

2021 MSU Extension On-Farm Cotton Variety Demonstration Program

2021 County Trial Locations and Cooperators

Trials were arranged and conducted by Brian Pieralisi, PhD.

Assistance was provided by Tyler Soignier, Eli Hobbs, Will Duke, Spencer Land, Kaylin McCay, Dylon Letson, Bryce Bullock, Elijah Parish, and John Garrett Lowe.

Special thanks go to Tyson Raper, PhD, University of Tennessee – West Tennessee Research and Education Center.

Table 1. Locations, growers, and cooperating agronomists for the 2021 MSU Extension On-Farm Cotton Variety Demonstration Program.

Location	Grower	MSU Agronomist
Brooksville	Brian Pieralisi	Brian Pieralisi
Coffeeville	Coley Bailey	Brian Pieralisi
Crawford	Rodney Mast/Lowell Mullett	Brian Pieralisi
Delta Island	Travis Dunn	Brian Pieralisi
Edwards	Kendall Garraway	Brian Pieralisi
Ellistown	Larry Coker	Charlie Stokes
Greenwood	John Moor	Andy Braswell
Louise	Byron Seward	Brian Pieralisi
Mayersville	Chase Mahalitic	Brian Pieralisi
Prairie	Ben Harlow	Charlie Stokes
Sledge	Sledge Taylor	Brian Pieralisi
Mississippi State	Brian Pieralisi	Brian Pieralisi
Tallahatchie	Mike Sturdivant Jr.	Brian Pieralisi
West Point	Brandon Litwiller	Charlie Stokes

Mississippi State University Extension sincerely appreciates the time and effort of the cooperating growers and MSU agronomists. In addition, several independent consultants provided a tremendous level of assistance with these trials, including Ty Edwards, Jason Grafton, Bert Falkner, Tucker Miller, and Tim Richards. Sincere gratitude is also extended to the following seed companies and representatives for providing seed for these trials: BASF, Andy White; Crop Production Services/Dyna-Gro, Scott Cummings; PhytoGen Cottonseed, Tom Eubank; Americot/NexGen, Chase Samples and Terry Campbell; and Delta and Pine Land, Greg Ferguson. Cooperation from all these parties is essential for success of the MSU Extension On-Farm Cotton Variety Demonstration 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 selections. 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 4 to 6 years. One that does not perform well will likely remain on

the market for less than 3 years. In addition, the historical standard for variety testing information was to have 2 to 3 years of data before release of any given variety. Today, 1 to 2 years of “broad-scale” variety testing is common before 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 before 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 1 year before 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 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 2,600 feet in 2021, 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 nematicide, was provided for each variety. In-season management is at the discretion of growers, who are encouraged to manage the plot area as they 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. Before 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 (WTREC). 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 U.S. Department of Agriculture Classing Office in Memphis. Fiber quality data has not yet been obtained due to prolonged harvest and time constraints in 2021.

Entries

A maximum of 10 core variety entries per year are allowed in the MSU Extension demonstration 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 2021, 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 2021 demonstrations are listed in Table 2.

Site Characteristics

Locations for the 2021 demonstration program are listed in Table 1. Yield trials were conducted at a total of 14 locations. Six locations were located in the Delta, and eight were in the Hills. All Delta locations were irrigated with the exception of one (Mayersville), while seven of eight 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 and Analysis

Each data table includes the following: variety, lint yield, lint percent, micronaire, staple length (in 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 nonreplicated trials and fiber data at individual locations, LSDs 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.

Table 2. 2021 MSU Extension On-Farm Cotton Variety Demonstration Program entry list.

