

2020 Mississippi On-Farm Cotton Variety Trials

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Mississippi State University Extension



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2020 County Trial Locations and Cooperators

Trials arranged and conducted by: Dr. Brian Pieralisi

Assistance provided by: Jake McNeal, Steven Hall, Brint Lindsey, Spencer Land, Ty Dickson, Eli Hobbs, Bryce Bullock, and Wilson Whitlock

Special thanks to: Dr. Tyson Raper – University of Tennessee – West Tennessee Research and Education Center

Table 1. Locations, growers, and cooperating agronomists for 2020 Mississippi State University County Variety Trial Program.

<i>Location</i>	<i>Grower</i>	<i>MSU Agronomist</i>
<i>Brooksville</i>	Dr. Brian Pieralisi	Dr. Brian Pieralisi
<i>Coffeerville</i>	Mr. Coley Bailey	Dr. Brian Pieralisi
<i>Crawford</i>	Mr. Rodney Mast/Lowell Mullett	Dr. Brian Pieralisi
<i>Delta Island</i>	Mr. Travis Dunn	Mr. Andy Braswell
<i>Edwards</i>	Mr. Kendall Garraway	Dr. Brian Pieralisi
<i>Ellistown</i>	Mr. Larry Coker	Mr. Charlie Stokes
<i>Greenwood</i>	Mr. John Moor	Mr. Andy Braswell
<i>Louise</i>	Mr. Byron Seward	Dr. Brian Pieralisi
<i>Mayersville</i>	Mr. Chase Mahalitic	Dr. Brian Pieralisi
<i>Natchez</i>	Mr. Matthew Guedon	Dr. Brian Pieralisi
<i>Prairie</i>	Mr. Ben Harlow	Mr. Charlie Stokes
<i>Sledge</i>	Mr. Sledge Taylor	Dr. Brian Pieralisi
<i>Mississippi State</i>	Dr. Brian Pieralisi	Dr. Brian Pieralisi
<i>Tallahatchie</i>	Mr. Mike Sturdivant Jr.	Dr. Brian Pieralisi
<i>Washington County</i>	Mr. Tyler Horn	Dr. Brian Pieralisi
<i>West Point</i>	Mr. Brandon Litwiller	Mr. Charlie Stokes

Mississippi State University Extension sincerely appreciates the time and effort of the cooperating growers and Mississippi State University Agronomists. In addition, several Independent Consultants provided a tremendous level of assistance with these trials including: Mr. Ty Edwards, Mr. Jason Grafton, Mr. Bert Falkner, Mr. Tucker Miller, and Mr. Tim Richards. Sincere gratitude is also extended to the following seed companies and representatives for providing seed for these trials: BASF – Dr. Andy White, Crop Production Services/Dyna-Gro – Mr. Scott Cummings, PhytoGen Cottonseed – Dr. Tom Eubank, Americot/NexGen – Mr. Chase Samples and Terry Campbell, and Delta and Pine Land – Mr. Greg Ferguson. Cooperation from all aforementioned parties is essential for success of the Mississippi State University County Research and Demonstration Yield Trial Program. In addition, partial financial support for this project was provided by each participating company and Cotton Incorporated.

Introduction

The cotton variety selection process is often difficult and, in many cases, leaves growers wondering for the remainder of the growing season whether they made the right variety selection decisions. Furthermore, the rapid introduction of new varieties and discontinued production of “older” varieties has become commonplace over the past several years. Historically, a premier variety would remain in the marketplace for a long period of time. However, a variety that performs well today typically has a life span of four to six years. One that does not perform well will likely remain on the market for less than three years. In addition, the historical standard for variety testing information was to have two to three years of data prior to release of any given variety. Today, one to two years of “broad scale” variety testing is common prior to release of a new variety. Therefore, greater demand has been placed upon testing a variety in as many environments as possible as a substitute for multiple years of data. In most cases, variety testing prior to release is conducted by private industry through a series of testing methods and through University Official Variety Trial (OVT) programs. Official Variety Trial data is typically available for one year prior to release of a given variety.

Our on-farm testing program is not designed to replace or compete with small-plot OVT testing programs, rather it is designed to complement the data that is provided by OVT programs. The use of large plot variety trial data in conjunction with small plot OVT data provides a tremendous resource with respect to variety performance to the growers of Mississippi.

