2019 MSU Extension On-Farm Cotton Variety Demonstration Program

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2019 County Trial Locations and Cooperators

Trials arranged and conducted by Darrin Dodds, PhD.

Assistance provided by Lucas Franca, Jake McNeal, Steven Hall, Brint Lindsey, Ty Dickson, Eli Hobbs, and Wilson Whitlock.

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

Table 1. Locations, growers, and cooperating agronomists for 2019 MSU Extension On-Farm Cotton Variety Trial program.

Location	Grower	Agronomist
Brooksville	Darrin Dodds	Darrin Dodds
Bruce	Trey Brower	Darrin Dodds
Coffeeville	Coley Bailey	Darrin Dodds
Crawford	Rodney Mast/Lowell Mullett	Darrin Dodds
Edwards	Kendall Garraway	Darrin Dodds
Ellistown	Larry Coker	Charlie Stokes
Eupora	Matt Knight	Bill Burdine
Glendora	Mike Sturdivant	Darrin Dodds
Greenwood	John Moor	Andy Braswell
Greenwood	Travis Dunn	Andy Braswell
Louise	Byron Seward	Darrin Dodds
Mayersville	Chase Mahalitic	Darrin Dodds
Mississippi State	Darrin Dodds	Darrin Dodds
Okolona	Matthew Poe	Bill Burdine
Natchez	Matthew Guedon	Darrin Dodds
Sledge	Sledge Taylor	Darrin Dodds
West Point	Ben Harlow	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 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 Delta and Pine Land, Greg Ferguson. Cooperation from all aforementioned parties is essential for success of the MSU Extension On-Farm Cotton Variety Trials. 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 4–6 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 2–3 years of data before releasing any given variety. Today, 1–2 years of "broad-scale" variety testing is common. Therefore, greater demand has been placed on 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 the 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 to Mississippi growers with respect to variety performance.

Methodology

The MSU Extension on-farm testing program 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 depends on 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 8- or 12-row sets using planting equipment provided by each respective grower. In some cases, 4- or 6-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 2019 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 nematacide was provided for each variety. In-season management is at the discretion of the growers, who are encouraged to manage the plots 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 1 and 2 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.

Entries

A maximum of 10 core variety entries per year are allowed in the MSU Extension On-Farm Cotton 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 2019, 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 2019 MSU Extension On-Farm Cotton Variety Trial program are listed in **Table 2**.

Table 2. 2019 MSU Extension On-Farm Cotton Variety Trial program entry list.

Slot #	Criteria/Company	Variety
1	At-large entry – Crop Production Services/Dyna-Gro	DG 3526 B2XF
2	At-large entry – BASF	ST 5600B2XF
3	Delta and Pine Land	DP 1646 B2XF
4	Delta and Pine Land	DP 1835 B3XF
5	Delta and Pine Land	DP 1845 B3XF
6	Americot	NG 3994 B3XF
7	Americot	NG 4936 B3XF
8	Phytogen Cottonseed	PHY 350 W3FE
9	Phytogen Cottonseed	PHY 400 W3FE
10	Phytogen Cottonseed	PHY 480 W3FE

Site Characteristics

Locations for the 2019 MSU Extension On-Farm Cotton Variety Trial program are listed on page 2. Yield trials were conducted at a total of 17 locations. Six locations were in the Delta and 11 in the Hills region. All Delta locations were irrigated; 10 of 11 Hill locations were dryland. The remaining Hill location (Crawford) was pivot irrigated. Field sites were chosen based on 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 non-replicated 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 3. Yield and fiber quality data pooled across 17 locations.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	**1076***	40.2	4.4	1.18	33.0	82.2	3.5
DP 1646 B2XF	1009	39.5	4.5	1.20	31.1	82.1	3.4
DG 3526 B2XF	973	40.2	4.7	1.15	30.5	82.9	3.6
DP 1845 B3XF	968	39.2	4.2	1.23	33.4	82.6	3.8
NG 4936 B3XF	959	37.2	4.5	1.20	31.4	82.6	3.1
PHY 350 W3FE	952	37.6	4.5	1.18	32.1	82.7	3.5
ST 5600B2XF	952	39.3	4.8	1.17	32.8	82.7	3.6
DP 1835 B3XF	928	40.3	4.6	1.18	31.8	82.1	3.5
PHY 480 W3FE	904	38.2	4.5	1.18	32.3	83.1	3.5
NG 3994 B3XF	839	38.6	4.8	1.17	31.1	82.1	3.8
Grand Mean	956	39.0	4.5	1.18	31.9	82.5	3.5
LSD (0.05)	54	0.7	0.1	0.02	0.3	0.7	NS

* Yield not statistically different than the top-yielding variety.

