BX 2297 B3XF	**829**	0.39	1.21	4.3	31.3	84.0	48.13
DG 3456 B3XF	**798**	0.40	1.23	4.3	31.8	84.1	48.50
DP 2127 B3XF	**786**	0.39	1.20	4.5	32.6	85.9	47.98
DP 2115 B3XF	**777**	0.37	1.24	4.3	32.7	85.1	46.74
NG 4190 B3XF	739	0.38	1.25	4.0	32.6	85.7	45.79
PHY 332 W3FE	731	0.38	1.27	4.1	34.0	84.5	37.54
Armor 9608 B3XF	721	0.41	1.23	4.3	33.3	83.5	39.53
BX 2298 B3XF	713	0.39	1.17	4.2	31.4	83.3	40.16
PHY 443 W3FE	707	0.47	1.19	4.2	35.3	84.4	43.70
BX2296 B3XF	704	0.41	1.21	4.5	33.8	84.1	31.86
20R733 B3XF	691	0.40	1.28	3.7	33.3	84.4	36.79
DP 2020 B3XF	690	0.37	1.27	4.1	33.9	85.2	40.09
PHY 360 W3FE	690	0.39	1.21	3.9	33.5	83.5	43.99
PHY 400 W3FE	686	0.40	1.24	4.2	35.4	84.1	36.41
DP 1646 B2XF	673	0.39	1.27	3.8	32.8	84.4	39.83
DP 2012 B3XF	661	0.36	1.27	4.2	33.6	85.2	45.00
PX1140A385-04 W3FE	661	0.40	1.24	4.6	35.0	84.6	34.76
PX1140A383-04 W3FE	652	0.40	1.23	3.9	34.3	84.0	49.48
DG 3520 B2XF	631	0.38	1.28	3.9	32.9	84.7	41.71
DG 3644 B3XF	626	0.44	1.25	4.1	35.1	84.9	48.26
DG 3469 B3XF	624	0.39	1.22	4.4	31.5	85.0	36.71
20R734 B3XF	623	0.40	1.20	4.6	32.1	83.5	47.23
Armor 9371 B3XF	618	0.38	1.24	4.1	32.0	85.6	41.29
PHY 390 W3FE	617	0.38	1.22	4.0	35.2	84.0	45.30
ST 4990 B3XF	616	0.37	1.28	4.5	32.2	86.3	36.71
PHY 411 W3FE	612	0.38	1.19	3.9	33.6	84.1	47.60
NG 3195 B3XF	597	0.40	1.23	4.2	34.6	85.1	39.80
DG 3317 B3XF	587	0.39	1.20	4.4	33.4	85.0	44.01
ST 4993 B3XF	574	0.38	1.21	4.4	35.0	85.1	40.25
DP 2038 B3XF	573	0.38	1.18	4.6	33.6	83.7	43.86
ST 5091 B3XF	554	0.39	1.24	4.2	32.4	84.0	44.24
NG 4936 B3XF	541	0.36	1.30	4.2	32.5	86.3	44.58
NG 5150 B3XF	521	0.39	1.25	4.0	33.9	84.0	38.05
AMX20B037 B3XF	515	0.39	1.24	4.2	35.9	84.9	50.69
DG 3535 B3XF	484	0.41	1.27	4.4	34.0	84.5	43.56
DG 3555 B3XF	455	0.39	1.27	3.9	33.4	84.8	40.54
NG 5711 B3XF	436	0.37	1.28	4.2	33.5	84.4	48.54
Armor 9831 B3XF	433	0.38	1.25	4.6	33.0	84.2	43.95
20R745 B3XF	429	0.40	1.23	4.0	34.8	82.7	40.21
UA 222	393	0.38	1.23	4.2	32.7	84.5	40.16
UA 114	366	0.42	1.24	4.0	33.2	84.2	45.09
Overall Mean	637	0.39	1.24	4.2	33.4	84.5	42.44
LSD (0.05)	235.3	0.06	0.04	0.4	1.7	1.5	NSD
C.V. (%)	26.4	11.16	2.7	6.2	3.6	1.3	NSD

[1]Lint yields in bold type within a column are not significantly different from the numerically greatest 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 Cliff Heaton Farms near Clarksdale, 2021.[1]

