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DIVISION OF AGRICULTURE
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University of Arkansas System

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Photo Credit: Cotton ready to harvest in Lonoke County. The photo was taken by Ryan McGeeney, University of Arkansas System Division of Agriculture.

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Summary

The primary goal of the Arkansas Cotton Variety Test is to provide unbiased data regarding the agronomic performance of cotton varieties and advanced breeding lines in the major cotton-growing areas of Arkansas. This information helps seed companies establish marketing strategies and assists producers in choosing varieties to plant. These annual evaluations will then facilitate the inclusion of new, improved genetic material in Arkansas cotton production. Adaptation of varieties is determined by evaluating the lines at five University of Arkansas System Division of Agriculture research sites (Manila, Keiser, Judd Hill, Marianna, and Rohwer). The 2022 tests at Rohwer were adversely affected by herbicides. The tests were replanted but did not achieve acceptable maturity. Yields from Rohwer are reported but not included in the overall location means. Entries in the 2022 Arkansas Cotton Variety Test were evaluated in two groups—transgenic and conventional varieties. The 40 entries in the transgenic test included 1 B2XF, 27 B3XF, 11 W3FE, and 1 GLTP line, which were evaluated at all five locations. The conventional test included 20 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 2022 report includes results of large-plot variety tests in 7 counties that were coordinated by Bill Robertson.

Contents

Arkansas Cotton Variety Test 2022

F. Bourland, A. Beach, B. Milano, B. Guest,
C. Kennedy, L. Martin, and B. Robertson[1]

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 40 entries in the transgenic test included 1 B2XF, 27 B3XF, 11 W3FE, and 1 GLTP line, of which 25 were included in the 2021 Arkansas Cotton Variety Test (Table 1). The conventional test included 20 entries, all developed in the University of Arkansas System Division of Agriculture's Cotton Breeding Program. Seven of these were in the 2021 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. Stands in the tests at Rohwer were adversely affected by herbicides, and were subsequently replanted but did not achieve acceptable maturity. Yields from Rohwer 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 Table 2 and Table 3, respectively.

Originators of seed supplied double-treated (two fungicides) seed for all entries. Prior to planting, all seed were treated with imidacloprid (Gaucho®) at a rate of 6 oz/100 lb seed by the originator or the testing personnel. Plots were planted with a constant number of seed (about 3.5 seed/row ft). All varieties were planted in 2-row plots on 38-inch centers and ranged from 40 to 47 feet in length. Experiments were arranged in a randomized complete block. Although exact inputs varied across locations, cultural inputs at each location were generally based on University of Arkansas System Division of Agriculture Cooperative Extension Service recommendations for cotton production, including COTMAN rules for insecticide termination. All plots were machine-harvested with 2-row or 4-row cotton pickers modified with load cells for harvesting small plots.

Data Collected at Single Location

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

[1] F. Bourland is a professor and Altheimer chair for cotton research and development, A. Beach is a program technician, and B. Milano is a Program Assistant at the Northeast Research and Extension Center; B. Guest is a Program Assistant and C. Kennedy is the resident director at the Lon Mann Cotton Research Station; L. Martin is a program technician at the Rohwer Research Station; and B. Robertson is a cotton agronomist at the Jackson County Extension Center.

Bract Trichomes. As all plants approached physiological cutout, a bract from a 1st position white flower was sampled from 6 random plants per plot (4 replications) in the Keiser experiments. Each bract was examined for marginal trichome density (no. of trichomes/cm) as 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 common variety were planted between the tests. The TPB tests and border rows were planted on May 12 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.

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. Plant heights were not obtained in the 2022 Rohwer tests.

% 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.

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 × (micronaire/1,000,000).

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

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

Results

Entries and participants in the test are listed in Table 1. Cultural inputs and production information for variety trials at Manila, Keiser, Judd Hill, Marianna, and Rohwer are reported in Table 2. Table 3 includes weather information for north, central, and south Arkansas locations during the 2021 production season.

Heat units in 2022 were close to historical averages at each Arkansas location (Table 3). However, daily high temperatures exceeded 95 °F on 15 days at Keiser (9 days in June), 15 days at Marianna (mostly late June and early July), and 3 days at Rohwer (96 °F on 22 and 23 July, and 16 August). Rainfall in 2022 was lower than the historical average and particularly lower in August and September, which provided excellent harvest conditions.

Performance data of entries in the 2022 Transgenic Cotton Variety Test at Manila, Keiser, Judd Hill, Marianna, and Rohwer are provided in Tables 4 through 15, with yield and yield-related variables in the even-numbered tables and fiber properties in the odd-numbered tables. Performance data across all five locations are presented in Tables 4 and 5. Morphological and host-plant resistance measurements for the 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 2022 Conventional Cotton Variety Test at Keiser, Judd Hill, Marianna, and Rohwer are provided in Tables 18 through 26, 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 2022 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 10 and achieved excellent stands. Mechanical problems with the plot picker delayed the harvest of the plots until November 3. Average lint yields at Manila were second to the highest-yielding location in 2022.

Keiser (Tables 8, 9, 20, and 21). Excellent stands were obtained from the 10 May planting of the variety tests at Keiser. Plots were harvested on 21–22 October. The transgenic variety test at Keiser produced the third-highest lint yields of all locations in 2022.

Judd Hill (Tables 10, 11, 22, and 23). Excellent stands were achieved from the 17 May planting at Judd Hill. Plants grew well and established excellent boll loads. The intensity of Verticillium wilt was moderate (similar to 2020 and 2021) but intense in localized areas. Plots were harvested on 14–15 October.

Marianna (Tables 12, 13, 24, and 25). For the seventh consecutive year, we used a cereal rye cover crop in our tests at Marianna. The cover crop was planted on 10 November 2021 and terminated on 26 April 2022 using glyphosate (2 pt/acre). Plots were planted on 4 May and harvested on 11 October. Average lint yields in both the transgenic and conventional tests were higher than any other location in 2022.

Rohwer (Tables 14, 15, 26, and 27). The Rohwer location was planted on 9 May and achieved excellent stands. However, plants began dying soon after emergence, with death likely associated with high (but labeled) rates of Brake (2 pt/ac) and Caporal (1-1/2 pt/ac). Due to erratic stands, plots were replanted on 31 May. Plants in the second planting did not develop and mature well and consequently produced low yields. The data from the Rohwer tests are reported, but yield and seed per acre data from Rohwer were not included in the overall location means. Since 2021 data were missing (due to flooding in June 2021), 2-year (2021–2022) and 3-year (2020–2022) means for Rohwer were not obtained.

Literature Cited

Bourland, F.M., D.C. Jones, and E. Barnes. 2022. Seed-score (S-score), a method for characterizing seed and lint indices of cotton lines. J. Cotton Sci. 26:40-49.

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

Bourland, F.M., R. Hogan, D.C. Jones, and E. Barnes. 2010. Development and utility of Q-score for characterizing cotton fiber quality. J. Cotton Sci. 14:53-63. Available at http://www.cotton.org/journal/2010-14/2/upload/JCS14-53.pdf

Bourland, F.M., J.M. Hornbeck, A.B. McFall, and S.D. Calhoun. 2003. A rating system for leaf pubescence of cotton. J. Cotton Sci. 7:8-15. Available at http://www.cotton.org/journal/2003-07/2/upload/jcs07-008.pdf

Bourland, F.M. and J.M. Hornbeck. 2007. Variation in marginal bract trichome density in Upland cotton. J. Cotton Sci. 11:242-251. Available at https://www.cotton.org/journal/2007-11/4/upload/jcs11-242.pdf

Groves, F.E. and F.M. Bourland. 2010. Estimating seed surface area of cottonseed. J. Cotton Sci. 14:74-81. Available at http://www.cotton.org/journal/2010-14/2/upload/JCS14-74.pdf

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Table 1. Participants and entries in the 2022 Arkansas Cotton Variety Test.

