

# Arkansas Cotton Variety Test

# 2020



2020 Arkansas Large-Plot Cotton Variety Test in St. Francis County

**F. Bourland • A. Beach • E. Brown  
C. Kennedy • L. Martin • and B. Robertson**



**DIVISION OF AGRICULTURE  
RESEARCH & EXTENSION**  
*University of Arkansas System*

---

**ARKANSAS AGRICULTURAL EXPERIMENT STATION**

February 2021

Research Series 674

This publication is available on the internet at: <https://aes.uark.edu/communications/publications/> and at <https://aes.uark.edu/variety-testing/>

Technical editing and cover design by Gail Halleck.

Photo Credit: Harvesting the 2020 large-plot Cotton Variety Test in St. Francis county with producer Joe Whittenton's cotton picker. Photo was taken by Whitney Haigwood, Seasonal Assistant to Bill Robertson, Department of Crop, Soil and Environmental Sciences, University of Arkansas System Division of Agriculture.

---

Arkansas Agricultural Experiment Station (AAES), University of Arkansas System Division of Agriculture, Fayetteville. Mark J. Cochran, Vice President for Agriculture; Jean-François Meullenet, AAES Director and Senior Associate Vice-President for Agriculture–Research. WWW/CC2020.

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs and services without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.

ISSN: 1941-1537 CODEN: AKAMA6

**Arkansas  
Cotton  
Variety Test  
2020**

**F. Bourland  
A. Beach  
E. Brown  
C. Kennedy  
L. Martin  
B. Robertson**

**Arkansas Agricultural Experiment Station  
University of Arkansas System  
Division of Agriculture  
Fayetteville, Arkansas 72704**

## Summary

The primary goal of the Arkansas Cotton Variety Test is to provide unbiased data regarding the agronomic performance of cotton varieties and advanced breeding lines in the major cotton-growing areas of Arkansas. This information helps seed companies establish marketing strategies and assists producers in choosing varieties to plant. These annual evaluations will then facilitate the inclusion of new, improved genetic material in Arkansas cotton production. Adaptation of varieties is determined by evaluating the lines at five University of Arkansas System Division of Agriculture research sites (Manila, Keiser, Judd Hill, Marianna, and Rohwer). Entries in the 2020 Arkansas Cotton Variety Test were evaluated in two groups—transgenic and conventional varieties. The 51 entries in the transgenic test included 7 B2XF, 30 B3XF, 12 W3FE, and 2 GLTP lines which were evaluated at all five locations. The conventional test included 10 entries which were evaluated at all locations except Manila. Reported data include lint yield, lint percentage, plant height, percent open bolls, yield component variables, fiber properties, leaf pubescence, stem pubescence, and bract trichome density. All entries in the experiments were evaluated for response to tarnished plant bug and bacterial blight in separate tests at Keiser. This 2020 report includes results of large-plot variety tests in 10 counties that were coordinated by Bill Robertson.

## Contents

<a href="#">Introduction</a> .....	3
<a href="#">Materials and Methods</a> .....	3
<a href="#">Results</a> .....	5
<a href="#">Literature Cited</a> .....	5
<a href="#">Acknowledgments</a> .....	6
<a href="#">Participants and entries in the 2020 Arkansas Cotton Variety Test (Table 1)</a> .....	7
<a href="#">Production information for all locations (Table 2)</a> .....	8
<a href="#">Environmental conditions (Table 3)</a> .....	9
Tables	
Transgenic Variety Test:	
<a href="#">All locations (Tables 4–5)</a> .....	10
<a href="#">Keiser (Tables 6–7)</a> .....	12
<a href="#">Judd Hill (Tables 8–9)</a> .....	14
<a href="#">Marianna (Tables 10–11)</a> .....	16
<a href="#">Rohwer (Tables 12–13)</a> .....	18
<a href="#">Manila (Table 14)</a> .....	20
<a href="#">Morphological and host-plant resistance traits (Table 15)</a> .....	21
<a href="#">2-year and 3-year yield averages (Table 16)</a> .....	23
Conventional Variety Test:	
<a href="#">All locations (Tables 17–18)</a> .....	24
<a href="#">Keiser (Tables 19–20)</a> .....	25
<a href="#">Judd Hill (Tables 21–22)</a> .....	26
<a href="#">Marianna (Tables 23–24)</a> .....	27
<a href="#">Rohwer (Tables 25–26)</a> .....	28
<a href="#">Morphological and host-plant resistance traits (Table 27)</a> .....	29
<a href="#">2-year and 3-year yield averages (Table 28)</a> .....	29
County Large-Plot, Replicated Variety Evaluation:	
<a href="#">Appendix Tables A1–A10</a> .....	30

# Arkansas Cotton Variety Test 2020

*F. Bourland, A. Beach, E. Brown,  
C. Kennedy, L. Martin, and B. Robertson<sup>1</sup>*

---

## Introduction

The purpose of the University of Arkansas System Division of Agriculture's Cotton Variety Testing Program is to provide unbiased comparisons of cotton varieties and advanced breeding lines over a range of environments. Data from these tests help to identify the potential adaptability of varieties to particular cotton-growing regions of the state. Bourland et al. (2000) documented several unintentional biases that are inherent to the Arkansas cotton variety testing program. These include management associated with varieties expressing herbicide and insect resistance. The biases tend to cancel each other so that no great advantage is given to any particular variety. Since evaluation of genetic differences among entries is the ultimate goal of the evaluations, all varieties are treated identically within the primary locations (Manila, Keiser, Judd Hill, Marianna, and Rohwer) of the variety test. No specialized production inputs were employed with respect to the various genetically enhanced varieties. All entries in the tests at Manila possessed the RF or G genes and were uniformly treated with Round-up. Since the plots were over-sprayed with Round-up, the conventional varieties were not evaluated at Manila.

## Materials and Methods

The 51 entries in the transgenic test included 7 B2XF, 30 B3XF, 12 W3FE, and 2 GLTP lines, of which 28 were included in the 2019 Arkansas Cotton Variety Test (Table 1). The conventional test included 10 entries, 7 of which were in the 2019 test. All entries were replicated 4 times at each test site.

Test sites included the Northeast Research and Extension Center at Keiser; the Judd Hill Cooperative Research Station at Judd Hill (near Trumann); the Lon Mann Cotton Research Station at Marianna; the Manila Airport Cotton Research Farm at Manila; and the Rohwer Research Station at Rohwer. The transgenic test was evaluated at each site, and the conventional test was evaluated at all sites except Manila. The conventional tests were in the same

fields as the transgenic test, but were in different areas of the fields. Cultural practices and weather data (heat units and rainfall) associated with the test sites are listed in Table 2 and Table 3, respectively.

Originators of seed supplied double-treated (two fungicides) seed for all entries. Prior to planting, all seed were treated with imidacloprid (Gaucho<sup>®</sup>) at a rate of 6 oz/100 lb seed by the originator or the testing personnel. Plots were planted with a constant number of seed (about 3.5 seed/row ft). All varieties were planted in 2-row plots on 38-inch centers and ranged from 40 to 50 feet in length. Experiments were arranged in a randomized complete block. Although exact inputs varied across locations, cultural inputs at each location were generally based on University of Arkansas System Division of Agriculture Cooperative Extension Service recommendations for cotton production, including COTMAN rules for insecticide termination. All plots were machine-harvested with 2-row or 4-row cotton pickers modified with load cells for harvesting small plots.

## Data Collected at Single Location

**Leaf Pubescence.** Leaf pubescence was visually rated on a scale of 1 (smooth leaf) to 9 (pilose, very hairy) in the irrigated experiments at Keiser using the system described by Bourland et al. (2003). A full-sized main-stem leaf located about 5-6 nodes from plant apex was rated for 6 plants per plot for all 4 replications during August.

**Stem Pubescence.** Stem pubescence was visually rated on a scale of 1 (smooth stem) to 9 (very hairy) in the irrigated experiments at Keiser using a system similar to that used for leaves. After harvest, the upper 5-6 inches of the plant apex was rated for 6 plants per plot for all 4 replications.

**Bract Trichomes.** As all plants approached physiological cutout, a bract from a 1st position white flower was sampled from 6 random plants per plot (4 replications) in the Keiser experiments. Each bract was examined for marginal trichome density (no. of trichomes/cm) as

---

<sup>1</sup> F. Bourland is a professor and Altheimer chair for cotton research and development; A. Beach and E. Brown are program technicians at the Northeast Research and Extension Center; C. Kennedy is resident director at the Lon Mann Cotton Research Station; L. Martin is a program technician at the Rohwer Research Station; and B. Robertson is a cotton agronomist at the Newport Extension Center.

described by Bourland and Hornbeck (2007). Means for the 6 bracts were evaluated as plot means.

**Tarnished Plant Bug (TPB).** Entries in the two variety tests were evaluated for response to TPB in a separate field at Keiser. The TPB test included 8 replications of 1-row plots (20-feet long on 38-inch wide rows). Four rows of a highly susceptible Frego-bract line were planted between the tests. The TPB tests and border rows were planted on May 21 and received no insecticide treatment for TPB infestations. Early flowering in the susceptible Frego-bract strips encouraged TPB populations to increase, then to migrate from the strips as the test plots began to flower. Response to TPB was determined by examining white flowers (6 flowers/plot/day for 6 days in late August) for presence of anther damage. Accumulative percentage of damaged flowers (“dirty flowers”) was determined for each plot.

**Bacterial Blight.** Entries in the two variety tests were planted in flats (3 replications, 13 seed/plot) in the greenhouse, and scratch inoculated with *Xanthomonas citri* pv. *malvacearum*. The inoculum was obtained from naturally infected leaves collected at the 2019 Marianna location. Scratches were examined for water-soaking, and percent of susceptible plants was determined.

**Verticillium Wilt.** Relative yields of varieties over years at Judd Hill should be indicative of tolerance to Verticillium wilt.

#### Data Collected at All Locations

**Plant Height.** Plant height measurements (in cm) were collected after harvest was completed. Average plant heights for varieties were determined by measuring from the soil surface to the terminal of one average-sized plant in each of the two rows. Plot means (average of the two measurements) were evaluated.

**% Open Bolls.** Near the time of first application of defoliant, percentage of open bolls was estimated from the front and back of each plot, then averaged for each plot.

**Boll Samples and Lint Percentage.** Prior to mechanical harvest, hand-harvested samples were obtained from 2 replications at each location. Within each row of 2-row plots, a site having average or above average plant density was chosen and 20 bolls (5 bottom, 10 mid-canopy and 5 top bolls) were harvested and bulked to form a 40-boll sample. The 40-boll samples were ginned (lab gin without the use of lint cleaners) to determine lint fraction (the percentage of lint weight to seed cotton weight).

**Fiber Properties.** Fiber samples were taken from each boll sample and were evaluated using HVI classification. Parameters included micronaire, fiber length, length uniformity index (UI), strength, and elongation. To reflect market demand for fiber quality, a weighted quality score

(Q-score) was calculated as described by Bourland et al. (2010). Parameters (and weightings) included in Q-score were fiber length (50%), micronaire (25%), length uniformity index (15%), and strength (10%).

**Seed Index.** Two sets of 25 fuzzy seed from the ginned seed of each 40-boll sample were counted and weighed. If the two weights varied more than 0.2 g, a second set of samples was taken. Two consistent weights of 25 seed were used to calculate fuzzy seed index (weight of 100 seed).

**Seed Per Acre.** For each plot, an estimate of number of seed per acre was determined by multiplying seed cotton yield (lb/acre converted to g/acre) times average seed percentage (the percentage of seed weight to seedcotton weight in ginned sample, averaged by entry and location over reps), then divided by average seed weight (average seed index by entry over reps divided by 100).

**Lint Index.** Lint index (weight of lint on 100 seed) was determined from 40-boll sample data by dividing lint weight from ginned sample by the number of seed per sample (estimated using average seed weight) then multiplying by 100.

**Fibers Per Seed.** Fibers per seed were estimated by dividing lint index by an estimated weight of individual fibers. Weight of an individual fiber was estimated by: fiber length  $\times$  length uniformity  $\times$  (micronaire/1,000,000).

**Fiber Density.** Fiber density, reported as the number of fibers per mm<sup>2</sup>, was estimated by dividing fibers per seed by seed surface area. Seed surface area (SSA) was estimated by the regression equation suggested by Groves and Bourland (2010):  $SSA = 35.74 + 6.59 SI$ , where SI is equal to seed index associated with the sample.

**Lint Yield.** Seed cotton yield per plot (determined by mechanical cotton picker) was converted to seed cotton yield per acre then multiplied by average lint percentage (determined by variety and location) to estimate lint per acre.

#### Yield Comparisons

Uncontrolled variation is inherent to collection of variety performance data (particularly yield data). In addition to their genetic ability, variation among varieties may be due to slight differences in soil, pest or climatic conditions within a field, various interactions with specific management practices, or experimental error. Statistics allow users to define the degree of uncontrolled variation and to interpret data. The statistical tool used to compare means in these tests was Fisher’s Protected Least Significant Difference (LSD). An LSD was calculated when the F-test value from analysis of variance was significant. Yields of varieties are considered significantly different if the difference between mean yields of two varieties is greater than the LSD value. Differences that are smaller than the LSD may have

occurred by chance or may be associated with uncontrolled variation, and are therefore considered not significant.

Additional estimates of variation are provided by measures of R-squared and coefficient of variation (CV). R-squared (times 100) indicates the percentage of variation that is explained by defined sources of variation (e.g., replication and variety effects within a location). Confidence in data increases as R-squared increases. Generally, the meaningfulness of difference among means is questionable when data have R-squared values of less than 50%. Also, confidence in data becomes greater as CV declines.

## Results

Entries and participants in the test are listed in Table 1. Cultural inputs and production information for variety trials at Manila, Keiser, Judd Hill, Marianna, and Rohwer are reported in Table 2. Table 3 includes weather information for north, central, and south Arkansas locations during the 2020 production season.

Both heat units and rainfall in 2020 were close to historical averages at each Arkansas location (Table 3). Temperatures exceeding 95 °F were rare—2 days (97 °F on 7/16; 96 °F on 8/1) at Keiser, and 0 days at Marianna and Rohwer. The absence of extremely high temperature and the occurrence of relatively high rainfall provided excellent growing conditions through the season. Rainfall in 2020 was near the historical average rainfall at Keiser, but greatly exceeded historical averages at Marianna and Rohwer.

Performance data of entries in the 2020 Transgenic Cotton Variety Test at Manila, Keiser, Judd Hill, Marianna and Rohwer are provided in Tables 4 through 14 with yield and yield-related variables in the even-numbered tables and fiber properties in the odd-numbered tables. Performance data across all five locations are presented in Tables 4 and 5. Morphological and host-plant resistance measurements for the main transgenic test entries are in Table 15. Two- and three-year yield means for entries evaluated in previous years are in Table 16. Performance data for the 2020 Conventional Cotton Variety Test at Keiser, Judd Hill, Marianna, and Rohwer are provided in Tables 17 through 26, with yield and yield-related variables in the odd-numbered tables and fiber properties in the even-numbered tables. Morphological and host-plant resistance measurements for the conventional entries are in Table 27. Two- and three-year yield means for the conventional entries evaluated in previous years are in Table 28.

Other observations associated with each test site include:

**Manila (Table 14).** The tests at Manila were in the same field used since 2014, but were moved 12 rows to the west from area of the field used since 2015. Plots were

planted on May 30 and achieved good stands. Although average lint yields at Manila were higher than at any other test site in 2020, two problems were experienced with the data at this location. First, plant height and percent open bolls measurements were adversely affected by variation in plant height that was noted through the length of the field. This may have been due to shifting of the test site. Secondly, some apparent mistake occurred when sampling bolls, which resulted in non-significant variation among entries for lint percentage and fiber properties. Consequently, average lint percentages for each entry over the other four locations were used to convert seedcotton yield to lint yield at this location. The questionable data derived from these boll samples are not reported.

**Keiser (Tables 6, 7, 19, and 20).** Excellent stands were obtained from the May 17 planting of the variety tests at Keiser. Nitrogen problems that occurred in 2019 were corrected in 2020. The transgenic variety test at Keiser produced the second highest lint yields of all locations in 2020.

**Judd Hill (Tables 8, 9, 21 and 22).** Wet field conditions delayed planting of the Judd Hill plots until June 3. Excellent stands were achieved, and plants grew well and established excellent boll loads. Intensity of Verticillium wilt was moderate (similar to 2018 and 2019), and much lower than experienced in 2017. Late maturity and late-season rainfall delayed harvest of plots until November 12. Lint yields were reduced by the late planting.

**Marianna (Tables 10, 11, 23 and 24).** For the fifth consecutive year, we used a cereal rye cover crop in our tests at Marianna. The cover crop was planted on Nov 16, 2019, and terminated on April 2, 2020 using glyphosate (2 pt/acre). Pigweed pressure was very light in the tests. Plots were planted on May 6. Seedlings emerged very slowly, but obtained acceptable stands with relatively few skips. Lint yields were apparently reduced by the slow emergence.

**Rohwer (Tables 12, 13, 25 and 26).** The Rohwer location was planted on May 7 in a standing cereal rye cover crop. The cover crop was planted on Oct 10, 2019, and terminated on April 11, 2020 using glyphosate (2 pt/acre). Rainfall experienced on May 8 (0.77 in.) was much less than occurred south and east of the station. The heavy rainfall after planting delayed emergence and reduced stands in some plots. Subsequent yields were lower than usually obtained at this location.

## Literature Cited

- Bourland, F.M., N.R. Benson, and W.C. Robertson. 2000. Inherent biases in the Arkansas cotton variety testing program. pp. 547-549. In Proc. Beltwide Cotton Prod. Res. Conf., San Antonio, Texas. 4-8 Jan. 2000.