Variety	Lint yield	Lint	Length	Micronaire	Strength	Uniformity	Loan value
	lb/A	*%*	*in*		*g/tex*	*%*	*¢/lb*
PHY 411 W3FE	**1845**	0.41	1.22	3.7	32.9	83.0	51.13
PHY 332 W3FE	**1710**	0.38	1.23	3.8	32.1	83.4	42.46
NG 5150 B3XF	**1674**	0.39	1.24	4.0	31.7	82.8	46.13
NG 3195 B3XF	**1625**	0.40	1.22	3.9	32.8	82.5	45.29
DP 2127 B3XF	**1608**	0.41	1.23	4.1	31.2	82.6	44.24
DG 3644 B3XF	1551	0.38	1.21	3.7	33.7	83.4	46.93
Armor 9371 B3XF	1546	0.40	1.22	3.9	32.0	83.3	47.05
PHY 360 W3FE	1542	0.40	1.24	3.6	32.8	82.9	44.23
PX1140A383-04 W3FE	1519	0.40	1.23	3.8	31.3	83.5	49.44
PHY 390 W3FE	1505	0.41	1.22	3.7	31.2	82.6	43.90
DP 2115 B3XF	1501	0.41	1.21	4.0	33.3	83.4	50.76
PHY 443 W3FE	1495	0.40	1.25	3.5	32.0	83.3	46.25
PHY 400 W3FE	1484	0.40	1.23	3.9	32.9	82.8	49.14
BX2295 B3XF	1475	0.41	1.24	3.8	31.0	82.8	52.44
NG 4190 B3XF	1454	0.40	1.21	4.0	33.1	82.9	32.60
PX1130A329-04 W3FE	1452	0.41	1.24	3.8	31.5	83.7	50.56
DG 3555 B3XF	1447	0.38	1.24	3.8	32.1	84.4	44.74
BX 2297 B3XF	1445	0.41	1.20	4.1	32.4	83.5	49.48
DP 2020 B3XF	1435	0.39	1.21	3.8	33.1	83.5	48.98
Armor 9608 B3XF	1432	0.41	1.24	4.0	31.7	83.6	44.35
ST 4993 B3XF	1425	0.41	1.23	3.4	32.6	83.3	50.66
DG 3520 B2XF	1425	0.37	1.22	3.7	31.7	82.3	44.15
DP 2012 B3XF	1421	0.39	1.20	4.0	33.5	82.8	46.31
PX1140A385-04 W3FE	1404	0.42	1.19	4.0	31.8	82.5	49.34
DG 3456 B3XF	1402	0.39	1.24	3.8	32.5	82.8	47.95
20R744 B3XF	1395	0.41	1.21	3.6	31.3	82.4	43.61
BX 2298 B3XF	1381	0.39	1.20	3.9	32.1	84.0	49.11
DP 1646 B2XF	1339	0.41	1.22	3.7	31.7	82.9	48.20
ST 4990 B3XF	1336	0.38	1.20	3.9	31.2	82.8	45.18
AMX20B037 B3XF	1318	0.41	1.24	4.2	33.4	84.7	52.04
NG 4936 B3XF	1297	0.38	1.25	3.7	32.7	83.1	45.85
DG 3317 B3XF	1290	0.41	1.21	3.7	32.4	82.8	49.36
20R745 B3XF	1284	0.41	1.22	3.7	33.1	83.3	44.35
DG 3469 B3XF	1270	0.38	1.24	3.9	32.9	84.5	48.28
DP 2038 B3XF	1258	0.43	1.24	3.8	33.1	82.9	48.94
Armor 9831 B3XF	1250	0.40	1.23	3.7	31.4	83.4	48.80
DG 3535 B3XF	1246	0.39	1.22	3.8	31.1	83.3	49.00
20R734 B3XF	1227	0.41	1.21	3.8	32.0	83.1	41.04
ST 5091 B3XF	1169	0.40	1.24	4.1	31.5	83.7	50.88
20R733 B3XF	1152	0.41	1.26	3.6	31.6	83.3	47.49
BX2296 B3XF	1122	0.42	1.23	3.7	32.7	83.9	46.43
NG 5711 B3XF	1005	0.38	1.23	3.8	31.9	83.6	50.18
UA 222	790	0.37	1.22	3.6	32.2	82.7	53.56
UA 114	490	0.36	1.24	3.8	33.0	84.1	51.49
Overall Mean	1368	0.39	1.22	3.8	32.2	83.2	47.32
LSD (0.05)	266	0.01	NSD	NSD	NSD	NSD	NSD
C.V. (%)	13.1	3.20	NSD	NSD	NSD	NSD	NSD

[1]Lint yields in bold type within a column are not significantly different from the numerically greatest yielding variety.

