Arkansas Cotton Variety Tests 2023

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ARKANSAS CROP VARIETY IMPROVEMENT PROGRAM

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Photo Credit: A ThryvOn cotton variety (left) beside a non-ThryvOn variety (right) in the 2023 Cotton Variety Tests at Keiser. The tests at Keiser were damaged by excessive rains which caused plants to wilt and hindered subsequent insect pest control.
The photo was taken by Fred Bourland in Fall 2023, University of Arkansas System Division of Agriculture.

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Summary

The primary goal of the Arkansas Cotton Variety Tests 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). The 2023 tests at Keiser were adversely affected by excessive rain and subsequent slow drainage, which hindered plant development and insect control. Yields from the Keiser tests are reported but not included in the overall location means. Entries in the 2023 Arkansas Cotton Variety Tests were evaluated in two groups—transgenic and conventional varieties. The 44 entries in the transgenic test included 1 B2XF, 20 B3XF, 13 W3FE, and 10 B3TXF lines, which were evaluated at all five locations. Varieties having the ThryvOn® technology (B3TXF) had not been previously evaluated in the Arkansas Cotton Variety Tests. The conventional test included 12 entries, which were evaluated at all locations except Manila. Reported data include lint yield, lint percentage, plant height, percent open bolls, yield component variables, fiber properties, leaf pubescence, stem pubescence, and bract trichome density. All entries in the experiments were evaluated for response to tarnished plant bug and bacterial blight in separate tests at Keiser. This 2023 report includes results of large-plot variety tests in 8 counties that were coordinated by Joe McAlee.

Contents

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Introduction

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

Materials and Methods

The 44 entries in the transgenic test included 1 B2XF, 20 B3XF, 13 W3FE, and 10 B3TXF lines, of which 18 were included in the 2022 Arkansas Cotton Variety Tests (Table 1). The 10 B3TXF lines are the first varieties having ThryvOn® technology to be evaluated in the Arkansas Cotton Variety Tests. The conventional test included 12 entries, all developed in the University of Arkansas System Division of Agriculture's Cotton Breeding Program. Six of these were in the 2022 test. All entries of each test were replicated 4 times at each test site.

Test sites included the Northeast Research and Extension Center at Keiser; the Judd Hill Cooperative Research Station at Judd Hill (near Trumann); the Lon Mann Cotton Research Station at Marianna; the Manila Airport Cotton Research Farm at Manila; and the Rohwer Research Station at Rohwer. Yields from Keiser are reported, but not included in the overall location means. The transgenic test was evaluated at each site, and the conventional test was evaluated at all sites except Manila. The conventional tests were in the same fields as the transgenic test but were in different areas of the fields. Cultural practices and weather data (heat units and rainfall) associated with the test sites are listed in Tables 2 and 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 by the originator or the testing personnel. Plots were planted with a constant number of seed (about 3.5 seed/row ft). All varieties were planted in 2-row plots on 38-inch centers and ranged from 48 to 50 feet in length (before alleys were cut). 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. All plots were machine-harvested with 2-row or 4-row cotton pickers modified with load cells for harvesting small plots.

Data Collected at Single Location

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

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

Bract Variables. As all plants approached physiological cutout, a bract from a 1st position white flower was sampled from 6 random plants per plot (4 replications) in the Keiser experiments. Each bract was examined for marginal trichome density (no. of trichomes/cm) as described by Bourland and Hornbeck (2007). Means for the 6 bracts were evaluated as plot means.

Tarnished Plant Bug (TPB). Entries in the two variety tests were evaluated for response to TPB in a separate field at Keiser. The TPB test included 8 replications of 1-row plots (22 feet long on 38-inch wide rows). Four rows of a susceptible Frego-bract line were planted between the tests. The TPB tests and border rows were planted on May 16 and received no insecticide treatment for TPB infestations. Response to TPB was determined by examining white flowers (6 flowers/plot/day for 6 days in early to mid-August) for the presence of anther damage. The accumulative percentage of damaged flowers ("dirty flowers") was determined for each plot.

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Each plot was visually rated for boll load from 0 (no bolls) to 10 (excellent boll load) on November 8. In progeny row tests, the visual ratings normally range from 3 to 8.

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

Verticillium Wilt. Relative yields of varieties over the 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 physiological cutout and before harvest. Average plant heights for varieties were determined by measuring from the soil surface to the terminal of one average-sized plant in each of the two rows. Plot means (average of the two measurements) were evaluated.

% Open Bolls. Near the time of the first application of defoliants, the percentage of open bolls was estimated from the front and back of each plot, then averaged for each plot. Open bolls data were not obtained in the 2023 Manila and Keiser tests.

Boll Samples and Lint Percentage. Prior to mechanical harvest, hand-harvested samples were obtained from 2 replications at each location. Within each row of 2-row plots, a site having average or above-average plant density was chosen, and 20 bolls (5 bottom, 10 mid-canopy, and 5 top bolls) were harvested and bulked to form a 40-boll sample. The 40-boll samples were ginned (lab gin without the use of lint cleaners) to determine lint fraction (the percentage of lint weight to 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 (UI), strength, and elongation. In order to reflect market demand for fiber quality, a weighted quality score (Q-score) was calculated as described by Bourland et al. (2010). Parameters (and weightings) included in Q-score were fiber length (50%), micronaire (25%), length uniformity index (15%), and strength (10%).

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

Seed Per Acre. For each plot, an estimate of the number of seed per acre was determined by multiplying seedcotton yield (pounds/acre converted to grams/acre) times average seed percentage (the percentage of seed weight to seedcotton weight in a 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 the lint weight from the ginned sample by the number of seed per sample (estimated using average seed weight), then multiplying by 100.

Seed Score. Seed-score (S-score) attempts to normalize seed index and lint index into a single index with penalties for both high and low SI values and no penalty for high LI values (Bourland et al., 2022). S-score may vary from 0 to 100, with higher values indicating varieties having the optimum seed size and weight of lint per seed.

Fibers Per Seed. The number of fibers per seed was estimated by dividing the lint index by the estimated weight of individual fibers. The weight of an individual fiber was estimated by: fiber length × length uniformity × (micro-naire/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 the seed index associated with the sample.

Lint Yield. Seedcotton yield per plot (determined by me-chanical cotton picker) was converted to seedcotton yield per acre and then multiplied by average lint percentage (determined by variety and location) to estimate lint per acre.

Yield Comparisons

Uncontrolled variation is inherent to the 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 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 mea-sures 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 2023 production season.

Heat units in 2023 exceeded historical averages at each Arkansas location with less deviation at Keiser (north) than at Marianna (central) and Rohwer (south) (Table 3). Daily high temperatures exceeded 95 °F on only 6 days at Keiser (June 20, 30; July 1, 2; and August 26, 27). However, daily high temperatures exceeded 95 °F on 16 days at Marianna (mostly late July and 11 days in August), and 21 days at Rohwer (mostly late July and 15 days in August).

Rainfall in 2023 at Keiser was 36% higher than the historical average and particularly higher in July and August. Both Marianna and Rohwer had lower rainfall than historical averages, particularly in August through October.

Performance data of entries in the 2023 Transgenic Cotton Variety Tests 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 main transgenic test entries are in Table 16. Two- and three-year yield means for entries evaluated in previous years are in Table 17. Performance data for the 2023 Conventional Cotton Variety Tests 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.

The following are other observations associated with each test site:

Manila (Tables 6 and 7). The 2023 test at Manila was in the same field used since 2014 and in the same area of the field used since 2020. Plots were planted on May 8 and achieved excellent stands in one row of each plot. Seedcotton yields were adjusted for the skips that occurred in the second row. Average lint yields at Manila were second to the highest-yielding location in 2023.

Keiser (Tables 8, 9, 20, and 21). Excellent stands were obtained from the 16 May planting of the variety tests at Keiser. Excessive rainfall (3.17 in. on 7 July and 3.3 in. on 10 July) occurred after the field was irrigated on 6 July. Ditches were full, and water remained standing in the field for several days. Consequently, the plants wilted due to lack of air in the clay soil. Over 10 in. of rainfall occurred in July compared to a 2.9 in. historical average. The wet July was followed by a wet August (5.9 in. compared to a 2.9 in. historical average). The wet conditions hindered application of needed insecticides. Plots were harvested on 24–25 Oct. Since yields were less than half of expected, they were not included in the overall location means. Although yields were low, the 10 ThryvOn varieties were the top-10 yielding varieties at Keiser.

Judd Hill (Tables 10, 11, 22, and 23). Excellent stands were achieved from the 24 May planting at Judd Hill. Plants grew well and established excellent boll loads. The intensity of Verticillium wilt was greater than in 2021 and 2022. Plots were harvested on 9–10 October.

Marianna (Tables 12, 13, 24, and 25). Due to weed pressure (particularly bermudagrass patches), tests were moved to a different field in 2023. Plots were planted on 9 May, and achieved good stands. Pigweed pressure in the 2023 tests was relatively low. Harvest was completed on 11–12 Oct. Average lint yields in both the transgenic and conventional tests were higher than any other location in 2023.

Rohwer (Tables 14, 15, 26, and 27). The Rohwer location was planted on 4 May and achieved acceptable stands. Yields at Rohwer were lower than expected. Lint yields were likely reduced by near consecutive days exceeding 95 °F including 9 days from 28 July to 7 August and 11 days from 13–28 August. Harvest was completed on 26 October.

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Table 1. Participants and entries in the 2023 Arkansas Cotton Variety Test.

Institution/Contact person	Returning entries	Experimental no.	First-year entries	Experimental no.
NexGen - Americot, Inc./ Robert Lemon	NG 3195 B3XF NG 4190 B3XF		NG 4335 B3TXF NG 4343 B3TXF AMX160030-A B3XF AMX160030-B B3XF AMX20T079 B3XF AMX20T114 B3XF AMX20T157 B3XF AMX21C005 B3TXF	
BASF/ Lucas Owen	ST 4595 B3XF ST 5091 B3XF			
Nutrien Ag Solutions (Dyna-Gro)/ Ty Fowler	DG 3425 B3XF DG 3519 B3XF		DG 3528 B3XF DG 4484 B3TXF DG 4497 B3TXF DG 4530 B3TXF	
Bayer Crop Science/ David Albers	DP 1646 B2XF DP 2012 B3XF DP 2115 B3XF DP 2127 B3XF DP 2239 B3XF		DP 2038 B3XF DP 2211 B3TXF DP 2317 B3TXF DP 2328 B3TXF DP 2333 B3XF	 21R4127B3TXF 21R4132B3TXF 20R733B3XF
PhytoGen Seed Co./ Christopher Main	PHY 332 W3FE PHY 360 W3FE PHY 400 W3FE PHY 411 W3FE PHY 415 W3FE PHY 443 W3FE	1140B383-04	1130B333-04 1130D303-04 1140A385-04 1140B373-04 1140D328-04 1150B437-04 1150D490-04	
WinField United/CROPLAN/ Robert Cossar	Armor 9371 B3XF		Armor 9831 B3XF Armor 9383 B3TXF	
		Conventional entries		
Americot Inc. Seed Source Genetics/ Edward Jungmann	AM UA48 SSG UA107 SSG UA114 SSG UA222 SSG UA248			
University of Arkansas System/ Division of Agriculture/ Fred Bourland	UA212ne		Ark 1301-16 Ark 1303-29 Ark 1308-58 Ark 1309-56 Ark 1311-18 Ark 1317-31	

Table 2. Cultural practices for locations of the 2023 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 (lb)	113-30-90-12	150-0-0	110-0-100	94-0-46	146-46-60
Planting date	5/8	5/16	5/24	5/9	5/4
Irrigation method	furrow	furrow	furrow	furrow	furrow
Irrigation dates	6/27, 7/5, 7/18, 7/25, 8/2, 8/22	6/29, 7/6	6/7, 6/30, 8/1	6/1, 6/29, 7/31, 15-Aug	7/29, 8/8, 8/21
Mepiquat chloride	37.5 oz	0 oz	160 oz	64 oz	60 oz
Defoliation date	9/6, 9/19	9/25,10/2	9/24, 10/4	9/20, 9/26	9/26, 10/9
Harvest date	10/19	10/25	10/10	10/12	10/26

Table 3. Weather summary for the 2023 production season in north, central and south Arkansas.

Location	Month	DD60s in 2023	Historical avg.[a] DD60s	Rainfall in 2023	Historical avg.[a] rainfall
				----------(in.)----------	
Keiser	May	352	314	3.8	5.2
(northeast)	June	521	532	3.0	3.9
	July	654	644	10.5	3.7
	August	575	583	5.9	2.9
	September	409	363	2.6	3.7
	October	180	127	5.0	3.3
	Total	**2690**	**2563**	**30.7**	**22.6**
Marianna	May	370	336	1.8	5.1
(central)	June	552	538	2.2	3.9
	July	678	646	4.1	3.9
	August	691	601	2.8	2.8
	September	491	397	1.2	3.2
	October	255	154	2.2	3.5
	Total	**3036**	**2672**	**14.3**	**22.4**
Rohwer	May	373	354	1.3	4.9
(southeast)	June	555	551	5.5	3.6
	July	669	661	4.9	3.7
	August	714	618	1.4	2.6
	September	495	415	1.8	3.0
	October	236	167	2.2	3.4
	Total	**3041**	**2766**	**17.2**	**21.3**

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

Table 4. Yield and related properties– 2023 Arkansas Transgenic Cotton Variety Test across five test sites (Keiser data are excluded from across locations means of lint yield, height and seed/acre variables).

Variety	Lint yield	r[a]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed score	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
NG 4190 B3XF	1451	1	44.6	8	113	11	66	16	9.9	10	8.2	3	81	2	7.983	15	16937	6	188	12
DP 2328 B3TXF	1428	2	45.1	6	111	17	72	3	9.3	26	7.8	15	79	7	8.423	11	16222	14	186	17
DG 4530 B3TXF	1385	3	44.1	16	108	27	75	1	9.1	32	7.4	27	74	21	8.590	8	15802	19	187	14
ST 4595 B3XF	1380	4	44.5	10	108	25	67	12	9.2	28	7.5	22	76	17	8.466	10	14763	32	173	40
Armor 9831 B3XF	1380	5	43.5	24	112	15	53	44	8.7	38	6.9	36	67	34	9.351	1	13336	44	165	44
DP 2211 B3TXF	1371	6	44.2	13	115	6	72	2	9.8	14	7.9	10	81	2	7.770	18	16406	12	187	16
1140D328-04	1364	7	43.7	22	112	14	59	37	9.6	20	7.6	18	77	13	8.268	13	15636	22	183	23
DG 3528 B3XF	1325	8	42.8	32	111	19	63	26	9.3	23	7.1	29	71	25	8.632	5	14855	31	180	31
DP 2115 B3XF	1318	9	43.9	19	108	28	60	33	8.9	35	7.1	30	71	26	8.594	7	14253	38	172	41
DG 3519 B3XF	1316	10	42.2	38	104	43	66	14	10.1	8	7.5	24	74	22	7.980	16	15026	29	177	38
DP 1646 B2XF	1286	11	43.0	28	117	1	62	32	9.1	31	7.0	35	69	30	8.515	9	13861	41	170	43
PHY 400 W3FE	1274	12	44.7	7	102	44	60	35	9.6	17	7.9	12	81	2	7.520	21	16542	10	189	10
PHY 360 W3FE	1270	13	42.8	31	106	37	69	9	8.8	37	6.7	38	61	40	8.690	3	14149	39	177	36
NG 3195 B3XF	1260	14	42.9	30	109	23	70	7	9.6	18	7.4	26	73	23	7.984	14	15773	20	188	13
Armor 9383 B3TXF	1255	15	41.6	42	115	4	70	6	9.0	34	6.5	42	58	43	8.658	4	14368	37	184	21
DP 2317 B3TXF	1248	16	42.4	35	105	40	71	4	8.3	43	6.2	44	50	44	9.211	2	13726	43	179	32
DP 2127 B3XF	1247	17	44.2	14	114	7	58	40	10.1	5	8.2	5	76	18	7.193	26	16248	13	183	22
Armor 9371 B3XF	1234	18	44.6	9	113	9	64	22	10.1	6	8.3	2	78	8	7.037	30	17160	2	191	8
DP 2333 B3XF	1214	19	44.0	17	110	21	63	26	9.6	19	7.7	17	78	10	7.386	23	15549	23	181	29
PHY 443 W3FE	1212	20	43.9	18	108	25	63	28	10.4	4	8.3	1	78	11	6.565	36	17152	3	189	9
DP 2012 B3XF	1210	21	41.3	43	106	32	67	12	9.2	29	6.6	41	63	37	8.621	6	13826	42	175	39
NG 4343 B3TXF	1209	22	43.1	27	106	34	66	16	8.6	39	6.7	39	62	38	8.411	12	14462	35	182	28
PHY 332 W3FE	1202	23	42.9	29	109	24	62	30	9.8	11	7.5	23	76	19	7.232	25	15738	21	185	19
1140B373-04	1196	24	43.8	20	107	29	59	36	9.8	12	7.8	14	80	5	7.032	31	15889	17	182	24
DG 4484 B3TXF	1188	25	45.8	4	113	13	71	5	9.3	24	8.1	8	77	14	6.722	35	17353	1	195	3
DG 4497 B3TXF	1185	26	46.4	1	113	12	64	22	8.6	40	7.7	16	75	20	6.937	34	17008	5	196	1
ST 5091 B3XF	1180	27	43.2	26	115	3	66	14	9.7	15	7.5	21	76	16	7.172	27	16672	9	196	2
DP 2239 B3XF	1179	28	44.4	11	105	41	58	40	9.2	27	7.6	20	77	15	7.107	29	15233	26	179	34
AMX20T079 B3XF	1177	29	41.8	40	112	16	65	21	9.8	13	7.2	28	70	29	7.715	19	15528	24	187	15
AMX20T157 B3XF	1174	30	42.5	33	106	31	65	18	9.4	21	7.1	32	70	28	7.657	20	14602	33	178	35
1130D303-04	1165	31	43.6	23	109	22	64	22	8.6	41	6.8	37	63	36	7.964	17	14393	36	179	33
1140A385-04	1154	32	45.8	3	110	20	59	37	9.4	22	8.2	4	85	1	6.440	38	16766	8	188	11
1130B333-04	1153	33	43.4	25	105	38	65	18	9.1	30	7.1	31	71	27	7.336	24	15026	28	182	26
DP 2038 B3XF	1135	34	46.2	2	116	2	63	28	8.5	42	7.6	19	72	24	6.983	32	16431	11	192	5
PHY 415 W3FE	1110	35	43.8	21	106	36	65	20	9.9	9	7.9	11	78	8	6.353	40	15853	18	181	30
PHY 411 W3FE	1089	36	45.3	5	105	39	62	30	8.3	43	7.1	33	59	42	6.960	33	15008	30	182	25
NG 4335 B3TXF	1068	37	42.0	39	104	42	70	8	8.9	36	6.5	43	61	39	7.464	22	14463	34	184	20
1150B437-04	1046	38	41.0	44	106	35	60	33	10.5	3	7.5	25	66	35	6.431	39	15028	27	177	37
AMX160030-B B3XF	1036	39	42.2	37	115	5	57	43	10.8	1	8.0	9	68	33	6.046	41	16126	16	182	27
AMX21C005 B3TXF	1028	40	41.6	41	107	30	68	10	9.0	33	6.6	40	59	41	7.148	28	15275	25	194	4
AMX20T114 B3XF	1002	41	42.4	34	113	10	64	22	9.3	25	7.0	34	69	30	6.507	37	14074	40	172	42
1150D490-04	990	42	44.1	15	114	8	57	42	10.1	7	8.1	6	80	6	5.547	42	17060	4	192	6
DG 3425 B3XF	934	43	42.2	36	111	18	59	37	10.8	2	8.1	7	69	30	5.399	43	16901	7	191	7
AMX160030-A B3XF	922	44	44.4	12	106	33	68	11	9.6	16	7.8	13	77	12	5.370	44	16166	15	185	18
Mean	1203		43.5		110		64		9.4		7.4		72		7.486		15515		183	
Var. $LSD_{0.10}$	158		0.8		5		7		0.3		0.3		0		1.009		693		7	
Loc. $LSD_{0.10}$	47		0.3		2		2		0.1		0.1		0.101		0.304		24		2	
C.V.%	22.5		2.4		9.5		16.0		4.6		5.4		5.4		23.1		6.0		4.9	
R^2 x 100	75.4		86.1		80.5		51.2		87.8		88.0		88.6		75.7		80.0		85.3	
Prob (var x loc)	<0.0001		0.024		0.516		0.233		<0.0001		0.002		0.002		<0.0001		0.240		0.001	

[a] r = ranking.

