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Arkansas Cotton Variety Test 2016

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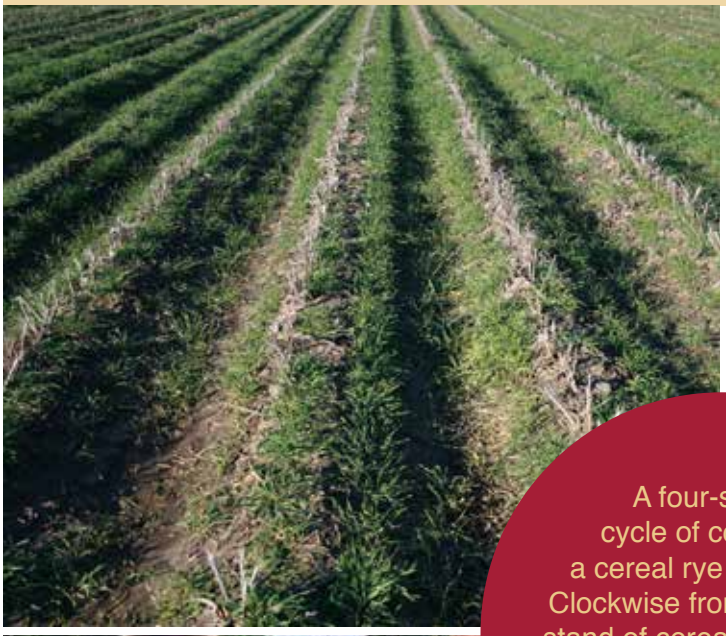

A four-season cycle of cotton and a cereal rye cover crop. Clockwise from top left: fall stand of cereal rye, planting cotton into residue, cotton emergence, and cotton growing in cover crop mulch.

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Technical editing and cover design by Gail Halleck.
Photo Credits: Photos depicting last season's cycle of cotton planting at the Marianna cotton test site; clockwise from top left, emerged cereal rye in the fall; planting cotton into killed cereal rye; the cotton stand established in cereal rye; and finally, the cotton stand as it approaches flowering with dead cereal rye forming mulch. Claude Kennedy, Arkansas Agricultural Experiment Station, University of Arkansas System, Division of Agriculture.

Arkansas Agricultural Experiment Station, University of Arkansas System Division of Agriculture, Fayetteville. Mark J. Cochran, Vice President for Agriculture; Clarence E. Watson, Associate Vice-President for Agriculture–Research and Director, AAES. SG140/InddCS6.

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ARKANSAS COTTON VARIETY TEST 2016

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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 research sites (Manila, Keiser, Judd Hill, Marianna, and Rohwer). Entries in the 2016 Arkansas Cotton Variety Test were evaluated in two groups—transgenic and conventional varieties. The 35 entries in the transgenic test included 18 entries (12 B2XF, 3 WRF, 2 GLT, and 1 GLB2) returning from the 2015 test and 17 first-year entries (11 B2XF, 3 GLT, 2 GLTP, and 1 B2RF) and were evaluated at all five locations. The conventional test included 10 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 experiments were evaluated for response to tarnished plant bug and bacterial blight in separate tests at Keiser. This 2016 report includes results of large-plot variety tests in seven counties that were coordinated by Bill Robertson.

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Arkansas Cotton Variety Test 2016

F. Bourland, W. Barnett, C. Kennedy,
L. Martin, A. Rouse, and B. Robertson[1]

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 35 entries in the transgenic test included 18 entries (12 B2XF, 3 WRF, 2 GLT, and 1 GLB2) returning from the 2015 test and 17 first-year entries (11 B2XF, 3 GLT, 2 GLTP, and 1 B2RF) (Table 1). The transgenic test was replicated 8 times at Manila, 5 times at Judd Hill and Keiser, and 6 times at Marianna and Rohwer. The conventional test included 10 entries and was evaluated using 5 replications at Keiser and 6 replications at Judd Hill, Marianna, and Rohwer.

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 leaf, 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.

[1] 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 25. The TPB tests were planted on May 11 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 were 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.

% 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 two replications at each location. Within each row of two-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 seedcotton 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 (Ul), 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 were 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 seedcotton yield (lb/A converted to g/A) times average seed percentage (the percentage of seed weight to seedcotton weight in ginned sample, averaged by entry and location over reps), then divided by average seed weight (average seed index by entry over reps divided by 100).

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

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

Fiber Density. Fiber density, reported as the number of fibers per mm^2, 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. Seedcotton yield per plot (determined by mechanical cotton picker) was converted to seedcotton yield per acre then multiplied by average lint percentage (determined by variety and location) to estimate lint per acre.

Yield Comparisons

Uncontrolled variation is inherent to collection of variety performance data (particularly yield data). In addition to their genetic ability, variation among varieties may be due to slight differences in soil, pest or climatic conditions within a field, various interactions with specific management practices, or experimental error. Statistics allow users

to define the degree of uncontrolled variation and to interpret data. The statistical tool used to compare means in these tests was Fisher's Protected Least Significant Difference (LSD). An LSD was calculated when the F 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 2016 production season.

All of the locations of the 2016 tests were planted from May 5 through May 9 (Table 2). This narrow planting window resulted in a two-week harvest window. Monthly heat unit accumulation was higher than the historical average for June through October at Keiser, Marianna and Rohwer, and at Keiser in May (Table 3). Although total rainfall approached normal conditions, Marianna experienced a wet July and Keiser and Rohwer had a wet August. Harvest conditions were optimum at each location.

Performance data of entries in the 2016 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 five 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 2016 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 in 2014 and 2015, and in the same area of the field used in 2015. In anticipation of high field variability, the test was replicated eight times with two 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). Excellent stands and early growth were obtained at Keiser, but upper canopy bolls did not develop well. Mepiquat chloride was not applied to the plots.

Judd Hill (Tables 10, 11, 22 and 23). Incidence of Verticillium wilt was relatively severe at this site due to relatively cool, wet conditions in early August. Yields may have been reduced by Verticillium wilt, extended cloudy conditions, and the lack of timely insect control. Mepiquat chloride (8 oz/A) was applied early in season to control plant height.

Marianna (Tables 12, 13, 24 and 25). Cereal rye was planted in the test plot area as a cover crop on October 28, 2015. Urea (45 lb N/A) was applied on March 28 to push growth of the cover crop. Gramoxone (40 oz/A) and Brake FX (42 oz/A) were applied to the cereal rye on April 25, and cotton was planted into the standing dead cereal rye on May 9. No other herbicides were applied until June 6. The cover crop and herbicides provided excellent weed control. Good plant stands were achieved, and plants grew at a rapid, unrestricted pace. Subsequently, early maturation and high yields were attained. Yields at Marianna exceeded yields at all other locations. After harvest, roots of some cotton plants indicated the presence of hard pan, so the test area was subsoiled on October 10 prior to being seeded with cereal rye. Mepiquat chloride (total of 90 oz/A) was used to control plant height.

Rohwer (Tables 14, 15, 26 and 27). Weather conditions allowed normal planting at Rohwer, but conditions were

wet during much of August. The wet August conditions contributed to high incidence of boll rots throughout the test area. Hot temperatures appeared to have restricted upper crop development. Mepiquat chloride (total of 40 oz/A) was used to control plant height.

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Table 1. Participants and entries in the 2016 Arkansas Cotton Variety Test.

Institution/Contact person	Returning entries	Experimental no.	1st year entries	Experimental no.
Americot Inc./	NG 3405 B2XF		AMX1601 B2XF	
Thomas Brooks	NG 3406 B2XF		AMX1603 B2XF	
	NG3522 B2XF	AMDG-7824	AMX1604 B2XF	
			AMX1605 B2XF	
Bayer Crop Science/	ST 4946GLB2	BX 1346GLB2	ST 4848 GLT	
Steve Lee	ST 5115GLT		BX EXP GLT	
	ST 5289GLT		BX 1737 GLT	
			BX 1775 GLTP	
			BX 1776 GLTP	
Crop Production Services/	Dyna-Gro DG 3385 B2XF		Dyna-Gro DG 3544 B2XF	
Stacie Bruff	Dyna-Gro DG 3526 B2XF	Dyna-Gro CT15426	Dyna-Gro CPS16214 B2XF	
			Dyna-Gro CT15684 B2RF	
Monsanto/	DP 1518 B2XF	14R925B2XF	DP 1725 B2XF	MON 15R535B2XF
David Albers	DP 1522 B2XF	14R922B2XF	MON 16R229B2XF	
	DP 1612 B2XF	MON 14R913B2XF		
	DP 1614 B2XF	MON 15R515B2XF		
	DP 1639 B2XF	MON 14R934B2XF		
	DP 1646 B2XF	MON 15R551B2XF		
	MON 15R513B2XF			
PhytoGen Seed Co./	PHY 312 WRF	PX3122b-51WRF		
Chris Main	PHY 333 WRF	PX312240WRF		
	PHY 444 WRF	PX4444-13WRF		
WinField Solutions, LLC/			CROPLAN 3475 B2XF	
Robert Cossar			CROPLAN 3885 B2XF	
			WinField 16XA7 B2XF	
		Conventional entries		
Americot Inc.	AM UA48	Ark 0102-48		
Seed Source Genetics/	SSG UA222	Ark 0222-12		
Edward Jungmann	SSG UA103	Ark 9803-23-04		
	SSG HQ 210CT			
International Seed	BRS - 286			
Technology/	BRS - 293			
Rafaela Carvajal	BRS - 335			
University of Arkansas/			Ark 0614-49	
Fred Bourland			Ark 0701-17	

Table 2. Cultural practices for locations of the 2016 Arkansas Cotton Variety Test.

	Location				
Input	**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	113-0-60	100-0-109
Planting date	5/9	5/5	5/7	5/9	5/5
Irrigation method	furrow	furrow	furrow	furrow	furrow
Irrigation dates	6/18, 6/25, 7/2, 7/9, 7/16, 8/2, 8/10	6/15, 7/6, 7/20, 8/8	6/17, 7/1, 7/11, 7/20, 7/28, 8/4	5/24, 6/11, 6/23, 7/13, 7/21, 8/6, 8/26	6/29, 7/15, 7/22, 8/2,
Defoliation date	9/16, 9/29	9/12, 9/21	9/13, 9/22	9/8,9/15	9/19, 9/28
Harvest date	10/11	9/30	10/7	9/23	10/4

Table 3. Weather summary for the 2016 production season in north, central and south Arkansas.

	Month	**DD60s in 2016**	**Historical avg.[a] DD60s**	**Rainfall (in.) in 2016**	**Historical avg.[a] rainfall**
Keiser	May	395	314	4.0	5.2
(northeast)	June	653	532	3.0	3.9
	July	735	644	1.5	3.7
	August	680	583	5.4	2.9
	September	536	363	3.8	3.7
	October	286	127	1.0	3.3
	Total	3284	2563	18.7	22.6
Marianna	May	293	336	4.2	5.1
(central)	June	616	538	2.4	3.9
	July	680	646	5.3	3.9
	August	645	601	2.7	2.8
	September	548	397	1.4	3.2
	October	301	154	1.7	3.5
	Total	3082	2672	17.7	22.4
Rohwer	May	297	354	3.3	4.9
(southeast)	June	594	551	3.6	3.6
	July	685	661	3.7	3.7
	August	652	618	8.0	2.6
	September	546	415	1.4	3.0
	October	287	167	2.0	3.4
	Total	3060	2766	22.0	21.3

[a] DD60 (growing degree days based on 60 ºF) and rainfall from historical weather data from 1960 through 2007.

Table 4. Yield and related properties–2016 Arkansas Cotton Variety Test across five test sites.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre[1]	r	Fibers/ seed	r	Fiber density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
PHY 312 WRF	1284	1	42	13	117	10	64	9	10.9	6	8.1	3	7.104	11	17245	6	161	10
PHY 444 WRF	1244	2	41.5	18	116	12	51	31	11.6	4	8.5	1	6.911	20	19496	1	174	1
DP 1646 B2XF	1242	3	43.1	7	118	5	51	28	9.0	33	7.0	32	7.665	1	14208	32	150	21
DP 1518 B2XF	1220	4	40	29	114	17	57	21	10.2	18	7.0	30	7.575	2	15508	16	151	18
ST 4946GLB2	1203	5	40.1	28	108	29	62	13	11.7	3	8.1	4	6.922	18	16463	12	146	26
NG3405 B2XF	1197	6	41.3	20	101	35	70	1	10.4	13	7.6	12	7.330	5	17302	4	165	6
MON 15R513B2XF	1193	7	41.3	21	119	3	66	3	10.5	11	7.6	10	7.420	4	14762	28	141	32
DP 1522 B2XF	1192	8	41.1	22	113	22	60	15	10.1	21	7.3	22	7.298	7	15299	19	150	22
PHY 333 WRF	1191	9	41.7	16	117	9	62	11	10.6	10	7.8	7	7.031	14	17270	5	163	7
DP 1725 B2XF	1175	10	44.7	1	109	28	65	7	9.3	28	7.8	8	6.544	28	16776	11	173	2
Dyna-Gro CT15684	1166	11	42.3	10	114	18	56	24	9.6	26	7.3	23	7.304	6	15025	24	152	17
DP 1612 B2XF	1165	12	39.5	33	105	31	66	4	10.9	5	7.3	20	7.217	9	14978	26	139	34
AMX1604 B2XF	1165	13	39.9	30	116	11	63	10	10.4	14	7.1	28	7.016	16	14871	27	142	29
NG3522 B2XF	1162	14	41.5	17	102	34	64	8	10.1	20	7.5	17	7.101	12	17022	8	166	5
DP 1639 B2XF	1160	15	43.7	3	119	4	51	30	9.2	30	7.4	18	6.919	19	15060	23	157	12
BX 1737GLT	1159	16	39.7	31	117	6	51	29	10.7	7	7.3	21	7.205	10	14984	25	141	31
AMX1605 B2XF	1155	17	40.3	27	115	14	65	6	10.7	8	7.4	19	6.829	23	15515	15	146	25
DG 3385 B2XF	1146	18	40.8	24	105	32	66	5	10.5	12	7.6	14	7.082	13	15914	14	152	16
BX 1775GLTP	1136	19	40.7	26	114	16	57	20	9.9	24	7.0	31	7.289	8	15172	22	151	19
BX 1776GLTP	1123	20	41	23	110	26	60	15	10.2	19	7.2	24	6.696	25	15258	20	149	23
Dyna-Gro CPS16214	1121	21	41.4	19	120	2	62	12	10.4	15	7.6	15	6.784	24	14571	29	140	33
CROPLAN 3475	1120	22	43	9	109	27	57	19	9.0	32	7.1	29	7.001	17	13688	35	144	28
MON 16R229B2XF	1117	23	42.1	12	113	20	56	23	8.8	35	6.6	34	7.422	3	14341	30	153	15
DP 1614 B2XF	1113	24	43.2	5	110	25	56	22	9.1	31	7.2	27	7.019	15	13887	34	145	27
AMX1603 B2XF	1110	25	41.9	15	117	8	61	14	9.2	29	6.8	33	6.903	21	15499	17	161	9
WinField 16XA7	1096	26	43.6	4	106	30	58	17	8.9	34	7.2	25	6.854	22	13972	33	148	24
BX EXP GLT	1084	27	44.3	2	117	7	52	27	10.3	16	8.4	2	6.232	32	17764	2	172	3
CROPLAN 3885	1080	28	42	14	125	1	53	26	9.6	27	7.2	26	6.507	29	15421	18	155	13
NG3406 B2XF	1059	29	40.8	25	103	33	68	2	10.6	9	7.6	13	6.554	27	16825	10	159	11
ST 4848GLT	1052	30	43.1	6	110	24	58	17	10.3	17	8.1	5	6.372	30	16858	9	163	8
ST 5115GLT	1049	31	39.6	32	114	19	45	35	11.8	2	7.9	6	6.350	31	17559	3	155	14
AMX1601 B2XF	1018	32	42.1	11	115	13	47	33	10.0	22	7.5	16	6.010	34	15205	21	150	20
DG 3526 B2XF	1013	33	43	8	115	15	50	32	9.7	25	7.6	11	6.204	33	17070	7	171	4
ST 5289GLT	991	34	38.8	34	113	23	46	34	9.9	23	6.5	35	6.675	26	14307	31	142	30
DG 3544 B2XF	955	35	38.1	35	113	21	55	25	12.2	1	7.7	9	5.739	35	16106	13	139	35
Mean	1133		41.5		113		58		10.2		7.5		6.888		15749		153	
Var. LSD 0.10	53		0.7		4		4		0.3		0.3		0.322		625		6	
Loc. LSD 0.10	20		0.3		1		2		0.1		0.1		0.121		235		2	
C.V.%	10.9		2.2		7.5		16.2		4.3		5.0		11.0		5.4		5.0	
R-sq x 100	78.7		90.8		80.8		63.2		90.8		85.7		78.4		86.2		83.5	
Prob (var x loc)	<0.0001		0.077		<0.0001		<0.0001		0.160		0.092		<0.0001		0.024		0.003	