Slot #	Criteria/Company	Variety
1	At-large entry – Crop Production Services/Dyna-Gro	DG 3535 B3XF
2	At-large entry – BASF	ST 5091 B2XF
3	Delta and Pine Land	DP 1646 B2XF
4	Delta and Pine Land	DP 2012 B3XF
5	Delta and Pine Land	DP 2127 B3XF
6	Americot	NG 5150 B3XF
7	Americot	NG 4936 B3XF
8	Phytogen Cottonseed	PHY 332 W3FE
9	Phytogen Cottonseed	PHY 443 W3FE
10	Phytogen Cottonseed	PHY 411 W3FE

Table 3. Yield and fiber quality data pooled across all 14 locations.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
PHY 411 W3FE	1188	40.3	4.5	1.17	32.6	4.1	4.8
PHY 443 W3FE	1110	43.9	4.4	1.18	32.8	4.1	4.5
DP 2127 B3XF	1101	40.3	4.5	1.20	31.9	4.1	4.2
DP 2012 B3XF	1097	38.2	4.2	1.24	32.3	4.1	4.4
PHY 332 W3FE	1094	41.1	4.3	1.21	31.8	4.1	4.4
ST 5091 B3XF	1068	39.7	4.2	1.21	31.3	4.1	4.7
DP 1646 B2XF	1060	38.9	4.3	1.25	31.2	4.1	4.4
DG 3535 B3XF	1052	37.6	4.3	1.22	32.3	4.1	4.1
NG 4936 B3XF	1013	37.9	4.4	1.23	31.9	4.1	4.2
NG 5150 B3XF	993	37.5	4.4	1.22	31.9	4.1	4.5
Grand Mean	1078	39.5	4.4	1.21	32.0	4.1	4.4
LSD (0.05)	64	0.6	0.1	0.01	0.6	0.4	0.4

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

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

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
PHY 443 W3FE	1380	39.1	4.4	1.17	34.6	75.1	4.0
PHY 332 W3FE	1358	38.6	4.2	1.21	33.1	74.6	4.8
PHY 411 W3FE	1282	38.7	4.7	1.13	33.6	74.8	4.8
DP 2127 B3XF	1273	38.4	4.7	1.18	33.0	76.2	3.7
DP 2012 B3XF	1209	37.8	4.2	1.23	33.5	76.1	4.2
ST 5091 B3XF	1192	38.5	4.2	1.23	32.1	75.0	4.4
DG 3535 B3XF	1185	38.7	4.4	1.22	33.6	75.0	3.6
DP 1646 B2XF	1143	38.9	4.3	1.27	31.7	75.2	4.4
NG 4936 B3XF	1143	37.0	4.4	1.25	32.2	76.3	3.9
NG 5150 B3XF	1093	38.2	4.4	1.24	32.5	75.5	3.9
Grand Mean	1226	38.4	4.4	1.21	33.0	75.4	4.3
LSD (0.05)	113	1.0	0.01	0.02	0.7	0.5	0.4

*Yields in bold type are not significantly different from the highest yielding variety.
Delta locations included Delta Island, Greenwood, Louise, Mayersville, Sledge, and Tallahatchie.

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

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
PHY 411 W3FE	1107	40.2	4.4	1.18	31.9	83.4	5.0
DP 2012 B3XF	1016	39.2	4.2	1.24	31.4	84.4	4.5
DP 1646 B2XF	1001	39.3	4.2	1.18	30.8	83.7	4.4
PHY 443 W3FE	991	38.2	4.4	1.18	31.9	84.4	4.5
ST 5091 B3XF	978	38.7	4.2	1.20	30.8	83.1	4.9
DP 2127 B3XF	978	37.7	4.4	1.21	31.0	84.3	4.6
PHY 332 W3FE	977	38.9	4.3	1.20	31.0	84.0	4.4
DG 3535 B3XF	956	39.2	4.3	1.21	31.2	83.5	4.5
NG 5150 B3XF	921	38.9	4.3	1.21	31.3	83.8	4.9
NG 4936 B3XF	920	37.3	4.3	1.22	31.7	84.3	4.4
Grand Mean	984	38.8	4.3	1.20	31.3	83.9	4.6
LSD (0.05)	79	0.8	0.2	0.02	—	0.6	—

*Yields in bold type are not significantly different from the highest yielding variety.
Hill locations Included Brooksville, Coffeerville, Crawford, Edwards, Ellistown, Prairie, Starkville, and West Point