- National Cotton Council, Memphis, Tenn.
- Bourland, F.M., R. Hogan, D.C. Jones, and E. Barnes. 2010. Development and utility of Q-score for characterizing cotton fiber quality. *J. Cotton Sci.* 14:53-63. Available at <http://www.cotton.org/journal/2010-14/2/upload/JCS14-53.pdf>
- Bourland, F.M., J.M. Hornbeck, A.B. McFall, and S.D. Calhoun. 2003. A rating system for leaf pubescence of cotton [Online]. *J. Cotton Sci.* 7:8-15. Available at <http://www.cotton.org/journal/2003-07/2/upload/jcs07-008.pdf>
- Bourland, F.M. and J.M. Hornbeck. 2007. Variation in marginal bract trichome density in Upland cotton. *J. Cotton Sci.* 11:242-251. Available at <https://www.cotton.org/journal/2007-11/4/upload/jcs11-242.pdf>
- Groves, F.E. and F.M. Bourland. 2010. Estimating seed surface area of cottonseed. *J. Cotton Sci.* 14:74-81. Available at <http://www.cotton.org/journal/2010-14/2/upload/JCS14-74.pdf>
- 

### **Acknowledgments**

We express our appreciation to the directors, program technicians and staff at the University of Arkansas System Division of Agriculture's Northeast Research and Extension Center, Lon Mann Cotton Research Station, and the Rohwer Research Station. Annually, the Judd Hill Foundation generously provides the test site for experiments at Judd Hill. We are particularly grateful to the City of Manila for making land available for testing, and to the Mississippi County Cooperative Extension Agents and Wildy Farms for assisting with the test site at the Manila Airport. Annual evaluation of cotton varieties is made possible by the work of the research assistants and technicians at these locations, and by the contributions of seed companies participating in the Arkansas Cotton Variety Test.



**Table 1. Participants and entries in the 2020 Arkansas Cotton Variety Test.**

<b>Institution/Contact person</b>	<b>Returning entries</b>	<b>Experimental no.</b>	<b>First-year entries</b>	<b>Experimental no.</b>
NexGen–Americot, Inc./ Brad Littlefield	NG 4098B3XF NG 3522 B2XF NG 3729 B2XF NG 3930 B3XF NG 4936 B3XF	AMX 19A006 B3XF    AMX 1801 B3XF	AMX19A014B3XF AMX19A015B3XF AMX19A016B3XF AMX19A018B3XF NG 3195 B3XF NG 5150 B3XF	    AMX19B001B3XF AMX19B003B3XF
BASF/	ST 4550GLTP ST 5600B2XF	BX 1973GLTP	BX 2151GLTP ST 4990B3XF ST 4480B3XF BX 2191B3XF BX 2192B3XF BX 2193B3XF BX 2194B3XF	
Nutrien Ag Solutions (Dyna-Gro)/ Frank Groves	DG 3317 B3XF DG 3427 B3XF DG 3520 B3XF DG 3385 B2XF	CPS 18817 B3XF  CPS 18501-B	DG3456 B3XF DG3535 B3XF	
Bayer Crop Science/ David Albers	DP 2012 B3XF DP 2038 B3XF DP 1518 B2XF DP 1646 B2XF DP 1725 B2XF	18R411 B3XF 18R438 B3XF 14R925B2XF MON 15R551B2XF MON 15R535B2XF	DP 2020 B3XF DP 2055 B3XF DP 2215 B3XF 19R132B3XF DP 2127 B3XF	19R113B3XF  19R227B3XF
PhytoGen Seed Co./ Chad Brewer	PHY 350 W3FE PHY 480 W3FE PHY 400 W3FE PHY 360 W3FE PHY 332 W3FE PHY 443 W3FE PX5C45W3FE PHY 500 W3FE PX5E28W3FE PX5E34W3FE	PX3A99W3FE PX4A52W3FE PX3B07W3FE PX3C06W3FE PX3D32W3FE PX3D43W3FE  PX5D28W3FE	PHY 390 W3FE PX4B08W3FE	PX3B09W3FE
WinField United/CROPLAN/ Robert Cossar	Armor 9608 B3XF Armor 9210 B3XF	WinField United 17XC8 WFO 19XE9 B3XF	Armor 9371 B3XF	CP 20XA91 B3XF
<b>Conventional entries</b>				
Americot Inc.	AM UA48	Ark 0102-48		
Seed Source Genetics/ Edward Jungmann	SSG UA222 SSG UA 107 SSG UA 114	Ark 0222-12 Ark 0701-17 Ark 0614-49		
University of Arkansas System Division of Agriculture/ Fred Bourland	UA212ne UA248	Ark 0812-87ne Ark 0822-75	Ark 1005-41 Ark 1015-42 Ark 1019-36	
Conventional check	DP 393			

**Table 2. Cultural practices for locations of the 2020 Arkansas Cotton Variety Test.**

Input	Location				
	Manila	Keiser	Judd Hill	Marianna	Rohwer
Soil type	Routon-Dundee- Crevasse complex	Sharkey clay	Dundee silt loam	Callaway silt loam	Hebert silt loam
N, P, K (lb)	80-20-80	150-0-100	100-0-108	90-0-60	145-0-0
Planting date	5/25	5/20	6/2	5/5	5/7
Irrigation method	furrow	furrow	furrow	furrow	furrow
Irrigation dates	7/7, 7/13, 7/20, 8/6, 8/13, 8/19	7/10, 7/20, 7/31 8/10, 8/18, 8/25	6/19, 7/13, 7/21 7/31, 8/7, 8/17, 8/24	7/15, 7/27, 8/6	7/22, 8/7
Mepiquat chloride	102 oz	none	60 oz	12 oz	39 oz
Defoliation date	9/29, 10/9	9/14, 9/21	9/5, 10/13	9/16, 10/2	9/1, 9/8
Harvest date	11/7	10/16	11/12	10/14	9/21 (10/3 conv.)

**Table 3. Weather summary for the 2020 production season in north, central, and south Arkansas.**

	Month	DD60s in 2020	Historical avg. <sup>a</sup>		
			DD60s	Rainfall	
				(in.)	(in.)
Keiser (northeast)	May	263	314	3.0	5.2
	June	539	532	6.5	3.9
	July	718	644	1.5	3.7
	August	592	583	4.6	2.9
	September	351	363	2.1	3.7
	October	100	127	5.4	3.3
	<b>Total</b>	<b>2562</b>	<b>2563</b>	<b>23.2</b>	<b>22.6</b>
Marianna (central)	May	298	336	3.7	5.1
	June	527	538	5.1	3.9
	July	692	646	3.6	3.9
	August	592	601	6.6	2.8
	September	402	397	5.0	3.2
	October	135	154	5.4	3.5
	<b>Total</b>	<b>2644</b>	<b>2672</b>	<b>29.4</b>	<b>22.4</b>
Rohwer (southeast)	May	311	354	1.4	4.9
	June	524	551	7.2	3.6
	July	682	661	4.2	3.7
	August	574	618	5.4	2.6
	September	416	415	7.5	3.0
	October	135	167	4.5	3.4
	<b>Total</b>	<b>2641</b>	<b>2766</b>	<b>30.2</b>	<b>21.3</b>

<sup>a</sup> DD60 (growing degree days based on 60 °F) and rainfall from historical weather data from 1960 through 2007.



Table 5. Fiber properties–2020 Arkansas Transgenic Cotton Variety Test across five test sites.

Variety	Lint		Quality		Fiber properties									
	yield lb/acre	r	score	r	Micronaire	r	Length in.	r	UI <sup>a</sup> %	r	Strength g/tex	r	Elongation %	r
DP 2115B3XF	1545	1	59	31	4.7	5	1.25	25	86.1	35	34.4	20	8.5	13
NG 3195 B3XF	1489	2	59	29	4.4	20	1.23	37	85.9	40	33.9	23	7.1	37
DP 1725 B2XF	1448	3	56	40	4.4	15	1.23	39	85.5	49	33.0	37	6.4	45
DP 2127B3XF	1436	4	49	48	4.7	4	1.21	45	86.9	9	33.1	33	7.2	36
PX4B08W3FE	1420	5	40	51	4.7	2	1.18	51	85.6	46	35.8	7	8.6	11
DG3456 B3XF	1413	6	48	49	4.4	20	1.21	47	85.8	43	31.6	49	7.1	38
Armor 9371 B3XF	1408	7	57	36	4.4	14	1.23	36	87.1	6	32.7	38	7.3	32
BX 2191B3XF	1406	8	63	24	4.1	37	1.24	26	86.0	38	31.9	46	6.3	46
ST 4550GLTP	1378	9	58	33	4.4	17	1.23	39	86.4	28	34.6	16	8.3	17
NG 3729 B2XF	1376	10	64	23	4.5	8	1.24	29	86.9	10	33.0	35	8.5	12
ST 5600B2XF	1373	11	56	38	4.8	1	1.25	23	86.9	11	34.7	14	8.4	14
DP 2020 B3XF	1369	12	72	9	4.2	35	1.28	9	86.0	39	33.2	30	6.2	47
NG 4936 B3XF	1364	13	80	4	4.4	19	1.29	7	88.0	1	32.3	40	8.2	21
DG3535 B3XF	1359	14	68	14	4.3	27	1.26	13	86.1	36	33.4	28	6.2	49
19R132B3XF	1347	15	63	24	4.5	7	1.24	27	86.8	15	36.4	4	8.7	9
DP 2012 B3XF	1345	16	68	15	4.1	39	1.26	15	86.4	28	34.5	19	6.4	44
BX 2193B3XF	1337	17	60	28	4.5	13	1.24	33	86.7	20	36.6	3	8.7	10
DP 2038 B3XF	1333	18	52	44	4.5	10	1.22	43	85.5	48	33.7	25	7.3	33
DP 1518 B2XF	1332	19	59	31	4.1	36	1.24	31	86.2	30	32.0	45	7.4	29
Armor 9608 B3XF	1330	20	65	20	4.2	29	1.25	21	86.5	24	31.0	51	6.6	43
DP 1646 B2XF	1326	21	79	5	4.2	30	1.31	3	86.4	26	32.1	43	8.3	18
BX 2151GLTP	1324	22	68	13	4.4	17	1.26	14	87.4	3	33.8	24	7.5	28
DG 3385 B2XF	1323	23	57	35	4.6	6	1.23	41	86.7	19	31.7	48	9.3	4
ST 4990B3XF	1310	24	66	19	4.5	12	1.25	19	87.2	5	33.2	32	8.2	20
NG 4098B3XF	1310	25	84	2	4.1	42	1.31	5	86.8	14	38.0	1	7.4	30
PHY 390 W3FE	1293	26	66	18	4.1	37	1.25	22	86.7	17	34.7	15	6.9	39
DG 3520 B3XF	1289	27	77	6	3.7	49	1.30	6	86.7	18	35.3	9	8.9	6
Armor 9210 B3XF	1288	28	56	37	4.7	3	1.25	18	86.2	34	33.4	29	8.8	8
PHY 332 W3FE	1285	29	74	7	3.9	45	1.28	8	86.7	16	34.9	11	7.9	25
NG 5150 B3XF	1280	30	68	11	4.3	28	1.27	12	86.2	31	33.5	27	6.9	40
DG 3427 B3XF	1277	31	59	30	4.3	25	1.24	29	85.6	45	33.0	36	6.1	50
NG 3930 B3XF	1271	32	67	16	4.2	33	1.25	19	86.8	12	31.8	47	7.2	35
PHY 400 W3FE	1267	33	68	11	4.1	41	1.26	16	86.6	21	36.0	6	7.3	31
BX 2192B3XF	1264	34	93	1	4.2	30	1.34	1	87.7	2	34.9	13	5.9	51
PHY 360 W3FE	1263	35	60	27	4.4	16	1.24	27	85.7	44	32.1	42	6.7	42
DG 3317 B3XF	1262	36	51	46	4.5	8	1.21	46	86.5	23	34.5	17	10.4	1
PHY 350 W3FE	1253	37	64	22	4.3	22	1.25	24	86.8	12	34.1	22	7.9	26
PHY 443 W3FE	1234	38	52	45	4.3	22	1.20	49	86.4	27	36.2	5	8.1	22
AMX19A014B3XF	1227	39	54	42	3.9	44	1.23	37	85.4	51	32.1	41	8.4	16
PX5E28W3FE	1211	40	64	21	3.8	47	1.25	17	86.0	37	35.1	10	8.0	24
AMX19A018B3XF	1206	41	58	33	4.3	25	1.23	35	85.8	42	34.9	12	9.7	2
PHY 480 W3FE	1197	42	63	24	4.1	40	1.24	32	87.1	6	34.1	21	9.1	5
DP 2055 B3XF	1193	43	83	3	4.3	24	1.31	2	87.4	4	33.2	30	8.4	15
NG 3522 B2XF	1189	44	49	47	4.5	11	1.20	50	85.5	50	31.4	50	7.3	34
PHY 500 W3FE	1171	45	53	43	3.8	48	1.22	42	86.2	33	36.7	2	6.7	41
AMX19A016B3XF	1170	46	48	50	4.2	34	1.21	48	85.6	47	32.6	39	9.3	3
PX5C45W3FE	1162	47	56	38	4.2	30	1.22	43	87.0	8	35.5	8	8.2	19
BX 2194B3XF	1154	48	68	10	3.4	51	1.31	4	86.5	22	32.0	44	8.0	23
ST 4480B3XF	1113	49	73	8	4.1	42	1.28	10	86.4	25	33.7	26	6.2	47
PX5E34W3FE	1098	50	55	41	3.6	50	1.24	34	86.2	32	34.5	18	7.8	27
AMX19A015B3XF	1046	51	67	17	3.9	46	1.27	11	85.9	41	33.0	34	8.9	7
Mean	1295		63		4.3		1.25		86.4		33.8		7.7	
Var. LSD <sub>0.10</sub>	83		8		0.2		0.02		0.9		1.0		0.4	
Loc. LSD <sub>0.10</sub>	26		ns		5.0		0.01		ns		0.3		ns	
C.V.%	12.3		16.3		5.4		2.1		1.2		3.7		6.8	
R <sup>2</sup> x 100	71.3		75.8		89.2		83.5		68.0		83.4		90.1	
Prob (var x loc)	<0.0001		0.069		0.002		0.169		0.046		0.188		0.231	

<sup>a</sup> UI = Fiber length uniformity index.

Table 6. Yield and related properties—2020 Arkansas Transgenic Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.

Variety	Lint yield		Lint frac.		Ht.	Open bolls		Seed index		Lint index		Seed/acre	Fibers/seed		Fiber density			
	r		r			r		r		r			r		r		r	
	lb/acre		%		cm	%		g		g		mil.	no.		no.			
Armor 9371 B3XF	1541	1	47.0	10	94	9	77	4	8.9	24	8.2	9	8.471	16	17739	11	188	10
DP 2115B3XF	1530	2	48.3	5	83	45	56	38	8.4	38	8.1	15	8.628	12	15820	36	174	27
ST 5600B2XF	1521	3	46.7	15	91	18	54	43	8.9	27	8.0	17	8.687	11	15130	40	161	41
NG 4098B3XF	1517	4	42.8	44	82	46	44	51	10.4	3	7.9	19	8.690	10	16585	26	159	44
NG 4936 B3XF	1507	5	43.2	38	88	29	71	13	9.2	19	7.2	37	9.551	1	14662	45	153	47
DP 1646 B2XF	1482	6	46.8	12	88	28	74	11	7.9	47	7.2	33	9.291	4	15051	41	171	31
BX 2193B3XF	1473	7	48.4	4	87	31	57	37	9.4	14	9.0	1	7.451	46	17847	9	183	17
DG3456 B3XF	1466	8	46.6	16	87	31	74	9	9.8	9	8.6	3	7.706	38	18567	6	185	13
DP 2038 B3XF	1456	9	48.6	1	96	7	51	45	7.9	44	8.1	13	8.336	18	16656	25	190	8
DP 1725 B2XF	1450	10	48.5	3	83	43	69	17	8.3	40	8.1	14	8.169	25	16517	27	182	19
DG 3520 B3XF	1449	11	42.4	48	87	34	51	45	10.9	1	8.1	12	8.085	28	19849	3	185	14
19R132B3XF	1444	12	47.1	9	90	22	56	40	8.9	26	8.3	8	7.928	33	16443	29	174	26
DP 2127B3XF	1437	13	47.6	7	89	25	63	28	9.2	18	8.5	7	7.650	42	18253	7	190	7
PX4B08W3FE	1430	14	46.2	19	90	22	65	21	7.9	49	7.0	42	9.311	3	15849	35	181	21
PHY 390 W3FE	1428	15	44.1	34	81	47	66	20	9.6	12	7.9	18	8.175	24	18136	8	184	15
PHY 443 W3FE	1426	16	45.8	23	96	5	73	12	9.9	6	8.6	5	7.552	45	19124	4	189	9
DP 2020 B3XF	1417	17	43.2	40	87	35	65	23	8.9	25	7.0	43	9.236	5	14766	44	156	46
PHY 480 W3FE	1413	18	44.3	31	93	12	58	33	8.8	29	7.2	35	8.934	7	17565	13	188	12
NG 5150 B3XF	1397	19	46.0	21	93	11	57	35	8.5	34	7.4	28	8.521	14	15154	39	165	37
AMX19A016B3XF	1397	20	42.7	45	83	40	59	31	10.2	4	7.7	23	8.265	20	18714	5	182	18
Armor 9608 B3XF	1389	21	47.7	6	90	19	50	49	7.9	45	7.3	30	8.576	13	16460	28	188	11
DG 3427 B3XF	1389	22	47.5	8	104	2	65	23	7.7	50	7.5	27	8.520	15	16820	22	194	5
DG 3385 B2XF	1387	23	46.0	22	85	37	81	2	9.9	5	8.6	6	7.349	48	17148	19	169	33
ST 4550GLTP	1376	24	47.0	11	93	13	69	18	8.4	37	7.9	20	7.954	30	17748	10	195	4
DP 2012 B3XF	1374	25	44.2	32	90	20	62	29	8.4	39	6.8	44	9.139	6	14899	42	164	39
PX5C45W3FE	1370	26	46.7	14	90	20	55	42	8.2	41	7.5	26	8.316	19	17657	12	196	3
Armor 9210 B3XF	1369	27	46.2	18	92	15	58	34	8.1	43	7.1	38	8.697	9	14831	43	167	35
DP 1518 B2XF	1367	28	43.9	35	83	40	75	6	8.8	30	7.1	39	8.765	8	16090	31	173	30
BX 2191B3XF	1363	29	46.1	20	96	6	65	21	8.8	28	7.7	22	8.016	29	16691	24	178	24
PHY 400 W3FE	1361	30	44.6	27	80	49	60	30	9.9	7	8.1	11	7.597	43	17525	15	174	28
PHY 360 W3FE	1350	31	44.6	28	83	43	74	9	7.9	48	6.5	49	9.375	2	13802	49	157	45
PHY 500 W3FE	1348	32	44.5	29	91	17	59	32	8.5	34	8.6	4	7.767	36	21141	2	231	1
DG3535 B3XF	1345	33	45.4	24	88	30	63	27	9.7	10	8.2	10	7.413	47	16773	23	169	34
NG 3195 B3XF	1335	34	46.3	17	81	48	77	5	8.4	36	7.4	29	8.163	26	16215	30	177	25
PHY 332 W3FE	1324	35	43.0	43	87	31	67	19	9.3	15	7.2	34	8.363	17	17433	17	180	22
DG 3317 B3XF	1322	36	45.3	25	95	8	53	44	9.1	21	7.7	24	7.840	34	15949	32	167	36
ST 4990B3XF	1319	37	43.6	36	84	39	74	8	9.3	17	7.3	31	8.201	22	13584	50	140	51
NG 3522 B2XF	1315	38	44.1	33	83	42	74	7	9.5	13	7.8	21	7.698	39	17561	14	178	23
BX 2194B3XF	1299	39	44.3	30	98	4	51	48	10.8	2	8.8	2	6.716	50	22057	1	206	2
PHY 350 W3FE	1294	40	42.7	46	93	14	63	26	9.8	8	7.6	25	7.776	35	17457	16	174	29
BX 2151GLTP	1286	41	48.6	2	89	24	78	3	8.2	42	8.0	16	7.300	49	17306	18	193	6
NG 3930 B3XF	1269	42	43.4	37	84	38	56	38	9.0	22	7.0	40	8.187	23	15340	38	161	40
BX 2192B3XF	1235	43	45.0	26	92	16	64	25	8.7	31	7.2	32	7.737	37	13977	48	150	50
NG 3729 B2XF	1229	44	43.2	41	93	10	81	1	9.0	23	7.0	41	7.938	31	14278	46	151	49
PX5E28W3FE	1198	45	42.6	47	105	1	55	41	8.7	32	6.7	47	8.143	27	17000	20	184	16
AMX19A018B3XF	1194	46	43.2	39	89	26	49	50	9.1	20	7.2	36	7.561	44	15345	37	160	42
AMX19A014B3XF	1189	47	41.0	50	73	51	70	16	9.6	11	6.8	45	7.934	32	16938	21	171	32
DP 2055 B3XF	1113	48	46.8	13	88	27	51	45	7.4	51	6.6	48	7.687	40	13416	51	159	43
PX5E34W3FE	1092	49	42.2	49	98	3	57	36	7.9	46	6.0	51	8.257	21	15932	34	181	20
AMX19A015B3XF	1091	50	40.3	51	86	36	71	15	9.3	15	6.4	50	7.680	41	15943	33	164	38
ST 4480B3XF	960	51	43.1	42	79	50	71	13	8.6	33	6.7	46	6.527	51	14022	47	151	48
Mean	1354		45.1		89		63		8.9		7.6		8.153		16584		175	
LSD <sub>0.10</sub>	149		1.5		8		12		0.8		0.6		0.910		1710		22	
C.V.%	9.4		2.0		8.1		15.9		5.1		4.8		9.5		6.2		7.6	
R <sup>2</sup> x 100	56.7		91.9		58.7		68.2		86.2		87.9		50.2		86.3		74.9	

