

# 2021 Mississippi On-Farm Cotton Variety Trials

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Mississippi State University Extension

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## 2021 County Trial Locations and Cooperators

Trials arranged and conducted by: Dr. Brian Pieralisi

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

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

**Table 1. Locations, growers, and cooperating agronomists for 2021 Mississippi State University County Variety Trial Program.**

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

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 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 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. 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 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 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 Mississippi State University County Trial Program were as follows:

**Table 2. 2021 Mississippi State University County Variety Trial 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

## Site Characteristics

Locations for the 2021 Mississippi State University County Yield Trial Program are listed on page 3. Yield trials were conducted at a total of four-teen 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) and 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 & 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, 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.

# 2021 Mississippi State University On-Farm Variety Trial Program

## Yield and Fiber Quality Data Pooled Across 14 Locations

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

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

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

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

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

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

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

# 2021 Mississippi State University On-Farm Variety Trial Program

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

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

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>PHY 411 W3FE</b>	<b>1107</b>	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
<b>Grand Mean</b>	984	38.8	4.3	1.20	31.3	83.9	4.6
<b>LSD (0.05)</b>	79	0.8	0.2	0.02	•	0.6	•

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

Irrigated Locations Included: Crawford, Delta Island, Greenwood, Louise, Sledge, and Tallahatchie

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

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>DP 2127 B3XF</b>	<b>1147</b>	38.4	4.6	1.19	32.2	79.0	4.2
PHY 411 W3FE	<b>1145</b>	39.1	4.5	1.15	33.6	78.0	5.1
PHY 332 W3FE	<b>1120</b>	37.7	4.3	1.21	33.2	78.3	4.6
DP 2012 B3XF	<b>1098</b>	37.8	4.2	1.24	33.0	79.0	4.3
PHY 443 W3FE	<b>1082</b>	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
<b>Grand Mean</b>	1068	38.2	4.3	1.22	32.6	78.4	4.5
<b>LSD (0.05)</b>	87	0.7	0.1	0.02	0.5	0.4	0.3

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

# 2021 Mississippi State University On-Farm Variety Trial Program

Dryland Locations Included: Brooksville, Coffeeville, Edwards, Ellistown, Mayersville, 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	%	
<b>PHY 411 W3FE</b>	<b>1206</b>	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
<b>Grand Mean</b>	1058	39.1	4.4	1.21	31.0	83.8	4.6
<b>LSD (0.05)</b>	90	1.0	•	•	•	•	•

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

## 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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>PHY 411 W3FE</b>	<b>1153</b>	44.3	4.4	39	33.3	82.5	5
PHY 443 W3FE	866	42.1	4.5	37	31.8	83	4
DP 1646 B2XF	766	40.7	4.2	40	31.5	83.7	5
DP 2012 B3XF	725	44.7	4.1	40	33.7	84.7	5
NG 4936 B3XF	718	41.1	4.1	40	31.8	83.9	6
NG 5150 B3XF	717	41.2	4.4	39	30.5	84.5	7
DP 2127 B3XF	686	37.7	4.2	39	31.9	82.8	5
ST 5091 B3XF	659	38.4	4.4	39	29.8	83	6
DG 3535 B3XF	647	39.1	4.4	39	30.8	83.6	7
PHY 332 W3FE	615	32.6	4.1	39	29.7	83.5	5
<b>Grand Mean</b>	755	40.2	4.3	39	31	84	5.5
<b>LSD (0.05)</b>	179	•	•	•	•	•	•

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



# 2021 Mississippi State University On-Farm Variety Trial Program

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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>DG 3535 B3XF</b>	<b>1136</b>	39.1	4	39	30.6	83.1	5
<b>DP 1646 B2XF</b>	<b>1134</b>	41.5	4.6	37	30.9	85.6	4
<b>ST 5091 B3XF</b>	<b>1113</b>	38.8	3.9	39	29.8	82.7	5
<b>DP 2127 B3XF</b>	<b>1088</b>	39.2	4.2	39	29.5	82.4	4
<b>NG 4936 B3XF</b>	<b>1045</b>	37.6	4.3	40	31.9	85.4	5
<b>DP 2012 B3XF</b>	1004	40.1	4	39	30.3	84.4	5
<b>NG 5150 B3XF</b>	917	38.8	4.1	38	31.1	83.7	4
<b>Grand Mean</b>	1062	39.3	4.2	38.7	30.6	83.9	4.6
<b>LSD (0.05)</b>	175	•	•	•	•	•	•