Table 5. Fiber properties–2023 Arkansas Transgenic Cotton Variety Test across five test sites (lint yield across four locations).

	Lint		Quality		Fiber properties											
Variety	yield	r[a]	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r	Maturity	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)			
NG 4190 B3XF	1451	1	66	12	4.73	24	1.20	16	86.1	3	31.9	27	6.0	30	83.3	16
DP 2328 B3TXF	1428	2	56	28	4.83	16	1.19	25	84.3	40	29.2	44	5.6	39	83.8	5
DG 4530 B3TXF	1385	3	69	10	4.55	38	1.21	12	85.6	14	30.0	41	6.2	28	82.8	28
ST 4595 B3XF	1380	4	65	15	4.94	10	1.21	12	85.7	12	32.3	19	7.1	13	83.0	24
Armor 9831 B3XF	1380	5	49	38	5.19	1	1.18	27	84.1	42	34.5	8	7.9	6	83.2	20
DP 2211 B3TXF	1371	6	60	20	4.76	23	1.20	14	85.2	27	30.3	39	5.9	33	83.4	12
1140D328-04	1364	7	71	8	4.66	30	1.23	7	85.9	8	35.5	4	6.5	25	82.9	27
DG 3528 B3XF	1325	8	70	9	4.64	32	1.22	8	85.6	16	32.0	26	7.2	12	82.3	34
DP 2115 B3XF	1318	9	57	23	4.97	7	1.19	22	84.9	31	32.8	18	7.6	9	83.0	24
DG 3519 B3XF	1316	10	79	2	4.68	28	1.24	2	86.2	1	33.2	14	6.5	26	82.8	28
DP 1646 B2XF	1286	11	80	1	4.71	26	1.25	1	85.9	7	31.4	35	7.3	10	82.5	31
PHY 400 W3FE	1274	12	62	19	4.71	27	1.20	20	85.0	29	33.7	13	6.3	27	83.1	21
PHY 360 W3FE	1270	13	55	30	4.79	20	1.18	28	84.4	39	29.8	42	5.8	35	83.5	8
NG 3195 B3XF	1260	14	57	24	4.68	28	1.18	29	85.9	6	32.2	22	5.6	38	83.5	8
Armor 9383 B3TXF	1255	15	52	34	4.57	36	1.18	32	85.4	21	30.2	40	7.8	7	81.7	42
DP 2317 B3TXF	1248	16	65	13	4.45	43	1.20	16	85.6	13	31.7	30	5.4	43	83.1	21
DP 2127 B3XF	1247	17	47	40	5.09	3	1.15	40	86.1	2	32.0	25	6.0	31	84.0	3
Armor 9371 B3XF	1234	18	56	27	4.82	17	1.19	26	85.5	18	31.2	37	5.8	37	83.8	5
DP 2333 B3XF	1214	19	51	35	5.01	4	1.18	31	84.5	36	30.7	38	5.3	44	84.3	2
PHY 443 W3FE	1212	20	50	36	4.95	9	1.16	38	85.3	25	35.9	3	6.8	22	83.4	12
DP 2012 B3XF	1210	21	73	6	4.55	40	1.22	9	86.0	4	32.1	23	5.5	41	83.4	12
NG 4343 B3TXF	1209	22	59	21	4.62	34	1.20	18	84.5	35	31.7	29	7.6	8	82.0	37
PHY 332 W3FE	1202	23	74	4	4.57	36	1.23	5	85.8	11	34.3	10	7.0	15	82.5	31
1140B373-04	1196	24	56	26	4.93	11	1.17	35	85.8	10	36.5	2	9.3	1	81.8	41
DG 4484 B3TXF	1188	25	50	37	4.78	21	1.15	39	84.5	37	32.2	21	5.8	35	83.5	8
DG 4497 B3TXF	1185	26	54	31	4.63	33	1.17	34	84.4	38	32.0	24	5.6	40	83.3	16
ST 5091 B3XF	1180	27	53	32	4.60	35	1.18	30	84.1	41	29.4	43	5.4	42	83.3	16
DP 2239 B3XF	1179	28	74	4	4.72	25	1.23	4	85.6	15	31.6	32	6.7	23	82.8	28
AMX20T079 B3XF	1177	29	65	13	4.55	39	1.20	14	85.4	20	31.6	33	7.2	11	82.0	37
AMX20T157 B3XF	1174	30	63	18	4.77	22	1.20	19	85.5	19	33.1	15	7.9	5	82.0	37
1130D303-04	1165	31	44	41	4.91	12	1.14	42	85.2	27	34.3	9	5.9	34	83.9	4
1140A385-04	1154	32	48	39	4.99	6	1.16	37	85.3	26	38.2	1	9.1	2	82.2	35
1130B333-04	1153	33	53	32	4.81	18	1.16	36	85.3	23	35.5	5	6.9	18	83.0	24
DP 2038 B3XF	1135	34	38	44	4.91	12	1.13	44	83.7	44	31.8	28	6.0	29	83.7	7
PHY 415 W3FE	1110	35	69	10	4.83	15	1.21	10	85.9	9	35.2	6	6.5	24	83.4	12
PHY 411 W3FE	1089	36	38	43	5.00	5	1.14	43	83.9	43	34.2	12	7.0	14	83.3	16
NG 4335 B3TXF	1068	37	64	16	4.47	42	1.20	21	85.3	24	33.1	17	6.9	16	82.2	35
1150B437-04	1046	38	43	42	5.12	2	1.15	41	84.8	32	34.3	11	6.0	32	84.4	1
AMX160030-B B3XF	1036	39	57	24	4.97	8	1.19	24	84.9	30	33.1	16	6.9	20	83.5	8
AMX21C005 B3TXF	1028	40	59	22	4.31	44	1.19	23	84.7	33	31.2	36	6.9	20	81.6	44
AMX20T114 B3XF	1002	41	64	17	4.84	14	1.21	11	85.5	17	31.6	31	8.5	3	81.9	40
1150D490-04	990	42	55	29	4.79	19	1.18	33	84.6	34	32.2	20	6.9	19	83.1	21
DG 3425 B3XF	934	43	75	3	4.53	41	1.23	3	86.0	5	34.5	7	6.9	16	82.4	33
AMX160030-A B3XF	922	44	72	7	4.65	31	1.23	6	85.4	22	31.5	34	8.0	4	81.7	42
Mean	1203		59		4.76		1.19		85.2		32.6		6.7		83.0	
Var. $LSD_{0.10}$	158		7.7		0.14		0.02		0.8		1.0		0.3		0.5	
Loc. $LSD_{0.10}$	47		ns		0.07		0.01		ns		ms		0.2		0.2	
C.V.%	22.5		17.6		4.1		2.2		1.3		4.1		6.4		0.8	
R^2 x 100	75.4		77.1		94.6		84.3		65.0		85.0		93.7		93.6	
Prob (var x loc)	<0.0001		0.187		<0.0001		0.321		0.651		0.175		0.151		0.030	

[a] r = ranking; UI = fiber length uniformity index.

Table 6. Yield and related properties–2023 Arkansas Transgenic Cotton Variety Test, with irrigation on a Routon-Dundee-Crevasse complex soil at Manila.

Variety	Lint yield	r[a]	Lint frac.	r	Ht.	r	Open bolls[b]	r	Seed index	r	Lint index	r	Seed score	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
Armor 9831 B3XF	2090	1	43.4	23	93	19			8.1	40	6.4	39	67	38	14.890	1	13777	43	177	43
NG 4190 B3XF	1999	2	49.2	1	106	1			8.9	23	9.1	1	86	2	10.340	18	21377	1	221	1
DG 3519 B3XF	1915	3	42.2	33	88	31			9.9	6	7.3	12	69	29	11.930	5	15738	25	188	34
DG 3528 B3XF	1913	4	42.3	31	98	7			8.8	27	6.5	36	69	33	13.370	2	15143	29	193	23
DP 2328 B3TXF	1832	5	45.4	7	92	21			9.0	21	7.6	6	84	4	10.950	12	17173	10	200	17
DP 1646 B2XF	1824	6	42.0	34	100	4			9.0	20	6.6	31	70	28	12.640	3	14561	39	184	38
NG 3195 B3XF	1782	7	43.0	26	88	27			8.9	24	6.8	25	73	22	11.900	8	15409	27	191	27
ST 4595 B3XF	1778	8	43.7	18	88	29			8.5	37	6.7	27	71	25	12.040	4	13987	42	175	44
PHY 443 W3FE	1765	9	43.6	20	91	22			10.1	2	7.9	3	75	17	10.080	20	18038	4	205	10
DP 2211 B3TXF	1725	10	45.7	6	99	5			9.2	15	7.9	4	88	1	9.930	22	16481	16	188	33
Armor 9371 B3XF	1667	11	43.8	15	97	8			9.1	18	7.2	14	79	11	10.470	16	17481	7	210	7
1140D328-04	1650	12	42.2	32	93	16			8.7	28	6.4	38	67	37	11.740	9	16499	15	212	4
DP 2333 B3XF	1621	13	45.1	8	89	24			8.6	32	7.1	19	77	15	10.350	17	17219	9	208	8
DP 2115 B3XF	1617	14	43.9	12	88	29			8.2	39	6.5	32	69	29	11.220	11	15112	30	192	25
AMX160030-B B3XF	1615	15	41.6	36	96	9			10.2	1	7.4	10	69	33	9.962	21	15505	26	184	39
Armor 9383 B3TXF	1615	16	41.3	37	99	6			9.6	7	6.8	24	72	24	10.780	13	14454	40	179	42
DG 4530 B3TXF	1608	17	43.7	19	93	17			8.6	30	6.8	23	73	20	10.700	15	16354	17	203	14
1140B373-04	1585	18	43.9	13	85	40			9.2	14	7.4	11	81	7	9.785	23	16137	20	192	26
DP 2012 B3XF	1556	19	41.1	40	88	32			8.4	38	5.9	43	61	41	11.920	6	13748	44	184	40
1140A385-04	1544	20	46.0	4	88	32			8.8	26	7.7	5	85	3	9.151	26	16686	13	194	22
DP 2317 B3TXF	1527	21	42.5	30	88	34			7.8	43	5.8	44	56	44	11.910	7	14732	37	199	19
PHY 400 W3FE	1524	22	43.8	17	85	39			9.4	11	7.4	9	81	7	9.405	24	17348	8	206	9
NG 4343 B3TXF	1516	23	43.3	25	90	23			7.8	42	6.1	42	58	43	11.370	10	14723	38	195	21
AMX20T079 B3XF	1500	24	40.9	42	88	26			9.1	18	6.4	40	67	38	10.730	14	15825	22	204	13
ST 5091 B3XF	1471	25	43.4	22	93	19			9.3	12	7.2	15	79	11	9.242	25	17717	6	213	2
DP 2127 B3XF	1452	26	43.8	16	93	15			9.2	16	7.3	13	80	9	9.077	27	15742	24	188	32
AMX20T157 B3XF	1449	27	42.7	28	85	41			8.5	34	6.4	37	68	36	10.250	19	14879	33	191	30
DP 2038 B3XF	1398	28	46.5	2	94	11			8.0	41	7.1	18	74	19	8.906	28	16937	12	205	11
PHY 332 W3FE	1328	29	43.4	24	86	36			9.3	13	7.2	17	78	13	8.420	32	16324	18	197	20
1150B437-04	1316	30	40.5	44	85	38			10.0	3	6.8	22	73	20	8.735	30	15169	28	188	35
DP 2239 B3XF	1300	31	44.7	9	83	42			8.6	31	7.1	20	77	15	8.309	33	15752	23	191	29
DG 4484 B3TXF	1280	32	44.4	10	102	2			9.9	4	8.1	2	80	9	7.180	40	17833	5	200	15
PHY 360 W3FE	1277	33	42.8	27	93	17			8.7	29	6.5	33	69	29	8.867	29	15076	31	191	28
1130D303-04	1240	34	42.7	29	86	37			8.5	34	6.5	35	69	33	8.669	31	14892	32	190	31
DG 4497 B3TXF	1237	35	46.0	5	101	3			8.5	36	7.6	7	84	5	7.408	38	18044	3	211	6
AMX160030-A B3XF	1191	36	44.0	11	81	44			9.0	21	7.2	16	78	13	7.544	36	16542	14	199	18
1130B333-04	1177	37	43.4	21	82	43			8.6	32	6.7	30	71	25	8.010	34	14826	35	186	36
PHY 411 W3FE	1099	38	46.1	3	87	35			7.6	44	6.7	28	59	42	7.463	37	16290	19	204	12
AMX20T114 B3XF	1092	39	41.8	35	94	12			9.1	17	6.5	34	69	29	7.559	35	14327	41	182	41
AMX21C005 B3TXF	1060	40	41.1	41	88	25			9.4	10	6.7	29	71	25	7.205	39	15973	21	200	16
1150D490-04	1022	41	43.9	14	95	10			9.5	8	7.6	8	84	5	6.128	43	18184	2	212	3
DG 3425 B3XF	993	42	40.8	43	94	13			9.9	5	6.9	21	74	18	6.518	41	17136	11	211	5
NG 4335 B3TXF	884	43	41.2	38	94	14			8.8	25	6.3	41	66	40	6.392	42	14785	36	192	24
PHY 415 W3FE	812	44	41.2	39	88	27			9.5	9	6.8	26	72	23	5.452	44	14846	34	185	37
Mean	1474		43.4		61				8.9		7.0		73		9.657		16018		196	
$LSD_{0.10}$	528		2.6		8				0.6		1.0		10		3.454		2198		15	
C.V.%	30.6		3.6		7.5				3.8		8.3		8.3		30.5		8.2		4.7	
R^2 x 100	38.7		76.2		63.3				87.6		70.8		77.3		40.8		71.9		74.1	

[a] r = ranking.

[b] Open bolls data are not available.

Table 7. Fiber properties–2023 Arkansas Transgenic Cotton Variety Test, with irrigation on a Routon-Dundee-Crevasse complex soil at Manila.

	Lint		Quality		Fiber properties											
Variety	yield	r[a]	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r	Maturity	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)			
Armor 9831 B3XF	2090	1	57	31	4.55	4	1.21	21	84.2	40	34.7	7	8.4	10	81.5	11
NG 4190 B3XF	1999	2	68	18	4.05	31	1.22	18	85.7	26	32.8	20	6.9	30	81.0	20
DG 3519 B3XF	1915	3	86	2	4.20	23	1.27	2	86.7	5	33.6	14	7.5	22	81.0	20
DG 3528 B3XF	1913	4	81	4	3.95	35	1.27	2	85.6	29	33.0	18	7.8	16	80.0	33
DP 2328 B3TXF	1832	5	52	39	4.40	12	1.19	28	84.1	41	27.3	44	7.0	29	82.0	4
DP 1646 B2XF	1824	6	88	1	4.05	31	1.29	1	86.6	8	31.7	32	8.6	8	80.0	33
NG 3195 B3XF	1782	7	61	26	4.30	15	1.19	35	86.6	8	31.3	35	6.8	34	82.0	4
ST 4595 B3XF	1778	8	71	14	4.50	5	1.24	7	86.1	19	32.1	27	8.1	11	81.0	20
PHY 443 W3FE	1765	9	58	30	4.35	14	1.17	39	86.2	18	36.5	3	7.1	26	81.5	11
DP 2211 B3TXF	1725	10	51	40	4.70	1	1.19	31	85.7	26	29.3	43	7.2	25	82.5	1
Armor 9371 B3XF	1667	11	66	19	3.95	35	1.21	20	86.3	13	33.3	17	6.5	39	81.5	11
1140D328-04	1650	12	72	12	3.55	44	1.27	4	86.6	8	36.8	2	6.9	33	80.0	33
DP 2333 B3XF	1621	13	57	33	4.10	26	1.19	31	84.8	35	30.3	40	6.3	41	81.5	11
DP 2115 B3XF	1617	14	69	17	4.15	24	1.23	16	85.4	30	32.9	19	8.5	9	80.5	29
AMX160030-B B3XF	1615	15	74	7	4.45	10	1.23	14	86.8	4	32.7	23	7.6	21	81.5	11
Armor 9383 B3TXF	1615	16	56	35	4.60	2	1.19	31	86.1	20	29.6	42	9.3	4	80.5	29
DG 4530 B3TXF	1608	17	62	22	4.05	31	1.19	28	86.2	17	30.5	38	7.4	23	80.5	29
1140B373-04	1585	18	61	26	4.45	8	1.18	38	86.8	2	34.8	6	9.9	2	80.0	33
DP 2012 B3XF	1556	19	74	8	4.05	31	1.23	14	86.6	11	32.8	20	6.1	42	82.0	4
1140A385-04	1544	20	62	23	4.45	10	1.20	27	86.3	14	37.9	1	9.9	1	80.0	33
DP 2317 B3TXF	1527	21	60	28	3.80	42	1.21	24	87.0	1	31.7	32	6.0	43	81.0	20
PHY 400 W3FE	1524	22	76	5	3.95	40	1.24	7	86.6	6	33.7	13	6.9	30	81.0	20
NG 4343 B3TXF	1516	23	64	21	3.95	35	1.23	16	85.7	25	30.9	37	9.5	3	79.0	44
AMX20T079 B3XF	1500	24	59	29	3.95	40	1.21	24	84.4	38	31.5	34	7.7	17	80.0	33
ST 5091 B3XF	1471	25	62	23	3.95	35	1.21	21	85.9	22	31.2	36	6.0	43	81.5	11
DP 2127 B3XF	1452	26	54	37	4.60	2	1.16	42	86.5	12	32.0	28	7.1	26	82.0	4
AMX20T157 B3XF	1449	27	70	16	4.10	26	1.22	18	86.2	15	34.0	12	8.6	7	80.0	33
DP 2038 B3XF	1398	28	50	42	4.25	18	1.17	40	84.6	36	32.5	26	6.5	38	82.0	4
PHY 332 W3FE	1328	29	76	6	4.10	26	1.24	7	86.2	15	35.2	4	7.7	17	81.0	20
1150B437-04	1316	30	55	36	4.50	5	1.19	35	84.6	36	33.6	14	6.5	36	82.5	1
DP 2239 B3XF	1300	31	70	15	4.30	15	1.23	11	85.0	33	31.8	31	7.4	23	81.0	20
DG 4484 B3TXF	1280	32	57	33	4.50	5	1.19	28	84.3	39	32.6	24	6.7	35	82.0	4
PHY 360 W3FE	1277	33	61	25	4.25	18	1.21	24	85.0	33	29.6	41	6.9	30	81.5	11
1130D303-04	1240	34	51	40	4.40	12	1.16	42	85.8	23	34.1	11	6.5	36	82.5	1
DG 4497 B3TXF	1237	35	54	37	4.25	18	1.19	31	83.3	44	32.6	25	6.3	40	82.0	4
AMX160030-A B3XF	1191	36	73	9	4.10	26	1.24	7	85.4	32	30.5	38	9.1	5	79.5	43
1130B333-04	1177	37	57	31	4.45	8	1.19	35	85.4	30	34.6	8	7.9	14	81.5	11
PHY 411 W3FE	1099	38	44	44	4.25	18	1.15	44	83.8	43	35.2	4	7.6	20	81.0	20
AMX20T114 B3XF	1092	39	73	9	4.30	15	1.23	11	86.0	21	32.0	29	8.9	6	80.0	33
AMX21C005 B3TXF	1060	40	73	9	3.95	35	1.23	11	85.8	24	32.8	22	7.9	14	80.0	33
1150D490-04	1022	41	48	43	4.25	18	1.17	40	83.8	42	31.9	30	8.1	12	81.0	20
DG 3425 B3XF	993	42	72	12	3.75	43	1.25	6	86.6	6	34.3	9	7.7	19	80.0	33
NG 4335 B3TXF	884	43	65	20	4.10	26	1.21	21	85.6	28	33.6	16	8.0	13	80.5	29
PHY 415 W3FE	812	44	85	3	4.15	24	1.27	4	86.8	2	34.2	10	7.0	28	81.5	11
Mean	1474		64		4.20		1.21		85.7		32.7		7.5		81.0	
$LSD_{0.10}$	528		15		0.35		0.04		1.5		1.6		0.6		1.1	
C.V.%	30.6		13.6		4.9		2.0		1.0		2.9		5.1		0.8	
R^2 x 100	38.7		77.9		79.1		81.9		70.8		90.5		93.5		79.7	

[a] r = ranking; UI = fiber length uniformity index.