Table 5. Fiber properties–2016 Arkansas Transgenic Cotton Variety Test across five test sites.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
PHY 312 WRF	1284	1	71	8	4.5	29	1.22	10	86.9	5	31.9	9	6.3	30
PHY 444 WRF	1244	2	81	2	4.0	35	1.27	1	87.1	2	31.2	19	6.8	19
DP 1646 B2XF	1242	3	84	1	4.5	26	1.27	2	86.1	14	30.5	24	7.3	11
DP 1518 B2XF	1220	4	72	7	4.3	33	1.22	11	86.8	6	30.5	26	6.5	25
ST 4946GLB2	1203	5	59	22	4.8	8	1.19	20	86.0	16	33.3	4	6.7	21
NG3405 B2XF	1197	6	47	33	4.5	28	1.15	33	85.6	24	28.1	34	6.8	18
MON 15R513B2XF	1193	7	62	17	5.0	2	1.21	15	86.2	12	31.8	12	7.5	9
DP 1522 B2XF	1192	8	55	26	4.7	9	1.19	25	85.0	29	32.0	7	8.3	2
PHY 333 WRF	1191	9	72	6	4.3	34	1.23	8	86.3	10	30.3	29	6.3	28
DP 1725 B2XF	1175	10	57	25	4.6	21	1.19	23	85.2	27	30.0	31	5.8	33
Dyna-Gro CT15684	1166	11	65	16	4.7	13	1.21	17	85.6	24	31.3	18	6.6	22
DP 1612 B2XF	1165	12	69	10	4.7	14	1.23	8	86.0	16	32.6	5	7.0	15
AMX1604 B2XF	1165	13	62	18	4.7	15	1.20	19	85.8	22	31.8	11	5.2	35
NG3522 B2XF	1162	14	39	35	4.6	22	1.14	35	84.5	34	28.0	35	6.6	23
DP 1639 B2XF	1160	15	58	23	4.8	6	1.19	25	86.3	9	34.5	1	7.0	17
BX 1737GLT	1159	16	75	3	4.6	20	1.24	3	86.3	10	31.6	15	7.2	12
AMX1605 B2XF	1155	17	55	27	4.7	11	1.18	28	85.8	21	32.0	8	5.5	34
DG 3385 B2XF	1146	18	61	20	4.6	16	1.19	22	86.0	18	30.5	23	7.7	8
BX 1775GLTP	1136	19	67	12	4.5	27	1.22	12	85.0	30	30.5	24	7.8	5
BX 1776GLTP	1123	20	65	15	4.6	18	1.21	18	85.9	20	30.1	30	7.4	10
Dyna-Gro CPS16214	1121	21	65	14	4.9	3	1.21	16	87.0	4	31.9	10	7.7	6
CROPLAN 3475	1120	22	71	9	4.9	5	1.23	4	86.4	8	30.9	21	7.1	14
MON 16R229B2XF	1117	23	46	34	4.7	9	1.15	34	85.2	28	31.6	14	6.3	29
DP 1614 B2XF	1113	24	68	11	4.9	4	1.23	7	86.6	7	31.7	13	7.7	7
AMX1603 B2XF	1110	25	53	29	4.5	31	1.18	27	84.3	35	29.6	33	7.2	12
WinField 16XA7	1096	26	61	19	5.0	1	1.21	14	86.1	13	30.6	22	7.0	16
BX EXP GLT	1084	27	48	32	4.8	7	1.16	32	85.3	26	31.5	16	6.8	20
CROPLAN 3885	1080	28	60	21	4.6	19	1.19	23	86.1	15	30.3	28	7.9	3
NG3406 B2XF	1059	29	54	28	4.5	25	1.16	31	85.9	19	30.4	27	7.8	4
ST 4848GLT	1052	30	58	24	4.7	12	1.19	21	85.6	23	31.4	17	6.4	27
ST 5115GLT	1049	31	51	30	4.6	23	1.17	29	84.7	32	32.3	6	6.6	24
AMX1601 B2XF	1018	32	73	5	4.6	17	1.23	6	87.1	3	34.0	2	6.5	25
DG 3526 B2XF	1013	33	50	31	4.5	24	1.16	30	84.9	31	31.1	20	8.4	1
ST 5289GLT	991	34	65	13	4.4	32	1.21	13	84.7	32	29.7	32	5.8	32
DG 3544 B2XF	955	35	75	4	4.5	29	1.23	5	87.2	1	33.8	3	5.9	31
Mean	1133		62		4.6		1.20		85.9		31.2		6.9	
Var. LSD 0.10	53		8		0.2		0.02		0.7		0.9		0.4	
Loc. LSD 0.10	20		ns		0.1		0.01		0.3		0.4		0.2	
C.V.%	10.9		16.9		4.8		2.2		1.2		4.1		8.3	
R-sq x 100	78.7		74.8		86.0		81.3		72.1		80.0		82.9	
Prob (var x loc)	<0.0001		0.256		0.002		0.531		0.287		0.116		0.244	

[a] UI = Fiber length uniformity Index.

Table 6. Yield and related properties–2016 Ark. Cotton Variety Test, with irrigation on a Routon-Dundee-Crevasse complex soil at Manila.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
DP 1518 B2XF	1546	1	40.3	24	107	7	66	20	10.7	18	7.3	26	9.332	1	16118	18	152	17
PHY 444 WRF	1464	2	40.7	18	105	12	53	34	12.1	4	8.6	2	8.050	10	20769	1	180	1
PHY 312 WRF	1417	3	41.0	14	105	11	73	8	11.3	8	8.1	6	8.159	7	16874	12	153	15
BX 1775GLTP	1369	4	40.4	21	103	16	68	16	9.6	32	6.7	34	8.951	2	14216	32	144	24
DP 1646 B2XF	1367	5	42.8	5	104	13	56	31	9.4	34	7.2	28	7.858	12	15229	25	156	13
NG3405 B2XF	1353	6	39.5	28	89	33	81	2	10.9	15	7.4	22	8.374	3	17281	8	161	8
Dyna-Gro CT15684	1349	7	41.3	13	109	3	58	29	10.2	24	7.3	27	8.153	8	15063	26	147	21
PHY 333 WRF	1345	8	40.5	20	108	5	70	11	11.8	5	8.3	3	7.400	22	17342	7	153	14
DG 3385 B2XF	1336	9	40.2	25	95	31	78	6	10.8	16	7.5	19	8.369	4	15801	21	148	19
DP 1612 B2XF	1327	10	39.0	32	94	32	81	2	11.4	6	7.5	17	8.220	5	15311	23	138	31
DP 1725 B2XF	1325	11	43.8	1	96	29	79	5	9.7	30	7.8	12	7.347	23	17148	9	172	3
BX 1737GLT	1307	12	39.7	26	106	10	60	27	11.2	10	7.6	16	8.187	6	14932	27	136	32
AMX1605 B2XF	1299	13	39.1	31	108	6	75	7	11.0	12	7.2	29	7.736	13	15310	24	141	27
MON 15R513B2XF	1297	14	40.3	23	103	15	81	4	11.0	13	7.6	15	8.020	11	14400	31	133	35
CROPLAN 3475	1293	15	42.4	9	98	23	66	18	9.7	29	7.4	21	7.714	15	14481	30	145	22
NG3522 B2XF	1284	16	40.9	16	88	34	73	9	10.9	14	7.8	13	7.718	14	17345	5	161	7
ST 4946GLB2	1283	17	39.3	29	95	30	63	23	13.2	1	8.8	1	7.039	28	16453	14	134	33
MON 16R229B2XF	1280	18	42.5	6	101	19	63	24	8.9	35	6.8	33	8.149	9	14740	28	156	12
BX 1776GLTP	1265	19	39.7	27	107	8	64	22	11.1	11	7.5	20	7.480	19	16615	13	153	16
DP 1639 B2XF	1259	20	43.6	2	107	9	66	20	9.8	27	7.9	10	7.228	24	16394	15	163	6
AMX1604 B2XF	1258	21	39.1	30	112	2	66	18	11.3	9	7.3	24	7.478	20	16215	16	147	20
DP 1614 B2XF	1252	22	41.9	10	99	22	62	25	9.5	33	7.1	31	7.691	16	13753	35	140	28
AMX1603 B2XF	1248	23	41.4	12	102	18	69	14	9.8	28	7.0	32	7.204	25	15823	20	158	10
DP 1522 B2XF	1243	24	40.5	19	100	20	68	16	10.7	17	7.5	18	7.612	18	15346	22	144	23
Dyna-Gro CPS16214	1225	25	40.4	22	109	4	70	11	10.5	23	7.3	25	7.675	17	14010	33	134	34
WinField 16XA7	1221	26	42.5	7	96	28	69	15	9.7	30	7.4	23	7.427	21	13906	34	140	29
ST 4848GLT	1201	27	42.8	4	102	17	70	11	10.6	19	8.1	5	7.149	26	17776	3	168	4
BX EXP GLT	1188	28	43.4	3	104	14	60	27	10.2	24	8.0	7	7.139	27	17879	2	174	2
DG 3526 B2XF	1125	29	41.8	11	98	23	61	26	10.5	21	7.8	14	6.800	30	17342	6	165	5
CROPLAN 3885	1121	30	40.7	17	112	1	54	33	10.0	26	7.1	30	6.760	31	16188	17	159	9
DG 3544 B2XF	1104	31	37.8	35	97	26	71	10	12.6	2	7.8	11	6.417	34	16938	10	143	26
NG3406 B2XF	1099	32	41.0	15	84	35	87	1	11.4	7	8.2	4	6.677	32	17380	4	157	11
ST 5115GLT	1096	33	38.6	33	98	25	50	35	12.4	3	7.9	8	6.553	33	16877	11	144	25
AMX1601 B2XF	1089	34	42.5	8	99	21	58	29	10.5	22	7.9	9	6.175	35	15900	19	152	18
ST 5289GLT	1037	35	38.4	34	96	27	55	32	10.6	20	6.7	35	6.868	29	14656	29	139	30
Mean	1265		40.9		101		67		10.7		7.6		7.575		151		151	
LSD 0.10	121		1.1		7		9		0.7		0.5		0.725		10		10	
C.V.%	11.6		1.6		8.7		16.7		3.7		3.6		11.6		4.0		4	
R-sq x 100	40.8		91.5		41.7		44.4		92.3		86.7		42.8		88.9		88.9	