Methodology

The on-farm testing program at Mississippi State University is designed to test varieties in as many environments as possible. Limiting the number of entries allows for efficient planting and harvest operations and requires a minimum amount of time from cooperating growers. The number of variety entries each given company is given is dependent upon market share. In addition, one to two at-large entries are given to smaller companies in order to provide equal opportunity to as many seed providers as possible. Our on-farm variety tests are usually planted in eight- or twelve-row sets utilizing planting equipment provided by each respective grower. In some cases, four- or six-row sets are used depending on site characteristics and grower preference. In addition, two replications of each variety are planted and harvested at all locations. Plot lengths ranged from 500 to 2600 feet in 2020 depending on the characteristics of the field the trial was conducted in. Seed treatments are at the discretion of the company providing seed. A premium seed treatment package including an insecticide, fungicide, and nematocide was provided for each variety. In-season management is at the discretion of the grower and each is encouraged to manage the plot area as he/she would manage any given field on their farm.

Each replication for each variety was individually harvested using standard harvest equipment. Harvest weights were collected using a boll buggy or trailer modified to display the weight of seed cotton contained therein. Prior to all harvest operations, each boll buggy or trailer was calibrated by the Mississippi Department of Agriculture to ensure that accurate harvest weights were collected. An 8- to 10-pound seed cotton sample was collected for each variety tested. In order to reduce ginning time, subsamples from replications number one and two were composited into a single sample. Seed cotton was ginned at the University of Tennessee – West Tennessee Research and Education Center. Ginning equipment at the WTREC consists of a 20-saw Continental Eagle gin equipped with a stick machine, incline cleaners, two lint cleaners, and a condenser. Fiber quality for each ginned sample was determined using a High Volume Instrument (HVI) located at the United States Department of Agriculture Classing Office in Memphis, TN.

Entries

A maximum of 10 core variety entries per year are allowed in the Mississippi State University on-farm variety trial program. Entries are allotted by market share from respective companies. One entry per year is automatically given to the variety planted on the highest acreage in the previous year based on the annual Varieties Planted Report from USDA-AMS. In 2020, Monsanto/Delta and Pine Land was allotted three spots; PhytoGen Cottonseed was allotted three spots, Americot was allotted two spots; and two additional “at-large” entries were given to provide parity between smaller companies with less resources than larger companies. Entries in the 2020 Mississippi State University County Trial Program were as follows:

Table 2. 2020 Mississippi State University County Variety Trial Program entry list.

Slot #	Criteria/Company	Variety
1	At – Large Entry – Crop Production Services/Dyna-Gro	DG 3520 B2XF
2	At – Large Entry – BASF	ST 4990 B2XF
3	Delta and Pine Land	DP 1646 B2XF
4	Delta and Pine Land	DP 2012 B3XF
5	Delta and Pine Land	DP 2038 B3XF
6	Americot	NG 4098 B3XF
7	Americot	NG 4936 B3XF
8	PhytoGen Cottonseed	PHY 400 W3FE
9	PhytoGen Cottonseed	PHY 443 W3FE
10	PhytoGen Cottonseed	PHY 390 W3FE

Site Characteristics

Locations for the 2020 Mississippi State University County Yield Trial Program are listed on page 3. Yield trials were conducted at a total of six-teen locations. Seven locations were located in the Delta and nine were in the hills. All Delta locations were irrigated and eight of nine Hill locations were dryland. The remaining Hill location (Crawford) was pivot irrigated. Field sites were chosen based upon grower preference and required elements to conduct a reliable yield trial.

Reported Data & Analysis

Each data table includes the following: variety, lint yield, lint percent, micronaire, staple length (inches) fiber strength, fiber uniformity, and leaf grade. Data analysis using SAS v. 9.4 was conducted on all replicated trials. Grand means (averages) are presented as well as Least Significant Differences (LSD). Least Significant Differences are the smallest value with which we can confidently say there is a difference between two means. Differences in means less than the given LSD value are likely due to variability within a given field or environment. For non-replicated trials and fiber data at individual locations, LSD’s are not applicable. For locations that were replicated and data from one replication of a given variety was lost, SAS will interpret these data as missing and provide data analysis based on estimates. Therefore, average data for a given location may be slightly different than data reported.