Table 8. Yield and related properties–2023 Arkansas Transgenic Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser. Lint yield, plant height and seed/acre data not included in overall location means.

Variety	Lint yield	r[a]	Lint frac.	r	Ht.	r	Open bolls[b]	r	Seed index	r	Lint index	r	Seed score	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
DP 2211 B3TXF	762	1	43.4	23	117	13			10.4	6	8.1	10	81	6	4.255	5	15206	19	170	29
AMX21C005 B3TXF	717	2	41.8	41	113	23			9.5	22	7.1	37	67	35	4.581	1	15369	18	186	4
NG 4343 B3TXF	705	3	43.2	25	102	43			9.2	34	7.2	34	68	32	4.443	3	13860	37	167	42
DP 2328 B3TXF	695	4	45.5	8	135	1			9.1	38	7.9	18	78	13	4.009	6	15141	20	172	24
DG 4497 B3TXF	672	5	47.1	1	109	33			8.6	43	7.9	16	77	15	3.844	7	16154	11	183	9
DP 2317 B3TXF	658	6	42.2	37	109	34			8.8	40	6.5	44	59	43	4.568	2	13322	43	169	34
Armor 9383 B3TXF	648	7	41.8	42	106	38			9.3	30	6.8	42	63	40	4.341	4	13616	40	169	32
DG 4530 B3TXF	543	8	44.7	12	116	16			9.2	33	7.8	20	76	16	3.175	9	15509	17	178	18
DG 4484 B3TXF	536	9	46.4	4	103	40			9.3	29	8.3	7	84	3	2.922	11	17363	2	192	2
NG 4335 B3TXF	530	10	42.5	34	99	44			8.8	40	6.7	43	61	42	3.602	8	14289	34	179	17
PHY 443 W3FE	478	11	43.8	20	119	10			10.0	14	8.0	13	80	9	2.704	13	16313	10	184	8
NG 4190 B3XF	469	12	42.6	33	123	3			10.3	7	7.9	17	79	10	2.685	14	15931	13	181	14
PHY 411 W3FE	450	13	45.3	10	116	15			8.1	44	7.0	40	43	44	2.924	10	13817	38	169	35
PHY 400 W3FE	449	14	45.6	7	107	36			10.0	12	8.5	4	86	1	2.402	17	16760	7	183	12
AMX20T114 B3XF	436	15	41.9	40	113	21			9.4	25	7.1	39	66	37	2.809	12	13742	39	167	38
DG 3519 B3XF	415	16	40.9	44	117	12			10.2	9	7.3	32	70	28	2.562	15	14538	31	173	23
1130D303-04	412	17	45.7	6	120	7			8.7	42	7.5	29	69	29	2.507	16	15018	22	177	20
PHY 415 W3FE	406	18	45.5	9	115	18			9.3	32	8.1	12	80	7	2.286	19	15933	12	179	16
DG 3425 B3XF	398	19	42.8	30	106	39			11.1	3	8.5	3	68	33	2.128	24	17022	4	186	5
DP 2333 B3XF	398	20	43.3	24	121	6			10.1	10	8.0	14	79	10	2.264	20	14830	26	168	36
AMX20T079 B3XF	392	21	43.6	21	103	40			10.0	14	7.9	15	78	12	2.239	21	14928	24	170	30
NG 3195 B3XF	386	22	42.1	38	118	11			10.6	5	7.9	19	78	13	2.227	22	14934	23	170	28
1140D328-04	386	23	43.9	19	110	31			9.5	24	7.6	27	74	22	2.309	18	14340	32	167	37
DP 2239 B3XF	377	24	44.2	14	111	27			9.5	22	7.7	22	76	17	2.216	23	14775	28	171	27
1150D490-04	366	25	46.9	2	110	31			9.3	31	8.3	8	84	3	1.996	27	17845	1	197	1
ST 4595 B3XF	358	26	44.4	13	107	35			9.4	27	7.7	23	75	19	2.122	25	14582	30	169	33
1150B437-04	346	27	42.0	39	102	42			10.1	11	7.5	28	72	24	2.107	26	15021	21	177	19
1140A385-04	345	28	45.7	5	110	29			9.6	20	8.3	9	84	3	1.889	31	16536	8	183	11
DP 2127 B3XF	342	29	43.9	18	123	4			11.0	4	8.8	2	71	26	1.762	34	15893	14	169	31
Armor 9371 B3XF	333	30	44.1	16	123	2			11.3	1	9.1	1	69	29	1.653	37	16808	5	175	21
ST 5091 B3XF	327	31	42.3	35	113	21			10.2	8	7.6	24	74	20	1.944	30	15835	15	184	7
AMX20T157 B3XF	319	32	43.0	27	112	24			9.7	18	7.4	31	71	26	1.951	29	14162	36	167	39
PHY 360 W3FE	312	33	43.5	22	114	20			9.1	38	7.2	35	68	33	1.976	28	14196	35	171	25
DP 2115 B3XF	303	34	44.1	15	114	19			9.4	28	7.6	26	74	20	1.811	33	14334	33	167	40
DG 3528 B3XF	301	35	42.6	32	111	25			9.6	21	7.4	30	72	25	1.837	32	14678	29	173	22
1140B373-04	273	36	44.8	11	110	29			9.7	17	8.1	11	80	7	1.535	39	16474	9	185	6
DP 2012 B3XF	264	37	41.1	43	115	17			9.9	16	6.9	41	65	39	1.734	35	13575	41	167	41
1130B333-04	261	38	42.8	29	107	37			9.1	37	7.1	38	66	37	1.678	36	14834	25	180	15
DP 1646 B2XF	257	39	43.0	28	121	5			9.4	26	7.3	33	69	31	1.606	38	13298	44	159	44
PHY 332 W3FE	232	40	42.8	31	119	8			10.0	12	7.6	25	74	22	1.384	40	15658	16	182	13
AMX160030-A B3XF	232	41	44.0	17	111	26			9.6	19	7.7	21	75	18	1.360	41	14827	27	171	26
AMX160030-B B3XF	214	42	42.3	36	117	13			11.2	2	8.5	5	63	40	1.146	43	16793	6	183	10
Armor 9831 B3XF	208	43	43.0	26	111	28			9.2	36	7.1	36	67	36	1.328	42	13540	42	164	43
DP 2038 B3XF	148	44	46.7	3	119	8			9.2	35	8.4	6	84	2	0.806	44	17054	3	188	3
Mean	410		43.7		113				9.7		7.7		72		2.446		15197		176	
$LSD_{0.10}$	195		1.1		ns				0.6		0.5		8		1.166		1064		11	
C.V.%	40.6		1.5		13.4				3.6		3.6		6.9		40.7		4.2		3.6	
R^2 x 100	53.7		91.8		22.4				89.0		90.2		84.2		57.1		87.6		78.2	

[a] r = ranking.

[b] Open bolls data are not available.

Table 9. Fiber properties–2023 Arkansas Transgenic Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser. Lint yield, plant height and seed/acre data not included in overall location means.

	Lint		Quality		Fiber properties											
Variety	yield	r[a]	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r	Maturity	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)			
DP 2211 B3TXF	762	1	77	4	5.05	27	1.23	2	86.1	5	30.9	41	5.5	38	84.5	6
AMX21C005 B3TXF	717	2	68	11	4.60	44	1.19	13	84.2	36	32.8	26	7.1	12	82.5	39
NG 4343 B3TXF	705	3	66	14	5.10	20	1.21	7	84.2	35	33.4	17	7.2	9	83.5	22
DP 2328 B3TXF	695	4	62	17	5.15	17	1.19	13	84.7	22	28.7	44	4.9	44	85.0	3
DG 4497 B3TXF	672	5	63	16	4.90	34	1.19	17	84.7	24	32.7	29	5.3	42	84.0	14
DP 2317 B3TXF	658	6	75	6	4.75	41	1.21	10	85.8	9	32.0	32	5.8	36	83.5	22
Armor 9383 B3TXF	648	7	67	12	4.90	34	1.19	17	85.7	11	31.6	34	7.1	14	83.0	35
DG 4530 B3TXF	543	8	74	7	4.85	37	1.21	7	85.5	15	30.0	42	5.9	34	84.0	14
DG 4484 B3TXF	536	9	51	31	4.95	30	1.15	35	84.7	24	33.9	14	6.1	30	83.5	22
NG 4335 B3TXF	530	10	64	15	4.70	43	1.17	20	84.6	26	33.4	15	6.7	22	83.0	35
PHY 443 W3FE	478	11	44	36	5.15	17	1.14	37	84.2	34	35.3	4	6.6	23	84.0	14
NG 4190 B3XF	469	12	58	21	5.00	28	1.17	25	85.5	15	31.4	36	6.1	30	83.5	22
PHY 411 W3FE	450	13	34	42	5.40	5	1.13	41	83.3	42	34.2	13	7.2	10	84.5	6
PHY 400 W3FE	449	14	49	32	5.20	14	1.15	33	84.4	31	33.4	16	6.3	26	84.0	14
AMX20T114 B3XF	436	15	61	18	5.10	20	1.19	15	84.7	22	32.4	31	8.5	3	82.5	39
DG 3519 B3XF	415	16	77	3	4.85	37	1.23	2	84.7	21	33.1	20	6.1	29	83.5	22
1130D303-04	412	17	32	43	5.35	7	1.10	43	84.5	28	34.4	11	5.9	34	85.0	3
PHY 415 W3FE	406	18	56	23	5.10	20	1.16	30	85.5	15	34.9	7	6.8	18	83.5	22
DG 3425 B3XF	398	19	74	7	4.85	37	1.20	11	86.1	5	35.3	3	6.8	18	83.0	35
DP 2333 B3XF	398	20	38	41	5.60	2	1.14	36	84.4	33	31.5	35	5.0	43	86.0	1
AMX20T079 B3XF	392	21	60	20	5.25	9	1.19	17	85.6	14	32.4	30	7.3	8	83.5	22
NG 3195 B3XF	386	22	57	22	5.25	9	1.17	25	86.3	3	32.8	26	5.7	37	84.5	6
1140D328-04	386	23	83	1	4.95	30	1.23	1	86.6	1	34.5	9	6.7	21	83.5	22
DP 2239 B3XF	377	24	72	9	5.00	28	1.22	5	85.8	9	33.0	21	6.2	27	84.0	14
1150D490-04	366	25	43	38	4.95	30	1.13	39	83.4	41	31.3	38	6.8	17	83.5	22
ST 4595 B3XF	358	26	56	23	5.25	9	1.17	23	85.7	13	33.1	19	7.0	15	84.0	14
1150B437-04	346	27	43	38	5.20	14	1.13	39	84.6	27	34.7	8	6.1	28	84.5	6
1140A385-04	345	28	55	27	5.10	20	1.17	25	84.4	31	39.8	1	9.2	2	82.5	39
DP 2127 B3XF	342	29	42	40	5.65	1	1.14	37	86.4	2	31.4	36	6.0	33	85.5	2
Armor 9371 B3XF	333	30	55	28	5.40	5	1.17	23	86.1	5	31.7	33	6.0	32	85.0	3
ST 5091 B3XF	327	31	53	30	4.95	33	1.16	30	84.0	37	29.6	43	5.3	40	84.0	14
AMX20T157 B3XF	319	32	56	23	5.25	9	1.17	20	85.1	20	33.0	21	7.9	6	83.0	35
PHY 360 W3FE	312	33	49	32	5.20	16	1.17	25	83.5	40	31.2	39	5.5	38	84.5	6
DP 2115 B3XF	303	34	56	26	5.30	8	1.17	20	85.2	19	34.4	11	7.0	15	84.0	14
DG 3528 B3XF	301	35	61	18	5.05	26	1.19	15	84.5	30	33.0	21	7.2	10	83.5	22
1140B373-04	273	36	46	34	5.10	20	1.12	42	85.7	12	36.3	2	9.3	1	82.5	39
DP 2012 B3XF	264	37	79	2	4.85	37	1.22	5	86.3	3	34.5	10	5.3	40	84.5	6
1130B333-04	261	38	55	28	4.90	34	1.16	30	83.9	38	35.1	5	6.8	18	83.5	22
DP 1646 B2XF	257	39	76	5	5.15	17	1.23	2	86.1	5	30.9	40	7.1	12	83.5	22
PHY 332 W3FE	232	40	72	9	4.75	41	1.21	7	84.5	28	33.2	18	7.4	7	82.5	39
AMX160030-A B3XF	232	41	66	13	5.10	20	1.20	11	85.3	18	32.7	28	8.1	5	82.5	39
AMX160030-B B3XF	214	42	45	35	5.25	9	1.15	34	83.8	39	32.9	24	6.5	24	84.5	6
Armor 9831 B3XF	208	43	44	36	5.45	3	1.17	25	82.9	43	35.0	6	8.2	4	83.5	22
DP 2038 B3XF	148	44	28	44	5.45	3	1.09	44	82.6	44	32.8	25	6.5	24	84.5	6
Mean	410		57		5.10		1.17		84.9		33.0		6.6		83.8	
$LSD_{0.10}$	195		16		0.27		0.04		1.8		2.0		0.6		1.0	
C.V.%	40.6		16.8		3.2		2.2		1.3		3.6		5.6		0.7	
R^2 x 100	53.7		80.4		80.8		79.9		63.8		84.4		93.9		79.5	

[a] r = ranking; UI = fiber length uniformity index.

Table 10. Yield and related properties–2023 Arkansas Transgenic Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.

