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# Arkansas Cotton Variety Test 2017

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# Arkansas Cotton Variety Test

# 2017



Verticillium wilt in a cotton variety test at the Judd Hill Cooperative Research Station in 2017

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L. Martin • A. Rouse • and B. Robertson**

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

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Technical editing and cover design by Gail Halleck.

Photo Credits: Photo taken on September 7 (prior to defoliation) shows heavy incidence of Verticillium wilt in a cotton variety test at the Judd Hill Cooperative Research Station, near Trumann, Ark. in 2017. Verticillium wilt is caused by a soilborne fungus, which infects the plant through its roots and can progressively “plug” the vascular system of the plant. The disease can result in chlorotic and abscised leaves, premature boll opening, reduced yield, and death of the plant. Fred Bourland, Arkansas Agricultural Experiment Station, University of Arkansas System, Division of Agriculture.

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## 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 2017 Arkansas Cotton Variety Test were evaluated in two groups—transgenic and conventional varieties. The 41 entries in the transgenic test included 18 entries (13 B2XF, 2 WRF, 2 GLT, and 1 GLB2) returning from the 2016 test and 23 first-year entries (6 B2XF, 3 B3XF, 1 GLT, and 13 W3FE) and were evaluated at all five locations. The conventional test included 16 entries and was 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 2017 report includes results of large-plot variety tests in 7 counties that were coordinated by Bill Robertson.

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# Arkansas Cotton Variety Test 2017

*F. Bourland, W. Barnett, C. Kennedy,  
L. Martin, A. Rouse, and B. Robertson<sup>1</sup>*

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## Introduction

The purpose of the University of Arkansas 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, which 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 41 entries in the transgenic test included 18 entries (13 B2XF, 2 WRF, 2 GLT, and 1 GLB2) returning from the 2016 test and 23 first-year entries (6 B2XF, 3 B3XF, 1 GLT, and 13 W3FE) (Table 1). The transgenic test was replicated 6 times at Manila, 5 times at Judd Hill, and 4 times at Keiser, Marianna, and Rohwer. The conventional test included 16 entries and was evaluated using 5 replications at each location.

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. 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®) at a rate of 6 oz/100 lb seed. Plots were planted with a constant number of seed (about 4 seed/row ft). All varieties were planted in two-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 5 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 5 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 of the 5 replications) in the Keiser experiments. Each bract was examined for marginal trichome density (no. of trichomes/cm) as described by Bourland and Hornbeck (2007). Means for the 6 bracts were evaluated as plot means.

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<sup>1</sup>F. Bourland is a professor, and W. Barnett and A. Rouse 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 an Extension Cotton Agronomist at the Newport Extension Center.



**Tarnished Plant Bug.** Entries in both 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 on April 14. The TPB tests were planted on May 15 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 both tests were planted in flats (2 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 2015 Manila 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 plants had cutout. 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. Plant height was not measured at Marianna in 2017.

**% Open Bolls.** After first application of defoliants, 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 of 40 open bolls 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 weighting) 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/A converted to g/A) times average seed percentage (the percentage of seed weight to seed cotton 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 in-

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 2017 production season.

The Rohwer location was planted on April 25, but rain delayed planting at all other locations (Table 2). Monthly heat unit accumulation was near normal at Keiser and Marianna from May through July, then cooler than normal in August and September, and warmer than normal in October (Table 3). Temperatures at Rohwer were cooler than normal from May through August, then warmer than normal in September and October. Except for October, rainfall was higher than normal through the season at each location. Rainfall in August was particularly high—more than twice the normal amount at each location. Harvest conditions were optimum at each location.

Performance data of entries in the 2017 Arkansas Transgenic Cotton Variety Test at Manila, Keiser, Judd Hill, Marianna and Rohwer are provided in Tables 4 through 15 with yield and yield-related variables in the even-numbered tables and fiber properties in the odd-numbered tables. Performance data across all 5 locations are presented in Tables 4 and 5. Morphological and host-plant resistance measurements for the transgenic entries are in Table 16. Two- and three-year yield

means for entries evaluated in previous years are in Table 17. Performance data of entries in the 2017 Arkansas Conventional Cotton Variety Test at Keiser, Judd Hill, Marianna and Rohwer are provided in Tables 18 through 27 with yield and yield-related variables in the even-numbered tables and fiber properties in the odd-numbered tables. Morphological and host-plant resistance measurements for the conventional entries are in Table 28. Two- and three-year yield means for the conventional entries evaluated in previous years are in Table 29.

Other observations associated with each test site include:

**Manila (Tables 6 and 7).** The test at Manila was planted in the same field used since 2014, and in the same area of the field used since 2015. In anticipation of high field variability, the test was replicated 6 times with 3 tiers used per replication. The R-squared values for lint yield were relatively low, but relative yield differences among the varieties at Manila were similar to other locations. Mepiquat chloride (total of 64 oz/A) was used to control plant height.

**Keiser (Tables 8, 9, 20 and 21).** To help combat resistant pigweed, cereal rye cover crop was planted to the field in the fall of 2016. The cover crop grew well and was terminated in mid-April. Unfortunately, excessive rains and wind cause much of the cover crop to bend over, and delayed drying of soil. We subsequently decided to mow the cover crop and plant the tests on May 11 in the residue. Resulting stands were not as uniform as desired, and plants did not grow at an acceptable rate. Pigweeds were hand-hoed throughout the season. Malfunctioning of load cells on the plot picker postponed harvest, and subsequent rains delayed harvest until October 31. Mepiquat chloride was not applied to the plots..

**Judd Hill (Tables 10, 11, 22 and 23).** The Judd Hill plots were planted on May 11 and achieved excellent stands. The plants grew well and established excellent boll loads. With relative cool temperatures and ample moisture in August, the boll-loaded plants became heavily infected with *Verticillium* wilt. Resulting wilt symptoms were as severe as we have ever seen at Judd Hill. Just as plots were ready for harvest in late September, the engine of the plot picker failed, and had to be subsequently replaced. Harvest was delayed until November 14. Mepiquat chloride (26 oz/A) was applied early in season to control plant height.

**Marianna (Tables 12, 13, 24 and 25).** For the second year, we used a cereal rye cover crop in our tests at Mari-

anna. The cover crop worked very well in 2016, but nitrogen applied to the cover crop caused excessive growth in 2017. Unfortunately, the excessive cover was not killed in a timely manner, and we had difficulty planting the plots. Without GPS formed rows, it was impossible to stay on top of beds while planting. The excessive cover made it difficult to get proper placement of seed, and subsequently tied up nitrogen throughout the season. Results stands were relatively poor, and plants did not develop properly. Mepiquat chloride (total of 2.5 oz/A) was used to control plant height.

**Rohwer (Tables 14, 15, 26 and 27).** The Rohwer location was planted on April 25, and excellent stands were achieved. The plants grew well, and produced good yields. The field was scheduled to be harvested in September, but the 4-row plot picker burned just before harvesting our field. The picker was completely destroyed and had to be replaced. Harvest was delayed until October 17. Mepiquat chloride (total of 40 oz/A) was used to control plant height.

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**Table 1. Participants and entries in the 2017 Arkansas Cotton Variety Test.**

<b>Institution/Contact person</b>	<b>Returning entries</b>	<b>Experimental no.</b>	<b>1st year entries</b>	<b>Experimental no.</b>
Americot Inc.	AMX 1711 B2XF AMX 1715 B2XF NG 3517 B2XF NG 4545 B2XF NG 4601 B2XF		NG3406 B2XF NG3522 B2XF	AMDG-7824
Bayer Crop Science/ Steve Lee	ST 4848GLT ST 4946GLB2 ST 4949GLT	BX 1633GLT BX 1630GLT	ST 5020GLT	
Crop Production Services/ Stacie Bruff	Dyna-Gro DG 3385 B2XF		DG 3109 B2XF DG 3214 B2XF CPS 17330 B2XF	
Monsanto / David Albers	DP 1518 B2XF DP 1522 B2XF DP 1612 B2XF DP 1614 B2XF DP 1639 B2XF DP 1646 B2XF DP 1725 B2XF	14R925B2XF 14R922B2XF MON 14R913B2XF MON 15R515B2XF MON 14R934B2XF MON 15R551B2XF MON 15R535B2XF	DP 1823 NR B2XF DP 1820 B3XF DP 1835 B3XF	MON 16R225NRB2XF MON 16R324B3XF MON 16R338B3XF
PhytoGen Seed Co./ Chris Main	PHY 312 WRF PHY 444 WRF	PX3122b-51WRF PX4444-13WRF	PHY 300 W3FE PHY 330 W3FE PHY 340 W3FE PHY 450 W3FE PHY 490 W3FE PX2A28W3FE PX3A82W3FE PX3A96W3FE PX3A99W3FE PX4A52W3FE PX4A54W3FE PX4A57W3FE PX4A62W3FE	
WinField Solutions, LLC / Robert Cossar			CROPLAN 9608 B3XF	WinField United 17XC8
<b>Conventional entries</b>				
Americot Inc.	AM UA48	Ark 0102-48		
Dyna-Gro Seed/ Charlie Cook			AT 558	
Seed Source Genetics/ Edward Jungmann	SSG UA222 SSG UA103 SSG UA107 SSG UA114 SSG HQ 210CT	Ark 0222-12 Ark 9803-23-04 Ark 0701-17 Ark 0614-49		
International Seed Technology / Rafaela Carvajal	BRS - 286 BRS - 293 BRS - 335			
University of Arkansas / Fred Bourland			Ark 0812-87ne Ark 0818-23 Ark 0818-81 Ark 0822-48 Ark 0822-75 Ark 0824-89	

**Table 2. Cultural practices for locations of the 2017 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 (lbs)	100-0-0	130-0-0	100-0-0	92-0-0	97-46-60
Planting date	5/19	5/11	5/11	5/9	4/25
Irrigation method	furrow	furrow	furrow	furrow	furrow
Irrigation dates	6/19, 7/18, 8/10	7/18	7/18, 8/07	6/15,6/30,7/12 7/21, 8/21	7/7, 7/15, 7/25, 8/1
Defoliation date	10/2, 10/13	09/17, 10/03	09/28,10/16	9/19,10/3	9/18, 9/28
Harvest date	10/24	10/31	11/14	10/13	10/17

**Table 3. Weather summary for the 2017 production season in north, central and south Arkansas.**

Location	Month	DD60s in 2017	Historical avg. <sup>a</sup>	Rainfall (in.)	Historical avg. <sup>a</sup>
			DD60s	in 2017	rainfall
Keiser (northeast)	May	329	314	5.6	5.2
	June	555	532	2.1	3.9
	July	674	644	5.7	3.7
	August	530	583	6.9	2.9
	September	372	363	3.6	3.7
	October	279	127	3.0	3.3
	Total	2737	2563	26.8	22.6
Marianna (central)	May	331	336	6.8	5.1
	June	513	538	6.8	3.9
	July	651	646	5.8	3.9
	August	558	601	7.1	2.8
	September	384	397	6.1	3.2
	October	295	154	2.7	3.5
	Total	2730	2672	35.2	22.4
Rohwer (southeast)	May	307	354	6.9	4.9
	June	488	551	4.7	3.6
	July	648	661	3.1	3.7
	August	571	618	8.1	2.6
	September	426	415	4.4	3.0
	October	223	167	1.5	3.4
	Total	2663	2766	28.7	21.3

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

Table 4. Yield and related properties–2017 Arkansas Cotton Variety Test across five test sites.

Variety	Lint		Lint		Open		Seed		Lint		Seed/		Fibers/		Fiber			
	yield	r	frac.	r	Ht.	r	bolts	r	index	r	index	r	acre	r	seed	r	density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
DP 1646 B2XF	1474	1	44.9	9	107	8	53	20	8.5	41	7.1	39	9.265	1	15465	39	169	25
PX4A57W3FE	1406	2	45.8	2	102	17	47	31	9.7	25	8.4	3	7.611	10	20195	2	203	1
PHY 444 WRF	1385	3	43.6	15	101	22	44	36	10.8	6	8.6	1	7.280	25	20362	1	190	5
PX4A54W3FE	1361	4	43.5	19	91	40	51	25	9.7	27	7.7	21	8.121	3	17934	16	181	13
PX3A99W3FE	1357	5	42.6	26	101	21	52	23	11.3	3	8.6	2	7.073	32	19509	3	178	16
PX4A52W3FE	1342	6	42.5	27	97	29	42	39	9.6	28	7.3	34	8.318	2	17872	18	181	12
PHY 300 W3FE	1338	7	43.9	14	96	35	46	32	9.5	29	7.6	23	7.888	6	18172	12	185	9
DP 1823 NR B2XF	1337	8	43.5	17	101	24	62	1	9.5	30	7.6	29	7.981	5	18718	8	191	3
PX4A62W3FE	1334	9	43.5	18	95	36	45	34	10.2	13	8.1	10	7.493	16	18464	9	179	14
ST 4949GLT	1319	10	45.0	7	98	27	53	17	9.7	20	8.2	6	7.207	28	18900	6	189	6
DP 1725 B2XF	1306	11	45.8	3	97	30	53	18	8.9	36	7.7	20	7.681	8	17949	15	191	4
DG 3385 B2XF	1305	12	43.4	20	97	32	59	3	10.2	14	8.0	11	7.346	24	17624	21	171	22
DP 1522 B2XF	1298	13	43.4	21	101	20	53	16	9.7	24	7.6	25	7.672	9	16066	30	161	32
PX3A96W3FE	1291	14	41.6	34	101	23	53	20	10.6	9	7.7	17	7.490	17	17571	22	166	28
DP 1639 B2XF	1290	15	45.6	4	108	7	45	34	9.1	34	7.8	14	7.498	15	16773	26	175	19
PHY 312 WRF	1279	16	42.1	30	129	1	55	11	10.8	7	8.1	9	7.182	29	18776	7	176	18
NG3522 B2XF	1277	17	42.6	25	94	37	55	12	10.0	17	7.6	22	7.486	18	18921	5	186	8
DP 1820 B3XF	1275	18	44.4	10	101	25	52	24	9.7	22	8.0	12	7.217	27	16586	28	166	29
PHY 340 W3FE	1272	19	43.6	16	101	18	53	20	9.7	26	7.8	16	7.423	22	17740	19	178	15
PX3A82W3FE	1270	20	43.3	22	93	38	56	9	9.7	23	7.6	24	7.459	19	18430	10	185	11
PHY 330 W3FE	1261	21	44.1	12	104	13	53	18	9.3	31	7.6	28	7.505	13	17921	17	185	10
ST 4946GLB2	1252	22	40.6	39	97	31	58	5	11.9	1	8.3	5	6.834	36	17985	14	158	34
DP 1835 B3XF	1247	23	44.9	8	100	26	41	41	8.7	38	7.3	33	7.606	11	17496	23	187	7
CROPL. 9608 B3XF	1239	24	45.2	6	104	12	46	32	8.7	39	7.4	32	7.591	12	18327	11	197	2
NG 4601 B2XF	1237	25	44.1	13	105	10	50	27	9.7	20	7.9	13	7.060	34	16676	27	167	27
NG3406 B2XF	1236	26	41.8	32	123	2	58	4	10.4	12	7.7	18	7.168	30	18149	13	174	20
NG 4545 B2XF	1228	27	41.7	33	109	5	56	7	10.5	11	7.7	19	7.277	26	16022	32	153	36
CPS 17330 B2XF	1227	28	46.6	1	104	11	50	27	8.8	37	7.8	15	7.065	33	15915	36	170	23
DP 1518 B2XF	1224	29	42.2	29	96	33	51	25	9.9	18	7.4	31	7.501	14	17028	25	169	24
ST 4848GLT	1220	30	44.3	11	102	15	56	9	10.0	16	8.2	7	6.750	38	17675	20	174	21
DP 1614 B2XF	1220	31	45.4	5	93	39	47	30	8.5	40	7.3	36	7.755	7	14433	41	158	35
DG 3214 B2XF	1219	32	42.8	24	102	16	57	6	9.8	19	7.5	30	7.428	21	15148	40	151	38
PHY 490 W3FE	1208	33	43.2	23	108	6	42	39	9.3	32	7.3	37	7.439	20	15991	33	166	30
ST 5020GLT	1189	34	40.9	38	98	28	56	7	11.7	2	8.3	4	6.461	40	17036	24	151	39
DG 3109 B2XF	1185	35	41.6	36	122	3	54	14	9.1	35	6.6	41	8.021	4	16055	31	168	26
NG 3517 B2XF	1179	36	39.4	41	102	14	54	13	10.8	8	7.2	38	7.402	23	15723	37	147	40
DP 1612 B2XF	1168	37	41.3	37	96	34	62	2	10.5	10	7.6	26	6.900	35	15968	34	152	37
PHY 450 W3FE	1117	38	42.2	28	106	9	44	37	10.2	15	7.6	27	6.651	39	16367	29	159	33
AMX 1711 B2XF	1112	39	42.0	31	111	4	43	38	9.2	33	6.9	40	7.148	31	15916	35	165	31
AMX 1715 B2XF	1091	40	39.6	40	101	19	54	14	10.9	5	7.3	35	6.812	37	15509	38	144	41
PX2A28W3FE	1020	41	41.6	35	89	41	49	29	11.1	4	8.1	8	5.659	41	19153	4	176	17
Mean	1258		43.2		102		51		9.9		7.7		7.379		17383		173	
Var. LSD <sub>0.10</sub>	93		0.7		17		6		0.4		0.4		0.542		856		9.0	
Loc. LSD <sub>0.10</sub>	34		0.2		6		2		ns		0.1		0.197		297		3.0	
C.V.%	14.7		2.2		32.4		21.9		5.3		6.2		14.7		6.7		7.4	
R <sup>2</sup> x 100	85.7		89.8		36.6		65.8		86.3		79.1		85.3		86.6		83.8	
Prob (var x loc)	<0.0001		0.036		0.196		<0.001		0.185		0.537		<0.001		0.043		0.166	

Table 5. Fiber properties—2017 Arkansas Transgenic Cotton Variety Test across five test sites.