**Table 7. Fiber properties— 2020 Arkansas Transgenic Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.**

Variety	Lint		Quality		Fiber properties									
	yield lb/acre	r	score	r	Micronaire	r	Length in.	r	UI <sup>a</sup> %	r	Strength g/tex	r	Elongation %	r
Armor 9371 B3XF	1541	1	51	45	4.5	14	1.21	40	86.7	29	33.8	28	7.3	35
DP 2115B3XF	1530	2	60	32	4.8	2	1.25	16	85.8	41	34.7	16	8.3	22
ST 5600B2XF	1521	3	58	37	4.9	1	1.24	22	87.4	15	35.0	13	8.7	14
NG 4098B3XF	1517	4	93	2	4.1	39	1.33	2	87.7	5	39.1	1	7.8	30
NG 4936 B3XF	1507	5	80	5	4.4	21	1.29	7	87.5	8	33.1	34	8.2	24
DP 1646 B2XF	1482	6	76	8	4.4	21	1.29	6	85.8	41	31.8	45	8.4	19
BX 2193B3XF	1473	7	61	29	4.7	4	1.23	36	87.4	12	38.1	2	9.2	6
DG3456 B3XF	1466	8	47	48	4.6	9	1.20	46	85.3	47	32.0	43	6.7	44
DP 2038 B3XF	1456	9	53	41	4.7	5	1.21	43	86.5	30	34.5	17	7.6	33
DP 1725 B2XF	1450	10	59	34	4.6	7	1.23	26	85.9	39	32.7	39	6.8	42
DG 3520 B3XF	1449	11	73	11	3.7	47	1.29	7	86.3	34	35.0	13	8.8	13
19R132B3XF	1444	12	70	14	4.6	7	1.25	16	87.5	10	37.1	3	9.1	8
DP 2127B3XF	1437	13	57	38	4.5	14	1.21	45	87.2	17	33.9	27	7.8	29
PX4B08W3FE	1430	14	50	46	4.4	16	1.19	49	84.8	49	35.9	8	8.1	27
PHY 390 W3FE	1428	15	59	34	4.2	35	1.22	39	86.4	31	35.3	12	7.4	34
PHY 443 W3FE	1426	16	52	42	4.4	21	1.19	47	86.3	33	36.2	7	8.4	18
DP 2020 B3XF	1417	17	70	13	4.4	21	1.27	12	85.8	41	34.2	25	6.4	48
PHY 480 W3FE	1413	18	62	27	3.8	45	1.23	31	87.4	12	33.3	33	9.6	3
NG 5150 B3XF	1397	19	78	7	4.4	16	1.27	12	88.0	3	33.7	29	7.1	38
AMX19A016B3XF	1397	20	46	49	4.1	41	1.19	47	84.8	49	32.0	43	9.2	6
Armor 9608 B3XF	1389	21	66	19	4.2	35	1.24	22	86.9	24	31.6	47	7.0	39
DG 3427 B3XF	1389	22	52	42	4.3	28	1.21	43	85.2	48	31.3	49	6.2	50
DG 3385 B2XF	1387	23	61	31	4.7	5	1.23	31	87.4	12	32.3	41	9.5	5
ST 4550GLTP	1376	24	65	20	4.2	35	1.25	19	86.0	37	36.4	6	9.0	9
DP 2012 B3XF	1374	25	70	14	4.2	33	1.25	16	87.2	17	35.5	10	6.9	41
PX5C45W3FE	1370	26	52	44	4.1	39	1.19	49	87.2	17	35.6	9	9.0	10
Armor 9210 B3XF	1369	27	62	27	4.5	12	1.25	19	85.8	40	32.8	38	8.9	12
DP 1518 B2XF	1367	28	60	32	4.2	35	1.23	26	86.4	31	31.5	48	7.7	31
BX 2191B3XF	1363	29	65	20	4.3	28	1.24	22	86.8	26	32.2	42	6.5	47
PHY 400 W3FE	1361	30	68	17	4.3	26	1.23	26	87.5	8	36.6	4	7.7	31
PHY 360 W3FE	1350	31	70	14	4.4	21	1.26	14	86.9	24	31.6	46	6.3	49
PHY 500 W3FE	1348	32	59	34	3.9	44	1.21	40	86.7	27	36.5	5	6.7	44
DG3535 B3XF	1345	33	79	6	4.4	16	1.29	7	86.9	22	34.4	20	6.8	43
NG 3195 B3XF	1335	34	63	24	4.3	28	1.25	19	85.6	45	34.2	23	7.0	39
PHY 332 W3FE	1324	35	74	10	3.7	47	1.28	10	87.2	17	34.3	21	8.3	23
DG 3317 B3XF	1322	36	57	38	4.6	10	1.23	36	86.3	34	35.5	11	10.9	1
ST 4990B3XF	1319	37	76	8	4.8	2	1.28	11	88.9	1	34.2	23	8.4	19
NG 3522 B2XF	1315	38	45	50	4.5	12	1.17	51	84.1	51	30.9	50	7.1	37
BX 2194B3XF	1299	39	71	12	3.5	51	1.30	4	87.5	10	30.6	51	8.5	15
PHY 350 W3FE	1294	40	63	24	4.1	41	1.23	31	87.0	21	34.1	26	8.4	19
BX 2151GLTP	1286	41	65	20	4.3	28	1.23	31	87.6	6	34.4	19	7.9	28
NG 3930 B3XF	1269	42	63	26	4.3	26	1.23	31	86.9	22	33.0	35	7.2	36
BX 2192B3XF	1235	43	96	1	4.4	16	1.34	1	88.3	2	33.6	30	6.0	51
NG 3729 B2XF	1229	44	67	18	4.6	10	1.24	22	87.3	16	33.4	32	8.9	11
PX5E28W3FE	1198	45	56	40	3.7	47	1.23	26	85.7	44	34.8	15	8.2	26
AMX19A018B3XF	1194	46	61	29	4.4	16	1.23	36	86.7	27	34.3	21	9.8	2
AMX19A014B3XF	1189	47	45	50	3.9	43	1.21	40	85.3	46	32.6	40	8.5	15
DP 2055 B3XF	1113	48	89	3	4.3	32	1.32	3	87.9	4	34.5	18	8.5	15
PX5E34W3FE	1092	49	50	46	3.6	50	1.23	26	86.0	38	32.8	37	8.2	24
AMX19A015B3XF	1091	50	65	20	3.8	46	1.26	14	86.0	36	33.0	35	9.6	3
ST 4480B3XF	960	51	83	4	4.2	34	1.30	5	87.6	7	33.5	31	6.7	46
Mean	1354		64		4.3		1.24		86.6		34.0		8.0	
LSD <sub>0.10</sub>	149		15		0.4		0.04		1.5		2.0		0.7	
C.V.%	9.4		14.1		5.1		1.8		1.1		3.6		5.1	
R <sup>2</sup> x 100	56.7		79.9		82.2		85.2		72.3		82.0		93.6	

<sup>a</sup>UI = Fiber length uniformity index.

**Table 8. Yield and related properties–2020 Arkansas Transgenic Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.**

Variety	Lint		Lint		Ht.	Open		Seed		Lint		Seed/		Fibers/		Fiber		
	yield	r	frac.	r		r	bolls	r	index	r	index	r	acre	r	seed	r	density	r
	lb/acre		%		cm		%		g		g		mil.		no.		no.	
NG 3195 B3XF	1571	1	43.4	11	83	44	75	20	9.3	33	7.2	21	9.846	1	17465	21	179	17
DG3535 B3XF	1439	2	41.1	37	88	31	65	40	10.7	3	7.6	10	8.616	8	17651	17	166	35
DP 2115B3XF	1435	3	45.3	2	80	49	85	2	9.6	25	8.0	3	8.130	18	17302	25	175	27
NG 3729 B2XF	1412	4	41.9	28	92	19	83	6	9.1	38	6.6	41	9.784	2	15126	47	158	46
PX4B08W3FE	1402	5	44.6	3	98	5	80	8	9.6	23	7.9	5	8.062	22	16718	37	168	34
NG 4098B3XF	1383	6	41.6	32	87	33	84	5	10.4	8	7.5	13	8.385	13	17091	32	164	37
BX 2192B3XF	1343	7	41.3	34	90	21	71	26	9.4	31	6.7	35	9.081	5	15416	46	158	47
DP 2020 B3XF	1342	8	40.7	39	88	30	70	29	9.0	39	6.3	48	9.654	3	15450	45	162	41
DP 2012 B3XF	1330	9	42.4	20	85	39	74	22	9.5	29	7.0	27	8.613	9	17432	23	177	24
ST4550GLTP	1321	10	43.4	10	98	6	66	37	9.4	32	7.3	20	8.235	17	17078	33	175	28
ST4990B3XF	1310	11	39.5	48	78	51	80	8	9.6	27	6.4	46	9.260	4	14425	50	146	51
Armor 9371 B3XF	1300	12	43.5	9	97	9	69	32	10.2	13	8.0	4	7.420	35	19925	4	194	7
DG 3317 B3XF	1298	13	42.6	19	94	16	74	22	9.3	34	7.0	29	8.428	12	17328	24	179	19
PHY390 W3FE	1295	14	42.8	16	86	36	63	45	9.0	40	7.0	31	8.460	11	17175	27	181	16
PX5E28W3FE	1290	15	41.8	29	104	1	69	32	8.9	42	6.5	42	8.966	6	16115	43	170	31
BX 2151GLTP	1282	16	44.2	6	94	15	69	32	8.8	46	7.2	24	8.074	20	18591	10	198	5
NG 3930 B3XF	1266	17	40.7	40	87	34	80	8	10.5	6	7.4	16	7.792	27	17630	18	168	33
PHY350 W3FE	1260	18	41.5	33	90	24	74	22	9.9	19	7.1	26	8.064	21	16353	41	163	40
DG3456 B3XF	1256	19	42.7	17	85	38	71	26	9.9	19	7.5	14	7.650	31	18869	8	187	9
DG 3385 B2XF	1242	20	42.1	25	79	50	85	2	10.9	1	8.1	2	6.925	43	17147	29	159	45
DP 2038 B3XF	1241	21	45.4	1	97	9	66	37	8.5	49	7.2	22	7.808	26	17184	26	187	11
DP 1725 B2XF	1233	22	44.0	7	87	34	90	1	9.6	25	7.7	9	7.308	36	19535	5	198	6
DG 3520 B3XF	1233	23	39.8	46	89	26	61	46	10.9	2	7.2	23	7.705	30	18842	9	176	26
DP 2127B3XF	1229	24	44.5	4	98	8	81	7	10.4	9	8.4	1	6.637	47	16888	35	162	42
DP 1646 B2XF	1220	25	42.1	24	100	4	79	11	9.0	41	6.7	36	8.267	16	17602	19	186	14
NG 4936 B3XF	1219	26	40.6	44	84	40	85	2	9.7	21	6.7	38	8.296	14	14791	48	148	50
AMX19A014B3XF	1209	27	39.6	47	82	45	79	11	10.4	7	7.0	30	7.866	24	17110	31	164	38
PHY332 W3FE	1203	28	41.0	38	89	25	65	40	9.9	16	7.1	25	7.735	28	18019	13	179	21
PHY443 W3FE	1196	29	43.2	13	98	7	75	20	10.1	14	7.8	6	6.928	42	20832	3	204	3
19R132B3XF	1190	30	43.3	12	85	37	78	16	9.9	17	7.7	8	7.024	40	17997	14	179	20
ST5600B2XF	1180	31	41.8	30	96	13	53	50	10.3	11	7.5	11	7.091	38	17126	30	165	36
DP 2055 B3XF	1169	32	41.9	27	97	11	65	40	8.3	51	6.0	49	8.810	7	13909	51	154	49
Armor 9608 B3XF	1148	33	42.9	14	90	23	71	26	9.2	35	7.0	28	7.448	34	16596	39	172	30
Armor 9210 B3XF	1146	34	41.7	31	87	32	65	40	8.9	44	6.4	45	8.091	19	14757	49	157	48
BX 2191B3XF	1145	35	44.3	5	88	28	78	16	9.6	23	7.8	7	6.666	46	18421	11	186	13
ST4480B3XF	1144	36	40.3	45	83	43	78	16	9.7	22	6.7	39	7.810	25	16010	44	161	44
DG 3427 B3XF	1125	37	42.1	23	101	3	65	40	8.6	48	6.4	47	8.032	23	16403	40	177	23
PHY480 W3FE	1119	38	42.6	18	96	13	70	29	9.9	18	7.5	12	6.786	44	18872	7	187	10
PHY360 W3FE	1111	39	42.9	15	91	20	78	15	8.9	43	6.8	32	7.449	33	17589	20	186	12
AMX19A015B3XF	1108	40	38.0	51	90	22	73	25	10.4	10	6.5	44	7.728	29	16939	34	163	39
AMX19A018B3XF	1085	41	40.7	41	84	41	68	36	9.6	28	6.6	40	7.451	32	16778	36	170	32
DP 1518 B2XF	1075	42	41.2	36	88	27	76	19	9.4	30	6.7	33	7.251	37	17751	16	181	15
NG 3522 B2XF	1071	43	41.2	35	82	45	69	32	10.2	12	7.3	19	6.689	45	16680	38	162	43
PX5E34W3FE	1063	44	39.2	49	104	2	79	11	8.7	47	5.7	51	8.482	10	17451	22	188	8
NG 5150 B3XF	1048	45	40.6	43	93	18	70	29	8.3	50	5.8	50	8.270	15	16266	42	179	18
BX 2193B3XF	1044	46	42.3	21	83	42	79	11	9.2	37	6.7	34	7.001	41	17153	28	177	25
AMX19A016B3XF	1042	47	38.5	50	88	29	56	49	10.6	5	6.7	37	7.085	39	18240	12	173	29
PHY400 W3FE	998	48	42.2	22	81	47	66	37	9.9	15	7.4	17	6.159	48	17996	15	178	22
BX 2194B3XF	955	49	40.6	42	80	48	48	51	10.7	4	7.4	15	5.853	50	21720	1	205	2
PX5C45W3FE	902	50	44.0	8	97	12	60	47	9.2	36	7.3	18	5.618	51	19357	6	201	4
PHY500 W3FE	870	51	42.0	26	94	17	58	48	8.8	45	6.5	43	6.061	49	21466	2	229	1
Mean	1206		42.0		90		72		9.6		7.1		7.781		17884		176	
LSD <sub>0.10</sub>	242		2.3		8		12		1.2		0.9		1.546		2433		20	
C.V.%	17.1		3.3		7.8		14.7		7.6		7.8		17.0		8.4		7.0	
R <sup>2</sup> x 100	55.7		74.1		62.3		53.6		63.9		70.2		57.9		72.2		77.6	