Variety	Lint yield	r[a]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed score	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
Armor 9831 B3XF	1177	1	43.2	8	102	5	36	44	8.7	33	6.7	29	73	21	7.960	1	13157	43	165	44
DP 2115 B3XF	1038	2	42.3	17	99	16	56	29	8.6	36	6.4	35	69	27	7.373	2	12902	44	166	43
DP 2328 B3TXF	1023	3	43.9	4	99	13	71	3	9.5	18	7.5	5	85	2	6.167	15	16884	13	197	18
NG 4190 B3XF	978	4	41.8	27	93	39	66	10	9.8	11	7.1	16	76	12	6.243	12	15682	27	190	30
PHY 411 W3FE	972	5	44.0	3	99	15	55	31	8.5	38	6.8	26	60	37	6.467	7	15157	31	188	34
ST 4595 B3XF	964	6	42.8	9	94	37	74	1	9.3	26	7.0	19	78	11	6.209	14	14990	35	183	39
DP 2127 B3XF	958	7	42.6	14	110	1	48	40	8.9	31	6.6	31	72	22	6.557	5	17420	4	219	3
DP 1646 B2XF	958	8	42.0	24	102	6	61	21	9.2	28	6.8	28	74	20	6.427	8	14346	40	179	41
DP 2333 B3XF	957	9	42.7	11	93	40	59	24	9.5	20	7.1	18	79	10	6.098	17	15644	28	189	31
PHY 415 W3FE	947	10	42.7	12	89	44	64	14	10.7	4	8.0	1	75	15	5.345	25	17042	11	192	27
1130B333-04	943	11	42.0	23	96	32	64	14	8.6	35	6.3	37	67	31	6.786	4	14962	36	194	22
PHY 360 W3FE	942	12	41.5	30	91	41	71	3	8.4	39	6.1	40	55	39	7.006	3	14345	41	189	32
NG 4335 B3TXF	887	13	40.5	36	94	34	68	8	9.4	25	6.4	34	69	26	6.282	10	16083	19	206	14
ST 5091 B3XF	883	14	42.4	16	107	2	65	13	9.9	10	7.3	8	82	4	5.472	22	17465	3	208	9
DP 2012 B3XF	873	15	40.0	41	97	22	70	6	9.4	24	6.4	36	68	28	6.235	13	14351	39	185	36
PHY 400 W3FE	872	16	43.4	7	96	28	48	40	9.5	21	7.3	11	82	4	5.421	23	16173	18	193	25
1140B373-04	856	17	42.2	19	103	4	59	24	9.8	12	7.3	12	81	6	5.359	24	15951	23	191	29
NG 4343 B3TXF	855	18	41.6	29	97	27	56	29	8.7	34	6.2	39	66	33	6.260	11	15245	29	199	16
DG 4530 B3TXF	853	19	42.3	18	96	29	74	1	9.1	29	6.8	25	74	17	5.683	20	16034	20	199	17
AMX20T114 B3XF	843	20	42.0	25	104	3	50	36	9.0	30	6.6	32	70	25	5.850	19	14361	38	183	38
1140D328-04	825	21	42.7	10	96	30	44	43	9.6	15	7.3	13	81	6	5.163	28	16236	17	195	21
1130D303-04	824	22	42.2	20	98	20	58	27	8.2	42	6.1	41	54	40	6.157	16	14647	37	193	26
NG 3195 B3XF	816	23	41.9	26	100	12	71	3	8.5	37	6.2	38	61	35	5.933	18	17263	8	225	2
DG 3519 B3XF	812	24	41.5	31	90	42	68	8	9.6	14	6.9	23	76	14	5.341	26	14993	34	185	37
AMX20T157 B3XF	798	25	40.1	40	102	8	63	18	9.6	17	6.4	33	68	30	5.609	21	15122	32	194	23
DP 2239 B3XF	793	26	41.4	34	98	17	51	35	9.5	18	6.8	27	74	17	5.303	27	15210	30	189	33
PHY 443 W3FE	793	27	42.0	21	94	34	53	33	10.2	7	7.5	6	83	3	4.786	33	16514	15	193	24
DP 2317 B3TXF	791	28	40.1	39	98	17	66	10	8.4	41	5.7	43	49	41	6.324	9	14036	42	192	28
Armor 9371 B3XF	791	29	42.4	15	99	14	63	18	9.6	15	7.2	14	80	8	4.988	31	17797	2	214	7
DG 3528 B3XF	782	30	42.0	22	89	43	61	21	9.5	23	6.9	22	76	12	5.123	29	15853	24	195	20
DG 3425 B3XF	766	31	39.7	42	96	30	54	32	11.0	3	7.3	10	57	38	4.755	34	17412	5	208	11
PHY 332 W3FE	758	32	41.4	32	102	6	58	27	9.7	13	6.9	21	74	17	4.962	32	16838	14	208	10
DP 2038 B3XF	747	33	44.5	1	94	36	66	10	8.1	43	6.7	30	61	35	5.086	30	16487	16	207	12
DG 4484 B3TXF	730	34	43.5	5	98	21	64	14	10.0	9	7.8	3	89	1	4.238	39	17164	9	197	19
Armor 9383 B3TXF	728	35	39.4	43	100	11	59	24	7.8	44	5.1	44	27	44	6.472	6	15705	26	227	1
AMX20T079 B3XF	723	36	40.2	38	101	9	64	14	10.3	6	6.9	20	67	32	4.714	35	17034	12	209	8
DG 4497 B3TXF	722	37	44.3	2	97	26	46	42	8.7	32	7.1	17	75	15	4.596	36	17059	10	206	13
DP 2211 B3TXF	682	38	41.6	28	97	23	63	18	9.5	21	6.9	24	71	23	4.474	37	17332	7	215	6
1140A385-04	679	39	43.4	6	93	38	50	36	9.2	27	7.1	15	79	9	4.311	38	17915	1	217	4
1150B437-04	662	40	39.1	44	97	23	49	39	11.2	1	7.3	9	47	42	4.102	40	15020	33	179	42
AMX160030-B B3XF	626	41	41.4	33	101	10	50	36	11.2	2	8.0	2	66	33	3.570	42	16023	21	182	40
1150D490-04	587	42	41.0	35	97	23	53	33	10.7	4	7.5	7	68	28	3.556	43	15961	22	188	35
AMX21C005 B3TXF	453	43	40.2	37	94	33	60	23	8.4	40	5.7	42	41	43	3.601	41	15773	25	215	5
AMX160030-A B3XF	436	44	42.6	13	98	19	70	6	10.1	8	7.6	4	71	24	2.608	44	17361	6	202	15
Mean	821		41.9		97		59		9.4		6.9		69		5.477		15885		197	
$LSD_{0.10}$	177		1.3		ns		ns		0.9		0.7		21		1.168		1730		229	
C.V.%	18.5		1.9		9.9		27.1		5.4		5.7		18.0		18.2		6.5		6.9	
R^2 x 100	59.3		84.3		23.6		31.9		86.4		85.5		67.0		65.0		75.5		73.9	

[a] r = ranking.

Table 11. Fiber properties–2023 Arkansas Transgenic Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.

	Lint		Quality		Fiber properties											
Variety	yield	r[a]	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r	Maturity	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)			
Armor 9831 B3XF	1177	1	51	38	4.90	1	1.23	21	85.0	38	34.6	13	8.2	5	82.0	8
DP 2115 B3XF	1038	2	68	14	4.60	4	1.25	11	86.3	8	33.2	20	8.2	4	82.0	8
DP 2328 B3TXF	1023	3	59	29	4.35	11	1.21	29	85.0	36	30.9	38	5.8	38	82.5	3
NG 4190 B3XF	978	4	70	13	4.25	16	1.23	18	86.8	1	32.7	22	6.1	34	82.5	3
PHY 411 W3FE	972	5	50	39	4.45	7	1.19	38	85.1	34	34.9	11	7.0	17	82.0	8
ST 4595 B3XF	964	6	76	6	4.35	11	1.26	7	86.2	9	32.4	26	7.5	9	81.5	20
DP 2127 B3XF	958	7	50	40	3.80	39	1.18	41	85.1	34	31.8	34	5.9	37	81.0	27
DP 1646 B2XF	958	8	85	1	4.20	19	1.31	1	85.8	21	31.9	32	6.9	20	81.5	20
DP 2333 B3XF	957	9	62	25	4.40	8	1.21	26	85.4	32	29.7	43	5.5	42	82.5	3
PHY 415 W3FE	947	10	75	8	4.40	8	1.26	7	85.6	26	36.3	4	6.8	24	82.0	8
1130B333-04	943	11	57	31	4.15	21	1.19	39	86.7	2	35.1	9	7.1	16	81.5	20
PHY 360 W3FE	942	12	56	32	4.20	19	1.21	29	84.1	42	30.3	42	6.0	36	82.0	8
NG 4335 B3TXF	887	13	65	17	3.75	41	1.24	14	85.9	15	33.4	18	7.2	13	80.0	39
ST 5091 B3XF	883	14	63	23	4.05	27	1.23	17	83.9	44	30.7	39	5.3	43	82.0	8
DP 2012 B3XF	873	15	75	7	4.10	24	1.25	11	86.5	3	31.7	35	5.7	40	82.0	8
PHY 400 W3FE	872	16	72	11	4.25	16	1.24	14	86.0	13	35.2	8	6.5	27	82.0	8
1140B373-04	856	17	56	33	4.50	5	1.19	39	85.6	26	38.0	1	9.3	1	81.0	27
NG 4343 B3TXF	855	18	58	30	3.95	31	1.23	18	85.0	36	33.3	19	7.5	9	80.5	36
DG 4530 B3TXF	853	19	74	9	3.95	31	1.26	7	85.7	23	30.6	40	6.5	28	81.0	27
AMX20T114 B3XF	843	20	64	20	4.30	14	1.25	11	85.5	28	32.7	23	8.7	3	80.5	36
1140D328-04	825	21	64	20	4.30	15	1.21	29	86.0	12	36.1	5	7.0	19	82.0	8
1130D303-04	824	22	54	35	4.10	24	1.18	41	85.8	20	34.3	15	6.6	25	81.5	20
NG 3195 B3XF	816	23	49	41	3.50	42	1.21	33	85.7	23	31.2	36	5.6	41	80.5	36
DG 3519 B3XF	812	24	76	5	4.25	16	1.26	7	86.4	6	32.5	24	6.6	26	81.5	20
AMX20T157 B3XF	798	25	60	27	4.15	21	1.21	26	84.8	40	32.3	28	7.7	8	81.0	27
DP 2239 B3XF	793	26	80	2	4.10	24	1.28	2	85.5	28	32.4	26	6.9	22	81.0	27
PHY 443 W3FE	793	27	63	23	4.40	8	1.21	33	86.1	10	37.7	3	7.3	12	82.0	8
DP 2317 B3TXF	791	28	64	19	3.85	36	1.23	18	85.4	30	33.1	21	5.1	44	82.0	8
Armor 9371 B3XF	791	29	66	16	3.85	37	1.22	22	86.1	10	31.0	37	6.1	34	81.0	27
DG 3528 B3XF	782	30	79	3	4.00	29	1.27	4	86.5	4	32.1	30	7.2	15	81.0	27
DG 3425 B3XF	766	31	73	10	3.90	33	1.27	4	85.3	33	35.1	10	6.9	22	81.0	27
PHY 332 W3FE	758	32	71	12	3.80	39	1.26	6	86.4	6	35.3	7	6.9	20	81.0	27
DP 2038 B3XF	747	33	44	43	4.15	21	1.17	44	84.1	42	31.9	32	6.1	33	82.0	8
DG 4484 B3TXF	730	34	65	17	4.35	11	1.22	22	85.9	15	33.5	17	5.8	38	83.0	2
Armor 9383 B3TXF	728	35	30	44	3.25	44	1.18	41	84.9	39	29.0	44	7.2	13	79.0	44
AMX20T079 B3XF	723	36	66	15	3.85	37	1.24	14	85.7	25	32.4	25	7.8	7	80.0	39
DG 4497 B3TXF	722	37	60	27	4.05	27	1.20	35	85.9	15	34.9	12	6.4	29	81.5	20
DP 2211 B3TXF	682	38	53	36	3.90	34	1.22	22	84.8	40	32.1	30	6.2	32	81.5	20
1140A385-04	679	39	56	33	3.90	34	1.20	35	85.9	18	38.0	1	9.2	2	79.5	43
1150B437-04	662	40	53	36	4.75	2	1.20	35	85.7	22	35.4	6	6.3	31	83.5	1
AMX160030-B B3XF	626	41	62	25	4.70	3	1.22	22	86.5	4	34.2	16	7.5	11	82.5	3
1150D490-04	587	42	64	20	4.50	5	1.21	26	85.9	18	34.4	14	7.0	17	82.5	3
AMX21C005 B3TXF	453	43	49	41	3.50	42	1.21	29	85.4	30	30.5	41	6.3	30	80.0	39
AMX160030-A B3XF	436	44	79	3	4.00	29	1.27	3	86.0	13	32.3	28	8.1	6	80.0	39
Mean	821		63		4.14		1.23		85.6		33.2		6.8		81.4	
$LSD_{0.10}$	177		19		0.46		0.04		ns		2.2		0.9		1.4	
C.V.%	18.5		18.4		6.7		2.0		1.5		3.9		7.5		1.0	
R^2 x 100	59.3		68.6		79.3		77.8		45.5		85.9		80.6		75.1	

[a] r = ranking; UI = fiber length uniformity index.

Table 12. Yield and related properties–2023 Arkansas Transgenic Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.

Variety	Lint yield	r[a]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed score	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
DP 2211 B3TXF	1905	1	46.0	11	117	5	71	2	9.5	16	8.3	9	84	5	10.420	11	17125	3	189	4
PHY 360 W3FE	1852	2	43.6	36	106	35	64	11	8.7	33	6.9	39	58	43	12.190	1	13612	40	168	38
PHY 415 W3FE	1827	3	45.4	17	109	26	60	23	9.8	9	8.3	10	83	8	10.040	16	16295	8	181	13
NG 4190 B3XF	1818	4	46.0	12	109	24	61	15	9.6	13	8.3	8	84	5	9.950	18	16670	6	184	10
DP 2328 B3TXF	1802	5	45.9	14	114	12	66	8	8.6	36	7.5	29	69	30	10.930	8	15557	19	183	11
DG 4530 B3TXF	1790	6	46.1	10	109	23	73	1	8.8	31	7.8	20	77	17	10.440	10	16502	7	189	3
ST 4595 B3XF	1779	7	47.0	4	111	20	59	27	9.0	26	8.0	15	80	13	10.070	15	15553	20	176	23
PHY 400 W3FE	1768	8	45.5	16	97	44	58	32	9.3	22	7.9	18	79	15	10.140	13	16249	9	185	9
DG 3519 B3XF	1742	9	43.7	33	99	41	58	32	9.8	10	7.7	22	76	19	10.250	12	15085	24	174	26
PHY 332 W3FE	1740	10	44.1	28	107	30	58	32	9.8	8	7.9	17	78	16	9.970	17	14970	27	170	35
Armor 9371 B3XF	1737	11	46.2	9	116	9	58	32	9.8	7	8.7	2	89	1	9.061	34	16084	11	173	30
DG 4484 B3TXF	1725	12	47.0	3	122	3	64	11	8.8	30	8.1	13	81	11	9.644	25	17277	2	194	1
1130D303-04	1722	13	44.4	25	109	24	63	14	8.2	43	6.7	40	61	39	11.590	2	13286	43	166	42
DG 3528 B3XF	1701	14	43.8	30	113	13	59	27	9.2	23	7.3	33	70	29	10.580	9	14573	32	174	27
1140D328-04	1698	15	44.9	21	116	8	59	27	9.9	6	8.3	7	84	5	9.295	30	15162	23	167	40
DG 4497 B3TXF	1689	16	47.4	1	112	16	68	5	8.6	35	8.0	14	80	12	9.546	26	16853	5	190	2
NG 3195 B3XF	1682	17	43.9	29	108	27	65	10	9.5	17	7.6	27	74	23	10.080	14	15069	25	176	21
NG 4343 B3TXF	1679	18	43.8	32	110	22	61	15	8.5	39	6.9	38	65	36	11.000	7	14089	37	173	28
ST 5091 B3XF	1643	19	44.3	26	117	6	64	11	9.4	20	7.6	26	74	22	9.794	22	16071	12	187	6
DP 2239 B3XF	1641	20	46.3	8	102	39	53	43	9.0	27	8.0	16	79	14	9.372	28	15537	21	176	20
NG 4335 B3TXF	1641	21	43.3	38	103	36	68	5	8.3	41	6.5	42	59	40	11.410	3	13760	38	175	24
1150D490-04	1626	22	45.1	19	115	10	55	38	10.1	5	8.5	5	87	4	8.680	36	16979	4	185	8
DP 2127 B3XF	1621	23	46.4	7	108	28	61	15	9.8	12	8.6	4	87	3	8.591	38	15931	13	173	29
1140B373-04	1615	24	45.1	18	107	31	55	38	9.8	10	8.2	11	82	9	8.949	35	15765	15	176	22
DP 2012 B3XF	1612	25	42.4	42	106	34	59	27	8.7	32	6.5	41	59	40	11.200	4	13499	42	171	33
DP 2115 B3XF	1596	26	44.7	24	111	18	60	23	8.9	29	7.4	30	72	27	9.741	24	14433	33	170	34
AMX20T157 B3XF	1590	27	43.7	34	107	29	61	15	9.2	23	7.4	32	71	28	9.815	21	14316	34	170	36
DP 2317 B3TXF	1577	28	43.8	31	99	42	66	8	8.0	44	6.4	44	44	44	11.170	5	13221	44	170	37
DP 2333 B3XF	1577	29	45.5	15	112	17	61	15	9.0	28	7.7	25	75	21	9.356	29	14778	30	172	32
AMX21C005 B3TXF	1576	30	42.6	41	100	40	69	4	8.5	38	6.5	43	58	42	11.060	6	14593	31	186	7
DP 2038 B3XF	1571	31	46.9	5	123	1	54	41	8.6	36	7.8	21	76	18	9.206	31	15794	14	182	12
AMX20T079 B3XF	1560	32	42.3	43	111	21	61	15	9.5	15	7.1	34	67	32	9.933	19	14861	29	180	15
1130B333-04	1540	33	44.9	22	106	32	61	15	9.3	21	7.7	23	75	20	9.072	33	15578	18	180	14
Armor 9383 B3TXF	1527	34	42.7	40	120	4	70	3	9.2	25	7.0	37	66	35	9.912	20	14095	36	172	31
Armor 9831 B3XF	1509	35	44.8	23	113	14	51	44	8.5	40	7.0	36	66	33	9.766	23	13553	41	165	44
AMX20T114 B3XF	1505	36	43.6	37	116	7	68	5	9.5	14	7.5	28	72	25	9.113	32	14112	35	166	43
1140A385-04	1492	37	47.4	2	112	15	55	38	9.4	18	8.7	3	89	1	7.794	41	15582	17	168	39
DP 1646 B2XF	1472	38	44.3	27	122	2	58	32	8.6	34	7.1	35	66	33	9.466	27	13650	39	166	41
PHY 443 W3FE	1463	39	45.1	20	103	36	60	23	11.0	1	9.2	1	64	37	7.218	42	18149	1	188	5
1150B437-04	1426	40	42.0	44	102	38	60	23	10.4	3	7.7	24	72	25	8.428	39	15052	26	174	25
AMX160030-A B3XF	1417	41	45.9	13	106	32	58	32	9.4	19	8.2	12	82	10	7.888	40	15760	16	176	19
PHY 411 W3FE	1413	42	46.5	6	98	43	61	15	8.2	42	7.4	31	64	37	8.677	37	14901	28	177	18
DG 3425 B3XF	1331	43	43.6	35	111	18	59	27	10.7	2	8.5	6	69	30	7.150	43	16151	10	177	17
AMX160030-B B3XF	1199	44	43.2	39	115	11	54	41	10.2	4	7.9	19	73	24	6.923	44	15493	22	177	16
Mean	1623		44.8		109		61		9.2		7.7		73		9.656		15264		177	
$LSD_{0.10}$	214		1.2		9		5		0.7		0.6		14		1.266		1154		10	
C.V.%	11.2		1.6		7.3		7.0		4.6		5.0		11.2		11.2		4.5		3.4	
R^2 x 100	48.8		89.8		50.6		70.1		83.4		85.9		74.2		62.8		85.6		76.7	

[a] r = ranking.

Table 13. Fiber properties–2023 Arkansas Transgenic Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.