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

Phylogen varieties omitted per the growers 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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>PHY 332 W3FE</b>	<b>826</b>	37.9	4.2	39	31.7	85.4	4
<b>ST 5091 B3XF</b>	<b>806</b>	37.9	3.7	40	31.5	84.6	5
<b>PHY 411 W3FE</b>	<b>794</b>	37.9	4.2	40	34.3	85	4
<b>DP 2012 B3XF</b>	<b>787</b>	37.9	4	42	29.8	83.9	4
<b>DP 2127 B3XF</b>	<b>703</b>	37.9	4.6	38	30.6	86.1	4
<b>PHY 443 W3FE</b>	<b>695</b>	37.9	4.5	39	34.4	85.4	4
<b>NG 4936 B3XF</b>	652	33.4	4.2	41	31	85.5	4
<b>DG 3535 B3XF</b>	651	37.9	4.3	38	32.1	82.2	3
<b>DP 1646 B2XF</b>	639	37.9	4.3	37	34.1	84.5	5
<b>NG 5150 B3XF</b>	588	37.9	3.8	40	32.8	83.8	5
<b>Grand Mean</b>	714	37.4	4.2	39.4	32.2	84.6	4.2

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

## 2021 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 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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>DP 2127 B3XF</b>	1468	40.6	4.4	42	30	85.4	4
<b>DP 2012 B3XF</b>	1453	39.1	4.3	39	32.3	85	4
<b>DG 3535 B3XF</b>	1407	40.4	4.3	40	32.7	83.8	4
<b>NG 4936 B3XF</b>	1363	37.1	4.3	41	30.8	85.9	4
<b>ST 5091 B3XF</b>	1361	35.4	4.2	40	30.7	84.5	5
<b>DP 1646 B2XF</b>	1255	40.0	4.8	38	32.7	84.7	4
<b>NG 5150 B3XF</b>	1195	38.3	4.5	40	32.2	84.2	4
<b>Grand Mean</b>	1357	38.7	4.4	40.0	31.6	84.8	4.1
<b>LSD (0.05)</b>	NSD	•	•	•	•	•	•

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

Phytogen varieties omitted per the growers 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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>PHY 411 W3FE</b>	1145	40.1	4.9	37	32	84.7	5
<b>DP 2127 B3XF</b>	1139	40.2	4.6	39	30.9	83.6	5
<b>DP 1646 B2XF</b>	1013	39.6	5.3	37	29.9	84	4
<b>PHY 443 W3FE</b>	1001	37.1	4.4	40	33.2	85	5
<b>DP 2012 B3XF</b>	988	38.8	4.5	38	31.3	84.4	4
<b>DG 3535 B3XF</b>	984	40.0	4.8	39	31.2	84.5	3
<b>PHY 332 W3FE</b>	979	36.4	5	38	32.8	86.2	4
<b>ST 5091 B3XF</b>	945	40.7	4.2	37	30.1	82.7	.
<b>NG 5150 B3XF</b>	861	39.4	4.8	38	30.9	83.3	5
<b>NG 4936 B3XF</b>	779	36.1	4.6	40	30.9	84.9	3
<b>Grand Mean</b>	983	38.8	4.7	38.3	31.3	84.3	4.2
<b>LSD (0.05)</b>	237	•	•	•	•	•	•

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

# 2021 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 25, 2021

Harvest date: November 15, 2021  
 Soil series: Mantachie Silt 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	%	
<b>DG 3535 B3XF</b>	<b>1063</b>	40.6	4.3	38	32.1	82.2	3
<b>DP 2012 B3XF</b>	<b>1061</b>	41.7	4.3	40	32.7	85.3	4
<b>ST 5091 B3XF</b>	<b>1055</b>	38.5	3.7	40	31.5	84.6	4
<b>NG 4936 B3XF</b>	<b>1041</b>	38.5	4.2	41	31	85.5	4
<b>PHY 411 W3FE</b>	<b>977</b>	40.5	4.2	39	34.3	84.9	4
<b>PHY 332 W3FE</b>	<b>951</b>	40.5	4.4	39	32.5	84.6	4
<b>DP 2127 B3XF</b>	<b>920</b>	36.6	4.1	42	30.8	84.3	4
<b>PHY 443 W3FE</b>	<b>914</b>	39.1	4.4	39	34.9	85.2	4
<b>DP 1646 B2XF</b>	<b>911</b>	39.8	4.1	37	34.3	84.5	4
<b>NG 5150 B3XF</b>	849	40.9	4.2	40	32.6	84.7	4
<b>Grand Mean</b>	1010	39.7	4.2	39.5	32.7	84.6	3.9
<b>LSD (0.05)</b>	203	•	•	•	•	•	•