Table 7. Fiber properties–2016 Arkansas Transgenic Cotton Variety Test, with irrigation on a Routon-Dundee-Crevasse complex soil at Manila.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
DP 1518 B2XF	1546	1	71	11	4.3	28	1.23	16	86.7	14	30.4	23	6.9	23
PHY 444 WRF	1464	2	78	4	3.8	35	1.28	2	86.9	13	32.2	10	6.7	28
PHY 312 WRF	1417	3	76	6	4.4	21	1.24	11	87.9	6	30.8	20	6.7	26
BX 1775GLTP	1369	4	69	14	4.5	19	1.25	8	85.3	34	30.3	25	7.4	11
DP 1646 B2XF	1367	5	86	1	4.3	28	1.30	1	86.1	23	30.5	22	7.3	16
NG3405 B2XF	1353	6	51	29	4.2	34	1.19	28	85.6	27	28.2	35	6.7	27
Dyna-Gro CT15684	1349	7	70	13	4.6	13	1.25	7	85.6	27	30.9	18	6.9	22
PHY 333 WRF	1345	8	83	2	4.3	27	1.27	3	87.4	10	30.6	21	6.9	23
DG 3385 B2XF	1336	9	49	30	4.7	7	1.19	28	85.3	33	30.1	27	8.0	7
DP 1612 B2XF	1327	10	73	9	4.6	13	1.25	8	86.9	12	33.3	4	7.7	8
DP 1725 B2XF	1325	11	61	24	4.4	24	1.21	23	86.7	14	29.2	30	5.9	32
BX 1737GLT	1307	12	75	8	4.7	9	1.27	5	86.4	17	31.3	16	7.1	20
AMX1605 B2XF	1299	13	61	22	4.5	18	1.19	26	87.9	6	32.9	8	5.6	34
MON 15R513B2XF	1297	14	69	14	4.9	4	1.24	11	88.1	4	32.6	9	8.5	5
CROPLAN 3475	1293	15	83	2	4.6	16	1.27	3	88.5	1	30.9	18	7.2	17
NG3522 B2XF	1284	16	43	35	4.6	13	1.15	34	85.5	31	28.9	34	6.8	25
ST 4946GLB2	1283	17	67	16	4.9	1	1.23	17	88.4	2	34.0	2	7.1	18
MON 16R229B2XF	1280	18	44	34	4.7	9	1.15	35	86.4	17	32.0	12	6.4	29
BX 1776GLTP	1265	19	71	11	4.2	32	1.24	11	86.4	19	29.0	32	7.7	9
DP 1639 B2XF	1259	20	49	30	4.8	5	1.17	32	86.4	19	34.6	1	7.4	11
AMX1604 B2XF	1258	21	61	22	4.4	24	1.21	23	86.6	16	33.1	6	5.1	35
DP 1614 B2XF	1252	22	71	10	4.8	5	1.26	6	86.3	22	31.6	13	7.5	10
AMX1603 B2XF	1248	23	63	19	4.3	28	1.22	19	85.7	26	30.2	26	7.4	11
DP 1522 B2XF	1243	24	59	26	4.7	7	1.21	22	86.1	23	32.2	11	8.9	1
Dyna-Gro CPS16214	1225	25	61	24	4.9	1	1.22	19	87.6	9	28.9	33	8.2	6
WinField 16XA7	1221	26	66	17	4.9	1	1.24	11	87.4	10	29.1	31	7.4	11
ST 4848GLT	1201	27	62	20	4.4	21	1.22	19	85.2	35	31.5	15	6.2	30
BX EXP GLT	1188	28	51	28	4.5	19	1.17	33	86.4	19	33.0	7	7.4	15
DG 3526 B2XF	1125	29	55	27	4.4	21	1.19	25	85.4	32	31.0	17	8.7	3
CROPLAN 3885	1121	30	62	20	4.2	32	1.19	26	88.0	5	30.4	24	8.8	2
DG 3544 B2XF	1104	31	76	6	4.3	28	1.24	11	87.8	8	33.2	5	6.2	30
NG3406 B2XF	1099	32	47	33	4.7	9	1.18	31	85.8	25	29.9	28	8.7	4
ST 5115GLT	1096	33	49	32	4.7	9	1.19	28	85.6	29	31.6	14	7.0	21
AMX1601 B2XF	1089	34	78	4	4.6	16	1.25	8	88.3	3	33.8	3	7.1	18
ST 5289GLT	1037	35	64	18	4.4	24	1.23	18	85.5	30	29.5	29	5.7	33
Mean	1265		64		4.5		1.20		86.8		31.2		7.2	
LSD 0.10	121		16		0.3		0.04		1.4		1.8		0.9	
C.V.%	11.6		14.8		4.3		1.8		1.0		3.4		7.1	
R-sq x 100	40.8		75.2		77.7		84.0		74.1		82.8		86.8	

[a] UI = Fiber length uniformity Index.

Table 8. Yield and related properties–2016 Ark. Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
BX 1737GLT	1485	1	40.9	31	98	15	62	15	10.5	5	7.5	18	8.959	3	15437	16	147	27
PHY 312 WRF	1485	2	43.1	20	95	19	69	7	10.2	8	7.9	6	8.565	7	15804	11	154	16
CROPLAN 3885	1479	3	43.7	13	106	2	46	31	9.2	25	7.5	21	8.483	9	14499	25	150	20
ST 4946GLB2	1468	4	41.0	30	95	20	76	2	10.8	3	7.7	15	8.653	6	17693	3	166	7
DP 1646 B2XF	1464	5	44.6	6	99	14	52	26	8.4	33	7.0	32	9.045	2	13452	34	147	26
DP 1522 B2XF	1451	6	43.4	16	93	21	72	4	9.8	19	7.8	13	8.108	14	15778	12	157	12
DP 1639 B2XF	1447	7	44.3	11	106	3	34	35	8.9	31	7.3	24	8.427	11	13879	29	147	24
PHY 444 WRF	1422	8	44.9	5	102	7	49	28	11.2	2	9.4	1	7.845	20	20178	1	184	1
BX 1776GLTP	1411	9	42.7	25	88	30	78	1	9.1	27	7.0	31	8.449	10	15203	18	158	10
AMX1601 B2XF	1411	10	43.0	22	92	22	47	30	9.9	13	7.8	14	8.236	13	14059	27	140	33
ST 5289GLT	1397	11	40.6	34	99	10	49	28	9.3	23	6.6	35	9.257	1	14419	26	148	22
BX 1775GLTP	1374	12	41.5	27	103	6	56	23	9.8	17	7.2	27	8.912	4	16313	8	163	8
ST 4848GLT	1361	13	44.4	9	87	31	60	17	9.7	20	7.9	8	8.531	8	15078	20	151	18
BX EXP GLT	1343	14	46.2	2	97	16	58	20	9.8	17	8.7	2	7.394	27	17753	2	177	2
ST 5115GLT	1343	15	41.3	28	104	4	46	31	10.8	4	7.8	10	8.693	5	16135	9	152	17
MON 15R513B2XF	1338	16	43.2	19	99	12	67	8	9.9	10	7.8	11	8.330	12	14592	24	144	29
NG3405 B2XF	1335	17	43.5	15	88	29	72	4	9.9	12	7.8	9	7.854	19	17431	4	173	5
PHY 333 WRF	1323	18	44.4	10	92	23	61	16	9.8	14	8.0	5	7.615	23	16776	6	167	6
DP 1725 B2XF	1317	19	45.8	3	90	25	59	19	9.0	28	7.9	7	6.915	32	16709	7	175	4
Dyna-Gro CT15684	1294	20	44.0	12	99	11	53	25	9.5	21	7.6	17	7.973	16	15190	19	155	15
AMX1603 B2XF	1291	21	43.2	17	104	5	57	21	8.9	30	6.9	33	7.955	17	14867	22	158	11
DP 1612 B2XF	1288	22	40.9	32	87	32	65	10	10.5	6	7.5	22	8.073	15	14909	21	142	30
NG3522 B2XF	1266	23	42.8	23	85	35	65	10	9.4	22	7.3	25	7.666	22	15576	15	160	9
DP 1518 B2XF	1256	24	41.7	26	96	17	52	26	10.0	9	7.4	23	7.167	30	15295	17	151	19
NG3406 B2XF	1231	25	43.2	18	87	33	70	6	9.8	15	7.7	16	7.740	21	15656	14	156	14
MON 16R229B2XF	1230	26	43.6	14	102	8	56	23	8.9	29	7.0	29	7.869	18	14011	28	148	23
AMX1604 B2XF	1225	27	40.6	33	96	18	65	10	9.8	15	6.9	34	7.212	29	13455	33	134	35
CROPLAN 3475	1212	28	44.6	7	86	34	64	13	8.4	34	7.1	28	7.435	26	13541	32	149	21
Dyna-Gro CPS16214	1183	29	42.8	24	111	1	57	21	9.3	24	7.3	26	7.128	31	13722	30	141	32
DP 1614 B2XF	1178	30	45.3	4	90	26	66	9	8.7	32	7.5	20	7.570	24	13645	31	146	28
AMX1605 B2XF	1177	31	41.3	29	91	24	60	17	10.3	7	7.5	19	6.745	34	14724	23	142	31
DG 3385 B2XF	1173	32	43.1	21	89	27	73	3	9.9	10	7.8	12	7.282	28	15820	10	156	13
WinField 16XA7	1161	33	44.4	8	88	28	63	14	8.3	35	7.0	30	7.506	25	13341	35	147	25
DG 3526 B2XF	1150	34	46.3	1	101	9	41	34	9.2	26	8.1	4	6.856	33	16886	5	176	3
DG 3544 B2XF	1116	35	40.2	35	99	12	43	33	12.3	1	8.5	3	6.260	35	15721	13	134	34
Mean	1317		43.2		96		59		9.7		7.6		7.906		15359		154	
LSD 0.10	120		1.4		7		11		0.8		0.7		0.724		1223		12	
C.V.%	8.7		2.0		7.5		17.2		5.0		5.7		8.7		4.7		4.4	
R-sq x 100	54.9		88.3		68.3		59.9		85.2		77.2		58.3		89.7		86.7	

Table 9. Fiber properties–2016 Arkansas Transgenic Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
BX 1737GLT	1485	1	70	7	4.7	27	1.21	11	86.3	13	32.7	9	6.7	15
PHY 312 WRF	1485	2	74	5	4.8	24	1.22	5	86.6	7	31.5	23	5.9	28
CROPLAN 3885	1479	3	70	8	4.9	16	1.21	8	86.9	2	30.2	29	7.7	5
ST 4946GLB2	1468	4	58	24	4.4	33	1.17	29	85.5	21	32.5	11	7.0	12
DP 1646 B2XF	1464	5	81	2	4.8	22	1.26	1	85.9	16	31.6	19	7.1	11
DP 1522 B2XF	1451	6	57	25	4.9	16	1.18	25	85.4	22	32.5	11	8.7	1
DP 1639 B2XF	1447	7	76	4	5.0	15	1.23	4	86.3	12	35.7	1	6.4	18
PHY 444 WRF	1422	8	87	1	4.3	35	1.25	2	86.8	4	32.3	14	6.1	24
BX 1776GLTP	1411	9	63	17	4.6	31	1.19	23	85.1	23	28.8	33	7.6	6
AMX1601 B2XF	1411	10	77	3	5.1	7	1.25	3	87.0	1	35.0	2	6.2	21
ST 5289GLT	1397	11	60	20	4.6	28	1.19	21	83.0	35	30.0	31	5.5	32
BX 1775GLTP	1374	12	67	12	4.4	34	1.21	11	84.5	27	30.9	25	8.0	4
ST 4848GLT	1361	13	60	21	5.1	7	1.20	18	85.9	16	31.4	24	6.2	21
BX EXP GLT	1343	14	32	34	5.2	2	1.13	33	83.8	32	30.8	26	6.4	18
ST 5115GLT	1343	15	40	32	5.1	13	1.14	32	83.8	31	32.7	9	6.2	21
MON 15R513B2XF	1338	16	53	26	5.3	1	1.19	22	85.6	20	32.2	15	7.0	14
NG3405 B2XF	1335	17	52	29	4.6	31	1.15	30	85.7	19	28.0	34	7.2	10
PHY 333 WRF	1323	18	70	8	4.6	30	1.21	6	86.1	14	29.8	32	6.6	16
DP 1725 B2XF	1317	19	50	30	4.9	20	1.17	26	83.4	34	31.6	19	5.2	33
Dyna-Gro CT15684	1294	20	71	6	4.8	22	1.21	8	86.4	11	33.7	5	5.7	30
AMX1603 B2XF	1291	21	64	14	4.6	28	1.21	11	84.3	28	30.1	30	7.2	8
DP 1612 B2XF	1288	22	62	18	4.9	16	1.21	11	84.9	25	33.2	7	6.3	20
NG3522 B2XF	1266	23	23	35	5.1	7	1.10	35	83.7	33	26.9	35	5.7	29
DP 1518 B2XF	1256	24	64	14	4.7	26	1.19	23	86.6	7	31.8	18	5.9	26
NG3406 B2XF	1231	25	61	19	4.9	20	1.17	26	86.9	3	32.5	11	7.0	12
MON 16R229B2XF	1230	26	53	28	5.0	14	1.17	28	85.7	18	33.8	3	5.7	30
AMX1604 B2XF	1225	27	68	11	4.9	16	1.21	11	86.7	5	32.2	16	5.1	35
CROPLAN 3475	1212	28	59	23	5.1	7	1.21	11	85.1	24	30.7	27	6.5	17
Dyna-Gro CPS16214	1183	29	66	13	5.1	11	1.21	8	86.7	6	32.8	8	7.2	8
DP 1614 B2XF	1178	30	64	14	5.2	2	1.21	6	86.5	9	33.8	4	7.4	7
AMX1605 B2XF	1177	31	42	31	5.2	5	1.15	30	84.8	26	31.6	19	5.9	26
DG 3385 B2XF	1173	32	69	10	4.8	24	1.20	18	86.5	9	31.9	17	8.1	2
WinField 16XA7	1161	33	53	26	5.2	5	1.20	18	84.0	29	31.6	19	6.1	25
DG 3526 B2XF	1150	34	35	33	5.1	11	1.13	33	84.0	29	30.6	28	8.0	3
DG 3544 B2XF	1116	35	60	21	5.2	2	1.21	11	86.1	15	33.3	6	5.1	34
Mean	1317		90		4.9		1.19		85.5		31.7		6.6	
LSD 0.10	120		16		0.3		0.05		1.6		2.2		1.2	
C.V.%	8.7		15.4		3.9		2.3		1.1		4.0		10.7	
R-sq x 100	54.9		82.7		79.5		77.1		76.1		79.9		77.4	

[a] UI = Fiber length uniformity Index.