Table 9. Mean yield performance and fiber characteristics for cotton varieties cultivated on a nonirrigated Marietta fine sandy loam at the Plant Science Research Center, Mississippi State, 2021.[1]

Variety	Lint yield	Lint	Length	Micronaire	Strength	Uniformity	Loan value
	lb/A	*%*	*in*		*g/tex*	*%*	*¢/lb*
Armor 9608 B3XF	**740**	0.44	1.21	4.4	31.8	84.8	57.89
DP 1646 B2XF	**627**	0.42	1.22	4.3	32.4	83.5	57.85
PHY 443 W3FE	**624**	0.43	1.18	4.1	33.3	83.5	57.43
PHY 400 W3FE	**622**	0.42	1.21	4.1	31.5	82.8	57.73
DP 2038 B3XF	**620**	0.43	1.22	4.1	32.7	83.0	57.43
NG 5150 B3XF	**619**	0.41	1.17	4.3	31.0	83.3	57.58
BX 2298 B3XF	**613**	0.43	1.18	4.4	32.0	83.6	57.56
AMX20B037 B3XF	**607**	0.43	1.21	4.3	31.0	83.5	57.69
DG 3520 B2XF	**592**	0.42	1.18	4.2	30.7	82.0	57.58
DG 3555 B3XF	**584**	0.42	1.20	4.3	31.9	83.3	57.79
ST 5091 B3XF	**572**	0.42	1.18	4.5	31.5	83.2	57.60
PX1130A329-04 W3FE	**570**	0.44	1.16	4.0	31.4	81.8	57.05
ST 4993 B3XF	**557**	0.44	1.18	3.9	33.0	82.2	57.53
NG 5711 B3XF	**552**	0.42	1.17	4.4	31.2	83.0	57.29
DG 3535 B3XF	**549**	0.42	1.15	4.6	30.2	84.1	56.98
NG 4190 B3XF	**548**	0.42	1.22	4.2	32.2	83.5	57.85
DG 3469 B3XF	538	0.42	1.20	4.3	30.6	83.8	57.50
UA 114	530	0.43	1.15	3.8	31.6	82.8	55.59
DP 2127 B3XF	514	0.40	1.19	4.3	32.1	83.4	57.76
DG 3644 B3XF	512	0.40	1.18	4.4	31.3	83.0	57.74
DG 3317 B3XF	510	0.43	1.18	4.1	29.6	83.1	57.68
PHY 332 W3FE	507	0.44	1.17	4.3	30.7	82.3	57.24
PHY 390 W3FE	491	0.43	1.17	4.1	30.4	83.3	57.26
PX1140A383-04 W3FE	490	0.43	1.19	4.1	31.6	82.7	56.25
ST 4990 B3XF	484	0.42	1.21	4.3	32.9	84.5	58.08
PX1140A385-04 W3FE	469	0.41	1.19	4.3	32.6	83.6	56.59
NG 4936 B3XF	466	0.43	1.19	4.5	32.3	84.0	57.79
20R744 B3XF	461	0.43	1.18	4.1	31.6	83.0	56.68
DP 2020 B3XF	453	0.42	1.23	4.3	31.1	84.0	57.69
UA 222	449	0.41	1.20	4.0	32.4	84.0	56.30
BX 2297 B3XF	439	0.43	1.20	4.2	31.7	83.8	57.56
PHY 411 W3FE	439	0.44	1.16	3.9	32.1	82.6	57.45
Armor 9371 B3XF	435	0.43	1.19	4.3	32.5	83.3	57.33
20R734 B3XF	433	0.40	1.23	4.3	32.5	84.1	57.96
DG 3456 B3XF	427	0.41	1.20	4.4	31.0	83.5	57.71
20R733 B3XF	423	0.40	1.21	4.5	32.0	84.3	56.84
Armor 9831 B3XF	415	0.41	1.24	4.4	33.4	83.7	57.01
DP 2115 B3XF	415	0.41	1.22	4.4	33.2	83.5	57.98
NG 3195 B3XF	399	0.43	1.17	4.3	31.9	82.1	56.91
BX2296 B3XF	359	0.40	1.16	4.7	30.8	82.8	57.54
PHY 360 W3FE	358	0.42	1.20	4.4	31.7	83.0	57.55
20R745 B3XF	358	0.43	1.23	4.1	31.7	83.5	57.79
DP 2012 B3XF	336	0.42	1.18	4.2	32.4	83.1	57.71
BX2295 B3XF	287	0.39	1.22	4.1	33.3	83.8	56.50
Overall Mean	497	0.42	1.19	4.2	31.7	83.2	57.38
LSD (0.05)	199	0.03	NSD	NSD	NSD	NSD	NSD
C.V. (%)	28	4.9	NSD	NSD	NSD	NSD	NSD

[1]Lint yields in bold type within a column are not significantly different from the numerically greatest yielding variety.