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

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
DP 2127 B3XF	1147	38.4	4.6	1.19	32.2	79.0	4.2
PHY 411 W3FE	1145	39.1	4.5	1.15	33.6	78.0	5.1
PHY 332 W3FE	1120	37.7	4.3	1.21	33.2	78.3	4.6
DP 2012 B3XF	1098	37.8	4.2	1.24	33.0	79.0	4.3
PHY 443 W3FE	1082	37.8	4.3	1.18	33.7	78.9	5.8
ST 5091 B3XF	1057	38.4	4.1	1.22	31.7	77.6	4.5
DG 3535 B3XF	1027	38.7	4.3	1.22	33.0	77.6	3.8
DP 1646 B2XF	1024	38.7	4.3	1.27	31.5	78.1	4.4
NG 4936 B3XF	999	36.6	4.4	1.25	31.9	79.1	3.8
NG 5150 B3XF	978	38.4	4.4	1.23	32.0	78.2	4.3
Grand Mean	1068	38.2	4.3	1.22	32.6	78.4	4.5
LSD (0.05)	87	0.7	0.1	0.02	0.5	0.4	0.3

*Yields in bold type are not significantly different from the highest yielding variety. Irrigated locations included Crawford, Delta Island, Greenwood, Louise, Sledge, and Tallahatchie.

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

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
PHY 411 W3FE	1206	40.6	4.5	1.20	31.1	83.1	4.6
PHY 443 W3FE	1111	38.9	4.6	1.18	31.3	83.9	4.1
DP 1646 B2XF	1074	39.7	4.2	1.22	30.7	83.7	4.4
DP 2012 B3XF	1062	39.6	4.2	1.24	31.0	84.1	4.6
DG 3535 B3XF	1052	39.4	4.4	1.22	30.9	83.9	4.9
ST 5091 B3XF	1049	38.9	4.4	1.20	30.7	83.4	5.0
PHY 332 W3FE	1034	40.0	4.3	1.20	29.6	83.7	4.3
DP 2127 B3XF	1010	37.3	4.4	1.21	31.3	84.1	4.4
NG 4936 B3XF	1000	38.1	4.4	1.20	31.9	84.1	5.1
NG 5150 B3XF	979	38.8	4.4	1.21	31.6	84.0	5.0
Grand Mean	1058	39.1	4.4	1.21	31.0	83.8	4.6
LSD (0.05)	90	1.0	—	—	—	—	—

*Yields in bold type are not significantly different from the highest yielding variety. Dryland locations included Brooksville, Coffeetown, Edwards, Ellistown, Mayersville, Prairie, Starkville, and West Point.

Individual Trial Location Data

Location: Brooksville
 Grower: Brian Pieralisi
 MSU agronomist: B. Pieralisi

Row width: 38"
 Irrigated: Dryland
 Planting date: May 26, 2021

Harvest date: November 17, 2021
 Soil series: Brooksville Silty Clay

Table 8. Yield and fiber quality data at Brooksville.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
PHY 411 W3FE	1153	44.3	4.4	39	33.3	82.5	5.0
PHY 443 W3FE	866	42.1	4.5	37	31.8	83	4.0
DP 1646 B2XF	766	40.7	4.2	40	31.5	83.7	5.0
DP 2012 B3XF	725	44.7	4.1	40	33.7	84.7	5.0
NG 4936 B3XF	718	41.1	4.1	40	31.8	83.9	6.0
NG 5150 B3XF	717	41.2	4.4	39	30.5	84.5	7.0
DP 2127 B3XF	686	37.7	4.2	39	31.9	82.8	5.0
ST 5091 B3XF	659	38.4	4.4	39	29.8	83	6.0
DG 3535 B3XF	647	39.1	4.4	39	30.8	83.6	7.0
PHY 332 W3FE	615	32.6	4.1	39	29.7	83.5	5.0
Grand Mean	755	40.2	4.3	39	31.0	84.0	5.5
LSD (0.05)	179	—	—	—	—	—	—