**Table 9. Fiber properties–2020 Arkansas Transgenic Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.**

Variety	Lint		Quality		Fiber properties									
	yield lb/acre	r	score	r	Micronaire	r	Length in.	r	UI <sup>a</sup> %	r	Strength g/tex	r	Elongation %	r
NG 3195 B3XF	1571	1	59	30	3.9	16	1.25	33	86.3	36	34.1	14	8.1	18
DG3535 B3XF	1439	2	75	7	3.8	20	1.31	5	86.7	22	32.3	39	6.5	46
DP 2115B3XF	1435	3	67	13	4.2	4	1.27	21	86.6	26	34.2	13	8.5	12
NG 3729 B2XF	1412	4	62	28	4.0	7	1.25	38	87.4	9	32.5	35	7.6	27
PX4B08W3FE	1402	5	47	46	4.6	2	1.20	50	86.6	26	33.5	23	9.7	2
NG 4098B3XF	1383	6	80	3	3.9	17	1.32	4	86.3	35	35.8	3	7.3	32
BX 2192B3XF	1343	7	90	1	3.7	31	1.37	1	87.5	7	35.4	7	5.9	51
DP 2020 B3XF	1342	8	73	8	3.6	35	1.31	5	87.0	19	33.3	27	6.3	50
DP 2012 B3XF	1330	9	65	18	3.7	33	1.28	13	86.6	29	34.1	14	6.8	41
ST 4550GLTP	1321	10	50	44	4.1	6	1.21	49	86.8	21	32.4	37	7.2	36
ST 4990B3XF	1310	11	71	9	4.0	7	1.28	16	87.4	9	32.7	34	8.7	10
Armor 9371 B3XF	1300	12	68	12	3.6	38	1.28	13	87.9	2	32.1	44	7.3	33
DG 3317 B3XF	1298	13	53	41	3.8	20	1.23	47	86.7	22	33.3	27	10.3	1
PHY 390 W3FE	1295	14	65	16	3.7	31	1.27	26	87.7	5	33.9	18	6.8	41
PX5E28W3FE	1290	15	67	14	3.7	33	1.28	16	87.2	15	34.1	14	8.1	20
BX 2151GLTP	1282	16	63	27	3.5	41	1.27	21	87.4	8	34.4	10	7.9	22
NG 3930 B3XF	1266	17	64	22	3.9	17	1.26	30	86.7	24	31.5	48	7.5	29
PHY 350 W3FE	1260	18	67	14	3.9	14	1.27	21	87.0	17	32.4	37	7.5	29
DG3456 B3XF	1256	19	65	18	3.6	38	1.28	16	87.4	9	32.1	42	7.2	35
DG 3385 B2XF	1242	20	63	25	4.4	3	1.25	33	87.3	14	32.2	40	8.9	5
DP 2038 B3XF	1241	21	57	36	4.0	9	1.25	33	85.2	49	32.8	32	7.8	23
DP 1725 B2XF	1233	22	52	43	3.7	28	1.23	43	85.9	42	32.9	31	7.0	39
DG 3520 B3XF	1233	23	77	5	3.3	47	1.34	2	87.0	16	35.5	5	8.9	5
DP 2127B3XF	1229	24	47	46	4.6	1	1.23	44	88.1	1	31.4	49	7.1	38
DP 1646 B2XF	1220	25	65	18	3.4	45	1.31	5	85.8	44	32.2	40	8.4	13
NG 4936 B3XF	1219	26	79	4	4.0	9	1.31	5	87.7	4	32.0	45	8.1	20
AMX19A014B3XF	1209	27	57	34	3.8	20	1.25	38	86.3	36	32.1	42	8.6	11
PHY 332 W3FE	1203	28	59	30	3.6	35	1.28	16	86.0	41	34.2	12	7.6	27
PHY 443 W3FE	1196	29	40	50	3.7	28	1.19	51	85.9	42	36.5	2	8.1	19
19R132B3XF	1190	30	65	18	3.9	14	1.27	26	86.6	26	34.0	17	8.4	13
ST 5600B2XF	1180	31	64	24	4.1	5	1.27	26	86.4	33	33.9	19	8.3	15
DP 2055 B3XF	1169	32	80	2	3.8	24	1.33	3	87.8	3	32.0	46	8.2	16
Armor 9608 B3XF	1148	33	63	25	3.9	17	1.27	26	86.7	25	31.4	50	6.6	44
Armor 9210 B3XF	1146	34	69	10	3.9	13	1.28	13	87.0	17	33.4	25	8.8	8
BX 2191B3XF	1145	35	58	32	4.0	9	1.25	38	86.5	31	31.2	51	6.6	45
ST 4480B3XF	1144	36	65	16	3.8	20	1.27	21	86.2	39	33.5	23	6.4	48
DG 3427 B3XF	1125	37	62	28	3.6	38	1.28	16	86.4	34	34.4	11	6.7	43
PHY 480 W3FE	1119	38	53	42	3.8	24	1.23	47	86.6	29	33.0	29	8.8	8
PHY 360 W3FE	1111	39	46	48	3.8	24	1.23	44	83.4	51	31.8	47	6.5	46
AMX19A015B3XF	1108	40	64	22	3.5	43	1.30	11	86.0	40	33.8	21	8.8	7
AMX19A018B3XF	1085	41	55	38	3.7	28	1.26	32	85.6	47	33.8	21	9.0	4
DP 1518 B2XF	1075	42	58	33	3.5	43	1.26	30	87.4	9	32.7	33	7.6	25
NG 3522 B2XF	1071	43	68	11	4.0	12	1.27	21	86.9	20	33.3	26	7.3	33
PX5E34W3FE	1063	44	44	49	3.1	49	1.25	33	86.3	36	35.0	8	7.7	24
NG 5150 B3XF	1048	45	56	37	3.3	47	1.29	12	83.7	50	33.0	29	7.0	39
BX 2193B3XF	1044	46	54	39	3.8	24	1.25	33	85.8	45	35.5	5	8.2	16
AMX19A016B3XF	1042	47	50	44	3.4	45	1.25	38	86.5	32	33.8	20	9.4	3
PHY 400 W3FE	998	48	76	6	3.6	35	1.30	10	87.7	5	37.2	1	7.6	25
BX 2194B3XF	955	49	57	34	3.1	49	1.31	5	85.8	45	32.5	35	7.2	36
PX5C45W3FE	902	50	54	39	3.5	41	1.24	42	87.4	9	34.6	9	7.5	31
PHY 500 W3FE	870	51	32	51	2.9	51	1.23	44	85.5	48	35.8	3	6.4	48
Mean	1206		61		3.7		1.27		86.6		33.4		7.7	
LSD <sub>0.10</sub>	242		18		0.4		0.05		ns		2.3		1.4	
C.V.%	17.1		17.3		7.1		2.3		1.3		4.1		10.5	
R <sup>2</sup> x 100	55.7		68.9		75.3		73.5		61.3		67.6		76.6	

<sup>a</sup>UI = Fiber length uniformity index.



**Table 11. Fiber properties–2020 Arkansas Transgenic Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.**

Variety	Lint		Quality		Fiber properties									
	yield lb/acre	r	score	r	Micronaire		Length		UI <sup>a</sup>		Strength		Elongation	
					r	r	in.	r	%	r	g/tex	r	%	
DP 2115B3XF	1653	1	60	27	4.8	10	1.21	26	86.2	13	33.6	16	9.0	9
BX 2191B3XF	1537	2	68	13	4.3	44	1.24	14	85.1	39	30.8	43	6.3	46
NG 3195 B3XF	1501	3	56	31	4.7	24	1.20	36	85.3	35	33.3	21	6.8	40
BX 2193B3XF	1444	4	56	31	5.0	5	1.21	30	86.2	13	36.3	3	8.8	10
NG 5150 B3XF	1419	5	67	17	4.9	8	1.25	12	86.2	13	31.9	34	6.9	38
DG3456 B3XF	1412	6	44	48	4.4	34	1.17	49	83.8	51	28.9	51	7.4	29
DP 1725 B2XF	1409	7	62	22	4.7	24	1.23	22	84.8	45	32.0	30	6.2	47
19R132B3XF	1369	8	55	38	5.0	5	1.21	30	85.7	25	36.5	2	8.6	15
DP 2127B3XF	1359	9	40	49	5.0	4	1.17	47	85.7	25	32.0	30	7.1	35
DP 2055 B3XF	1339	10	87	5	4.6	32	1.28	6	87.6	3	33.0	23	8.4	18
DP 2020 B3XF	1337	11	72	11	4.4	34	1.25	10	85.2	36	31.9	34	6.5	44
NG 4936 B3XF	1327	12	87	6	4.6	29	1.28	6	88.3	1	31.3	41	8.5	16
DP 1518 B2XF	1326	13	56	31	4.7	24	1.21	33	85.2	38	30.6	45	7.3	30
Armor 9608 B3XF	1319	14	61	26	4.6	29	1.22	25	84.9	43	29.6	50	6.7	42
DG3535 B3XF	1318	15	53	39	4.4	34	1.20	36	83.9	50	32.0	30	5.5	51
Armor 9210 B3XF	1312	16	52	40	5.2	2	1.23	22	86.0	16	33.5	17	9.2	5
Armor 9371 B3XF	1310	17	37	50	5.0	5	1.17	49	84.6	47	31.3	40	7.3	30
PHY 400 W3FE	1303	18	67	16	4.4	40	1.23	16	84.9	43	35.1	7	6.7	42
DP 2038 B3XF	1294	19	49	45	4.7	21	1.19	42	84.2	49	31.7	39	7.0	37
ST 4550GLTP	1291	20	56	35	4.6	28	1.19	42	85.9	17	33.8	15	8.7	13
DG 3385 B2XF	1287	21	52	43	4.8	10	1.19	39	85.6	31	30.2	47	9.5	3
DP 1646 B2XF	1287	22	81	7	4.8	17	1.29	4	85.9	19	31.8	38	8.5	17
DP 2012 B3XF	1284	23	68	13	4.4	40	1.23	16	85.6	28	33.0	23	6.1	48
BX 2192B3XF	1275	24	98	1	4.4	34	1.33	1	88.1	2	34.2	12	6.3	45
PHY 332 W3FE	1272	25	91	3	4.3	44	1.29	4	87.6	3	35.6	6	8.2	22
ST 4990B3XF	1271	26	56	31	4.6	29	1.21	33	85.7	24	31.2	42	7.5	28
NG 4098B3XF	1267	27	89	4	4.3	44	1.30	3	86.6	11	37.4	1	7.1	35
PX4B08W3FE	1250	28	29	51	5.1	3	1.14	51	85.0	40	35.6	4	8.3	19
AMX19A014B3XF	1244	29	56	35	4.4	40	1.20	36	84.8	46	30.1	48	8.2	21
DG 3427 B3XF	1241	30	62	22	4.7	21	1.23	19	85.0	41	32.5	27	6.1	48
ST 5600B2XF	1237	31	59	28	5.3	1	1.24	14	87.5	5	32.9	25	9.1	7
PHY 350 W3FE	1206	32	57	30	4.8	14	1.21	30	85.8	21	33.1	22	7.9	24
DG 3520 B3XF	1204	33	94	2	3.8	50	1.31	2	87.3	6	34.6	9	8.8	10
PHY 500 W3FE	1204	34	61	25	4.4	34	1.21	33	85.6	28	35.6	4	7.3	32
BX 2194B3XF	1194	35	75	10	3.8	51	1.28	8	85.8	22	32.0	33	8.6	14
ST 4480B3XF	1179	36	64	21	4.2	47	1.23	16	84.3	48	32.8	26	6.0	50
AMX19A018B3XF	1159	37	52	40	4.8	17	1.19	39	85.2	36	34.0	13	10.4	1
PX5E28W3FE	1157	38	62	24	4.0	48	1.21	26	85.0	41	34.2	11	7.7	26
NG 3729 B2XF	1154	39	66	18	4.8	17	1.23	19	86.6	11	32.4	29	9.2	5
AMX19A016B3XF	1126	40	49	45	4.8	10	1.18	45	85.9	17	30.5	46	9.5	4
PHY 443 W3FE	1125	41	65	20	4.7	21	1.21	26	86.8	9	34.6	8	8.3	20
PX5E34W3FE	1124	42	56	35	4.0	48	1.19	42	85.6	28	33.3	19	7.3	32
NG 3522 B2XF	1123	43	46	47	4.8	17	1.17	47	85.4	33	30.0	49	7.7	25
PHY 480 W3FE	1121	44	66	19	4.8	14	1.23	22	87.0	7	34.2	10	9.1	7
DG 3317 B3XF	1114	45	52	43	4.7	24	1.18	45	85.8	22	33.3	19	10.3	2
PHY 360 W3FE	1109	46	57	29	4.8	14	1.21	26	85.4	33	31.9	34	6.9	38
NG 3930 B3XF	1102	47	76	8	4.5	33	1.25	10	86.9	8	30.7	44	7.3	32
BX 2151GLTP	1101	48	75	9	4.9	8	1.27	9	86.8	10	32.4	28	7.6	27
PHY 390 W3FE	1079	49	68	13	4.4	34	1.23	19	85.9	19	33.5	17	6.8	41
AMX19A015B3XF	991	50	71	12	4.3	43	1.25	12	85.7	25	31.9	34	8.8	10
PX5C45W3FE	929	51	52	40	4.8	10	1.19	39	85.5	32	34.0	14	8.0	23
Mean	1255		62		4.6		1.22		85.8		32.8		7.8	
LSD <sub>0.10</sub>	189		16		0.3		0.04		1.7		2.0		0.6	
C.V.%	12.9		15.2		3.7		2.1		1.2		3.6		4.8	
R <sup>2</sup> x 100	56.7		82.4		88.0		83.0		67.1		83.4		95.1	

<sup>a</sup> UI = Fiber length uniformity index.



**Table 13. Fiber properties–2020 Arkansas Transgenic Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.**

Variety	Lint		Quality		Fiber properties									
	yield lb/acre	r	score	r	Micronaire	r	Length in.	r	UI <sup>a</sup> %	r	Strength g/tex	r	Elongation %	r
DP 1725 B2XF	1456	1	49	43	4.6	16	1.21	45	85.4	49	34.3	29	5.7	49
NG 3195 B3XF	1397	2	60	35	4.7	13	1.25	30	86.4	30	33.9	33	8.4	12
AMX19B001B3XF	1378	3	60	36	4.6	16	1.24	39	86.6	27	33.8	35	6.5	42
PX4B08W3FE	1352	4	35	51	4.9	4	1.18	51	86.0	41	38.3	3	8.3	15
DP 2115B3XF	1339	5	49	43	4.9	4	1.25	35	85.9	43	35.4	21	8.1	19
DP 1518 B2XF	1321	6	62	29	4.3	34	1.26	27	86.1	40	33.3	43	6.9	36
Armor 9371 B3XF	1296	7	72	10	4.8	8	1.28	13	89.3	1	33.6	37	7.3	28
PHY 332 W3FE	1278	8	73	7	4.1	39	1.29	8	86.3	34	35.5	20	7.8	24
ST 5600B2XF	1249	9	44	46	5.2	2	1.24	39	86.3	33	37.2	8	7.7	27
PHY 360 W3FE	1240	10	69	18	4.6	16	1.27	18	87.0	16	33.2	44	7.3	29
Armor 9608 B3XF	1237	11	71	12	4.4	28	1.27	18	87.5	7	31.3	51	6.1	43
DG 3385 B2XF	1233	12	55	39	4.7	9	1.23	43	86.5	29	32.4	48	9.3	3
DP 2127B3XF	1218	13	52	40	4.7	13	1.24	39	86.9	21	35.2	25	6.7	39
19R132B3XF	1213	14	62	29	4.7	11	1.25	35	87.4	10	38.1	4	8.7	7
PHY 390 W3FE	1213	15	72	10	4.3	34	1.28	13	87.1	14	36.2	15	6.9	35
BX 2151GLTP	1202	16	69	19	4.8	7	1.28	12	87.8	5	34.0	31	6.9	36
BX 2193B3XF	1187	17	68	20	4.4	28	1.26	25	87.3	11	36.7	11	8.5	10
NG 3930 B3XF	1171	18	65	25	4.2	38	1.26	27	86.8	24	32.0	49	7.1	32
DG3456 B3XF	1163	19	39	50	4.9	4	1.19	49	86.9	21	33.3	42	7.0	34
BX 2191B3XF	1156	20	60	36	3.9	46	1.25	30	85.7	47	33.6	38	5.9	47
DP 2020 B3XF	1150	21	73	7	4.3	34	1.30	6	86.0	42	33.6	39	5.9	47
AMX19A018B3XF	1123	22	66	24	4.3	33	1.27	23	85.9	43	37.5	7	9.7	2
NG 4936 B3XF	1118	23	76	5	4.6	23	1.29	9	88.3	2	32.9	46	7.9	22
PHY 400 W3FE	1118	24	62	31	4.1	42	1.25	30	86.3	35	35.3	24	7.2	31
ST 4550GLTP	1109	25	63	28	4.7	13	1.27	23	86.8	24	36.0	17	8.5	10
ST 4990B3XF	1106	26	61	32	4.6	24	1.24	39	87.1	14	34.7	28	8.3	15
AMX19A014B3XF	1106	27	57	38	3.7	50	1.28	13	85.3	50	33.8	34	8.2	17
PHY 350 W3FE	1088	28	71	16	4.6	16	1.27	18	87.5	7	36.7	11	7.8	24
DP 1646 B2XF	1086	29	93	1	4.4	32	1.35	1	88.2	3	32.7	47	8.1	20
DP 2012 B3XF	1085	30	68	20	4.2	37	1.28	13	86.1	38	35.3	22	6.1	44
DG 3520 B3XF	1083	31	64	27	4.1	39	1.26	27	86.4	30	36.3	13	9.2	5
DP 2038 B3XF	1061	32	50	42	4.6	16	1.21	45	86.2	36	35.7	19	6.8	38
DG 3317 B3XF	1047	33	44	46	5.0	3	1.21	47	87.3	11	36.0	17	10.2	1
AMX19B003B3XF	1042	34	71	12	4.5	25	1.28	13	87.0	18	35.3	22	6.6	41
DG3535 B3XF	1035	35	65	25	4.5	25	1.26	25	86.9	21	35.0	26	6.1	44
Armor 9210 B3XF	1025	36	43	48	5.2	1	1.25	30	85.9	43	34.0	31	8.3	14
PX5E28W3FE	1013	37	73	7	3.9	46	1.29	9	86.4	30	37.2	8	8.0	21
NG 5150 B3XF	1009	38	40	49	4.7	9	1.19	49	85.6	48	31.5	50	7.1	33
PX5C45W3FE	1002	39	67	22	4.5	27	1.25	35	88.2	4	38.0	5	8.6	9
DP 2055 B3XF	1000	40	78	4	4.7	11	1.32	4	86.2	37	33.5	40	8.7	7
DG 3427 B3XF	994	41	61	33	4.6	16	1.25	30	86.1	39	33.8	35	5.6	50
BX 2192B3XF	971	42	89	2	4.4	28	1.34	3	87.0	16	36.3	13	5.6	51
AMX19A016B3XF	966	43	47	45	4.4	28	1.21	47	85.2	51	34.3	30	9.3	3
PHY 443 W3FE	966	44	51	41	4.6	16	1.23	44	86.6	28	37.5	6	7.8	23
PHY 480 W3FE	964	45	71	12	4.0	43	1.27	18	87.4	9	36.0	16	9.1	6
PX5E34W3FE	952	46	70	17	3.9	46	1.27	18	87.0	18	36.8	10	8.1	18
NG 4098B3XF	937	47	74	6	4.0	43	1.29	9	86.7	26	39.8	1	7.3	29
PHY 500 W3FE	923	48	61	33	3.8	49	1.25	35	86.9	20	39.1	2	6.6	40
ST 4480B3XF	907	49	82	3	4.1	39	1.31	5	87.7	6	34.9	27	6.0	46
BX 2194B3XF	854	50	71	12	3.5	51	1.35	1	87.2	13	33.2	44	7.7	26
AMX19A015B3XF	771	51	67	23	4.0	45	1.30	6	85.9	43	33.5	40	8.4	12
Mean	1116		63		4.4		1.26		86.7		35.0		7.5	
LSD <sub>0.10</sub>	176		19		0.4		0.04		ns		2.0		0.6	
C.V.%	13.5		18.5		5.8		2.0		1.2		3.4		5.0	
R <sup>2</sup> x 100	57.4		69.6		81.3		81.4		58.2		84.5		95.0	