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

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	**1156***	39.4	4.4	1.20	34.0	82.6	3.3
DP 1646 B2XF	**1050***	37.9	4.6	1.23	30.5	82.8	3.7
ST 5600B2XF	1017	39.2	4.7	1.17	33.4	82.3	3.8
NG 4936 B3XF	1007	37.3	4.5	1.21	31.5	81.8	3.0
DP 1845 B3XF	996	39.1	4.2	1.25	34.5	82.7	4.0
DG 3526 B2XF	995	39.6	4.7	1.14	30.4	82.7	3.5
PHY 350 W3FE	961	37.1	4.6	1.18	32.5	83.2	2.9
PHY 480 W3FE	959	37.9	4.4	1.19	33.1	83.2	3.3
NG 3994 B3XF	899	39.1	4.9	1.19	31.9	82.6	3.8
DP 1835 B3XF	896	39.5	4.5	1.18	32.0	82.0	3.2
Grand Mean	994	38.6	4.5	1.19	32.4	82.6	3.5
LSD (0.05)	117	1.4	0.3	0.03	1.5	NS	NS

* Yield not statistically different than the top-yielding variety.
Delta locations included Glendora, Greenwood (two locations), Louise, Mayersville, and Sledge.

Table 5. Yield and fiber quality data pooled over 11 Hill Region locations.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	**1026***	40.7	4.4	1.16	32.4	82.0	3.5
DP 1646 B2XF	**974***	40.4	4.5	1.19	31.4	81.6	3.2
DG 3526 B2XF	947	40.7	4.7	1.14	30.5	83.0	3.6
DP 1845 B3XF	939	39.4	4.3	1.21	32.7	82.5	3.6
PHY 350 W3FE	931	38.0	4.5	1.18	31.8	82.4	3.7
DP 1835 B3XF	928	40.9	4.6	1.17	31.6	82.1	3.7
NG 4936 B3XF	921	37.4	4.5	1.19	31.3	83.1	3.1
ST 5600B2XF	908	39.5	4.8	1.16	32.4	82.9	3.5
PHY 480 W3FE	866	38.5	4.5	1.17	31.9	83.0	3.5
NG 3994 B3XF	796	38.6	4.7	1.16	30.6	81.9	3.7
Grand Mean	923	39.4	4.5	1.17	31.7	82.4	3.5
LSD (0.05)	59	0.9	0.2	0.02	0.9	0.8	NS

* Yield not statistically different than the top-yielding variety.
Hill Region locations included Brooksville, Bruce, Coffeeville, Crawford, Edwards, Ellistown, Eupora, Mississippi State, Okolona, Natchez, and West Point.

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

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	**1137***	38.6	4.2	1.21	34.0	82.6	3.3
DP 1646 B2XF	**1052***	38.0	4.3	1.23	30.6	82.8	3.6
NG 4936 B3XF	1013	36.3	4.3	1.22	31.5	82.4	3.0
ST 5600B2XF	1010	38.1	4.5	1.18	33.2	82.5	3.9
DG 3526 B2XF	984	38.7	4.5	1.15	30.5	83.0	3.4
DP 1845 B3XF	968	38.2	3.9	1.25	34.2	82.9	3.9
PHY 480 W3FE	923	36.8	4.2	1.20	33.0	83.5	3.1
PHY 350 W3FE	918	36.2	4.4	1.18	32.4	83.4	3.1
DP 1835 B3XF	880	39.0	4.3	1.19	32.1	82.1	3.1
NG 3994 B3XF	874	38.2	4.7	1.20	31.8	82.8	3.9
Grand Mean	976	37.8	4.3	1.20	32.3	82.8	3.4
LSD (0.05)	101	1.3	0.2	0.03	1.3	NS	NS

* Yield not statistically different than the top-yielding variety.
Irrigated locations included Crawford, Glendora, Greenwood (two locations), Louise, Mayersville, and Sledge.