	Lint		Quality		Fiber properties											
Variety	yield	r[a]	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r	Maturity	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)			
DP 2211 B3TXF	1905	1	66	13	4.80	36	1.19	14	84.8	27	30.1	37	5.8	33	83.5	22
PHY 360 W3FE	1852	2	55	28	5.10	17	1.17	25	84.8	28	28.9	42	5.6	36	84.5	5
PHY 415 W3FE	1827	3	65	15	5.00	19	1.19	14	85.2	20	35.5	5	6.5	23	84.0	9
NG 4190 B3XF	1818	4	70	8	4.85	35	1.19	10	86.0	6	31.2	30	5.9	31	83.5	22
DP 2328 B3TXF	1802	5	52	30	4.95	28	1.17	29	83.5	43	29.0	41	5.6	39	84.0	9
DG 4530 B3TXF	1790	6	57	24	4.80	36	1.17	29	84.4	35	28.9	43	6.0	30	83.5	22
ST 4595 B3XF	1779	7	57	25	5.15	13	1.17	22	85.3	18	32.0	22	7.0	13	83.5	22
PHY 400 W3FE	1768	8	68	11	4.80	36	1.19	10	85.0	24	33.6	12	6.1	29	83.5	22
DG 3519 B3XF	1742	9	74	7	4.90	30	1.21	6	85.9	8	33.1	13	6.2	28	83.5	22
PHY 332 W3FE	1740	10	83	1	4.95	24	1.25	1	85.9	8	35.3	6	6.8	17	83.5	22
Armor 9371 B3XF	1737	11	61	19	5.30	5	1.21	7	84.8	28	31.0	32	5.7	35	85.0	2
DG 4484 B3TXF	1725	12	47	37	4.90	30	1.13	39	84.9	25	31.7	23	5.8	33	84.0	9
1130D303-04	1722	13	40	40	5.30	6	1.14	36	84.5	33	33.0	15	5.6	39	85.0	2
DG 3528 B3XF	1701	14	63	17	4.95	28	1.18	19	85.8	13	31.0	32	7.2	10	83.0	33
1140D328-04	1698	15	79	3	5.15	13	1.24	2	86.1	5	36.5	4	6.5	23	84.0	9
DG 4497 B3TXF	1689	16	48	35	4.95	24	1.15	35	84.2	38	29.4	40	5.2	43	84.0	9
NG 3195 B3XF	1682	17	65	15	4.95	24	1.19	18	85.9	11	32.8	17	5.5	41	84.5	5
NG 4343 B3TXF	1679	18	58	23	4.95	24	1.17	22	84.6	31	31.3	29	7.2	11	83.0	33
ST 5091 B3XF	1643	19	55	28	4.80	39	1.17	25	84.5	33	28.3	44	5.2	42	84.0	9
DP 2239 B3XF	1641	20	75	6	4.90	30	1.22	5	85.8	14	30.0	38	6.9	15	83.0	33
NG 4335 B3TXF	1641	21	58	22	4.80	39	1.16	33	85.2	20	33.1	13	7.1	12	83.0	33
1150D490-04	1626	22	60	21	5.00	19	1.17	22	85.4	16	31.6	27	6.3	25	84.0	9
DP 2127 B3XF	1621	23	38	41	5.55	2	1.14	36	85.3	17	32.2	20	6.2	27	85.0	2
1140B373-04	1615	24	60	20	5.15	13	1.17	25	86.3	2	36.7	2	9.9	1	82.0	43
DP 2012 B3XF	1612	25	77	5	4.65	43	1.21	7	86.3	1	32.4	19	5.6	36	83.5	22
DP 2115 B3XF	1596	26	50	33	5.25	7	1.17	25	83.9	41	31.7	24	7.7	6	83.5	22
AMX20T157 B3XF	1590	27	67	12	5.00	19	1.19	10	86.0	7	32.8	17	8.5	3	82.0	43
DP 2317 B3TXF	1577	28	66	13	4.80	39	1.19	14	84.9	25	31.7	24	5.2	43	84.0	9
DP 2333 B3XF	1577	29	51	31	5.25	7	1.18	19	83.5	43	30.2	36	5.9	32	84.5	5
AMX21C005 B3TXF	1576	30	50	33	4.65	43	1.14	36	84.2	38	29.7	39	6.7	20	82.5	42
DP 2038 B3XF	1571	31	41	38	5.15	13	1.13	39	84.4	36	31.1	31	6.3	25	84.0	9
AMX20T079 B3XF	1560	32	70	8	4.70	42	1.19	10	85.8	14	30.4	34	6.8	17	83.0	33
1130B333-04	1540	33	41	38	5.20	10	1.12	42	84.8	28	36.7	2	6.7	19	84.0	9
Armor 9383 B3TXF	1527	34	56	26	5.00	19	1.17	29	85.2	19	31.7	24	8.0	5	83.0	33
Armor 9831 B3XF	1509	35	51	32	5.25	7	1.16	32	85.2	22	34.1	9	7.6	8	83.5	22
AMX20T114 B3XF	1505	36	62	18	5.20	10	1.19	14	85.9	8	30.3	35	8.4	4	83.0	33
1140A385-04	1492	37	34	42	5.80	1	1.13	39	85.1	23	37.3	1	9.0	2	84.5	5
DP 1646 B2XF	1472	38	78	4	4.90	30	1.23	4	85.9	11	32.0	21	7.2	9	83.0	33
PHY 443 W3FE	1463	39	48	35	5.20	12	1.15	34	84.5	32	34.8	7	6.7	20	84.0	9
1150B437-04	1426	40	31	43	5.45	3	1.12	43	84.0	40	33.7	11	5.6	36	85.5	1
AMX160030-A B3XF	1417	41	69	10	5.00	19	1.20	9	86.3	2	31.3	28	7.7	7	83.0	33
PHY 411 W3FE	1413	42	29	44	5.35	4	1.11	44	83.9	42	33.0	15	6.9	16	84.0	9
DG 3425 B3XF	1331	43	83	1	4.90	30	1.24	2	86.2	4	34.4	8	6.6	22	83.5	22
AMX160030-B B3XF	1199	44	56	26	5.10	17	1.18	19	84.4	36	34.0	10	7.0	14	84.0	9
Mean	1623		58		5.04		1.18		85.1		32.2		6.6		83.7	
$LSD_{0.10}$	214		16		0.27		0.04		1.4		1.9		0.6		1.0	
C.V.%	11.2		16.0		3.1		2.1		1.0		3.5		5.4		0.7	
R^2 x 100	48.8		81.7		82.1		20.5		63.3		89.0		94.5		77.0	

[a] r = ranking; UI = fiber length uniformity index.

Table 14. Yield and related properties–2023 Arkansas Transgenic Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.

Variety	Lint yield	r[a]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed score	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
DG 4530 B3TXF	1290	1	43.8	22	134	35	78	6	9.7	26	7.8	29	72	23	7.539	1	14609	31	168	28
1140D328-04	1285	2	44.7	10	144	14	74	13	10.2	16	8.5	12	82	6	6.872	4	15944	15	174	18
DP 2211 B3TXF	1172	3	44.4	13	146	6	83	2	10.5	14	8.5	10	83	4	6.254	7	15886	16	173	20
Armor 9383 B3TXF	1151	4	43.0	34	143	16	83	2	9.1	35	7.0	40	62	38	7.470	2	13970	37	171	21
DP 2317 B3TXF	1097	5	43.3	28	135	32	81	4	8.5	43	6.7	44	41	44	7.443	3	13319	43	167	31
DG 4497 B3TXF	1090	6	47.1	2	143	16	78	6	8.6	42	8.0	22	62	35	6.196	8	16930	4	192	2
DP 2328 B3TXF	1056	7	44.6	11	140	24	78	6	10.1	20	8.5	11	83	4	5.641	12	16354	8	178	11
AMX21C005 B3TXF	1024	8	42.5	40	144	14	75	9	9.2	34	6.9	41	60	39	6.723	5	14665	30	180	7
DP 2115 B3XF	1023	9	44.2	17	133	37	65	41	9.3	31	7.7	30	71	24	6.045	9	14486	33	168	29
DG 4484 B3TXF	1016	10	47.5	1	130	41	85	1	8.4	44	7.9	24	53	42	5.824	10	17127	2	195	1
NG 4190 B3XF	1009	11	43.3	27	145	9	70	30	10.7	6	8.5	14	82	9	5.399	21	15023	21	164	41
PHY 360 W3FE	1007	12	42.9	36	133	37	73	18	8.9	40	6.8	42	58	40	6.698	6	13515	40	167	30
ST 4595 B3XF	1000	13	44.6	12	141	21	69	35	9.9	24	8.2	19	78	12	5.543	14	14703	29	164	42
PHY 332 W3FE	982	14	42.9	35	141	21	71	23	10.4	15	8.0	21	75	18	5.577	13	14898	24	169	24
DP 2239 B3XF	981	15	45.5	6	135	32	71	23	9.6	27	8.2	20	78	15	5.447	19	14893	25	166	34
DP 2127 B3XF	954	16	44.4	15	146	6	66	38	11.6	1	9.5	1	70	27	4.548	30	16255	12	165	37
1130B333-04	953	17	43.8	21	138	29	71	23	9.9	23	7.9	26	74	20	5.476	17	14932	23	170	22
PHY 400 W3FE	932	18	45.2	8	130	41	75	9	9.8	25	8.3	16	79	11	5.116	24	16181	14	179	8
AMX20T079 B3XF	924	19	42.2	42	148	4	69	35	10.2	16	7.6	31	71	25	5.487	16	14991	22	174	17
DG 3528 B3XF	903	20	43.1	33	143	16	70	30	9.6	27	7.5	33	69	29	5.452	18	14027	36	164	39
1140A385-04	901	21	46.4	4	149	2	71	23	10.2	18	9.1	4	90	1	4.503	31	17114	3	179	9
DP 1646 B2XF	889	22	43.7	23	145	9	66	38	9.2	33	7.3	35	66	33	5.524	15	13451	41	160	43
1130D303-04	875	23	43.3	29	145	9	71	23	9.3	31	7.3	36	66	33	5.441	20	14121	35	168	25
PHY 411 W3FE	873	24	44.4	14	136	31	70	30	9.1	35	7.6	32	70	27	5.235	22	14875	27	174	19
AMX20T157 B3XF	861	25	43.1	32	133	37	73	18	10.2	19	7.9	27	74	20	4.955	26	14531	32	166	35
NG 4335 B3TXF	860	26	42.3	41	126	44	74	13	9.1	37	6.8	43	53	42	5.771	11	13399	42	167	32
PHY 415 W3FE	854	27	44.1	18	138	29	71	23	10.5	12	8.5	15	82	9	4.572	29	15147	19	165	36
PHY 443 W3FE	826	28	45.1	9	145	9	75	9	10.6	9	9.0	5	88	2	4.179	35	16748	7	177	13
DP 2038 B3XF	824	29	46.6	3	154	1	68	37	8.9	39	7.9	25	68	30	4.734	28	15882	17	181	6
DP 2012 B3XF	797	30	42.0	43	135	32	73	18	9.5	30	7.0	39	62	35	5.138	23	13957	38	170	23
DG 3519 B3XF	794	31	42.8	37	139	27	74	13	10.8	5	8.2	18	78	12	4.391	33	14777	28	165	38
NG 4343 B3TXF	787	32	43.8	20	128	43	80	5	8.9	41	7.1	37	56	41	5.014	25	14389	34	174	15
1150B437-04	781	33	41.6	44	140	24	73	18	11.0	4	8.0	23	68	30	4.459	32	14876	26	168	27
NG 3195 B3XF	760	34	43.4	26	141	21	74	13	10.5	12	8.6	7	83	3	4.028	37	16190	13	175	14
Armor 9831 B3XF	743	35	43.2	30	140	24	73	18	9.0	38	7.1	38	62	35	4.784	27	12655	44	154	44
Armor 9371 B3XF	742	36	46.2	5	143	16	71	23	10.5	10	9.2	2	75	18	3.632	41	17629	1	183	4
1140B373-04	729	37	43.2	31	133	37	64	42	10.5	11	8.2	17	78	12	4.034	36	15118	20	168	26
1150D490-04	724	38	43.9	19	148	4	64	42	10.7	6	8.6	6	77	16	3.826	38	16331	10	177	12
ST 5091 B3XF	723	39	43.4	25	145	9	70	30	10.0	21	7.9	28	73	22	4.180	34	16274	11	186	3
AMX160030-B B3XF	703	40	42.6	39	149	2	66	38	11.2	3	8.6	8	70	26	3.728	40	16817	5	182	5
DP 2333 B3XF	701	41	43.7	24	146	6	70	30	10.7	8	8.5	9	82	6	3.745	39	15273	18	166	33
DG 3425 B3XF	644	42	44.2	16	143	16	64	42	11.3	2	9.2	3	76	17	3.175	44	16785	6	174	16
AMX160030-A B3XF	643	43	45.3	7	134	35	75	9	10.0	22	8.5	13	82	6	3.440	43	16339	9	178	10
AMX20T114 B3XF	568	44	42.8	38	139	27	74	13	9.5	29	7.3	34	66	32	3.504	42	13827	39	164	40
Mean	897		44.0		140		73		9.9		8.0		71		5.153		15209		172	
$LSD_{0.10}$	217		2.0		12		8		0.9		0.5		18		1.250		1465		12	
C.V.%	20.7		2.7		7.5		9.0		5.2		4.1		14.8		20.7		5.7		4.3	
R^2 x 100	52.0		73.3		40.6		50.7		82.9		90.6		65.6		59.8		76.7		71.6	

[a] r = ranking.

Table 15. Fiber properties–2023 Arkansas Transgenic Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.

	Lint		Quality		Fiber properties											
Variety	yield	r[a]	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r	Maturity	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)			
DG 4530 B3TXF	1290	1	77	2	5.10	36	1.21	5	86.2	5	30.2	35	5.1	33	85.0	13
1140D328-04	1285	2	59	20	5.35	17	1.18	16	84.4	30	33.5	12	5.5	26	85.0	13
DP 2211 B3TXF	1172	3	57	21	5.35	17	1.19	14	84.5	29	29.2	41	5.2	32	85.0	13
Armor 9383 B3TXF	1151	4	54	25	5.10	36	1.15	25	85.2	19	29.3	40	7.4	4	83.0	43
DP 2317 B3TXF	1097	5	63	15	5.05	40	1.17	19	85.1	20	30.1	36	4.9	37	85.0	13
DG 4497 B3TXF	1090	6	47	32	5.00	41	1.12	36	84.3	31	30.7	31	4.7	43	85.0	13
DP 2328 B3TXF	1056	7	55	24	5.30	24	1.17	22	84.2	32	30.3	34	4.8	38	85.5	9
AMX21C005 B3TXF	1024	8	57	21	4.85	44	1.16	24	83.9	35	30.5	33	6.4	15	83.0	43
DP 2115 B3XF	1023	9	44	35	5.55	8	1.15	34	83.5	37	31.9	21	6.5	14	85.0	13
DG 4484 B3TXF	1016	10	29	43	5.20	32	1.08	44	82.6	43	29.3	39	4.7	39	85.0	13
NG 4190 B3XF	1009	11	66	11	5.50	11	1.19	9	86.3	3	31.7	24	5.3	29	86.0	4
PHY 360 W3FE	1007	12	53	26	5.20	33	1.15	28	84.6	27	29.0	43	4.9	36	85.0	13
ST 4595 B3XF	1000	13	66	11	5.45	13	1.19	7	85.6	12	31.9	19	5.9	22	85.0	13
PHY 332 W3FE	982	14	68	10	5.25	26	1.19	9	85.9	8	32.7	16	6.1	19	84.5	28
DP 2239 B3XF	981	15	72	6	5.30	24	1.21	6	85.9	7	30.9	27	6.0	21	85.0	13
DP 2127 B3XF	954	16	52	29	5.85	1	1.15	28	87.2	2	32.8	14	5.0	34	86.5	2
1130B333-04	953	17	56	23	5.35	17	1.15	28	86.0	6	35.9	4	6.2	18	84.5	28
PHY 400 W3FE	932	18	47	31	5.35	17	1.15	28	83.1	40	32.5	17	5.5	27	85.0	13
AMX20T079 B3XF	924	19	71	7	5.00	41	1.19	9	85.8	9	31.3	25	6.6	10	83.5	39
DG 3528 B3XF	903	20	68	9	5.25	26	1.19	7	85.5	13	30.9	27	6.6	10	84.0	36
1140A385-04	901	21	35	39	5.70	3	1.10	41	84.7	24	37.9	1	8.2	2	84.5	28
DP 1646 B2XF	889	22	73	5	5.25	26	1.21	4	85.4	15	30.7	31	6.6	10	84.5	28
1130D303-04	875	23	46	34	5.40	15	1.13	35	85.2	18	36.0	3	5.2	31	85.5	9
PHY 411 W3FE	873	24	33	41	5.55	8	1.10	41	83.5	36	33.9	9	6.6	13	85.0	13
AMX20T157 B3XF	861	25	65	13	5.35	17	1.19	9	85.3	17	33.7	10	7.0	6	84.0	36
NG 4335 B3TXF	860	26	69	8	5.00	41	1.19	9	85.1	21	32.0	18	5.6	24	84.5	28
PHY 415 W3FE	854	27	64	14	5.50	11	1.18	16	86.2	4	35.5	5	5.6	24	86.0	4
PHY 443 W3FE	826	28	39	37	5.65	6	1.11	39	85.5	14	35.2	6	6.3	17	85.5	9
DP 2038 B3XF	824	29	25	44	5.55	10	1.09	43	82.7	42	30.9	27	5.0	34	86.0	4
DP 2012 B3XF	797	30	60	18	5.10	36	1.17	19	84.7	25	29.4	38	4.7	39	85.0	13
DG 3519 B3XF	794	31	82	1	5.20	33	1.22	2	87.6	1	33.6	11	6.0	20	84.5	28
NG 4343 B3TXF	787	32	53	26	5.15	35	1.16	23	83.2	39	30.0	37	6.7	9	84.0	36
1150B437-04	781	33	37	38	5.70	4	1.11	39	84.9	22	34.2	7	5.4	28	86.0	4
NG 3195 B3XF	760	34	53	28	5.40	15	1.15	28	85.4	15	32.8	14	4.7	39	86.0	4
Armor 9831 B3XF	743	35	43	36	5.80	2	1.15	25	83.3	38	34.2	8	7.3	5	85.5	9
Armor 9371 B3XF	742	36	34	40	5.60	7	1.12	37	84.1	33	29.2	42	4.7	42	86.5	2
1140B373-04	729	37	60	18	5.45	14	1.17	18	84.9	23	36.9	2	8.4	1	83.5	39
1150D490-04	724	38	62	16	5.25	26	1.19	14	84.5	28	31.9	20	6.3	16	84.5	28
ST 5091 B3XF	723	39	33	41	5.25	26	1.12	37	82.5	44	27.1	44	5.2	30	85.0	13
AMX160030-B B3XF	703	40	47	32	5.35	17	1.15	28	83.1	41	31.7	23	5.8	23	85.0	13
DP 2333 B3XF	701	41	48	30	5.70	4	1.15	25	84.7	25	31.8	22	4.2	44	87.0	1
DG 3425 B3XF	644	42	76	3	5.25	26	1.22	2	85.7	11	33.5	12	6.8	8	84.5	28
AMX160030-A B3XF	643	43	75	4	5.05	39	1.23	1	84.1	34	30.8	30	7.0	6	83.5	39
AMX20T114 B3XF	568	44	61	17	5.30	23	1.17	19	85.8	9	30.9	26	8.1	3	83.5	39
Mean	897		55		5.37		1.16		84.8		32.0		5.9		84.9	
$LSD_{0.10}$	217		21		0.22		0.06		2.1		3.2		0.8		0.9	
C.V.%	20.7		22.9		2.4		2.9		1.5		5.9		8.1		0.6	
R^2 x 100	52.0		71.6		86.6		72.2		65.1		75.7		90.3		84.7	

[a] r = ranking; UI = fiber length uniformity index.

Table 16. Morphological and host-plant resistance traits in the 2023 Arkansas Transgenic Cotton Variety Test.