2020 Mississippi State University On-Farm Variety Trial Program

Yield and Fiber Quality Data Pooled Across 16 Locations

Table 3. Yield and fiber quality data pooled across all 16 locations.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
PHY 443 W3FE	1188	40.3	4.5	1.21	32.2	84.3	4.2
DP 2038 B3XF	1139	43.9	4.6	1.19	31.7	82.4	3.6
PHY 400 W3FE	1136	40.3	4.2	1.23	34.4	83.9	5.0
DP 2012 B3XF	1134	38.2	4.3	1.23	31.8	83.7	4.7
DP 1646 B2XF	1118	41.1	4.4	1.25	31.0	83.3	3.8
PHY 390 W3FE	1110	39.7	4.4	1.21	32.1	82.9	4.5
ST 4990 B3XF	1105	38.9	4.5	1.23	30.8	84.2	3.8
NG 4936 B3XF	1058	37.6	4.4	1.24	31.3	84.4	4.2
DG 3520 B2XF	1040	37.9	4.0	1.25	31.4	84.3	5.6
NG 4098 B3XF	998	37.5	4.3	1.26	34.1	84.0	5.3
Grand Mean	1103	39.5	4.4	1.23	32.08	83.74	4.5
LSD (0.05)	64	1.4	0.1	0.02	0.9	0.5	0.5

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

Delta Region Locations Included: Delta Island, Greenwood, Louise, Mayersville, Sledge, Tallahatchie, and Washington County

Table 4. Yield and fiber quality data pooled over seven Delta locations

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
PHY 443 W3FE	1496	41.4	4.6	1.21	32.9	84.0	4.2
PHY 400 W3FE	1369	41.5	4.2	1.23	32.7	84.3	5.0
PHY 390 W3FE	1352	40.5	4.2	1.20	32.1	81.9	5.0
DP 2012 B3XF	1290	38.4	4.3	1.24	30.9	83.7	4.5
DP 2038 B3XF	1216	44.7	4.5	1.89	32.0	82.0	3.7
DP 1646 B2XF	1203	40.8	4.3	1.28	31.1	83.5	4.2
NG 4936 B3XF	1190	37.4	4.4	1.26	31.0	84.7	4.1
ST 4990 B3XF	1190	37.5	4.3	1.25	30.4	84.6	4.4
DG 3520 B2XF	1143	37.0	4.0	1.26	31.5	84.2	6.4
NG 4098 B3XF	1100	37.7	4.2	1.29	33.9	84.0	5.8
Grand Mean	1255	39.7	4.3	1.31	31.8	83.7	4.7
LSD (0.05)	92	1.9	0.2	0.03	1.3	0.7	0.7

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

2020 Mississippi State University On-Farm Variety Trial Program

Hill Region Locations Included: Brooksville, Coffeeville, Crawford, Edwards, Ellistown, Natchez, Prairie, Starkville, and West Point

Table 5. Yield and fiber quality data pooled over nine Hill region locations.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
DP 2038 B3XF	1089	43.4	4.7	1.18	31.5	82.6	3.5
DP 1646 B2XF	1062	41.4	4.5	1.23	31.0	83.1	3.5
ST 4990 B3XF	1049	39.9	4.5	1.22	31.1	84.0	3.4
DP 2012 B3XF	1025	38.0	4.3	1.22	32.4	83.8	4.9
PHY 443 W3FE	1007	39.8	4.5	1.20	32.0	84.4	4.2
PHY 400 W3FE	995	39.7	4.3	1.23	35.0	83.7	5.0
DG 3520 B2XF	970	38.5	4.1	1.23	31.3	84.3	5.0
NG 4936 B3XF	967	37.7	4.4	1.23	31.6	84.2	4.2
PHY 390 W3FE	963	39.3	4.4	1.22	32.1	83.3	4.3
NG 4098 B3XF	928	37.4	4.4	1.24	34.3	83.9	5.0
Grand Mean	1006	39.5	4.4	1.22	32.2	83.7	4.3
LSD (0.05)	75	1.9	0.2	0.02	1.2	0.6	0.6

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

Irrigated Locations Included: Crawford, Delta Island, Greenwood, Louise, Mayersville, Sledge, Tallahatchie, Washington County

Table 6. Yield and fiber quality data pooled over eight irrigated locations

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
PHY 443 W3FE	1289	40.2	4.8	1.21	33.6	84.2	4.2
PHY 400 W3FE	1214	40.8	4.4	1.23	33.8	84.2	5.0
PHY 390 W3FE	1207	39.9	4.4	1.21	33.3	82.8	5.0
DP 2012 B3XF	1164	38.0	4.5	1.24	31.5	83.8	4.4
DP 2038 B3XF	1106	44.0	4.7	1.18	33.2	82.4	3.8
DP 1646 B2XF	1092	40.3	4.5	1.28	31.7	83.7	4.2
NG 4936 B3XF	1069	36.9	4.5	1.26	32.0	85.0	4.3
ST 4990 B3XF	1061	36.7	4.5	1.25	31.2	84.7	4.2
DG 3520 B2XF	1022	36.8	4.1	1.26	32.2	84.5	6.3
NG 4098 B3XF	984	37.2	4.4	1.29	35.0	84.3	6.0
Grand Mean	1121	39.1	4.5	1.24	32.8	84.0	4.7
LSD (0.05)	84	1.6	0.1	0.02	1.1	0.6	0.6