<sup>a</sup>UI = Fiber length uniformity index.

**Table 14. Yield and related properties–2020 Arkansas Transgenic Cotton Variety Test, with irrigation on a Roton-Dundee-Crevasse complex soil at Manila.<sup>a</sup>**

Variety	Lint		Lint		Open			Seed		Lint		Seed/		Fibers/		Fiber		
	yield	r	frac.	r	Ht.	r	bolls	r	index	r	index	r	acre	r	seed	r	density	r
	lb/acre		%		cm		%		g		g		mil.		no.		no.	
DP 2127B3XF	1940	1	N/A	N/A	107	37	44	13	N/A	N/A	N/A	10.550	7	N/A	N/A			
BX 2191B3XF	1827	2	-	-	105	42	48	6	-	-	-	10.670	6	-	-			
ST 4550GLTP	1793	3	-	-	114	19	49	3	-	-	-	10.700	5	-	-			
DP 2115B3XF	1769	4	-	-	105	45	49	3	-	-	-	10.150	14	-	-			
DG3456 B3XF	1769	5	-	-	107	38	33	38	-	-	-	9.647	27	-	-			
BX 2151GLTP	1747	6	-	-	130	1	54	1	-	-	-	9.925	18	-	-			
DP 1725 B2XF	1690	7	-	-	106	41	45	9	-	-	-	9.809	22	-	-			
NG 3729 B2XF	1685	8	-	-	116	12	43	17	-	-	-	10.820	3	-	-			
ST 5600B2XF	1677	9	-	-	105	44	35	26	-	-	-	9.540	29	-	-			
PX4B08W3FE	1664	10	-	-	110	29	51	2	-	-	-	10.200	10	-	-			
DG3535 B3XF	1660	11	-	-	115	13	26	51	-	-	-	9.438	30	-	-			
NG 3195 B3XF	1660	12	-	-	116	11	46	7	-	-	-	10.170	13	-	-			
DP 2012 B3XF	1649	13	-	-	110	30	43	17	-	-	-	11.080	1	-	-			
NG 4936 B3XF	1647	14	-	-	102	49	43	17	-	-	-	10.770	4	-	-			
DG 3427 B3XF	1636	15	-	-	104	47	49	3	-	-	-	10.510	8	-	-			
DP 2038 B3XF	1615	16	-	-	105	45	31	41	-	-	-	9.648	26	-	-			
PX5C45W3FE	1606	17	-	-	111	28	35	26	-	-	-	9.221	34	-	-			
DP 2020 B3XF	1599	18	-	-	106	39	44	13	-	-	-	11.020	2	-	-			
Armor 9371 B3XF	1592	19	-	-	114	17	31	41	-	-	-	8.591	41	-	-			
Armor 9210 B3XF	1587	20	-	-	112	24	45	9	-	-	-	10.190	11	-	-			
DP 1518 B2XF	1569	21	-	-	123	2	36	24	-	-	-	10.110	16	-	-			
Armor 9608 B3XF	1556	22	-	-	112	25	46	7	-	-	-	9.673	25	-	-			
PHY 400 W3FE	1553	23	-	-	121	4	35	26	-	-	-	9.410	31	-	-			
DP 1646 B2XF	1553	24	-	-	114	18	34	31	-	-	-	10.180	12	-	-			
NG 3930 B3XF	1547	25	-	-	113	21	31	41	-	-	-	9.938	17	-	-			
ST 4990B3XF	1545	26	-	-	115	15	39	22	-	-	-	10.240	9	-	-			
BX 2193B3XF	1538	27	-	-	121	3	33	38	-	-	-	8.904	37	-	-			
DG 3317 B3XF	1530	28	-	-	108	35	38	23	-	-	-	9.208	35	-	-			
19R132B3XF	1521	29	-	-	120	5	30	46	-	-	-	8.466	43	-	-			
PHY 500 W3FE	1513	30	-	-	119	7	33	38	-	-	-	9.715	24	-	-			
PHY 360 W3FE	1506	31	-	-	117	9	41	20	-	-	-	10.140	15	-	-			
BX 2192B3XF	1497	32	-	-	108	34	34	31	-	-	-	9.880	19	-	-			
NG 5150 B3XF	1495	33	-	-	105	43	34	31	-	-	-	9.857	21	-	-			
DG 3520 B3XF	1476	34	-	-	106	40	34	31	-	-	-	8.550	42	-	-			
BX 2194B3XF	1470	35	-	-	119	6	30	46	-	-	-	8.079	50	-	-			
DG 3385 B2XF	1469	36	-	-	117	8	30	46	-	-	-	8.257	48	-	-			
AMX19A018B3XF	1469	37	-	-	112	23	44	13	-	-	-	9.570	28	-	-			
PHY 443 W3FE	1460	38	-	-	117	10	45	9	-	-	-	7.999	51	-	-			
PHY 390 W3FE	1450	39	-	-	109	33	35	26	-	-	-	8.748	40	-	-			
NG 4098B3XF	1444	40	-	-	101	50	34	31	-	-	-	8.367	45	-	-			
NG 3522 B2XF	1428	41	-	-	114	16	34	31	-	-	-	8.441	44	-	-			
PHY 350 W3FE	1420	42	-	-	113	22	45	9	-	-	-	8.754	39	-	-			
PX5E28W3FE	1395	43	-	-	112	27	29	49	-	-	-	9.773	23	-	-			
AMX19A014B3XF	1386	44	-	-	112	25	35	26	-	-	-	9.169	36	-	-			
ST 4480B3XF	1375	45	-	-	114	20	34	31	-	-	-	9.876	20	-	-			
PHY 480 W3FE	1366	46	-	-	115	13	28	50	-	-	-	8.204	49	-	-			
PHY 332 W3FE	1349	47	-	-	107	36	41	20	-	-	-	8.316	46	-	-			
DP 2055 B3XF	1341	48	-	-	109	32	31	41	-	-	-	9.353	33	-	-			
AMX19A016B3XF	1318	49	-	-	99	51	31	41	-	-	-	8.299	47	-	-			
AMX19A015B3XF	1268	50	-	-	110	30	44	13	-	-	-	8.807	38	-	-			
PX5E34W3FE	1256	51	-	-	103	48	36	24	-	-	-	9.376	32	-	-			
Mean	1547		44.0		111		38		-	-	-	9.536		-	-			
LSD <sub>0.10</sub>	165		ns		ns		ns		-	-	-	1.027		-	-			
C.V.%	9.1		4.7		10.8		32.4		-	-	-	9.2		-	-			
R <sup>2</sup> x 100	60.6		49.7		28.8		43.2		-	-	-	57.2		-	-			

<sup>a</sup>Plant height and percent open bolls measurements were adversely affected by variation in plant height that was noted through the length of the Manila field. Due to an apparent boll sampling mistake, data for lint percentage and fiber properties were questionable and are not reported. Average lint percentages for each entry over the other four locations were used to convert seedcotton yield to lint yield at this location.

Table 15. Morphological and host-plant resistance traits in the 2020 Arkansas Transgenic Cotton Variety Test.

Variety	Leaf		Stem		Bract		Tarnished plant		Bacterial
	pubescence <sup>a</sup>	r	pubescence <sup>a</sup>	r	trichomes <sup>b</sup>	r	bug damage <sup>c</sup>	r	blight <sup>d</sup>
	rating		rating		no./cm		%		% sus.
NG 4936 B3XF	1.0	1	3.9	3	28.7	9	71	33	36
NG 4098B3XF	4.1	40	7.0	50	51.3	50	73	36	6
NG 3930 B3XF	2.3	20	6.4	43	36.5	32	63	15	0
NG 3729 B2XF	4.9	46	5.5	22	44.9	47	76	44	29
NG 3522 B2XF	1.8	10	4.6	7	28.0	7	70	28	100
AMX19A014B3XF	3.0	30	4.4	5	43.4	44	77	47	94
AMX19A015B3XF	4.7	45	6.2	41	48.4	48	82	49	100
AMX19A016B3XF	6.4	51	5.8	31	48.9	49	63	13	100
AMX19A018B3XF	5.8	49	6.1	38	55.4	51	67	24	0
NG 3195 B3XF	1.4	6	6.3	42	36.5	31	55	5	93
NG 5150 B3XF	3.2	33	5.8	28	36.1	29	67	23	97
PHY 350 W3FE	2.8	25	5.9	33	30.0	16	53	3	0
PHY 360 W3FE	2.4	21	4.9	14	34.2	27	55	6	0
PHY 390 W3FE	2.4	22	5.2	14	31.7	22	56	8	0
PHY 400 W3FE	3.3	35	5.7	24	33.0	24	61	11	0
PHY 480 W3FE	2.8	25	5.8	27	30.4	18	56	7	0
PHY 500 W3FE	3.2	33	6.2	40	30.5	19	71	34	0
PHY 332 W3FE	3.0	31	5.5	22	29.6	10	54	4	0
PHY 443 W3FE	3.1	32	5.2	16	31.7	23	65	17	0
PX4B08W3FE	5.1	47	6.1	38	37.2	33	65	18	0
PX5C45W3FE	4.5	42	5.8	28	28.9	12	48	1	0
PX5E28W3FE	3.3	36	5.9	33	31.0	21	75	41	0
PX5E34W3FE	2.0	15	5.5	20	30.0	16	72	35	0
DG 3385 B2XF	1.8	10	5.8	25	40.0	36	57	9	100
DG 3317 B3XF	2.1	17	6.8	48	29.6	13	74	39	97
DG 3427 B3XF	4.1	41	4.0	4	43.2	43	63	14	97
DG 3520 B3XF	4.0	39	7.0	50	44.7	45	76	42	0
DG3456 B3XF	1.5	7	4.8	10	28.4	8	68	26	97
DG3535 B3XF	1.8	12	5.9	32	28.9	11	75	40	100
DP 1518 B2XF	6.3	50	6.8	48	44.8	46	70	29	0
DP 1646 B2XF	2.0	16	5.3	17	36.3	30	64	16	23
DP 1725 B2XF	2.1	17	6.7	47	29.8	15	66	22	96
DP 2012 B3XF	1.8	10	6.5	44	36.0	28	68	25	0
DP 2038 B3XF	1.0	1	4.9	12	21.4	2	71	32	5
DP 2020 B3XF	1.8	14	6.7	46	33.6	26	83	51	0
DP 2055 B3XF	1.7	9	4.9	13	29.8	14	60	10	97
DP 2115B3XF	2.8	27	5.5	21	40.1	37	70	30	67
19R132B3XF	1.6	8	3.3	2	21.7	3	76	45	3
DP 2127B3XF	2.4	22	6.0	36	38.3	34	66	20	55
ST 4550GLTP	3.4	37	5.8	28	41.3	40	76	43	87
BX 2151GLTP	2.2	19	5.4	18	27.3	4	81	48	82
ST 5600B2XF	4.5	42	6.1	37	41.5	41	52	2	83
ST 4990B3XF	1.2	3	4.5	6	27.4	5	74	37	55
ST 4480B3XF	3.6	38	4.8	11	30.6	20	62	12	4
BX 2191B3XF	2.8	27	4.6	9	33.5	25	74	38	96
BX 2192B3XF	2.9	29	5.9	33	42.1	42	68	27	85
BX 2193B3XF	1.3	4	1.6	1	18.6	1	77	46	0
BX 2194B3XF	5.7	48	6.6	45	41.1	39	66	19	13
Armor 9608 B3XF	4.5	42	5.4	19	40.2	38	66	21	97
Armor 9210 B3XF	1.3	4	4.6	7	27.4	6	83	50	0

Continued

**Table 15. Morphological and host-plant resistance traits in the 2020 Arkansas Transgenic Cotton Variety Test, Continued.**

Variety	Leaf pubescence <sup>a</sup>		Stem pubescence <sup>a</sup>		Bract trichomes <sup>b</sup>		Tarnished plant bug damage <sup>c</sup>		Bacterial blight <sup>d</sup>
	rating	r	rating	r	no./cm	r	%	r	% sus.
Armor 9371 B3XF	2.6	24	5.8	26	38.5	35	70	31	36
Ark 0628fg RF (sus.)							98	54	
Ark 0628fg RF (sus.)							98	53	
Ark 0628fg RF (sus.)							97	52	
Mean	3.0		5.5		35.1		69		
LSD <sub>0.10</sub>	1.1		1.1		4.1		8		
C.V.%	31.6		16.2		10.0		14.4		
R <sup>2</sup> x 100	76.9		63.8		86.9		59.1		

<sup>a</sup> Leaf and stem pubescence rated at Keiser irrigated test (6 plants per plots, 6 reps) using scale of 1 (smooth leaf) to 9 (pilose, very hairy).

<sup>b</sup> Marginal trichome density of bracts determined on 6 bracts/plot (4 reps) at Keiser irrigated test.

<sup>c</sup> Response to tarnished plant bug was determined by examining white flowers (6 flowers/plot/day for 6 days) for presence of anther damage. Plots were 1-row, replicated 8 times.

<sup>d</sup> Varieties/breeding lines were planted in flats (3 replications, 10 seed/plot) in greenhouse, and scratch inoculated with *Xanthomonas citris* pv. *malvacearum*. The inoculum was obtained from naturally infected leaves collected at the 2019 Marianna location. Scratches were examined for water-soaking, and % of susceptible plants was determined.