Variety	Leaf pubescence rating[a]	r[b]	Stem pubescence rating[a]	r	Bract trichomes[c]	r	Tarnished plant bug Damage[d]	r	Tarnished plant bug Perf. Rating	r	Bacterial blight[e]
					(no./cm)		(%)				(% sus.)
Armor 9831 B3XF	1.5	5	4.3	11	33.5	6	60	32	4.6	20	0
Armor 9371 B3XF	2.6	21	5.2	21	32.5	10	53	16	5.3	12	25
Armor 9383 B3TXF	5.7	43	5.9	36	37.0	1	51	9	5.6	9	0
NG 3195 B3XF	1.5	6	5.6	28	31.8	14	60	31	5.1	14	100
NG 4190 B3XF	2.5	19	4.9	16	35.3	4	56	26	4.9	15	100
NG 4335 B3TXF	3.7	34	5.9	35	25.2	39	43	1	5.9	7	3
NG 4343 B3TXF	1.5	7	2.8	3	27.0	32	47	5	6.5	2	90
AMX160030-A B3XF	2.3	17	2.4	2	29.9	19	59	30	3.4	40	95
AMX160030-B B3XF	1.1	1	2.1	1	27.0	31	74	45	2.4	44	35
AMX20T079 B3XF	2.0	13	6.4	42	26.7	34	53	14	4.9	15	7
AMX20T114 B3XF	3.2	30	4.9	18	28.1	26	54	21	4.2	32	100
AMX20T157 B3XF	1.1	2	4.4	14	29.1	22	52	11	4.5	25	4
AMX21C005 B3TXF	3.0	27	5.4	26	26.5	36	50	8	6.1	6	0
DP 2012 B3XF	1.8	9	5.6	29	24.8	40	65	42	4.3	30	4
DP 2038 B3XF	1.2	3	4.1	8	17.5	44	62	37	3.1	43	3
DP 2115 B3XF	2.2	16	5.7	33	29.9	18	63	39	4.6	20	100
DP 2127 B3XF	3.3	31	5.6	30	32.4	11	61	36	5.2	13	81
DP 2211 B3TXF	1.5	8	2.9	4	26.6	35	59	29	6.3	4	100
DP 2239 B3XF	1.3	4	4.0	7	25.3	38	53	15	4.8	18	97
DP 2317 B3TXF	1.8	10	5.3	23	27.3	30	55	23	6.1	5	0
DP 2333 B3XF	1.8	11	2.9	5	29.3	20	67	43	3.2	42	11
DP 2328 B3TXF	3.4	33	5.2	22	33.5	6	47	6	6.5	2	8
DP 1646 B2XF	2.0	14	5.3	24	30.2	16	57	28	4.1	33	10
DG 3425 B3XF	5.1	39	6.3	41	36.4	2	53	17	3.3	41	96
DG 3519 B3XF	4.2	36	5.6	32	35.9	3	53	18	3.5	39	11
DG 3528 B3XF	2.9	25	6.2	39	30.9	15	54	22	3.9	36	6
DG 4484 B3TXF	5.1	40	6.1	38	28.9	23	44	2	5.4	10	68
DG 4497 B3TXF	5.7	44	6.5	44	28.4	25	47	3	4.6	20	100
DG 4530 B3TXF	2.6	22	5.0	20	31.9	13	48	7	6.8	1	87
PHY 332 W3FE	2.3	18	5.3	25	24.5	41	52	13	4.6	24	0
PHY 360 W3FE	2.1	15	4.2	9	27.5	29	56	25	5.7	8	0
PHY 400 W3FE	2.9	26	4.3	13	32.3	12	62	38	4.4	26	0
PHY 411 W3FE	3.3	32	6.2	40	33.5	8	60	33	4.6	20	6
PHY 415 W3FE	5.2	41	5.8	34	32.7	9	52	12	4.8	18	0
PHY 443 W3FE	1.8	12	5.0	19	23.6	43	61	34	4.3	30	3
1130B333-04	2.5	20	6.0	37	28.4	24	54	20	4.4	26	2
1130D303-04	2.8	24	4.3	12	26.1	37	56	27	3.6	38	0
1140A385-04	5.4	42	5.5	27	24.1	42	61	35	3.8	37	0
1140B373-04	3.0	28	6.4	43	26.7	33	53	19	4.4	29	3
1140D328-04	4.7	38	4.8	15	29.2	21	47	4	4.8	17	4
1150B437-04	3.9	35	5.6	31	30.1	17	52	10	4.4	26	0
1150D490-04	4.2	37	3.3	6	27.7	27	64	41	3.9	35	0
ST 4595 B3XF	3.1	29	4.9	17	33.8	5	55	24	5.4	10	67
ST 5091 B3XF	2.7	23	4.2	10	27.5	28	63	40	4.0	34	100
Ark 0628fg RF (sus.)							70	44	1.7	45	
Ark 0628fg RF (sus.)							76	46	1.4	46	
Mean	2.9		5.0		29.2		56		4.5		35
$LSD_{0.10}$	1.2		1.1		4.8		9		0.6		11
C.V.%	35.7		19.6		14.2		19.4		15.1		24
R^2 x 100	70.0		65.1		69.2		48.3		77.5		98

[a] Leaf and stem pubescence rated at Keiser and Judd Hill, respectively, (6 plants per plots, 4 reps) using scale of 1 (smooth leaf) to 9 (pilose, very hairy).

[b] r = rating.

[c] Response to tarnished plant bug determined by examining white flowers (6 flowers/plot/day for 6 days) for presence of anther damage, and performance (boll load) rated from zero (none) to 10 (very high). Plots were 1-row, replicated 8 times at Keiser.

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

Table 17. Two-year and three-year average lint yields (lb/ac) for transgenic varieties at the five locations of the 2021–2023 Arkansas Cotton Variety Test.

Variety	Manila Irrigated	r[a]	Keiser Irrigated[b]	r	Judd Hill Irrigated	r	Marianna Irrigated	r	Rohwer Irrigated[c]	r	All locations	r
	(lb/ac)		(lb/ac)		(lb/ac)		(lb/ac)		(lb/ac)		(lb/ac)	
Two-year (2022–2023) means												
DP 2115 B3XF	1691	5			1176	1	1869	3	914	4	1412	1
ST 4695 B3XF	1693	4			1040	14	1883	1	1009	1	1406	2
NG 3195 B3XF	1753	3			1148	5	1766	8	789	14	1364	3
NG 4190 B3XF	1754	2			1037	15	1811	6	854	8	1364	4
DG 3519 B3XF	1787	1			989	18	1832	5	789	15	1349	5
PHY 360 W3FE	1379	17			1098	9	1869	2	959	3	1326	6
ST 5091 B3XF	1510	13			1144	6	1757	10	852	9	1316	7
PHY 400 W3FE	1513	12			1121	7	1764	9	845	10	1311	8
DP 1646 B2XF	1681	6			1092	10	1532	19	899	6	1301	9
Armor 9371 B3XF	1575	7			986	19	1842	4	799	13	1300	10
DP 2127 B3XF	1515	11			1149	4	1771	7	744	18	1295	11
PHY 332 W3FE	1480	15			1050	12	1654	16	960	2	1286	12
DG 3528 B3XF	1562	8			1024	16	1742	12	803	12	1283	13
DP 2239 B3XF	1434	16			1013	17	1715	13	890	7	1263	14
PHY 411 W3FE	1344	18			1152	3	1638	17	907	5	1260	15
DP 2012 B3XF	1539	10			1047	13	1683	15	771	17	1260	16
PHY 443 W3FE	1544	9			1082	11	1578	18	783	16	1247	17
DP 2038 B3XF	1482	14			1101	8	1711	14	651	19	1236	18
PHY 415 W3FE	1032	19			1159	2	1757	11	837	11	1196	19
Mean	1540				1084		1746				1304	
Three-year (2021–2023) means												
NG 3195 B3XF	1823	1			1187	4	1640	7			1550	1
DP 2127 B3XF	1738	4			1218	1	1667	5			1541	2
ST 5091 B3XF	1677	7			1186	5	1722	1			1528	3
DP 2115 B3XF	1782	2			1091	11	1687	4			1520	4
ST 4695 B3XF	1762	3			1076	13	1703	2			1513	5
Armor 9371 B3XF	1718	5			995	16	1699	3			1470	6
DP 1646 B2XF	1714	6			1194	2	1482	15			1463	7
PHY 360 W3FE	1509	14			1191	3	1641	6			1447	8
PHY 400 W3FE	1625	11			1097	10	1612	8			1445	9
DP 2038 B3XF	1571	13			1186	6	1568	11			1442	10
NG 4190 B3XF	1673	8			1054	14	1592	10			1440	11
DP 2012 B3XF	1649	9			1102	9	1565	12			1439	12
PHY 443 W3FE	1639	10			1083	12	1526	13			1416	13
PHY 411 W3FE	1508	15			1174	7	1481	16			1388	14
PHY 332 W3FE	1578	12			1029	15	1522	14			1377	15
PHY 415 W3FE	1313	16			1167	8	1604	9			1361	16
Mean	1642				1127		1607				1459	

[a] r = ranking.

[b] Two- and three-year means not available for Keiser due to lack of 2023 data.

[c] Three-year means not available for Rohwer due to loss of 2021 test to flooding.

Table 18. Yield and related properties–2023 Arkansas Conventional Cotton Variety Test across three test sites (Keiser data are excluded from across location means of lint yield and seed/acre variables).

Variety	Lint yield	r[a]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed-score	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
Ark 1308-58	1036	1	40.1	7	114	6	63	4	11.4	4	7.8	7	73	5	6.015	2	15553	4	179	3
Ark 1311-18	1021	2	42.4	1	116	2	62	7	10.6	11	8.0	3	81	3	5.777	3	15213	6	173	5
Ark 1317-31	1014	3	39.4	9	115	5	62	7	11.4	5	7.6	9	68	9	6.295	1	15580	3	182	2
Ark 1303-29	979	4	42.1	2	119	1	59	12	10.5	12	7.8	6	73	7	5.537	4	15071	7	172	6
Ark 1301-16	953	5	42.1	4	106	12	63	2	12.3	2	9.1	1	89	1	4.793	11	16210	2	169	8
Ark 1309-56	943	6	42.1	3	115	4	63	4	11.1	10	8.2	2	83	2	5.201	8	14915	8	166	9
UA212ne	920	7	40.6	6	116	3	60	10	11.2	7	7.7	8	75	4	5.461	5	15391	5	178	4
SSG UA107	852	8	40.6	5	111	8	69	1	11.2	6	7.9	4	73	6	5.143	9	16724	1	192	1
SSG UA248	842	9	39.2	10	112	7	63	4	11.1	9	7.3	11	67	11	5.233	7	13498	10	161	10
SSG UA222	834	10	39.8	8	107	11	60	9	11.6	3	7.9	5	72	8	4.826	10	14832	9	170	7
SSG UA114	828	11	38.8	11	109	9	60	11	11.1	8	7.2	12	67	10	5.252	6	13121	11	158	11
AM UA48	768	12	37.1	12	108	10	63	2	12.4	1	7.4	10	59	12	4.712	12	12443	12	147	12
Mean	916		40.4		112		62		11.3		7.8		73		5.354		14879		107.6	
Var. $LSD_{0.10}$	86		0.7		5		4		0.4		0.3		7		0.507		534		5.9	
Loc. $LSD_{0.10}$	44		0.4		3		2		0.2		0.2		ns		0.261		327		2	
C.V.%	13.8		2.0		7.1		10.3		3.7		4.5		10.6		4.0		4.3		4.1	
R^2 x 100	88.0		93.4		92.5		70.3		90.6		90.3		8.6		87.4		90.2		90.8	
Prob (var x loc)	0.001		0.061		0.216		0.000		0.004		0.244		0.002		0.005		0.095		0.004	

[a] r = ranking.

Table 19. Fiber properties–2023 Arkansas Conventional Cotton Variety Test across four test sites. Lint yield data are means over three locations.

Variety	Lint yield	r[a]	Quality score	r	Fiber properties: Micronaire	r	Length	r	UI[b]	r	Strength	r	Elongation	r	Maturity	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)		(%)	
Ark 1308-58	1036	1	58	6	4.83	10	1.23	5	85.2	11	33.3	9	7.5	2	82.6	11
Ark 1311-18	1021	2	67	2	4.93	9	1.24	2	86.0	4	34.3	5	6.3	9	83.6	7
Ark 1317-31	1014	3	66	3	4.61	12	1.23	4	85.8	8	35.4	2	6.6	5	82.6	11
Ark 1303-29	979	4	61	5	4.96	7	1.22	6	85.9	6	32.7	10	6.5	8	83.8	5
Ark 1301-16	953	5	50	10	5.44	1	1.21	9	85.9	5	34.0	6	6.7	4	84.5	2
Ark 1309-56	943	6	65	4	5.16	5	1.24	3	86.6	2	34.9	3	6.2	10	84.3	3
UA212ne	920	7	51	9	4.95	8	1.19	11	85.5	9	29.9	12	6.5	7	83.6	7
SSG UA107	852	8	36	12	4.79	11	1.16	12	85.0	12	31.7	11	6.0	11	83.6	7
SSG UA248	842	9	54	8	5.20	4	1.22	8	85.5	10	34.5	4	6.5	6	84.1	4
SSG UA222	834	10	57	7	5.06	6	1.22	7	85.9	6	33.9	7	7.7	1	83.0	10
SSG UA114	828	11	48	11	5.33	3	1.19	10	86.4	3	33.6	8	7.4	3	83.8	5
AM UA48	768	12	71	1	5.40	2	1.26	1	87.5	1	37.3	1	4.8	12	86.1	1
Mean	916		57		5.1		1.22		85.9		33.8		6.6		83.8	
Var. $LSD_{0.10}$	86		9		0.2		0.02		0.7		1.0		0.4		0.5	
Loc. $LSD_{0.10}$	44		ns		0.1		0.10		0.4		0.6		0.2		0.3	
C.V.%	13.8		10.1		3.7		1.9		1.0		3.6		7.4		0.7	
R^2 x 100	88.0		76.2		93.9		8.5		76.5		87.2		85.6		93.1	
Prob (var x loc)	0.001		0.131		0.003		0.120		0.075		0.061		0.868		0.017	

[a] r = ranking.

[b] UI = fiber length uniformity index.

Table 20. Yield and related properties–2023 Arkansas Conventional Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser. Lint yield, plant height and seed/acre data not included in overall location means.

Variety	Lint yield	r[a]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed-score	r	Seed/acre	r	Fibers/seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
UA212ne	410	1	39.5	7	133	2			11.6	8	7.8	8	73	8	2.379	1	15346	4	176	2
SSG UA107	374	2	40.6	4	122	10			12.5	3	8.8	2	85.5	2	1.942	6	16293	2	174	3
Ark 1317-31	369	3	40.1	6	124	8			11.9	6	8.2	4	78.5	4	2.045	4	16523	1	184	1
SSG UA114	363	4	38.4	11	122	9			11.2	9	7.2	11	64.5	10	2.295	2	12845	11	155	11
Ark 1303-29	347	5	40.6	3	131	4			10.5	12	7.3	10	50	12	2.151	3	14054	9	168	6
Ark 1308-58	345	6	39.1	9	128	5			12.1	5	7.9	7	74	7	1.977	5	14784	6	168	5
SSG UA222	297	7	38.8	10	119	11			12.3	4	8.0	6	75	5	1.693	7	14527	7	165	7
Ark 1311-18	262	8	41.9	2	132	3			10.9	10	8.0	5	75	5	1.490	8	15279	5	173	4
Ark 1301-16	253	9	42.1	1	118	12			12.8	2	9.6	1	93	1	1.198	11	16018	3	161	8
Ark 1309-56	247	10	40.4	5	142	1			11.6	7	8.3	3	79	3	1.360	10	14382	8	160	9
SSG UA248	219	11	39.2	8	128	6			10.7	11	7.0	12	61	11	1.414	9	12932	10	158	10
AM UA48	191	12	37.0	12	126	7			12.8	1	7.6	9	70	9	1.140	12	12481	12	146	12
Mean	306		39.8		127				11.7		8.0		73.1		1.757		14622		166	
$LSD_{0.10}$	112		1.9		11				0.7		0.7		14.9		0.651		1242		10	
C.V.%	30.5		2.2		72.0				3.1		4.6		11.4		31.0		4.7		3.5	
R^2 x 100	52.9		85.2		51.1				90.4		88.4		79.1		53.9		88.6		8.8	

[a] r = ranking.

Table 21. Fiber properties–2023 Arkansas Conventional Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser. Lint yield, plant height and seed/acre data not included in overall location means.

Variety	Lint yield	r[a]	Quality score	r	Fiber properties: Micronaire	r	Length	r	UI[b]	r	Strength	r	Elongation	r	Maturity	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)		(%)	
UA212ne	410	1	46	10	5.10	8	1.17	12	85.5	6	29.3	12	6.5	8	84.0	6
SSG UA107	374	2	40	11	5.40	3	1.17	11	84.7	11	31.3	11	6.1	11	85.0	3
Ark 1317-31	369	3	67	2	4.75	12	1.22	7	85.6	5	36.3	1	7.0	4	83.0	11
SSG UA114	363	4	54	8	5.40	3	1.21	8	85.3	7	33.8	4	7.1	3	84.5	4
Ark 1303-29	347	5	65	3	4.95	11	1.23	3	85.8	4	31.6	10	6.9	5	83.5	8
Ark 1308-58	345	6	68	1	5.05	9	1.26	1	84.5	12	32.5	9	7.8	1	83.0	11
SSG UA222	297	7	63	4	5.20	7	1.23	2	85.9	3	34.2	3	7.7	2	83.5	8
Ark 1311-18	262	8	62	5	5.00	10	1.23	3	85.2	8	32.6	8	6.4	10	83.5	8
Ark 1301-16	253	9	40	11	5.90	1	1.20	9	84.9	9	32.7	7	6.9	6	85.5	2
Ark 1309-56	247	10	61	6	5.40	3	1.23	3	86.9	2	33.4	5	6.5	8	84.5	4
SSG UA248	219	11	49	9	5.35	6	1.20	9	84.8	10	32.8	6	6.9	6	84.0	6
AM UA48	191	12	58	7	5.70	2	1.23	3	87.1	1	36.2	2	4.8	12	87.0	1
Mean	306		56		5.27		1.21		85.5		33.0		6.7		84.3	
$LSD_{0.10}$	112		ns		0.33		ns		1.3		2.4		0.7		1.4	
C.V.%	30.5		17.5		3.5		2.2		0.8		4.0		6.2		0.9	
R^2 x 100	52.9		67.9		86.3		62.1		76.2		81.5		87.8		82.6	

[a] r = ranking.

[b] UI = fiber length uniformity index.

Table 22. Yield and related properties–2023 Arkansas Conventional Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.