Variety	Lint		Quality		Fiber properties									
	yield lb/A	r	score	r	Micronaire	r	Length in.	r	UI <sup>a</sup>		Strength		Elongation	
									%	r	g/tex	r	%	r
DP 1646 B2XF	1474	1	83	2	4.4	26	1.25	3	85.3	7	30.7	36	7.1	12
PX4A57W3FE	1406	2	45	41	4.4	19	1.13	41	83.8	38	33.2	10	6.8	14
PHY 444 WRF	1385	3	79	5	4.0	41	1.25	2	85.9	2	31.8	26	6.1	28
PX4A54W3FE	1361	4	58	26	4.3	27	1.17	31	85.3	6	33.1	12	6.6	18
PX3A99W3FE	1357	5	65	8	4.4	24	1.19	17	85.2	9	32.0	24	6.3	22
PX4A52W3FE	1342	6	57	28	4.2	36	1.16	33	84.9	16	32.2	22	7.8	3
PHY 300 W3FE	1338	7	55	29	4.3	29	1.17	30	84.4	28	31.9	25	6.1	29
DP 1823 NR B2XF	1337	8	64	11	4.1	40	1.19	14	84.4	27	33.6	9	7.3	9
PX4A62W3FE	1334	9	80	4	4.2	36	1.23	6	85.6	3	34.4	3	5.3	36
ST 4949GLT	1319	10	47	39	4.6	16	1.15	39	83.6	39	30.5	37	6.8	15
DP 1725 B2XF	1306	11	60	22	4.4	25	1.18	25	84.0	36	30.2	38	5.4	34
DG 3385 B2XF	1305	12	48	38	4.7	9	1.16	36	84.2	32	29.7	39	8.0	1
DP 1522 B2XF	1298	13	49	37	4.9	3	1.16	33	84.2	32	31.6	27	7.8	2
PX3A96W3FE	1291	14	63	15	4.4	20	1.18	23	84.7	19	31.6	28	6.4	20
DP 1639 B2XF	1290	15	51	36	4.8	6	1.16	37	84.5	24	33.0	16	7.0	13
PHY 312 WRF	1279	16	63	16	4.3	28	1.19	16	84.6	21	32.5	20	6.1	27
NG3522 B2XF	1277	17	46	40	4.3	32	1.14	40	83.5	40	29.3	40	6.3	24
DP 1820 B3XF	1275	18	86	1	4.5	18	1.26	1	85.6	3	33.1	12	4.6	39
PHY 340 W3FE	1272	19	63	13	4.4	22	1.19	15	84.7	18	32.1	23	5.7	32
PX3A82W3FE	1270	20	58	25	4.2	33	1.16	32	85.2	8	34.3	4	7.5	5
PHY 330 W3FE	1261	21	62	19	4.3	31	1.19	20	84.9	14	33.0	15	5.7	33
ST 4946GLB2	1252	22	55	30	4.7	11	1.18	22	84.6	22	33.7	7	6.5	19
DP 1835 B3XF	1247	23	61	20	4.2	34	1.19	17	84.2	34	31.3	31	5.0	37
CROPLAN 9608 B3XF	1239	24	55	31	4.2	39	1.18	28	83.2	41	29.3	41	5.4	35
NG 4601 B2XF	1237	25	62	17	4.7	10	1.19	19	84.9	13	33.1	11	6.2	25
NG3406 B2XF	1236	26	55	32	4.4	21	1.16	35	84.0	37	30.7	34	7.7	4
NG 4545 B2XF	1228	27	57	27	4.8	4	1.18	21	84.3	30	33.9	5	4.3	41
CPS 17330 B2XF	1227	28	63	14	4.8	4	1.19	12	85.5	5	33.9	6	6.6	17
DP 1518 B2XF	1224	29	63	12	4.4	23	1.20	9	84.6	22	30.8	33	6.0	30
ST 4848GLT	1220	30	58	24	4.7	12	1.18	27	84.2	31	31.5	30	6.0	31
DP 1614 B2XF	1220	31	58	23	5.0	1	1.19	11	85.1	11	30.7	35	7.4	7
DG 3214 B2XF	1219	32	51	35	5.0	2	1.18	26	85.0	12	31.5	29	7.2	10
PHY 490 W3FE	1208	33	53	34	4.6	13	1.17	29	84.6	20	34.7	2	7.2	11
ST 5020GLT	1189	34	81	3	4.6	14	1.23	5	86.4	1	33.1	14	6.4	21
DG 3109 B2XF	1185	35	62	17	4.2	38	1.18	23	84.4	26	33.0	18	6.7	16
NG 3517 B2XF	1179	36	65	9	4.6	15	1.19	10	84.5	25	33.7	8	6.3	23
DP 1612 B2XF	1168	37	61	21	4.7	8	1.19	12	84.8	17	32.7	19	7.4	8
PHY 450 W3FE	1117	38	54	33	4.7	7	1.15	38	85.1	10	35.8	1	7.5	6
AMX 1711 B2XF	1112	39	68	7	4.3	30	1.21	7	84.1	35	31.2	32	6.1	26
AMX 1715 B2XF	1091	40	77	6	4.5	17	1.24	4	84.9	14	33.0	17	4.8	38
PX2A28W3FE	1020	41	64	10	4.2	34	1.20	8	84.3	29	32.3	21	4.6	40
Mean	1258		61		4.5		1.19		84.7		32.3		6.4	
Var. LSD <sub>0.10</sub>	93		8		0.2		0.02		0.9		0.9		0.4	
Loc. LSD <sub>0.10</sub>	34		ns		0.1		0.01		0.3		0.3		0.1	
C.V. %	14.7		18.4		6.9		2.3		1.4		3.6		76.0	
R <sup>2</sup> x 100	85.7		73.3		81.7		78.2		63.4		86.1		92.1	
Prob (var x loc)	<0.0001		0.381		0.271		0.518		0.878		0.036		0.052	

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

**Table 6. Yield and related properties–2017 Ark. Cotton Variety Test, with irrigation on a Routon-Dundee-Crevasse. complex soil at Manila.**

Variety	Lint yield		Lint frac.		Ht.	Open bolls		Seed index		Lint index		Seed/acre	Fibers/seed		Fiber density			
	lb/A	r	%	r		cm	%	r	g	r	g		r	mil.	r	no.	r	no.
PX4A57W3FE	1966	1	45.3	10	97	5	59	23	9.6	26	8.1	12	11.050	3	23652	1	239	1
DP 1646 B2XF	1931	2	45.4	7	95	7	54	29	8.8	38	7.5	31	11.720	1	17090	35	183	20
ST 4949GLT	1927	3	46.2	3	90	18	63	17	9.8	21	8.6	3	10.120	14	20282	8	202	8
DP 1823 NR B2XF	1857	4	44.2	14	101	2	57	27	9.6	25	7.8	21	10.780	9	20299	7	205	3
PX3A99W3FE	1850	5	43.2	24	91	17	65	13	12.1	3	9.4	1	8.911	34	21130	3	183	21
DP 1725 B2XF	1848	6	46.3	2	86	33	59	23	8.9	35	7.8	22	10.760	11	19045	14	202	6
DP 1639 B2XF	1845	7	46.1	4	100	3	52	35	8.8	37	7.7	26	10.900	5	18548	20	198	9
PX4A62W3FE	1841	8	43.5	22	88	27	52	35	10.2	15	8.0	15	10.440	12	20833	4	202	5
PHY 444 WRF	1815	9	43.8	19	90	19	54	29	11.1	5	8.8	2	9.416	29	23603	2	217	2
DG 3385 B2XF	1792	10	43.5	21	84	38	73	3	10.7	12	8.3	8	9.746	26	18846	18	177	27
PX4A54W3FE	1784	11	43.7	20	80	41	63	19	9.6	29	7.5	30	10.760	10	18958	16	192	12
CPS 17330 B2XF	1772	12	47.4	1	88	27	62	20	8.5	40	7.9	18	10.220	13	17077	36	186	16
CROPL. 9608 B3XF	1765	13	45.4	9	94	12	54	29	8.7	39	7.4	32	10.790	8	18808	19	202	7
NG3522 B2XF	1764	14	43.1	25	84	37	61	21	10.6	13	8.2	10	9.781	25	20334	6	192	11
DP 1820 B3XF	1758	15	45.8	6	88	25	70	6	9.9	18	8.5	6	9.411	30	18152	26	179	24
PX4A52W3FE	1735	16	42.8	28	90	19	45	40	9.5	32	7.3	37	10.850	7	18102	27	184	17
PX3A96W3FE	1732	17	42.2	33	94	10	64	14	10.9	10	8.0	16	9.826	23	18979	15	177	26
DP 1522 B2XF	1720	18	43.5	23	90	22	63	17	10.0	16	7.8	20	9.973	17	17539	32	172	33
PX3A82W3FE	1706	19	44.1	16	86	35	67	8	9.6	27	7.7	23	10.030	15	19079	13	193	10
PHY 300 W3FE	1704	20	44.1	15	89	24	52	35	9.9	19	7.9	19	9.825	24	19342	12	191	13
NG 3517 B2XF	1702	21	39.3	40	99	4	71	5	10.8	11	7.1	39	10.850	6	16122	40	151	41
DP 1614 B2XF	1689	22	46.1	5	85	36	53	34	8.1	41	7.0	40	10.980	4	14823	41	167	35
DG 3109 B2XF	1674	23	42.6	30	86	34	60	22	8.9	35	6.7	41	11.260	2	16712	38	177	25
PHY 340 W3FE	1669	24	43.9	17	95	9	67	8	9.5	30	7.7	25	9.850	22	17833	28	181	23
PHY 312 WRF	1667	25	41.8	36	88	30	57	27	10.9	8	8.0	14	9.447	28	19767	9	184	18
ST 4946GLB2	1655	26	40.7	39	87	32	59	23	12.3	1	8.6	5	8.734	37	18952	17	162	38
ST 4848GLT	1652	27	44.8	12	89	23	72	4	9.9	20	8.1	11	9.232	33	18364	22	182	22
NG 4601 B2XF	1638	28	45.0	11	92	15	53	33	9.5	31	7.9	17	9.359	31	17290	34	176	30
PHY 330 W3FE	1638	29	44.5	13	95	8	64	14	9.1	33	7.5	29	9.851	21	19569	10	204	4
DP 1518 B2XF	1625	30	42.7	29	83	39	64	14	9.7	23	7.4	34	9.986	16	18291	24	183	19
NG 4545 B2XF	1620	31	41.1	37	101	1	66	12	10.4	14	7.4	33	9.922	19	16930	37	162	37
DG 3214 B2XF	1613	32	42.5	31	92	14	67	8	9.8	22	7.3	36	9.966	18	17549	31	175	31
DP 1612 B2XF	1597	33	42.2	32	91	16	76	1	11.1	6	8.2	9	8.815	36	18368	21	169	34
PHY 450 W3FE	1594	34	43.0	26	88	27	51	38	10.0	17	7.6	28	9.471	27	17613	29	174	32
DP 1835 B3XF	1589	35	45.4	8	88	26	45	40	9.1	34	7.7	24	9.347	32	18237	25	191	14
AMX 1715 B2XF	1575	36	39.3	41	94	11	68	7	11.1	7	7.2	38	9.912	20	17430	33	161	39
NG3406 B2XF	1557	37	42.2	35	87	31	74	2	11.3	4	8.4	7	8.406	39	19423	11	176	29
ST 5020GLT	1535	38	41.0	38	90	21	67	8	12.2	2	8.6	4	8.087	40	18355	23	158	40
PHY 490 W3FE	1495	39	43.9	18	94	12	54	29	9.6	28	7.7	27	8.839	35	16288	39	165	36
AMX 1711 B2XF	1382	40	42.9	27	95	6	47	39	9.7	24	7.4	35	8.499	38	17599	30	177	28
PX2A28W3FE	1337	41	42.2	34	80	40	59	23	10.9	9	8.0	13	7.550	41	20386	5	190	15
Mean	1698		43.6		90		60		10.0		7.9		9.846		18673		184	
LSD <sub>0.10</sub>	187		1.3		9		10		0.9		0.8		1.071		1991		17	
C.V. %	11.6		1.7		10.0		17.9		5.5		5.7		11.4		6.3		5.5	
R <sup>2</sup> x 100	38.8		92.5		39.3		39.6		86.9		74.0		46.1		81.8		84.9	



Table 7. Fiber properties—2017 Arkansas Transgenic Cotton Variety Test, with irrigation on a Routon-Dundee-Crevasse complex soil at Manila.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire		Length		UI <sup>a</sup>		Strength		Elongation	
						r	in.	r	%	r	g/tex	r	%	
PX4A57W3FE	1966	1	37	41	3.7	40	1.11	41	83.5	29	31.9	12	7.9	17
DP 1646 B2XF	1931	2	92	1	4.1	30	1.26	1	84.8	10	29.4	36	8.0	15
ST 4949GLT	1927	3	46	40	4.6	4	1.13	38	82.8	41	29.4	36	8.7	7
DP 1823 NR B2XF	1857	4	62	26	4.0	37	1.17	22	83.3	34	31.3	16	8.2	11
PX3A99W3FE	1850	5	70	13	4.5	13	1.18	18	84.9	4	31.0	20	7.5	22
DP 1725 B2XF	1848	6	63	25	4.2	24	1.17	22	83.6	28	30.0	33	6.5	33
DP 1639 B2XF	1845	7	48	39	4.5	13	1.12	40	83.2	36	30.2	27	8.2	11
PX4A62W3FE	1841	8	72	9	3.8	39	1.23	3	83.9	22	32.0	11	6.1	36
PHY 444 WRF	1815	9	70	10	3.6	41	1.21	6	84.8	7	30.2	27	7.6	20
DG 3385 B2XF	1792	10	65	21	4.5	10	1.17	22	84.2	16	28.7	39	8.8	5
PX4A54W3FE	1784	11	60	28	4.1	30	1.15	34	84.8	7	30.2	27	7.8	18
CPS 17330 B2XF	1772	12	74	7	4.6	7	1.19	9	84.8	7	32.9	4	8.0	14
CROPLAN 9608 B3XF	1765	13	70	10	4.0	38	1.19	9	83.7	24	29.6	35	6.4	35
NG3522 B2XF	1764	14	53	36	4.3	21	1.15	34	82.9	38	28.1	41	7.5	22
DP 1820 B3XF	1758	15	87	2	4.5	13	1.25	2	84.5	12	32.2	9	5.7	37
PX4A52W3FE	1735	16	55	33	4.2	24	1.15	34	83.5	31	30.7	23	9.2	2
PX3A96W3FE	1732	17	56	31	4.4	17	1.15	29	83.3	35	30.8	22	7.0	28
DP 1522 B2XF	1720	18	50	37	4.7	1	1.15	34	83.0	37	30.2	27	8.2	10
PX3A82W3FE	1706	19	61	27	4.2	28	1.15	29	84.9	4	32.2	8	8.7	6
PHY 300 W3FE	1704	20	59	29	4.2	24	1.15	29	84.3	15	30.1	31	7.4	25
NG 3517 B2XF	1702	21	76	6	4.4	19	1.20	8	84.9	6	33.0	3	8.3	9
DP 1614 B2XF	1689	22	77	5	4.6	4	1.21	7	85.0	3	28.4	40	7.9	16
DG 3109 B2XF	1674	23	69	16	4.1	32	1.19	16	84.3	14	31.8	13	7.6	20
PHY 340 W3FE	1669	24	67	19	4.4	19	1.17	20	84.4	13	31.1	17	6.9	30
PHY 312 WRF	1667	25	70	13	4.1	32	1.19	15	84.1	19	30.6	25	7.5	22
ST 4946GLB2	1655	26	54	35	4.7	3	1.15	27	83.4	32	32.5	5	7.8	18
ST 4848GLT	1652	27	64	24	4.5	10	1.17	22	84.0	21	30.7	24	7.2	27
NG 4601 B2XF	1638	28	73	8	4.6	7	1.19	9	84.6	11	32.4	7	6.6	32
PHY 330 W3FE	1638	29	56	31	4.1	32	1.15	27	82.9	40	31.7	14	6.4	34
DP 1518 B2XF	1625	30	70	13	4.1	32	1.19	9	83.5	29	30.5	26	6.9	29
NG 4545 B2XF	1620	31	69	16	4.4	17	1.19	16	84.1	19	33.9	1	5.3	40
DG 3214 B2XF	1613	32	65	21	4.3	21	1.17	22	84.2	18	30.0	34	8.1	13
DP 1612 B2XF	1597	33	66	20	4.6	7	1.17	20	84.2	16	31.1	18	8.6	8
PHY 450 W3FE	1594	34	49	38	4.6	4	1.13	38	83.9	22	32.5	5	8.9	3
DP 1835 B3XF	1589	35	69	16	4.3	21	1.19	9	83.4	32	31.0	19	5.7	38
AMX 1715 B2XF	1575	36	78	4	4.1	32	1.22	5	83.7	24	32.1	10	5.6	39
NG3406 B2XF	1557	37	57	30	4.5	10	1.15	29	83.7	26	29.2	38	9.6	1
ST 5020GLT	1535	38	85	3	4.5	13	1.23	3	86.1	1	31.5	15	7.3	26
PHY 490 W3FE	1495	39	64	23	4.7	1	1.18	18	85.5	2	33.3	2	8.8	4
AMX 1711 B2XF	1382	40	70	10	4.2	27	1.19	9	83.7	26	30.1	32	6.8	31
PX2A28W3FE	1337	41	55	33	4.2	28	1.15	29	82.9	38	30.9	21	5.2	41
Mean	1698		65		4.3		1.18		84.0		30.9		7.5	
LSD <sub>0.10</sub>	187		17		0.3		0.04		ns		1.6		0.9	
C.V. %	11.6		16.0		4.5		2.3		1.5		3.0		6.9	
R <sup>2</sup> x 100	38.8		70.7		80.8		76.8		42.4		81.2		90.1	