Institution/Contact person	Returning entries	Experimental no.	First-year entries	Experimental no.
		Transgenic entries		
NexGen - Americot, Inc./	NG 3195 B3XF	AMX19B001B3XF		
Terry Campbell	NG 3299 B3XF	AMX20B037B3XF		
	NG 4190 B3XF			
BASF/	ST 4550 GLTP	BX 1973GLTP	BX 2392B3XF	
Lucas Owen	ST 4595 B3XF	BX 2295B3XF	BX 2394B3XF	
	ST 4990 B3XF		BX 2396B3XF	
	ST 5091 B3XF	BX 2191B3XF	BX 2398B3XF	
Nutrien Ag Solutions	DG 3456 B3XF		DG 3387 B3XF	
(Dyna-Gro)/	DG 3535 B3XF		DG 3402 B3XF	
Ty Fowler	DG 3644 B3XF		DG 3511 B3XF	
			DG 3519 B3XF	
			DG 3528 B3XF	
Bayer Crop Science/	DP 1646 B2XF	MON 15R551B2XF	DP 2239 B3XF	20R741B3XF
David Albers	DP 2012 B3XF	18R411 B3XF	DP 2141NR B3XF	
	DP 2020 B3XF	18R421B3XF		
	DP 2038 B3XF	18R438 B3XF		
	DP 2115 B3XF	19R113B3XF		
	DP 2127 B3XF	19R227B3XF		
PhytoGen Seed Co./	PHY 360 W3FE	PX3C06W3FE	PX1130B333-04W3FE	
Christopher Main	PHY 400 W3FE	PX3B07W3FE	PX1130B336-04W3FE	
	PHY 332 W3FE	PX3D32W3FE	PX1140B373-04W3FE	
	PHY 443 W3FE	PX3D43W3FE	PX1150A450-04W3FE	
	PHY 411 W3FE	PX4B08W3FE		
	PHY 415 W3FE	PX1140A383-04W3FE		
	PX1140A385-04W3FE			
WinField United/CROPLAN/	Armor 9371 B3XF	CP 20XA9 B3XF		
Robert Cossar	Armor 9831 B3XF	20XG9 B3XF		
		Conventional entries		
Americot Inc.	AM UA48	Ark 0102-48		
Seed Source Genetics/	SSG UA 107	Ark 0701-17		
Edward Jungmann	SSG UA 114	Ark 0614-49		
	SSG UA222	Ark 0222-12		
	SSG UA248	Ark 0822-75		
University of Arkansas System	UA212ne	Ark 0812-87ne	Ark 1202-34	
Division of Agriculture/	Arkot 1102ne	Ark 1102-55	Ark 1206-25	
Fred Bourland			Ark 1207-11	
			Ark 1207-32	
			Ark 1208-21	
			Ark 1208-39	
			Ark 1214-42	
			Ark 1214-52	
			Ark 8304	8304-54-06-99
			0102-48-14e	UA48vtle-14
			0102-48-52e	UA48vtle-52
			0102-48-62e	
			0102-48-85e	

Table 2. Cultural practices for locations of the 2022 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)	113-0-65-22	150-0-0	110-0-100	94-0-46	145-46-60
Planting date	5/10	5/10	5/17	5/4	5/9; 5/31
Irrigation method	furrow	furrow	furrow	furrow	furrow
Irrigation dates	6/23, 6/30, 7/8, 7/16, 7/27	6/20, 7/6, 7/13, 7/19, 7/26	6/20, 6/29, 7/9, 7/15, 7/26	7/15, 8/16, 8/31	7/13, 7/27, 8/10, 8/18
Mepiquat chloride	62 oz	0	84 oz	48 oz	58 oz
Defoliation date	9/15, 9/22	9/23, 10/3	9/26, 10/4	9/16, 9/23	10/6, 10/20
Harvest date	11/3	10/21	10/14	10/11	11/10

Table 3. Weather summary for the 2022 production season in north, central, and south Arkansas.

Location	Month	DD60s in 2022	Historical avg.[a] DD60s	Rainfall in 2022	Historical avg.[a] rainfall
				(in.)	(in.)
Keiser	May	376	314	4.2	5.2
(northeast)	June	573	532	5.4	3.9
	July	692	644	4.7	3.7
	August	544	583	2.6	2.9
	September	364	363	0.5	3.7
	October	90	127	3.1	3.3
	Total	**2637**	**2563**	**20.4**	**22.6**
Marianna	May	387	336	7.3	5.1
(central)	June	575	538	6.2	3.9
	July	718	646	2.4	3.9
	August	577	601	6.2	2.8
	September	556	397	1.6	3.2
	October	138	154	2.0	3.5
	Total	**2951**	**2672**	**25.7**	**22.4**
Rohwer	May	438	354	5.0	4.9
(southeast)	June	584	551	4.5	3.6
	July	709	661	1.9	3.7
	August	626	618	2.2	2.6
	September	437	415	1.1	3.0
	October	151	167	1.6	3.4
	Total	**2944**	**2766**	**16.4**	**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–2022 Arkansas Transgenic Cotton Variety Test across five test sites (Rohwer excluded from lint yield and seed/acre).