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

2020 Mississippi State University On-Farm Variety Trial Program

Dryland Locations Included: Brooksville, Coffeeville, Edwards, Ellistown, Natchez, Prairie, Starkville, and West Point

Table 7. Yield and fiber quality data pooled over eight dryland locations.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
DP 2038 B3XF	1101	43.6	4.7	1.19	30.9	82.5	3.4
ST 4990 B3XF	1078	40.8	4.5	1.21	31.0	83.9	3.5
DP 1646 B2XF	1073	41.6	4.5	1.23	31.0	83.0	3.5
DP 2012 B3XF	1034	38.1	4.3	1.22	32.6	84.0	4.8
PHY 443 W3FE	1029	40.3	4.4	1.19	31.6	84.4	4.2
PHY 400 W3FE	996	39.8	4.2	1.23	35.1	83.7	5.0
DG 3520 B2XF	986	38.6	4.1	1.23	31.2	84.2	4.9
NG 4936 B3XF	976	38.0	4.4	1.22	31.3	84.0	4.1
PHY 390 W3FE	953	39.4	4.4	1.21	31.5	83.1	4.1
NG 4098 B3XF	941	37.5	4.4	1.24	33.9	83.9	4.7
Grand Mean	1017	39.8	4.4	1.22	32.0	83.7	4.2
LSD (0.05)	85	2.1	0.2	0.02	1.3	0.7	0.7

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

Individual Trial Location Data

Location: Brooksville

Row width: 38"

Harvest date: November 9, 2020

Grower: Brian Pieralisi

Irrigated: Dryland

Soil series: Brooksville Silty Clay

MSU Agronomist: B. Pieralisi

Planting date: May 5, 2020

Table 8. Yield and fiber quality data at Brooksville.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
ST 4990 B3XF	507	44.3	4.6	1.13	33.0	83.4	3.0
DP 2038 B3XF	503	42.1	4.7	1.22	29.5	82.5	3.0
DG 3520 B2XF	471	40.7	4.5	1.15	30.7	82.7	4.0
DP 1646 B2XF	449	44.7	4.6	1.12	30.6	82.2	2.0
NG 4098 B3XF	446	41.1	4.4	1.17	34.2	83.5	4.0
NG 4936 B3XF	437	41.2	4.4	1.13	29.7	83.0	4.0
PHY 400 W3FE	390	37.7	4.3	1.21	37.0	83.2	5.0
PHY 443 W3FE	389	38.4	4.2	1.18	28.8	83.3	4.0
PHY 390 W3FE	373	39.1	4.6	1.19	29.4	84.0	3.0
DP 2012 B3XF	339	32.6	3.9	1.19	32.0	84.0	6.0
Grand Mean	430	40.2	4.4	1.17	31.5	83.2	3.8
LSD (0.05)	95	•	•	•	•	•	•

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

2020 Mississippi State University On-Farm Variety Trial Program

Location: Coffeeville
 Grower: Coley Bailey
 MSU Agronomist: B. Pieralisi

Row width:
 Irrigated: Dryland
 Planting date: May 6, 2020

Harvest date: November 10, 2020
 Soil series: Collins Silt Loam

Table 9. Yield and fiber quality data at Coffeeville.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
DP 1646 B2XF	1280	41.7	4.6	1.22	29.4	82.6	4.0
DP 2038 B3XF	1249	44.3	4.8	1.14	31.8	81.7	4.0
ST 4990 B3XF	1239	37.5	4.7	1.24	29.9	83.3	3.0
DP 2012 B3XF	1215	39.5	4.4	1.22	31.5	83.9	5.0
NG 4098 B3XF	1079	38.7	4.3	1.26	34.5	84.5	7.0
DG 3520 B2XF	1057	37.3	4.1	1.27	30.0	84.5	5.0
NG 4936 B3XF	931	29.7	4.6	1.23	29.6	84.5	3.0
Grand Mean	1150	38.4	4.5	1.23	31.0	83.6	4.4
LSD (0.05)	175	•	•	•	•	•	•