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

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

Row width: 38"
 Irrigated: Dryland
 Planting date: May 15, 2021

Harvest date: October 26, 2021
 Soil series: Collins Silt Loam

Table 9. Yield and fiber quality data at Coffeeville.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
DG 3535 B3XF	1136	39.1	4.0	39.0	30.6	83.1	5.0
DP 1646 B2XF	1134	41.5	4.6	37.0	30.9	85.6	4.0
ST 5091 B3XF	1113	38.8	3.9	39.0	29.8	82.7	5.0
DP 2127 B3XF	1088	39.2	4.2	39.0	29.5	82.4	4.0
NG 4936 B3XF	1045	37.6	4.3	40.0	31.9	85.4	5.0
DP 2012 B3XF	1004	40.1	4.0	39.0	30.3	84.4	5.0
NG 5150 B3XF	917	38.8	4.1	38.0	31.1	83.7	4.0
Grand Mean	1062	39.3	4.2	38.7	30.6	83.9	4.6
LSD (0.05)	175	—	—	—	—	—	—

*Yields in bold type are not significantly different from the highest yielding variety.
 Phylogen varieties were 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 22, 2021

Harvest date: November 8, 2021
 Soil series: Vaiden Silty Clay

Table 10. Yield and fiber quality data at Crawford.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
PHY 332 W3FE	826	37.9	4.2	39.0	31.7	85.4	4.0
ST 5091 B3XF	806	37.9	3.7	40.0	31.5	84.6	5.0
PHY 411 W3FE	794	37.9	4.2	40.0	34.3	85.0	4.0
DP 2012 B3XF	787	37.9	4.0	42.0	29.8	83.9	4.0
DP 2127 B3XF	703	37.9	4.6	38.0	30.6	86.1	4.0
PHY 443 W3FE	695	37.9	4.5	39.0	34.4	85.4	4.0
NG 4936 B3XF	652	33.4	4.2	41.0	31.0	85.5	4.0
DG 3535 B3XF	651	37.9	4.3	38.0	32.1	82.2	3.0
DP 1646 B2XF	639	37.9	4.3	37.0	34.1	84.5	5.0
NG 5150 B3XF	588	37.9	3.8	40.0	32.8	83.8	5.0
Grand Mean	714	37.4	4.2	39.4	32.2	84.6	4.2

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

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

Row width: 38"
 Irrigated: Furrow
 Planting date: May 17, 2021

Harvest date: October 5, 2021
 Soil series: Dundee Loam/Tensas Silty Clay Loam

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

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
DP 2127 B3XF	1468	40.6	4.4	42	30.0	85.4	4.0
DP 2012 B3XF	1453	39.1	4.3	39	32.3	85.0	4.0
DG 3535 B3XF	1407	40.4	4.3	40	32.7	83.8	4.0
NG 4936 B3XF	1363	37.1	4.3	41	30.8	85.9	4.0
ST 5091 B3XF	1361	35.4	4.2	40	30.7	84.5	5.0
DP 1646 B2XF	1255	40.0	4.8	38	32.7	84.7	4.0
NG 5150 B3XF	1195	38.3	4.5	40	32.2	84.2	4.0
Grand Mean	1357	38.7	4.4	40	31.6	84.8	4.1
LSD (0.05)	NSD	—	—	—	—	—	—

*Yields in bold type are not significantly different from the highest yielding variety.
 Phytogen varieties were omitted per the grower's request.