Variety	Lint yield[a]	r[b]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed-score	r	Seed/ acre[a]	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
DP 2115 B3XF	1624	1	44.4	7	97	28	61	10	9.2	35	7.6	24	71	25	9.812	2	15085	31	157	20
NG 3195 B3XF	1617	2	43.1	20	99	26	67	2	10.3	14	8.0	13	79	8	9.313	10	16111	17	155	26
PX1140A385-04W3	1607	3	44.9	2	108	8	49	32	9.7	28	8.0	12	79	7	9.229	12	16415	12	165	5
PHY 411 W3FE	1590	4	44.4	8	99	23	57	17	9.1	37	7.5	27	68	29	9.900	1	15327	27	160	12
DP 2038 B3XF	1562	5	46.2	1	108	7	58	15	9.0	39	7.9	17	69	26	9.099	15	16533	9	175	1
ST 5091 B3XF	1537	6	42.5	28	105	10	60	12	10.3	15	7.7	22	74	18	9.198	13	16543	8	160	11
DG 3519 B3XF	1536	7	42.0	33	99	24	56	21	10.5	12	7.8	20	74	18	9.177	14	15267	29	146	34
DP 2127 B3XF	1536	8	43.8	12	109	2	54	24	11.4	2	9.0	1	76	13	7.884	32	17549	4	159	14
Armor 9371 B3XF	1520	9	44.6	6	104	16	66	3	10.8	8	8.8	2	86	2	7.959	30	18160	2	171	2
ST 4595 B3XF	1504	10	44.0	10	94	37	64	7	9.8	25	7.9	16	77	12	8.941	16	15695	23	157	21
ST 4550 GLTP	1497	11	44.8	4	104	14	59	14	9.9	22	8.2	10	81	5	8.554	22	16440	11	163	7
PHY 400 W3FE	1495	12	44.9	3	93	39	53	25	10.2	16	8.4	5	84	3	8.157	27	17502	5	170	3
DP 2239 B3XF	1479	13	44.6	5	93	38	54	23	9.7	26	8.0	14	78	10	8.577	21	15764	22	158	16
PHY 332 W3FE	1472	14	42.3	32	99	25	55	22	10.6	10	7.9	15	77	11	8.720	19	16590	7	158	18
DG 3535 B3XF	1468	15	42.3	30	103	17	52	28	11.1	4	8.3	7	75	16	8.180	26	16366	14	151	32
DP 1646 B2XF	1466	16	43.7	13	108	5	62	8	9.2	36	7.3	30	67	30	9.324	9	14651	35	153	29
PHY 443 W3FE	1465	17	43.6	14	101	19	57	19	11.0	5	8.7	3	86	1	7.784	35	17747	3	164	6
PHY 360 W3FE	1465	18	43.2	19	97	33	65	5	9.0	38	7.1	36	60	38	9.589	5	14825	34	156	23
DP 2020 B3XF	1455	19	40.5	39	93	40	69	1	9.9	22	6.9	39	63	35	9.771	3	14310	37	142	38
DP 2012 B3XF	1448	20	40.9	37	94	36	66	3	9.7	28	6.8	40	63	37	9.586	6	14473	36	146	36
PX1130B333-04W3	1442	21	42.8	25	95	34	53	25	9.5	31	7.3	32	67	32	9.372	8	15220	30	155	27
Armor 9831 B3XF	1441	22	43.8	11	104	15	46	34	8.8	40	7.0	37	54	40	9.564	7	14130	39	151	31
NG 4190 B3XF	1438	23	43.5	15	109	3	51	31	9.9	21	7.8	19	76	15	8.589	20	16297	15	162	9
BX 2394B3XF	1416	24	41.6	34	97	32	61	11	9.5	32	6.9	38	63	35	9.606	4	14998	32	153	28
DG 3511 B3XF	1413	25	43.3	17	97	29	57	19	10.6	9	8.3	6	82	4	7.797	34	15854	19	150	33
ST 4990 B3XF	1408	26	39.8	40	97	31	65	6	10.5	11	7.1	35	66	34	9.246	11	14291	38	136	39
DG 3528 B3XF	1404	27	42.8	24	105	11	49	32	9.7	27	7.3	29	68	28	8.774	17	15549	25	156	22
PHY 415 W3FE	1391	28	42.7	26	107	9	46	38	10.8	7	8.2	11	78	9	7.931	31	16529	10	155	25
BX 2392B3XF	1375	29	43.3	16	98	27	57	17	10.1	19	7.8	18	76	14	8.055	28	16406	13	161	10
PX1130B336-04W3	1368	30	43.1	21	95	35	53	27	9.4	34	7.2	33	66	33	8.738	18	15457	26	159	13
DP 2141NR B3XF	1365	31	42.3	31	102	18	52	29	10.1	20	7.6	26	72	23	8.345	24	14855	33	146	35
DG 3456 B3XF	1363	32	43.0	22	105	12	58	15	11.2	3	8.6	4	75	17	7.347	39	18339	1	168	4
NG 3299 B3XF	1340	33	44.0	9	101	20	60	13	10.4	13	8.2	8	79	6	7.396	38	15809	20	152	30
PX1140B373-04W3	1332	34	42.4	29	97	30	46	35	10.1	17	7.6	25	72	21	8.267	25	16183	16	158	15
DG 3387 B3XF	1316	35	42.8	23	100	22	62	9	9.4	33	7.2	34	67	31	8.467	23	15808	21	162	8
BX 2396B3XF	1312	36	42.7	27	105	13	42	40	9.8	24	7.4	28	71	24	8.014	29	15862	18	158	17
BX 2398B3XF	1293	37	41.3	35	108	4	45	39	10.8	6	7.7	21	73	20	7.724	36	15314	28	144	37
PX1150A450-04W3	1265	38	43.2	18	111	1	46	35	9.6	30	7.6	23	72	21	7.567	37	15550	24	157	19
DG 3644 B3XF	1236	39	41.2	36	108	5	46	35	10.1	18	7.3	31	68	27	7.813	33	13729	40	134	40
DG 3402 B3XF	1226	40	40.6	38	100	21	52	29	11.7	1	8.2	9	56	39	6.988	40	17427	6	155	24
Mean	1437		43.0		101		56		10.1		7.8		72		8.609		15874		156	
Var. $LSD_{0.10}$	89		0.7		5		5		0.3		0.3		5		0.534		620		6	
Loc. $LSD_{0.10}$	28		0.3		2		2		0.1		0.1		ns		0.169		311		2.1	
C.V.%	10.6		2.3		8.8		9.9		3.7		4.6		9.3		10.7		5.3		5.1	
R^2 x 100	79.2		86.5		60.8		76.0		95.1		91.7		80.5		79.4		84.2		82.2	
Prob (var x loc)	<0.0001		0.002		0.087		0.001		<0.001		0.002		<0.0001		<0.0001		0.034		0.001	

[a] Stands in first planting at Rohwer were adversely affected by herbicide injury. Plots were replanted on 31 May, but plants did not develop and mature well. Lint yield and seed per acre data from Rohwer were not included in overall location means and analyses.

[b] r = ranking.

Table 5. Fiber properties–2022 Arkansas Transgenic Cotton Variety Test across five test sites.

	Lint		Quality		Fiber properties									
Variety	yield[a]	r[b]	score	r	Micronaire	r	Length	r	Uib	r	Strength	r	Elongation	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)	
DP 2115 B3XF	1624	1	61	20	4.8	9	1.23	20	86.1	22	31.8	21	7.8	6
NG 3195 B3XF	1617	2	58	26	4.8	10	1.22	26	86.3	16	31.5	26	6.1	35
PX1140A385-04W3FE	1607	3	54	34	4.7	12	1.19	38	86.6	9	36.3	1	8.9	2
PHY 411 W3FE	1590	4	40	40	4.9	4	1.17	40	85.1	36	34.1	13	7.9	5
DP 2038 B3XF	1562	5	46	38	4.7	14	1.19	39	84.6	39	32.2	19	6.4	26
ST 5091 B3XF	1537	6	62	19	4.4	34	1.23	21	86.0	24	30.3	35	5.6	37
DG 3519 B3XF	1536	7	79	1	4.6	24	1.27	3	87.4	1	32.7	18	6.7	24
DP 2127 B3XF	1536	8	54	34	4.9	3	1.21	32	86.8	5	31.7	23	6.2	34
Armor 9371 B3XF	1520	9	58	26	4.7	18	1.21	29	86.1	20	30.9	31	6.3	30
ST 4595 B3XF	1504	10	70	9	4.6	20	1.25	9	86.1	21	31.0	29	7.4	17
ST 4550 GLTP	1497	11	53	36	4.8	6	1.20	34	86.0	25	34.2	11	7.7	7
PHY 400 W3FE	1495	12	61	22	4.6	22	1.22	22	85.6	32	33.2	16	6.4	29
DP 2239 B3XF	1479	13	71	8	4.7	17	1.26	6	86.3	15	32.0	20	7.0	20
PHY 332 W3FE	1472	14	67	13	4.5	30	1.24	12	85.9	27	33.4	15	7.4	16
DG 3535 B3XF	1468	15	70	10	4.7	16	1.25	10	86.5	12	30.7	34	5.5	39
DP 1646 B2XF	1466	16	75	6	4.6	25	1.27	2	86.2	18	30.2	36	7.7	8
PHY 443 W3FE	1465	17	55	33	4.8	11	1.20	33	86.2	19	35.1	5	7.4	13
PHY 360 W3FE	1465	18	52	37	4.7	19	1.21	31	84.9	38	29.5	39	6.2	33
DP 2020 B3XF	1455	19	77	4	4.4	37	1.27	4	86.4	13	31.4	28	5.9	36
DP 2012 B3XF	1448	20	72	7	4.4	36	1.25	8	86.0	26	31.7	22	5.5	38
PX1130B333-04W3FE	1442	21	57	32	4.6	23	1.20	37	86.7	8	35.3	3	7.4	15
Armor 9831 B3XF	1441	22	45	39	4.9	2	1.20	36	84.3	40	33.5	14	8.3	3
NG 4190 B3XF	1438	23	65	14	4.5	29	1.23	19	86.8	6	31.5	26	6.3	31
BX 2394B3XF	1416	24	65	16	4.4	38	1.24	15	85.1	34	31.5	25	6.8	23
DG 3511 B3XF	1413	25	64	17	4.9	5	1.23	16	86.8	7	35.3	2	7.6	10
ST 4990 B3XF	1408	26	68	11	4.6	21	1.24	13	86.6	9	31.6	24	7.3	18
DG 3528 B3XF	1404	27	77	3	4.3	40	1.26	6	87.1	4	30.8	32	7.5	11
PHY 415 W3FE	1391	28	79	2	4.5	31	1.27	5	87.3	2	34.5	9	7.0	21
BX 2392B3XF	1375	29	60	23	4.6	26	1.22	24	85.5	33	30.7	33	6.2	32
PX1130B336-04W3FE	1368	30	57	31	4.5	28	1.20	35	86.4	14	34.3	10	7.6	9
DP 2141NR B3XF	1365	31	59	25	4.8	7	1.23	18	85.8	30	34.7	7	6.6	25
DG 3456 B3XF	1363	32	58	28	4.5	27	1.22	27	85.0	37	30.1	38	6.4	28
NG 3299 B3XF	1340	33	58	29	4.9	1	1.21	28	87.1	3	35.2	4	6.8	22
PX1140B373-04W3FE	1332	34	64	18	4.5	33	1.22	25	86.3	17	34.9	6	9.5	1
DG 3387 B3XF	1316	35	60	24	4.3	39	1.23	17	85.1	35	28.9	40	5.1	40
BX 2396B3XF	1312	36	61	20	4.5	32	1.22	23	85.7	31	30.1	37	7.4	14
BX 2398B3XF	1293	37	65	15	4.7	12	1.24	11	85.9	29	30.9	30	7.1	19
PX1150A450-04W3FE	1265	38	58	29	4.7	15	1.21	30	86.1	23	34.1	12	7.5	12
DG 3644 B3XF	1236	39	76	5	4.8	8	1.28	1	86.5	11	34.6	8	6.4	27
DG 3402 B3XF	1226	40	67	12	4.4	35	1.24	14	85.9	28	33.2	17	8.2	4
Mean	1437		62.46		4.6		1.23		86.1		32.5		7.0	
Var. $LSD_{0.10}$	89		7.2		0.1		0.02		0.7		08.7		0.3	
Loc. $LSD_{0.10}$	28		ns		0.1		0.01		0.3		ns		0.1	
C.V.%	10.6		15.4		4.3		2.1		1.2		03.6		6.7	
R^2 x 100	79.2		75.5		80.9		82.4		73.8		87.0		90.9	
Prob (var x loc)	<0.0001		0.010		<0.0001		0.007		0.527		0.134		0.206	