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

Phylogen varieties omitted per the grower's request

Location: Crawford
 Grower: Rodney Mast/Lowell
 Mullett

MSU Agronomist: B. Pieralisi
 Row width: 30"
 Irrigated: Pivot

Planting date: May 4, 2020
 Harvest date: October 8, 2020
 Soil series: Vaiden Silty Clay

Table 10. Yield and fiber quality data at Crawford.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
DP 2038 B3XF	989	41.9	4.8	1.16	35.8	83.1	4.0
DP 1646 B2XF	977	39.6	4.8	1.30	31.1	83.9	4.0
PHY 390 W3FE	963	38.9	4.5	1.24	35.0	84.5	5.0
DP 2012 B3XF	949	37.9	5.0	1.22	31.2	83.8	4.0
PHY 400 W3FE	940	39.3	4.7	1.23	35.1	83.9	5.0
NG 4936 B3XF	890	36.0	4.4	1.27	33.4	85.4	5.0
PHY 443 W3FE	859	37.3	5.1	1.22	34.1	84.6	4.0
DG 3520 B2XF	844	38.2	4.1	1.26	32.3	85.0	6.0
ST 4990 B3XF	831	34.2	4.5	1.25	31.8	84.6	3.0
NG 4098 B3XF	830	37.0	4.8	1.28	37.1	84.6	7.0
Grand Mean	907	38.0	4.7	1.24	33.7	84.3	4.7
LSD (0.05)	104	•	•	•	•	•	•

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

2020 Mississippi State University On-Farm Variety Trial Program

Location: Delta Island
 Grower: Travis Dunn
 MSU Agronomist: A. Braswell

Row width: 38”
 Irrigated: Furrow
 Planting date: May 14, 2020

Harvest date: October 15, 2020
 Soil series: Dundee Loam/Tensas
 Silty Clay Loam

Table 11. Yield and fiber quality data at Delta Island.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
DP 2012 B3XF	1414	39.0	4.2	1.27	29.6	83.9	4.0
ST 4990 B3XF	1410	37.2	4.3	1.25	29.7	84.9	5.0
NG 4936 B3XF	1408	37.2	4.3	1.26	31.3	85.8	4.0
DG 3520 B2XF	1344	36.3	4.0	1.29	30.6	84.1	6.0
DP 2038 B3XF	1321	41.8	4.3	1.18	33.0	81.7	4.0
DP 1646 B2XF	1297	39.0	4.2	1.28	31.3	84.0	5.0
NG 4098 B3XF	1232	34.9	4.1	1.31	34.8	84.0	6.0
Grand Mean	1347	37.9	4.2	1.26	31.5	84.1	4.9
LSD (0.05)	NSD	•	•	•	•	•	•

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

Phytogen varieties omitted per the grower's request

Location: Edwards
 Grower: Kendall Garraway
 MSU Agronomist: B. Perialisi

Row width: 38”
 Irrigated: Dryland
 Planting date: May 12, 2020

Harvest date: November 10, 2020
 Soil series: McRaven Silt
 Loam/Riedtown Silt Loam

Table 12. Yield and fiber quality data at Edwards.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
PHY 443 W3FE	1321	41.4	4.3	1.20	31.4	83.4	4.0
DP 2012 B3XF	1307	41.0	4.4	1.24	32.1	82.5	4.0
DP 1646 B2XF	1260	41.1	4.0	1.24	29.4	81.9	3.0
PHY 400 W3FE	1213	40.2	3.9	1.22	34.9	83.1	5.0
NG 4098 B3XF	1143	37.8	4.3	1.22	29.6	84.3	3.0
DP 2038 B3XF	1137	42.9	3.9	1.12	29.7	79.4	3.0
PHY 390 W3FE	1131	39.7	3.7	1.19	33.3	82.3	4.0
DG 3520 B2XF	1097	37.8	3.7	1.24	31.5	84.0	6.0
ST 4990 B3XF	1093	38.2	4.4	1.25	30.6	84.8	3.0
NG 4936 B3XF	1007	39.5	4.3	1.23	31.8	83.7	5.0
Grand Mean	1171	40.0	4.1	1.22	31.4	82.9	4.0