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

**Table 8. Yield and related properties–2017 Ark. 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/A	r	%	r		cm	%	r	g	r	g	r	mil.	r	no.	r	no.	
DP 1646 B2XF	1363	1	45.8	11	110	7	66	3	8.7	40	7.6	39	8.186	1	15737	34	169	16
PHY 300 W3FE	1290	2	45.2	16	94	35	60	14	9.6	30	8.2	19	7.130	2	17293	17	175	10
PHY 330 W3FE	1254	3	45.3	15	104	13	64	7	9.5	31	8.1	25	7.019	3	16048	30	163	24
PX4A54W3FE	1252	4	45.0	19	95	33	60	14	9.9	24	8.2	21	6.931	4	16378	27	162	26
ST 4946GLB2	1238	5	42.3	38	106	8	66	3	11.7	1	8.8	8	6.371	8	17067	19	151	36
PX4A52W3FE	1199	6	43.3	32	98	27	55	32	10.2	17	8.1	29	6.748	5	17588	13	170	13
PX4A62W3FE	1179	7	44.7	21	90	38	59	21	10.4	14	8.6	12	6.220	10	18353	7	176	9
DG 3385 B2XF	1167	8	45.4	14	100	19	63	11	10.6	10	9.0	3	5.870	17	18378	6	175	11
PX3A82W3FE	1147	9	44.2	23	81	41	70	2	10.5	11	8.5	13	6.102	13	17661	12	169	17
PX3A96W3FE	1133	10	42.7	34	99	24	55	32	10.4	12	8.0	32	6.444	7	17534	14	168	19
NG3522 B2XF	1133	11	43.7	28	100	21	60	14	10.3	15	8.2	17	6.242	9	18069	9	174	12
ST 5020GLT	1129	12	43.2	33	95	34	65	6	11.2	3	8.7	11	5.918	16	16421	26	150	37
ST 4949GLT	1127	13	47.4	1	98	27	56	28	9.7	28	9.0	4	5.676	24	18956	2	191	1
PX3A99W3FE	1115	14	44.2	24	106	8	58	23	11.0	6	8.8	7	5.723	21	18008	10	167	23
PHY 340 W3FE	1102	15	46.4	7	100	20	60	14	9.4	32	8.4	16	5.982	14	17789	11	182	5
DP 1518 B2XF	1093	16	42.3	37	97	29	51	39	10.2	17	7.7	37	6.454	6	16284	29	158	31
NG 4545 B2XF	1085	17	41.9	39	114	3	66	3	10.8	9	7.9	34	6.204	12	15331	38	144	41
PHY 312 WRF	1050	18	44.0	25	99	22	60	14	11.1	4	9.0	5	5.315	28	18485	5	170	14
PX4A57W3FE	1047	19	46.4	6	99	25	50	41	9.8	26	8.8	9	5.416	27	18929	3	188	2
CPS 17330 B2XF	1044	20	46.8	4	121	1	55	32	8.8	39	8.0	31	5.935	15	15798	33	169	18
NG3406 B2XF	1036	21	43.8	26	94	35	60	14	10.2	20	8.1	28	5.812	20	16724	23	163	25
DP 1835 B3XF	1022	22	46.7	5	101	18	55	32	8.9	37	7.9	33	5.839	18	16843	20	178	8
CROPL. 9608 B3XF	1019	23	47.4	2	99	22	56	28	8.8	38	8.1	24	5.701	22	17388	15	185	3
PHY 444 WRF	1017	24	45.1	17	102	16	54	36	10.9	7	9.2	1	5.009	36	19549	1	182	6
PHY 490 W3FE	1007	25	45.0	18	103	15	51	39	9.4	33	7.8	35	5.823	19	16306	28	167	21
ST 4848GLT	990	26	45.8	10	106	10	61	13	9.9	23	8.5	14	5.264	29	17154	18	170	15
PHY 450 W3FE	973	27	43.7	27	113	4	58	23	10.2	19	8.1	23	5.440	26	15985	31	155	33
DP 1823 NR B2XF	955	28	45.8	12	97	30	113	1	9.7	28	8.4	15	5.170	33	18266	8	184	4
DP 1612 B2XF	954	29	42.4	36	94	37	56	28	10.4	12	7.8	36	5.528	25	15421	37	148	39
NG 3517 B2XF	953	30	41.7	41	98	26	64	7	11.1	4	8.2	18	5.256	30	16838	21	155	34
DP 1820 B3XF	951	31	45.6	13	111	5	53	38	10.3	16	8.9	6	4.845	38	16437	24	159	29
NG 4601 B2XF	939	32	44.5	22	104	13	63	11	9.8	25	8.2	22	5.200	32	16761	22	167	22
DG 3109 B2XF	936	33	41.8	40	102	17	58	23	9.2	35	6.8	41	6.212	11	15423	36	160	28
DP 1522 B2XF	917	34	44.7	20	105	11	59	21	9.8	27	8.1	27	5.138	34	15923	32	159	30
AMX 1711 B2XF	912	35	43.6	29	120	2	60	14	9.3	34	7.3	40	5.678	23	14789	40	153	35
DG 3214 B2XF	900	36	43.5	30	97	31	64	7	10.0	22	8.0	30	5.113	35	15133	39	149	38
DP 1614 B2XF	876	37	46.9	3	86	40	58	23	8.4	41	7.6	38	5.221	31	14160	41	156	32
DP 1725 B2XF	869	38	46.3	8	95	32	64	7	9.1	36	8.1	26	4.870	37	17363	16	181	7
AMX 1715 B2XF	772	39	42.6	35	105	12	54	36	10.9	8	8.2	20	4.265	39	15677	35	146	40
DP 1639 B2XF	754	40	45.8	9	110	6	56	28	10.1	21	8.7	10	3.944	40	16425	25	161	27
PX2A28W3FE	748	41	43.3	31	88	39	58	23	11.7	2	9.1	2	3.725	41	18909	4	168	20
Mean	1040		44.5		101		60		10.0		8.3		5.730		16917		166	
LSD <sub>0.10</sub>	218		1.2		10		ns		0.5		0.5		1.188		1274		11	
C.V.%	17.9		1.5		8.6		27.1		2.9		3.3		17.7		4.5		4.0	
R <sup>2</sup> x 100	47.9		91.9		62.5		32.4		93.9		87.5		51.2		84.9		8.7	

**Table 9. Fiber properties—2017 Arkansas Transgenic Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.**

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
DP 1646 B2XF	1363	1	69	7	4.8	34	1.21	5	84.0	32	29.4	34	6.5	13
PHY 300 W3FE	1290	2	52	29	4.9	21	1.16	26	83.6	39	31.4	22	5.8	28
PHY 330 W3FE	1254	3	71	6	4.9	21	1.20	9	86.0	6	32.7	10	5.0	35
PX4A54W3FE	1252	4	63	14	5.0	19	1.17	21	86.5	3	33.5	4	6.4	14
ST 4946GLB2	1238	5	50	32	5.3	4	1.16	25	85.1	14	31.8	16	6.3	19
PX4A52W3FE	1199	6	57	23	4.7	36	1.15	35	85.4	11	30.2	27	7.3	2
PX4A62W3FE	1179	7	77	4	4.6	40	1.21	4	85.3	12	30.9	25	5.2	32
DG 3385 B2XF	1167	8	50	33	5.1	9	1.15	29	84.2	24	29.4	36	7.9	1
PX3A82W3FE	1147	9	57	23	4.9	21	1.16	26	85.1	16	33.1	7	7.1	6
PX3A96W3FE	1133	10	65	11	4.6	37	1.18	15	84.1	29	30.1	28	6.2	20
NG3522 B2XF	1133	11	52	31	4.8	34	1.15	35	83.9	34	28.7	40	6.3	16
ST 5020GLT	1129	12	87	2	4.9	27	1.24	2	87.7	1	31.8	17	6.3	16
ST 4949GLT	1127	13	48	35	5.0	14	1.15	35	83.9	33	29.0	39	6.2	20
PX3A99W3FE	1115	14	62	15	4.9	21	1.18	15	85.0	19	30.0	30	6.0	23
PHY 340 W3FE	1102	15	45	38	5.0	14	1.14	39	83.7	37	29.3	37	5.2	33
DP 1518 B2XF	1093	16	59	19	4.8	31	1.17	19	83.8	35	29.8	32	6.0	25
NG 4545 B2XF	1085	17	67	9	5.1	9	1.21	5	85.1	14	32.8	9	3.9	40
PHY 312 WRF	1050	18	55	26	5.0	14	1.17	22	84.2	26	31.4	20	6.2	20
PX4A57W3FE	1047	19	44	39	4.9	21	1.12	41	84.5	22	31.4	21	6.3	16
CPS 17330 B2XF	1044	20	62	15	5.0	12	1.18	15	85.7	9	33.2	6	6.4	14
NG3406 B2XF	1036	21	62	15	4.9	27	1.17	19	85.1	16	31.6	19	6.8	10
DP 1835 B3XF	1022	22	55	25	4.9	27	1.17	22	83.8	36	30.1	28	4.6	37
CROPLAN 9608 B3XF	1019	23	47	37	4.9	21	1.15	29	82.5	41	27.9	41	4.9	36
PHY 444 WRF	1017	24	86	3	4.5	41	1.23	3	86.3	4	29.3	38	5.1	34
PHY 490 W3FE	1007	25	40	41	5.1	8	1.13	40	83.6	40	32.1	13	6.5	12
ST 4848GLT	990	26	59	20	5.0	12	1.18	15	84.3	23	30.0	31	5.8	27
PHY 450 W3FE	973	27	52	29	5.2	5	1.15	29	85.4	10	33.7	3	7.3	2
DP 1823 NR B2XF	955	28	67	9	4.6	37	1.19	11	84.0	30	32.5	12	7.2	4
DP 1612 B2XF	954	29	69	7	5.0	14	1.19	10	85.9	8	33.4	5	6.9	8
NG 3517 B2XF	953	30	49	34	5.1	9	1.15	33	84.2	26	32.7	10	5.5	30
DP 1820 B3XF	951	31	88	1	5.0	14	1.27	1	86.6	2	34.0	1	3.8	41
NG 4601 B2XF	939	32	57	22	5.0	19	1.17	22	85.0	18	33.8	2	5.7	29
DG 3109 B2XF	936	33	58	21	4.6	39	1.16	26	84.0	30	32.1	13	6.0	24
DP 1522 B2XF	917	34	41	40	5.3	3	1.14	38	84.2	24	31.8	15	7.2	5
AMX 1711 B2XF	912	35	72	5	4.8	31	1.21	5	85.3	12	31.2	23	5.9	26
DG 3214 B2XF	900	36	64	12	5.2	5	1.19	11	86.2	5	30.6	26	7.0	7
DP 1614 B2XF	876	37	55	26	5.4	1	1.19	14	85.0	19	29.7	33	6.7	11
DP 1725 B2XF	869	38	54	28	4.8	33	1.15	29	84.2	26	29.4	34	5.2	31
AMX 1715 B2XF	772	39	64	13	5.2	5	1.21	5	84.7	21	31.7	18	4.4	38
DP 1639 B2XF	754	40	48	35	5.4	1	1.15	33	86.0	6	33.0	8	6.9	8
PX2A28W3FE	748	41	62	18	4.9	27	1.19	11	83.7	38	31.0	24	4.1	39
Mean	1040		59		4.9		1.17		84.8		31.2		6.0	
LSD <sub>0.10</sub>	218		17		0.2		0.05		1.8		1.9		0.7	
C.V. %	17.9		17.4		2.6		2.4		1.3		3.7		7.2	
R <sup>2</sup> x 100	47.9		72.8		84.5		71.1		66.4		79.4		91.2	

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

**Table 10. Yield and related properties– 2017 Ark. 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/A	r	%	r		cm	%	r	g	r	g	r	mil.	r	no.	r	no.	
PX3A99W3FE	1653	1	42.1	26	96	20	34	21	11.0	9	8.3	6	9.074	9	20840	8	192	19
DP 1823 NR B2XF	1603	2	43.2	15	96	18	40	6	9.2	34	7.3	34	10.010	1	21583	5	225	2
PHY 300 W3FE	1600	3	43.7	12	88	39	31	26	9.3	31	7.4	27	9.796	4	18934	23	196	16
PHY 444 WRF	1597	4	42.6	21	93	26	31	26	10.8	10	8.3	7	8.853	12	21862	3	206	11
DP 1835 B3XF	1586	5	43.6	14	100	12	23	40	9.2	35	7.3	33	9.867	3	20033	14	208	8
ST 4848GLT	1582	6	45.7	4	104	6	35	17	10.2	15	8.8	2	8.156	23	19799	17	193	17
DP 1820 B3XF	1561	7	43.6	13	99	14	35	17	9.3	32	7.4	28	9.595	5	17142	31	177	26
DP 1522 B2XF	1542	8	42.9	18	93	28	33	23	9.8	24	7.7	19	9.113	8	17632	27	175	28
PX3A96W3FE	1532	9	42.0	28	99	13	31	26	11.1	8	8.3	4	8.377	21	19640	20	181	24
DP 1639 B2XF	1529	10	44.4	8	103	7	28	33	9.6	29	7.9	12	8.816	15	17236	30	174	29
NG3406 B2XF	1524	11	42.3	22	89	37	38	14	9.7	25	7.3	30	9.423	6	20614	11	207	9
DP 1646 B2XF	1508	12	44.6	7	109	2	35	17	8.3	41	6.9	40	9.968	2	16207	35	180	25
PX4A54W3FE	1481	13	42.2	23	88	38	28	33	9.9	23	7.4	26	9.047	10	20334	13	203	12
PHY 312 WRF	1476	14	40.5	37	96	21	44	3	11.4	6	8.0	11	8.404	20	20710	10	189	22
PX4A57W3FE	1458	15	46.2	2	96	18	29	32	9.9	22	8.7	3	7.561	33	20772	9	207	10
ST 4949GLT	1458	16	44.0	10	92	30	39	11	9.7	27	7.9	13	8.510	18	21085	6	213	6
PHY 330 W3FE	1451	17	43.2	16	92	33	36	15	9.6	28	7.6	21	8.664	16	19792	18	201	13
NG 4601 B2XF	1425	18	44.7	6	101	9	33	24	10.0	18	8.3	5	7.820	28	16785	33	165	32
NG 4545 B2XF	1407	19	40.6	36	103	7	46	1	11.1	7	7.8	16	8.228	22	15587	39	143	41
PX2A28W3FE	1393	20	41.8	29	80	41	26	36	11.9	2	8.8	1	7.164	39	21668	4	190	20
PX4A62W3FE	1387	21	43.7	11	91	34	26	36	10.2	16	8.0	10	7.844	27	18071	26	176	27
AMX 1711 B2XF	1386	22	41.6	30	109	1	24	38	10.0	19	7.3	31	8.593	17	16950	32	168	31
DP 1614 B2XF	1366	23	44.3	9	97	17	28	33	8.5	39	7.0	38	8.847	13	14630	41	160	35
ST 4946GLB2	1364	24	39.1	39	93	26	39	11	11.9	3	7.8	17	8.016	25	22181	2	196	15
NG3522 B2XF	1364	25	41.5	33	92	31	41	5	9.6	30	7.0	37	8.831	14	20469	12	209	7
PHY 340 W3FE	1363	26	42.6	20	101	10	34	21	10.0	17	7.7	18	8.045	24	20024	15	198	14
PHY 490 W3FE	1359	27	43.1	17	107	3	24	38	8.9	36	6.9	39	8.925	11	16069	37	171	30
PX4A52W3FE	1332	28	42.2	24	94	24	23	40	8.5	38	6.5	41	9.393	7	19617	21	214	5
CROPL. 9608 B3XF	1322	29	45.5	5	100	11	30	29	8.8	37	7.5	25	7.982	26	21000	7	225	3
DG 3109 B2XF	1319	30	41.5	32	94	23	40	6	9.7	26	7.1	36	8.457	19	18143	25	182	23
DP 1725 B2XF	1310	31	46.9	1	90	35	40	6	8.5	40	7.6	22	7.817	29	19769	19	216	4
PX3A82W3FE	1299	32	42.7	19	92	31	33	24	9.9	21	7.6	20	7.729	31	22779	1	226	1
DG 3385 B2XF	1299	33	42.1	27	98	16	43	4	10.6	11	7.8	15	7.572	32	19831	16	190	21
CPS 17330 B2XF	1279	34	46.0	3	99	15	30	29	9.2	33	8.1	9	7.174	38	15709	38	163	34
DG 3214 B2XF	1277	35	42.1	25	104	5	35	17	10.5	13	7.8	14	7.389	35	15132	40	145	39
ST 5020GLT	1269	36	39.8	38	93	29	39	11	12.2	1	8.2	8	7.006	40	18307	24	158	37
DP 1518 B2XF	1244	37	41.6	31	95	22	36	15	10.0	20	7.3	32	7.764	30	19333	22	193	18
PHY 450 W3FE	1225	38	41.2	34	106	4	30	29	10.6	12	7.6	24	7.342	36	17238	29	164	33
NG 3517 B2XF	1220	39	39.0	40	94	25	40	6	11.5	5	7.6	23	7.297	37	17592	28	158	36
AMX 1715 B2XF	1175	40	37.8	41	90	36	40	6	11.6	4	7.3	35	7.389	34	16104	36	143	40
DP 1612 B2XF	1132	41	40.6	35	88	39	46	1	10.4	14	7.4	29	6.992	41	16410	34	157	38
Mean	1406		42.6		96		34		10.0		7.7		8.362		18884		187	
LSD <sub>0.10</sub>	265		1.6		10		8		1.2		ns		1.600		2835		37	
C.V.%	16.1		2.2		8.6		20.9		7.3		8.9		16.3		8.8		11.7	
R <sup>2</sup> x 100	64.0		90.1		47.2		56.3		80.2		62.3		64.9		80.3		74.3	