[a] Stands in first planting at Rohwer were adversely affected by herbicide injury. Plots were replanted on 31 May, but plants did not develop and mature well. Lint yield data from Rohwer were not included in overall location means and analyses.

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

Table 6. Yield and related properties–2022 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	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 2115 B3XF	1764	1	44.6	3	93	28	73	10	10.1	38	8.3	27	69	25	9.660	1	15332	33	149	26
NG 3195 B3XF	1724	2	44.0	7	98	19	76	7	11.0	23	8.8	13	80	9	8.860	8	17698	11	164	8
PX1140A385-04W3	1704	3	43.7	11	105	9	69	19	11.5	17	9.0	9	82	6	8.624	11	18437	6	166	4
DG 3519 B3XF	1659	4	40.4	37	95	24	68	22	11.6	15	8.1	28	70	23	9.266	5	15346	32	137	37
PHY 332 W3FE	1632	5	42.0	27	91	32	81	4	11.7	13	8.6	17	77	13	8.610	13	17588	13	156	17
ST 4595 B3XF	1607	6	43.9	10	89	37	75	8	11.0	24	8.7	14	79	10	8.383	16	16328	24	151	24
ST 4550 GLTP	1592	7	44.4	4	109	1	71	12	10.9	25	8.9	12	81	7	8.164	19	17366	15	162	11
PHY 411 W3FE	1589	8	42.9	17	94	25	71	12	10.3	35	7.8	33	59	37	9.213	6	16339	23	158	14
DP 2127 B3XF	1577	9	44.0	8	101	14	63	29	12.9	2	10.2	1	73	21	7.020	29	19631	1	163	9
DP 2239 B3XF	1567	10	43.9	9	90	34	66	24	10.7	28	8.6	16	77	13	8.257	18	16616	20	156	16
DP 2038 B3XF	1565	11	45.9	1	102	12	80	5	10.2	36	8.9	10	81	7	7.947	21	17735	10	172	1
DP 2020 B3XF	1548	12	40.5	36	91	33	83	2	10.8	26	7.5	38	61	33	9.434	2	15316	34	143	35
ST 5091 B3XF	1548	13	42.3	23	105	9	70	17	11.3	20	8.4	24	74	18	8.420	14	18021	9	164	7
DG 3535 B3XF	1546	14	42.0	28	96	20	66	24	12.0	10	8.9	11	76	16	7.917	22	17628	12	153	20
DP 1646 B2XF	1538	15	44.6	2	107	4	68	22	10.2	37	8.4	23	68	27	8.357	17	16299	25	159	13
DP 2012 B3XF	1522	16	41.3	32	89	38	83	2	10.3	34	7.4	40	60	34	9.343	3	15091	37	145	30
PX1130B333-04W3	1520	17	41.7	29	86	40	71	12	10.4	33	7.5	37	59	36	9.171	7	15261	35	146	29
ST 4990 B3XF	1514	18	38.2	40	96	22	78	6	11.7	14	7.4	39	60	34	9.273	4	15006	38	133	39
NG 4190 B3XF	1509	19	42.8	18	105	8	64	27	11.2	22	8.6	18	76	15	7.992	20	17469	14	160	12
PHY 400 W3FE	1501	20	44.3	5	90	35	69	19	12.1	9	9.6	2	87	2	7.066	28	18730	5	163	10
Armor 9831 B3XF	1489	21	43.7	13	106	5	58	34	10.0	39	7.9	32	55	38	8.613	12	14799	40	145	31
Armor 9371 B3XF	1483	22	44.1	6	108	3	71	12	11.7	11	9.4	3	89	1	7.144	26	18961	4	168	2
PHY 360 W3FE	1480	23	43.1	15	90	36	84	1	9.9	40	7.6	35	49	39	8.805	9	15101	36	150	25
BX 2394B3XF	1450	24	41.4	31	93	29	73	10	10.6	30	7.5	36	62	32	8.726	10	16032	29	152	22
PX1130B336-04W3	1428	25	42.0	26	86	39	69	19	10.5	31	7.7	34	63	31	8.410	15	16251	26	154	19
BX 2392B3XF	1426	26	42.9	16	99	17	65	26	11.2	21	8.5	19	76	16	7.605	24	18271	8	167	3
DG 3511 B3XF	1416	27	43.7	12	96	22	70	17	11.4	18	9.0	8	83	5	7.125	27	16007	30	145	32
DP 2141NR B3XF	1394	28	40.9	34	99	16	60	32	11.7	12	8.3	25	71	22	7.593	25	15348	31	136	38
DG 3456 B3XF	1384	29	42.0	25	109	2	64	27	12.5	3	9.3	6	79	10	6.746	31	19437	2	165	5
NG 3299 B3XF	1345	30	43.6	14	93	27	63	29	12.1	8	9.4	4	85	3	6.503	35	16602	21	144	33
DG 3387 B3XF	1336	31	42.7	19	92	30	75	8	10.5	32	8.0	30	68	27	7.622	23	16048	28	153	21
PHY 443 W3FE	1323	32	42.5	21	101	15	71	12	12.4	4	9.3	5	84	4	6.427	36	19273	3	165	6
PHY 415 W3FE	1252	33	41.2	33	99	18	54	38	12.2	5	8.5	20	70	23	6.673	33	16683	19	144	34
DG 3402 B3XF	1241	34	40.3	38	92	31	61	31	13.3	1	9.1	7	39	40	6.166	38	18297	7	148	27
BX 2398B3XF	1228	35	39.9	39	106	6	56	35	12.1	7	8.3	26	64	30	6.691	32	16356	22	142	36
DG 3528 B3XF	1211	36	42.3	22	106	7	56	35	10.7	29	8.0	31	68	26	6.915	30	16740	18	158	15
DG 3644 B3XF	1179	37	41.4	30	103	11	55	37	11.5	16	8.4	22	74	18	6.388	37	14816	39	133	40
PX1150A450-04W3	1172	38	42.2	24	102	13	53	40	10.8	27	8.1	29	68	27	6.572	34	16174	27	152	23
PX1140B373-04W3	1144	39	40.8	35	94	26	54	38	12.2	6	8.4	21	74	18	6.162	39	17013	17	147	28
BX 2396B3XF	1113	40	42.6	20	96	21	60	32	11.3	19	8.6	15	78	12	5.848	40	17093	16	155	18
Mean	1456		42.5		97		68		11.3		8.5		71		7.843		16813		153	
$LSD_{0.10}$	196.2		1.3		8		9		0.6		0.5		12		1.045		1385		11	
C.V.%	11.5		1.7		6.8		11.5		3.0		3.7		9.7		11.4		4.9		4.3	
R^2 x 100	58.4		90.2		59.5		62.0		92.6		90.3		83.2		67.6		84.9		82.1	

[a] r = ranking.