Table 7. Yield and fiber quality data pooled over 10 dryland locations.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	**1019***	41.0	4.4	1.16	32.3	82.0	3.6
DP 1646 B2XF	**961***	40.3	4.6	1.18	31.4	81.6	3.2
PHY 350 W3FE	947	38.3	4.5	1.18	31.8	82.3	3.7
DP 1845 B3XF	946	39.7	4.4	1.21	32.8	82.4	3.7
DG 3526 B2XF	945	41.0	4.8	1.14	30.4	82.9	3.7
DP 1835 B3XF	936	41.0	4.7	1.17	31.5	82.1	3.8
NG 4936 B3XF	906	37.8	4.5	1.18	31.3	82.9	3.1
ST 5600B2XF	897	40.0	4.8	1.16	32.4	82.9	3.4
PHY 480 W3FE	872	38.9	4.6	1.16	31.8	82.9	3.7
NG 3994 B3XF	796	38.8	4.7	1.15	30.6	81.7	3.7
Grand Mean	923	39.7	4.6	1.17	31.6	82.4	3.6
LSD (0.05)	60	0.9	0.2	0.03	1.0	0.9	NS

* Yield not statistically different than the top-yielding variety.
Dryland locations included Brooksville, Bruce, Coffeeville, Edwards, Ellistown, Eupora, Mississippi State, Okolona, Natchez, and West Point.

Individual Trial Location Data

Location: Brooksville
Grower: Darrin Dodds
MSU Agronomist: D. Dodds

Row width: 38"
Irrigated: Dryland
Planting date: May 22, 2019

Harvest date: November 20, 2019
Soil series: Brooksville Silty Clay

Table 8. Yield and fiber quality data at Brooksville.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
NG 4936 B3XF	**533***	37.5	4.4	1.18	34.5	82.6	3.0
DP 1835 B3XF	**531***	39.7	4.4	1.19	33.8	82.4	3.0
PHY 400 W3FE	**519***	38.9	4.1	1.16	33.6	82.0	5.0
DP 1845 B3XF	**516***	38.9	4.3	1.17	33.7	81.5	3.0
DP 1646 B2XF	**490***	38.2	4.2	1.22	34.1	81.9	4.0
PHY 350 W3FE	**462***	35.8	4.2	1.20	34.0	83.5	4.0
DG 3526 B2XF	**459***	39.4	4.5	1.14	32.6	83.6	6.0
ST 5600B2XF	**456***	39.2	4.3	1.13	34.0	81.4	5.0
PHY 480 W3FE	**453***	36.6	4.3	1.15	32.7	83.6	5.0
NG 3994 B3XF	291	38.7	4.6	1.18	32.8	83.3	5.0
Grand Mean	471	38.3	4.3	1.17	33.6	82.6	4.3
LSD (0.05)	106	•	•	•	•	•	•

* Yield not statistically different than the top-yielding variety.

Location: Bruce
Grower: Trey Brower
MSU Agronomist: D. Dodds

Row width: 38"
Irrigated: Dryland
Planting date: May 22, 2019

Harvest date: October 24, 2019
Soil series: Collins/Falaya Silt Loam

Table 9. Yield and fiber quality data at Bruce.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	**1442***	43.5	4.7	1.21	31.8	81.4	4.0
DG 3526 B2XF	**1392***	45.4	4.4	1.19	32.0	82.8	4.0
PHY 350 W3FE	**1338***	40.9	4.2	1.17	32.1	83.1	4.0
DP 1646 B2XF	**1298***	43.8	4.5	1.12	31.6	81.6	4.0
ST 5600B2XF	1273	41.7	5.1	1.09	28.2	82.3	3.0
DP 1835 B3XF	1220	41.9	4.7	1.17	33.0	82.2	5.0
DP 1845 B3XF	1220	40.6	4.7	1.18	30.5	82.4	2.0
NG 3994 B3XF	1216	38.8	4.8	1.14	30.9	82.5	3.0
PHY 480 W3FE	1142	41.4	5.1	1.14	31.2	80.7	3.0
NG 4936 B3XF	829	32.0	4.4	1.16	31.6	83.2	5.0
Grand Mean	1237	41.0	4.7	1.16	31.3	82.2	3.7
LSD (0.05)	150	•	•	•	•	•	•

* Yield not statistically different than the top-yielding variety.