Location: Edwards
 Grower: Kendall Garraway
 MSU agronomist: B. Pieralisi

Row width: 38"
 Irrigated: Dryland
 Planting date: May 20, 2021

Harvest date: October 25, 2021
 Soil series: McRaven Silt Loam

Table 12. Yield and fiber quality data at Edwards.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
PHY 411 W3FE	1145	40.1	4.9	37.0	32.0	84.7	5.0
DP 2127 B3XF	1139	40.2	4.6	39.0	30.9	83.6	5.0
DP 1646 B2XF	1013	39.6	5.3	37.0	29.9	84.0	4.0
PHY 443 W3FE	1001	37.1	4.4	40.0	33.2	85.0	5.0
DP 2012 B3XF	988	38.8	4.5	38.0	31.3	84.4	4.0
DG 3535 B3XF	984	40.0	4.8	39.0	31.2	84.5	3.0
PHY 332 W3FE	979	36.4	5.0	38.0	32.8	86.2	4.0
ST 5091 B3XF	945	40.7	4.2	37.0	30.1	82.7	—
NG 5150 B3XF	861	39.4	4.8	38.0	30.9	83.3	5.0
NG 4936 B3XF	779	36.1	4.6	40.0	30.9	84.9	3.0
Grand Mean	983	38.8	4.7	38.3	31.3	84.3	4.2
LSD (0.05)	237	—	—	—	—	—	—

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

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

Row width: 38"
 Irrigated: Dryland
 Planting date: May 25, 2021

Harvest date: November 15, 2021
 Soil series: Mantachie Silt Loam

Table 13. Yield and fiber quality data at Ellistown.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
DG 3535 B3XF	1063	40.6	4.3	38.0	32.1	82.2	3.0
DP 2012 B3XF	1061	41.7	4.3	40.0	32.7	85.3	4.0
ST 5091 B3XF	1055	38.5	3.7	40.0	31.5	84.6	4.0
NG 4936 B3XF	1041	38.5	4.2	41.0	31.0	85.5	4.0
PHY 411 W3FE	977	40.5	4.2	39.0	34.3	84.9	4.0
PHY 332 W3FE	951	40.5	4.4	39.0	32.5	84.6	4.0
DP 2127 B3XF	920	36.6	4.1	42.0	30.8	84.3	4.0
PHY 443 W3FE	914	39.1	4.4	39.0	34.9	85.2	4.0
DP 1646 B2XF	911	39.8	4.1	37.0	34.3	84.5	4.0
NG 5150 B3XF	849	40.9	4.2	40.0	32.6	84.7	4.0
Grand Mean	1010	39.7	4.2	39.5	32.7	84.6	3.9
LSD (0.05)	203	—	—	—	—	—	—

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

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

Row width: 38"
 Irrigated: Furrow
 Planting date: May 21, 2021

Harvest date: November 8, 2021
 Soil series: Dubbs Loam/Tensas Silty Clay Loam

Table 14. Yield and fiber quality data at Greenwood.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
PHY 443 W3FE	1035	38.5	4.1	40.0	32.0	83.5	5.0
PHY 332 W3FE	1013	38.0	4.3	39.0	33.5	84.0	5.0
PHY 411 W3FE	937	38.1	4.6	37.0	32.5	83.7	5.0
DP 2127 B3XF	901	36.9	4.2	42.0	30.6	83.5	5.0
DP 2012 B3XF	851	37.2	4.1	41.0	32.8	85.3	5.0
ST 5091 B3XF	850	38.2	4.1	41.0	31.1	83.7	5.0
DP 1646 B2XF	825	38.5	4.4	40.0	32.7	85.5	4.0
DG 3535 B3XF	803	38.3	4.5	40.0	32.1	83.8	3.0
NG 4936 B3XF	794	36.7	4.5	42.0	30.3	85.9	4.0
NG 5150 B3XF	773	37.2	4.3	41.0	31.2	84.2	4.0
Grand Mean	878	37.8	4.3	40.3	31.9	84.3	4.5
LSD (0.05)	130	—	—	—	—	—	—

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

Location: Louise
 Grower: Byron Seward
 MSU agronomist: B. Pieralisi

Row width: 30" 2x1 Skip
 Irrigated: Furrow
 Planting date: May 19, 2021

Harvest date: October 19, 2021
 Soil series: Forestdale-Brittain Silt Loam

Table 15. Yield and fiber quality data at Louise.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
DP 2127 B3XF	1191	38.1	5.0	37.0	32.0	85.5	3.0
ST 5091 B3XF	1168	37.9	3.9	38.0	29.9	83.4	4.0
DG 3535 B3XF	1136	36.0	4.3	40.0	30.0	84.6	4.0
DP 2012 B3XF	1129	36.3	4.2	40.0	32.8	83.7	4.0
DP 1646 B2XF	1097	35.4	4.4	40.0	31.4	84.6	4.0
NG 5150 B3XF	1083	38.1	4.5	39.0	31.4	83.3	3.0
NG 4936 B3XF	901	36.1	4.3	38.0	31.2	83.6	3.0
Grand Mean	1101	36.8	4.4	38.9	31.2	84.1	3.6
LSD (0.05)	262	—	—	—	—	—	—