Table 10. Mean yield performance and fiber characteristics for cotton varieties cultivated on a nonirrigated Dubbs Loam/Tensas Silty Clay Loam at Porter Farms near Sidon, 2021.[1]

Variety	Lint yield	Lint	Length	Micronaire	Strength	Uniformity	Loan value
	lb/A	*%*	*in*		*g/tex*	*%*	*¢/lb*
PHY 411 W3FE	**1250**	0.41	1.2	3.60	31.4	82.7	50.01
PHY 390 W3FE	**1191**	0.41	1.2	3.60	33.2	82.4	51.88
PHY 400 W3FE	**1134**	0.40	1.2	3.68	34.3	83.3	48.71
BX2295 B3XF	**1122**	0.41	1.2	3.65	30.4	83.4	48.49
NG 5150 B3XF	**1098**	0.39	1.3	3.67	32.3	83.6	36.96
PHY 443 W3FE	**1078**	0.40	1.2	3.83	33.8	83.9	42.31
PX1140A383-04 W3FE	**1061**	0.40	1.3	3.50	34.7	83.7	48.44
DP 2115 B3XF	**1054**	0.41	1.2	3.88	31.5	83.5	51.29
NG 4190 B3XF	**1051**	0.40	1.2	3.58	31.7	83.8	48.41
PX1130A329-04 W3FE	**1050**	0.41	1.2	3.53	33.2	82.2	50.18
DG 3456 B3XF	**1048**	0.40	1.2	3.70	31.8	83.5	50.59
Armor 9608 B3XF	**1036**	0.42	1.2	3.58	31.2	82.1	49.18
PHY 332 W3FE	**1029**	0.38	1.3	3.55	33.4	82.9	44.93
20R744 B3XF	1012	0.41	1.2	3.58	31.3	82.9	47.95
DP 2012 B3XF	1011	0.39	1.3	3.95	32.4	83.7	50.60
DP 2020 B3XF	987	0.39	1.3	3.75	32.3	83.4	51.34
DG 3644 B3XF	987	0.38	1.3	3.85	33.4	82.9	50.23
BX 2297 B3XF	973	0.41	1.2	4.17	29.6	82.5	37.51
PHY 360 W3FE	971	0.40	1.2	3.43	31.0	81.9	45.01
BX2296 B3XF	964	0.42	1.2	3.67	32.3	83.2	32.94
NG 3195 B3XF	955	0.40	1.2	4.13	31.1	83.9	46.23
DP 2038 B3XF	936	0.43	1.2	3.63	31.0	81.5	44.74
NG 5711 B3XF	929	0.38	1.3	3.50	32.1	82.8	50.78
PX1140A385-04 W3FE	924	0.42	1.2	3.30	34.5	84.2	41.53
DP 1646 B2XF	919	0.39	1.3	3.60	31.0	82.8	45.81
Armor 9371 B3XF	906	0.40	1.2	3.73	31.0	83.7	40.69
DG 3535 B3XF	906	0.39	1.2	3.55	32.7	83.8	48.16
DG 3317 B3XF	904	0.41	1.2	3.98	31.0	84.0	48.09
AMX20B037 B3XF	899	0.41	1.2	4.30	34.1	84.4	45.95
DP 2127 B3XF	899	0.41	1.2	4.10	31.8	84.1	49.96
ST 4990 B3XF	898	0.38	1.3	4.00	31.2	83.9	44.45
BX 2298 B3XF	866	0.39	1.2	3.90	30.5	83.1	50.21
NG 4936 B3XF	847	0.38	1.3	3.90	30.8	84.7	51.20
DG 3555 B3XF	827	0.38	1.2	3.38	33.0	83.2	45.94
20R733 B3XF	816	0.41	1.3	3.68	31.3	82.9	50.53
20R734 B3XF	807	0.40	1.2	3.98	31.0	81.4	50.46
ST 5091 B3XF	807	0.40	1.2	3.70	30.7	82.4	50.06
Armor 9831 B3XF	780	0.40	1.2	3.83	32.1	81.9	48.69
ST 4993 B3XF	750	0.41	1.2	4.28	33.6	84.6	53.33
DG 3520 B2XF	715	0.37	1.3	3.50	33.1	84.3	46.51
DG 3469 B3XF	702	0.38	1.2	4.03	30.7	82.9	49.74
20R745 B3XF	701	0.41	1.2	3.65	33.0	80.6	50.03
UA 222	682	0.37	1.3	4.08	32.1	83.8	49.71
UA 114	591	0.36	1.2	4.00	33.4	83.9	47.16
Overall Mean	933	0.39	1.20	3.8	32.1	83.2	47.97
LSD (0.05)	235	0.02	0.03	0.4	1.3	1.3	9.43
C.V. (%)	18.0	3.40	1.8	7.3	2.9	1.1	14.0