Table 11. Fiber properties—2017 Arkansas Transgenic Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r	Elongation	r
Table 11. Fiber prope	lb/A						in.		%		g/tex		%	
PX3A99W3FE	1653	1	66	12	3.9	25	1.20	11	86.0	3	32.3	24	6.2	24
DP 1823 NR B2XF	1603	2	46	35	3.5	39	1.17	28	84.1	31	33.3	13	6.8	11
PHY 300 W3FE	1600	3	55	19	4.0	21	1.17	30	84.6	22	32.5	21	6.3	20
PHY 444 WRF	1597	4	73	6	3.6	36	1.25	4	85.6	7	32.4	22	6.0	28
DP 1835 B3XF	1586	5	57	17	3.7	35	1.19	13	84.2	29	31.9	27	4.9	40
ST 4848GLT	1582	6	53	23	4.6	8	1.15	35	84.6	21	31.2	30	6.0	29
DP 1820 B3XF	1561	7	85	3	4.1	19	1.26	3	84.8	19	31.1	32	5.2	38
DP 1522 B2XF	1542	8	53	23	4.5	10	1.17	28	84.1	30	31.7	29	7.7	2
PX3A96W3FE	1532	9	60	16	4.3	15	1.19	14	84.9	15	31.8	28	6.4	17
DP 1639 B2XF	1529	10	61	15	4.6	9	1.19	18	85.0	13	33.3	12	6.4	19
NG3406 B2XF	1524	11	48	32	3.7	33	1.15	39	83.8	34	30.7	36	7.1	6
DP 1646 B2XF	1508	12	86	2	3.9	27	1.28	1	85.7	6	30.3	38	6.7	13
PX4A54W3FE	1481	13	49	31	3.8	32	1.17	27	84.5	24	32.5	19	6.5	16
PHY 312 WRF	1476	14	57	17	3.9	29	1.20	11	84.3	27	32.7	18	5.5	34
PX4A57W3FE	1458	15	37	41	4.6	6	1.12	41	82.3	41	32.3	23	6.6	14
ST 4949GLT	1458	16	43	37	3.9	29	1.15	35	83.6	35	30.8	35	6.2	23
PHY 330 W3FE	1451	17	50	30	4.0	24	1.19	18	85.5	8	34.2	6	5.8	30
NG 4601 B2XF	1425	18	68	10	4.8	4	1.21	9	85.9	4	33.3	11	6.7	12
NG 4545 B2XF	1407	19	54	22	5.0	2	1.19	14	84.8	20	34.0	8	4.0	41
PX2A28W3FE	1393	20	70	8	4.0	21	1.21	9	85.1	11	33.0	15	5.0	39
PX4A62W3FE	1387	21	83	4	4.2	17	1.23	5	86.7	2	35.6	2	5.7	32
AMX 1711 B2XF	1386	22	72	7	4.3	15	1.22	7	83.9	33	31.2	31	6.1	25
DP 1614 B2XF	1366	23	54	20	4.8	4	1.19	18	85.2	10	31.0	33	7.3	4
ST 4946GLB2	1364	24	48	32	3.6	38	1.19	18	83.2	39	34.1	7	6.3	21
NG3522 B2XF	1364	25	39	40	3.6	36	1.15	35	83.2	40	28.9	39	5.8	30
PHY 340 W3FE	1363	26	54	20	3.9	27	1.19	18	84.1	31	32.3	24	6.1	25
PHY 490 W3FE	1359	27	53	26	4.4	12	1.19	18	84.4	25	34.3	5	7.0	9
PX4A52W3FE	1332	28	44	36	3.4	41	1.16	32	84.3	27	32.9	16	6.8	10
CROPLAN 9608 B3XF	1322	29	50	28	3.7	33	1.16	32	83.5	36	28.9	40	5.4	36
DG 3109 B2XF	1319	30	62	13	3.9	25	1.19	18	84.9	15	33.8	10	6.3	22
DP 1725 B2XF	1310	31	51	27	4.0	21	1.15	35	83.3	38	28.8	41	5.5	34
PX3A82W3FE	1299	32	42	38	3.5	40	1.15	40	84.9	18	34.7	4	7.4	3
DG 3385 B2XF	1299	33	53	23	4.1	19	1.16	32	85.1	12	30.5	37	7.8	1
CPS 17330 B2XF	1279	34	69	9	4.9	3	1.22	7	87.1	1	33.9	9	6.6	14
DG 3214 B2XF	1277	35	41	39	5.2	1	1.19	18	85.0	13	32.2	26	7.3	4
ST 5020GLT	1269	36	77	5	4.3	13	1.23	5	85.8	5	32.9	16	6.1	27
DP 1518 B2XF	1244	37	50	28	3.9	29	1.19	14	84.5	23	30.9	34	5.7	33
PHY 450 W3FE	1225	38	61	14	4.5	10	1.17	30	84.9	15	36.3	1	7.1	7
NG 3517 B2XF	1220	39	66	11	4.3	13	1.19	14	84.3	26	35.4	3	6.4	17
AMX 1715 B2XF	1175	40	89	1	4.2	18	1.27	2	85.5	9	33.3	13	5.2	37
DP 1612 B2XF	1132	41	48	34	4.6	6	1.19	18	83.3	37	32.5	19	7.1	8
Mean	1406		58		4.1		1.19		84.6		32.4		6.2	
LSD <sub>0.10</sub>	265		24		ns		0.04		1.8		2.0		1.0	
C.V.%	16.1		24.1		12.6		2.1		1.2		3.6		9.4	
R <sup>2</sup> x 100	64.0		69.6		67.9		79.3		67.2		81.2		80.2	

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

**Table 12. Yield and related properties– 2017 Ark. 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/A	r	%	r		cm	%	r	g	r	g	r	mil.	r	no.	r	no.
DP 1725 B2XF	943	1	44.3	7			9.0	28	7.4	14	5.804	2	16925	10	178	7	
DG 3214 B2XF	884	2	42.7	17			8.9	32	6.7	35	6.005	1	12625	41	134	38	
DP 1820 B3XF	852	3	43.6	12			9.3	23	7.4	15	5.263	4	15514	25	160	25	
DG 3385 B2XF	815	4	43.3	13			10.1	10	7.8	4	4.726	9	15455	26	151	33	
DP 1522 B2XF	802	5	42.8	16			9.2	26	7.1	27	5.138	5	13924	37	144	34	
PX4A54W3FE	794	6	44.7	5			9.3	23	7.9	3	4.567	12	17260	7	178	6	
NG 4601 B2XF	774	7	43.0	15			9.3	22	7.2	23	4.890	7	15987	20	165	19	
NG 3517 B2XF	771	8	39.0	40			10.1	12	6.6	37	5.346	3	13598	40	133	39	
DP 1612 B2XF	761	9	40.6	34			10.7	4	7.5	10	4.581	11	14637	33	138	37	
DP 1646 B2XF	740	10	44.5	6			8.1	39	6.7	33	5.032	6	13771	39	154	29	
DP 1614 B2XF	732	11	45.7	3			9.0	30	7.7	9	4.332	15	14671	32	155	28	
PX4A57W3FE	716	12	45.1	4			9.2	27	7.7	8	4.200	17	17804	5	185	3	
ST 4848GLT	712	13	41.9	24			10.4	7	7.7	7	4.181	19	16977	9	163	23	
ST 4949GLT	702	14	42.5	19			9.5	19	7.3	20	4.390	13	16085	18	163	21	
CPS 17330 B2XF	695	15	46.2	1			7.8	40	6.8	31	4.614	10	14241	34	163	22	
NG3406 B2XF	694	16	40.1	36			10.6	5	7.3	16	4.291	16	16713	11	158	26	
ST 5020GLT	683	17	39.0	39			11.7	2	7.8	6	3.971	28	14941	30	132	40	
PHY 444 WRF	680	18	42.3	21			10.4	6	7.8	5	3.948	30	18328	3	176	10	
NG 4545 B2XF	679	19	41.7	25			10.1	9	7.4	13	4.152	22	15718	23	154	30	
DP 1518 B2XF	676	20	41.6	30			9.9	17	7.3	17	4.181	20	15386	29	152	31	
PX4A62W3FE	669	21	42.4	20			9.9	16	7.4	11	4.073	25	16278	16	161	24	
PX3A96W3FE	667	22	40.9	33			10.4	8	7.3	18	4.160	21	15786	21	151	32	
PHY 312 WRF	650	23	41.6	27			10.0	14	7.4	12	3.975	27	17905	4	176	9	
ST 4946GLB2	637	24	39.6	38			12.1	1	8.0	2	3.605	34	14839	31	129	41	
PX3A99W3FE	631	25	42.3	22			11.0	3	8.3	1	3.465	36	19197	1	178	8	
DG 3109 B2XF	626	26	41.4	32			8.3	37	6.0	40	4.738	8	14195	36	157	27	
NG3522 B2XF	620	27	42.5	18			9.5	20	7.1	25	3.957	29	17514	6	178	5	
DP 1835 B3XF	618	28	44.2	9			7.8	41	6.4	38	4.384	14	16217	17	186	2	
DP 1823 NR B2XF	618	29	42.1	23			9.3	23	6.9	28	4.040	26	16518	14	170	14	
PHY 300 W3FE	617	30	43.9	10			8.9	31	7.2	22	3.899	31	18438	2	195	1	
CROPL. 9608 B3XF	604	31	43.6	11			8.5	36	6.7	34	4.114	24	16531	13	181	4	
DP 1639 B2XF	593	32	45.9	2			8.3	38	7.2	24	3.757	33	15389	28	171	13	
AMX 1715 B2XF	571	33	38.6	41			9.7	18	6.3	39	4.127	23	13809	38	138	36	
PHY 340 W3FE	569	34	41.6	29			9.9	15	7.3	21	3.559	35	16561	12	164	20	
PX3A82W3FE	563	35	43.1	14			8.8	33	6.8	32	3.762	32	16075	19	172	11	
AMX 1711 B2XF	541	36	39.8	37			8.6	34	5.9	41	4.184	18	15774	22	172	12	
PHY 330 W3FE	523	37	44.3	8			8.6	34	6.9	29	3.435	37	15449	27	168	17	
PX4A52W3FE	509	38	41.7	26			9.4	21	6.9	30	3.362	38	16467	15	168	16	
PHY 490 W3FE	477	39	41.6	28			9.0	29	6.6	36	3.278	39	15636	24	165	18	
PHY 450 W3FE	448	40	41.4	31			10.0	13	7.3	19	2.791	40	14223	35	140	35	
PX2A28W3FE	404	41	40.2	35			10.1	11	7.1	26	2.597	41	17183	8	168	15	
Mean	669		42.4				9.5		7.2		4.232		15867		162		
LSD <sub>0.10</sub>	171		2.0				0.9		0.7		1.087		1642		17		
C.V.%	20.7		2.8				5.8		6.1		20.7		6.2		6.1		
R <sup>2</sup> x 100	50.7		84.6				85.8		75.7		50.0		82.4		85.2		

**Table 13. Fiber properties—2017 Arkansas Transgenic Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.**

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire		Length		UI <sup>a</sup>		Strength		Elongation	
						r	in.	r	%	r	g/tex	r	%	
lb/A														
DP 1725 B2XF	943	1	72	10	4.2	28	1.24	8	84.7	30	31.8	34	5.3	35
DG 3214 B2XF	884	2	46	38	5.2	1	1.19	26	85.7	15	33.2	23	7.0	13
DP 1820 B3XF	852	3	88	1	4.3	23	1.27	2	87.2	2	34.1	16	4.9	36
DG 3385 B2XF	815	4	39	41	5.1	2	1.18	36	84.2	37	30.8	40	8.1	2
DP 1522 B2XF	802	5	50	34	5.0	4	1.20	21	85.0	29	31.8	33	8.8	1
PX4A54W3FE	794	6	49	37	4.7	12	1.15	39	85.5	18	35.2	7	6.5	17
NG 4601 B2XF	774	7	54	27	4.5	15	1.19	29	84.3	36	32.6	28	5.9	26
NG 3517 B2XF	771	8	66	14	4.7	12	1.21	13	85.3	24	34.5	12	6.3	21
DP 1612 B2XF	761	9	62	21	4.9	6	1.21	13	86.5	6	32.6	27	7.1	11
DP 1646 B2XF	740	10	77	6	4.6	14	1.24	8	86.0	12	31.0	39	7.7	6
DP 1614 B2XF	732	11	50	35	5.1	2	1.21	16	85.4	20	31.6	36	7.8	4
PX4A57W3FE	716	12	43	40	4.5	15	1.15	39	84.3	34	34.6	10	6.6	15
ST 4848GLT	712	13	69	11	4.4	21	1.23	12	84.7	30	33.0	24	5.4	33
ST 4949GLT	702	14	54	27	4.5	15	1.19	29	84.7	30	31.8	34	6.4	19
CPS 17330 B2XF	695	15	54	25	4.8	8	1.19	33	85.3	22	34.6	11	6.6	16
NG3406 B2XF	694	16	52	31	4.5	18	1.18	36	83.8	39	31.8	32	7.5	7
ST 5020GLT	683	17	81	3	4.8	8	1.27	2	87.1	3	34.8	9	6.4	19
PHY 444 WRF	680	18	73	9	3.9	40	1.30	1	86.3	9	33.7	20	6.2	23
NG 4545 B2XF	679	19	51	32	4.8	8	1.19	33	83.9	38	36.0	4	4.4	41
DP 1518 B2XF	676	20	78	5	4.5	18	1.24	8	86.4	7	32.3	29	6.2	24
PX4A62W3FE	669	21	86	2	4.2	27	1.26	4	86.9	5	36.9	2	4.7	38
PX3A96W3FE	667	22	67	12	4.5	20	1.21	16	86.3	9	32.2	30	7.1	11
PHY 312 WRF	650	23	67	12	4.0	36	1.21	15	85.8	14	33.9	18	5.8	29
ST 4946GLB2	637	24	75	7	5.0	5	1.26	5	87.3	1	35.8	5	6.3	22
PX3A99W3FE	631	25	63	17	4.2	25	1.19	26	85.7	15	34.1	16	5.8	28
DG 3109 B2XF	626	26	62	19	4.2	28	1.20	21	85.1	28	32.9	25	7.3	9
NG3522 B2XF	620	27	46	39	4.2	25	1.15	39	84.3	34	31.4	37	6.1	25
DP 1835 B3XF	618	28	57	24	3.9	37	1.19	29	85.3	24	31.0	38	5.7	30
DP 1823 NR B2XF	618	29	64	15	4.1	32	1.20	21	85.6	17	34.1	15	7.9	3
PHY 300 W3FE	617	30	51	32	3.9	39	1.20	21	85.3	22	32.9	25	5.6	32
CROPLAN 9608 B3XF	604	31	54	25	4.1	34	1.21	16	83.6	40	29.4	41	4.9	36
DP 1639 B2XF	593	32	50	35	4.7	11	1.17	38	84.7	30	33.8	19	7.0	14
AMX 1715 B2XF	571	33	74	8	4.3	23	1.25	7	85.4	19	34.1	14	4.6	39
PHY 340 W3FE	569	34	81	3	4.1	34	1.26	5	86.2	11	34.3	13	5.4	33
PX3A82W3FE	563	35	63	17	4.2	28	1.19	33	86.4	8	35.7	6	7.5	8
AMX 1711 B2XF	541	36	54	27	3.8	41	1.21	16	82.6	41	31.9	31	5.7	30
PHY 330 W3FE	523	37	62	19	4.4	21	1.19	26	85.3	24	35.0	8	5.9	26
PX4A52W3FE	509	38	62	21	4.1	32	1.19	29	85.9	13	33.5	21	7.8	4
PHY 490 W3FE	477	39	53	30	4.2	28	1.21	16	85.2	27	36.4	3	6.5	17
PHY 450 W3FE	448	40	61	23	4.9	6	1.20	21	87.1	3	38.3	1	7.3	9
PX2A28W3FE	404	41	64	15	3.9	37	1.23	11	85.4	20	33.5	22	4.5	40
Mean	669		61		4.4		1.21		85.4		33.5		6.3	
LSD <sub>0.10</sub>	171		19		0.5		0.05		ns		1.9		0.7	
C.V.%	20.7		18.6		6.9		2.5		1.5		3.4		7.0	
R <sup>2</sup> x 100	50.7		70.0		77.9		71.2		57.7		84.2		92.6	

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

Table 14. Yield and related properties—2017 Ark. Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.