*Yields in bold type are not significantly different from the highest yielding variety.
 Phytogen varieties were omitted per the grower's request

Location: Mayersville
 Grower: Chase Mahalitic
 MSU agronomist: B. Pieralisi

Row width: 38"
 Irrigated: Dryland
 Planting date: May 22, 2021

Harvest date: October 21, 2021
 Soil series: Commerce Silty Clay Loam

Table 16. Yield and fiber quality data at Mayersville.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
ST 5091 B3XF	1281	39.9	4.6	39.0	32.5	84.3	3.0
DP 1646 B2XF	1206	39.8	4.4	41.0	31.5	84.5	4.0
DP 2127 B3XF	1177	36.7	5.1	37.0	32.7	86.0	4.0
DP 2012 B3XF	1156	37.5	4.7	39.0	31.7	84.3	4.0
NG 5150 B3XF	1152	37.6	4.6	40.0	32.5	85.2	3.0
DG 3535 B3XF	1143	38.2	4.7	39.0	34.3	85.6	4.0
NG 4936 B3XF	1138	37.8	4.8	41.0	32.1	85.7	4.0
Grand Mean	1179	38.2	4.7	39.4	32.5	85.1	3.7
LSD (0.05)	61	—	—	—	—	—	—

*Yields in bold type are not significantly different from the highest yielding variety.
 Phytoen varieties were omitted per the grower's request.

Location: Prairie
 Grower: Ben Harlow
 MSU agronomist: C. Stokes

Row width: 30"
 Irrigated: Dryland
 Planting date: May 25, 2021

Harvest date: November 15, 2021
 Soil series: Houston Clay

Table 17. Yield and fiber quality data at Prairie.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
DP 1646 B2XF	1370	39.8	4.3	39	31.5	85.0	4.0
DG 3535 B3XF	1366	40.6	4.8	37	31.9	84.1	3.0
DP 2012 B3XF	1361	40.7	4.6	40	29.7	83.5	4.0
PHY 411 W3FE	1346	40.5	4.6	38	30.5	82.9	5.0
PHY 332 W3FE	1319	40.5	4.4	38	29.6	84.0	4.0
PHY 443 W3FE	1261	39.1	4.6	39	31.6	85.0	4.0
NG 5150 B3XF	1228	38.9	4.4	40	34.5	84.1	5.0
ST 5091 B3XF	1158	38.5	4.8	37	33.4	84.0	5.0
DP 2127 B3XF	1127	34.4	4.4	40	32.0	83.2	4.0
NG 4936 B3XF	1081	37.4	4.5	37	32.8	83.5	5.0
Grand Mean	1262	39.0	4.5	39	31.8	83.9	4.3
LSD (0.05)	112	—	—	—	—	—	—

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

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

Row width: 38"
 Irrigated: Pivot
 Planting date: May 19, 2021

Harvest date: November 16, 2021
 Soil series: Falaya Silty Clay

Table 18. Yield and fiber quality data at Sledge.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
DP 2127 B3XF	1681	40.1	3.8	40	31.4	83.2	4
DG 3535 B3XF	1572	41.3	3.6	39	31.6	82.0	4
DP 2012 B3XF	1485	39.3	3.9	40	32.0	84.3	4
NG 4936 B3XF	1441	37.7	3.8	39	31.6	83.6	4
ST 5091 B3XF	1417	40.2	3.5	38	30.8	81.4	4
DP 1646 B2XF	1373	40.9	3.7	39	30.6	83.6	4
NG 5150 B3XF	1235	39.9	4.0	38	30.4	83.1	4
Grand Mean	1458	39.9	3.8	39	31.2	83.0	4
LSD (0.05)	261	—	—	—	—	—	—

*Yields in bold type are not significantly different from the highest yielding variety. PhytoGen varieties were omitted per the grower's request.