Location: Coffeeville
Grower: Coley Bailey
MSU Agronomist: D. Dodds

Row width: 38"
Irrigated: Dryland
Planting date: May 24, 2019

Harvest date: October 29, 2019
Soil series: Collins Silt Loam

Table 10. Yield and fiber quality data at Coffeeville.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	1454	39.6	4.1	1.21	34.2	83.5	4.0
NG 4936 B3XF	1370	35.5	4.1	1.22	31.7	83.8	4.0
DP 1646 B2XF	1287	39.3	4.2	1.24	32.1	80.4	3.0
PHY 350 W3FE	1285	37.6	4.4	1.18	32.3	83.5	4.0
NG 3994 B3XF	1267	38.3	5.0	1.20	32.1	83.0	5.0
DP 1845 B3XF	1239	37.4	3.9	1.27	33.9	82.2	5.0
DG 3526 B2XF	1237	40.1	4.8	1.12	28.3	82.7	3.0
DP 1835 B3XF	1192	40.1	4.6	1.19	33.2	83.0	3.0
PHY 480 W3FE	1132	39.0	3.9	1.18	32.1	82.5	5.0
ST 5600B2XF	1131	37.9	4.9	1.20	33.9	83.6	4.0
Grand Mean	1259	38.5	4.4	1.20	32.4	82.8	4.0
LSD (0.05)	NS	•	•	•	•	•	•

Location: Crawford
Grower: Rodney Mast/Lowell Mullett
MSU Agronomist: D. Dodds

Row width: 30"
Irrigated: Pivot
Planting date: May 23, 2019

Harvest date: November 13, 2019
Soil series: Vaiden Silty Clay

Table 11. Yield and fiber quality data at Crawford.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
DP 1646 B2XF	**1056***	41.4	4.0	1.24	31.3	81.7	3.0
PHY 400 W3FE	**1033***	37.6	3.7	1.21	33.8	81.8	3.0
NG 4936 B3XF	**1020***	33.7	3.9	1.26	31.4	85.1	3.0
ST 5600B2XF	**960***	35.0	4.2	1.20	32.3	82.9	4.0
DG 3526 B2XF	**910***	37.2	4.1	1.20	31.5	83.9	3.0
DP 1845 B3XF	811	36.4	3.5	1.24	32.5	83.1	3.0
DP 1835 B3XF	782	39.1	4.1	1.21	32.9	82.5	3.0
PHY 480 W3FE	750	34.2	4.0	1.20	32.5	84.3	2.0
NG 3994 B3XF	736	36.5	4.6	1.26	31.3	83.4	4.0
PHY 350 W3FE	705	34.4	4.1	1.20	31.8	83.3	4.0
Grand Mean	876	36.5	4.0	1.22	32.1	83.2	3.2
LSD (0.05)	164	•	•	•	•	•	•

* Yield not statistically different than the top-yielding variety.

Location: Edwards
Grower: Kendall Garraway
MSU Agronomist: D. Dodds

Row width: 38"
Irrigated: Dryland
Planting date: May 24, 2019

Harvest date: October 29, 2019
Soil series: Reidtown Silt Loam

Table 12. Yield and fiber quality data at Edwards.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	**950***	43.3	4.5	1.16	32.0	81.5	3.0
DG 3526 B2XF	862	39.9	4.6	1.12	30.7	83.4	3.0
DP 1835 B3XF	857	41.3	4.7	1.15	29.3	80.2	4.0
DP 1646 B2XF	841	39.7	4.6	1.19	30.2	82.9	4.0
PHY 350 W3FE	814	38.1	4.5	1.14	31.4	81.1	4.0
NG 4936 B3XF	810	36.8	4.5	1.19	30.9	81.8	3.0
ST 5600B2XF	806	37.4	4.8	1.19	33.5	82.9	4.0
PHY 480 W3FE	781	37.7	4.4	1.16	32.6	83.3	4.0
DP 1845 B3XF	771	38.1	4.0	1.23	32.0	83.4	4.0
NG 3994 B3XF	714	38.7	4.7	1.12	29.4	80.8	3.0
Grand Mean	820	39.1	4.5	1.17	31.2	82.1	3.6
LSD (0.05)	80	•	•	•	•	•	•

* Yield not statistically different than the top-yielding variety.