Table 7. Fiber properties–2022 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
	(lb/ac)						(in.)		(%)		(g/tex)		(%)	
DP 2115 B3XF	1764	1	70	13	4.8	8	1.3	10	87.7	14	32.3	21	8.4	7
NG 3195 B3XF	1724	2	43	39	4.8	8	1.2	39	86.0	37	32.4	20	6.7	28
PX1140A385-04W3FE	1704	3	61	25	4.5	24	1.2	30	88.0	7	36.3	4	9.3	2
DG 3519 B3XF	1659	4	73	10	4.7	14	1.3	10	87.9	10	33.6	16	7.3	22
PHY 332 W3FE	1632	5	77	4	4.4	36	1.3	3	86.4	29	33.2	18	8.0	13
ST 4595 B3XF	1607	6	75	8	4.7	14	1.3	7	88.0	7	30.8	38	7.9	17
ST 4550 GLTP	1592	7	51	34	4.8	8	1.2	30	86.4	29	34.6	12	8.2	8
PHY 411 W3FE	1589	8	48	36	4.6	18	1.2	39	86.1	34	35.4	7	8.9	4
DP 2127 B3XF	1577	9	50	35	4.9	6	1.2	37	88.2	4	33.3	17	6.6	30
DP 2239 B3XF	1567	10	87	1	4.5	26	1.3	1	87.8	11	32.3	21	7.1	24
DP 2038 B3XF	1565	11	44	38	4.9	6	1.2	33	84.9	40	31.9	24	6.3	33
DP 2020 B3XF	1548	12	70	14	4.4	32	1.3	10	86.1	34	30.5	39	6.0	37
ST 5091 B3XF	1548	13	56	30	4.4	36	1.2	30	86.6	26	31.7	28	6.4	32
DG 3535 B3XF	1546	14	55	31	4.7	13	1.3	26	86.0	36	31.3	31	5.9	39
DP 1646 B2XF	1538	15	76	6	4.6	21	1.3	6	87.1	17	31.1	33	8.1	9
DP 2012 B3XF	1522	16	72	12	4.4	32	1.3	7	86.4	32	32.0	23	5.9	38
PX1130B333-04W3FE	1520	17	70	14	4.5	26	1.3	22	88.3	3	38.3	1	8.5	6
ST 4990 B3XF	1514	18	73	9	4.4	32	1.3	13	88.0	6	31.2	32	8.0	13
NG 4190 B3XF	1509	19	56	28	4.6	18	1.2	33	87.1	17	31.8	27	6.1	36
PHY 400 W3FE	1501	20	64	21	4.7	14	1.3	18	86.7	24	34.9	10	6.3	35
Armor 9831 B3XF	1489	21	41	40	5.1	2	1.2	33	85.8	38	34.3	13	8.9	3
Armor 9371 B3XF	1483	22	65	20	4.6	21	1.3	22	87.3	16	31.9	24	6.3	33
PHY 360 W3FE	1480	23	52	33	4.8	11	1.2	29	86.2	33	31.0	35	6.6	29
BX 2394B3XF	1450	24	55	31	4.5	26	1.3	26	85.0	39	29.7	40	7.0	25
PX1130B336-04W3FE	1428	25	56	28	4.5	26	1.2	33	87.1	20	35.2	8	8.1	10
BX 2392B3XF	1426	26	62	22	4.3	39	1.3	22	86.4	29	31.9	24	6.6	30
DG 3511 B3XF	1416	27	66	19	5.0	3	1.3	13	88.5	2	37.0	2	8.0	15
DP 2141NR B3XF	1394	28	62	22	4.9	4	1.3	18	87.6	15	35.8	6	7.2	23
DG 3456 B3XF	1384	29	59	27	4.5	31	1.2	28	86.9	23	31.1	34	7.0	25
NG 3299 B3XF	1345	30	62	22	5.1	1	1.3	18	88.8	1	34.2	15	8.1	10
DG 3387 B3XF	1336	31	76	6	4.4	32	1.3	5	86.7	24	30.8	37	5.5	40
PHY 443 W3FE	1323	32	72	11	4.4	36	1.3	18	88.2	5	37.0	3	8.1	10
PHY 415 W3FE	1252	33	82	2	4.5	26	1.3	3	87.9	9	34.8	11	7.5	20
DG 3402 B3XF	1241	34	67	18	4.6	21	1.3	15	86.5	28	32.9	19	8.5	5
BX 2398B3XF	1228	35	69	16	4.6	18	1.3	15	87.1	17	31.7	29	7.6	19
DG 3528 B3XF	1211	36	76	5	4.2	40	1.3	7	87.7	13	31.6	30	7.9	17
DG 3644 B3XF	1179	37	77	3	4.9	4	1.3	2	87.8	12	35.9	5	6.9	27
PX1150A450-04W3FE	1172	38	48	36	4.8	11	1.2	37	86.6	26	35.1	9	7.9	16
PX1140B373-04W3FE	1144	39	69	16	4.5	24	1.3	15	87.0	21	34.3	14	10.3	1
BX 2396B3XF	1113	40	61	25	4.7	17	1.3	25	87.0	21	31.0	35	7.5	21
Mean	1456		63		4.6		1.3		87.0		33.1		7.4	
$LSD_{0.10}$	196.2		14		0.2		0.0		1.5		1.6		0.7	
C.V.%	11.5		13.6		2.6		1.8		1.0		2.8		6.0	
R^2 x 100	58.4		77.3		86.5		78.6		68.6		91.7		92.1	

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

Table 8. Yield and related properties–2022 Arkansas Transgenic Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.