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

Row width: 38"
 Irrigated: Dryland
 Planting date: April 29, 2021

Harvest date: November 9, 2021
 Soil series: Catalpa Silty Clay Loam / Leeper Silty Clay Loam

Table 19. Yield and fiber quality data at Starkville.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
DP 2012 B3XF	1125	37.3	3.9	40.0	32.0	84.3	5.0
NG 5150 B3XF	1097	38.5	4.0	38.0	30.4	83.1	5.0
PHY 411 W3FE	1081	39.3	3.9	37.0	32.8	82.5	6.0
ST 5091 B3XF	1080	37.6	3.5	38.0	30.8	81.4	5.0
DP 2127 B3XF	1070	36.7	3.7	39.0	30.6	83.6	6.0
DP 1646 B2XF	1060	38.3	3.8	40.0	31.4	83.2	5.0
NG 4936 B3XF	1032	37.1	3.8	39.0	31.6	83.6	4.0
PHY 332 W3FE	1029	37.7	3.9	37.0	31.8	83.4	5.0
PHY 443 W3FE	921	36.7	3.7	37.0	32.6	83.8	6.0
DG 3535 B3XF	883	37.8	3.6	39.0	31.6	82.0	5.0
Grand Mean	1038	37.7	3.8	38.4	31.6	83.1	5.2
LSD (0.05)	156	—	—	—	—	—	—

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

Location: Tallahatchie
Grower: Mike Sturdivant Jr.
MSU agronomist: B. Peralisi

Row width: 38"
Irrigated: Furrow
Planting date: May 19, 2021

Harvest date: October 27, 2021
Soil series: Dundee Very Fine Sandy Loam

Table 20. Yield and fiber quality data at Tallahatchie.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
NG 4936 B3XF	1337	36.3	4.3	40.0	31.0	84.4	3
DP 2012 B3XF	1200	37.0	4.3	40.0	32.1	85.1	4
NG 5150 B3XF	1156	38.7	4.2	41.0	30.2	85.3	4
DP 1646 B2XF	1070	39.2	4.1	41.0	30.2	85.2	4
ST 5091 B3XF	995	40.1	4.1	39.0	30.6	84.3	5
DG 3535 B3XF	983	37.3	4.2	38.0	31.2	82.9	4
Grand Mean	1123	38.1	4.2	39.8	30.9	84.5	4

*Yields in bold type are not significantly different from the highest yielding variety. Phytogen varieties were omitted per the grower's request.

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

Row width: 38"
Irrigated: Dryland
Planting date: May 19, 2021

Harvest date:
November 16, 2021
Soil series: Okolona Silty Clay

Table 21. Yield and fiber quality data at West Point.

Variety	Lint yield (lb/acre)	Lint percent	Micronaire	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf grade
PHY 443 W3FE	1229	41.4	3.7	37.0	32.6	83.8	6.0
PHY 411 W3FE	1173	39.8	3.9	37.0	32.8	82.5	6.0
PHY 332 W3FE	1080	40.5	3.9	37.0	31.8	83.4	5.0
DP 2012 B3XF	1062	39.7	3.9	40.0	32.0	84.3	5.0
DP 2127 B3XF	1059	39.7	3.7	39.0	30.6	83.6	6.0
DP 1646 B2XF	1056	41.1	3.8	40.0	31.4	83.2	5.0
ST 5091 B3XF	1024	42.1	3.5	38.0	30.8	81.4	5.0
NG 5150 B3XF	1010	41.2	4.0	38.0	30.4	83.1	5.0
NG 4936 B3XF	975	40.0	3.8	39.0	31.6	83.6	4.0
DG 3535 B3XF	957	42.8	3.6	39.0	31.6	82.0	5.0
Grand Mean	1063	40.8	3.8	38.4	31.6	83.1	5.2
LSD (0.05)	215	—	—	—	—	—	—

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

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