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

2020 Mississippi State University On-Farm Variety Trial Program

Location: Ellistown
 Grower: Larry Coker
 MSU Agronomist: C. Stokes

Row width: 38”
 Irrigated: Dryland
 Planting date: May 13, 2020

Harvest date: November 16, 2020
 Soil series: Mantachie/Talla
 Sandy Loam

Table 13. Yield and fiber quality data at Ellistown.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
DP 1646 B2XF	1103	40.0	4.6	1.23	30.5	82.7	4.0
DP 2038 B3XF	1091	46.8	4.9	1.18	32.3	84.5	3.0
NG 4936 B3XF	1061	41.5	4.8	1.22	32.3	84.6	4.0
DP 2012 B3XF	1031	39.4	4.6	1.22	33.4	85.4	4.0
ST 4990 B3XF	1015	40.5	4.9	1.19	30.1	83.1	4.0
DG 3520 B2XF	823	36.9	4.1	1.25	31.2	85.1	6.0
NG 4098 B3XF	730	31.3	4.5	1.24	36.8	85.4	4.0
Grand Mean	979	39.5	4.6	1.22	32.4	84.4	4.1
LSD (0.05)	NSD	•	•	•	•	•	•

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

Phytoen varieties omitted per the grower’s request

Location: Greenwood
 Grower: John Moor
 MSU Agronomist: A. Braswell

Row width: 38”
 Irrigated: Furrow
 Planting date: May 4, 2020

Harvest date: October 19, 2020
 Soil series: Dubbs Loam/Tensas
 Silty Clay Loam

Table 14. Yield and fiber quality data at Greenwood.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
PHY 443 W3FE	1558	42.1	4.7	1.21	32.5	83.6	4.0
PHY 400 W3FE	1382	41.0	4.2	1.23	32.6	84.5	5.0
PHY 390 W3FE	1311	40.6	4.2	1.18	31.7	81.1	5.0
DP 2038 B3XF	1233	49.6	4.5	1.18	32.4	82.2	4.0
DP 2012 B3XF	1162	34.0	4.2	1.25	31.5	83.7	5.0
DP 1646 B2XF	1129	41.4	4.2	1.28	32.1	83.2	4.0
ST 4990 B3XF	1068	37.9	4.6	1.25	29.8	84.8	4.0
DG 3520 B2XF	1062	36.3	3.9	1.27	30.5	84.3	7.0
NG 4936 B3XF	1024	36.4	4.6	1.25	31.3	84.6	4.0
NG 4098 B3XF	997	38.1	4.2	1.29	33.6	83.4	6.0
Grand Mean	1193	39.7	4.3	1.24	31.8	83.5	4.8
LSD (0.05)	108	•	•	•	•	•	•

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

2020 Mississippi State University On-Farm Variety Trial Program

Location: Louise
 Grower: Byron Seward
 MSU Agronomist: B. Perialisi

Row width: 30" 2x1 Skip
 Irrigated: Furrow
 Planting date: May 12, 2020

Harvest date: October 19, 2020
 Soil series: Forestdale-Brittain
 Silt Loam

Table 15. Yield and fiber quality data at Louise.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
DP 2012 B3XF	1273	43.0	4.6	1.24	31.3	83.0	5.0
DP 2038 B3XF	1251	41.4	4.5	1.31	32.1	83.4	4.0
ST 4990 B3XF	1170	33.9	4.1	1.27	31.5	84.6	7.0
DP 1646 B2XF	1154	40.7	4.7	1.26	32.2	83.8	4.0
DG 3520 B2XF	1125	42.8	4.5	1.20	30.9	83.5	4.0
NG 4098 B3XF	1079	37.0	4.5	1.26	31.6	85.1	5.0
NG 4936 B3XF	965	35.2	4.4	1.30	34.3	83.1	5.0
Grand Mean	1145	39.1	4.5	1.26	32.0	83.8	4.9

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

Phylogen varieties omitted per the grower's request

Location: Mayersville
 Grower: Chase Mahalitic
 MSU Agronomist: B. Perialisi

Row width: 38"
 Irrigated: Furrow
 Planting date: May 22, 2020

Harvest date: October 27, 2020
 Soil series: Commerce Silty Clay
 Loam/Tunica Clay

Table 16. Yield and fiber quality data at Mayersville.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
DP 2012 B3XF	1649	40.6	3.8	1.26	31.6	84.3	7.0
DP 2038 B3XF	1535	44.6	4.3	1.31	31.5	83.5	4.0
ST 4990 B3XF	1511	38.3	4.6	1.21	29.1	84.3	4.0
DP 1646 B2XF	1500	41.0	4.6	1.15	31.1	81.8	3.0
NG 4936 B3XF	1458	37.1	4.4	1.27	33.7	84.1	7.0
NG 4098 B3XF	1388	36.5	4.2	1.24	29.2	83.9	4.0
DG 3520 B2XF	1291	31.2	4.5	1.27	31.2	85.3	4.0
Grand Mean	1476	38.5	4.3	1.20	31.1	83.9	4.7