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.)	
PHY 411 W3FE	1578	1	45.2	12	97	20	38	37	8.1	37	6.9	30	69	28	10.340	1	14491	33	163	20
DP 1646 B2XF	1510	2	45.0	15	102	6	61	8	8.4	33	7.1	27	72	23	9.706	2	15794	18	173	13
PHY 443 W3FE	1473	3	44.8	18	103	4	44	30	9.8	4	8.1	5	83	7	8.210	16	18751	2	186	3
Armor 9371 B3XF	1469	4	46.4	2	94	25	74	1	9.8	6	8.5	1	87	4	7.867	28	19109	1	191	2
DG 3511 B3XF	1461	5	45.1	14	95	23	49	23	10.0	3	8.3	2	89	1	7.953	26	15524	25	153	33
NG 3195 B3XF	1414	6	43.0	33	92	26	64	5	9.7	7	7.6	14	78	12	8.499	11	15103	27	151	34
DG 3519 B3XF	1398	7	42.7	35	99	15	54	16	9.8	5	7.3	21	72	23	8.633	9	15999	16	159	27
DP 2038 B3XF	1380	8	47.8	1	108	1	46	26	7.6	40	7.1	25	52	39	8.784	8	16866	8	197	1
PX1130B333-04W3	1371	9	43.3	29	86	38	50	22	8.2	36	6.4	39	58	38	9.645	3	14422	35	161	24
BX 2394B3XF	1367	10	42.9	34	97	18	61	8	8.7	28	6.7	37	66	34	9.324	5	14965	29	161	25
ST 4550 GLTP	1360	11	46.0	4	94	24	54	16	8.7	27	7.6	10	79	9	8.085	21	16341	11	175	11
BX 2398B3XF	1358	12	44.5	21	102	8	39	35	9.6	11	7.7	9	80	8	7.995	25	15216	26	154	32
DG 3528 B3XF	1355	13	43.9	23	103	4	43	32	9.2	18	7.3	22	75	20	8.416	12	15711	19	163	19
PHY 400 W3FE	1350	14	44.6	19	90	32	44	30	9.1	21	7.4	19	76	18	8.311	14	16386	10	172	15
PHY 332 W3FE	1345	15	43.3	28	90	33	45	29	9.3	15	7.3	20	75	19	8.311	15	17194	6	178	7
NG 4190 B3XF	1341	16	45.7	6	100	13	55	15	8.7	29	7.5	17	77	14	8.141	20	17249	5	186	4
DP 2239 B3XF	1330	17	46.4	3	91	29	53	19	8.6	30	7.5	15	77	14	8.054	22	14957	30	161	23
ST 5091 B3XF	1326	18	43.5	26	100	11	59	12	9.0	22	7.0	28	71	26	8.584	10	16062	13	169	17
Armor 9831 B3XF	1311	19	44.6	20	102	7	39	35	7.6	39	6.2	40	41	40	9.548	4	13340	39	156	31
DP 2127 B3XF	1306	20	45.2	13	101	9	54	16	9.7	8	8.2	4	88	2	7.203	33	16030	14	161	26
ST 4595 B3XF	1303	21	45.4	9	87	37	64	5	8.9	25	7.5	16	77	14	7.879	27	15542	23	165	18
DP 2012 B3XF	1297	22	41.5	37	90	31	68	4	9.2	19	6.7	35	66	33	8.819	7	14066	37	146	38
DP 2020 B3XF	1288	23	41.2	38	85	40	69	3	9.1	20	6.5	38	64	36	8.943	6	13764	38	144	39
PX1140A385-04W3	1280	24	45.7	7	97	19	41	34	8.5	32	7.4	18	76	17	7.812	29	16266	12	177	8
DP 2115 B3XF	1275	25	43.0	32	90	33	59	12	8.8	26	7.1	26	72	23	8.148	19	14631	32	156	30
BX 2392B3XF	1270	26	44.5	22	96	22	51	20	9.2	17	7.6	12	79	10	7.604	32	15678	21	162	21
PX1130B336-04W3	1269	27	45.2	11	92	27	43	32	8.0	38	6.9	31	66	34	8.347	13	15618	22	176	9
DG 3535 B3XF	1266	28	43.6	25	92	28	51	20	10.3	2	8.1	6	78	12	7.122	35	15541	24	150	35
PHY 415 W3FE	1258	29	45.0	16	99	14	38	37	9.5	12	7.9	8	84	6	7.192	34	17118	7	174	12
PHY 360 W3FE	1240	30	43.2	30	89	35	60	10	8.5	31	6.9	32	69	28	8.177	17	14638	31	159	28
DP 2141NR B3XF	1233	31	43.1	31	97	20	46	26	9.3	14	7.3	24	74	21	7.688	30	14473	34	150	36
DG 3644 B3XF	1225	32	41.8	36	105	3	35	39	9.2	16	6.8	33	68	30	8.150	18	12399	40	128	40
PX1150A450-04W3	1224	33	45.3	10	100	12	48	24	8.3	35	7.3	23	74	21	7.627	31	16554	9	182	5
NG 3299 B3XF	1202	34	45.8	5	91	30	64	5	9.6	10	8.2	3	87	3	6.622	39	16018	15	162	22
ST 4990 B3XF	1201	35	41.2	40	87	36	70	2	9.5	13	6.8	34	68	30	8.000	24	14398	36	147	37
DG 3402 B3XF	1187	36	41.2	39	99	16	48	24	10.3	1	7.6	11	68	30	7.108	36	18200	3	176	10
DG 3387 B3XF	1181	37	43.7	24	98	17	58	14	8.4	34	6.7	36	64	37	8.052	23	15679	20	173	14
BX 2396B3XF	1169	38	45.7	8	107	2	34	40	8.9	24	7.6	13	79	10	7.015	37	14984	28	159	29
DG 3456 B3XF	1121	39	45.0	17	101	10	60	10	9.7	9	8.0	7	84	5	6.352	40	17883	4	179	6
PX1140B373-04W3	1072	40	43.4	27	85	39	46	26	8.9	23	7.0	29	71	26	6.964	38	15992	17	170	16
Mean	1309		44.2		96		52		9.0		7.3		73		8.131		15724		165	
$LSD_{0.10}$	152.3		1.5		7		10		0.7		0.5		9		0.942		1619		16	
C.V.%	9.9		2.1		6.0		14.5		4.4		4.2		7.4		9.9		6.1		5.6	
R^2 x 100	55.8		86.4		64.2		66.7		85.3		86.5		86.2		65.5		80.9		82.2	

Table 9. Fiber properties– 2022 Arkansas Transgenic Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.

	Lint		Quality		Fiber properties									
Variety	yield	r[a]	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)	
PHY 411 W3FE	1578	1	39	40	5.0	4	1.14	38	84.7	33	34.4	8	8.2	7
DP 1646 B2XF	1510	2	69	12	4.4	32	1.21	11	84.7	35	29.3	37	8.0	11
PHY 443 W3FE	1473	3	48	36	4.5	20	1.13	39	85.2	25	34.1	11	7.3	15
Armor 9371 B3XF	1469	4	57	25	4.5	23	1.17	32	85.6	18	31.2	25	6.5	29
DG 3511 B3XF	1461	5	59	24	5.2	1	1.20	18	87.0	2	36.0	2	8.0	12
NG 3195 B3XF	1414	6	72	10	4.8	12	1.23	7	86.0	10	30.3	32	6.0	35
DG 3519 B3XF	1398	7	80	4	4.3	35	1.23	5	86.5	6	32.2	20	6.6	28
DP 2038 B3XF	1380	8	43	39	4.5	26	1.13	39	83.8	38	32.8	18	6.8	25
PX1130B333-04W3FE	1371	9	56	30	4.5	20	1.15	37	86.0	10	33.9	12	7.3	16
BX 2394B3XF	1367	10	63	20	4.4	27	1.19	24	85.0	28	31.9	21	7.0	22
ST 4550 GLTP	1360	11	54	32	4.7	15	1.17	32	85.4	22	33.5	14	8.5	3
BX 2398B3XF	1358	12	67	17	4.9	8	1.22	8	85.7	13	30.9	27	7.4	14
DG 3528 B3XF	1355	13	73	9	4.5	23	1.21	11	86.1	9	29.6	35	7.1	19
PHY 400 W3FE	1350	14	70	11	4.4	32	1.21	15	85.6	14	33.2	17	6.8	24
PHY 332 W3FE	1345	15	57	27	4.3	37	1.17	28	85.0	28	33.7	13	7.5	13
NG 4190 B3XF	1341	16	62	21	4.3	35	1.19	24	85.0	28	31.9	22	6.3	33
DP 2239 B3XF	1330	17	68	14	4.8	9	1.22	8	85.6	14	32.4	19	6.9	23
ST 5091 B3XF	1326	18	69	12	4.3	39	1.22	8	84.3	36	28.8	38	5.9	36
Armor 9831 B3XF	1311	19	47	37	4.8	9	1.17	28	83.4	39	33.3	16	8.3	5
DP 2127 B3XF	1306	20	61	22	5.0	4	1.20	18	86.4	7	30.1	33	6.8	25
ST 4595 B3XF	1303	21	74	7	4.6	17	1.23	5	85.0	28	30.6	28	7.2	18
DP 2012 B3XF	1297	22	84	2	4.4	27	1.26	3	85.6	14	30.4	31	5.2	39
DP 2020 B3XF	1288	23	88	1	4.4	32	1.27	2	86.3	8	31.6	24	5.7	38
PX1140A385-04W3FE	1280	24	57	27	4.6	17	1.16	35	85.6	14	37.8	1	9.6	2
DP 2115 B3XF	1275	25	67	15	4.7	13	1.21	15	85.4	20	31.8	23	8.2	7
BX 2392B3XF	1270	26	65	18	4.7	15	1.21	17	85.4	20	29.4	36	6.6	27
PX1130B336-04W3FE	1269	27	57	25	4.5	23	1.17	32	85.3	24	34.3	10	8.2	9
DG 3535 B3XF	1266	28	80	4	4.8	9	1.25	4	86.6	5	30.6	28	5.8	37
PHY 415 W3FE	1258	29	77	6	4.4	27	1.21	11	87.3	1	34.4	9	7.1	19
PHY 360 W3FE	1240	30	52	35	4.7	13	1.18	26	84.8	32	28.2	39	6.3	32
DP 2141NR B3XF	1233	31	56	30	5.0	4	1.19	23	85.0	27	35.0	6	6.4	30
DG 3644 B3XF	1225	32	81	3	5.0	3	1.28	1	86.0	10	35.3	4	6.4	31
PX1150A450-04W3FE	1224	33	61	22	4.4	27	1.17	27	85.6	18	34.9	7	8.1	10
NG 3299 B3XF	1202	34	53	34	5.1	2	1.17	28	87.0	2	35.3	4	7.3	16
ST 4990 B3XF	1201	35	73	8	4.5	20	1.21	11	86.7	4	30.9	26	7.1	19
DG 3402 B3XF	1187	36	65	19	4.1	40	1.20	18	84.7	33	33.5	14	8.2	6
DG 3387 B3XF	1181	37	45	38	4.4	27	1.16	35	83.3	40	27.5	40	5.0	40
BX 2396B3XF	1169	38	57	27	5.0	4	1.20	18	85.1	26	30.6	30	8.5	3
DG 3456 B3XF	1121	39	54	33	4.6	19	1.17	28	84.2	37	30.0	34	6.1	34
PX1140B373-04W3FE	1072	40	67	15	4.3	37	1.20	18	85.3	23	35.4	3	10.1	1
Mean	1309		63		4.6		1.20		85.4		32.2		7.1	
$LSD_{0.10}$	152.3		13		0.3		0.04		1.6		2.0		0.1	
C.V.%	9.9		12.3		3.3		1.8		1.1		3.7		5.8	
R^2 x 100	55.8		81.8		85.7		84.8		67.3		89.0		93.4	