\*Yield 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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>PHY 443 W3FE</b>	<b>1035</b>	38.5	4.1	40	32	83.5	5
<b>PHY 332 W3FE</b>	<b>1013</b>	38.0	4.3	39	33.5	84	5
<b>PHY 411 W3FE</b>	<b>937</b>	38.1	4.6	37	32.5	83.7	5
<b>DP 2127 B3XF</b>	901	36.9	4.2	42	30.6	83.5	5
<b>DP 2012 B3XF</b>	851	37.2	4.1	41	32.8	85.3	5
<b>ST 5091 B3XF</b>	850	38.2	4.1	41	31.1	83.7	5
<b>DP 1646 B2XF</b>	825	38.5	4.4	40	32.7	85.5	4
<b>DG 3535 B3XF</b>	803	38.3	4.5	40	32.1	83.8	3
<b>NG 4936 B3XF</b>	794	36.7	4.5	42	30.3	85.9	4
<b>NG 5150 B3XF</b>	773	37.2	4.3	41	31.2	84.2	4
<b>Grand Mean</b>	878	37.8	4.3	40.3	31.9	84.3	4.5
<b>LSD (0.05)</b>	130	•	•	•	•	•	•

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

# 2021 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 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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>DP 2127 B3XF</b>	<b>1191</b>	38.1	5	37	32	85.5	3
<b>ST 5091 B3XF</b>	<b>1168</b>	37.9	3.9	38	29.9	83.4	4
<b>DG 3535 B3XF</b>	<b>1136</b>	36.0	4.3	40	30	84.6	4
<b>DP 2012 B3XF</b>	<b>1129</b>	36.3	4.2	40	32.8	83.7	4
<b>DP 1646 B2XF</b>	<b>1097</b>	35.4	4.4	40	31.4	84.6	4
<b>NG 5150 B3XF</b>	<b>1083</b>	38.1	4.5	39	31.4	83.3	3
<b>NG 4936 B3XF</b>	901	36.1	4.3	38	31.2	83.6	3
<b>Grand Mean</b>	1101	36.8	4.4	38.9	31.2	84.1	3.6
<b>LSD(0.05)</b>	262	•	•	•	•	•	•

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

Phylogen varieties omitted per the growers request

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

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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>ST 5091 B3XF</b>	<b>1281.13</b>	39.9	4.6	39	32.5	84.3	3
<b>DP 1646 B2XF</b>	1205.77	39.8	4.4	41	31.5	84.5	4
<b>DP 2127 B3XF</b>	1176.92	36.7	5.1	37	32.7	86	4
<b>DP 2012 B3XF</b>	1156.39	37.5	4.7	39	31.7	84.3	4
<b>NG 5150 B3XF</b>	1152.42	37.6	4.6	40	32.5	85.2	3
<b>DG 3535 B3XF</b>	1142.55	38.2	4.7	39	34.3	85.6	4
<b>NG 4936 B3XF</b>	1137.96	37.8	4.8	41	32.1	85.7	4
<b>Grand Mean</b>	1179.02	38.2	4.7	39.4	32.5	85.1	3.7
<b>LSD(0.05)</b>	61.2	•	•	•	•	•	•

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

Phylogen varieties omitted per the growers request

## 2021 Mississippi State University County Yield Trial Program - Flex Varieties

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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>DP 1646 B2XF</b>	<b>1370</b>	39.8	4.3	39	31.5	85	4
<b>DG 3535 B3XF</b>	<b>1366</b>	40.6	4.8	37	31.9	84.1	3
<b>DP 2012 B3XF</b>	<b>1361</b>	40.7	4.6	40	29.7	83.5	4
<b>PHY 411 W3FE</b>	<b>1346</b>	40.5	4.6	38	30.5	82.9	5
<b>PHY 332 W3FE</b>	<b>1319</b>	40.5	4.4	38	29.6	84	4
<b>PHY 443 W3FE</b>	<b>1261</b>	39.1	4.6	39	31.6	85	4
<b>NG 5150 B3XF</b>	1228	38.9	4.4	40	34.5	84.1	5
<b>ST 5091 B3XF</b>	1158	38.5	4.8	37	33.4	84	5
<b>DP 2127 B3XF</b>	1127	34.4	4.4	40	32	83.2	4
<b>NG 4936 B3XF</b>	1081	37.4	4.5	37	32.8	83.5	5
<b>Grand Mean</b>	1262	39.0	4.5	39	31.8	83.9	4.3
<b>LSD (0.05)</b>	112	•	•	•	•	•	•