Table 10. Yield and related properties–2016 Ark. Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre[1]	r	Fibers/ seed	r	Fiber density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
MON 15R513B2XF	1017	1	39.5	24	140	11	57	4	10.2	13	6.8	22	7.048	1	14000	32	136	34
Dyna-Gro CPS16214	999	2	39.4	25	139	12	50	12	10.3	9	7.0	14	6.588	2	14282	31	138	32
AMX1604 B2XF	972	3	38.4	29	138	14	47	15	10.2	15	6.5	30	6.135	3	14286	30	139	31
PHY 333 WRF	942	4	40.6	17	135	18	62	1	10.3	10	7.2	8	5.769	8	16788	8	162	11
Dyna-Gro CT15684	936	5	42.3	8	142	4	39	24	9.5	24	7.1	9	6.026	6	15803	14	161	15
PHY 312 WRF	928	6	40.6	18	139	13	57	4	11.1	5	7.8	3	5.128	19	18601	2	171	5
NG3405 B2XF	921	7	39.5	23	120	34	60	3	10.5	8	7.2	7	6.044	5	16904	7	161	13
DP 1646 B2XF	894	8	42.7	4	142	6	36	29	8.8	32	6.7	26	5.722	9	14359	29	154	22
DG 3385 B2XF	891	9	40.5	20	122	32	56	7	10.2	14	7.1	10	5.938	7	16395	11	160	18
NG3522 B2XF	873	10	41.4	12	121	33	56	7	9.9	19	7.2	6	5.538	12	18209	4	180	2
DP 1612 B2XF	870	11	37.9	33	118	35	62	1	10.9	6	7.0	16	5.697	10	15543	18	144	28
AMX1605 B2XF	870	12	38.6	27	131	24	55	9	10.8	7	6.9	20	5.535	13	15661	16	147	27
DP 1522 B2XF	863	13	40.6	19	136	17	45	19	9.3	26	6.6	27	5.606	11	15382	20	158	19
PHY 444 WRF	853	14	40.7	16	135	19	37	27	11.2	4	8.0	1	5.164	17	19430	1	177	3
ST 4946GLB2	844	15	38.3	31	124	30	57	4	11.9	1	7.7	4	5.318	16	17122	6	150	24
MON 16R229B2XF	828	16	41.6	9	136	16	46	16	8.2	35	6.2	34	6.068	4	14995	26	167	6
NG3406 B2XF	807	17	38.8	26	123	31	55	9	10.3	11	6.7	23	5.503	14	16204	13	157	20
WinField 16XA7	793	18	42.5	6	133	21	42	22	8.8	30	6.9	21	5.337	15	15210	23	162	12
BX 1775GLTP	772	19	39.8	22	142	4	37	27	9.6	22	6.6	28	5.148	18	15354	21	155	21
DP 1614 B2XF	772	20	42.3	7	133	23	45	19	8.9	28	6.9	18	4.881	22	13920	33	147	26
AMX1603 B2XF	767	21	40.9	14	141	8	48	14	9.0	27	6.4	33	5.029	20	15282	22	160	17
CROPLAN 3475	759	22	42.6	5	133	22	46	16	8.4	34	6.5	29	4.979	21	13667	35	150	25
DG 3544 B2XF	726	23	36.6	35	138	15	39	24	11.9	1	7.0	13	4.857	23	15520	19	136	33
DP 1639 B2XF	710	24	43.0	3	141	7	36	29	8.8	31	7.0	15	4.602	26	15060	25	161	14
DP 1725 B2XF	708	25	44.4	1	128	28	54	11	8.5	33	7.0	12	4.173	31	16589	10	181	1
DG 3526 B2XF	699	26	41.0	13	130	26	46	16	9.6	23	6.9	19	4.482	27	17307	5	175	4
BX 1737GLT	692	27	38.4	28	146	2	33	34	10.2	12	6.7	25	4.797	24	14707	27	143	30
ST 5115GLT	686	28	38.3	32	134	20	36	29	11.5	3	7.3	5	4.465	28	18318	3	164	10
CROPLAN 3885	677	29	40.7	15	152	1	35	32	9.4	25	6.7	24	4.449	29	15645	17	160	16
BX EXP GLT	677	30	43.8	2	143	3	38	26	10.0	17	7.9	2	4.250	30	16777	9	166	8
DP 1518 B2XF	669	31	38.4	30	128	27	49	13	9.9	20	6.4	32	4.691	25	15206	24	151	23
BX 1776GLTP	600	32	40.3	21	128	29	42	22	10.0	16	6.9	17	3.837	34	14527	28	143	29
AMX1601 B2XF	581	33	41.5	10	140	10	35	32	8.8	29	6.4	31	3.910	33	15663	15	167	7
ST 4848GLT	577	34	41.5	11	131	25	45	19	9.7	21	7.1	11	4.114	32	16380	12	164	9
ST 5289GLT	503	35	37.1	34	140	9	29	35	10.0	17	6.1	35	3.531	35	13672	34	135	35
Mean	790		40.4		134		46		9.9		6.9		5.153		15793		157	
LSD 0.10	158		1.3		8		8		0.6		0.5		1.041		1734		16	
C.V.%	19.1		1.8		5.7		16.0		3.7		4.0		19.3		6.5		6.2	
R-sq x 100	51.8		92.8		65.3		67.1		93.3		84.0		50.1		79.9		77.3	

Table 11. Fiber properties–2016 Arkansas Transgenic Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
MON 15R513B2XF	1017	1	74	11	4.7	2	1.23	7	85.3	19	30.6	12	8.1	3
Dyna-Gro CPS16214	999	2	74	10	4.7	2	1.22	10	86.5	5	30.5	16	7.7	10
AMX1604 B2XF	972	3	65	17	4.5	8	1.21	16	84.3	30	30.8	11	5.5	34
PHY 333 WRF	942	4	70	13	4.2	29	1.21	12	84.9	24	29.0	28	6.3	29
Dyna-Gro CT15684	936	5	65	18	4.5	9	1.19	18	85.0	23	29.0	27	7.0	17
PHY 312 WRF	928	6	76	8	4.0	33	1.22	10	87.1	2	32.1	7	6.6	24
NG3405 B2XF	921	7	49	32	4.4	13	1.15	33	85.3	19	27.5	32	7.3	14
DP 1646 B2XF	894	8	90	1	4.2	28	1.29	1	86.1	10	29.3	23	7.9	5
DG 3385 B2XF	891	9	61	21	4.3	18	1.18	25	85.9	12	27.5	32	7.9	4
NG3522 B2XF	873	10	37	35	4.2	24	1.13	34	84.1	33	26.8	35	7.0	18
DP 1612 B2XF	870	11	81	4	4.2	24	1.25	3	85.6	14	32.0	8	6.9	20
AMX1605 B2XF	870	12	63	19	4.4	13	1.19	20	85.1	22	32.2	5	5.0	35
DP 1522 B2XF	863	13	60	23	4.3	20	1.19	22	84.4	27	31.0	10	7.8	7
PHY 444 WRF	853	14	89	2	3.8	35	1.28	2	86.6	4	30.5	15	6.1	32
ST 4946GLB2	844	15	66	16	4.4	11	1.19	18	85.4	18	33.0	4	6.3	29
MON 16R229B2XF	828	16	41	34	4.5	9	1.11	35	84.0	34	28.8	30	6.6	25
NG3406 B2XF	807	17	55	27	4.2	24	1.16	30	85.7	13	29.5	21	7.9	6
WinField 16XA7	793	18	70	13	4.4	11	1.21	15	85.5	15	29.9	19	7.8	9
BX 1775GLTP	772	19	60	23	4.3	20	1.19	20	84.1	31	29.1	26	7.5	11
DP 1614 B2XF	772	20	61	21	4.8	1	1.21	16	86.2	8	30.6	12	8.4	2
AMX1603 B2XF	767	21	45	33	4.4	13	1.15	31	83.4	35	27.5	34	7.4	12
CROPLAN 3475	759	22	68	15	4.7	2	1.21	12	84.8	25	30.6	14	6.9	20
DG 3544 B2XF	726	23	83	3	4.2	24	1.23	6	87.2	1	33.4	2	6.3	28
DP 1639 B2XF	710	24	53	29	4.7	2	1.15	31	86.3	7	33.3	3	7.2	15
DP 1725 B2XF	708	25	53	31	4.4	13	1.16	29	84.3	29	29.3	24	6.4	26
DG 3526 B2XF	699	26	57	26	4.1	31	1.17	26	85.2	21	29.4	22	8.4	1
BX 1737GLT	692	27	81	4	4.3	23	1.24	4	86.1	9	29.8	20	7.0	19
ST 5115GLT	686	28	53	29	4.1	30	1.17	26	84.1	31	32.1	6	6.7	23
CROPLAN 3885	677	29	54	28	4.4	13	1.17	26	84.4	28	29.2	25	7.4	12
BX EXP GLT	677	30	60	25	4.7	2	1.19	22	86.0	11	31.0	9	6.7	22
DP 1518 B2XF	669	31	76	7	4.0	32	1.21	12	87.0	3	28.7	31	7.1	16
BX 1776GLTP	600	32	75	9	4.6	7	1.23	9	85.5	15	30.2	18	7.8	7
AMX1601 B2XF	581	33	80	6	3.9	34	1.24	4	86.4	6	34.3	1	6.4	27
ST 4848GLT	577	34	63	20	4.3	20	1.19	22	85.4	17	30.3	17	6.3	29
ST 5289GLT	503	35	73	12	4.3	18	1.23	7	84.5	26	28.9	29	6.1	32
Mean	790		65		4.3		1.20		85.3		30.2		7.0	
LSD 0.10	158		17		0.4		0.04		1.8		2.1		0.9	
C.V.%	19.1		15.8		5.3		2.1		1.2		4.1		7.3	
R-sq x 100	51.8		77.6		68.5		82.9		64.2		81.2		84.1	

[a] UI = Fiber length uniformity Index.

Table 12. Yield and related properties–2016 Ark. Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
DP 1725 B2XF	1360	1	43.7	2	110	25	68	3	9.5	26	7.7	7	8.101	11	16846	8	171	5
DP 1518 B2XF	1336	2	38.2	33	118	12	55	12	10.1	21	6.5	33	9.278	1	15189	21	148	17
AMX1605 B2XF	1333	3	40.0	22	116	16	70	2	10.6	13	7.3	14	8.305	7	15742	15	149	16
AMX1604 B2XF	1323	4	39.6	25	115	18	71	1	10.4	18	6.9	24	8.615	3	15350	18	148	20
PHY 312 WRF	1317	5	41.7	9	117	13	52	21	10.8	11	8.0	4	7.520	18	17991	5	168	8
DP 1646 B2XF	1300	6	41.5	11	121	6	51	23	9.1	31	6.6	31	8.969	2	13743	31	144	25
DP 1639 B2XF	1282	7	44.0	1	121	5	53	18	8.6	34	7.0	23	8.334	5	15131	23	163	10
DP 1612 B2XF	1259	8	39.6	26	111	23	50	26	11.0	8	7.4	11	7.700	15	14024	30	130	35
PHY 444 WRF	1258	9	38.9	29	118	11	53	18	11.2	5	7.3	12	7.698	16	18841	1	172	2
NG3522 B2XF	1252	10	39.7	24	106	32	60	8	10.3	19	7.1	19	7.983	12	16840	9	162	11
NG3405 B2XF	1245	11	41.4	13	99	35	64	6	10.4	15	7.5	10	7.514	19	17899	6	171	4
ST 4946GLB2	1221	12	40.5	19	109	28	51	23	11.4	3	7.9	5	7.035	30	15301	19	138	32
DP 1522 B2XF	1220	13	39.2	27	120	7	49	28	10.0	22	6.7	27	8.195	9	14193	29	139	29
DP 1614 B2XF	1218	14	42.2	6	108	29	49	28	8.8	33	6.6	30	8.439	4	13328	34	143	27
WinField 16XA7	1206	15	43.3	4	106	33	55	12	8.9	32	7.1	20	7.902	13	13564	33	144	24
AMX1603 B2XF	1204	16	40.8	16	116	17	65	4	9.1	30	6.6	32	8.330	6	15818	14	165	9
Dyna-Gro CT15684	1199	17	40.6	18	110	27	65	4	9.3	29	6.6	29	8.170	10	14387	27	148	18
BX 1776GLTP	1197	18	41.7	8	106	31	58	11	10.4	17	7.6	8	7.094	29	14429	26	139	31
BX EXP GLT	1195	19	43.4	3	117	14	48	31	10.5	14	8.2	1	6.683	31	18116	4	173	1
BX 1737GLT	1194	20	38.6	31	118	10	46	32	10.9	9	7.1	21	7.599	17	15141	22	141	28
MON 15R513B2XF	1188	21	40.0	23	129	1	54	15	11.0	7	7.5	9	7.177	28	14536	25	134	33
PHY 333 WRF	1183	22	40.2	21	124	2	52	21	10.4	16	7.2	17	7.452	20	17651	7	169	7
DG 3385 B2XF	1168	23	38.8	30	107	30	55	12	11.0	6	7.3	13	7.223	26	15518	17	143	26
BX 1775GLTP	1168	24	40.4	20	111	22	54	15	10.2	20	7.2	18	7.361	21	14302	28	139	30
ST 4848GLT	1166	25	42.4	5	111	23	53	18	10.6	12	8.1	3	6.649	32	18121	3	171	3
NG3406 B2XF	1163	26	39.1	28	106	34	59	10	10.8	10	7.3	15	7.268	24	16573	12	155	14
Dyna-Gro CPS16214	1163	27	41.4	12	119	8	60	8	11.3	4	8.1	2	6.511	33	16191	13	147	23
CROPLAN 3885	1154	28	42.0	7	123	4	61	7	9.7	25	7.3	16	7.282	23	15621	16	157	13
CROPLAN 3475	1151	29	41.0	14	110	25	51	23	9.3	28	6.7	28	7.838	14	12864	35	132	34
AMX1601 B2XF	1107	30	40.6	17	124	3	42	33	9.7	24	6.8	26	7.313	22	15300	20	153	15
MON 16R229B2XF	1099	31	40.9	15	113	21	50	26	8.5	35	6.1	34	8.274	8	13596	32	148	19
DG 3526 B2XF	1097	32	41.6	10	119	9	49	28	9.3	27	6.9	25	7.243	25	16597	11	171	6
ST 5115GLT	1072	33	38.6	32	117	15	38	34	12.1	1	7.7	6	6.280	34	18201	2	158	12
ST 5289GLT	964	34	37.3	34	114	20	37	35	9.8	23	6.0	35	7.217	27	14739	24	147	22
DG 3544 B2XF	951	35	37.0	35	115	18	54	15	11.7	2	7.0	22	6.142	35	16638	10	148	21
Mean	1198		40.6		114		54		10.2		7.2		7.620		15666		152	
LSD 0.10	80		2.0		8		8		0.9		0.8		0.495		1655		15	
C.V.%	7.0		3.0		7.3		15.6		5.5		6.3		6.8		6.2		5.6	
R-sq x 100	67.1		80.6		48.2		53.5		84.2		75.1		75.0		84.4		82.3	