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

Row width: 38"
Irrigated: Dryland
Planting date: May 22, 2019

Harvest date: October 24, 2019
Soil series: Mantachie/Talla Silt Loam

Table 13. Yield and fiber quality data at Ellistown.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	**1365***	43.9	4.6	1.14	33.2	83.8	4.0
DP 1646 B2XF	**1322***	42.9	4.8	1.21	30.2	81.8	3.0
DP 1835 B3XF	**1308***	42.4	4.9	1.15	31.8	83.0	5.0
NG 4936 B3XF	**1288***	39.6	4.7	1.19	31.4	84.4	4.0
DP 1845 B3XF	**1250***	43.1	4.6	1.20	33.4	83.9	5.0
DG 3526 B2XF	1178	43.3	5.2	1.11	30.6	82.8	4.0
ST 5600B2XF	1160	40.7	5.3	1.20	33.1	82.5	3.0
PHY 350 W3FE	1147	40.0	5.0	1.18	32.4	83.1	3.0
NG 3994 B3XF	1111	42.4	5.2	1.13	30.7	80.1	3.0
PHY 480 W3FE	1092	40.2	4.9	1.16	31.8	84.7	4.0
Grand Mean	1222	41.8	4.9	1.17	31.9	83.0	3.8
LSD (0.05)	154	•	•	•	•	•	•

* Yield not statistically different than the top-yielding variety.

Location: Eupora
Grower: Matt Knight
MSU Agronomist: B. Burdine
Row width: 38"
Irrigated: Dryland
Planting date: May 23, 2019
Harvest date: November 14, 2019
Soil series: Oaklimter Silt Loam

Table 14. Yield and fiber quality data at Eupora.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
NG 4936 B3XF	1154	38.1	4.5	1.21	29.8	83.9	3.0
DP 1646 B2XF	1118	39.2	4.5	1.17	29.8	80.9	4.0
ST 5600B2XF	1113	41.1	5.0	1.18	31.4	84.5	3.0
PHY 400 W3FE	1066	41.6	4.3	1.17	31.3	81.8	3.0
PHY 350 W3FE	1057	38.4	4.5	1.18	31.4	82.7	5.0
DP 1835 B3XF	1026	41.0	4.5	1.16	29.4	81.4	4.0
PHY 480 W3FE	1009	39.5	4.5	1.15	30.7	83.9	4.0
DG 3526 B2XF	972	39.9	4.8	1.13	28.5	84.0	4.0
NG 3994 B3XF	930	39.6	4.9	1.15	28.5	80.9	4.0
DP 1845 B3XF	909	38.6	4.2	1.25	31.5	81.9	4.0
Grand Mean	1035	39.7	4.6	1.18	30.2	82.6	3.8

Location: Glendora
Grower: Mike Sturdivant Jr.
MSU Agronomist: D. Dodds
Row width: 38"
Irrigated: Furrow
Planting date: May 28, 2019
Harvest date: November 5, 2019
Soil series: Dundee Silt Loam

Table 15. Yield and fiber quality data at Glendora.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	910	40.0	4.1	1.19	34.5	83.3	4.0
DP 1646 B2XF	907	36.5	4.2	1.26	31.2	83.3	5.0
NG 4936 B3XF	873	34.7	4.1	1.22	28.2	82.5	4.0
ST 5600B2XF	831	36.1	4.3	1.23	34.9	81.5	4.0
PHY 350 W3FE	825	36.7	4.1	1.17	31.9	82.5	4.0
DG 3526 B2XF	780	38.0	4.3	1.16	31.3	83.0	4.0
PHY 480 W3FE	727	34.1	3.9	1.23	34.5	82.4	4.0
DP 1835 B3XF	724	38.5	4.3	1.22	31.7	80.6	3.0
DP 1845 B3XF	720	36.4	3.7	1.26	33.1	82.7	4.0
NG 3994 B3XF	701	34.8	4.5	1.21	31.2	82.5	4.0
Grand Mean	800	36.6	4.2	1.22	32.3	82.4	4.0