Variety	Lint yield		Lint frac.		Ht.	Open bolls		Seed index		Lint index		Seed/acre		Fibers/seed		Fiber density		
	lb/A	r	%	r		cm	%	r	g	r	g	r	mil.	r	no.	r	no.	
PX4A57W3FE	1561	1	46.1	2	118	22	44	24	10.1	15	8.7	2	8.107	3	19816	1	194	1
PX4A52W3FE	1531	2	42.6	22	111	35	44	24	10.4	11	7.9	12	8.741	2	17589	10	169	13
PHY 444 WRF	1422	3	44.3	9	124	11	34	38	10.9	7	8.9	1	7.274	25	18469	4	172	9
DP 1646 B2XF	1413	4	44.4	7	121	14	54	5	8.6	41	7.0	38	9.132	1	14520	39	158	30
PHY 312 WRF	1358	5	42.3	26	253	1	59	3	10.7	8	8.1	7	7.634	11	17012	13	160	29
PX4A62W3FE	1341	6	43.1	17	117	25	41	31	10.5	9	8.2	5	7.408	21	18786	2	179	4
DP 1522 B2XF	1300	7	42.9	20	121	14	48	16	9.7	27	7.5	24	7.847	5	15310	35	154	35
PHY 300 W3FE	1299	8	42.7	21	116	29	39	35	9.7	25	7.5	22	7.820	7	16853	16	169	14
PX3A99W3FE	1291	9	41.1	33	117	24	45	21	11.1	3	8.1	9	7.273	26	18372	5	169	15
PHY 340 W3FE	1284	10	43.4	12	113	32	43	27	9.6	30	7.8	14	7.500	16	16495	24	167	17
PX4A54W3FE	1280	11	41.7	30	109	39	46	18	9.8	23	7.3	31	7.976	4	16742	19	167	16
DP 1639 B2XF	1275	12	45.5	3	123	12	43	27	9.0	35	7.8	15	7.434	20	16267	25	171	11
NG3522 B2XF	1261	13	42.5	25	106	41	54	5	10.1	13	7.7	17	7.471	18	18217	6	178	6
PHY 330 W3FE	1251	14	43.3	15	128	5	41	31	9.8	22	7.7	16	7.384	23	18748	3	188	3
DP 1835 B3XF	1250	15	44.8	5	119	19	38	37	8.7	38	7.3	29	7.722	10	16150	26	174	8
PX3A82W3FE	1239	16	42.3	27	119	20	48	16	9.9	20	7.5	21	7.459	19	16556	22	164	19
DG 3214 B2XF	1227	17	43.1	18	120	18	58	4	9.7	26	7.5	23	7.400	22	15302	36	154	36
CROPL. 9608 B3XF	1221	18	44.3	8	127	8	40	33	8.7	37	7.1	34	7.766	9	17906	8	192	2
DP 1823 NR B2XF	1212	19	42.2	28	110	37	43	27	9.6	28	7.3	30	7.518	15	16924	14	171	12
DG 3385 B2XF	1211	20	42.9	19	112	33	53	10	9.2	33	7.2	32	7.617	13	15612	33	162	25
NG 4601 B2XF	1207	21	43.4	14	128	7	49	13	10.1	15	8.0	10	6.883	29	16558	21	162	23
DP 1614 B2XF	1204	22	44.1	10	109	38	49	13	8.6	40	7.0	37	7.778	8	13881	41	150	38
DP 1725 B2XF	1200	23	45.2	4	122	13	45	21	8.9	36	7.6	18	7.143	27	16644	20	177	7
PHY 490 W3FE	1191	24	42.5	24	136	4	33	39	9.4	31	7.2	33	7.548	14	15656	32	160	28
DP 1612 B2XF	1184	25	40.8	36	114	31	61	2	9.9	19	7.1	36	7.630	12	15004	37	149	39
PX3A96W3FE	1167	26	40.2	39	115	30	54	5	10.2	12	7.1	35	7.472	17	15918	28	155	34
ST 4946GLB2	1164	27	41.1	34	107	40	68	1	11.4	1	8.1	6	6.496	36	16886	15	153	37
ST 5020GLT	1155	28	41.4	32	117	26	50	11	11.1	2	8.1	8	6.506	35	17155	12	157	31
NG 4545 B2XF	1151	29	43.4	13	124	10	43	27	10.1	14	8.0	11	6.554	33	16543	23	162	24
DP 1518 B2XF	1143	30	42.6	23	116	28	44	24	9.6	29	7.4	28	7.050	28	15845	29	160	27
DG 3109 B2XF	1125	31	40.6	37	226	3	54	5	9.2	34	6.5	41	7.820	6	15801	30	164	20
AMX 1715 B2XF	1122	32	39.8	40	120	17	45	21	11.1	4	7.5	25	6.818	30	14523	38	133	41
PHY 450 W3FE	1107	33	41.6	31	125	9	33	39	10.1	15	7.4	27	6.804	31	16773	17	164	21
ST 4949GLT	1079	34	44.6	6	118	21	49	13	10.0	18	8.3	4	5.880	38	18089	7	178	5
NG3406 B2XF	1074	35	40.8	35	238	2	54	5	10.4	10	7.4	26	6.571	32	17272	11	166	18
CPS 17330 B2XF	1071	36	46.5	1	117	23	46	18	9.4	32	8.4	3	5.800	40	16748	18	172	10
AMX 1711 B2XF	1060	37	42.2	29	128	5	39	35	8.7	38	6.5	40	7.370	24	14470	40	156	33
PX2A28W3FE	1059	38	40.4	38	111	35	50	11	10.9	6	7.6	19	6.311	37	17622	9	164	22
DP 1820 B3XF	1014	39	43.5	11	112	34	40	33	9.8	21	7.8	13	5.874	39	15684	31	156	32
NG 3517 B2XF	989	40	37.6	41	120	16	33	39	11.0	5	6.9	39	6.541	34	15398	34	143	40
ST 4848GLT	949	41	43.2	16	117	27	46	18	9.8	24	7.6	20	5.674	41	16082	27	161	26
Mean	1211		42.7		127		46		9.9		7.6		7.244		16590		165	
LSD <sub>0.10</sub>	179		2.0		ns		10		0.7		0.8		1.074		1713		17	
C.V. %	12.6		2.7		54.7		18.6		4.4		6.0		12.6		6.1		6	
R <sup>2</sup> x 100	50.1		82.7		23.6		52.6		86.0		72.4		47.2		77.1		75.4	



Table 15. Fiber properties–2017 Arkansas Transgenic Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.

Variety	Lint		Quality		Fiber properties									
	yield lb/A	r	score	r	Micronaire	r	Length in.	r	UI <sup>a</sup> %	r	Strength g/tex	r	Elongation %	r
PX4A57W3FE	1561	1	63	20	4.5	27	1.17	25	84.5	24	36.0	6	6.6	10
PX4A52W3FE	1531	2	66	17	4.5	24	1.17	25	85.5	3	33.7	18	7.9	1
PHY 444 WRF	1422	3	93	1	4.4	33	1.28	1	86.7	1	33.5	21	5.4	28
DP 1646 B2XF	1413	4	92	2	4.5	27	1.27	2	86.0	2	33.2	22	6.5	13
PHY 312 WRF	1358	5	65	19	4.7	13	1.19	14	85.0	11	33.8	16	5.6	25
PX4A62W3FE	1341	6	80	6	4.2	38	1.22	6	85.5	3	36.8	3	4.9	35
DP 1522 B2XF	1300	7	50	32	5.0	3	1.16	30	84.8	19	32.4	30	7.4	4
PHY 300 W3FE	1299	8	60	26	4.6	21	1.17	28	84.1	29	32.6	28	5.4	32
PX3A99W3FE	1291	9	67	15	4.4	33	1.19	14	84.6	23	32.9	26	6.3	17
PHY 340 W3FE	1284	10	70	11	4.6	19	1.21	10	85.1	9	33.6	20	5.3	33
PX4A54W3FE	1280	11	69	14	4.3	35	1.19	17	85.4	6	34.3	12	5.8	22
DP 1639 B2XF	1275	12	48	35	5.0	8	1.16	32	83.9	32	34.7	8	6.4	15
NG3522 B2XF	1261	13	42	39	4.5	24	1.13	40	83.3	39	29.4	40	5.8	21
PHY 330 W3FE	1251	14	70	11	4.1	41	1.19	13	85.0	10	31.7	34	5.4	28
DP 1835 B3XF	1250	15	69	13	4.5	24	1.20	12	84.3	27	32.3	31	4.3	38
PX3A82W3FE	1239	16	67	16	4.6	21	1.18	19	85.0	14	36.1	5	7.0	7
DG 3214 B2XF	1227	17	42	40	5.1	1	1.15	37	84.0	30	31.7	32	6.5	13
CROPLAN 9608 B3XF	1221	18	54	31	4.2	39	1.17	29	82.5	41	30.6	37	5.6	25
DP 1823 NR B2XF	1212	19	82	4	4.2	39	1.23	5	85.0	11	36.7	4	6.6	10
DG 3385 B2XF	1211	20	35	41	5.0	6	1.12	41	83.4	38	29.2	41	7.7	2
NG 4601 B2XF	1207	21	61	23	4.8	12	1.18	19	85.0	11	33.7	19	6.2	19
DP 1614 B2XF	1204	22	56	28	5.1	2	1.19	17	84.8	17	32.7	27	7.6	3
DP 1725 B2XF	1200	23	63	20	4.6	19	1.18	19	84.5	24	31.3	36	4.8	36
PHY 490 W3FE	1191	24	56	28	4.7	13	1.15	34	84.7	21	37.3	2	7.0	7
DP 1612 B2XF	1184	25	63	20	4.7	13	1.19	14	84.1	28	34.1	14	7.4	4
PX3A96W3FE	1167	26	66	18	4.5	27	1.18	19	84.9	15	33.0	25	5.6	24
ST 4946GLB2	1164	27	49	33	5.0	6	1.16	30	84.0	30	34.5	9	5.9	20
ST 5020GLT	1155	28	76	7	4.6	21	1.21	7	85.5	5	34.3	11	5.8	22
NG 4545 B2XF	1151	29	44	37	5.0	3	1.16	32	83.5	37	33.0	24	3.8	40
DP 1518 B2XF	1143	30	61	23	4.7	17	1.18	19	84.8	17	30.4	39	5.4	28
DG 3109 B2XF	1125	31	61	23	4.2	37	1.17	25	83.9	32	34.2	13	6.3	16
AMX 1715 B2XF	1122	32	81	5	4.9	10	1.25	3	85.3	7	33.8	17	4.2	39
PHY 450 W3FE	1107	33	48	34	4.7	17	1.13	39	84.4	26	38.2	1	6.8	9
ST 4949GLT	1079	34	44	38	4.9	10	1.15	38	83.1	40	31.4	35	6.6	12
NG3406 B2XF	1074	35	54	30	4.5	27	1.15	34	83.6	35	30.5	38	7.4	6
CPS 17330 B2XF	1071	36	56	27	5.0	3	1.18	19	84.8	19	35.2	7	5.4	28
AMX 1711 B2XF	1060	37	73	8	4.4	31	1.21	7	84.9	15	31.7	32	6.3	17
PX2A28W3FE	1059	38	72	9	4.3	36	1.21	10	84.6	22	33.1	23	4.4	37
DP 1820 B3XF	1014	39	83	3	4.7	13	1.25	3	85.2	8	34.4	10	3.7	41
NG 3517 B2XF	989	40	71	10	4.4	31	1.21	7	83.8	34	33.9	15	5.3	33
ST 4848GLT	949	41	47	36	4.9	9	1.15	34	83.6	36	32.5	29	5.6	25
Mean	1211		62		4.6		1.18		84.5		33.4		5.9	
LSD <sub>0.10</sub>	179		17		0.4		0.04		ns		23.0		7.0	
C.V.%	12.6		15.8		5.2		2.1		1.3		4.1		7.3	
R <sup>2</sup> x 100	50.1		80.2		73.5		80.5		57.5		82.5		92.5	

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

**Table 16. Morphological and host-plant resistance traits in the 2017 Arkansas Cotton Variety Test.**

Variety	Leaf		Stem		Bract		Tarnished plant		Vert.		Bact.
	pub. <sup>a</sup>	r	pub. <sup>a</sup>	r	trichomes <sup>b</sup>	r	bug damage <sup>c</sup>	r	wilt <sup>d</sup>	r	blight <sup>e</sup>
	rating		rating		no./cm		% dam. flowers		%		% sus.
AMX 1711 B2XF	1.8	11	7.0	34	23.8	2	34.0	27	2	1	3
AMX 1715 B2XF	3.1	26	4.3	3	33.5	27	34.0	28	60	38	0
CPS 17330 B2XF	1.1	2	6.8	26	25.6	5	37.5	37	25	5	44
DG 3214 B2XF	3.4	31	6.8	26	38.8	38	37.3	35	32	13	29
CROPL. 9608 B3XF	3.1	26	6.8	26	32.8	25	23.7	8	37	19	88
DG 3109 B2XF	4.9	39	7.0	34	40.2	40	36.5	34	39	20	32
DG 3385 B2XF	1.3	4	6.8	26	31.1	21	30.2	20	48	35	94
DP 1518 B2XF	5.3	41	5.8	6	38.8	37	28.5	14	45	32	0
DP 1522 B2XF	3.1	26	6.0	7	36.1	32	30.6	21	46	34	95
DP 1612 B2XF	3.3	30	6.8	26	38.7	36	21.2	2	60	38	21
DP 1614 B2XF	4.9	39	7.0	34	41.0	41	29.2	16	24	4	98
DP 1639 B2XF	2.7	22	5.2	5	28.0	9	32.8	25	42	28	0
DP 1646 B2XF	2.2	16	6.8	26	27.7	8	29.9	17	51	36	14
DP 1725 B2XF	1.7	7	7.0	34	24.6	3	27.4	11	44	31	98
DP 1820 B3XF	2.5	20	7.0	34	29.2	16	51.4	41	29	10	0
DP 1823 NR B2XF	4.7	37	7.0	34	38.6	35	35.4	32	35	17	64
DP 1835 B3XF	2.9	25	6.5	15	30.6	20	28.8	15	33	15	66
NG 3517 B2XF	2.7	22	3.3	2	32.3	23	37.5	36	61	41	68
NG 4545 B2XF	2.1	14	2.7	1	29.2	14	39.2	39	41	25	13
NG 4601 B2XF	1.6	6	6.8	26	28.4	10	28.5	13	29	10	94
NG3406 B2XF	1.9	12	6.5	15	33.1	26	22.6	5	42	28	93
NG3522 B2XF	1.0	1	6.7	21	21.3	1	33.7	26	30	12	100
PHY 300 W3FE	1.9	12	6.8	26	28.5	11	30.2	19	40	22	0
PHY 312 WRF	4.1	33	7.0	34	39.2	39	21.9	3	40	22	43
PHY 330 W3FE	3.5	32	6.7	21	34.8	30	31.3	23	45	32	0
PHY 340 W3FE	2.8	24	6.3	9	35.9	31	29.9	18	41	25	4
PHY 444 WRF	1.1	2	6.1	8	28.9	13	34.5	29	34	16	40
PHY 450 W3FE	2.3	17	6.7	21	29.2	15	22.2	4	42	28	0
PHY 490 W3FE	2.4	18	6.6	17	30.4	19	36.2	33	26	8	0
PX2A28W3FE	1.7	7	6.4	14	31.2	22	34.7	30	20	2	3
PX3A82W3FE	1.7	7	6.3	9	26.8	6	25.3	10	51	36	8
PX3A96W3FE	2.6	21	6.3	9	30.4	18	17.0	1	22	3	0
PX3A99W3FE	2.4	18	6.7	21	30.0	17	31.9	24	25	5	0
PX4A52W3FE	2.1	14	6.6	17	28.7	12	24.0	9	40	22	0
PX4A54W3FE	1.7	7	6.3	9	27.5	7	30.9	22	32	13	0
PX4A57W3FE	3.2	29	7.0	34	33.6	28	23.3	7	27	9	0
PX4A62W3FE	1.3	4	6.3	9	25.5	4	27.4	12	36	18	0
ST 4848GLT	4.6	36	6.7	21	38.0	34	45.1	40	25	5	90
ST 4946GLB2	4.3	34	5.1	4	33.7	29	22.9	6	39	20	61
ST 4949GLT	4.7	37	6.6	17	37.9	33	38.5	38	41	25	83
ST 5020GLT	4.3	34	6.6	17	32.8	24	35.3	31	60	38	0
Ark 0628fg RF (sus.)							96.2	44			
Ark 0628fg RF (sus.)							94.5	42			
Ark 0628fg RF (sus.)							95.2	43			
Mean	2.8		6.3		31.9		35		38		35
LSD <sub>0.10</sub>	0.8		1.4		3.6		7.8		24		19
C.V. %	28.5		18.9		9.5		26.7		61.8		38.6
R <sup>2</sup> x 100	76.0		46.1		79.8		80.2		44		92.6

<sup>a</sup> Leaf and stem pubescence (pub.) 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 (dam.). Plots were 1-row, replicated 8 times.

<sup>d</sup> Vert. wilt = Verticillium wilt. Percentage of plants showing Verticillium wilt symptoms in each plot was visually estimated on 28 Aug. 2017 at Judd Hill.

<sup>e</sup> Bact. blight = bacterial blight. Varieties/breeding lines were planted in flats (2 replications, 13 seed/plot) in greenhouse, and scratch inoculated with *Xanthomonas citris* pv. *malvacearum*. The inoculum was obtained from naturally infected leaves collected at the 2017 Keiser location. Scatches were examined for water-soaking, and percentage of susceptible (sus.) plants was determined.

Table 17. Two-year and three-year average lint yields (lb/A) for transgenic varieties at the five locations of the 2015-2017 Arkansas Cotton Variety Test.

Variety	Traits	Manila		Keiser		Judd Hill		Marianna		Rohwer		All locations	
		Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r
		lb/A		lb/A		lb/A		lb/A		lb/A		lb/A	
<b>Two-year (2016-2017) means</b>													
DP 1646 B2XF	B2XF	1649	1	1414	1	1201	4	1012	5	1267	3	1308	1
PHY 444 WRF	WRF	1640	2	1220	5	1225	1	994	6	1268	2	1269	2
PHY 312 WRF	WRF	1542	8	1268	3	1202	3	985	8	1280	1	1255	3
DP 1522 B2XF	B2XF	1482	10	1184	7	1203	2	1035	2	1229	4	1226	4
ST 4946GLB2	GLB2	1469	12	1353	2	1104	8	916	14	1162	6	1201	5
DG 3385 B2XF	B2XF	1564	5	1170	10	1095	9	992	7	vf	8	1205	6
NG3522 B2XF	B2XF	1524	9	1200	6	1119	7	931	13	1162	5	1187	7
DP 1725 B2XF	B2XF	1587	3	1093	14	1009	13	1111	1	1130	9	1186	8
DP 1639 B2XF	B2XF	1552	7	1101	13	1120	6	939	10	1158	7	1174	9
DP 1518 B2XF	B2XF	1586	4	1175	9	957	15	1025	3	1120	11	1172	10
ST 4949GLT	GLT	1558	6	1235	4	1068	12	935	11	1019	14	1163	11
DP 1612 B2XF	B2XF	1462	13	1121	12	1001	14	1021	4	1091	12	1139	12
DP 1614 B2XF	B2XF	1471	11	1027	15	1069	11	954	9	1128	10	1130	13
NG3406 B2XF	B2XF	1328	15	1134	11	1166	5	932	12	1022	13	1116	14
ST 4848GLT	GLT	1427	14	1176	8	1080	10	899	15	915	15	1099	15
Mean		1523		1191		1108		979		1139		1189	
<b>Three-year (2015-2017) means</b>													
DP 1646 B2XF	B2XF	1634	1	1212	1	1255	2	1231	5	1367	4	1340	1
PHY 312 WRF	WRF	1542	4	1172	3	1258	1	1252	4	1398	1	1325	2
PHY 444 WRF	WRF	1607	2	1093	4	1208	4	1221	6	1374	3	1300	3
DP 1522 B2XF	B2XF	1467	7	1062	9	1251	3	1291	2	1374	2	1289	4
DP 1518 B2XF	B2XF	1581	3	1082	6	1099	11	1294	1	1266	6	1264	5
DG 3385 B2XF	B2XF	1493	5	1086	5	1191	6	1220	7	1264	7	1251	6
ST 4946GLB2	GLB2	1447	9	1187	2	1147	8	1144	11	1278	5	1241	7
NG3522 B2XF	B2XF	1471	6	1080	7	1192	5	1181	8	1264	8	1238	8
DP 1612 B2XF	B2XF	1419	11	1065	8	1091	12	1254	3	1230	11	1212	9
DP 1614 B2XF	B2XF	1457	8	943	12	1133	9	1167	9	1242	9	1188	10
DP 1639 B2XF	B2XF	1430	10	989	11	1133	10	1138	12	1238	10	1186	11
NG3406 B2XF	B2XF	1328	12	1047	10	1151	7	1145	10	1198	12	1174	12
Mean		1490		1085		1176		1212		1291		1251	