[1]Lint yields in bold type within a column are not significantly different from the numerically greatest 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 Delta Research and Extension Center near Stoneville, 2021.[1]

Variety	Lint yield	Lint	Length	Micronaire	Strength	Uniformity	Loan value
	lb/A	*%*	*in*		*g/tex*	*%*	*¢/lb*
AMX20B037 B3XF	**1712**	0.43	1.16	5.3	30.2	86.0	54.25
DP 2127 B3XF	**1695**	0.45	1.18	4.4	31.2	83.9	57.35
NG 3195 B3XF	**1668**	0.42	1.19	4.2	30.2	83.6	57.73
ST 5091 B3XF	**1662**	0.43	1.18	4.9	30.9	84.0	56.60
DP 2115 B3XF	**1641**	0.43	1.19	4.7	30.7	85.2	57.50
Armor 9371 B3XF	**1608**	0.44	1.20	4.9	33.6	85.5	58.00
DG 3456 B3XF	**1585**	0.43	1.18	4.5	29.7	84.0	57.63
ST 4990 B3XF	**1582**	0.41	1.24	4.5	30.6	85.3	57.60
ST 4993 B3XF	**1575**	0.44	1.20	4.9	32.9	85.9	58.10
PHY 411 W3FE	**1573**	0.45	1.17	4.8	33.6	84.5	55.95
NG 4936 B3XF	1520	0.41	1.26	4.5	30.4	85.6	57.90
20R744 B3XF	1498	0.44	1.24	4.6	30.4	83.6	57.53
DP 2020 B3XF	1477	0.41	1.26	4.3	31.7	85.1	58.08
DP 2038 B3XF	1472	0.45	1.18	4.7	30.6	83.1	55.93
NG 4190 B3XF	1447	0.43	1.23	4.6	31.6	86.3	58.10
PHY 443 W3FE	1434	0.44	1.16	4.6	32.0	84.4	57.58
PHY 360 W3FE	1424	0.42	1.20	4.3	31.4	84.0	55.90
PHY 390 W3FE	1421	0.43	1.18	4.3	33.2	83.3	57.78
20R734 B3XF	1421	0.44	1.19	4.7	30.0	83.1	57.33
DG 3555 B3XF	1412	0.42	1.25	4.0	33.1	84.6	57.70
DG 3317 B3XF	1412	0.43	1.18	4.7	32.1	84.9	56.23
BX2295 B3XF	1400	0.43	1.22	4.6	30.4	84.9	56.28
DP 1646 B2XF	1399	0.42	1.17	4.5	30.4	83.4	57.18
PX1140A383-04 W3FE	1390	0.42	1.24	4.3	33.4	84.8	57.38
PHY 400 W3FE	1378	0.43	1.21	4.2	34.9	84.0	57.85
BX 2298 B3XF	1371	0.43	1.13	5.1	30.7	83.7	54.93
PHY 332 W3FE	1363	0.42	1.25	4.3	32.4	84.8	57.85
DG 3520 B2XF	1361	0.40	1.27	3.9	32.1	86.0	57.50
UA 222	1359	0.39	1.23	4.6	32.1	84.5	56.78
DP 2012 B3XF	1353	0.41	1.24	4.6	32.9	85.5	58.05
DG 3644 B3XF	1345	0.41	1.25	5.0	33.7	85.2	56.60
Armor 9608 B3XF	1336	0.44	1.17	4.3	30.1	83.4	57.73
BX 2297 B3XF	1297	0.44	1.19	4.6	29.8	83.5	57.33
NG 5150 B3XF	1295	0.42	1.21	4.6	31.5	84.7	58.00
20R733 B3XF	1285	0.43	1.26	4.8	31.1	84.1	57.20
PX1140A385-04 W3FE	1285	0.45	1.20	4.4	34.3	86.3	57.95
UA 114	1266	0.40	1.20	4.4	32.8	84.8	57.58
DG 3535 B3XF	1263	0.42	1.23	4.8	30.8	85.1	56.33
PX1130A329-04 W3FE	1237	0.45	1.22	4.7	33.0	85.2	57.83
DG 3469 B3XF	1232	0.40	1.19	4.8	32.0	84.9	57.78
Armor 9831 B3XF	1218	0.44	1.24	4.8	33.0	84.4	57.60
NG 5711 B3XF	1208	0.41	1.24	4.5	33.1	84.4	57.78
20R745 B3XF	1208	0.43	1.21	4.4	33.1	82.6	57.68
BX2296 B3XF	1096	0.44	1.19	5.1	31.5	83.8	55.50
Overall Mean	1411	0.42	1.20	4.5	31.7	84.5	57.20
LSD (0.05)	168	0.02	0.05	0.43	1.86	1.61	1.78
C.V. (%)	8.5	2.68	2.3	4.7	2.9	0.94	1.54