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

Row width: 38"
Irrigated: Furrow
Planting date: May 25, 2019

Harvest date: October 12, 2019
Soil series: Dubbs Loam/Tensas Silty Clay Loam

Table 16. Yield and fiber quality data at Greenwood.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	**1405***	38.8	4.9	1.23	35.6	81.9	1.0
ST 5600B2XF	1227	41.2	4.1	1.10	32.4	80.1	4.0
PHY 350 W3FE	1201	37.6	4.7	1.17	31.3	82.7	2.0
DG 3526 B2XF	1117	40.2	4.9	1.18	31.1	82.9	3.0
PHY 480 W3FE	1102	38.0	4.6	1.23	33.7	85.2	2.0
DP 1845 B3XF	1096	40.2	4.5	1.30	33.8	84.2	3.0
NG 4936 B3XF	1078	37.0	4.9	1.24	31.4	82.3	1.0
DP 1646 B2XF	990	34.0	4.8	1.24	30.8	83.5	3.0
DP 1835 B3XF	961	40.8	4.2	1.21	33.9	83.3	3.0
NG 3994 B3XF	851	37.6	5.0	1.24	33.4	82.2	3.0
Grand Mean	1103	38.6	4.7	1.21	32.7	82.8	2.5
LSD (0.05)	110	•	•	•	•	•	•

* Yield not statistically different than the top-yielding variety.

Location: Greenwood
Grower: Travis Dunn
MSU Agronomist: A. Braswell

Row width: 38"
Irrigated: Irrigated
Planting date: May 25, 2019

Harvest date: October 17, 2019
Soil series: Dundee Loam/ Tensas Silty Clay Loam

Table 17. Yield and fiber quality data at Greenwood.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
DP 1646 B2XF	1202	39.6	4.3	1.21	30.7	82.3	4.0
DG 3526 B2XF	1157	39.5	4.3	1.13	30.5	80.8	3.0
DP 1845 B3XF	1148	38.1	3.8	1.23	35.4	79.6	5.0
NG 4936 B3XF	982	38.2	4.4	1.21	34.0	82.6	4.0
ST 5600B2XF	899	38.0	4.4	1.23	33.3	83.3	5.0
NG 3994 B3XF	898	39.5	4.6	1.18	31.6	81.8	5.0
DP 1835 B3XF	727	34.1	4.3	1.20	30.9	81.2	4.0
Grand Mean	933	37.4	4.3	1.21	32.2	82.2	4.1
LSD (0.05)	NS	•	•	•	•	•	•

Location: Louise
Grower: Byron Seward
MSU Agronomist: D. Dodds

Row width: 30" 2x1 Skip
Irrigated: Furrow
Planting date: May 23, 2019

Harvest date: October 14, 2019
Soil series: Forestadle-Brittain Silt Loam

Table 18. Yield and fiber quality data at Louise.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
DP 1646 B2XF	**1652***	38.5	4.5	1.26	31.5	82.0	4.0
PHY 400 W3FE	**1626***	39.8	4.3	1.20	33.8	83.3	3.0
NG 3994 B3XF	**1595***	40.6	5.0	1.21	33.5	84.0	3.0
DP 1835 B3XF	1523	40.6	4.7	1.17	32.6	83.0	3.0
NG 4936 B3XF	1516	37.7	4.3	1.23	32.6	81.4	3.0
ST 5600B2XF	1515	39.0	5.1	1.17	33.7	83.4	3.0
DP 1845 B3XF	1505	39.7	4.0	1.25	34.3	83.9	4.0
DG 3526 B2XF	1451	40.9	4.7	1.12	29.4	83.3	3.0
PHY 480 W3FE	1445	38.7	4.5	1.17	31.9	82.0	2.0
PHY 350 W3FE	1371	36.9	4.8	1.20	32.7	84.3	3.0
Grand Mean	1520	39.2	4.6	1.20	32.6	83.1	3.1
LSD (0.05)	111	•	•	•	•	•	•

* Yield not statistically different than the top-yielding variety.