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

Phylogen varieties omitted per the grower's request

2012 Mississippi State University County Yield Trial Program - Flex Varieties

Location: Natchez

Row width: 38"

Harvest date: October 20, 2020

Grower: Matthew Guedon

Irrigated: Dryland

Soil series: Adler Silt Loam

MSU Agronomist: B. Pieralisi

Planting date: May 6, 2020

Table 17. Yield and fiber quality data at Natchez.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
ST 4990 B3XF	1509	40.6	4.1	1.24	31.0	84.1	6.0
NG 4098 B3XF	1314	42.0	4.2	1.26	33.4	83.7	3.0
DP 2038 B3XF	1292	41.0	3.9	1.26	35.7	84.0	7.0
DG 3520 B2XF	1263	38.4	4.6	1.22	32.0	83.0	4.0
DP 2012 B3XF	1228	35.6	4.0	1.28	30.3	83.1	4.0
NG 4936 B3XF	1223	34.1	4.2	1.25	31.3	84.1	5.0
DP 1646 B2XF	1068	36.1	3.7	1.23	29.6	83.4	4.0
Grand Mean	1271	38.3	4.1	1.25	31.9	83.6	4.7

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

Phylogen varieties omitted per the grower's request

Location: Prairie

Row width: 30"

Harvest date: October 22, 2020

Grower: Ben Harlow

Irrigated: Dryland

Soil series: Houston Clay

MSU Agronomist: C. Stokes

Planting date: May 18, 2020

Table 18. Yield and fiber quality data at Prairie.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
DP 2038 B3XF	1322	45.9	5.0	1.14	31.9	81.8	3.0
ST 4990 B3XF	1299	39.3	4.8	1.20	30.8	85.2	4.0
NG 4936 B3XF	1269	39.7	4.8	1.22	32.6	83.4	4.0
DP 1646 B2XF	1200	42.5	4.6	1.27	30.3	84.3	4.0
DP 2012 B3XF	1195	41.3	4.8	1.20	32.3	83.6	5.0
PHY 400 W3FE	1171	43.3	4.7	1.17	34.3	83.7	4.0
DG 3520 B2XF	1163	41.8	4.3	1.24	33.2	84.8	6.0
NG 4098 B3XF	1094	37.3	4.3	1.24	35.6	83.5	5.0
PHY 390 W3FE	1070	41.0	4.8	1.19	32.3	81.6	5.0
PHY 443 W3FE	1068	42.1	4.9	1.16	34.7	84.6	4.0
Grand Mean	1185	41.4	4.7	1.20	32.8	83.7	4.4
LSD (0.05)	NSD	●	●	●	●	●	●

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

2020 Mississippi State University On-Farm Variety Trial Program

Location: Sledge
Grower: Sledge Taylor
MSU Agronomist: B. Pieralisi

Row width: 38"
Irrigated: Furrow
Planting date: May 21, 2020

Harvest date: November 12, 2020
Soil series: Falaya/Collins Silt Loam

Table 19. Yield and fiber quality data at Sledge.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
NG 4936 B3XF	1354	39.3	4.3	1.27	30.0	84.6	4.0
ST 4990 B3XF	1320	37.3	4.3	1.26	31.1	83.3	4.0
DP 2012 B3XF	1316	39.6	4.3	1.21	31.8	83.1	4.0
DP 2038 B3XF	1293	44.5	4.7	1.15	30.8	81.4	3.0
DP 1646 B2XF	1290	40.9	4.4	1.26	29.7	82.0	4.0
DG 3520 B2XF	1102	37.5	3.9	1.25	35.2	84.3	7.0
NG 4098 B3XF	1099	38.8	4.2	1.30	33.4	84.3	5.0
Grand Mean	1253	39.7	4.3	1.24	31.7	83.3	4.4
LSD (0.05)	NSD	•	•	•	•	•	•