\*Yield 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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>DP 2127 B3XF</b>	<b>1681</b>	40.1	3.8	40	31.4	83.2	4
<b>DG 3535 B3XF</b>	<b>1572</b>	41.3	3.6	39	31.6	82	4
<b>DP 2012 B3XF</b>	<b>1485</b>	39.3	3.9	40	32	84.3	4
<b>NG 4936 B3XF</b>	<b>1441</b>	37.7	3.8	39	31.6	83.6	4
<b>ST 5091 B3XF</b>	1417	40.2	3.5	38	30.8	81.4	4
<b>DP 1646 B2XF</b>	1373	40.9	3.7	39	30.6	83.6	4
<b>NG 5150 B3XF</b>	1235	39.9	4	38	30.4	83.1	4
<b>Grand Mean</b>	1458	39.9	3.8	39.0	31.2	83.0	4
<b>LSD (0.05)</b>	261	•	•	•	•	•	•

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

Phytogen varieties omitted per the growers request

# 2021 Mississippi State University On-Farm Variety Trial Program

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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>DP 2012 B3XF</b>	<b>1125</b>	37.3	3.9	40	32	84.3	5
<b>NG 5150 B3XF</b>	<b>1097</b>	38.5	4	38	30.4	83.1	5
<b>PHY 411 W3FE</b>	<b>1081</b>	39.3	3.9	37	32.8	82.5	6
<b>ST 5091 B3XF</b>	<b>1080</b>	37.6	3.5	38	30.8	81.4	5
<b>DP 2127 B3XF</b>	<b>1070</b>	36.7	3.7	39	30.6	83.6	6
<b>DP 1646 B2XF</b>	<b>1060</b>	38.3	3.8	40	31.4	83.2	5
<b>NG 4936 B3XF</b>	<b>1032</b>	37.1	3.8	39	31.6	83.6	4
<b>PHY 332 W3FE</b>	<b>1029</b>	37.7	3.9	37	31.8	83.4	5
<b>PHY 443 W3FE</b>	921	36.7	3.7	37	32.6	83.8	6
<b>DG 3535 B3XF</b>	883	37.8	3.6	39	31.6	82	5
<b>Grand Mean</b>	1038	37.7	3.8	38.4	31.6	83.1	5.2
<b>LSD (0.05)</b>	156	•	•	•	•	•	•

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

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

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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>NG 4936 B3XF</b>	1337	36.3	4.3	40	31	84.4	3
<b>DP 2012 B3XF</b>	1200	37.0	4.3	40	32.1	85.1	4
<b>NG 5150 B3XF</b>	1156	38.7	4.2	41	30.2	85.3	4
<b>DP 1646 B2XF</b>	1070	39.2	4.1	41	30.2	85.2	4
<b>ST 5091 B3XF</b>	995	40.1	4.1	39	30.6	84.3	5
<b>DG 3535 B3XF</b>	983	37.3	4.2	38	31.2	82.9	4
<b>Grand Mean</b>	1123	38.1	4.2	39.8	30.9	84.5	4

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

Phytogen varieties omitted per the growers request

## 2021 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 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	Lint Percent	Mic	Staple	Strength	Uniformity	Leaf
	Lbs/Acre	%		Inches	Grams/Tex	%	
<b>PHY 443 W3FE</b>	<b>1229</b>	41.4	3.7	37	32.6	83.8	6
<b>PHY 411 W3FE</b>	<b>1173</b>	39.8	3.9	37	32.8	82.5	6
<b>PHY 332 W3FE</b>	<b>1080</b>	40.5	3.9	37	31.8	83.4	5
<b>DP 2012 B3XF</b>	<b>1062</b>	39.7	3.9	40	32	84.3	5
<b>DP 2127 B3XF</b>	<b>1059</b>	39.7	3.7	39	30.6	83.6	6
<b>DP 1646 B2XF</b>	<b>1056</b>	41.1	3.8	40	31.4	83.2	5
<b>ST 5091 B3XF</b>	<b>1024</b>	42.1	3.5	38	30.8	81.4	5
NG 5150 B3XF	1010	41.2	4	38	30.4	83.1	5
NG 4936 B3XF	975	40.0	3.8	39	31.6	83.6	4
DG 3535 B3XF	957	42.8	3.6	39	31.6	82	5
<b>Grand Mean</b>	1063	40.8	3.8	38.4	31.6	83.1	5.2
<b>LSD(0.05)</b>	215	•	•	•	•	•	•

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