Table 13. Fiber properties–2016 Arkansas Transgenic Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
DP 1725 B2XF	1360	1	70	13	4.3	22	1.23	13	86.1	21	31.5	24	5.6	33
DP 1518 B2XF	1336	2	73	10	4.0	31	1.23	13	87.0	6	31.7	19	6.7	24
AMX1605 B2XF	1333	3	61	20	4.5	11	1.19	24	86.3	18	32.3	12	5.6	34
AMX1604 B2XF	1323	4	63	19	4.4	19	1.21	19	85.7	25	32.6	11	5.3	35
PHY 312 WRF	1317	5	73	8	4.2	30	1.23	12	86.8	10	33.6	6	6.0	32
DP 1646 B2XF	1300	6	84	1	4.4	19	1.28	2	86.7	13	30.9	30	7.3	14
DP 1639 B2XF	1282	7	59	22	4.5	11	1.19	27	86.7	15	33.9	5	7.3	13
DP 1612 B2XF	1259	8	66	15	4.9	3	1.24	10	87.0	8	32.1	17	7.5	8
PHY 444 WRF	1258	9	74	7	3.4	35	1.31	1	87.8	2	30.6	32	7.4	12
NG3522 B2XF	1252	10	52	28	4.3	24	1.19	27	84.5	34	30.3	33	6.4	27
NG3405 B2XF	1245	11	48	34	4.3	24	1.15	35	85.8	23	29.5	35	6.5	26
ST 4946GLB2	1221	12	55	24	5.0	2	1.21	18	85.7	26	34.5	2	6.7	23
DP 1522 B2XF	1220	13	54	25	4.7	7	1.19	24	85.2	30	32.2	13	8.4	2
DP 1614 B2XF	1218	14	82	2	4.5	11	1.26	6	87.8	2	31.6	20	8.2	3
WinField 16XA7	1206	15	66	15	4.9	4	1.23	16	87.9	1	32.1	15	7.3	15
AMX1603 B2XF	1204	16	45	35	4.3	24	1.17	34	83.8	35	30.3	33	7.3	15
Dyna-Gro CT15684	1199	17	65	17	4.4	18	1.21	20	86.7	14	31.8	18	6.7	22
BX 1776GLTP	1197	18	51	30	5.1	1	1.21	20	86.8	11	32.6	9	7.4	9
BX EXP GLT	1195	19	51	30	4.5	11	1.17	29	85.2	30	31.4	25	7.0	19
BX 1737GLT	1194	20	79	4	4.3	22	1.26	4	86.5	17	32.8	8	7.2	17
MON 15R513B2XF	1188	21	76	6	4.8	5	1.26	6	87.3	5	33.0	7	7.7	6
PHY 333 WRF	1183	22	73	8	3.8	34	1.25	8	86.8	9	31.5	21	6.0	31
DG 3385 B2XF	1168	23	59	22	4.6	9	1.20	23	85.8	23	31.5	21	7.2	18
BX 1775GLTP	1168	24	78	5	4.6	9	1.26	4	86.5	16	31.0	28	7.4	9
ST 4848GLT	1166	25	51	32	4.5	16	1.17	31	85.5	27	31.1	27	7.0	20
NG3406 B2XF	1163	26	53	27	4.4	19	1.17	31	86.3	18	30.8	31	8.2	4
Dyna-Gro CPS16214	1163	27	71	11	4.7	7	1.24	10	86.8	11	34.6	1	7.9	5
CROPLAN 3885	1154	28	60	21	4.5	11	1.21	20	85.9	22	31.0	28	7.4	9
CROPLAN 3475	1151	29	81	3	4.7	6	1.27	3	87.4	4	32.1	15	7.5	7
AMX1601 B2XF	1107	30	67	14	4.3	24	1.22	17	86.2	20	32.2	13	6.9	21
MON 16R229B2XF	1099	31	52	29	4.5	17	1.17	29	85.3	29	32.6	9	6.7	24
DG 3526 B2XF	1097	32	50	33	4.2	28	1.17	31	85.1	32	31.4	25	8.9	1
ST 5115GLT	1072	33	54	25	4.2	28	1.19	26	84.7	33	34.0	4	6.3	28
ST 5289GLT	964	34	65	17	3.9	33	1.23	13	85.3	28	31.5	23	6.0	30
DG 3544 B2XF	951	35	71	11	3.9	32	1.25	8	87.0	6	34.1	3	6.2	29
Mean	1198		64		4.4		1.21		86.2		32.0		7.0	
LSD 0.10	80		16		0.4		0.04		1.7		2.1		0.9	
C.V.%	7.0		15.4		4.8		2.0		1.2		4.0		7.4	
R-sq x 100	67.1		72.0		84.9		81.5		65.1		66.5		83.7	

[a] UI = Fiber length uniformity Index.

Table 14. Yield and related properties–2016 Ark. Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
PHY 312 WRF	1202	1	43.5	10	130	6	65	3	10.9	6	8.7	5	5.711	23	16953	9	158	11
ST 4946GLB2	1159	2	41.2	28	121	27	62	11	11.4	4	8.2	11	6.547	4	15744	16	142	30
DP 1522 B2XF	1157	3	41.8	24	120	28	64	6	10.7	12	7.9	18	6.717	1	15795	15	149	22
DP 1646 B2XF	1121	4	43.8	8	131	5	58	17	9.1	34	7.4	30	6.575	3	14256	32	149	23
PHY 444 WRF	1114	5	42.3	21	126	12	58	17	12.0	3	9.1	2	5.281	30	18263	4	159	10
DP 1518 B2XF	1096	6	41.6	26	124	16	57	24	10.2	20	7.6	27	6.272	10	15732	17	153	15
PHY 333 WRF	1089	7	42.6	19	126	10	63	9	10.8	10	8.3	10	6.686	2	17795	5	166	6
CROPLAN 3475	1085	8	44.4	5	122	22	55	29	9.3	32	7.6	25	6.535	5	13888	34	143	28
MON 15R513B2XF	1084	9	43.7	9	132	3	65	3	10.4	18	8.4	9	6.415	6	16279	12	156	12
MON 16R229B2XF	1066	10	42.0	22	121	23	60	14	9.4	31	7.1	34	6.356	8	14363	31	147	25
NG3522 B2XF	1063	11	43.0	14	114	33	64	6	10.0	24	7.8	20	6.228	11	17138	7	168	2
DP 1725 B2XF	1059	12	45.6	1	124	19	55	29	9.7	29	8.4	8	5.581	24	16590	11	167	5
DG 3385 B2XF	1058	13	41.6	27	115	31	61	13	10.7	13	8.0	16	6.014	15	16038	14	151	17
BX 1776GLTP	1056	14	40.5	33	121	26	58	17	10.2	22	7.3	32	6.176	12	15518	21	151	18
NG3405 B2XF	1054	15	42.8	16	114	34	66	1	10.5	16	8.1	14	6.389	7	16993	8	162	8
DP 1614 B2XF	1051	16	44.3	7	124	18	57	24	9.4	30	7.8	23	6.024	14	14788	27	151	20
BX 1737GLT	1042	17	40.8	31	124	17	51	32	10.9	8	7.8	21	6.048	13	14701	28	137	34
DP 1639 B2XF	1040	18	43.5	11	126	11	57	24	9.7	28	7.8	22	5.765	18	14834	26	149	21
ST 5289GLT	1024	19	40.7	32	121	25	56	28	9.9	25	7.0	35	6.346	9	14049	33	139	33
ST 5115GLT	1020	20	41.2	30	126	13	50	33	12.4	1	8.9	4	5.765	19	18264	3	155	13
WinField 16XA7	1018	21	45.3	2	114	35	57	24	9.0	35	7.8	19	5.765	20	13840	35	145	26
AMX1605 B2XF	1003	22	42.3	20	130	7	58	17	10.6	15	8.0	17	5.291	29	16139	13	153	16
DP 1612 B2XF	998	23	40.4	34	117	30	65	3	10.7	13	7.4	29	5.951	16	15104	24	143	29
AMX1604 B2XF	994	24	42.0	23	124	20	60	14	10.5	17	7.7	24	5.374	28	15051	25	144	27
Dyna-Gro CPS16214	987	25	42.7	18	125	15	66	1	10.4	19	8.0	15	5.749	22	14653	30	140	32
Dyna-Gro CT15684	972	26	43.3	12	115	32	58	17	9.7	27	7.6	26	5.812	17	14685	29	147	24
NG3406 B2XF	969	27	41.7	25	121	24	62	11	10.8	9	8.1	13	5.565	25	18311	1	171	1
AMX1603 B2XF	967	28	42.9	15	129	8	58	22	9.3	33	7.3	31	5.760	21	15706	19	162	7
BX EXP GLT	958	29	44.6	3	131	4	53	31	11.1	5	9.3	1	5.255	32	18294	2	168	3
CROPLAN 3885	957	30	42.7	17	135	1	63	8	9.8	26	7.6	28	5.465	26	15152	22	151	19
DG 3526 B2XF	929	31	44.3	6	133	2	47	35	10.2	21	8.4	7	5.262	31	17216	6	168	4
BX 1775GLTP	900	32	41.2	29	120	29	63	9	10.1	23	7.3	33	5.431	27	15676	20	153	14
ST 4848GLT	880	33	44.5	4	122	21	58	22	10.7	11	9.0	3	5.141	33	16935	10	159	9
AMX1601 B2XF	873	34	43.1	13	128	9	49	34	10.9	6	8.6	6	4.385	35	15105	23	141	31
DG 3544 B2XF	820	35	38.9	35	125	14	60	14	12.3	2	8.1	12	4.733	34	15712	18	134	35
Mean	1025		42.6		124		59		10.4		8.0		5.839		15873		152	
LSD 0.10	98		1.7		10		8		0.6		0.7		0.556		1388		11	
C.V.%	10.0		2.4		8.1		14.4		3.3		4.9		10.0		5.2		4.4	
R-sq x 100	51.0		82.0		34.5		31.8		92.2		80.9		57.2		84.0		81.7	

Table 15. Fiber properties–2016 Arkansas Transgenic Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
PHY 312 WRF	1202	1	59	16	5.1	15	1.17	17	86.2	8	31.5	12	6.4	24
ST 4946GLB2	1159	2	51	27	5.3	6	1.17	21	85.3	24	32.7	6	6.7	17
DP 1522 B2XF	1157	3	46	31	5.2	10	1.16	27	84.1	35	32.2	9	7.8	5
DP 1646 B2XF	1121	4	80	2	4.9	23	1.25	2	85.7	19	30.2	28	6.7	17
PHY 444 WRF	1114	5	79	3	4.6	32	1.25	1	87.6	4	30.3	26	7.7	6
DP 1518 B2XF	1096	6	79	3	4.6	32	1.21	5	86.8	5	29.9	29	5.8	30
PHY 333 WRF	1089	7	67	6	4.6	32	1.18	14	86.2	9	30.7	21	6.0	28
CROPLAN 3475	1085	8	66	7	5.3	6	1.21	6	86.5	7	30.4	24	7.2	10
MON 15R513B2XF	1084	9	39	34	5.4	4	1.14	32	85.1	28	30.5	23	6.6	21
MON 16R229B2XF	1066	10	41	33	5.2	10	1.13	34	84.8	30	30.8	20	6.4	26
NG3522 B2XF	1063	11	43	32	4.8	28	1.14	32	84.8	30	27.1	35	7.1	11
DP 1725 B2XF	1059	12	52	26	5.1	15	1.17	21	85.8	18	28.3	33	5.9	29
DG 3385 B2XF	1058	13	66	7	4.9	23	1.19	11	86.6	6	31.8	10	7.4	9
BX 1776GLTP	1056	14	65	11	4.7	30	1.17	17	85.8	16	30.2	27	6.6	19
NG3405 B2XF	1054	15	35	35	5.0	19	1.11	35	85.5	20	27.4	34	6.5	23
DP 1614 B2XF	1051	16	65	11	5.1	14	1.20	7	86.1	11	31.0	18	7.1	11
BX 1737GLT	1042	17	72	5	5.1	18	1.22	4	86.2	9	31.1	15	8.1	2
DP 1639 B2XF	1040	18	56	17	5.2	9	1.17	17	85.9	14	35.1	1	6.6	21
ST 5289GLT	1024	19	65	11	4.9	22	1.19	9	85.3	23	28.8	32	5.7	33
ST 5115GLT	1020	20	61	15	4.9	23	1.18	14	85.4	21	31.2	14	6.8	15
WinField 16XA7	1018	21	53	24	5.6	1	1.19	11	86.1	12	30.4	24	6.6	19
AMX1605 B2XF	1003	22	49	29	5.1	15	1.15	29	85.1	27	30.9	19	5.3	34
DP 1612 B2XF	998	23	66	7	4.8	26	1.19	10	85.8	16	32.6	8	6.9	14
AMX1604 B2XF	994	24	53	21	5.2	10	1.17	24	85.9	15	30.6	22	5.0	35
Dyna-Gro CPS16214	987	25	53	21	5.4	2	1.16	26	87.8	2	32.7	7	7.7	7
Dyna-Gro CT15684	972	26	53	21	5.2	8	1.19	11	84.1	34	31.2	13	7.0	13
NG3406 B2XF	969	27	53	24	4.6	35	1.14	31	85.1	25	29.5	31	7.5	8
AMX1603 B2XF	967	28	50	28	4.8	26	1.15	29	84.2	33	29.9	29	6.7	16
BX EXP GLT	958	29	48	30	5.2	10	1.15	28	85.1	25	31.6	11	6.4	24
CROPLAN 3885	957	30	56	17	5.0	19	1.17	21	85.4	22	31.1	17	8.0	3
DG 3526 B2XF	929	31	54	20	5.0	21	1.17	24	84.8	29	33.1	4	8.0	3
BX 1775GLTP	900	32	62	14	4.7	30	1.18	14	84.5	32	31.1	15	8.7	1
ST 4848GLT	880	33	54	19	5.3	5	1.17	17	86.0	13	33.1	4	6.2	27
AMX1601 B2XF	873	34	65	10	5.4	2	1.20	7	87.6	3	34.7	3	5.8	30
DG 3544 B2XF	820	35	87	1	4.8	28	1.23	3	88.0	1	35.0	2	5.8	30
Mean	1025		64		4.5		1.22		86.6		31.2		7.2	
LSD 0.10	98		16		0.3		0.04		1.4		1.8		0.9	
C.V.%	10.0		14.8		4.3		1.8		1.0		3.4		7.1	
R-sq x 100	51.0		75.2		77.7		84.0		74.1		82.8		86.8	

[a] UI = Fiber length uniformity Index.

Table 16. Morphological and host-plant resistance traits in the 2016 Arkansas Cotton Variety Test.