**Table 18. Yield and related properties–2017 Arkansas Cotton Variety Test across four test sites.**

Variety	Lint		Lint		Ht.	Open		Seed		Lint		Seed/		Fibers/		Fiber		
	yield	r	frac.	r		r	bolts	r	index	r	index	r	acre	r	seed	r	density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
Ark 0822-48	1065	1	40.5	6	94	16	53	8	11.9	2	8.3	1	5.846	4	15642	9	137	14
Ark 0812-87ne	1024	2	41.9	1	97	12	54	7	10.5	13	7.8	7	5.960	3	17465	2	166	1
Ark 0824-89	994	3	40.8	3	101	8	55	6	11.4	5	8.1	2	5.558	8	15326	12	138	13
Ark 0822-75	985	4	40.1	8	105	6	50	10	11.3	6	7.7	8	5.771	5	15425	11	140	10
SSG UA222	952	5	40.4	7	97	11	45	13	11.0	10	7.7	9	5.596	6	16264	5	151	5
Ark 0818-81	929	6	40.8	4	96	14	61	3	11.0	9	7.8	5	5.442	10	15924	7	147	7
UA 107	917	7	40.8	5	97	13	66	1	11.3	7	8.0	3	5.212	15	17906	1	164	2
SSG UA103	907	8	39.4	9	105	5	61	4	11.8	3	7.8	6	5.219	14	16903	3	150	6
UA 114	906	9	38.5	15	102	7	61	2	10.8	11	7.0	13	5.966	2	14260	15	134	15
Ark 0818-23	898	10	39.0	11	98	10	59	5	11.5	4	7.6	10	5.414	12	15471	10	139	12
AM UA48	897	11	36.6	16	98	9	51	9	12.7	1	7.5	11	5.430	11	13151	16	110	16
BRS - 293	891	12	40.8	2	121	2	30	16	11.2	8	7.9	4	5.279	13	16034	6	147	8
BRS - 286	856	13	39.0	10	135	1	46	12	10.6	12	7.0	12	5.576	7	16672	4	158	3
SSG HQ 210CT	852	14	38.8	13	95	15	43	14	9.5	16	6.2	16	6.239	1	14282	14	146	9
BRS - 335	811	15	39.0	12	106	4	42	15	10.1	15	6.7	14	5.498	9	15882	8	155	4
AT 558	707	16	38.6	14	108	3	50	10	10.2	14	6.6	15	4.747	16	14351	13	139	11
Mean	915		39.7		103		52		11.0		7.5		5.571		15674		145	
Var. LSD <sub>0.10</sub>	91		0.8		15		5		0.5		0.4		0.552		884		9	
Loc. LSD <sub>0.10</sub>	46		0.4		7		2		0.2		0.2		0.280		428		5	
C.V.%	17.4		2.4		23.9		16.0		5.3		6.2		17.3		6.5		7.5	
R <sup>2</sup> x 100	76.3		90.9		47.1		75.0		85.5		89.8		75.0		82.3		81.5	
Prob (var x loc)	0.092		0.733		0.063		<0.0001		0.156		0.669		0.256		0.953		0.954	

**Table 19. Fiber properties–2017 Arkansas Conventional Cotton Variety Test across four test sites.**

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire		Length		UI <sup>a</sup>		Strength		Elongation	
					r	r	r	r	r	r	r	r		
lb/A						in.		%		g/tex		%		
Ark 0822-48	1065	1	68	4	5.0	3	1.25	3	85.5	8	32.3	13	7.2	2
Ark 0812-87ne	1024	2	61	9	4.3	13	1.21	9	84.8	12	31.1	16	6.9	3
Ark 0824-89	994	3	65	6	5.0	3	1.23	4	86.1	4	35.5	4	6.3	7
Ark 0822-75	985	4	80	2	4.6	9	1.28	2	85.9	5	33.0	9	6.8	4
SSG UA222	952	5	63	8	4.6	10	1.23	5	84.2	14	32.0	15	8.0	1
Ark 0818-81	929	6	53	13	4.8	5	1.19	13	85.6	6	35.5	3	5.9	8
UA 107	917	7	58	11	4.3	13	1.21	10	85.5	7	32.5	12	5.5	12
SSG UA103	907	8	65	7	4.4	11	1.23	8	85.4	10	32.9	10	6.4	6
UA 114	906	9	59	10	4.7	6	1.20	11	86.3	3	33.1	8	6.7	5
Ark 0818-23	898	10	69	3	4.6	7	1.23	6	86.3	2	34.8	5	5.6	10
AM UA48	897	11	81	1	5.0	1	1.30	1	87.9	1	37.6	1	4.3	16
BRS - 293	891	12	43	15	5.0	2	1.17	14	84.2	13	33.3	7	5.3	13
BRS - 286	856	13	44	14	4.3	15	1.16	15	83.7	15	33.6	6	5.1	14
SSG HQ 210CT	852	14	31	16	4.6	8	1.15	16	83.0	16	32.3	13	5.6	11
BRS - 335	811	15	55	12	4.1	16	1.20	12	84.9	11	32.8	11	5.7	9
AT 558	707	16	68	5	4.4	12	1.23	6	85.5	9	37.0	2	5.0	15
Mean	915		61		4.6		1.22		85.3		33.7		6.0	
Var. LSD <sub>0.10</sub>	91		8		0.3		0.02		1.1		1.2		0.4	
Loc. LSD <sub>0.10</sub>	46		ns		0.1		0.01		0.5		0.6		0.2	
C.V.%	17.4		16.0		6.5		1.9		1.5		4.0		8.1	
R <sup>2</sup> x 100	76.3		81.8		85.7		87.6		72.3		85.0		90.3	
Prob (var x loc)	0.092		0.713		0.796		0.641		0.922		0.099		0.113	

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

**Table 20. Yield and related properties—2017 Arkansas Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.**

Variety	Lint yield		Lint frac.		Ht. cm	Open bolls		Seed index		Lint index		Seed/acre		Fibers/seed		Fiber density		
	lb/A	r	%	r		%	r	g	r	g	r	mil.	r	no.	r	no.		
Ark 0822-48	1065	1	40.5	6	94	16	53	8	11.9	2	8.3	1	5.846	4	15642	9	137	14
Ark 0812-87ne	1024	2	41.9	1	97	12	54	7	10.5	13	7.8	7	5.960	3	17465	2	166	1
Ark 0824-89	994	3	40.8	3	101	8	55	6	11.4	5	8.1	2	5.558	8	15326	12	138	13
Ark 0822-75	985	4	40.1	8	105	6	50	10	11.3	6	7.7	8	5.771	5	15425	11	140	10
SSG UA222	952	5	40.4	7	97	11	45	13	11.0	10	7.7	9	5.596	6	16264	5	151	5
Ark 0818-81	929	6	40.8	4	96	14	61	3	11.0	9	7.8	5	5.442	10	15924	7	147	7
UA 107	917	7	40.8	5	97	13	66	1	11.3	7	8.0	3	5.212	15	17906	1	164	2
SSG UA103	907	8	39.4	9	105	5	61	4	11.8	3	7.8	6	5.219	14	16903	3	150	6
UA 114	906	9	38.5	15	102	7	61	2	10.8	11	7.0	13	5.966	2	14260	15	134	15
Ark 0818-23	898	10	39.0	11	98	10	59	5	11.5	4	7.6	10	5.414	12	15471	10	139	12
AM UA48	897	11	36.6	16	98	9	51	9	12.7	1	7.5	11	5.430	11	13151	16	110	16
BRS - 293	891	12	40.8	2	121	2	30	16	11.2	8	7.9	4	5.279	13	16034	6	147	8
BRS - 286	856	13	39.0	10	135	1	46	12	10.6	12	7.0	12	5.576	7	16672	4	158	3
SSG HQ 210CT	852	14	38.8	13	95	15	43	14	9.5	16	6.2	16	6.239	1	14282	14	146	9
BRS - 335	811	15	39.0	12	106	4	42	15	10.1	15	6.7	14	5.498	9	15882	8	155	4
AT 558	707	16	38.6	14	108	3	50	10	10.2	14	6.6	15	4.747	16	14351	13	139	11
Mean	915		39.7		103		52		11.0		7.5		5.571		15674		145	
Var. LSD <sub>0.10</sub>	91		0.8		15		5		0.5		0.4		0.552		884		9	
Loc. LSD <sub>0.10</sub>	46		0.4		7		2		0.2		0.2		0.280		428		5	
C.V.%	17.4		2.4		23.9		16.0		5.3		6.2		17.3		6.5		7.5	
R <sup>2</sup> x 100	76.3		90.9		47.1		75.0		85.5		89.8		75.0		82.3		81.5	
Prob (var x loc)	0.092		0.733		0.063		<0.0001		0.156		0.669		0.256		0.953		0.954	

**Table 21. Fiber properties—2017 Arkansas Conventional Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.**

Variety	Lint yield		Quality		Fiber properties									
	lb/A	r	score	r	Micronaire		Length		UI <sup>a</sup>		Strength		Elongation	
					r	r	in.	r	%	r	g/tex	r	%	
SSG UA222	892	1	54	10	5.2	8	1.23	6	82.8	15	31.1	13	7.8	1
Ark 0824-89	865	2	63	6	5.5	2	1.24	4	85.6	8	34.5	4	6.0	7
Ark 0812-87ne	863	3	50	12	4.9	13	1.17	11	83.7	14	30.1	16	6.4	4
Ark 0822-48	841	4	59	7	5.6	1	1.23	6	86.2	4	31.4	11	6.5	3
Ark 0818-81	823	5	45	14	5.4	4	1.17	13	85.9	7	33.6	6	6.0	6
AM UA48	801	6	80	1	5.4	4	1.29	1	88.5	1	35.3	2	4.3	16
UA 107	782	7	55	8	5.2	8	1.19	10	86.1	6	31.3	12	5.5	12
Ark 0822-75	776	8	78	2	5.2	10	1.27	2	86.3	3	31.6	10	6.7	2
BRS - 286	775	9	46	13	4.9	13	1.15	15	84.2	13	34.6	3	5.3	14
Ark 0818-23	753	10	73	3	5.2	10	1.25	3	87.0	2	34.3	5	5.8	10
SSG HQ 210CT	728	11	28	16	5.4	7	1.13	16	82.3	16	31.0	14	5.7	11
SSG UA103	679	12	64	5	4.9	13	1.21	8	85.5	9	30.7	15	5.9	8
UA 114	679	13	55	8	5.4	4	1.21	9	86.2	5	33.5	7	6.1	5
AT 558	668	14	65	4	5.1	12	1.23	5	84.3	11	35.9	1	4.9	15
BRS - 335	616	15	53	11	4.8	16	1.17	11	84.7	10	32.1	8	5.9	8
BRS - 293	464	16	38	15	5.5	2	1.17	13	84.2	12	32.1	8	5.5	12
Mean	761		56		5.2		1.21		85.2		32.7		5.9	
LSD <sub>0.10</sub>	169		18		0.2		0.05		2.6		2.1		0.7	
C.V.%	18.6		17.9		2.7		2.2		1.7		3.7		6.7	
R <sup>2</sup> x 100	44.8		79.3		88.0		83.8		70.5		82.2		89.3	

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

**Table 22. Yield and related properties—2017 Arkansas Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.**

Variety	yield	r	frac.	r	Ht.	r	bolts	r	index	r	index	r	acre	r	seed	r	density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
Ark 0822-48	1486	1	41.8	3	89	7	48	9	11.8	2	8.6	1	7.858	2	16733	11	148	14
Ark 0822-75	1329	2	40.5	6	93	4	50	8	11.0	6	7.7	4	7.850	3	16562	12	153	10
Ark 0824-89	1268	3	41.9	2	84	12	60	5	10.9	7	8.0	2	7.173	6	16771	8	156	8
SSG HQ 210CT	1228	4	40.3	8	77	16	40	13	9.3	16	6.4	16	8.703	1	15294	14	159	7
Ark 0812-87ne	1188	5	43.2	1	85	11	48	9	9.9	15	7.7	6	7.063	8	17849	3	177	2
BRS - 335	1179	6	39.0	13	94	3	40	13	10.5	11	6.9	14	7.791	4	16737	10	160	6
AM UA48	1162	7	37.0	16	81	14	58	6	12.6	1	7.5	9	6.994	9	14184	16	120	16
UA 114	1159	8	38.9	14	91	6	64	3	10.6	10	6.9	13	7.639	5	14528	15	137	15
SSG UA222	1148	9	41.5	4	89	8	38	15	10.7	8	7.8	3	6.713	12	17878	2	169	3
Ark 0818-23	1140	10	39.2	12	83	13	58	6	11.6	3	7.6	7	6.782	11	17004	7	152	11
BRS - 286	1126	11	39.8	9	171	1	44	11	10.6	9	7.2	12	7.131	7	17326	4	164	5
Ark 0818-81	1099	12	40.4	7	77	15	71	1	10.4	12	7.3	10	6.879	10	17160	5	165	4
BRS - 293	1062	13	39.8	10	101	2	13	16	11.2	5	7.6	8	6.353	14	17079	6	156	9
SSG UA103	1033	14	39.8	11	86	10	61	4	11.4	4	7.7	5	6.127	15	16760	9	152	12
UA 107	1017	15	41.4	5	87	9	69	2	10.0	14	7.3	11	6.364	13	18393	1	182	1
AT 558	829	16	38.7	15	92	5	43	12	10.4	13	6.8	15	5.560	16	15347	13	148	13
Mean	1151		40.2		92		50		10.8		7.4		7.051		16600		156	
LSD <sub>0.10</sub>	225		1.8		ns		8		1.2		0.9		1.378		1588		20	
C.V.%	18.4		2.5		43.1		14.7		6.2		7.2		18.3		5.5		7.2	
R <sup>2</sup> x 100	53.3		81.5		30.0		85.3		74.1		66.1		50.4		77.4		77.5	

**Table 23. Fiber properties—2017 Arkansas Conventional Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.**

Variety	Lint	Quality		Fiber properties										
	yield	r	score	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
Ark 0822-48	1486	1	71	5	4.8	2	1.25	3	85.6	7	31.7	12	8.2	2
Ark 0822-75	1329	2	82	1	4.3	10	1.28	1	84.7	11	30.9	15	7.3	3
Ark 0824-89	1268	3	75	2	4.5	5	1.24	4	85.8	6	35.5	4	6.4	6
SSG HQ 210CT	1228	4	35	16	4.4	6	1.16	14	83.4	15	31.5	13	5.4	11
Ark 0812-87ne	1188	5	61	12	4.2	12	1.21	9	84.2	14	29.7	16	7.0	4
BRS - 335	1179	6	68	6	4.0	15	1.21	9	85.9	3	33.3	8	6.1	7
AM UA48	1162	7	75	2	4.9	1	1.26	2	86.2	2	37.0	1	4.6	16
UA 114	1159	8	64	11	4.6	3	1.21	7	85.9	3	32.6	10	6.9	5
SSG UA222	1148	9	65	9	4.3	11	1.21	7	84.5	12	31.1	14	8.5	1
Ark 0818-23	1140	10	65	9	4.4	8	1.19	13	86.3	1	34.3	6	5.7	9
BRS - 286	1126	11	41	15	4.4	8	1.15	16	83.1	16	32.9	9	4.8	15
Ark 0818-81	1099	12	67	7	4.1	14	1.21	9	85.3	8	36.7	2	5.6	10
BRS - 293	1062	13	48	14	4.6	3	1.16	14	84.3	13	34.5	5	5.2	13
SSG UA103	1033	14	67	7	4.4	6	1.22	6	85.3	9	34.0	7	6.0	8
UA 107	1017	15	59	13	3.9	16	1.21	9	84.9	10	32.2	11	5.4	11
AT 558	829	16	73	4	4.2	13	1.23	5	85.8	5	36.0	3	4.9	14
Mean	1151		63		4.4		1.21		85.0		33.3		6.1	
LSD <sub>0.10</sub>	225		13		ns		0.03		ns		2.8		0.9	
C.V.%	18.4		11.5		8.9		1.5		1.2		4.8		8.3	
R <sup>2</sup> x 100	53.3		86.2		50.7		88.9		65.0		78.7		91.5	

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

**Table 24. Yield and related properties—2017 Arkansas Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.**

Variety	Lint yield		Lint frac.		Ht. cm	Open bolls		Seed index		Lint index		Seed/acre		Fibers/seed		Fiber density	
	lb/A	r	%	r		%	r	g	r	g	r	mil.	r	no.	r	no.	r
Ark 0822-48	806	1	37.3	9			11.9	2	7.2	2	5.066	4	14017	10	123	14	
Ark 0822-75	803	2	38.8	5			10.4	8	6.8	7	5.377	2	14511	7	139	7	
Ark 0812-87ne	791	3	39.1	3			10.7	6	7.1	3	5.091	3	16858	1	159	3	
UA 114	741	4	36.0	14			10.2	10	5.9	11	5.686	1	13732	13	134	10	
Ark 0818-81	724	5	39.1	4			10.9	4	7.2	1	4.554	9	14715	6	137	8	
Ark 0818-23	714	6	37.6	7			10.9	5	6.8	8	4.793	7	14023	9	130	13	
UA 107	665	7	39.2	2			10.1	11	6.6	9	4.561	8	16674	2	163	1	
Ark 0824-89	661	8	39.4	1			10.4	7	6.9	4	4.332	10	13844	11	132	12	
BRS - 286	625	9	37.5	8			9.6	12	5.9	12	4.808	6	15834	4	161	2	
AM UA48	618	10	34.5	15			12.8	1	6.8	5	4.087	12	11240	15	94	15	
SSG UA222	606	11	37.7	6			10.4	9	6.5	10	4.245	11	14106	8	135	9	
SSG HQ 210CT	579	12	36.5	12			9.0	15	5.4	14	4.922	5	13804	12	148	6	
SSG UA103	573	13	37.3	10			11.1	3	6.8	6	3.821	14	16335	3	151	5	
AT 558	473	14	36.0	13			9.2	14	5.3	15	4.053	13	12810	14	133	11	
BRS - 335	433	15	37.3	11			9.5	13	5.8	13	3.413	15	15363	5	157	4	
BRS - 293	.	.	.	.			.	.	.	.	.	.	.	.	.	.	
Mean	661		37.5				10.5		6.5		4.613		14524		140		
LSD <sub>0.10</sub>	155		1.7				1.4		0.9		1.047		2068		25		
C.V. %	19.4		2.6				7.9		8.3		18.8		8.1		10.4		
R <sup>2</sup> x 100	56.7		81.0				77.2		76.0		48.2		76.7		76.1		