[1]Lint yields in bold type within a column are not significantly different from the numerically greatest yielding variety.

Table 12. Mean yield performance and fiber characteristics for cotton varieties cultivated on a nonirrigated Keyespoint silty clay soil at Pace Perry Farms near Tunica, 2021.[1]

Variety	Lint yield	Lint	Length	Micronaire	Strength	Uniformity	Loan value
	lb/A	*%*	*in*		*g/tex*	*%*	*¢/lb*
NG 3195 B3XF	**1893**	0.45	1.15	4.7	32.6	84.6	53.55
DG 3520 B2XF	**1802**	0.41	1.25	3.9	34.9	85.8	54.39
DP 2127 B3XF	**1781**	0.38	1.16	5.2	32.5	85.6	56.16
NG 5150 B3XF	**1689**	0.41	1.18	4.6	31.7	83.4	54.75
PHY 411 W3FE	**1628**	0.42	1.12	5.1	33.4	83.3	57.03
20R744 B3XF	**1565**	0.44	1.20	4.6	32.8	83.8	56.49
PHY 390 W3FE	**1559**	0.43	1.20	4.8	35.3	84.7	55.88
NG 4190 B3XF	**1558**	0.42	1.20	4.6	32.4	85.1	54.29
PHY 443 W3FE	**1550**	0.43	1.16	4.9	35.2	85.3	54.71
PX1140A385-04 W3FE	**1533**	0.41	1.19	4.8	35.7	85.8	55.85
Armor 9371 B3XF	1503	0.45	1.16	4.8	32.1	85.1	55.40
DG 3555 B3XF	1502	0.40	1.24	4.2	35.0	85.3	54.36
ST 4993 B3XF	1498	0.42	1.18	5.2	35.4	85.9	55.79
ST 4990 B3XF	1483	0.38	1.21	4.7	33.8	85.4	56.71
PX1130A329-04 W3FE	1460	0.43	1.21	5.3	35.4	85.0	56.69
PHY 360 W3FE	1437	0.41	1.17	4.9	32.1	83.0	55.06
PHY 400 W3FE	1430	0.41	1.19	4.6	35.2	84.7	56.94
AMX20B037 B3XF	1427	0.43	1.16	5.0	35.2	85.3	55.16
Armor 9608 B3XF	1413	0.44	1.18	4.6	31.0	84.0	56.44
20R733 B3XF	1399	0.43	1.22	4.8	33.4	84.2	41.85
DG 3317 B3XF	1383	0.42	1.18	4.9	33.0	84.7	56.35
PX1140A383-04 W3FE	1375	0.43	1.25	5.0	36.6	86.4	55.50
BX2295 B3XF	1372	0.42	1.18	4.5	31.6	83.7	56.56
DG 3535 B3XF	1364	0.42	1.19	4.7	32.3	83.8	52.30
DG 3644 B3XF	1330	0.39	1.21	4.9	35.3	83.5	55.76
Armor 9831 B3XF	1323	0.42	1.18	4.9	34.0	83.9	57.11
DP 2115 B3XF	1314	0.42	1.15	5.1	31.8	84.7	52.49
20R734 B3XF	1312	0.43	1.17	5.0	31.4	83.7	55.56
UA 222	1310	0.40	1.22	4.9	35.1	84.9	56.85
DP 2020 B3XF	1302	0.40	1.19	4.7	32.4	84.0	56.06
NG 5711 B3XF	1293	0.41	1.18	4.7	33.2	83.9	54.51
DP 2012 B3XF	1291	0.42	1.18	4.6	32.1	83.7	55.06
DG 3456 B3XF	1286	0.43	1.13	4.6	30.6	83.3	54.83
ST 5091 B3XF	1274	0.43	1.15	4.6	30.6	82.8	55.18
BX 2297 B3XF	1270	0.43	1.18	4.8	31.5	83.8	57.55
UA 114	1247	0.40	1.23	4.8	34.1	84.8	56.15
BX 2298 B3XF	1237	0.42	1.12	5.0	31.8	83.2	56.56
DG 3469 B3XF	1225	0.41	1.18	4.9	32.4	84.0	55.34
PHY 332 W3FE	1206	0.42	1.20	4.7	35.4	84.0	56.15
DP 2038 B3XF	1205	0.42	1.12	4.9	32.6	83.3	55.68
BX2296 B3XF	1193	0.44	1.17	5.2	32.8	84.5	55.00
20R745 B3XF	1182	0.44	1.16	4.5	34.3	82.6	56.93
NG 4936 B3XF	1163	0.41	1.21	4.8	32.8	84.8	55.94
DP 1646 B2XF	1054	0.41	1.23	4.7	32.7	84.2	56.36
Overall Mean	1396	0.42	1.18	4.8	33.3	84.3	55.30
LSD (0.05)	365	0.03	0.04	0.4	1.6	1.2	1.97
C.V. (%)	18.5	5.60	2.8	5.3	3.5	1.0	8.5