**Table 16. Two-year and three-year average lint yields (pounds/acre) for transgenic varieties at the five locations of the 2018–2020 Arkansas Cotton Variety Test.**

Variety	Manila		Keiser		Judd Hill		Marianna		Rohwer		All locations	
	Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r
	lb/acre		lb/acre		lb/acre		lb/acre		lb/acre		lb/acre	
<b>Two-year (2019–2020) means</b>												
DP 1725 B2XF	1671	2	1270	5	1205	6	1500	3	1444	7	1418	1
PHY 400 W3FE	1608	6	1306	1	1148	14	1528	2	1479	3	1413	2
ST 4550 GLTP	1815	1	1202	14	1244	4	1409	10	1249	22	1384	3
DP 2012 B3XF	1620	4	1205	13	1178	7	1432	8	1452	6	1377	4
NG 3729 B2XF	1610	5	1119	24	1249	3	1329	15	1548	1	1371	5
DP 2038 B3XF	1633	3	1267	6	1168	11	1466	4	1303	18	1367	6
DG 3385 B2XF	1378	23	1225	11	1233	5	1450	6	1475	4	1352	7
DP 1518 B2XF	1566	9	1191	16	1028	27	1460	5	1500	2	1349	8
DG 3520 B3XF	1413	20	1287	2	1309	1	1367	13	1357	15	1346	9
NG 4936 B3XH	1557	10	1274	4	1122	15	1379	12	1388	9	1344	10
DP 1646 B2XF	1499	12	1251	8	1103	16	1433	7	1379	11	1333	11
PHY 360 W3FE	1607	7	1278	3	1084	20	1305	19	1384	10	1331	12
Armor 9210 B3XF	1584	8	1172	19	1092	18	1427	9	1358	14	1326	13
Armor 9608 B3XF	1484	13	1174	17	1035	25	1544	1	1371	12	1322	14
ST 5600 B2XF	1421	18	1259	7	1152	13	1319	17	1370	13	1304	15
PHY 350 W3FE	1415	19	1153	22	1175	9	1342	14	1392	8	1295	16
PX3D32W3FE	1460	14	1200	15	1071	21	1256	23	1473	5	1292	17
PX3D43W3FE	1456	15	1161	21	1270	2	1242	25	1316	17	1289	18
NG 4098 B3XF	1446	16	1250	9	1166	12	1294	20	1275	20	1286	19
DG 3427 B3XF	1389	22	1171	20	1103	17	1402	11	1232	24	1259	20
NG 3930 B3XF	1542	11	1102	25	1066	22	1264	22	1298	19	1254	21
PHY 480 W3FE	1335	26	1211	12	1085	19	1291	21	1267	21	1237	22
PX5C45W3FE	1395	21	1225	10	1047	23	1044	28	1332	16	1209	23
PHY 500 W3FE	1431	17	1173	18	960	28	1244	24	1227	25	1207	24
NG 3522 B2XF	1332	27	1138	23	1034	26	1328	16	1192	28	1205	25
DG 3317 B3XF	1276	28	1042	26	1176	8	1307	18	1195	27	1199	26
PX5E28W3FE	1361	25	995	27	1170	10	1198	26	1237	23	1192	27
PX5E34W3FE	1375	24	942	28	1044	24	1149	27	1221	26	1146	28
Mean	1488		1187		1132		1347		1347		1300	
<b>Three-year (2018–2020) means</b>												
DP 1725 B2XF	1739	2	1207	10	1269	2	1660	1	1528	4	1481	1
PHY 400 W3FE	1609	4	1297	1	1161	9	1612	4	1581	1	1452	2
ST 4550 GLTP	1799	1	1178	11	1182	6	1530	7	1430	12	1424	3
DP 1646 B2XF	1551	6	1244	6	1138	10	1626	3	1516	6	1415	4
DG 3520 B3XF	1434	11	1296	2	1284	1	1480	9	1527	5	1404	5
DP 1518 B2XF	1502	8	1255	5	1105	12	1565	5	1553	3	1396	6
DG 3385 B2XF	1451	10	1264	4	1229	4	1549	6	1470	9	1392	7
NG 3729 B2XF	1614	3	1086	14	1252	3	1420	13	1571	2	1389	8
PHY 360 W3FE	1605	5	1265	3	1093	13	1449	12	1467	10	1376	9
Armor 9608 B3XF	1486	9	1161	12	1093	14	1638	2	1488	7	1373	10
NG 4936 B3XH	1535	7	1210	8	1180	7	1457	10	1479	8	1372	11
PHY 350 W3FE	1406	13	1109	13	1193	5	1454	11	1430	13	1318	12
DG 3317 B3XF	1399	14	954	15	1173	8	1499	8	1434	11	1292	13
PHY 500 W3FE	1432	12	1219	7	1017	15	1329	14	1409	14	1281	14
PHY 480 W3FE	1289	15	1209	9	1108	11	1310	15	1369	15	1257	15
Mean	1469		1168		1138		1396		1385		1311	

**Table 17. Yield and related properties–2020 Arkansas Conventional Cotton Variety Test across four test sites.**

Variety	Lint		Lint		Ht.	Open		Seed		Lint		Seed/	Fibers/		Fiber			
	yield	r	frac.	r		r	bolls	r	index	r	index	r	acre	r	seed	r	density	r
	lb/acre		%		cm	%		g		g		mil.	no.		no.			
Ark 1019-36	1215	1	41.0	2	96	2	63	9	10.2	10	7.2	9	7.677	1	13264	9	129	8
Ark 1005-41	1198	2	39.9	6	95	4	63	7	12.1	2	8.2	1	6.632	7	15262	3	132	7
Ark 1015-42	1162	3	41.6	1	96	3	63	8	10.4	9	7.5	4	6.939	4	14711	5	141	3
SSG UA222	1154	4	40.2	4	93	5	59	10	11.3	4	7.7	3	6.790	6	15853	2	144	2
UA248	1135	5	39.8	8	92	6	70	4	10.8	7	7.3	8	7.126	2	14369	6	135	5
AM UA48	1116	6	40.0	5	97	1	64	6	10.8	8	7.3	7	6.902	5	14320	7	134	6
SSG UA 114	1069	7	38.4	9	91	7	73	3	10.8	6	6.9	10	7.036	3	13620	8	127	9
DP 393	1020	8	39.9	7	90	8	77	2	11.0	5	7.4	5	6.224	8	14914	4	138	4
SSG UA 107	955	9	40.5	3	90	9	81	1	11.3	3	7.8	2	5.521	9	16536	1	150	1
UA212ne	856	10	37.2	10	86	10	64	5	12.3	1	7.4	6	5.244	10	12926	10	111	10
Mean	1088		39.8		93		68		11.1		7.5		6.609		14578		134	
Var. LSD <sub>0.10</sub>	71		0.7		5		6		0.4		0.3		0.434		748		7	
Loc. LSD <sub>0.10</sub>	45		0.4		3		4		ns		ns		0.275		474		5	
C.V.%	11.1		1.7		9.2		14.9		4.7		5.0		11.2		6.1		6.4	
R <sup>2</sup> x 100	85.5		93.8		60.1		76.5		83.6		78.0		84.3		86.7		86.8	
Prob (var x loc)	<0.0001		0.021		0.729		<0.0001		0.270		0.847		<0.0001		0.225		0.440	

**Table 18. Fiber properties–2020 Arkansas Conventional Cotton Variety Test across four test sites.**

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r	Elongation	r
	lb/acre						in.		%		g/tex		%	
Ark 1019-36	1215	1	83	1	4.6	5	1.34	1	87.8	3	35.7	2	7.8	7
Ark 1005-41	1198	2	73	3	4.7	3	1.31	3	87.9	2	35.5	3	8.4	4
Ark 1015-42	1162	3	68	4	4.6	8	1.29	5	87.4	5	34.6	6	7.7	8
SSG UA222	1154	4	60	7	4.4	10	1.27	7	86.6	7	34.5	7	9.6	1
UA248	1135	5	62	6	4.6	6	1.28	6	86.5	8	34.9	5	8.5	3
AM UA48	1116	6	66	5	4.6	7	1.30	4	86.8	6	34.3	8	8.2	5
SSG UA 114	1069	7	53	8	4.7	4	1.24	9	87.5	4	35.4	4	8.9	2
DP 393	1020	8	32	10	4.9	1	1.19	10	86.1	10	33.7	9	8.0	6
SSG UA 107	955	9	48	9	4.5	9	1.24	8	86.4	9	33.5	10	7.6	9
UA212ne	856	10	80	2	4.9	2	1.34	2	88.5	1	39.4	1	6.0	10
Mean	1088		62		4.6		1.28		87.1		35.2		8.1	
Var. LSD <sub>0.10</sub>	71		8		0.2		0.02		1.0		0.8		0.4	
Loc. LSD <sub>0.10</sub>	45		ns		0.1		0.01		0.6		0.5		0.2	
C.V.%	11.1		15.0		53.0		1.7		1.3		2.7		5.5	
R <sup>2</sup> x 100	85.5		87.6		85.2		93.1		70.0		89.4		92.4	
Prob (var x loc)	<0.0001		0.081		0.622		0.053		0.471		0.072		0.031	

<sup>a</sup> UI = Fiber length uniformity index.

**Table 19. Yield and related properties–2020 Arkansas Conventional Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.**

Variety	Lint yield		Lint frac.		Ht.		Open bolls		Seed index		Lint index		Seed/acre		Fibers/seed		Fiber density	
	lb/acre	r	%	r	cm	r	%	r	g	r	g	r	mil.	r	no.	r	no.	r
Ark 1019-36	1310	1	40.1	2	97	2	43	7	10.3	7	7.5	7	8.967	2	13708	9	132	9
Ark 1005-41	1256	2	40.1	3	94	4	38	8	11.7	3	8.3	2	8.015	6	16120	3	142	5
Ark 1015-42	1206	3	41.7	1	98	1	49	5	10.2	9	7.7	4	8.617	3	14973	5	146	3
UA248	1193	4	39.4	5	90	8	66	3	10.0	10	7.0	10	9.381	1	13631	10	134	8
AM UA48	1161	5	38.6	7	97	3	38	8	10.6	6	7.6	6	8.185	5	14494	6	137	6
SSG UA222	1115	6	39.3	6	93	5	36	10	11.8	2	8.2	3	7.445	7	16938	2	150	2
SSG UA 114	1025	7	37.4	9	91	6	64	4	10.3	8	7.0	9	8.305	4	13954	8	135	7
DP 393	1010	8	38.6	8	90	9	76	2	10.7	5	7.7	5	7.338	8	15335	4	145	4
UA212ne	929	9	36.2	10	79	10	48	6	11.8	1	7.3	8	6.845	9	14030	7	124	10
SSG UA 107	674	10	39.8	4	91	7	86	1	11.6	4	8.3	1	6.360	10	17705	1	159	1
Mean	1338		40.9		88		80		10.9		7.7		7.946		15089		140	
LSD <sub>0.10</sub>	136		1.2		ns		8		ns		0.7		0.813		1746		ns	
C.V.%	8.5		1.7		14.4		8.4		6.5		5.2		8.5		6.3		8.0	
R <sup>2</sup> x 100	65.2		88.2		31.2		59.1		73.2		79.3		72.7		81.9		61.2	

**Table 20. Fiber properties–2020 Arkansas Conventional Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.**

Variety	Lint yield		Quality		Fiber properties									
	lb/acre	r	score	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r	Elongation	r
							in.		%		g/tex		%	
Ark 1019-36	1310	1	84	1	4.6	3	1.36	1	87.6	5	34.7	9	8.2	5
Ark 1005-41	1256	2	75	4	4.5	5	1.31	4	88.3	2	36.2	3	8.2	7
Ark 1015-42	1206	3	74	5	4.5	5	1.31	4	88.4	1	34.5	10	8.2	5
UA248	1193	4	79	2	4.4	8	1.33	3	88.3	2	37.2	2	9.2	2
AM UA48	1161	5	68	6	4.6	3	1.31	6	87.2	7	35.6	5	8.6	4
SSG UA222	1115	6	67	7	4.3	10	1.30	7	87.3	6	35.0	6	9.4	1
SSG UA 114	1025	7	41	9	4.8	2	1.22	9	87.1	8	35.6	4	9.0	3
DP 393	1010	8	35	10	4.9	1	1.20	10	86.4	10	34.8	8	8.1	8
UA212ne	929	9	78	3	4.5	7	1.34	2	87.8	4	39.2	1	6.7	10
SSG UA 107	674	10	48	8	4.4	8	1.23	8	87.0	9	34.9	7	8.0	9
Mean	1338		65		4.5		1.29		87.5		35.4		8.3	
LSD <sub>0.10</sub>	136		14		ns		0.04		ns		2.0		0.9	
C.V.%	8.5		12.1		5.7		1.5		1.3		3.0		5.6	
R <sup>2</sup> x 100	65.2		90.8		50.7		93.4		43.9		79.2		85.2	

<sup>a</sup> UI = Fiber length uniformity index.

**Table 21. Yield and related properties–2020 Arkansas Conventional Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.**

Variety	Lint yield		Lint frac.		Ht.		Open bolls		Seed index		Lint index		Seed/acre		Fibers/seed		Fiber density	
	lb/acre	r	%	r	cm	r	%	r	g	r	g	r	mil.	r	no.	r	no.	r
Ark 1019-36	1477	1	41.8	2	83	8	81	4	10.1	10	6.9	9	8.646	1	13214	10	129	8
Ark 1015-42	1464	2	42.7	1	97	1	70	10	10.7	9	7.8	2	7.017	4	15772	5	148	3
Ark 1005-41	1463	3	40.8	6	93	2	81	4	12.2	2	8.2	1	6.937	5	15978	3	138	7
UA248	1449	4	40.8	7	87	6	78	7	10.8	8	7.1	7	7.643	2	15203	7	143	6
AM UA48	1368	5	41.1	5	91	4	74	8	10.9	7	7.0	8	7.505	3	15706	6	146	4
SSG UA222	1347	6	40.6	8	91	3	71	9	11.4	4	7.5	5	6.794	7	15846	4	143	5
SSG UA 114	1288	7	40.2	9	84	7	89	1	11.2	6	6.8	10	6.855	6	13789	8	126	9
DP 393	1247	8	41.4	4	83	9	89	1	11.3	5	7.3	6	6.331	8	16385	2	149	2
SSG UA 107	1169	9	41.8	3	81	10	85	3	11.5	3	7.7	3	3.955	10	18962	1	171	1
UA212ne	1102	10	37.9	10	88	5	79	6	13.1	1	7.6	4	5.541	9	13441	9	110	10
Mean	1088		39.1		92		54		11.3		7.4		6.720		15430		140	
LSD <sub>0.10</sub>	178		1.8		9		20		0.7		ns		1.101		2115		17	
C.V.%	13.6		2.5		7.9		30.9		3.6		6.5		13.6		7.5		6.4	
R <sup>2</sup> x 100	78.3		83.7		48.4		64.2		90.1		67.7		80.0		81.1		86.7	

**Table 22. Fiber properties–2020 Arkansas Conventional Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.**

Variety	Lint yield		Quality		Fiber properties									
	lb/acre	r	score	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r	Elongation	r
							in.		%		g/tex		%	
Ark 1019-36	1477	1	93	1	4.2	4	1.42	1	88.2	4	36.4	3	7.4	8
Ark 1015-42	1464	2	76	3	4.2	4	1.34	4	89.1	2	35.1	7	8.0	6
Ark 1005-41	1463	3	74	4	4.4	2	1.35	3	88.0	5	36.7	2	9.1	2
UA248	1449	4	56	8	4.2	4	1.30	7	86.8	9	35.5	4	8.2	5
AM UA48	1368	5	66	5	3.9	9	1.33	5	87.4	6	35.1	6	8.0	7
SSG UA222	1347	6	60	6	4.2	4	1.31	6	87.2	8	34.9	9	9.3	1
SSG UA 114	1288	7	57	7	4.4	2	1.28	8	88.5	3	35.4	5	8.9	3
DP 393	1247	8	42	9	4.1	8	1.23	10	87.4	6	35.1	7	8.3	4
SSG UA 107	1169	9	34	10	3.8	10	1.26	9	86.1	10	33.0	10	6.6	9
UA212ne	1102	10	87	2	4.6	1	1.38	2	89.3	1	40.5	1	5.8	10
Mean	1088		64		4.2		1.16		87.8		35.8		7.9	
LSD <sub>0.10</sub>	178		14		ns		0.04		1.6		1.4		0.9	
C.V.%	13.6		12.2		6.8		2.0		1.0		2.2		6.0	
R <sup>2</sup> x 100	78.3		91.9		58.1		92.7		73.4		92.8		91.6	

<sup>a</sup> UI = Fiber length uniformity index.

**Table 23. Yield and related properties–2020 Arkansas Conventional Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.**

Variety	Lint yield		Lint frac.		Ht.		Open bolls		Seed index		Lint index		Seed/acre		Fibers/seed		Fiber density	
	lb/acre	r	%	r	cm	r	%	r	g	r	g	r	mil.	r	no.	r	no.	r
Ark 1005-41	1232	1	40.2	8	88	6	74	6	12.3	1	8.4	1	6.678	5	15411	3	132	9
Ark 1015-42	1229	2	42.4	2	88	5	70	9	10.2	9	7.7	5	7.260	2	14986	5	146	2
Ark 1019-36	1200	3	43.9	1	94	1	74	6	9.2	10	7.3	9	7.441	1	13783	9	143	4
SSG UA222	1169	4	41.8	3	87	7	71	8	10.6	8	7.8	4	6.845	3	15812	1	150	1
AM UA48	1126	5	41.2	4	92	2	76	5	10.6	7	7.5	7	6.780	4	14454	8	137	7
UA248	1108	6	40.8	7	88	4	70	9	11.1	3	7.8	3	6.461	6	15331	4	141	5
SSG UA 107	1104	7	41.0	6	89	3	84	1	10.9	4	7.8	2	6.428	7	15612	2	145	3
DP 393	1065	8	41.1	5	83	9	84	1	10.8	6	7.7	6	6.310	8	14798	6	138	6
SSG UA 114	989	9	39.3	9	84	8	80	3	10.9	5	7.3	10	6.142	9	14613	7	136	8
UA212ne	777	10	37.9	10	79	10	79	4	12.1	2	7.5	8	4.694	10	12502	10	108	10
Mean	1100		41.0		87		76		10.9		7.4		6.504		14730		138	
LSD <sub>0.10</sub>	90		0.6		7		8		0.7		ns		0.532		1136		11	
C.V.%	6.8		0.8		6.3		8.7		3.6		3.9		6.8		4.2		4.2	
R <sup>2</sup> x 100	83.0		97.9		46.2		50.3		91.4		69.5		81.2		83.8		88.9	

**Table 24. Fiber properties–2020 Arkansas Conventional Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.**

Variety	Lint yield		Quality		Fiber properties									
	lb/acre	r	score	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r	Elongation	r
							in.		%		g/tex		%	
Ark 1005-41	1232	1	83	2	4.7	6	1.32	2	88.1	2	34.2	5	8.6	4
Ark 1015-42	1229	2	59	7	4.8	3	1.27	5	85.5	9	34.6	4	7.6	9
Ark 1019-36	1200	3	70	3	4.8	3	1.28	3	87.5	3	35.8	2	8.8	3
SSG UA222	1169	4	60	6	4.6	10	1.24	8	86.9	4	33.8	6	10.6	1
AM UA48	1126	5	63	4	4.8	3	1.28	3	85.7	8	32.6	10	8.5	5
UA248	1108	6	60	5	4.7	6	1.27	5	85.5	9	32.9	8	8.5	6
SSG UA 107	1104	7	57	8	4.7	9	1.25	7	86.0	7	32.6	9	8.4	7
DP 393	1065	8	30	10	5.1	1	1.18	10	86.1	6	33.1	7	8.1	8
SSG UA 114	989	9	53	9	4.7	6	1.23	9	86.9	4	34.9	3	9.2	2
UA212ne	777	10	85	1	5.1	2	1.34	1	89.3	1	37.8	1	6.8	10
Mean	1100		62		4.8		1.26		86.7		34.2		8.5	
LSD <sub>0.10</sub>	90		22		ns		0.05		ns		1.7		0.7	
C.V.%	6.8		19.4		4.6		2.2		1.5		2.6		4.6	
R <sup>2</sup> x 100	83.0		79.9		55.5		82.9		65.4		86.6		93.1	

<sup>a</sup> UI = Fiber length uniformity index.