**Table 25. Fiber properties—2017 Arkansas Conventional Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.**

Variety	Lint yield		Quality score		Fiber properties									
	lb/A	r	r	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r	Elongation	r
Ark 0822-48	806	1	75	4	4.7	2	1.30	2	85.4	13	33.6	9	6.9	7
Ark 0822-75	803	2	81	1	4.2	7	1.30	2	87.0	3	34.2	6	7.0	6
Ark 0812-87ne	791	3	61	9	4.0	9	1.24	9	85.5	12	31.3	15	7.3	3
UA 114	741	4	57	10	4.1	8	1.21	13	86.9	5	32.5	12	7.2	5
Ark 0818-81	724	5	55	11	4.7	2	1.22	11	86.5	6	35.5	4	6.6	8
Ark 0818-23	714	6	76	3	4.4	5	1.28	4	87.0	4	35.1	5	6.2	9
UA 107	665	7	53	12	3.8	13	1.22	11	85.7	10	33.6	9	6.1	10
Ark 0824-89	661	8	70	6	4.6	4	1.25	7	87.1	2	36.4	3	7.3	3
BRS - 286	625	9	41	14	3.7	14	1.19	14	84.7	14	34.1	7	5.4	13
AM UA48	618	10	80	2	5.1	1	1.34	1	90.0	1	39.8	2	4.5	15
SSG UA222	606	11	72	5	4.2	6	1.28	4	85.8	9	31.6	14	8.3	1
SSG HQ 210CT	579	12	22	15	4.0	9	1.18	15	83.9	15	33.2	11	5.7	11
SSG UA103	573	13	61	8	3.9	11	1.26	6	86.2	8	31.9	13	7.4	2
AT 558	473	14	65	7	3.9	12	1.25	8	86.3	7	40.2	1	4.7	14
BRS - 335	433	15	47	13	3.6	15	1.23	10	85.7	10	34.1	8	5.7	12
BRS - 293	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mean	661		61		4.2		1.25		86.2		34.4		6.4	
LSD <sub>0.10</sub>	155		21		0.7		0.04		2.3		2.1		2.1	
C.V. %	19.4		19.2		9.9		1.7		1.5		3.4		10.2	
R <sup>2</sup> x 100	56.7		80.2		68.5		89.4		69.1		91.6		84.3	

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

**Table 26. Yield and related properties–2017 Arkansas 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	index	r	acre	r	seed	r	density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
Ark 0812-87ne	1207	1	41.6	1	117	12	53	4	10.8	12	7.9	6	6.897	1	17346	2	162	1
Ark 0824-89	1183	2	40.4	3	129	3	42	10	12.2	4	8.5	2	6.304	6	15469	9	133	13
SSG UA103	1162	3	38.8	7	122	7	58	3	12.5	3	8.1	4	6.487	4	17198	3	146	6
Ark 0822-48	1128	4	39.7	6	112	14	49	7	11.8	6	7.9	7	6.468	5	15454	11	136	11
SSG UA222	1082	5	40.1	4	122	6	42	10	11.4	9	7.8	8	6.279	7	16708	4	151	4
Ark 0822-75	1064	6	38.7	8	128	4	45	9	12.2	5	8.0	5	6.079	9	15455	10	133	12
Ark 0818-81	1049	7	40.5	2	117	10	46	8	11.6	7	8.2	3	5.824	11	15721	7	140	8
UA 114	1014	8	37.8	12	117	11	61	2	10.9	11	6.9	12	6.701	3	14241	13	132	14
UA 107	1000	9	40.0	5	121	8	64	1	12.7	1	8.8	1	5.178	15	19004	1	159	2
AM UA48	988	10	36.6	15	116	13	39	13	12.6	2	7.5	10	5.985	10	13907	14	117	15
Ark 0818-23	957	11	38.6	10	111	15	53	4	11.6	8	7.6	9	5.721	12	15876	6	141	7
BRS - 335	900	12	38.0	11	123	5	30	15	10.1	14	6.5	14	6.279	8	15622	8	152	3
SSG HQ 210CT	875	13	37.8	13	108	16	40	12	9.2	15	5.8	15	6.867	2	13208	15	137	10
BRS - 286	821	14	37.5	14	131	2	33	14	11.2	10	7.0	11	5.319	13	16575	5	151	5
AT 558	766	15	38.7	9	118	9	53	4	10.1	13	6.6	13	5.246	14	14251	12	139	9
BRS - 293	.	.	.	.	131	1	.	.	.	.	.	.	.	.	.	.	.	.
Mean	1013		39.0		47		120		11.4		7.5		6.109		15736		142	
LSD <sub>0.10</sub>	137		1.4		8		8		0.7		0.7		1.673		1978		14	
C.V.%	12.7		2.1		16.7		6.3		3.4		5.0		12.2		7.1		5.7	
R <sup>2</sup> x 100	51.3		85.0		68.9		53.1		93.4		90.6		46.0		78.1		81.0	

**Table 27. Fiber properties–2017 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/A						in.		%		g/tex		%	
Ark 0812-87ne	1207	1	74	3	4.4	13	1.23	4	86.0	3	33.5	10	6.8	3
Ark 0824-89	1183	2	54	12	5.3	1	1.21	6	85.9	4	35.6	5	5.8	7
SSG UA103	1162	3	67	5	4.6	10	1.21	5	84.7	11	35.0	7	6.2	5
Ark 0822-48	1128	4	66	6	4.9	3	1.23	3	84.8	9	32.6	14	7.3	2
SSG UA222	1082	5	61	10	4.7	8	1.21	8	83.9	12	34.1	8	7.6	1
Ark 0822-75	1064	6	81	2	4.8	5	1.27	2	85.6	5	35.3	6	6.1	6
Ark 0818-81	1049	7	45	14	5.2	2	1.18	12	84.8	9	36.3	2	5.3	10
UA 114	1014	8	62	9	4.7	6	1.19	11	86.2	2	33.8	9	6.6	4
UA 107	1000	9	65	7	4.5	11	1.20	9	85.5	7	32.9	12	5.0	12
AM UA48	988	10	90	1	4.8	4	1.29	1	87.1	1	38.5	1	4.1	15
Ark 0818-23	957	11	63	8	4.7	6	1.20	9	85.2	8	35.7	4	4.9	14
BRS - 335	900	12	55	11	4.3	15	1.18	12	83.5	13	31.9	15	5.1	11
SSG HQ 210CT	875	13	38	15	4.7	8	1.14	15	82.7	15	33.5	11	5.6	8
BRS - 286	821	14	50	13	4.4	13	1.17	14	82.7	14	32.8	13	4.9	13
AT 558	766	15	68	4	4.5	11	1.21	6	85.6	6	36.0	3	5.5	9
BRS - 293	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mean	1013		62		4.7		1.21		84.9		34.5		5.8	
LSD <sub>0.10</sub>	137		17		0.3		0.05		2.2		2.5		0.6	
C.V.%	12.7		15.1		3.2		2.2		1.5		4.1		5.9	
R <sup>2</sup> x 100	51.3		80.7		88.5		8.3		70.6		75.7		94.4	

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



**Table 28. Morphological and host-plant resistance traits in the 2017 Arkansas Cotton Variety Test.**

Variety	Leaf		Stem		Bract		Tarnished plant		Vert.		Bacterial blight <sup>e</sup> % sus.
	pub. <sup>a</sup>	r	pub. <sup>a</sup>	r	trichomes <sup>b</sup>	r	bug damage <sup>c</sup>	r	wilt <sup>d</sup>	r	
AM UA48	2.7	6	6.7	7	25.2	2	56	11	57	10	8
Ark 0812-87ne	4.8	12	6.7	7	29.9	8	47	4	54	9	4
Ark 0818-23	2.3	4	5.7	2	26.9	5	58	13	59	11	0
Ark 0818-81	2.9	7	5.9	3	26.0	3	68	16	81	16	0
Ark 0822-48	1.3	1	6.0	4	26.2	4	54	9	38	4	0
Ark 0822-75	4.3	9	6.3	5	31.2	10	61	14	46	6	0
Ark 0824-89	4.3	9	7.0	13	35.0	12	64	15	75	14	0
AT 558	5.5	13	6.7	7	33.9	11	45	3	47	7	51
BRS - 286	4.5	11	7.0	13	28.6	6	57	12	51	8	6
BRS - 293	4.0	8	6.5	6	35.5	13	26	1	0	1	30
BRS - 335	6.8	15	7.0	13	44.7	15	49	5	25	3	0
SSG HQ 210CT	1.8	3	6.8	10	18.2	1	52	8	20	2	68
SSG UA103	2.3	4	6.8	10	30.5	9	55	10	63	12	2
SSG UA222	6.5	14	7.0	13	44.3	14	41	2	39	5	0
UA 107	1.3	1	4.4	1	28.8	7	51	6	79	15	0
UA 114	6.8	15	6.8	10	48.7	16	51	7	63	13	0
Ark 0628fg RF (sus.)							91	17			
Ark 0628fg RF (sus.)							93	18			
Mean	3.9		6.5		32.1		57		50		11
LSD <sub>0.10</sub>	0.9		0.9		4.9		7		20		19
C.V.%	19.8		12.0		12.8		15.1		37.4		137.8
R <sup>2</sup> x 100	89.0		53.5		83.8		80.3		69.9		76.8

<sup>a</sup> Leaf and stem pubescence (pub.) 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> Vert. wilt. = Verticillium wilt. Percentage of plants showing Verticillium wilt symptoms in each plot was visually estimated on 28 Aug. 2017 at Judd Hill.

<sup>e</sup> Varieties/breeding lines were planted in flats (4 replications, 13 seed/plot) in greenhouse, and scratch inoculated with *Xanthomonas citri* pv. *malvacearum*. The inoculum was obtained from naturally infected leaves collected at the 2017 Keiser location. Scatches were examined for water-soaking, and percentage of susceptible (sus.) plants was determined.

**Table 29. Two-year and three-year average lint yields (lb/A) for conventional varieties at the four locations of the 2015-2017 Arkansas Cotton Variety Test.**

Variety	Traits	Keiser		Judd Hill		Marianna		Rohwer		All locations	
		Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r
		lb/A		lb/A		lb/A		lb/A		lb/A	
<b>Two-year (2016-2017) means</b>											
SGS UA107	conv	891	3	1073	2	1061	1	897	2	980	1
SGS UA222	conv	978	1	1070	3	968	3	874	4	972	2
SGS UA114	conv	823	6	1104	1	981	2	865	5	943	3
AM UA48	conv	875	4	1053	4	844	4	885	3	914	4
SGS UA103	conv	812	7	914	7	834	5	1030	1	897	5
BRS - 286	conv	896	2	964	6	800	7	714	7	843	6
SGS HQ210CT	conv	827	5	984	5	763	8	717	6	823	7
BRS - 335	conv	771	9	902	8	691	9	705	8	767	8
BRS - 293	conv	783	8	850	9	823	6	607	9	766	9
Mean		850		990		863		810		878	
<b>Three-year (2015-2017) means</b>											
SGS UA222	conv	867	1	1156	1	1189	1	1007	2	1055	1
AM UA48	conv	786	2	1082	2	1039	3	1001	3	977	2
SGS UA103	conv	769	4	1011	4	1030	4	1091	1	975	3
BRS - 286	conv	772	3	1002	5	993	5	794	7	890	4
SGS HQ210CT	conv	724	5	1047	3	939	6	848	4	889	5
BRS - 293	conv	657	7	961	7	1085	2	808	6	878	6
BRS - 335	conv	664	6	966	6	915	7	846	5	848	7
Mean		748		1032		1027		914		930	

**Appendix Table A1. Lint yield and fiber properties—Lee county conventional variety test.**

<b>Cooperator:</b>	Nathan Reed				<b>Date Planted:</b>	5/16/17				
<b>Soil Type:</b>	Commerce Silt Loam				<b>Date of Harvest:</b>	11/10/17				
<b>Irrigation:</b>	Furrow				<b>Replications:</b>	4				
<b>Agent:</b>	Stan Baker									
Variety	Lint		Fiber properties							
	yield	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r
	lb/A				in.		%		g/tex	
UA 222	1654	1	4.3	1	1.20	5	83.6	5	32.6	5
DP 1518 B2XF	1394	2	4.2	4	1.24	1	84.1	2	33.4	3
Alltex LA 122	1353	3	4.3	2	1.24	2	83.1	9	33.4	4
NG 1511 B2RF	1295	4	4.1	9	1.16	10	82.5	10	31.2	9
PCG 713	1181	5	4.3	3	1.17	9	83.2	8	31.1	10
NG 4601 B2XF	1175	6	4.2	5	1.22	4	83.8	4	32.2	7
NG 3522 B2XF	1148	7	4.1	10	1.19	7	83.6	7	32.3	6
HQ 212	1146	8	4.2	6	1.19	8	84.0	3	33.5	2
HQ 210	1143	9	4.2	7	1.20	6	83.5	6	31.9	8
Alltex 558	941	10	4.2	8	1.24	3	84.6	1	34.1	1
Mean	1243		4.2		1.20		83.4		32.3	
Var. LSD <sub>0.05</sub>	249.13		0.4		0.05		1.5		3.2	
C.V.%	13.8		5.9		3.0		1.3		6.8	
Prob (var)	0.0005		0.9303		0.0266		0.3371		0.5899	

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

**Appendix Table A2. Lint yield and fiber properties—Ashley county transgenic variety test.**

<b>Cooperator:</b>	Bruce Bond	<b>Date Planted:</b>	5/8/17
<b>Soil Type:</b>	Hebert Silt Loam	<b>Date of Harvest:</b>	11/6/17
<b>Irrigation:</b>	Furrow	<b>Replications:</b>	4
<b>Agent:</b>	Kevin Norton		

Variety	Lint		Fiber properties							
	yield	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r
	lb/A				in.		%		g/tex	
DP 1725 B2XF	1367	1	4.5	5	1.21	4	82.7	11	30.8	7
DP 1646 B2XF	1349	2	4.5	6	1.26	1	84.2	3	29.9	10
NG 3522 B2XF	1270	3	4.4	9	1.17	10	83.1	10	28.5	11
PHY 340 W3FE	1257	4	4.2	10	1.20	5	83.5	9	32.0	5
DG 3385 B2XF	1256	5	4.8	1	1.18	8	84.1	6	30.3	8
ST 4949 GLT	1230	6	4.5	7	1.17	11	83.7	8	31.7	6
NG 4601 B2XF	1226	7	4.6	3	1.20	6	83.8	7	32.8	3
DP 1518 B2XF	1184	8	4.1	11	1.23	3	84.3	2	30.2	9
ST 5020 GLT	1074	9	4.8	2	1.26	2	84.2	4	33.2	2
DG 3109 B2XF	1038	10	4.5	8	1.20	7	84.2	5	32.8	4
PHY 450 W3FE	964	11	4.6	4	1.18	9	85.1	1	34.5	1
Mean	1201		4.5		1.20		83.9		31.5	
Var. LSD <sub>0.05</sub>	123.59		0.235		0.0246		1.173		1.362	
C.V.%	3.09		3.62		1.42		0.97		2.99	
Prob (var)	0.0001		0.0001		0.0001		0.0217		0.0001	

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

**Appendix Table A3. Lint yield and fiber properties—Craighead county transgenic variety test.**

<b>Cooperator:</b>	John Johnson				<b>Date Planted:</b>	5/8/17					
<b>Soil Type:</b>	Fountain Silt Loam				<b>Date of Harvest:</b>	10/20/17					
<b>Irrigation:</b>	Furrow				<b>Replications:</b>	3					
<b>Agent:</b>	Branon Thiesse Chris Grimes										
Variety	Lint		Fiber properties								
	yield	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r	
	lb/A				in.		%		g/tex		
DP 1518 B2XF	1580	1	4.2	9	1.22	4	84.0	5	31.3	9	
PHY 340 W3FE	1548	2	4.5	3	1.22	5	84.8	2	32.6	5	
PHY 330 W3FE	1533	3	4.6	1	1.22	6	85.0	1	33.2	1	
DG 3385 B2XF	1493	4	4.5	4	1.20	9	84.4	3	31.0	10	
DP 1646 B2XF	1488	5	4.0	11	1.28	1	84.0	6	31.7	6	
DP 1725 B2XF	1457	6	4.6	2	1.21	7	83.6	8	31.6	8	
ST 4949 GLT	1411	7	4.3	8	1.17	10	83.6	9	31.7	7	
ST 5020 GLT	1392	8	4.4	7	1.26	2	83.9	7	32.9	3	
DG 3109 B2XF	1389	9	4.5	5	1.21	8	84.2	4	33.2	2	
NG 3522 B2XF	1380	10	4.1	10	1.17	11	82.9	11	30.2	11	
NG 4601 B2XF	1325	11	4.5	6	1.23	3	83.4	10	32.7	4	
Mean	1454		4.4		1.22		84.0		32.0		
Var. LSD <sub>0.05</sub>	185.54		0.408		0.0666		1.393		2.742		
C.V.%	7.49		5.47		3.21		0.97		5.03		
Prob (var)	0.1624		0.0739		0.085		0.1551		0.3775		