Variety	Leaf pubescence[a]	r	Stem pubescence[a]	r	Bract trichomes[b]	r	Tarnished plant bug damage[c]	r	Bacterial blight[d]
	rating		rating		no./cm		% dam. flowers		% sus
NG3405 B2XF	1.7	32	4.0	25	36.1	29	43	18	78
NG3406 B2XF	1.5	34	4.9	17	52.7	18	37	8	49
NG3522 B2XF	2.0	29	3.9	26	34.0	32	38	10	77
AMX1601 B2XF	2.1	28	5.1	14	48.2	19	39	12	58
AMX1603 B2XF	1.8	30	3.7	30	35.1	30	45	25	39
AMX1604 B2XF	2.3	25	1.1	35	44.1	23	52	29	0
AMX1605 B2XF	2.6	21	1.4	34	42.5	25	43	19	0
ST 4848GLT	4.2	3	5.5	8	57.6	12	53	30	68
ST 4946GLB2	3.2	16	4.5	18	55.2	15	30	2	55
BX EXP GLT	4.2	3	5.3	9	56.7	14	55	32	70
ST 5115GLT	2.2	26	4.3	23	47.0	20	54	31	0
ST 5289GLT	6.7	1	7.0	1	62.0	5	29	1	0
BX 1737GLT	2.6	22	3.8	28	41.4	27	57	33	0
BX 1775GLTP	2.2	26	3.1	32	28.4	34	57	34	0
BX 1776GLTP	2.3	24	3.5	31	29.7	33	61	35	0
CROPLAN 3475	3.7	8	5.3	10	62.4	4	38	11	50
CROPLAN 3885	3.7	10	3.7	29	34.1	31	42	17	29
WinField 16XA7	3.7	11	5.3	10	61.3	6	34	3	33
DG 3526 B2XF	4.5	2	3.9	26	45.2	22	44	22	42
DG 3385 B2XF	2.7	20	4.5	18	53.6	17	40	14	60
DG 3544 B2XF	1.7	31	2.6	33	27.0	35	47	27	0
Dyna-Gro CPS16214	3.3	13	5.3	10	60.9	7	44	23	22
Dyna-Gro CT15684	3.2	17	4.3	21	59.7	8	45	26	24
DP 1518 B2XF	3.3	13	6.0	3	59.0	10	35	4	0
DP 1522 B2XF	3.0	18	5.7	5	56.8	13	35	5	38
DP 1612 B2XF	3.7	8	5.2	13	70.2	1	39	13	4
DP 1639 B2XF	3.3	15	4.1	24	43.7	24	44	24	0
MON 15R513B2XF	4.1	5	6.1	2	65.2	3	41	15	0
DP 1614 B2XF	3.7	11	5.7	5	68.0	2	43	20	65
DP 1646 B2XF	1.6	33	5.0	15	42.1	26	43	21	7
DP 1725 B2XF	2.4	23	4.5	18	39.6	28	37	9	20
MON 16R229B2XF	2.8	19	5.7	7	54.7	16	36	6	13
PHY 312 WRF	3.8	7	4.9	16	59.3	9	36	7	23
PHY 333 WRF	3.9	6	6.0	3	58.7	11	51	28	50
PHY 444 WRF	1.2	35	4.3	21	46.4	21	41	16	35
Frego bract, ck.							89	37	
							86	36	
Mean	3.0		4.5		49.7		46		29
LSD 0.10	1.3		0.8		7.4		9.5		27
C.V.%	41.7		16.9		12.6		25.2		54.9
R-sq x 100	50.9		77.2		82.9		62.3		85.0

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

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

[c] 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.

[d] 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 2015 Manila location. Scatches were examined for water-soaking, and percent of susceptible plants were determined.

Table 17. Two-year and three-year average lint yields (lb/a) for transgenic varieties at the five locations of the 2014-2016 Arkansas Cotton Variety Test.

Variety	Traits	Manila Irrigated		Keiser Irrigated	r	Judd Hill Irrigated	r	Marianna Irrigated	r	Rohwer Irrigated	r	All locations	r
		lb/A		lb/A		lb/A		lb/A		lb/A		lb/A	
						Two-year (2015-2016) means							
PHY 312 WRF	WRF	1480	4	1233	1	1149	1	1554	2	1419	1	1270	1
PHY 444 WRF	WRF	1503	2	1131	5	1014	13	1491	5	1350	3	1232	2
DP 1646 B2XF	B2XF	1485	3	1137	3	1128	4	1476	6	1345	4	1226	3
DP 1522 B2XF	B2XF	1341	8	1134	4	1106	5	1536	3	1411	2	1196	4
ST 4946GLB2	GLB2	1343	6	1162	2	1039	10	1398	12	1335	5	1190	5
DP 1518 B2XF	B2XF	1559	1	1077	12	1027	11	1603	1	1328	7	1188	6
MON 15R513B2XF	B2XF	1308	12	1084	10	1097	7	1434	9	1282	9	1181	7
NG3405 B2XF	B2XF	1268	13	1078	11	1054	9	1383	14	1239	16	1181	8
PHY 333 WRF	WRF	1403	5	1124	6	1147	2	1451	8	1332	6	1173	9
DP 1612 B2XF	B2XF	1330	10	1120	7	1070	8	1501	4	1253	14	1153	10
DP 1639 B2XF	B2XF	1223	14	1106	8	935	17	1411	11	1220	17	1148	11
NG3522 B2XF	B2XF	1324	11	1054	14	1106	6	1462	7	1265	11	1146	12
DG 3385 B2XF	B2XF	1343	7	1046	16	1138	3	1423	10	1291	8	1125	13
DP 1614 B2XF	B2XF	1341	9	976	17	1017	12	1384	13	1262	12	1086	14
NG3406 B2XF	B2XF	1214	15	1053	15	964	14	1371	15	1260	13	1055	15
ST 5115GLT	GLT	1168	16	1092	9	941	16	1309	17	1269	10	1049	16
DG 3526 B2XF	B2XF	1140	18	870	18	944	15	1328	16	1187	18	994	17
ST 5289GLT	GLT	1145	17	1064	13	794	18	1167	18	1243	15	993	18
Mean		1329		1085		1037		1427		1294		1144	
						Three-year (2014-2016) means							
PHY 312 WRF	WRF	1489	1	1362	1	1231	1	1510	1	1525	1	1427	1
PHY 333 WRF	WRF	1380	2	1248	2	1174	2	1481	2	1418	4	1331	2
ST 4946GLB2	GLB2	1335	3	1238	3	1065	3	1417	3	1493	2	1306	3
PHY 444 WRF	WRF	1333	4	1222	4	1051	4	1362	4	1427	3	1211	4
ST 5289GLT	GLT	1171	5	1148	5	810	5	1195	5	1391	5	1154	5
Mean		1341		1244		1066		1393		1451		1286	

Table 18. Yield and related properties–2016 Arkansas Cotton Variety Test across four test sites.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre[1]	r	Fibers/ seed	r	Fiber density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
Ark 0701-17	1098	1	39.7	1	119	6	63	1	11.9	4	8.0	1	6.289	1	16362	1	143	1
SSG UA222	1010	2	38.9	2	119	5	47	7	11.9	3	7.8	3	6.045	3	15344	3	135	4
Ark 0614-49	989	3	38.5	3	119	7	61	3	11.5	6	7.4	5	6.137	2	13963	8	125	8
DP 393	969	4	38.1	6	118	8	62	2	11.6	5	7.4	6	6.041	4	14359	5	128	7
AM UA48	935	5	36.2	10	109	9	57	5	13.1	1	7.6	4	5.583	7	12635	10	103	10
SSG UA103	932	6	38.2	5	120	4	58	4	12.3	2	7.8	2	5.459	8	15574	2	133	5
BRS - 286	843	7	37.6	8	132	1	49	6	10.9	8	6.7	8	5.677	5	14658	4	137	2
SSG HQ 210CT	787	8	37.6	7	109	10	44	8	10.3	10	6.4	10	5.603	6	12846	9	124	9
BRS - 293	779	9	38.4	4	126	3	41	9	11.3	7	7.2	7	4.890	10	14286	6	130	6
BRS - 335	744	10	37.5	9	131	2	40	10	10.5	9	6.4	9	5.266	9	14136	7	135	3
Mean	909		38.1		120		52		11.5		7.3		5.699		14416		129	
Var. LSD 0.10	132		0.6		3		4		0.4		0.3		0.314		662		5	
Loc. LSD 0.10	81		0.4		2		2		0.3		0.2		0.212		417		3	
C.V.%	11.3		1.9		5.1		15.5		4.0		4.8		11.3		5.4		4.9	
R-sq x 100	84.2		90.7		92.2		73.5		89.5		89.4		85.8		85.7		88.2	
Prob (var x loc)	<0.0001		0.016		<0.0001		<0.0001		0.203		0.083		<0.0001		0.891		0.935	

Table 19. Fiber properties–2016 Arkansas Conventional Cotton Variety Test across four test sites.

Variety	Lint yield	r	Quality score	r	Fiber properties: Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
Ark 0701-17	1098	1	68	3	4.6	8	1.24	3	86.4	5	32.6	8	6.4	7
SSG UA222	1010	2	67	4	4.7	6	1.24	4	86.6	4	33.4	4	8.0	1
Ark 0614-49	989	3	57	6	5.0	3	1.21	6	87.1	2	33.2	5	7.2	2
DP 393	969	4	50	8	5.0	4	1.19	7	86.3	6	33.0	7	6.5	5
AM UA48	935	5	86	1	5.2	1	1.32	1	88.6	1	36.9	1	5.1	10
SSG UA103	932	6	72	2	4.6	7	1.25	2	86.9	3	33.9	3	6.9	3
BRS - 286	843	7	54	7	4.5	9	1.19	8	85.7	7	31.9	9	5.7	9
SSG HQ 210CT	787	8	38	10	5.1	2	1.17	10	84.0	10	33.1	6	6.1	8
BRS - 293	779	9	46	9	5.0	5	1.18	9	85.7	8	35.0	2	6.8	4
BRS - 335	744	10	63	5	4.4	10	1.22	5	85.7	9	31.7	10	6.5	6
Mean	909		60		4.8		1.22		86.3		33.5		6.5	
Var. LSD 0.10	132		9		0.2		0.02		0.9		0.8		0.4	
Loc. LSD 0.10	81		ns		0.1		ns		ns		0.5		0.2	
C.V.%	11.3		17.0		3.9		2.0		1.3		3.0		7.2	
R-sq x 100	84.2		82.9		91.2		88.0		75.5		87.5		88.8	
Prob (var x loc)	<0.0001		0.775		0.180		0.755		0.818		0.131		0.294	

Table 20. Yield and related properties–2016 Ark. Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
BRS - 293	1101	1	40.7	2	117	1	35	10	11.1	7	7.8	5	6.435	2	14319	4	131	5
DP 393	1068	2	40.5	3	106	4	58	3	11.5	4	8.0	2	6.082	6	13912	7	125	8
SSG UA222	1063	3	40.2	4	98	8	55	4	11.4	5	7.8	3	6.195	5	15250	2	137	2
BRS - 286	1017	4	38.8	9	113	3	45	6	10.8	8	7.0	8	6.625	1	14159	5	132	4
Ark 0701-17	999	5	41.2	1	99	7	65	2	11.8	2	8.5	1	5.311	10	16118	1	141	1
Ark 0614-49	967	6	40.1	5	103	5	52	5	11.3	6	7.8	4	5.637	8	14007	6	127	7
AM UA48	948	7	36.6	10	95	9	45	6	12.6	1	7.4	7	5.781	7	11846	10	100	10
SSG UA103	945	8	39.0	7	100	6	68	1	11.8	3	7.7	6	5.555	9	14657	3	129	6
SSG HQ 210CT	926	9	39.8	6	94	10	39	9	9.9	10	6.7	9	6.247	4	12435	9	123	9
BRS - 335	925	10	38.9	8	115	2	40	8	10.3	9	6.7	10	6.277	3	13745	8	133	3
Mean	996		39.6		104		50		11.2		7.5		6.014		14045		128	
LSD 0.10	97		0.8		0.8		7		0.9		0.8		0.583		1815		11	
C.V.%	9.1		1.0		7.4		13.9		4.4		5.4		9.1		7.0		4.7	
R-sq x 100	41.1		95.5		75.1		76.8		83.8		80.3		45.0		75.9		87.8	

Table 21. Fiber properties–2016 Arkansas Conventional Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.

Variety	Lint yield	r	Quality score	r	Fiber properties: Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
BRS - 293	1101	1	36	9	5.5	2	1.16	10	85.8	9	38.0	1	6.9	3
DP 393	1068	2	52	7	5.5	2	1.21	6	87.3	2	34.1	3	6.1	7
SSG UA222	1063	3	68	2	4.8	8	1.23	3	86.4	5	33.9	5	8.6	1
BRS - 286	1017	4	54	6	4.8	8	1.19	7	86.5	4	33.3	9	6.1	7
Ark 0701-17	999	5	64	4	5.0	6	1.23	3	86.0	7	34.1	4	6.3	6
Ark 0614-49	967	6	46	8	5.4	4	1.19	7	86.6	3	33.6	8	7.4	2
AM UA48	948	7	85	1	5.4	5	1.33	1	88.7	1	37.1	2	5.1	10
SSG UA103	945	8	65	3	5.0	7	1.24	2	85.9	8	33.8	6	6.9	3
SSG HQ 210CT	926	9	35	10	5.5	1	1.18	9	83.6	10	33.8	6	6.1	9
BRS - 335	925	10	63	5	4.7	10	1.21	5	86.3	6	32.9	10	6.4	5
Mean	996		57		5.1		1.22		86.3		34.4		6.6	
LSD 0.10	97		24		0.4		0.05		2.6		1.7		0.8	
C.V.%	9.1		23.0		3.8		2.3		1.7		2.7		6.6	
R-sq x 100	41.1		74.2		85.2		84.2		62.8		86.9		90.6	

Table 22. Yield and related properties–2016 Ark. Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre[1]	r	Fibers/ seed	r	Fiber density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
Ark 0701-17	1129	1	39.0	1	126	9	70	1	12.4	2	8.1	1	6.354	2	17736	1	151	1
Ark 0614-49	1049	2	37.7	5	132	6	63	2	11.7	6	7.3	6	6.560	1	14463	8	128	9
SSG UA222	992	3	38.8	2	135	5	42	6	11.8	5	7.6	3	5.912	3	16185	3	143	5
DP 393	946	4	37.8	4	130	7	58	4	12.0	4	7.4	5	5.792	4	15461	5	135	7
AM UA48	944	5	35.9	10	119	10	61	3	13.9	1	8.0	2	5.384	6	13968	9	110	10
BRS - 286	801	6	36.9	9	153	1	41	7	11.0	8	6.7	8	5.457	5	15858	4	146	2
SSG UA103	795	7	37.3	8	136	4	55	5	12.2	3	7.5	4	4.835	8	16956	2	146	3
SSG HQ 210CT	740	8	37.4	7	129	8	39	8	10.3	9	6.3	9	5.336	7	13782	10	133	8
BRS - 293	637	9	37.6	6	146	3	35	9	11.1	7	6.8	7	4.234	10	14907	6	137	6
BRS - 335	624	10	37.9	3	149	2	32	10	9.8	10	6.1	10	4.656	9	14472	7	144	4
Mean	866		37.6		136		50		11.6		7.2		5.452		15379		137	
LSD 0.10	135		0.5		5		5		0.7		0.5		0.853		1228		12	
C.V.%	16.0		0.8		4.1		11.1		3.4		3.5		16.1		4.4		4.9	
R-sq x 100	65.8		95.0		82.9		88.6		94.4		93.9		47.8		88.4		86.4	

Table 23. Fiber properties–2016 Arkansas Conventional Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.