[1]Lint yields in bold type within a column are not significantly different from the numerically greatest yielding variety.

Table 13. Mean yield performance and fiber characteristics for cotton varieties cultivated on a nonirrigated Leeper silt loam soil at the North Mississippi Research and Extension Center near Verona, 2021.[1]

Variety	Lint yield	Lint	Length	Micronaire	Strength	Uniformity	Loan value
	lb/A	*%*	*in*		*g/tex*	*%*	*¢/lb*
ST 5091 B3XF	**1176**	0.42	1.16	4.3	29.9	81.4	52.99
DP 2012 B3XF	**1165**	0.40	1.22	4.5	33.2	83.7	48.74
DP 2115 B3XF	**1157**	0.42	1.16	4.7	31.8	83.7	37.28
ST 4595 B3XF	**1134**	0.43	1.22	4.4	31.1	83.0	48.53
BX 2297 B3XF	**1095**	0.42	1.16	4.7	30.7	82.1	47.19
PHY 411 W3FE	**1086**	0.43	1.11	4.6	33.6	82.4	46.43
DP 2038 B3XF	**1069**	0.44	1.12	4.7	32.1	82.1	38.46
DP 2020 B3XF	**1067**	0.39	1.21	4.5	32.3	83.7	51.24
20R734 B3XF	**1063**	0.42	1.17	4.7	31.9	81.9	50.65
DG 3520 B2XF	**1050**	0.39	1.26	4.0	33.0	83.5	43.91
PHY 400 W3FE	**1044**	0.41	1.16	4.1	34.7	82.3	47.98
DG 3456 B3XF	**1043**	0.43	1.15	4.6	30.3	82.0	53.66
DG 3535 B3XF	**1037**	0.40	1.21	4.2	33.1	82.7	50.53
ST 4990 B3XF	**1030**	0.39	1.18	4.5	32.0	83.0	48.89
DG 3469 B3XF	**1023**	0.41	1.15	4.9	30.6	83.3	49.45
DP 2127 B3XF	**999**	0.42	1.15	4.6	33.2	84.2	49.83
20R744 B3XF	**977**	0.43	1.17	4.1	30.3	80.7	43.86
DP 1646 B2XF	**975**	0.41	1.22	4.4	32.0	83.1	49.10
DG 3555 B3XF	**960**	0.39	1.23	4.2	32.8	83.4	43.90
PHY 360 W3FE	**955**	0.40	1.17	4.3	32.6	82.2	47.04
20R745 B3XF	**955**	0.42	1.19	4.1	33.6	79.6	50.30
BX 2298 B3XF	**954**	0.41	1.12	4.7	31.1	82.8	48.23
Armor 9371 B3XF	**937**	0.42	1.15	4.1	31.1	83.6	51.10
PX1130A329-04 W3FE	**929**	0.45	1.19	4.4	33.1	82.6	49.09
ST 4993 B3XF	**907**	0.42	1.14	4.7	34.5	83.3	49.61
UA 222	**904**	0.38	1.22	4.5	32.4	82.8	48.01
DG 3644 B3XF	**902**	0.40	1.21	5.0	34.7	83.4	43.26
PX1140A385-04 W3FE	**899**	0.43	1.13	4.6	34.9	83.7	38.80
Armor 9831 B3XF	**895**	0.42	1.19	4.5	32.8	82.3	43.50
BX2296 B3XF	**892**	0.42	1.18	4.7	33.2	82.9	48.99
20R733 B3XF	**873**	0.41	1.24	4.3	31.8	81.5	50.11
NG 5711 B3XF	**867**	0.40	1.22	4.3	33.0	83.5	51.23
Armor 9608 B3XF	843	0.44	1.15	4.4	31.3	82.0	49.60
PHY 332 W3FE	833	0.39	1.20	4.3	34.1	82.4	46.14
PHY 443 W3FE	812	0.41	1.15	4.2	34.8	82.9	45.06
AMX20B037 B3XF	809	0.41	1.18	4.7	35.5	84.0	51.43
PHY 390 W3FE	807	0.41	1.14	3.9	33.1	81.4	48.30
PX1140A383-04 W3FE	759	0.41	1.19	4.5	35.9	83.6	45.25
DG 3317 B3XF	752	0.41	1.14	4.4	32.0	82.7	48.85
NG 4190 B3XF	741	0.41	1.17	3.9	32.1	82.6	47.63
NG 4936 B3XF	709	0.40	1.21	4.3	31.8	82.5	49.69
NG 3195 B3XF	686	0.40	1.17	3.9	33.4	83.4	46.20
NG 5150 B3XF	656	0.40	1.17	4.3	31.5	82.9	45.44
UA 114	425	0.38	1.17	3.6	32.8	81.4	49.10
Overall Mean	930	0.41	1.17	4.4	32.6	82.6	47.60
LSD (0.05)	317	0.02	0.03	0.4	1.5	1.6	NSD
C.V. (%)	24	3.50	1.98	6.5	3.4	1.4	NSD