**Table 25. Yield and related properties—2020 Arkansas Conventional Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.**

Variety	Lint		Lint		Open		Seed		Lint		Seed/	Fibers/		Fiber				
	yield	r	frac.	r	Ht.	r	bolts	r	index	r	acre	r	seed	r	density	r		
	lb/acre		%		cm		%		g		g		mil.		no.		no.	
SSG UA222	984	1	39.1	3	102	7	58	8	11.3	4	7.4	3	6.077	2	14818	1	134	1
SSG UA 114	976	2	36.7	9	106	3	61	5	11.0	9	6.5	10	6.840	1	12124	9	112	9
SSG UA 107	874	3	39.3	2	98	9	68	1	11.2	5	7.4	2	5.340	4	13865	2	126	2
Ark 1019-36	871	4	38.0	8	110	2	53	9	11.2	5	7.0	8	5.652	3	12350	8	113	8
Ark 1005-41	842	5	38.7	5	105	4	60	6	12.3	1	7.8	1	4.897	8	13537	3	116	7
AM UA48	810	6	38.9	4	111	1	68	1	11.0	8	7.2	5	5.137	5	12627	7	117	6
UA248	790	7	38.2	7	104	6	68	1	11.4	3	7.1	6	5.022	6	13310	4	121	4
DP 393	759	8	38.5	6	104	5	60	6	11.1	7	7.0	7	4.916	7	13140	5	121	5
Ark 1015-42	749	9	39.7	1	100	8	63	4	10.4	10	7.0	9	4.864	9	13115	6	126	3
UA212ne	616	10	36.7	10	98	10	51	10	12.2	2	7.2	4	3.897	10	11732	10	101	10
Mean	827		38.4		104		61		11.3		7.2		5.264		13062		119	
LSD <sub>0.10</sub>	160		1.0		ns		7		1.0		0.5		1.010		1324		13	
C.V.%	16.1		1.4		6.7		9.9		4.7		3.8		15.9		5.5		6.0	
R <sup>2</sup> x 100	51.3		88.5		37.8		59.4		71.2		76.5		57.3		76.4		78.4	

**Table 26. Fiber properties—2018 Arkansas Conventional Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.**

Variety	Lint	Quality			Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r	Elongation	r
	lb/acre						in.		%		g/tex		%	
SSG UA222	984	1	54	7	4.8	10	1.23	6	84.9	9	34.2	6	9.4	1
SSG UA 114	976	2	60	6	5.0	7	1.23	6	87.4	3	35.6	3	8.7	2
SSG UA 107	874	3	53	8	5.1	6	1.23	9	86.5	7	33.6	9	7.5	6
Ark 1019-36	871	4	85	1	4.9	8	1.32	1	88.0	1	36.0	2	7.0	9
Ark 1005-41	842	5	61	5	5.3	3	1.26	4	87.4	4	35.0	4	7.7	4
AM UA48	810	6	68	3	5.1	4	1.28	3	86.9	5	34.1	8	7.7	4
UA248	790	7	51	9	5.1	4	1.23	6	85.2	8	34.2	6	8.0	3
DP 393	759	8	19	10	5.5	1	1.15	10	84.4	10	31.8	10	7.5	7
Ark 1015-42	749	9	63	4	4.9	8	1.26	5	86.6	6	34.4	5	7.1	8
UA212ne	616	10	70	2	5.4	2	1.29	2	87.8	2	40.3	1	4.9	10
Mean	827		58		5.1		1.25		86.5		34.9		7.5	
LSD <sub>0.10</sub>	160		16		0.4		0.04		ns		1.9		0.8	
C.V.%	16.1		15.5		4.0		1.6		1.4		3.0		6.1	
R <sup>2</sup> x 100	51.3		88.2		72.6		91.2		69.5		90.0		92.9	

<sup>a</sup> UI = Fiber length uniformity index.

**Table 27. Morphological and host-plant resistance traits in the 2020 Arkansas Conventional Cotton Variety Test.**

Variety	Leaf pubescence <sup>a</sup>		Stem pubescence <sup>a</sup>		Bract trichomes <sup>b</sup>		Tarnished plant bug damage <sup>c</sup>		Bacterial blight <sup>d</sup>
	rating	r	rating	r	no./cm	r	%	r	% sus.
SSG UA222	4.9	10	6.5	10	34.3	5	57	1	6
SSG UA 107	1.8	2	4.2	1	30.6	3	69	5	0
SSG UA 114	4.5	9	6.5	9	47.8	9	63	2	0
UA212ne	1.6	1	5.4	2	29.6	2	76	7	0
AM UA48	2.7	5	6.3	6	30.9	4	80	10	0
UA248	3.2	6	5.9	5	26.2	1	79	9	3
Ark 1005-41	3.3	7	5.8	4	40.6	8	76	8	0
Ark 1015-42	2.5	4	6.5	8	36.7	6	64	3	4
Ark 1019-36	3.3	8	6.3	7	48.0	10	75	6	0
DP 393	1.9	3	5.8	3	37.7	7	67	4	58
Ark 0628fg RF (sus.)							97	12	
Ark 0628fg RF (sus.)							97	11	
Mean	3.0		5.9		36.2		75		7
LSD <sub>0.10</sub>	1.3		0.8		6.0		8		8
C.V.%	35.4		10.5		13.7		12.5		81.6
R <sup>2</sup> x 100	69.0		65.9		79.2		69.2		93.4

<sup>a</sup> Leaf and stem pubescence rated at Keiser irrigated test (6 plants per plots, 6 reps) using scale of 1 (smooth leaf) to 9 (pilose, very hairy).

<sup>b</sup> Marginal trichome density of bracts determined on 6 bracts/plot (4 reps) at Keiser irrigated test.

<sup>c</sup> Response to tarnished plant bug was determined by examining white flowers (6 flowers/plot/day for 6 days) for presence of anther damage. Plots were 1-row, replicated 8 times.

<sup>d</sup> Varieties/breeding lines were planted in flats (3 replications, 10 seed/plot) in greenhouse, and scratch inoculated with *Xanthomonas citris* pv. *malvacearum*. The inoculum was obtained from naturally infected leaves collected at the 2019 Marianna location. Scratches were examined for water-soaking, and % of susceptible plants was determined.

**Table 28. Two-year and three-year average lint yields (pound/acre) for conventional varieties at the four locations of the 2018–2020 Arkansas Cotton Variety Test.**

Variety	Keiser Irrigated		Judd Hill		Marianna		Rohwer		All locations	
	lb/acre	r	lb/acre	r	lb/acre	r	lb/acre	r	lb/acre	r
<b>Two-year (2019–2020) means</b>										
UA212ne	1162	1	1210	1	1320	2	1111	3	1201	1
UA248	1130	2	1192	2	1292	3	1097	4	1177	2
SGS UA222	1076	4	1117	5	1325	1	1181	1	1175	3
DP 393	1090	3	1146	4	1271	4	1064	5	1142	4
SGS UA114	994	5	1164	3	1183	6	1176	2	1129	5
SGS UA107	772	7	1074	6	1195	5	1003	6	1011	6
AM UA48	861	6	997	7	1027	7	875	7	940	7
Mean	1012		1128		1230		1072		1111	
<b>Three-year (2018–2020) means</b>										
UA212ne	1077	1	1163	1	1367	1	1237	1	1211	1
SGS UA222	1023	4	1065	3	1345	3	1190	3	1156	2
UA248	1075	2	1130	2	1281	5	1136	4	1156	3
DP 393	1071	3	1061	5	1361	2	1123	5	1154	4
SGS UA114	1012	5	1063	4	1284	4	1222	2	1145	5
SGS UA107	824	7	945	7	1243	6	1031	6	1011	6
AM UA48	910	6	965	6	1126	7	986	7	997	7
Mean	999		1056		1287		1132		1118	

**Appendix Table A1. Lint Yield and Fiber Properties–Ashley County Transgenic Variety Test.**

<b>Cooperator(s):</b> Bruce Bond		<b>Date Planted:</b> 5/22/20						
<b>Soil Type:</b> Hebert Silt Loam		<b>Date of Harvest:</b> 10/23/20						
<b>Irrigation:</b> Furrow		<b>Replications:</b> 4						
<b>Agent(s):</b> Kevin Norton and Clay Gibson								
<b>Variety</b>	<b>Lint</b>		<b>Loan</b>	<b>Income</b>	<b>Fiber properties</b>			
	<b>yield</b>	<b>r</b>			<b>rate</b>	<b>Micronaire</b>	<b>Length</b>	<b>UI<sup>a</sup></b>
	<b>lb/acre</b>		<b>¢/lb</b>	<b>\$/acre</b>		<b>in.</b>	<b>%</b>	<b>g/tex</b>
PHY390 W3FE	1140	1	51.75	590	4.0	1.19	83.2	31.8
PHY400 W3FE	1065	2–4	52.61	561	4.0	1.19	82.5	33.2
DP 2012 B3XF	1065	2–4	50.93	542	3.9	1.21	82.7	31.3
DP 1646 B2XF	1065	2–4	50.85	542	4.3	1.25	82.5	31.1
NG 4936 B3XF	1059	5	50.95	540	4.3	1.24	84.3	31.0
ST4550 GLTP	1030	6–7	51.84	533	4.1	1.21	83.3	32.4
DP 2020 B3XF	1030	6–7	51.51	531	4.0	1.22	82.0	30.2
ST 4990 B3XF	992	8	51.04	506	4.2	1.25	84.6	31.7
DG 3456 B3XF	971	9	52.36	509	3.9	1.20	82.6	30.2
DG 3535 B3XF	952	10	51.75	492	4.2	1.21	82.7	31.6
DP 2038 B3XF	948	11	50.70	481	4.4	1.14	82.1	30.8
NG 4098 B3XF	877	12	50.91	447	4.0	1.22	81.7	33.3
Mean	1016		51.43	523	4.1	1.21	82.9	31.6
Var. LSD <sub>0.05</sub>	80.2		1.7	48.1	0.3	0.03	1.2	0.9
C.V.%	5.5		2.3	6.4	5.2	1.5	1.0	2.0
Prob (var)	0.0001		0.3438	0.0001	0.0251	0.0001	0.0005	0.0001

<sup>a</sup> UI = Fiber length uniformity index.**Appendix Table A2. Lint Yield and Fiber Properties–Clay County Transgenic Variety Test.**

<b>Cooperator(s):</b> David Cagle		<b>Date Planted:</b> 5/11/20						
<b>Soil Type:</b> Fountain Silt Loam		<b>Date of Harvest:</b> 10/22/20						
<b>Irrigation:</b> Furrow		<b>Replications:</b> 1						
<b>Agent(s):</b> Allison Howell								
<b>Variety</b>	<b>Lint</b>		<b>Loan</b>	<b>Income</b>	<b>Fiber properties</b>			
	<b>yield</b>	<b>r</b>			<b>rate</b>	<b>Micronaire</b>	<b>Length</b>	<b>UI<sup>a</sup></b>
	<b>lb/acre</b>		<b>¢/lb</b>	<b>\$/acre</b>		<b>in.</b>	<b>%</b>	<b>g/tex</b>
DG 3535 B3XF	1502	1	54.33	816	4.6	1.22	82.9	31.6
NG 4936 B3XF	1480	2	39.06	804	4.4	1.24	83.0	31.9
DP 2020 B3XF	1465	3	54.62	800	4.4	1.25	83.3	32.2
NG 4098 B3XF	1426	4	51.95	741	4.1	1.25	82.6	35.2
ST 4990 B3XF	1425	5	54.46	776	4.6	1.22	83.7	32.6
PHY390W3FE	1387	6	41.13	758	4.4	1.19	81.9	33.2
DP 2012 B3XF	1360	7	54.35	739	4.5	1.22	83.4	32.3
CP 9608 B3XF	1307	8	54.62	714	4.5	1.19	81.3	31.6
PHY400 W3FE	1301	9	54.69	712	4.2	1.19	82.5	33.9
DG 3456 B3XF	1224	10	54.45	666	4.4	1.16	82.9	30.3
ST 4880 B3XF	1036	11	52.94	549	4.2	1.24	83.2	33.1
Mean	1356		51.51	734	4.4	1.22	82.8	32.5

<sup>a</sup> UI = Fiber length uniformity index.



**Appendix Table A3. Lint Yield and Fiber Properties—Clark County Transgenic Variety Test.**

<b>Cooperator(s):</b> Ted Honeycutt					<b>Date Planted:</b> 6/1/20			
<b>Soil Type:</b> Houston Clay					<b>Date of Harvest:</b> 11/2/20			
<b>Irrigation:</b> Non Irrigated					<b>Replications:</b> 1			
<b>Agent(s):</b> Amy Simpson								
Variety	Lint	r	Loan	Income	Fiber properties			
	yield		rate		Micronaire	Length	UI <sup>a</sup>	Strength
	lb/acre		¢/lb	\$/acre		in.		g/tex
DP 2012 B3XF	1125	1	51.00	574	4.1	1.19	83.1	31.5
ST4550 GLTP	1070	2	51.00	546	4.1	1.17	83.6	32.8
DP 2020 B3XF	1069	3	51.00	545	4.0	1.20	83.5	31.7
NG 4936 B3XF	1065	4	51.00	543	4.1	1.20	83.5	31.1
NG 4098 B3XF	1028	5	51.05	525	3.8	1.25	83.5	35.0
DG 3456 B3XF	1011	6–7	54.10	547	4.1	1.18	83.4	30.8
DG 3535 B3XF	1011	6–7	51.00	516	4.0	1.19	83.6	31.3
DP 2038 B3XF	1009	8	53.65	541	4.3	1.13	82.6	30.3
PHY 390 W3FE	1004	9	50.90	511	4.0	1.16	82.5	31.6
DP 1646 B2XF	1003	10	50.75	509	4.3	1.22	83.4	30.5
PHY 400 W3FE	964	11	54.20	522	4.2	1.15	83.5	31.0
ST4990 B3XF	928	12	54.30	504	4.1	1.19	83.4	31.6
Mean	1024		54.3	504	4.1	1.19	83.3	31.6

<sup>a</sup> UI = Fiber length uniformity index.**Appendix Table A4. Lint Yield and Fiber Properties—Craighead County Transgenic Variety Test.**

<b>Cooperator(s):</b> Brannon and Gary Qualls					<b>Date Planted:</b> 5/19/20			
<b>Soil Type:</b> Fountain Silt Loam					<b>Date of Harvest:</b> 11/3/20			
<b>Irrigation:</b> Furrow					<b>Replications:</b> 4			
<b>Agent(s):</b> Branon Thiesse and Chris Grimes								
Variety	Lint	r	Loan	Income	Fiber properties			
	yield		rate		Micronaire	Length	UI <sup>a</sup>	Strength
	lb/acre		¢/lb	\$/acre		in.	%	g/tex
DP 2038 B3XF	1910	1	49.19	939	5.00	1.15	83.2	30.6
DG 3456 B3XF	1810	2	53.34	964	4.50	1.19	83.7	30.7
PHY 390 W3FE	1782	3	50.89	907	4.40	1.19	83.0	32.0
DP 2020 B3XF	1752	4	50.91	892	4.50	1.22	83.7	31.7
DP 2012 B3XF	1740	5	50.95	886	4.60	1.20	83.7	32.4
DP 1646 B2XF	1733	6	52.50	909	4.40	1.24	83.6	31.0
ST 4550 GLTP	1720	7	51.00	877	4.60	1.19	84.2	32.4
DG 3535 B3XF	1713	8	51.84	888	4.30	1.23	84.0	32.6
NG 4098 B3XF	1688	9	51.00	861	4.40	1.24	83.7	34.8
PHY 400 W3FE	1611	10	50.94	820	4.40	1.18	82.9	32.3
ST 4990 B3XF	1591	11	50.41	802	4.80	1.23	84.6	32.1
NG 4936 B3XF	1569	12	50.36	791	4.70	1.22	84.7	31.6
Mean	1718		51.29	872	4.6	1.21	83.8	32.0
Var. LSD 0.05	148.3		1.6	78.5	0.3	0.03	0.8	1.3
C.V.%	6.0		2.2	6.2	4.1	1.8	0.6	2.9
Prob (var)	0.0026		0.0020	0.0017	0.0001	0.0001	0.0003	0.0001

<sup>a</sup> UI = Fiber length uniformity index.