Variety	Lint yield	r	Quality score	r	Fiber properties: Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
Ark 0701-17	1129	1	74	3	4.3	7	1.23	3	86.7	3	32.2	6	6.3	7
Ark 0614-49	1049	2	66	4	4.8	2	1.22	4	86.7	3	32.6	4	7.4	3
SSG UA222	992	3	61	5	4.6	5	1.21	5	85.6	5	32.6	4	8.0	1
DP 393	946	4	55	9	4.7	3	1.19	6	85.5	6	32.0	7	6.7	4
AM UA48	944	5	91	1	4.9	1	1.32	1	88.1	1	35.9	1	5.8	10
BRS - 286	801	6	56	8	4.2	8	1.19	9	85.4	7	31.2	9	5.8	9
SSG UA103	795	7	75	2	4.1	10	1.24	2	86.8	2	33.3	3	7.6	2
SSG HQ 210CT	740	8	44	10	4.7	4	1.17	10	82.7	10	31.5	8	6.4	6
BRS - 293	637	9	58	6	4.5	6	1.19	6	85.3	8	34.3	2	6.6	5
BRS - 335	624	10	56	7	4.2	8	1.19	8	85.2	9	31.1	10	6.0	8
Mean	866		63		4.5		1.22		85.8		32.7		6.6	
LSD 0.10	135		17		0.4		0.04		1.6		1.5		0.9	
C.V.%	16.0		15.0		4.5		2.0		1.0		2.5		7.7	
R-sq x 100	65.8		80.0		81.4		85.6		85.2		87.6		81.9	

Table 24. Yield and related properties–2016 Ark. Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
Ark 0701-17	1457	1	39.0	1	108	4	71	3	11.5	3	7.5	1	8.866	1	16294	1	147	1
SSG UA222	1329	2	38.1	3	106	5	50	8	11.2	6	7.0	4	8.572	2	14747	2	135	3
Ark 0614-49	1221	3	37.6	5	106	6	75	2	11.1	7	6.9	6	8.055	3	13364	8	123	9
DP 393	1154	4	36.1	9	106	7	76	1	11.3	4	6.6	8	7.984	4	13762	7	125	8
SSG UA103	1094	5	37.2	6	110	2	63	6	11.9	2	7.3	2	6.806	7	14690	3	128	5
AM UA48	1070	6	36.0	10	92	9	67	4	12.7	1	7.3	3	6.661	8	12461	10	105	10
BRS - 286	974	7	38.2	2	109	3	63	5	10.6	9	6.7	7	6.640	9	14594	4	139	2
BRS - 335	948	8	36.4	8	113	1	48	10	10.7	8	6.3	9	6.825	6	13870	5	130	4
SSG HQ 210CT	947	9	36.5	7	90	10	53	7	10.4	10	6.1	10	7.007	5	13065	9	126	7
BRS - 293	823	10	38.0	4	105	8	48	9	11.2	5	7.0	5	5.357	10	13780	6	126	6
Mean	1102		37.3		104		61		11.2		6.9		7.277		14063		128	
LSD 0.10	64		1.3		5		11		1.0		ns		0.420		1319		11	
C.V.%	6.0		1.9		5.1		18.2		4.8		6.1		6.0		5.2		4.8	
R-sq x 100	91.4		83.0		78.5		54.4		75.6		70.0		88.5		82.0		87.0	

Table 25. Fiber properties–2016 Arkansas Conventional Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.

Variety	Lint yield	r	Quality score	r	Fiber properties									
					Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
Ark 0701-17	1457	1	74	3	4.2	10	1.26	3	86.5	6	33.2	7	7.0	4
SSG UA222	1329	2	71	4	4.4	7	1.25	4	87.1	4	34.6	3	8.1	1
Ark 0614-49	1221	3	62	6	4.8	3	1.23	6	87.8	3	33.1	8	8.1	1
DP 393	1154	4	55	7	4.6	5	1.19	7	86.8	5	33.4	6	7.0	5
SSG UA103	1094	5	89	1	4.4	8	1.30	2	88.3	1	34.1	4	6.9	7
AM UA48	1070	6	84	2	5.1	1	1.32	1	88.2	2	36.8	1	5.3	10
BRS - 286	974	7	50	8	4.5	6	1.19	9	85.3	8	31.6	10	6.0	9
BRS - 335	948	8	64	5	4.3	9	1.24	5	85.3	8	32.4	9	7.3	3
SSG HQ 210CT	947	9	36	10	4.8	4	1.17	10	84.2	10	33.6	5	6.2	8
BRS - 293	823	10	44	9	5.0	2	1.19	7	85.6	7	34.7	2	6.9	6
Mean	1102		63		4.6		1.23		86.5		33.7		6.9	
LSD 0.10	64		17		0.4		0.04		2.1		1.6		1.0	
C.V.%	6.0		14.5		4.9		1.6		1.4		2.6		7.6	
R-sq x 100	91.4		88.2		77.8		92.1		73.4		83.9		84.8	

Table 26. Yield and related properties–2016 Ark. Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	lb/A		%		cm		%		g		g		mil.		no.		no.	
SSG UA103	897	1	39.1	2	133	6	47	4	13.2	2	8.7	1	4.656	1	15995	1	130	3
Ark 0701-17	793	2	39.8	1	140	3	47	4	11.8	7	8.1	3	4.462	3	15300	2	135	1
AM UA48	781	3	36.3	10	129	8	53	2	13.2	1	7.8	4	4.542	2	12266	9	100	10
DP 393	725	4	38.1	5	127	9	57	1	11.8	6	7.6	6	4.314	4	14301	5	126	5
Ark 0614-49	716	5	38.6	4	131	7	53	2	11.8	4	7.7	5	4.213	5	14019	8	123	8
SSG UA222	665	6	38.7	3	135	5	43	9	13.2	3	8.6	2	3.526	9	15194	3	124	7
BRS - 293	607	7	37.3	6	136	4	45	7	11.8	5	7.3	7	3.794	8	14139	6	125	6
BRS - 286	607	8	36.5	9	150	1	46	6	11.1	8	6.6	9	4.144	6	14020	7	129	4
SSG HQ 210CT	559	9	36.7	7	121	10	45	7	10.7	10	6.5	10	3.929	7	12103	10	114	9
BRS - 335	510	10	36.7	8	144	2	40	10	11.0	9	6.7	8	3.474	10	14456	4	133	2
Mean	686		37.8		134		48		12.0		7.6		4.105		14179		124	
LSD 0.10	98		1.9		6		7		0.8		0.5		0.595		1309		12	
C.V.%	14.7		2.8		4.6		15.6		3.7		3.6		14.9		5.0		5.4	
R-sq x 100	64.3		74.1		74.3		39.0		90.6		94.5		40.9		85.9		82.5	

Table 27. Fiber properties–2016 Arkansas Conventional Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.

Variety	Lint yield	r	Quality score	r	Fiber properties: Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	lb/A						in.		%		g/tex		%	
SSG UA103	897	1	61	5	5.1	6	1.23	3	86.8	4	34.7	2	6.2	3
Ark 0701-17	793	2	62	4	5.0	8	1.23	3	86.3	5	31.1	9	6.0	7
AM UA48	781	3	86	1	5.4	1	1.32	1	89.4	1	38.0	1	4.4	10
DP 393	725	4	41	9	5.3	3	1.19	8	85.8	8	32.3	7	6.2	4
Ark 0614-49	716	5	55	6	5.2	4	1.21	6	87.3	2	33.5	4	6.1	6
SSG UA222	665	6	67	2	5.2	5	1.26	2	87.3	3	32.4	6	7.3	1
BRS - 293	607	7	45	8	5.1	7	1.18	9	86.3	5	32.9	5	6.7	2
BRS - 286	607	8	55	6	4.6	9	1.20	7	85.8	9	31.6	8	5.0	9
SSG HQ 210CT	559	9	37	10	5.3	2	1.17	10	85.7	10	33.6	3	5.6	8
BRS - 335	510	10	67	2	4.4	10	1.23	3	86.0	7	30.4	10	6.2	4
Mean	686		57		5.0		1.22		86.6		33.0		6.0	
LSD 0.10	98		16		0.2		0.04		1.5		2.4		0.7	
C.V.%	14.7		14.8		2.3		1.8		0.9		4.0		6.6	
R-sq x 100	64.3		85.5		94.1		88.7		79.1		84.7		90.3	

Table 28. Morphological and host-plant resistance traits in the 2016 Arkansas Cotton Variety Test.

Variety	Leaf pubescence[a]	r	Stem pubescence[a]	r	Bract trichomes[b]	r	Tarnished plant bug damage[c]	r	Bacterial blight[d]
	rating		rating		no./cm		% dam. flowers		% sus.
BRS - 286	3.6	1	4.1	4	45.6	6	57	8	0
BRS - 293	2.3	5	3.1	8	48.9	5	43	2	39
BRS - 335	3.6	1	5.1	2	62.5	1	50	3	0
SSG UA222	2.5	4	4.1	5	55.5	2	36	1	2
SSG UA103	2.7	3	2.8	10	39.2	8	52	4	4
SSG HQ 210CT	1.5	10	3.4	7	29.8	10	52	5	85
Ark 0614-49	2.3	6	5.4	1	55.4	3	54	6	0
Ark 0701-17	1.8	9	3	9	34.6	9	59	10	0
AM UA48	2.1	8	3.5	6	45.5	7	57	9	0
DP 393	2.2	7	4.4	3	49.8	4	55	7	31
Frego bract, ck.							85	11	.
Mean	2.5		3.9		46.7		55		16
LSD 0.10	ns		1.7		4		8		13
C.V.%	62.3		20.5		7.1		18.2		63.7
R-sq x 100	33.6		62.8		92.7		66.7		90.7

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

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

[c] 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.

[d] 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 2015 Manila location. Scatches were examined for water-soaking, and % of susceptible plants were determined.

Table 29. Two-year and 3-year average lint yields (lb/A) for conventional varieties at the four locations of the 2014-2016 Arkansas Cotton Variety Test.

Variety	Traits	Keiser Irrigated	r	Judd Hill Irrigated	r	Marianna Irrigated	r	Rohwer Irrigated	r	All locations	r
		lb/A		lb/A		lb/A		lb/A		lb/A	
						Two-year (2015-2016) means					
SGS UA222	conv	855	2	1161	1	1480	1	970	4	1116	1
DP 393	conv	873	1	1135	2	1330	2	972	3	1077	2
SGS UA103	conv	815	3	1000	4	1259	3	1056	1	1032	3
AM UA48	conv	778	4	1042	3	1250	4	1008	2	1019	4
BRS - 286	conv	771	5	940	6	1177	5	780	8	917	5
SGS HQ210CT	conv	722	7	957	5	1119	7	835	5	908	6
BRS - 293	conv	754	6	910	7	1085	8	808	7	889	7
BRS - 335	conv	689	8	859	8	1156	6	819	6	880	8
Mean		782		1000		1232		906		980	
						Three-year (2014-2016) means					
SGS UA222	conv	1022	1	1175	1	1444	1	1057	1	1174	1
DP 393	conv	958	2	1063	2	1313	2	1027	2	1090	2
SGS UA103	conv	898	3	953	4	1264	3	1019	3	1033	3
AM UA48	conv	893	4	1025	3	1182	4	1015	4	1029	4
BRS - 335	conv	828	6	893	6	1089	5	910	6	930	5
BRS - 286	conv	872	5	895	5	1062	7	859	8	922	6
SGS HQ210CT	conv	826	7	882	8	1064	6	879	7	913	7
BRS - 293	conv	784	8	889	7	978	8	927	5	895	8
Mean		885		972		1174		962		998	

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

Cooperator: Nathan Reed
Soil Type: Dundee silt loam
Irrigation: Furrow
Agent: Stan Baker
Date Planted: 5/18/16
Date Harvest Aid: 9/6/16
Date Harvested: 9/26/16
Replications: 4

	Lint		Fiber properties							
Variety	yield	r	Micronaire	r	Length	r	UI[a]	r	Strength	r
	lb/A				in.		%		g/tex	
SGS UA 222	1535	1	4.7	4	1.23	1	84.4	1	31.6	2
DP 1518 B2XF	1474	2	4.7	3	1.18	3	84.0	4	30.4	5
PHY 333 WRF	1440	3	4.3	6	1.20	2	84.4	2	32.1	1
NG 3406 B2XF	1191	4	4.5	5	1.15	4	84.3	3	30.4	6
DP 393	1131	5	5.3	1	1.13	6	84.0	5	30.8	4
DP 493	1102	6	4.9	2	1.15	5	82.8	6	30.9	3
Mean	1312		4.7		1.17		84.0		31.0	
Var. LSD 0.05	132		0.2		0.04		1.2		2.0	
C.V.%	6.7		3.2		2.1		0.1		4.2	
Prob (var)	<0.0001		<0.0001		<0.0001		0.0896		0.4166	

[a] UI = Fiber length uniformity index.

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

Cooperator: Bruce Bond
Soil Type: Hebert silt loam
Irrigation: Furrow
Agent: Kevin Norton
Date Planted: 5/11/16
Date Harvest Aid: 9/15/16
Date Harvested: 10/18/16
Replications: 4

	Lint		Fiber properties							
Variety	yield	r	Micronaire	r	Length	r	UI[a]	r	Strength	r
	lb/A				in.		%		g/tex	
DP 1518 B2XF	1253	1	4.2	11	1.17	7	82.4	11	30.4	8
DP 1522 B2XF	1172	2	5.1	1	1.17	6	84.3	4	32.6	4
NG 3406 B2XF	1087	3	4.6	7	1.16	10	83.5	9	30.0	10
PHY 312 WRF	1118	4	4.5	8	1.20	3	84.6	3	32.3	6
NG 3522 B2XF	1111	5	4.5	9	1.13	11	83.7	6	28.9	11
PHY 333 WRF	1109	6	4.3	10	1.21	1	84.8	1	32.4	5
DG 3385 B2XF	1045	7	4.7	4	1.16	9	83.7	7	30.0	9
ST 5115 GLT	1004	8	4.7	5	1.17	5	83.6	8	33.0	3
ST 4848 GLT	1074	9	4.8	2	1.16	8	83.4	10	31.6	7
ST 4946 GLB2	940	10	4.7	3	1.17	4	83.8	5	33.8	2
DG 3544 B2XF	854	11	4.6	6	1.20	2	84.7	2	34.1	1
Mean	1070		4.6		1.17		83.9		31.7	
Var. LSD 0.05	59		0.2		0.03		2.2		2.0	
C.V.%	3.8		3.2		1.9		1.8		4.4	
Prob (var)	<0.0001		<0.0001		0.0007		<0.0001		0.4166	

[a] UI = Fiber length uniformity index.