Location: Mayersville
Grower: Chase Mahalitic
MSU Agronomist: D. Dodds

Row width: 38"
Irrigated: Furrow
Planting date: May 29, 2019

Harvest date: November 20, 2019
Soil series: Commerce Silty Clay Loam/Tunica Clay

Table 19. Yield and fiber quality data at Mayersville.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
PHY 400 W3FE	639	39.9	4.5	1.21	34.2	83.6	4.0
PHY 480 W3FE	625	40.1	4.3	1.20	34.6	83.6	4.0
NG 4936 B3XF	620	37.7	4.5	1.19	31.8	80.3	3.0
DP 1835 B3XF	578	41.5	4.5	1.15	32.1	81.9	3.0
ST 5600B2XF	550	39.4	5.2	1.14	34.2	82.1	4.0
PHY 350 W3FE	547	37.8	4.7	1.19	34.7	84.2	3.0
DP 1845 B3XF	531	39.3	4.4	1.25	36.0	83.6	4.0
DP 1646 B2XF	529	39.6	4.7	1.21	30.2	83.3	3.0
DG 3526 B2XF	490	40.2	5.1	1.13	30.5	83.1	5.0
NG 3994 B3XF	443	40.7	4.9	1.17	29.8	82.2	3.0
Grand Mean	555	39.6	4.7	1.18	32.8	82.8	3.6

Location: Mississippi State
Grower: Darrin Dodds
MSU Agronomist: D. Dodds

Row width: 38"
Irrigated: Dryland
Planting date: May 20, 2019

Harvest date: November 18, 2019
Soil series: Catalpa/Leeper Silty Clay Loam

Table 20. Yield and fiber quality data at Mississippi State.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
DP 1646 B2XF	562	39.4	4.3	1.20	32.1	80.8	3.0
PHY 400 W3FE	551	39.8	4.3	1.12	31.0	80.4	3.0
DG 3526 B2XF	532	41.6	4.6	1.13	30.6	80.2	3.0
NG 4936 B3XF	524	39.0	4.4	1.18	31.2	82.6	3.0
PHY 350 W3FE	513	37.2	4.3	1.15	31.9	81.5	2.0
PHY 480 W3FE	442	38.0	4.5	1.17	32.3	83.0	3.0
ST 5600B2XF	431	40.4	4.7	1.15	33.4	83.4	3.0
DP 1845 B3XF	421	38.7	4.1	1.20	33.9	81.1	3.0
DP 1835 B3XF	411	40.9	4.6	1.14	31.1	81.9	3.0
NG 3994 B3XF	295	39.7	4.3	1.12	30.3	81.1	3.0
Grand Mean	468	39.5	4.4	1.16	31.8	81.6	2.9
LSD (0.05)	NS	•	•	•	•	•	•

* Yield not statistically different than the top-yielding variety.

Location: Okolona
Grower: Matthew Poe
MSU Agronomist: B. Burdine

Row width: 38"
Irrigated: Dryland
Planting date: May 23, 2019

Harvest date: November 6, 2019
Soil series: Leeper Silty Clay Loam

Table 21. Yield and fiber quality data at Okolona.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
DP 1835 B3XF	**1081***	44.6	4.9	1.16	31.6	81.3	4.0
PHY 350 W3FE	**1045***	41.0	5.2	1.15	32.6	82.6	4.0
PHY 400 W3FE	**1044***	41.5	4.5	1.14	32.9	80.9	3.0
DP 1646 B2XF	1011	42.7	5.0	1.12	29.5	80.4	2.0
PHY 480 W3FE	977	39.8	4.5	1.13	31.8	82.3	3.0
DP 1845 B3XF	971	39.7	4.4	1.21	33.9	82.9	4.0
DG 3526 B2XF	931	42.2	5.1	1.10	30.4	82.9	4.0
ST 5600B2XF	902	39.1	4.8	1.16	32.5	83.1	3.0
NG 4936 B3XF	831	39.7	4.6	1.15	30.4	81.8	2.0
NG 3994 B3XF	794	40.2	4.7	1.11	30.0	81.1	4.0
Grand Mean	959	41.1	4.8	1.14	31.6	81.9	3.3
LSD (0.05)	70	•	•	•	•	•	

* Yield not statistically different than the top-yielding variety.