**Appendix Table A5. Lint Yield and Fiber Properties—Desha County Transgenic Variety Test.**

<b>Cooperator(s):</b>	Steve Stevens and Wes Kirkpatrick			<b>Date Planted:</b>	5/6/20			
<b>Soil Type:</b>	Sharkey and Desha Clays			<b>Date of Harvest:</b>	11/4/20			
<b>Irrigation:</b>	Furrow			<b>Replications:</b>	4			
<b>Agent(s):</b>	John David Farabough							

Variety	Lint		Loan	Income	Fiber properties			
	yield	r	rate		Micronaire	Length	UI <sup>a</sup>	Strength
	lb/acre		¢/lb	\$/acre		in.	%	g/tex
DP 1646 B2XF	1371	1	50.30	689	4.3	1.28	83.2	31.5
NG 4936 B3XF	1367	2	49.70	678	4.1	1.27	84.0	31.0
DP 2012 B3XF	1347	3	50.94	686	3.9	1.25	83.5	31.7
DP 2020 B3XF	1330	4	50.98	678	3.9	1.26	83.3	32.1
PHY 400 W3FE	1304	5	50.86	663	4.1	1.21	82.5	32.3
ST 4550 GLTP	1299	6	51.03	663	4.3	1.21	84.2	32.6
DG 3535 B3XF	1286	7	49.64	638	4.0	1.22	82.1	31.1
PHY 390 W3FE	1282	8	50.36	645	3.9	1.21	82.5	32.3
ST 4990 B3XF	1279	9	50.85	650	4.0	1.24	83.1	31.2
DG 3456 B3XF	1218	10	50.68	617	4.0	1.23	82.7	30.3
DP 2038 B3XF	1136	11	49.11	557	3.9	1.18	82.7	31.3
NG 4098 B3XF	1048	12	49.81	524	3.8	1.25	82.5	34.3
Mean	1272		50.36	641	4.0	1.23	83.0	31.8
Var. LSD 0.05	138.3		1.4	69.4	0.3	0.03	1.2	1.2
C.V.%	7.5		1.9	7.5	5.3	1.7	1.0	2.6
Prob (var)	0.0012		0.1043	0.0004	0.0314	0.0001	0.0294	0.0001

<sup>a</sup> UI = Fiber length uniformity index.**Appendix Table A6. Lint Yield and Fiber Properties—Jefferson County Transgenic Variety Test.**

<b>Cooperator(s):</b>	Cornerstone Farms			<b>Date Planted:</b>	5/14/20			
<b>Soil Type:</b>	Loring Silt Loam			<b>Date of Harvest:</b>	10/26/20			
<b>Irrigation:</b>	Furrow			<b>Replications:</b>	4			
<b>Agent(s):</b>	Kurt Batey							

Variety	Lint		Loan	Income	Fiber properties			
	yield	r	rate		Micronaire	Length	UI <sup>a</sup>	Strength
	lb/acre		¢/lb	\$/acre		in.	%	g/tex
DP 2012 B3XF	1337	1	51.05	682	3.9	1.25	83.9	32.8
NG 4936 B3XF	1333	2	49.85	664	3.8	1.29	84.1	32.8
DP 1646 B2XF	1307	3	51.78	678	4.2	1.29	83.5	31.9
DG 3456 B3XF	1265	4	52.49	664	3.6	1.23	82.5	31.5
PHY 390 W3FE	1246	5	50.94	635	4.1	1.23	83.4	32.7
ST 4550 GLTP	1246	6	50.95	635	3.9	1.19	83.3	32.3
ST 4990 B3XF	1214	7	51.04	620	4.0	1.26	84.2	32.7
DP 2020 B3XF	1209	8	51.05	617	4.0	1.26	83.9	32.7
DG 3535 B3XF	1171	9	50.96	597	3.7	1.24	83.8	32.6
DP 2038 B3XF	1163	10	50.90	592	4.1	1.18	82.3	32.2
PHY 400 W3FE	1150	11	51.86	597	4.0	1.23	83.6	33.5
NG 4098 B3XF	993	12	51.00	506	4.0	1.26	83.7	34.2
Mean	1220		51.16	624	3.9	1.24	83.5	32.7
Var. LSD 0.05	97.8		1.7	61.2	0.4	0.04	1.0	1.7
C.V.%	5.6		2.3	6.8	6.5	2.4	0.8	3.7
Prob (var)	0.0001		0.3270	0.0001	0.0964	0.0001	0.0083	0.2411

<sup>a</sup> UI = Fiber length uniformity index.

**Appendix Table A7. Lint Yield and Fiber Properties—Lafayette County Transgenic Variety Test.**

<b>Cooperator(s):</b>	Dale Seiler			<b>Date Planted:</b>	5/20/20			
<b>Soil Type:</b>	Billyhaw Clay			<b>Date of Harvest:</b>	11/6/20			
<b>Irrigation:</b>	Furrow			<b>Replications:</b>	4			
<b>Agent(s):</b>	Lance Rice, Jennifer Carraway, and Jennifer Sansom							
Variety	Lint yield	r	Loan rate	Income	Fiber properties			
	lb/acre		¢/lb	\$/acre	Micronaire	Length in.	UI <sup>a</sup> %	Strength g/tex
DG 3456 B3XF	1651	1	50.55	834	4.1	1.22	83.6	28.5
DP 2020 B3XF	1638	2	49.09	805	4.3	1.26	83.8	30.8
DP 2038 B3XF	1609	3	50.71	816	4.6	1.17	83.2	30.4
DP 2012 B3XF	1530	4	48.96	749	4.4	1.22	83.3	30.5
ST 4990 B3XF	1519	5	49.68	755	4.3	1.27	84.2	30.7
NG 4936 B3XF	1505	6	50.10	754	4.4	1.25	84.1	29.7
DG 3520 B3XF	1457	7	48.41	706	4.0	1.26	83.7	30.2
DG 3535 B3XF	1411	8	49.13	693	4.4	1.23	83.3	31.2
DP 2055 B3XF	1394	9	48.86	680	4.5	1.27	83.0	30.0
NG 4098 B3XF	1251	10	48.64	608	4.4	1.25	83.5	33.6
DP 1725 B2XF	1171	11	48.16	564	4.5	1.20	83.1	29.4
DP 1518 B2XF	1146	12	48.10	551	4.4	1.20	82.4	28.6
DP 1646 B2XF	1143	13	48.93	559	4.5	1.26	82.5	30.3
ST 5600 B2XF	1026	14	47.36	485	5.0	1.25	84.3	31.1
Mean	1389		49.05	683	4.4	1.24	83.4	30.4
Var. LSD 0.05	148.5		1.3	77.9	0.3	0.03	1.0	1.4
C.V.%	7.5		1.9	8.0	4.3	1.8	0.8	3.1
Prob (var)	0.0001		0.0002	0.0001	0.0001	0.0001	0.0078	0.0001

<sup>a</sup> UI = Fiber length uniformity index.**Appendix Table A8. Lint Yield and Fiber Properties—Lonoke County Transgenic Variety Test.**

<b>Cooperator(s):</b>	Rick Bransford			<b>Date Planted:</b>	5/5/20			
<b>Soil Type:</b>	Caspiana Silt Loam			<b>Date of Harvest:</b>	10/21/20			
<b>Irrigation:</b>	Furrow			<b>Replications:</b>	1			
<b>Agent(s):</b>	Keith Perkins							
Variety	Lint yield	r	Loan rate	Income	Fiber properties			
	lb/acre		¢/lb	\$/acre	Micronaire	Length in.	UI <sup>a</sup> %	Strength g/tex
DG 3456 B3XF	1551	1	50.45	782	4.3	1.21	82.3	29.9
DG 3535 B3XF	1452	2	50.65	735	4.4	1.21	82.1	30.8
DP 2038 B3XF	1429	3	50.70	725	4.2	1.16	82.4	30.5
DP 2012 B3XF	1364	4	50.90	694	4.2	1.23	82.9	31.1
PHY 400 W3FE	1358	5	50.90	691	4.1	1.23	82.7	32.3
DP 2020 B3XF	1326	6	50.90	675	4.2	1.24	82.8	31.1
ST 4550 GLTP	1276	7	50.85	649	4.3	1.18	82.7	31.2
NG 4936 B3XF	1243	8	50.75	631	4.4	1.24	83.7	30.1
ST 4990 B3XF	1233	9	50.95	628	4.3	1.23	83.3	31.0
PHY 390 W3FE	1231	10	50.90	627	4.2	1.22	82.7	31.4
DP 1646 B2XF	1141	11	50.65	578	4.5	1.25	82.7	30.2
NG 4098 B3XF	1103	12	50.95	562	4.2	1.25	82.9	33.2
Mean	1309		50.80	665	4.3	1.22	82.8	31.1

<sup>a</sup> UI = Fiber length uniformity index.

**Appendix Table A9. Lint Yield and Fiber Properties—Mississippi County Transgenic Variety Test.**

<b>Cooperator(s):</b> David Wildy		<b>Date Planted:</b> 5/25/20	
<b>Soil Type:</b> Keo Silt Loam		<b>Date of Harvest:</b> 11/9/20	
<b>Irrigation:</b> Pivot		<b>Replications:</b> 4	
<b>Agent(s):</b> Ray Benson			

Variety	Lint		Loan rate	Income \$/acre	Fiber properties			
	yield lb/acre	r			Micronaire	Length in.	UI <sup>a</sup> %	Strength g/tex
DP 2038 B3XF	1899	1	50.18	923	4.4	1.16	83.2	30.4
DG 3456 B3XF	1794	2	50.39	905	4.2	1.16	83.3	28.1
ST 4550 GLTP	1779	3	50.71	897	4.2	1.19	83.6	30.2
DP 2012 B3XF	1743	4	50.34	848	4.2	1.21	83.6	31.3
DP 2020 B3XF	1672	5	50.83	850	4.3	1.20	83.6	30.7
NG 4936 B3XF	1660	6	50.19	838	4.2	1.23	84.0	30.3
DP 1646 B2XF	1649	7	50.73	834	4.3	1.24	83.7	29.7
NG 4098 B3XF	1636	8	49.33	797	4.1	1.27	84.2	33.9
PHY 400 W3FE	1627	9	49.75	792	4.1	1.18	82.8	32.0
PHY 390 W3FE	1573	10	50.99	800	4.2	1.20	83.8	32.4
DG 3535 B3XF	1567	11	50.89	789	4.2	1.21	83.8	31.1
ST 4990 B3XF	1489	12	50.08	718	4.3	1.23	84.4	29.5
Mean	1674		50.37	833	4.2	1.21	83.7	30.8
Var. LSD 0.05	148.3		1.1	72.6	0.4	0.04	1.5	1.6
C.V.%	6.2		1.5	6.1	6.4	2.2	1.3	3.7
Prob (var)	0.0002		0.0960	0.0001	0.8274	0.0001	0.8031	0.0001

<sup>a</sup> UI = Fiber length uniformity index.**Appendix Table A10. Lint Yield and Fiber Properties—Poinsett County Transgenic Variety Test.**

<b>Cooperator(s):</b> Marty White and Jesse Flye		<b>Date Planted:</b> 5/7/20	
<b>Soil Type:</b> Dundee Silt Loam		<b>Date of Harvest:</b> 10/16/20	
<b>Irrigation:</b> Furrow		<b>Replications:</b> 5	
<b>Agent(s):</b> Craig Allen			

Variety	Lint		Loan rate	Income \$/acre	Fiber properties			
	yield lb/acre	r			Micronaire	Length in.	UI <sup>a</sup> %	Strength g/tex
DP 2038 B3XF	2090	1	51.42	1074	4.1	1.17	82.6	31.0
DG 3456 B3XF	1990	2	51.91	1033	3.9	1.21	83.3	29.9
DP 1646 B2XF	1941	3	50.74	985	4.2	1.28	83.5	30.3
PHY 400 W3FE	1936	4	51.05	988	3.9	1.23	83.6	33.4
DG 3535 B3XF	1895	5	50.93	965	4.3	1.23	83.7	31.1
DP 2012 B3XF	1888	6	50.99	963	4.0	1.22	83.9	31.0
DP 2020 B3XF	1881	7	50.88	957	3.8	1.25	83.1	31.1
NG 4936 B3XF	1876	8	50.79	953	4.4	1.24	84.0	30.5
NG 4098 B3XF	1821	9	51.02	929	4.2	1.27	83.6	33.1
PHY 390 W3FE	1803	10	50.97	919	3.9	1.22	83.2	32.7
ST 4990 B3XF	1739	11	50.85	884	4.3	1.24	84.7	30.9
ST 4550 GLTP	1654	12	50.96	843	4.4	1.19	83.7	31.8
Mean	1876		51.04	958	4.1	1.23	83.6	31.4
Var. LSD 0.05	176.6		0.8	89.2	0.3	0.02	0.9	0.6
C.V.%	7.4		1.2	7.3	5.6	1.5	0.9	1.6
Prob (var)	0.0018		0.2522	0.0006	0.0002	0.0001	0.0129	0.0001

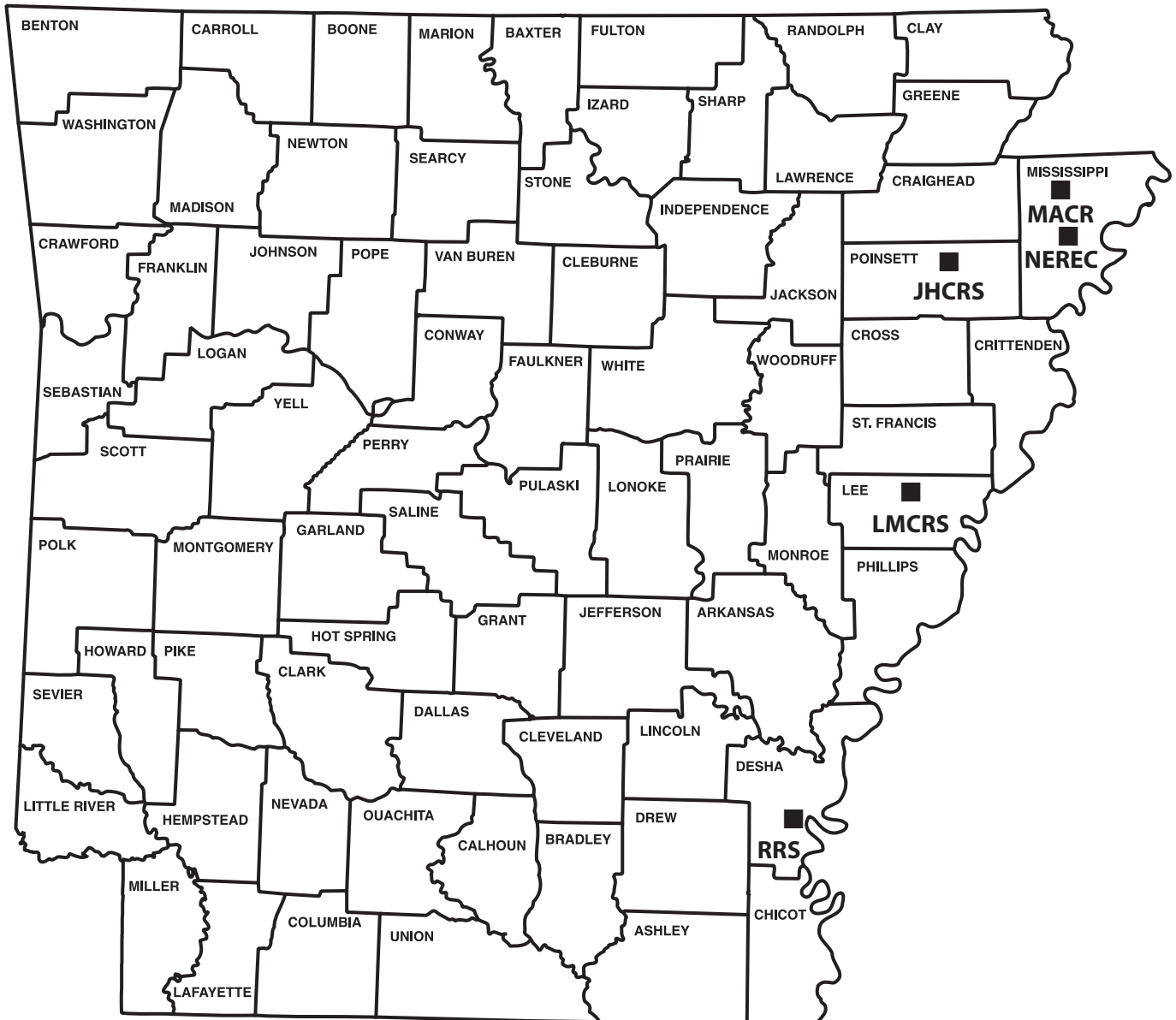
<sup>a</sup> UI = Fiber length uniformity index.

**Appendix Table A11. Lint Yield and Fiber Properties—St. Francis County Transgenic Variety Test.**

Cooperator(s):		Joe Whittenton			Date Planted:		5/21/20	
Soil Type:		Loring Silt Loam			Date of Harvest:		11/7/20	
Irrigation:		Furrow			Replications:		4	
Variety	Lint	r	Loan	Income	Fiber properties			
	yield		rate		Micronaire	Length	UI <sup>a</sup>	Strength
	lb/acre		¢/lb	\$/acre		in.	%	g/tex
DG 3456 B3XF	1664	1	50.80	846	4.6	1.17	83.6	29.4
ST 4550 GLTP	1656	2-3	50.31	834	4.9	1.18	84.6	30.9
CP 9608 B3XF	1656	2-3	50.03	829	4.6	1.19	83.4	29.6
DG 3535 B3XF	1633	4	48.89	803	5.1	1.20	84.0	31.1
DP 2038 B3XF	1615	5	48.91	788	5.2	1.16	83.9	29.9
DP 2020 B3XF	1578	6	50.91	802	4.9	1.20	83.1	30.1
DP 2012 B3XF	1574	7	50.18	788	4.7	1.18	83.8	30.4
ST 4990 B3XF	1542	8	49.61	765	4.9	1.21	84.5	29.2
NG 4936 B3XF	1524	9	49.64	757	4.8	1.22	83.8	29.6
PHY 400 W3FE	1510	10	50.36	760	4.6	1.20	83.1	32.5
PHY 390 W3FE	1481	11	50.90	754	4.4	1.17	83.0	32.4
NG 4098 B3XF	1440	12	50.49	727	4.4	1.26	84.5	34.7
DP 1646 B2XF	1269	13	50.73	644	4.8	1.24	84.2	30.1
Mean	1549		50.14	777	4.8	1.20	83.8	30.8
Var. LSD 0.05	267.1		1.9	143.8	0.3	0.03	1.2	1.4
C.V.%	12.0		2.6	12.9	4.8	1.6	1.0	3.1
Prob (var)	0.2111		0.3898	0.3769	0.0002	0.0001	0.1199	0.0001

<sup>a</sup>UI = Fiber length uniformity index.

# COTTON VARIETY TEST LOCATIONS



- JHCRS** - Judd Hill Cooperative Research Station, near Trumann
- LMCRS** - Lon Mann Cotton Research Station, Marianna
- MACR** - Manila Airport Cotton Research Station, Manila
- NEREC** - Northeast Research and Extension Center, Keiser
- RRS** - Rohwer Research Station, Rohwer

**UofA**

**DIVISION OF AGRICULTURE**  
**RESEARCH & EXTENSION**

*University of Arkansas System*