Variety	Lint yield	r[a]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed-score	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
Ark 1317-31	777	1	36.9	11	95	1	51	9	11.5	4	6.8	11	69	10	5.218	1	15833	4	197	3
Ark 1309-56	759	2	41.5	1	85	8	50	10	10.9	10	7.7	2	83	2	4.466	5	14728	7	170	8
Ark 1303-29	753	3	41.1	2	89	4	43	12	10.3	11	7.3	5	75	6	4.679	2	14220	9	170	9
UA212ne	731	4	39.0	6	90	3	53	7	11.3	5	7.3	4	77	4	4.544	4	15550	5	185	5
SSG UA248	691	5	37.8	10	80	9	58	3	11.6	3	7.1	7	75	7	4.389	6	13413	10	162	11
Ark 1311-18	670	6	39.8	4	93	2	56	4	11.0	8	7.4	3	78	3	4.120	9	14562	8	172	7
SSG UA114	656	7	38.0	9	85	7	46	11	11.3	5	7.0	9	73	8	4.253	7	13345	11	163	10
Ark 1308-58	651	8	38.6	7	85	6	54	6	10.9	9	7.0	8	73	8	4.236	8	16101	3	198	2
SSG UA107	632	9	38.4	8	88	5	73	1	9.8	12	6.2	12	48	12	4.614	3	17411	1	227	1
Ark 1301-16	584	10	40.2	3	78	11	55	5	12.0	2	8.3	1	91	1	3.197	12	16573	2	184	6
AM UA48	581	11	35.8	12	79	10	63	2	12.2	1	6.8	10	59	11	3.864	10	12360	12	153	12
SSG UA222	547	12	39.1	5	77	12	52	8	11.1	7	7.2	6	76	5	3.450	11	15393	6	185	4
Mean	669		38.9		85		54		11.1		7.2		72.8		4.252		14957		181	
$LSD_{0.10}$	130		1.6		8.2		9		1.0		0.9		14.9		0.851		1258		18	
C.V.%	16.3		2.3		8.0		13.2		4.9		7.0		11.4		16.7		4.7		5.5	
R^2 x 100	63.6		89.1		65.4		61.9		75.0		72.9		78.7		65.1		89.8		89.8	

[a] r = ranking.

Table 23. Fiber properties–2023 Arkansas Conventional Cotton Variety Test, with irrigation on a Dundee silt loam soil at Judd Hill.

Variety	Lint yield	r[a]	Quality score	r	Fiber properties: Micronaire	r	Length	r	UI[b]	r	Strength	r	Elongation	r	Maturity	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)		(%)	
Ark 1317-31	777	1	67	4	3.90	11	1.28	4	86.0	10	38.3	1	6.6	5	81.0	10
Ark 1309-56	759	2	63	6	4.80	4	1.27	5	86.6	7	36.2	3	6.2	9	83.5	2
Ark 1303-29	753	3	81	2	4.50	6	1.30	2	88.2	1	33.0	10	6.3	8	82.5	4
UA212ne	731	4	63	5	4.35	9	1.26	6	86.1	9	31.5	12	6.2	10	82.5	4
SSG UA248	691	5	56	8	4.90	1	1.26	6	87.1	4	34.0	8	6.5	6	83.5	2
Ark 1311-18	670	6	82	1	4.45	8	1.30	1	87.7	3	35.5	4	6.4	7	82.5	4
SSG UA114	656	7	50	10	4.90	1	1.23	10	87.0	5	34.1	7	7.8	2	82.5	4
Ark 1308-58	651	8	56	8	4.00	10	1.26	6	86.9	6	34.4	6	7.5	3	81.0	10
SSG UA107	632	9	25	12	3.50	12	1.19	12	85.5	11	32.7	11	6.0	11	80.5	12
Ark 1301-16	584	10	57	7	4.65	5	1.25	9	86.2	8	34.5	5	7.2	4	82.0	8
AM UA48	581	11	69	3	4.90	1	1.29	3	87.8	2	36.4	2	5.1	12	84.5	1
SSG UA222	547	12	45	11	4.50	6	1.23	11	85.4	12	33.7	9	7.9	1	81.5	9
Mean	669		59		4.45		1.26		86.7		34.5		6.6		85.3	
$LSD_{0.10}$	130		25		0.52		0.04		2.1		2.2		1.1		1.2	
C.V.%	16.3		23.8		6.5		1.7		1.3		3.5		9.3		0.8	
R^2 x 100	63.6		73.1		86.0		83.3		56.4		83.4		78.0		88.6	

[a] r = ranking.

[b] UI = fiber length uniformity index.

Table 24. Yield and related properties–2023 Arkansas Conventional Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.

Variety	Lint yield	r[a]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed-score	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
Ark 1308-58	1459	1	42.8	5	96	6	64	5	10.2	7	7.8	6	76	5	8.499	2	15864	5	182	2
Ark 1317-31	1423	2	40.9	9	104	1	64	5	10.2	7	7.2	10	68	10	8.928	1	15057	8	181	4
Ark 1301-16	1360	3	43.2	4	93	11	61	11	11.6	2	9.0	1	84	1	6.889	11	16203	1	171	7
Ark 1311-18	1358	4	44.8	2	101	3	63	9	9.8	11	8.1	3	79	4	7.632	4	16090	2	181	3
UA212ne	1330	5	41.6	8	101	4	63	9	10.4	4	7.5	8	72	8	8.012	3	15298	6	179	5
Ark 1309-56	1321	6	43.8	3	94	10	65	3	10.3	5	8.3	2	82	2	7.258	6	15084	7	167	9
SSG UA222	1301	7	41.6	7	95	8	65	3	10.8	3	7.9	5	73	7	7.452	5	15022	9	171	8
Ark 1303-29	1277	8	44.9	1	102	2	64	5	9.7	12	8.0	4	80	3	7.203	7	15871	4	179	6
SSG UA107	1164	9	42.3	6	95	9	69	1	10.3	6	7.6	7	76	5	6.937	10	15983	3	186	1
SSG UA248	1101	10	40.7	10	97	5	64	5	10.1	9	7.1	11	66	11	7.082	8	13713	10	167	10
SSG UA114	1063	11	40.4	11	95	7	66	2	10.0	10	6.9	12	69	9	6.969	9	13095	11	161	11
AM UA48	957	12	37.9	12	90	12	60	12	12.0	1	7.5	9	50	12	5.823	12	12688	12	149	12
Mean	1260		42.1		96.8		64		10.4		7.7		73		7.390		14997		173	
$LSD_{0.10}$	158		1.1		ns		ns		0.6		0.4		7		0.940		806		10	
C.V.%	10.5		1.5		9.4		8.5		3.3		2.9		5.7		10.6		3.0		3.3	
R^2 x 100	69.3		95.2		45.5		48.3		89.3		93.0		91.0		64.7		93.5		87.7	

[a] r = ranking.

Table 25. Fiber properties–2023 Arkansas Conventional Cotton Variety Test, with irrigation on a Calloway silt loam soil at Marianna.

Variety	Lint yield	r[a]	Quality score	r	Fiber properties: Micronaire	r	Length	r	UI[b]	r	Strength	r	Elongation	r	Maturity	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)		(%)	
Ark 1308-58	1459	1	58	6	4.85	9	1.19	7	84.8	10	32.8	8	7.4	3	82.5	11
Ark 1317-31	1423	2	67	3	4.65	12	1.21	3	85.0	8	33.0	6	7.1	5	82.0	12
Ark 1301-16	1360	3	52	9	5.40	1	1.19	7	85.7	4	33.5	5	6.6	8	85.0	2
Ark 1311-18	1358	4	65	4	4.85	9	1.21	4	85.7	4	34.6	3	6.8	6	83.0	7
UA212ne	1330	5	58	5	4.85	9	1.19	9	85.5	6	29.7	12	7.2	4	83.0	7
Ark 1309-56	1321	6	72	2	5.10	5	1.24	2	86.6	3	34.3	4	6.1	10	84.0	3
SSG UA222	1301	7	56	7	5.15	4	1.20	6	85.4	7	33.0	7	8.2	1	83.0	7
Ark 1303-29	1277	8	48	11	5.10	5	1.18	10	84.3	11	32.1	10	6.8	6	84.0	3
SSG UA107	1164	9	44	12	4.90	8	1.15	12	85.0	8	31.2	11	6.1	10	84.0	3
SSG UA248	1101	10	54	8	5.10	5	1.21	5	83.7	12	34.8	2	6.4	9	84.0	3
SSG UA114	1063	11	51	10	5.20	3	1.17	11	87.0	2	32.6	9	7.9	2	83.0	7
AM UA48	957	12	77	1	5.35	2	1.26	1	87.7	1	38.8	1	4.9	12	86.0	1
Mean	1260		58		5.04		1.20		85.5		33.3		6.8		83.6	
$LSD_{0.10}$	158		15		0.15		0.05		1.3		1.8		0.7		0.4	
C.V.%	10.5		14		1.6		2.1		0.8		3.1		5.5		0.2	
R^2 x 100	69.3		76.2		93.7		74.7		83.6		90.4		91.6		98.3	

[a] r = ranking.

[b] UI = fiber length uniformity index.

Table 26. Yield and related properties–2023 Arkansas Conventional Cotton Variety Test, with irrigation on a Hebert silt loam soil at Rohwer.

Variety	Lint yield	r[a]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed-score	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
Ark 1311-18	1035	1	43.1	1	140	5	66	8	10.8	12	8.4	6	91	1	5.581	1	14920	7	164	7
Ark 1308-58	996	2	40.1	7	149	2	71	3	12.4	3	8.5	5	69	7	5.312	2	15465	4	168	4
Ark 1301-16	917	3	43.0	2	134	12	74	1	12.7	1	9.7	1	89	2	4.295	7	16045	3	161	8
Ark 1303-29	907	4	41.9	5	153	1	71	3	11.7	9	8.7	4	85	4	4.730	4	16138	2	173	2
Ark 1317-31	842	5	39.8	8	138	9	70	5	12.0	7	8.1	9	57	12	4.739	3	14908	8	168	5
AM UA48	766	6	37.6	12	135	10	68	6	12.7	2	7.8	11	58	11	4.449	6	12244	12	140	12
SSG UA114	765	7	38.5	11	135	10	66	8	12.0	6	7.7	12	64	10	4.535	5	13200	11	153	11
SSG UA107	761	8	41.2	6	139	6	65	10	12.4	4	8.9	2	82	5	3.878	10	17210	1	182	1
Ark 1309-56	749	9	42.7	3	141	4	74	1	11.4	10	8.8	3	89	2	3.880	9	15464	5	165	6
SSG UA248	735	10	39.2	10	143	3	68	6	12.0	8	7.9	10	67	8	4.228	8	13934	10	159	10
UA212ne	700	11	42.2	4	139	6	65	10	11.3	11	8.3	7	78	6	3.829	11	15368	6	170	3
SSG UA222	653	12	39.7	9	139	6	64	12	12.3	5	8.3	8	65	9	3.576	12	14388	9	159	9
Mean	819		40.7		140		68		12.0		8.4		74		4.419		14940		164	
$LSD_{0.10}$	164		1.6		7.7		ns		0.7		0.5		17		0.862		1203		10	
C.V.%	16.7		2.1		4.6		9.5		3.4		3.2		12.7		16.9		4.5		3.5	
R^2 x 100	51.7		90.2		53.3		43.8		80.6		89.7		78.1		48.1		89.1		87.6	

[a] r = ranking.

Table 27. Fiber properties–2023 Arkansas Conventional Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.

Variety	Lint yield	r[a]	Quality score	r	Fiber properties: Micronaire	r	Length	r	UI[b]	r	Strength	r	Elongation	r	Maturity	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)		(%)	
Ark 1311-18	1035	1	59	5	5.40	6	1.23	3	85.3	8	34.7	6	5.8	10	85.5	2
Ark 1308-58	996	2	52	7	5.40	6	1.21	6	84.8	12	33.5	10	7.4	1	84.0	11
Ark 1301-16	917	3	52	7	5.80	1	1.20	8	86.8	2	35.3	4	6.2	6	85.5	2
Ark 1303-29	907	4	51	9	5.30	11	1.19	9	85.2	9	34.3	7	6.0	8	85.0	4
Ark 1317-31	842	5	63	4	5.15	12	1.21	5	86.5	4	33.9	9	5.8	10	84.5	10
AM UA48	766	6	81	1	5.65	3	1.29	1	87.7	1	38.0	1	4.6	12	87.0	1
SSG UA114	765	7	39	10	5.80	1	1.16	10	86.4	6	34.1	8	6.9	3	85.0	4
SSG UA107	761	8	34	12	5.35	9	1.14	12	84.9	11	31.5	11	5.9	9	85.0	4
Ark 1309-56	749	9	64	3	5.35	9	1.23	3	86.5	5	35.8	3	6.1	7	85.0	4
SSG UA248	735	10	57	6	5.45	5	1.21	6	86.3	7	36.6	2	6.5	4	85.0	4
UA212ne	700	11	37	11	5.50	4	1.15	11	85.0	10	29.1	12	6.3	5	85.0	4
SSG UA222	653	12	65	2	5.40	6	1.23	2	86.8	3	35.0	5	7.3	2	84.0	11
Mean	819		5		5.46		1.20		86.0		34.3		6.2		85.0	
$LSD_{0.10}$	164		14		0.24		0.04		1.5		2.2		0.9		1.0	
C.V.%	16.7		14.7		2.5		1.7		0.9		3.5		8.1		0.7	
R^2 x 100	51.7		85.4		80.9		88.1		73.3		87.9		81.6		79.6	

[a] r = ranking.

[b] UI = fiber length uniformity index.

Table 28. Morphological and host plant resistance traits in the 2023 Arkansas Conventional Cotton Variety Test.

Variety	Leaf pubescence rating[a]	r[b]	Stem pubescence rating[a]	r	Bract trichomes[c]	r	Tarnished plant bug[d] Damage	r	Perf. Rating	r	Bacterial blight[e]
					(no./cm)		(%)				(% sus.)
SSG UA107	1.5	1	2.8	1	22.7	2	70	4	3.3	2	11
SSG UA114	4.5	10	6.9	11	40.7	11	73	8	2.8	8	11
SSG UA222	4.2	8	6.7	9	38.6	9	73	7	3.3	3	4
SSG UA248	2.1	3	5.1	3	23.3	3	63	1	2.7	9	44
AM UA48	1.6	2	5.4	4	22.5	1	72	5	2.6	10	0
UA212ne	3.1	4	3.7	2	30.8	4	78	9	3.0	7	0
Ark 1301-16	3.3	6	6.8	10	36.6	8	79	10	3.1	5	0
Ark 1303-29	4.6	11	5.9	6	38.6	10	72	6	3.1	5	6
Ark 1308-58	4.3	9	6.4	7	36.2	5	68	2	3.9	1	14
Ark 1309-56	3.2	5	6.9	11	36.5	7	79	11	2.2	11	3
Ark 1311-18	4.6	12	6.4	7	42.6	12	81	12	1.8	13	0
Ark 1317-31	4.1	7	5.8	5	36.2	6	70	3	3.2	4	0
Ark 0628fg RF (sus.)							87	14	1.3	14	
Ark 0628fg RF (sus.)							84	13	2.0	12	
Mean	3.4		5.7		33.8		75		2.7		8
$LSD_{0.10}$	1.2		1.3		3.9		10		0.8		11
C.V.%	30.2		18.8		9.6		16.3		35.8		101.2
R^2 x 100	71.5		69.1		87.0		46.3		42.6		79.5

[a] Leaf and stem pubescence were rated at Keiser and Judd Hill, respectively, (6 plants per plots, 4 reps) using a scale of 1 (smooth leaf) to 9 (pilose, very hairy).

[b] r = ranking.

[c] Marginal trichome density of bracts was determined on 6 bracts/plot (4 reps) at Keiser.

[d] Response to tarnished plant bug was determined by examining white flowers (6 flowers/plot/day for 6 days) for the presence of anther damage, and performance (boll load) rated from zero (none) to 10 (very high). Plots were 1 row, replicated 8 times at Keiser.

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

Table 29. Two-year and 3-year average lint yields (pounds/acre) for conventional varieties at the four locations of the 2021–2023 Arkansas Cotton Variety Test.

Variety	Keiser Irrigated[a]	r[b]	Judd Hill Irrigated	r	Marianna Irrigated	r	Rohwer Irrigated[c]	r	All locations	r
	(lb/ac)		(lb/ac)		(lb/ac)		(lb/ac)		(lb/ac)	
Two-year (2022–2023) means										
UA212ne			1018	1	1571	1	652	4	1294	1
SGS UA107			916	2	1435	3	788	1	1175	2
SGS UA222			834	4	1479	2	650	6	1156	3
UA248			896	3	1388	4	685	5	1142	4
SGS UA114			896	3	1338	5	725	2	1117	5
AM UA48			822	5	1232	6	699	3	1027	6
Mean			897		1407		700		1152	
Three-year (2021–2023) means										
UA212ne			1113	1	1460	1			1287	1
UA248			1030	2	1355	3			1193	2
SGS UA222			884	5	1365	2			1125	3
SGS UA107			916	4	1294	4			1105	4
AM UA48			953	3	1146	5			1050	5
Mean			979		1324				1158	

[a] Two- and three-year means not available for Keiser due to lack of 2023 data (see Results–Keiser, page 5).

[b] r = ranking.

[c] Three-year means not available for Rohwer due to loss of 2021 test to flooding.

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

Cooperator(s):	Ted Honeycutt	**Date Planted:**	5/27/23
Soil Type:	Urbo Silty Clay Loam	**Date of Harvest:**	11/8/23
Irrigation:	Dryland	**Replications:**	1
Agent(s):	Amy Simpson		

	Lint	Loan			Fiber properties			
Variety	**yield**	**rate**	**Income**	**r[a]**	**Micronaire**	**Length**	**UI[b]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
DP 2127 B3XF	1279	48.60	621	1	5.2	1.13	84.3	31.3
DP 2038 B3XF	1269	45.95	583	2	5.2	1.11	82.2	30.9
DP 2239 B3XF	1125	48.25	543	3	5.0	1.17	84.6	29.2
DG 3528 B3XF	1121	48.30	542	4	4.8	1.12	81.4	30.6
NG 3195 B3XF	1056	50.40	532	5	4.6	1.15	79.8	33.2
DP 2115 B3XF	1165	44.35	517	6	5.3	1.13	83.5	29.1
ST 5091 B3XF	1057	48.05	508	7	5.1	1.13	81.9	29.5
DG 3519 B3XF	1200	41.90	503	8	5.5	1.15	85.0	30.7
PHY 411 W3FE	1205	40.20	484	9	5.7	1.06	81.4	30.2
NG 4190 B3XF	937	51.05	478	10	4.0	1.21	83.9	33.0
PHY 360 W3FE	994	46.15	459	11	5.1	1.15	82.0	31.2
ST 4595 B3XF	977	43.55	425	12	5.1	1.16	84.9	31.5
Mean	1115	46.40	516		5.1	1.14	82.9	30.9

[a] r = ranking.

[b] UI = fiber length uniformity index.

Appendix Table A2. Lint Yield and Fiber Properties–Craighead County Transgenic Variety Test.