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

Table 10. Yield and related properties–2022 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[1]	r	Fibers/seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
NG 3195 B3XF	1480	1	42.0	21	101	31	76	4	10.1	11	7.4	13	81	12	9.034	3	16248	11	159	18
DP 2038 B3XF	1454	2	45.0	1	109	17	68	16	8.9	31	7.5	11	82	10	8.791	7	16598	8	176	1
ST 5091 B3XF	1405	3	40.9	30	105	23	60	28	10.1	10	7.1	16	76	14	8.955	5	15994	14	156	24
PHY 443 W3FE	1371	4	43.0	9	96	38	63	24	10.4	5	8.0	1	89	1	7.745	24	17117	5	164	13
PHY 415 W3FE	1370	5	42.3	19	116	2	64	23	10.0	12	7.5	9	82	7	8.253	17	17095	6	168	7
PHY 400 W3FE	1370	6	42.9	11	97	36	58	33	9.9	15	7.5	8	83	5	8.258	16	17487	3	173	2
PHY 332 W3FE	1342	7	40.7	33	112	7	59	29	10.0	12	7.1	17	76	15	8.626	11	15817	16	156	25
DP 2127 B3XF	1340	8	42.9	10	112	9	63	24	10.5	1	8.0	2	84	3	7.561	26	16301	10	155	26
ST 4550 GLTP	1339	9	43.1	7	106	22	68	16	9.6	18	7.5	12	81	11	8.132	21	15565	18	158	22
PX1140A385-04W3	1338	10	44.2	3	110	13	59	29	8.7	36	7.0	20	74	18	8.721	9	15736	17	170	6
PHY 411 W3FE	1331	11	43.3	6	103	26	69	13	8.6	37	6.7	27	71	26	8.965	4	13221	40	143	37
PX1140B373-04W3	1314	12	41.8	22	106	21	58	33	8.8	32	6.6	32	68	32	9.088	2	15487	21	165	11
DP 2115 B3XF	1313	13	44.1	4	98	35	75	5	8.7	35	7.0	19	75	16	8.465	14	14766	29	159	20
DP 2020 B3XF	1269	14	40.8	32	96	37	78	3	9.3	22	6.7	28	71	28	8.682	10	14456	34	149	31
DG 3528 B3XF	1265	15	42.1	20	112	7	56	35	9.2	24	6.8	25	72	24	8.483	13	15292	24	159	19
ST 4990 B3XF	1263	16	39.8	39	110	15	68	16	9.9	14	6.7	29	70	29	8.607	12	13368	38	132	40
DG 3456 B3XF	1258	17	42.6	14	105	24	66	19	10.2	8	7.7	5	82	7	7.399	30	17655	1	171	5
PHY 360 W3FE	1253	18	43.0	8	101	29	75	5	8.4	40	6.5	34	63	39	8.788	8	15106	26	166	10
PX1130B336-04W3	1240	19	42.7	12	103	28	61	26	9.0	30	6.8	24	72	24	8.225	18	15541	20	164	15
DP 2239 B3XF	1232	20	44.2	2	92	40	65	21	9.3	21	7.5	10	82	7	7.444	29	16694	7	172	3
DP 1646 B2XF	1226	21	40.6	34	115	3	69	13	8.4	39	6.0	40	61	40	9.246	1	13231	39	145	36
DP 2012 B3XF	1220	22	39.7	40	104	25	74	9	9.3	23	6.2	39	64	38	8.887	6	14515	33	150	30
BX 2396B3XF	1207	23	41.5	28	108	19	48	40	9.4	19	6.7	26	71	26	8.120	22	15959	15	164	14
PX1130B333-04W3	1185	24	41.8	23	107	20	56	35	9.0	29	6.6	31	69	31	8.153	19	15014	27	158	21
Armor 9371 B3XF	1181	25	42.7	13	115	4	75	5	10.3	6	7.9	3	88	2	6.748	37	17357	4	168	9
BX 2394B3XF	1177	26	40.9	29	101	30	66	19	9.1	27	6.5	35	67	34	8.280	15	14739	30	154	27
DG 3535 B3XF	1174	27	40.1	37	109	16	59	29	10.5	2	7.1	15	75	17	7.464	28	15553	19	148	33
DG 3519 B3XF	1165	28	41.8	24	99	32	75	5	10.3	7	7.6	6	83	4	6.957	34	14793	28	143	38
DG 3511 B3XF	1148	29	40.9	31	98	34	74	9	9.7	16	6.9	23	73	23	7.561	25	14567	32	146	35
Armor 9831 B3XF	1144	30	42.5	17	110	14	50	39	8.5	38	6.4	38	66	37	8.151	20	14345	35	157	23
BX 2392B3XF	1136	31	43.4	5	93	39	69	13	9.7	17	7.6	7	83	5	6.810	36	16350	9	164	12
ST 4595 B3XF	1116	32	42.5	15	99	32	84	1	9.1	26	6.9	22	74	20	7.344	31	15302	23	160	17
DP 2141NR B3XF	1109	33	41.7	25	113	6	59	29	8.7	34	6.4	37	67	35	7.882	23	13906	36	149	32
NG 3299 B3XF	1099	34	42.5	18	111	11	73	11	10.5	4	7.9	4	79	13	6.345	39	16063	12	154	29
NG 4190 B3XF	1096	35	41.6	27	114	5	61	26	9.1	25	6.6	30	70	30	7.524	27	15382	22	161	16
PX1150A450-04W3	1069	36	42.5	16	123	1	54	37	9.1	27	7.1	18	74	18	6.882	35	14698	31	154	28
DG 3644 B3XF	996	37	40.3	35	111	10	65	21	9.3	20	6.5	33	68	32	6.965	33	13578	37	140	39
DG 3387 B3XF	990	38	41.6	26	109	17	79	2	8.8	33	6.4	36	67	35	7.004	32	16039	13	172	4
BX 2398B3XF	986	39	40.2	36	111	12	53	38	10.2	9	6.9	21	74	20	6.461	38	15158	25	147	34
DG 3402 B3XF	958	40	40.1	38	103	26	71	12	10.5	3	7.2	14	74	20	6.075	40	17565	2	168	8
Mean	1223		42.0		106		65		6.5		7.1		74		7.927		15492		158	
$LSD_{0.10}$	191.1		2.0		13		14		0.7		0.6		9		1.222		1288		12	
C.V.%	13.3		2.8		10.6		17.8		4.2		5.2		7.2		13.2		4.9		4.5	
R^2 x 100	51.8		72.4		57.1		49.9		85.2		82.0		78.3		53.2		83.1		80.5	

[a] r = ranking.