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

Cooperator: John Johnson **Date Planted:** 5/7/16
Soil Type: Amagon silt loam **Date Harvest Aid:** 10/12/16
Irrigation: Furrow **Date Harvested:** 10/25/16
Agent: Branon Thiesse, Chris Grimes **Replications:** 3

	Lint		Fiber properties							
Variety	**yield**	**r**	**Micronaire**	**r**	**Length**	**r**	**UI[a]**	**r**	**Strength**	**r**
	lb/A				**in.**		**%**		**g/tex**	
NG 3406 B2XF	1303	1	4.8	4	1.17	9	84.6	7	30.9	9
DG 3385 B2XF	1285	2	4.7	8	1.24	1	86.3	1	34.5	2
ST 4946 GLB2	1215	3	5.0	1	1.21	5	85.6	3	35.1	1
NG 3522 B2XF	1169	4	4.7	7	1.16	11	84.1	9	30.4	10
DP 1518 B2XF	1147	5	4.7	6	1.24	2	85.7	2	31.3	6
PHY 312 WRF	1126	6	4.2	11	1.22	4	84.5	8	33.2	4
PHY 333 WRF	1064	7	4.4	10	1.24	3	85.5	4	31.1	7
DP 1522 B2XF	1049	8	4.9	3	1.18	7	84.7	6	32.9	5
ST 5115 GLT	1000	9	4.8	5	1.19	6	83.9	10	33.4	3
ST 4848 GLT	903	10	4.4	9	1.17	10	83.4	11	31.0	8
DG 3544 B2XF	785	11	5.0	2	1.18	8	85.3	5	29.9	11
Mean	1095		4.7		1.20		84.9		32.2	
Var. LSD 0.05	59		0.2		0.03		2.2		2.0	
C.V.%	3.8		3.2		1.9		1.8		4.4	
Prob (var)	<0.0001		<0.0001		0.0007		<0.0001		0.4166	

[a] UI = Fiber length uniformity index.

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

Cooperator: Ramey Stiles **Date Planted:** 5/7/16
Soil Type: Henry silt loam **Date Harvest Aid:** 9/13/16
Irrigation: Furrow **Date Harvested:** 10/3/16
Agent: Stan Baker **Replications:** 4

	Lint		Fiber properties							
Variety	**yield**	**r**	**Micronaire**	**r**	**Length**	**r**	**UI[a]**	**r**	**Strength**	**r**
	lb/A				**in.**		**%**		**g/tex**	
NG 3522 B2XF	1819	1	4.8	5	1.12	11	82.9	10	28.3	11
DP 1522 B2XF	1797	2	5.1	1	1.16	5	84.8	3	30.9	5
ST 4946 GLB2	1734	3	5.0	2	1.16	7	84.4	7	33.2	2
DP 1518 B2XF	1717	4	4.6	8	1.18	4	83.6	8	29.9	8
PHY 333 WRF	1691	5	4.5	9	1.21	3	84.7	6	30.2	7
PHY 312 WRF	1670	6	4.4	10	1.22	1	85.3	1	31.3	4
ST 4848 GLT	1614	7	4.9	3	1.15	8	83.5	9	30.3	6
DG 3385 B2XF	1606	8	4.8	4	1.16	6	84.7	5	29.2	9
NG 3406 B2XF	1591	9	4.6	6	1.14	10	84.7	4	29.2	10
ST 5115 GLT	1513	10	4.3	11	1.15	9	82.5	11	31.5	3
DG 3544 B2XF	1501	11	4.6	7	1.21	2	84.9	2	33.6	1
Mean	1659		4.7		1.17		84.2		30.7	
Var. LSD 0.05	156		0.4		0.03		1.3		1.8	
C.V.%	6.5		5.2		1.7		1.1		4.1	
Prob (var)	0.0021		0.0010		<0.0001		0.0015		<0.0001	

[a] UI = Fiber length uniformity index.

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

Cooperator: Marty White, Jesse Flye
Date Planted: 5/7/16
Soil Type: Dundee silt loam
Date Harvest Aid: 9/15/16
Irrigation: Furrow
Date Harvested: 10/12/16
Agent: Craig Allen, Justin Chlapecka
Replications: 4

	Lint		Fiber properties							
Variety	**yield**	**r**	**Micronaire**	**r**	**Length**	**r**	**UI[a]**	**r**	**Strength**	**r**
	lb/A				**in.**		**%**		**g/tex**	
DP 1522 B2XF	1401	1	4.5	2	1.20	6	85.0	3	32.4	5
DP 1518 B2XF	1395	2	4.1	8	1.21	5	83.3	10	30.9	9
DP 1614 B2XF	1393	3	4.4	4	1.24	2	84.6	4	31.8	6
DG 3385 B2XF	1388	4	4.4	5	1.19	9	85.5	2	30.5	10
NG 3406 B2XF	1281	5	4.5	1	1.17	11	84.4	6	28.5	12
PHY 333 WRF	1251	6	3.7	12	1.24	3	84.0	8	32.5	4
PHY 312 WRF	1247	7	3.9	10	1.25	1	85.8	1	34.6	1
ST 4848 GLT	1241	8	4.2	7	1.20	7	84.6	5	31.6	7
ST 4946 GLB2	1234	9	4.5	3	1.20	8	84.0	7	33.7	2
NG 3522 B2XF	1187	10	4.3	6	1.15	12	83.7	9	29.8	11
DG 3544 B2XF	1176	11	3.9	11	1.21	4	82.5	12	31.2	8
ST 5115 GLT	1004	12	3.9	9	1.18	10	83.1	11	32.8	3
Mean	1266		4.2		1.20		84.2		31.7	
Var. LSD 0.05	222		0.3		0.04		2.0		1.6	
C.V.%	12.2		5.4		2.1		1.7		3.5	
Prob (var)	0.0314		<0.0001		<0.0001		0.0718		<0.0001	

[a] UI = Fiber length uniformity index.

Appendix Table A6. Lint yield and fiber properties–Mississippi county transgenic variety test.

Cooperator: David Wildy **Date Planted:** 5/9/16
Soil Type: Routon-Dundee-Crevasse **Date Harvest Aid:** 9/16/16
Irrigation: Pivot **Date Harvested:** ######
Agent: Ray Benson **Replications:** 4

	Lint		Fiber properties							
Variety	**yield**	**r**	**Micronaire**	**r**	**Length**	**r**	**UI[a]**	**r**	**Strength**	**r**
	lb/A				**in.**		**%**		**g/tex**	
DP 1518 B2XF	1521	1	4.1	8	1.21	1	84.3	7	29.8	9
DG 3385 B2XF	1355	2	4.3	6	1.14	11	83.2	11	29.1	10
ST 4848 GLT	1312	3	4.4	5	1.20	3	84.8	2	31.0	7
DP 1522 B2XF	1289	4	4.5	3	1.17	7	84.7	3	31.3	6
NG 3406 B2XF	1271	5	4.3	7	1.16	8	83.3	10	31.9	5
ST 4946 GLB2	1251	6	4.6	2	1.18	6	84.0	9	33.7	1
PHY 312 WRF	1213	7	4.0	9	1.20	2	85.1	1	33.0	2
NG 3522 B2XF	1213	8	4.6	1	1.15	9	84.1	8	28.5	11
PHY 333 WRF	1114	9	3.9	11	1.20	4	84.4	5	32.0	4
DG 3544 B2XF	1102	10	4.0	10	1.20	5	84.5	4	32.9	3
ST 5115 GLT	1093	11	4.5	4	1.14	10	84.4	6	30.7	8
Mean	1248		4.3		1.18		84.2		31.3	
Var. LSD 0.05	157		0.5		0.03		1.3		2.0	
C.V.%	8.7		8.0		1.8		1.1		4.4	
Prob (var)	0.0002		0.0573		<0.0001		0.1582		<0.0001	

[a] UI = Fiber length uniformity index.

Appendix Table A7. Lint yield and fiber properties–St. Francis county transgenic variety test.

Cooperator: Joe Whittenton **Date Planted:** 5/9/16
Soil Type: Loring silt loam **Date Harvest Aid:** 9/20/16
Irrigation: Pivot **Date Harvested:** 10/22/16
Agent: Cody Griffin **Replications:** 4

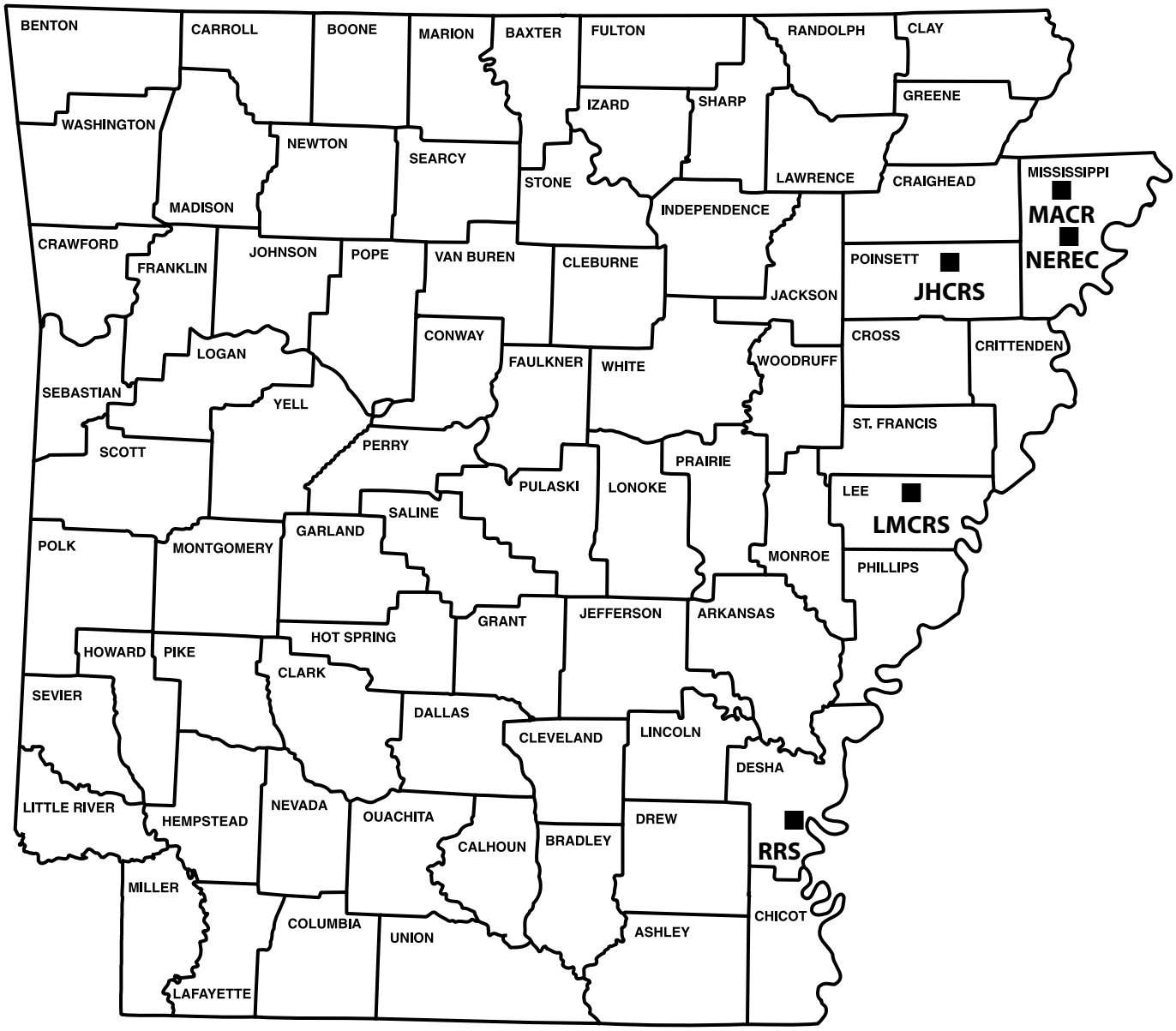
	Lint		Fiber properties							
Variety	yield	r	Micronaire	r	Length	r	UI[a]	r	Strength	r
	lb/A				in.		%		g/tex	
NG 3406 B2XF	1338	1	5.3	4	1.14	10	84.9	5	30.1	9
ST 4946 GLB2	1297	2	5.5	1	1.18	6	85.2	3	34.0	1
NG 3522 B2XF	1239	3	5.2	6	1.12	11	83.3	11	28.2	11
DP 1518 B2XF	1217	4	4.8	11	1.19	5	84.2	9	29.8	10
PHY 312 WRF	1192	5	4.9	9	1.21	2	85.3	2	32.4	3
DG 3385 B2XF	1164	6	5.3	5	1.17	8	84.6	8	31.0	8
DP 1522 B2XF	1124	7	5.4	2	1.17	9	84.7	6	31.3	7
PHY 333 WRF	1107	8	4.8	10	1.22	1	85.0	4	32.3	4
ST 5115 GLT	1064	9	5.2	7	1.19	4	83.4	10	32.2	5
ST 4848 GLT	974	10	5.4	3	1.17	7	84.6	7	31.4	6
DG 3544 B2XF	947	11	5.2	8	1.19	3	85.4	1	33.0	2
Mean	1151		5.2		1.18		84.6		31.4	
Var. LSD 0.05	232		0.2		0.03		1.1		2.2	
C.V.%	14.0		2.6		1.5		0.9		4.6	
Prob (var)	0.0326		<0.0001		<0.0001		0.0040		0.0007	

[a] UI = Fiber length uniformity index.

Appendix Table A8. Summary of lint yields across six transgenic county variety tests.

	Ashley		Craighead		Lee		Poinsett		Mississippi		St Francis		Average	
Variety	Lint yield	r	Lint yield	r	Lint yield	r	Lint yield	r	Lint yield	r	Lint yield	r	Lint yield	r
	lb/A		lb/A		lb/A		lb/A		lb/A		lb/A		lb/A	
DP 1518 B2XF	1253	1	1147	5	1717	4	1395	2	1521	1	1217	4	1375	1
NG 3406 B2XF	1087	6	1303	1	1591	9	1280	4	1271	5	1338	1	1312	2
DG 3385 B2XF	1045	8	1285	2	1606	8	1388	3	1355	2	1164	6	1307	3
DP 1522 B2XF	1172	2	1049	8	1797	2	1401	1	1289	4	1124	7	1305	4
NG 3522 B2XF	1111	4	1169	4	1819	1	1187	9	1213	8	1239	3	1290	5
ST 4946 GLB2	940	10	1215	3	1734	3	1234	8	1251	6	1297	2	1279	6
PHY 312 WRF	1118	3	1126	6	1670	6	1247	6	1213	7	1192	5	1261	7
PHY 333 WRF	1109	5	1064	7	1691	5	1251	5	1114	9	1107	8	1223	8
ST 4848 GLT	1074	7	903	10	1614	7	1241	7	1313	3	974	10	1187	9
ST 5115GLT	1004	9	1000	9	1513	10	1004	11	1093	11	1064	9	1113	10
DG 3544 B2XF	854	11	785	11	1501	11	1176	10	1102	10	947	11	1061	11

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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