[1]Lint yields in bold type within a column are not significantly different from the numerically greatest yielding variety.

Table 14. Response of the cotton varieties in the 2021 Mississippi State University Official Variety Trial to inoculation with the bacterial blight bacterium at Stoneville.[1]

Variety	Response	Variety	Response
Armor 9371 B3XF	MR	NG 4936 B3XF	R
Armor 9608 B3XF	S	NG 5150 B3XF	S
Armor 9831 B3XF	R	NG 5711 B3XF	R
DG 3317 B3XF	S	AMX20B037 B3XF	R
DG 3456 B3XF	S	PHY 332 W3FE	R
DG 3469 B3XF	R	PHY 360 W3FE	R
DG 3520 B2XF	R	PHY 390 W3FE	R
DG 3535 B3XF	S	PHY 400 W3FE	R
DG 3555 B3XF	R	PHY 411 W3FE	R
DG 3644 B3XF	S	PHY 443 W3FE	R
DP 1646 B2XF	R	PX1130A329-04 W3FE	R
DP 2012 B3XF	R	PX1140A383-04 W3FE	R
DP 2020 B3XF	R	PX1140A385-04 W3FE	R
DP 2038 B3XF	R	ST 4990 B3XF	S
DP 2115 B3XF	S	ST 4993 B3XF	R
DP 2127 B3XF	S	ST 5091 B3XF	S
20R733 B3XF	S	BX 2297 B3XF	MS
20R734 B3XF	R	BX 2298 B3XF	R
20R744 B3XF	R	ST 4595 B3XF	R
20R745 B3XF	R	BX2296 B3XF	MS
NG 3195 B3XF	S	UA 114	R
NG 4190 B3XF	S	UA 222	R

[1]Data courtesy of Dr. Tom Allen.
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. Plants were inoculated with the bacterium that causes bacterial blight and evaluated for the incidence and severity that resulted from bacterial blight.

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The mission of the Mississippi Agricultural and Forestry Experiment Station and the College of Agriculture and Life Sciences is to advance agriculture and natural resources through teaching and learning, research and discovery, service and engagement which will enhance economic prosperity and environmental stewardship, to build stronger communities and improve the health and well-being of families, and to serve people of the state, the region and the world.

Scott Willard, Director **www.mafes.msstate.edu**