Location: Natchez
Grower: Matthew Guedon
MSU Agronomist: D. Dodds

Row width: 38″
Irrigated: Dryland
Planting date: May 2, 2019

Harvest date: October 3, 2019
Soil series: Convent Silt Loam

Table 22. Yield and fiber quality data at Natchez.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
DP 1845 B3XF	996	38.3	4.4	1.22	33.2	83.1	4.0
DG 3526 B2XF	977	36.3	4.6	1.24	31.5	84.1	3.0
PHY 350 W3FE	853	36.2	4.1	1.28	31.3	80.0	4.0
ST 5600B2XF	840	40.1	4.5	1.21	32.4	82.5	3.0
PHY 400 W3FE	826	37.9	4.5	1.11	32.0	81.7	4.0
NG 4936 B3XF	826	37.5	4.6	1.17	31.3	81.7	2.0
DP 1835 B3XF	804	36.2	4.5	1.18	32.4	84.3	4.0
DP 1646 B2XF	796	36.8	4.6	1.18	34.1	82.6	3.0
PHY 480 W3FE	755	36.7	4.5	1.23	31.1	82.3	4.0
NG 3994 B3XF	687	36.2	4.2	1.22	32.9	83.0	4.0
Grand Mean	836	37.2	4.5	1.20	32.2	82.5	3.5
LSD (0.05)	NS	•	•	•	•	•	•

Location: Sledge
Grower: Sledge Taylor
MSU Agronomist: D. Dodds

Row width: 38″
Irrigated: Irrigated
Planting date: May 24, 2019

Harvest date: November 18, 2019
Soil series: Falaya/Collins Silt Loam

Table 23. Yield and fiber quality data at Sledge.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
DP 1646 B2XF	**1080***	41.8	4.8	1.19	28.3	82.6	3.0
ST 5600B2XF	**1032***	39.5	5.3	1.16	31.6	83.3	3.0
NG 4936 B3XF	**1032***	38.0	4.8	1.17	30.8	81.8	3.0
PHY 400 W3FE	**1031***	40.2	4.6	1.18	31.7	81.0	4.0
DP 1835 B3XF	**949***	41.9	5.0	1.13	30.9	81.7	3.0
NG 3994 B3XF	**945***	41.2	5.1	1.14	31.7	82.9	5.0
DP 1845 B3XF	871	39.4	4.6	1.20	34.6	82.4	4.0
DG 3526 B2XF	870	38.2	4.9	1.12	29.3	82.9	3.0
PHY 480 W3FE	860	38.5	5.0	1.13	30.7	82.9	4.0
PHY 350 W3FE	803	37.3	4.9	1.16	31.9	82.6	2.0
Grand Mean	947	39.6	4.9	1.16	31.2	82.4	3.4
LSD (0.05)	160						

* Yield not statistically different than the top-yielding variety.

Location: West Point
Grower: Ben Harlow
MSU Agronomist: C. Stokes

Row width: 30"
Irrigated: Dryland
Planting date: May 21, 2019

Harvest date: October 11, 2019
Soil series: Houston Clay

Table 24. Yield and fiber quality data at West Point.

Variety	Lint Yield (lb/acre)	Lint Percent	Mic	Staple (in)	Strength (g/tex)	Uniformity (%)	Leaf
DP 1845 B3XF	**993***	42.9	4.9	1.15	31.5	81.5	3.0
PHY 400 W3FE	**849***	41.2	4.8	1.13	30.9	83.1	3.0
PHY 350 W3FE	**842***	39.2	5.0	1.14	28.8	82.3	3.0
PHY 480 W3FE	**833***	41.7	4.9	1.15	32.0	82.2	2.0
DP 1835 B3XF	811	42.2	4.9	1.16	29.3	80.9	3.0
ST 5600B2XF	789	42.3	5.0	1.10	31.6	82.5	3.0
DP 1646 B2XF	764	40.9	4.8	1.17	30.5	82.9	2.0
NG 4936 B3XF	762	40.6	4.9	1.16	29.9	83.0	2.0
DG 3526 B2XF	738	41.3	5.1	1.11	28.9	82.9	3.0
NG 3994 B3XF	593	34.4	5.0	1.09	28.0	81.5	3.0
Grand Mean	797	40.7	4.9	1.14	30.1	82.3	2.7
LSD (0.05)	167	•	•	•	•	•	•

* Yield not statistically different than the top-yielding variety.

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By **Brian K. Pieralisi**, PhD, Assistant Professor; Darrin M. Dodds, PhD, Professor and Head; Bradley Norris, Research Associate; Joey Williams, Extension/Research Associate; and William Rutland, Extension Associate, Plant and Soil Sciences.

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