Cooperator(s):	Brannon and Gary Qualls	**Date Planted:**	5/18/23
Soil Type:	Fountain Silt Loam	**Date of Harvest:**	10/21/23
Irrigation:	Furrow	**Replications:**	4
Agent(s):	Branon Thiesse and Chris Grimes		

	Lint	Loan			Fiber properties			
Variety	**yield**	**rate**	**Income**	**r[a]**	**Micronaire**	**Length**	**UI[b]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
DP 2115 B3XF	2023	50.31	1019	1	4.45	1.2	84.8	30.85
DP 2038 B3XF	1971	49.84	986	2	4.775	1.1	81.7	30.33
DP 2127 B3XF	1930	50.91	983	3	4.525	1.2	83.9	31.60
ST 4595 B3XF	1918	50.15	962	4	4.675	1.2	84.4	30.78
NG 3195 B3XF	1809	51.81	938	5	4.6	1.2	84.4	31.65
DP 2239 B3XF	1757	51.84	911	6	4	1.2	83.9	32.13
ST 5091 B3XF	1758	50.83	894	7	3.875	1.2	83.1	30.90
DG 3519 B3XF	1717	51.10	877	8	4.125	1.2	84.8	33.58
NG 4190 B3XF	1700	50.26	854	9	4.325	1.2	84.2	30.88
DG 3528 B3XF	1580	50.89	804	10	4	1.2	84.7	30.48
Mean	1816.36	50.79	922.72		1.20	31.32	83.98	31.32
$LSD_{0.05}$	257.26	1.58	146.88		0.37	0.02	1.51	1.56
C.V.%	9.76	2.14	10.97		5.90	1.42	1.28	3.32
Prob (var)	0.0318	0.1864	0.1219		0.0002	0.0001	0.0094	0.0054

[a] r = ranking.

[b] UI = fiber length uniformity index.

Appendix Table A3. Lint Yield and Fiber Properties–Desha County Transgenic Variety Test.

Cooperator(s):	Wes Kirkpatrick	**Date Planted:**	5/10/23
Soil Type:	Sharkey and Desha Clays	**Date of Harvest:**	10/16/23
Irrigation:	Furrow	**Replications:**	4
Agent(s):			

Variety	Lint yield	Loan rate	Income	r[a]	Fiber properties			
					Micronaire	Length	UI[b]	Strength
	(lb/ac)	(¢/lb)	($/ac)			(in.)	(%)	(g/tex)
NG 3195 B3XF	1710	49.86	852	1	4.6	1.18	84.9	32.3
NG 4190 B3XF	1696	49.83	845	2	4.7	1.23	85.1	31.6
DP 2127 B3XF	1689	49.84	845	3	4.9	1.19	85.6	31.2
ST 5091 B3XF	1643	50.14	825	4	4.2	1.21	83.7	30.7
ST 4595 B3XF	1709	46.38	797	5	5.3	1.24	85.8	31.3
DP 2115 B3XF	1571	48.90	768	6	5.0	1.21	85.0	32.4
DG 3519 B3XF	1528	48.76	745	7	4.5	1.26	86.1	32.9
DP 2038 B3XF	1450	49.76	722	8	4.9	1.17	84.0	32.2
DG 3528 B3XF	1344	49.88	670	9	4.2	1.26	84.7	31.9
DP 2239 B3XF	1297	51.00	661	10	4.5	1.27	84.6	32.1
Mean	1563.69	49.43	773.06		4.67	1.22	84.94	31.85
$LSD_{0.05}$	241.31	2.46	143.96		0.37	0.03	1.14	1.47
C.V.%	10.64	3.43	12.83		5.41	1.55	0.93	3.19
Prob (var)	0.0058	0.0612	0.0671		0.0001	0.0001	0.0041	0.1371

[a] r = ranking.

[b] UI = fiber length uniformity index.

Appendix Table A4. Lint Yield and Fiber Properties–Jefferson County Transgenic Variety Test.

Cooperator(s):	Cornerstone Farms	**Date Planted:**	5/10/23
Soil Type:	Roxana Silt Loam	**Date of Harvest:**	10/16/23
Irrigation:	Furrow	**Replications:**	4
Agent(s):	Brady Harmon		

Variety	Lint yield	Loan rate	Income	r[a]	Fiber properties			
					Micronaire	Length	UI[b]	Strength
	(lb/ac)	(¢/lb)	($/ac)			(in.)	(%)	(g/tex)
DP 2115 B3XF	1729	48.40	837	1	4.4	1.17	83.3	30.4
ST 5091 B3XF	1650	49.58	817	2	4.3	1.19	83.0	30.4
DG 3528 B3XF	1702	47.13	802	3	4.5	1.25	85.2	31.8
ST 4595 B3XF	1572	49.20	771	4	4.4	1.22	84.5	31.0
DG 3519 B3XF	1570	47.73	751	5	4.3	1.22	84.7	31.4
DP 2038 B3XF	1489	49.48	736	6	4.5	1.14	82.0	30.5
NG 3195 B3XF	1451	49.24	713	7	4.4	1.18	84.2	32.3
DP 2239 B3XF	1417	48.45	687	8	4.2	1.20	84.1	30.2
DP 2127 B3XF	1383	49.55	685	9	4.1	1.17	84.1	30.3
NG 4190 B3XF	1402	48.56	681	10	4.3	1.20	84.5	31.1
Mean	1536.75	48.73	747.89		4.32	1.19	83.95	30.93
$LSD_{0.05}$	185.11	1.67	88.35		0.36	0.03	1.44	1.79
C.V.%	7.56	2.36	8.14		5.79	1.87	1.18	3.99
Prob (var)	0.0026	0.0676	0.0050		0.7058	0.0001	0.0043	0.2462

[a] r = ranking.

[b] UI = fiber length uniformity index.

Appendix Table A5. Lint Yield and Fiber Properties–Lee County Transgenic Variety Test.

Cooperator(s):	Nathan Reed	**Date Planted:**	5/18/23
Soil Type:	Alligator Clay	**Date of Harvest:**	10/24/23
Irrigation:	Furrow	**Replications:**	4
Agent(s):	Stan Baker, Shawn Payne and Tucker Vonkanel		

	Lint	Loan			Fiber properties			
Variety	yield	rate	Income	r[a]	Micronaire	Length	UI[b]	Strength
	(lb/ac)	(¢/lb)	($/ac)			(in.)	(%)	(g/tex)
NG 4190 B3XF	1180	50.39	595	1	4.8	1.22	83.8	32.6
ST 4595 B3XF	1169	50.16	587	2	5.0	1.20	82.0	32.3
NG 3195 B3XF	1138	50.45	573	3	4.7	1.21	84.7	33.5
DG 3519 B3XF	1096	49.78	546	4	4.8	1.23	84.4	34.2
DP 2127 B3XF	1155	47.18	545	5	5.4	1.18	84.4	32.2
DP 2038 B3XF	1061	48.46	515	6	5.3	1.14	81.8	32.2
DP 2239 B3XF	1000	51.04	512	7	5.0	1.22	83.8	31.8
DP 2115 B3XF	1021	48.89	499	8	5.0	1.19	84.2	32.6
DG 3528 B3XF	995	49.75	496	9	4.7	1.21	83.0	32.6
ST 5091 B3XF	987	50.13	494	10	4.9	1.18	82.4	30.6
Mean	1102.46	49.54	546.55		4.99	1.20	83.63	32.68
$LSD_{0.05}$	192.31	3.55	134.58		0.50	0.06	2.19	2.18
C.V.%	12.17	4.93	17.84		7.07	3.43	1.81	4.67
Prob (var)	0.1019	0.9400	0.7586		0.9380	0.9495	0.9849	0.4237

[a] r = ranking.

[b] UI = fiber length uniformity index.

Appendix Table A6. Lint Yield and Fiber Properties–Mississippi County Transgenic Variety Test.

Cooperator(s):	David Wildy	**Date Planted:**	5/18/23
Soil Type:	Keo Silt Loam	**Date of Harvest:**	10/27/23
Irrigation:	Pivot	**Replications:**	2
Agent(s):	Ethan Brown		

	Lint	Loan			Fiber properties			
Variety	yield	rate	Income	r[a]	Micronaire	Length	UI[b]	Strength
	(lb/ac)	(¢/lb)	($/ac)			(in.)	(%)	(g/tex)
NG 3195 B3XF	1929	51.23	988	1	4.9	1.21	86.0	29.3
DP 2115 B3XF	1825	51.13	934	2	5.0	1.18	84.3	29.9
ST 4595 B3XF	1842	49.63	914	3	4.8	1.21	84.5	30.2
PHY 411 W3FE	1795	50.88	913	4	4.8	1.16	85.7	30.9
DP 2127 B3XF	1866	48.35	902	5	5.1	1.18	84.7	30.1
NG 4190 B3XF	1718	50.85	873	6	4.7	1.23	85.4	30.4
PHY 360 W3FE	1713	50.45	864	7	4.9	1.17	82.9	29.3
DP 2239 B3XF	1580	54.23	857	8	4.4	1.25	84.7	31.3
DG 3519 B3XF	1673	51.08	854	9	4.6	1.25	85.3	32.8
ST 5091 B3XF	1677	50.75	851	10	4.2	1.22	84.6	30.2
DP 2038 B3XF	1655	49.80	823	11	4.9	1.20	84.0	31.9
DG 3528 B3XF	1571	50.80	798	12	4.2	1.23	84.2	30.3
Mean	1736.96	50.76	880.99		4.69	1.20	84.68	30.52
$LSD_{0.05}$	321.96	1.54	170.36		0.42	0.04	1.46	2.40
C.V.%	8.42	1.38	8.79		4.04	1.51	0.78	3.57
Prob (var)	0.3757	0.0011	0.5686		0.0068	0.0044	0.0293	0.1692

[a] r = ranking.

[b] UI = fiber length uniformity index.

Appendix Table A7. Lint Yield and Fiber Properties–Phillips County Transgenic Variety Test.

Cooperator(s):	Reed Story	**Date Planted:**	5/19/23
Soil Type:	Henry Silt Loam	**Date of Harvest:**	10/13/23
Irrigation:	Furrow	**Replications:**	4
Agent(s):	Shawn Payne and Tucker Vonkanel		

	Lint	Loan			Fiber properties			
Variety	**yield**	**rate**	**Income**	**r[a]**	**Micronaire**	**Length**	**UI[b]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
DP 2038 B3XF	1820	51.76	938	1	4.9	1.13	83.4	31.4
DP 2127 B3XF	1786	51.06	912	2	4.8	1.16	85.1	33.7
DP 2115 B3XF	1744	49.89	869	3	5.0	1.20	85.2	33.1
DP 2239 B3XF	1645	50.35	829	4	4.9	1.24	85.2	31.2
ST 4595 B3XF	1617	49.85	806	5	4.9	1.24	85.1	32.2
ST 5091 B3XF	1584	50.71	803	6	4.4	1.17	82.6	30.4
DG 3528 B3XF	1562	50.45	788	7	4.4	1.23	85.6	32.7
PHY 411 W3FE	1563	50.39	788	8	4.9	1.14	84.2	34.2
NG 4190 B3XF	1538	50.99	784	9	4.6	1.21	84.9	31.9
NG 3195 B3XF	1426	52.71	752	10	4.7	1.21	85.1	33.0
DG 3519 B3XF	1468	48.50	711	11	4.6	1.24	85.9	35.0
PHY 360 W3FE	1470	47.69	702	12	4.8	1.15	82.7	30.0
Mean	1628.39	50.82	826.93		4.75	1.19	84.63	32.38
$LSD_{0.05}$	162.20	3.09	119.62		0.31	0.06	1.56	3.00
C.V.%	7.04	4.26	10.31		4.47	3.34	1.28	6.43
Prob (var)	0.0001	0.9579	0.1419		0.0521	0.9403	0.9110	0.7810

[a] r = ranking.

[b] UI = fiber length uniformity index.

Appendix Table A8. Lint Yield and Fiber Properties–Poinsett County Transgenic Variety Test.

Cooperator(s):	Marty White and Jesse Flye	**Date Planted:**	5/5/23
Soil Type:	Dundee Silt Loam	**Date of Harvest:**	10/10/23
Irrigation:	Furrow	**Replications:**	2
Agent(s):	Craig Allen and Jeffery Works		

	Lint	Loan			Fiber properties			
Variety	**yield**	**rate**	**Income**	**r[a]**	**Micronaire**	**Length**	**UI[b]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
DP 2038 B3XF	1595	54.23	865	1	4.8	1.19	83.9	31.1
NG 3195 B3XF	1683	48.80	814	2	4.9	1.19	84.1	31.3
DP 2115 B3XF	1544	52.55	810	3	4.9	1.18	84.6	30.6
DP 2127 B3XF	1547	51.43	792	4	4.9	1.18	85.4	31.2
ST 5091 B3XF	1559	50.73	791	5	4.4	1.20	83.3	30.3
NG 4190 B3XF	1633	48.03	788	6	4.5	1.18	83.9	31.0
PHY 360 W3FE	1535	50.83	780	7	4.4	1.18	82.6	30.8
DP 2239 B3XF	1416	54.25	768	8	4.4	1.24	83.0	32.3
ST 4595 B3XF	1578	48.43	762	9	5.0	1.18	84.1	30.7
PHY 411 W3FE	1421	50.73	721	10	4.7	1.13	83.6	33.3
DG 3528 B3XF	1400	51.00	714	11	4.1	1.25	85.6	31.1
DG 3519 B3XF	1405	48.20	674	12	4.6	1.24	85.6	32.2
Mean	1526.34	50.76	773.25		4.61	1.19	31.32	84.11
$LSD_{0.05}$	128.28	6.78	122.64		0.56	0.05	1.61	1.97
C.V.%	3.82	6.07	7.21		5.51	2.06	0.87	2.85
Prob (var)	0.0051	0.5126	0.2024		0.0922	0.0191	0.0197	0.1577

[a] r = ranking.

[b] UI = fiber length uniformity index.

Appendix Table A9. Lint Yield and Fiber Properties–St. Francis County Transgenic Variety Test.

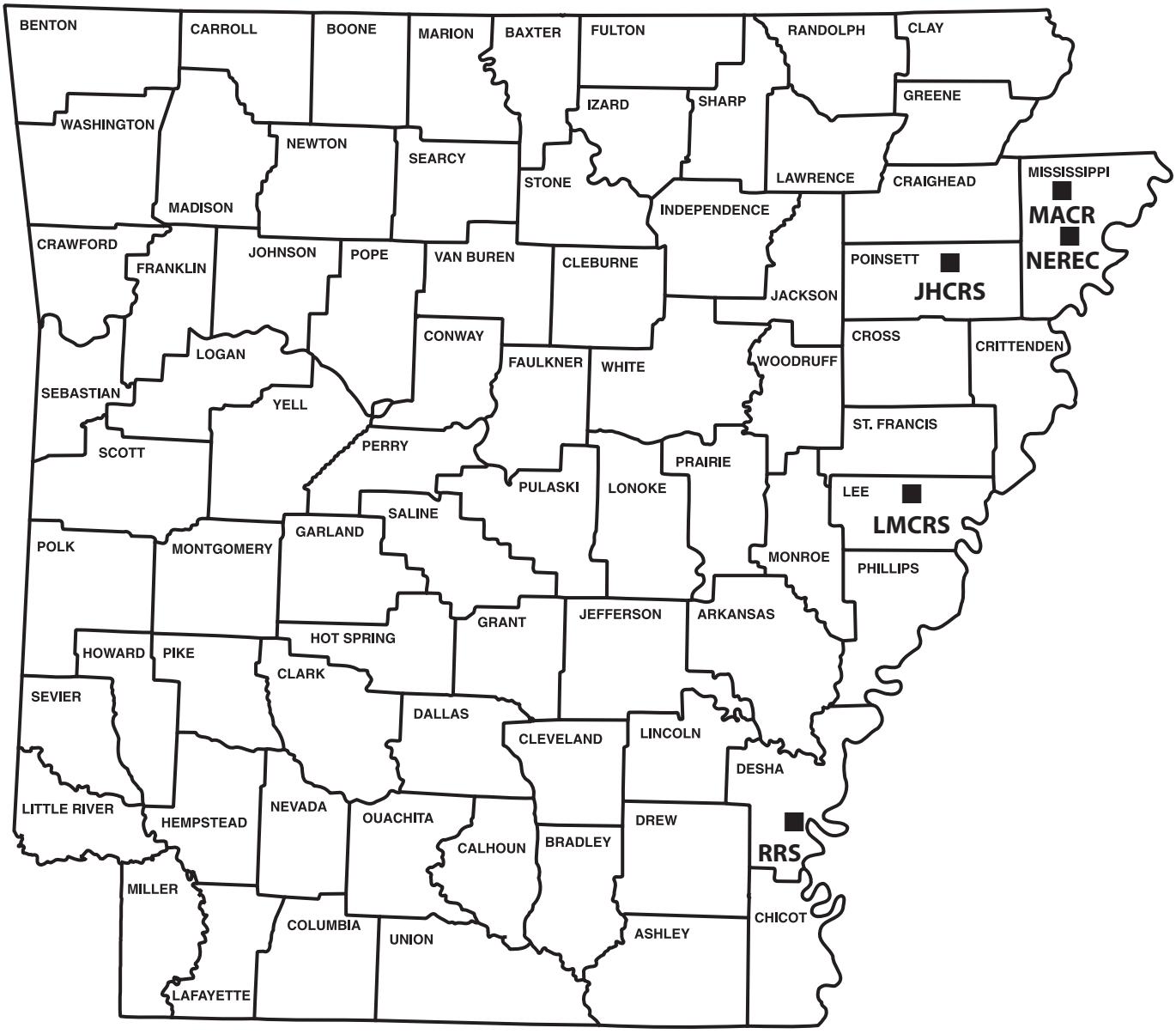
Cooperator(s):	Joe Whittenton	**Date Planted:**	5/17/23
Soil Type:	Loring Silt Loam	**Date of Harvest:**	10/23/23
Irrigation:	Furrow	**Replications:**	4
Agent(s):			

	Lint	Loan			Fiber properties			
Variety	**yield**	**rate**	**Income**	**r[a]**	**Micronaire**	**Length**	**UI[b]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
DP 2038 B3XF	1911	50.40	965	1	5.0	1.13	82.6	32.3
DG 3528 B3XF	1787	51.03	912	2	4.6	1.22	84.4	31.9
DP 2127 B3XF	1866	48.71	909	3	5.0	1.18	85.4	32.8
PHY 411 W3FE	1799	50.38	907	4	4.6	1.14	83.8	33.4
DP 2115 B3XF	1760	50.99	897	5	4.6	1.19	84.1	32.5
NG 4190 B3XF	1760	49.80	876	6	4.5	1.20	83.8	32.3
ST 5091 B3XF	1714	50.88	872	7	4.5	1.19	83.4	31.4
ST 4595 B3XF	1771	49.16	869	8	4.9	1.19	83.0	31.9
NG 3195 B3XF	1709	50.39	862	9	4.7	1.18	83.3	33.0
DP 2239 B3XF	1671	50.95	851	10	4.4	1.22	82.8	32.4
PHY 360 W3FE	1706	49.74	849	11	4.5	1.19	83.3	31.8
DG 3519 B3XF	1714	48.74	835	12	4.5	1.25	85.2	34.9
Mean	1764.07	50.10	883.63		4.63	1.19	32.53	83.75
$LSD_{0.05}$	141.59	1.26	67.42		0.27	0.03	1.26	1.17
C.V.%	5.56	1.75	5.30		4.10	1.85	1.04	2.50
Prob (var)	0.0108	0.0013	0.0287		0.0003	0.0001	0.0006	0.0001

[a] r = ranking.

[b] UI = fiber length uniformity index.

COTTON VARIETY TEST LOCATIONS



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

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