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

Phytogen varieties omitted per the grower's request

Location: Starkville
Grower: Brian Pieralisi
MSU Agronomist: B. Pieralisi

Row width: 38"
Irrigated: Dryland
Planting date: May 5, 2020

Harvest date: November 5, 2020
Soil series: Catalpa/Leeper silty clay loam

Table 20. Yield and fiber quality data at Starkville.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
PHY 443 W3FE	886	42.5	4.7	1.17	32.7	85.5	4.0
DP 1646 B2XF	773	41.0	4.7	1.22	31.2	83.2	4.0
DG 3520 B2XF	743	36.5	4.3	1.23	30.4	85.2	3.0
DP 2038 B3XF	732	40.8	4.9	1.21	29.3	83.1	4.0
DP 2012 B3XF	725	39.5	4.5	1.19	31.4	83.0	4.0
PHY 390 W3FE	711	39.7	4.5	1.19	31.5	82.4	4.0
ST 4990 B3XF	657	42.4	4.6	1.22	30.4	84.0	3.0
PHY 400 W3FE	648	39.3	4.1	1.23	33.8	83.8	5.0
NG 4936 B3XF	601	38.0	4.6	1.22	32.0	85.0	3.0
NG 4098 B3XF	586	35.1	4.5	1.23	34.8	83.2	5.0
Grand Mean	706	39.5	4.5	1.21	31.8	83.8	3.9
LSD (0.05)	NSD	•	•	•	•	•	•

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

2020 Mississippi State University On-Farm Variety Trial Program

Location: Tallahatchie
 Grower: Mike Sturdivant Jr.
 MSU Agronomist: B. Perialisi

Row width: 38”
 Irrigated: Furrow
 Planting date: May 6, 2020

Harvest date: October 20, 2020
 Soil series: Dundee Silt Loam

Table 21. Yield and fiber quality data at Tallahatchie.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
PHY 443 W3FE	1179	37.8	4.4	1.21	33.9	85.0	5.0
NG 4936 B3XF	1114	38.5	4.3	1.25	29.6	85.0	4.0
DP 2012 B3XF	1063	39.2	4.2	1.22	31.1	83.7	5.0
DP 1646 B2XF	1047	42.2	4.4	1.32	29.3	85.4	4.0
ST 4990 B3XF	971	38.8	4.3	1.23	30.2	84.4	3.0
PHY 400 W3FE	969	41.4	4.3	1.23	32.8	83.7	5.0
PHY 390 W3FE	957	38.6	4.3	1.26	33.1	84.1	5.0
DG 3520 B2XF	902	36.5	3.9	1.28	29.4	84.1	6.0
NG 4098 B3XF	849	35.8	4.0	1.25	36.3	83.8	6.0
DP 2038 B3XF	844	38.1	4.4	1.22	31.7	81.9	4.0
Grand Mean	990	38.7	4.3	1.25	31.7	84.1	4.7

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

Location: Washington County
 Grower: Tyler Horn
 MSU Agronomist: B. Perialisi

Row width: 38”
 Irrigated: Furrow
 Planting date: May 17, 2020

Harvest date: October 28, 2020
 Soil series: Commerce Silt Loam

Table 22. Yield and fiber quality data at Washington County.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
PHY 390 W3FE	1206	42.4					
DP 2012 B3XF	1192	39.8					
PHY 443 W3FE	1158	43.1					
PHY 400 W3FE	1147	43.3					
DG 3520 B2XF	1073	38.9					
NG 4098 B3XF	1032	41.0					
DP 1646 B2XF	1000	41.6					
NG 4936 B3XF	989	38.4					
ST 4990 B3XF	980	38.4					
DP 2038 B3XF	933	46.3					
Grand Mean	1071	41.3					
LSD (0.05)	NSD	•	•	•	•	•	•

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

2020 Mississippi State University On-Farm Variety Trial Program

Location: West Point
 Grower: Brandon Litwiller
 MSU Agronomist: C. Stokes

Row width: 38”
 Irrigated: Dryland
 Planting date: May 18, 2020

Harvest date: October 19, 2020
 Soil series: Okolona Silty Clay

Table 23. Yield and fiber quality data at West Point.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
DP 2038 B3XF	1480	46.4	4.6	1.17	31.7	82.7	3.0
DP 1646 B2XF	1423	41.5	4.2	1.23	36.0	84.2	4.0
DP 2012 B3XF	1379	39.6	3.8	1.23	34.3	82.7	4.0
PHY 400 W3FE	1344	42.6	4.1	1.28	33.4	84.7	6.0
ST 4990 B3XF	1342	40.2	4.5	1.25	32.4	85.5	4.0
PHY 443 W3FE	1264	39.8	4.3	1.21	31.7	85.2	5.0
DG 3520 B2XF	1248	37.8	4.0	1.23	32.0	83.8	4.0
NG 4936 B3XF	1184	37.3	3.6	1.29	32.5	84.7	7.0
NG 4098 B3XF	1183	36.7	4.3	1.26	28.4	82.8	4.0
PHY 390 W3FE	1163	39.6	4.1	1.27	34.3	84.0	5.0
Grand Mean	1301	40.2	4.2	1.24	32.7	84.0	4.6

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