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

**Appendix Table A4. Lint yield and fiber properties—Lee county transgenic variety test.**

<b>Cooperator:</b>		Ramey Stiles				<b>Date Planted:</b>		5/11/17			
<b>Soil Type:</b>		Loring Silt Loam				<b>Date of Harvest:</b>		10/18/17			
<b>Irrigation:</b>		Furrow				<b>Replications:</b>		4			
<b>Agent:</b>		Stan Baker									
<b>Variety</b>	<b>Lint</b>		<b>Fiber properties</b>								
	<b>yield</b>	<b>r</b>	<b>Micronaire</b>	<b>r</b>	<b>Length</b>	<b>r</b>	<b>UI<sup>a</sup></b>	<b>r</b>	<b>Strength</b>	<b>r</b>	
	<b>lb/A</b>				<b>in.</b>		<b>%</b>		<b>g/tex</b>		
DP 1646 B2XF	1821	1	4.6	1	1.27	1	84.2	3	29.8	9	
DP 1518 B2XF	1693	2	4.5	7	1.18	6	82.7	11	29.8	8	
DG 3385 B2XF	1663	3	4.5	5	1.19	5	84.6	2	29.6	10	
DP 1725 B2XF	1657	4	4.5	6	1.21	3	83.3	8	31.3	4	
NG 3522 B2XF	1578	5	4.4	9	1.16	9	83.1	10	29.6	11	
ST 5020 GLT	1485	6	4.5	8	1.27	2	84.8	1	32.9	2	
DG 3109 B2XF	1479	7	4.2	11	1.18	7	83.6	6	31.3	5	
ST 4949 GLT	1466	8	4.6	3	1.15	11	83.5	7	30.4	7	
PHY 340 W3FE	1425	9	4.6	2	1.20	4	84.1	4	31.3	6	
NG 4601 B2XF	1346	10	4.4	10	1.18	8	83.2	9	32.8	3	
PHY 450 W3FE	1240	11	4.6	4	1.16	10	84.1	5	33.9	1	
Mean	1532		4.5		1.20		83.7		31.2		
Var. LSD <sub>0.05</sub>	128		0.3		0.04		1.7		2.0		
C.V. %	5.8		4.1		1.9		1.2		3.7		
Prob (var)	0.0001		0.2742		0.0001		0.2779		0.0009		

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

**Appendix Table A5. Lint yield and fiber properties—Poinsett county transgenic variety test.**

<b>Cooperator:</b>	Marty White/Jesse Flye				<b>Date Planted:</b>	5/16/17				
<b>Soil Type:</b>	Hayti Soil				<b>Date of Harvest:</b>	10/26/17				
<b>Irrigation:</b>	Furrow				<b>Replications:</b>	4				
<b>Agent:</b>	Craig Allen Justin Chlapecka									
Variety	Lint		Fiber properties							
	yield	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r
	lb/A				in.		%		g/tex	
DP 1725 B2XF	1822	1	4.2	6	1.24	1	83.6	7	31.8	5
DG 3385 B2XF	1817	2	4.3	4	1.21	5	84.8	1	29.7	8
DG 3109 B2XF	1793	3	4.5	2	1.22	4	84.1	5	32.1	4
NG 3522 B2XF	1771	4	4.1	7	1.16	8	83.4	8	30.0	7
DP 1518 B2XF	1694	5	4.3	5	1.23	2	84.2	4	30.9	6
NG 4545 B2XF	1665	6	4.4	3	1.21	6	84.7	3	36.0	1
NG 3517 B2XF	1614	7	4.6	1	1.23	3	84.8	2	34.0	2
NG 4601 B2XF	1466	8	4.0	8	1.20	7	83.9	6	33.9	3
Mean	1705		4.3		1.21		84.2		32.3	
Var. LSD <sub>0.05</sub>	144		0.3		0.03		1.1		1.1	
C.V.%	5.8		4.2		1.6		0.9		2.4	
Prob (var)	0.0005		0.0020		0.0003		0.0696		0.0001	

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

**Appendix Table A6. Lint yield and fiber properties–St Francis county transgenic variety test.**

Variety	Lint		Fiber properties							
	yield lb/A	r	Micronaire	r	Length in.	r	UI <sup>a</sup> %	r	Strength g/tex	r
DP 1725 B2XF	1403	1	3.8	4	1.18	8	82.7	10	30.8	7
PHY 340 W3FE	1401	2	3.5	8	1.25	2	83.5	2	32.2	3
DP 1646 B2XF	1395	3	3.3	11	1.25	3	82.4	11	29.4	11
DP 1518 B2XF	1375	4	3.9	1	1.19	7	83.3	5	31.4	6
PHY 330 W3FE	1339	5	3.7	5	1.20	4	83.4	3	33.1	1
ST 4949 GLT	1278	6	3.6	7	1.17	10	83.0	8	30.1	8
NG 3522 B2XF	1253	7	3.5	9	1.16	11	82.8	9	29.7	10
DG 3385 B2XF	1242	8	3.9	2	1.18	9	83.4	4	30.0	9
DG 3109 B2XF	1223	9	3.5	10	1.20	5	83.7	1	32.0	4
NG 4601 B2XF	1209	10	3.9	3	1.20	6	83.1	7	31.6	5
ST 5020 GLT	1067	11	3.7	6	1.26	1	83.3	6	32.4	2
Mean	1289		3.7		1.20		83.1		31.1	
Var. LSD <sub>0.05</sub>	109		0.5		0.02		1.3		1.7	
C.V.%	5.9		9.8		1.4		1.1		3.8	
Prob (var)	0.0001		0.3677		0.0001		0.6656		0.0011	

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



**Appendix Table A7. Lint yield and fiber properties—Desha county transgenic variety test.**

<b>Cooperator:</b>	Phillip Morris				<b>Date Planted:</b>	5/10/17				
<b>Soil Type:</b>	Rilla Silt Loam				<b>Date of Harvest:</b>	10/16/17				
<b>Irrigation:</b>	Furrow				<b>Replications:</b>	3				
<b>Agent:</b>	Chuck Capps Steve Kelley									
Variety	Lint		Fiber properties							
	yield	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r
	lb/A				in.		%		g/tex	
NG 3522 B2XF	1385	1	4.3	4	1.15	8	83.7	6	30.4	7
DP 1518 B2XF	1383	2	3.9	8	1.22	2	83.3	7	30.5	6
DP 1518 B2XF	1372	3	4.3	5	1.21	3	83.9	5	30.7	5
DP 1646 B2XF	1339	4	4.3	6	1.28	1	84.1	4	30.3	8
DP 1725 B2XF	1304	5	4.3	7	1.19	7	82.6	8	31.2	4
DG 3385 B2XF	1297	6	4.6	2	1.20	5	84.8	1	31.9	3
DG 3109 B2XF	1228	7	4.4	3	1.20	6	84.2	3	32.1	2
NG 4601 B2XF	1116	8	4.7	1	1.21	4	84.3	2	33.7	1
Mean	1303		4.4		1.21		83.9		31.3	
Var. LSD <sub>0.05</sub>	55		0.4		0.04		1.1		2.0	
C.V.%	2.4		5.0		1.7		0.8		3.7	
Prob (var)	0.0001		0.0223		0.0003		0.0308		0.0330	

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

**Appendix Table A8. Lint yield and fiber properties—Lonoke county transgenic variety test.**

<b>Cooperator:</b>		Rick Bransford		<b>Date Planted:</b>		5/17/17				
<b>Soil Type:</b>		Hebert Silt Loam		<b>Date of Harvest:</b>		10/19/17				
<b>Irrigation:</b>		Furrow		<b>Replications:</b>		3				
<b>Variety</b>	<b>Lint</b>		<b>Fiber properties</b>							
	<b>yield</b>	<b>r</b>	<b>Micronaire</b>	<b>r</b>	<b>Length</b>	<b>r</b>	<b>UI<sup>a</sup></b>	<b>r</b>	<b>Strength</b>	<b>r</b>
	<b>lb/A</b>				<b>in.</b>		<b>%</b>		<b>g/tex</b>	
DP 1518 B2XF	1533	1	4.6	4	1.21	3	83.8	4	29.9	5
DP 1725 B2XF	1467	2	4.4	7	1.21	4	82.4	8	30.8	3
DP 1646 B2XF	1457	3	4.3	8	1.26	1	83.5	5	28.9	7
DP 1614 B2XF	1440	4	5.1	1	1.22	2	83.4	6	30.7	4
NG 4601 B2XF	1420	5	4.7	2	1.18	6	84.0	2	31.4	1
DG 3385 B2XF	1325	6	4.7	3	1.17	7	84.3	1	29.6	6
DG 3109 B2XF	1320	7	4.5	6	1.19	5	84.0	3	31.0	2
NG 3522 B2XF	1204	8	4.6	5	1.15	8	83.4	7	28.8	8
Mean	1396		4.6		1.20		83.6		30.1	
Var. LSD <sub>0.05</sub>	191		0.3		0.03		2.0		2.1	
C.V.%	7.8		3.3		1.6		1.4		4.0	
Prob (var)	0.0484		0.0010		0.0001		0.9527		0.1218	

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

**Appendix Table A9. Lint yield and fiber properties—Mississippi county transgenic variety test.**

<b>Cooperator:</b>	Jason Bennett				<b>Date Planted:</b>	5/25/17					
<b>Soil Type:</b>	Dundee Silt Loam				<b>Date of Harvest:</b>	11/21/17					
<b>Irrigation:</b>	Furrow				<b>Replications:</b>	2					
<b>Agent:</b>	Ray Benson										
	<b>Lint</b>			<b>Fiber properties</b>							
<b>Variety</b>	<b>yield</b>	<b>r</b>	<b>Micronaire</b>	<b>r</b>	<b>Length</b>	<b>r</b>	<b>UI<sup>a</sup></b>	<b>r</b>	<b>Strength</b>	<b>r</b>	
	<b>lb/A</b>				<b>in.</b>		<b>%</b>		<b>g/tex</b>		
DP 1646 B2XF	1624	1	4.0	7	1.29	1	82.9	4	30.6	4	
NG 3522 B2XF	1513	2	4.2	4	1.15	7	82.6	5	29.2	5	
DG 3385 B2XF	1501	3	4.7	1	1.17	6	83.6	1	28.2	7	
DP 1725 B2XF	1442	4	4.4	2	1.18	5	83.2	3	31.5	3	
DP 1518 B2XF	1375	5	4.1	6	1.20	3	82.2	7	29.1	6	
DG 3109 B2XF	1368	6	4.2	5	1.19	4	83.3	2	31.7	2	
NG 4601 B2XF	1273	7	4.3	3	1.22	2	82.5	6	33.7	1	
Mean	1442		4.3		1.20		82.9		30.6		
Var. LSD <sub>0.05</sub>	205		0.6		0.07		2.0		2.8		
C.V.%	5.8		6.0		2.5		1.0		3.8		
Prob (var)	0.0641		0.2741		0.0472		0.6780		0.0291		

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

**Appendix Table A10. Lint yield and fiber properties–Mississippi county transgenic variety test.**

<b>Cooperator:</b>	David Wildy	<b>Date Planted:</b>	5/27/17							
<b>Soil Type:</b>	Routon-Dundee- Crevasse Complex	<b>Date of Harvest:</b>	11/9/17							
<b>Irrigation:</b>	Furrow	<b>Replications:</b>	4							
<b>Agent:</b>	Ray Benson									
Variety	Lint		Fiber properties							
	yield	r	Micronaire	r	Length	r	UI <sup>a</sup>	r	Strength	r
	lb/A				in.		%		g/tex	
DP 1725 B2XF	1878	1	4.2	6	1.20	8	83.4	11	29.8	6
DG 3385 B2XF	1837	2	4.4	1	1.20	9	84.5	3	28.7	11
DP 1518 B2XF	1736	3	3.7	10	1.26	2	84.4	4	29.5	9
DG 3109 B2XF	1735	4	3.8	8	1.26	3	83.9	7	30.8	5
ST 4949 GLT	1731	5	4.3	3	1.18	12	83.5	10	29.6	8
DP 1614 B2XF	1713	6	4.4	2	1.26	4	84.1	6	29.8	7
DP 1646 B2XF	1707	7	3.5	12	1.26	5	83.8	8	29.5	10
NG 3522 B2XF	1646	8	4.0	7	1.19	10	83.2	12	28.7	12
PHY 340 W3FE	1634	9	4.3	4	1.22	7	85.0	2	31.4	4
NG 4601 B2XF	1616	10	3.8	9	1.19	11	83.8	9	31.9	3
PHY 330 W3FE	1572	11	4.3	5	1.23	6	85.1	1	32.6	1
ST 5020 GLT	1412	12	3.7	11	1.28	1	84.2	5	32.0	2
Mean	1685		4.0		1.23		84.1		30.4	
Var. LSD <sub>0.05</sub>	158		0.3		0.03		1.2		1.2	
C.V.%	6.5		6.0		1.6		1.0		2.8	
Prob (var)	0.0002		0.0001		0.0001		0.0727		0.0001	

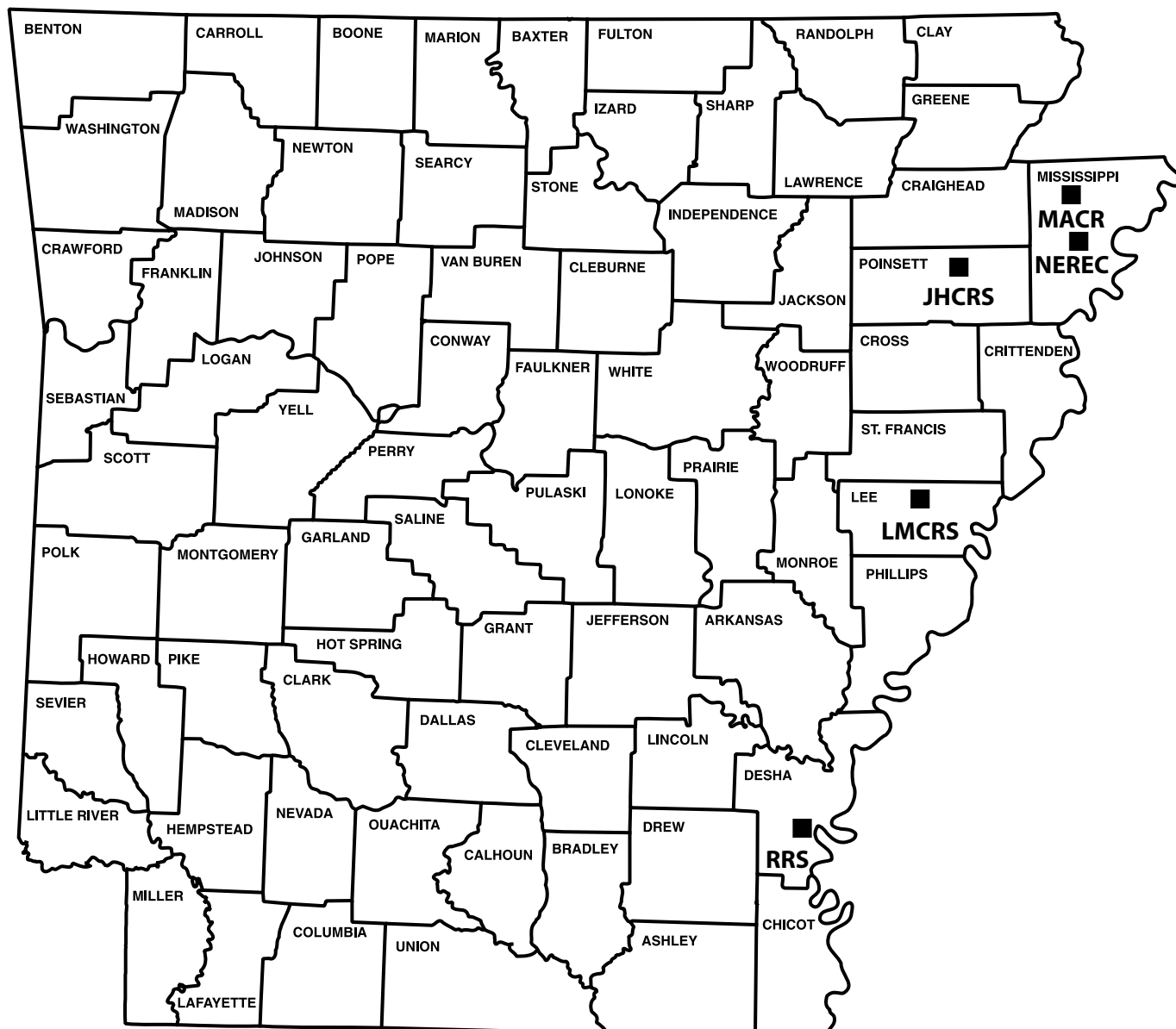
<sup>a</sup>UI = Fiber length uniformity index.

**Appendix Table A11. Lint yield and fiber properties—Clay county transgenic variety test.**

<b>Cooperator:</b>		David Cagle		<b>Date Planted:</b>		5/8/17				
<b>Soil Type:</b>		Fountain Silt Loam		<b>Date of Harvest:</b>		As harvest ready				
<b>Irrigation:</b>		Furrow		<b>Replications:</b>		1				
<b>Agent:</b>		Allison Howell								
<b>Variety</b>	<b>Lint</b>		<b>Fiber properties</b>							
	<b>yield</b>	<b>r</b>	<b>Micronaire</b>	<b>r</b>	<b>Length</b>	<b>r</b>	<b>UI<sup>a</sup></b>	<b>r</b>	<b>Strength</b>	<b>r</b>
	<b>lb/A</b>				<b>in.</b>				<b>g/tex</b>	
ST 5020 GLT	1670	1	4.4	5	1.22	1	82.0	6	32.5	3
DP 1725 B2XF	1644	2	3.9	9	1.16	6	80.8	9	31.7	6
DG 3385 B2XF	1644	3	4.8	1	1.16	7	82.4	4	30.7	8
PHY 300 W3FE	1574	4	4.4	6	1.16	8	82.8	1	31.9	5
PHY 340 W3FE	1535	5	4.6	2	1.19	2	82.7	3	32.3	4
NG 3522 B2XF	1533	6	4.5	4	1.13	9	81.7	7	29.4	9
DP 1518 B2XF	1522	7	4.2	7	1.19	3	81.1	8	30.9	7
NG 4601 B2XF	1493	8	4.6	3	1.18	4	82.2	5	32.6	2
DG 3445 B2XF	1415	9	4.0	8	1.18	5	82.8	2	33.4	1
Mean	1559		4.38		1.17		82.06		31.71	

<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 Farm, Manila
- NEREC** - Northeast Research and Extension Center, Keiser
- RRS** - Rohwer Research Station, Rohwer

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