Table 11. Fiber properties– 2022 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
	(lb/ac)						(in.)		(%)		(g/tex)		(%)	
NG 3195 B3XF	1480	1	67	19	4.4	18	1.21	17	85.8	11	31.5	26	6.3	30
DP 2038 B3XF	1454	2	53	33	4.6	11	1.18	38	84.3	34	32.2	19	6.8	24
ST 5091 B3XF	1405	3	73	8	4.2	28	1.24	8	85.6	17	31.3	29	5.2	39
PHY 443 W3FE	1371	4	64	22	4.6	10	1.21	17	85.0	26	33.8	9	7.4	14
PHY 415 W3FE	1370	5	70	14	4.2	28	1.23	14	85.7	15	33.8	9	7.1	18
PHY 400 W3FE	1370	6	49	38	4.4	18	1.17	40	84.0	36	31.5	26	6.9	23
PHY 332 W3FE	1342	7	71	12	4.3	25	1.23	9	85.0	26	33.9	7	7.2	15
DP 2127 B3XF	1340	8	56	31	4.8	2	1.19	30	86.1	7	32.0	21	6.2	32
ST 4550 GLTP	1339	9	63	23	4.7	6	1.21	21	85.6	19	33.9	8	7.2	15
PX1140A385-04W3FE	1338	10	69	15	4.3	25	1.21	21	86.1	5	36.3	1	8.4	3
PHY 411 W3FE	1331	11	48	39	5.0	1	1.19	33	85.8	11	33.5	12	8.1	4
PX1140B373-04W3FE	1314	12	61	26	4.2	33	1.20	28	85.1	25	34.3	5	9.0	1
DP 2115 B3XF	1313	13	60	28	4.7	6	1.19	30	85.9	9	31.8	22	7.7	8
DP 2020 B3XF	1269	14	76	5	4.3	24	1.26	3	85.6	16	31.6	25	7.0	20
DG 3528 B3XF	1265	15	76	6	4.2	33	1.25	5	85.7	14	29.9	38	8.1	4
ST 4990 B3XF	1263	16	71	12	4.7	4	1.23	9	86.1	5	32.1	20	7.5	10
DG 3456 B3XF	1258	17	51	36	4.5	16	1.19	35	83.0	40	30.0	37	6.3	30
PHY 360 W3FE	1253	18	61	26	4.2	28	1.21	21	84.4	33	30.4	34	6.1	35
PX1130B336-04W3FE	1240	19	68	17	4.2	28	1.21	25	86.9	2	35.3	2	7.5	11
DP 2239 B3XF	1232	20	51	36	4.5	12	1.19	35	84.8	29	33.2	14	7.5	13
DP 1646 B2XF	1226	21	82	2	4.2	33	1.29	1	85.4	21	29.3	39	7.8	6
DP 2012 B3XF	1220	22	66	20	4.2	33	1.22	16	84.8	30	31.6	23	5.8	37
BX 2396B3XF	1207	23	57	30	4.2	28	1.19	30	84.2	35	30.1	36	7.0	22
PX1130B333-04W3FE	1185	24	65	21	4.3	25	1.21	21	85.6	17	34.4	4	7.1	17
Armor 9371 B3XF	1181	25	71	10	4.4	22	1.23	9	85.3	23	30.3	35	6.5	27
BX 2394B3XF	1177	26	73	8	4.2	33	1.25	4	84.5	31	31.4	28	6.6	25
DG 3535 B3XF	1174	27	76	6	4.3	23	1.25	5	85.8	10	31.2	30	5.2	39
DG 3519 B3XF	1165	28	86	1	4.7	6	1.28	2	86.8	3	33.0	17	6.4	28
DG 3511 B3XF	1148	29	71	10	4.5	12	1.23	13	85.5	20	33.2	13	7.0	20
Armor 9831 B3XF	1144	30	52	35	4.5	12	1.19	33	83.0	39	32.8	18	8.6	2
BX 2392B3XF	1136	31	47	40	4.7	5	1.17	39	83.9	37	31.0	33	6.0	36
ST 4595 B3XF	1116	32	63	23	4.4	18	1.21	17	84.4	32	31.6	24	7.5	11
DP 2141NR B3XF	1109	33	68	16	4.4	18	1.23	14	85.3	24	34.0	6	6.1	33
NG 3299 B3XF	1099	34	54	32	4.8	3	1.19	35	86.1	7	34.7	3	6.1	34
NG 4190 B3XF	1096	35	77	3	4.0	38	1.23	9	87.0	1	31.1	32	6.6	25
PX1150A450-04W3FE	1069	36	67	18	4.6	9	1.21	17	85.8	11	33.2	14	7.7	9
DG 3644 B3XF	996	37	77	3	4.5	16	1.25	5	86.3	4	33.0	16	6.4	28
DG 3387 B3XF	990	38	53	33	4.0	38	1.21	25	83.1	38	27.5	40	5.4	38
BX 2398B3XF	986	39	63	23	4.5	15	1.21	25	85.4	21	31.2	30	7.1	18
DG 3402 B3XF	958	40	60	28	4.0	38	1.20	28	84.9	28	33.7	11	7.7	7
Mean	1223		64		4.4		1.22		85.2		32.2		6.9	
$LSD_{0.10}$	191.1		17		0.3		0.05		1.9		2.3		1.1	
C.V.%	13.3		15.9		4.0		2.4		1.3		4.2		9.3	
R^2 x 100	51.8		65.0		79.3		61.6		61.6		77.8		79.8	

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

Table 12. Yield and related properties–2022 Arkansass 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 2115 B3XF	2142	1	46.1	4	109	13	38	15	8.6	37	7.5	23	70	23	12.980	1	15100	19	163	9
PX1140A385-04W3	2107	2	45.6	7	118	2	24	35	9.6	19	8.1	8	82	6	11.760	8	15693	14	159	12
ST 4595 B3XF	1987	3	43.3	26	101	28	34	20	9.5	23	7.4	26	72	18	12.160	3	14778	25	150	25
Armor 9371 B3XF	1946	4	45.7	6	98	33	51	3	10.2	10	8.8	3	91	1	10.080	26	17761	3	173	2
DG 3519 B3XF	1922	5	43.3	25	104	20	28	29	9.4	24	7.4	27	71	20	11.850	7	14562	31	149	27
DP 2127 B3XF	1921	6	43.5	23	122	1	30	25	11.4	1	8.9	1	60	37	9.751	30	17737	4	160	11
DG 3535 B3XF	1886	7	44.6	10	113	8	26	31	10.3	9	8.4	7	86	4	10.220	22	17059	6	165	8
PHY 360 W3FE	1886	8	43.0	30	106	19	35	18	8.8	36	6.8	37	64	34	12.590	2	13808	37	148	30
ST 5091 B3XF	1871	9	43.3	24	112	10	40	10	10.2	11	7.8	13	78	9	10.830	18	17244	5	168	7
PHY 411 W3FE	1863	10	47.1	3	103	24	46	8	8.5	39	7.6	20	69	28	11.080	13	15683	15	171	4
DP 2038 B3XF	1851	11	47.2	2	112	9	38	15	8.5	40	7.7	14	71	22	10.870	15	15744	12	172	3
NG 3195 B3XF	1850	12	43.2	27	104	22	49	6	9.9	15	7.7	15	76	10	10.860	16	15443	16	153	18
Armor 9831 B3XF	1817	13	44.4	12	97	35	31	23	8.5	38	6.9	36	56	40	11.940	6	13552	39	148	31
NG 4190 B3XF	1804	14	43.7	21	117	4	24	35	9.6	18	7.7	19	75	14	10.700	19	15440	17	156	14
PX1140B373-04W3	1799	15	43.2	28	103	23	21	38	9.7	16	7.5	22	74	16	10.850	17	15084	20	151	24
DP 2239 B3XF	1788	16	44.4	11	99	31	33	22	9.5	21	7.7	16	76	10	10.550	20	14908	23	151	22
DG 3528 B3XF	1783	17	43.9	17	101	27	30	25	9.0	33	7.2	32	65	33	11.280	10	14518	33	153	19
BX 2396B3XF	1760	18	42.9	31	109	12	25	32	9.5	22	7.2	30	70	25	11.070	14	14627	30	149	29
PHY 400 W3FE	1760	19	47.9	1	94	39	35	18	9.6	17	8.9	2	91	1	8.993	36	17828	2	181	1
DG 3387 B3XF	1758	20	43.7	20	102	26	31	23	9.1	29	7.1	33	68	29	11.190	11	14773	26	155	16
DP 2012 B3XF	1754	21	43.0	29	93	40	48	7	9.2	27	7.0	34	67	30	11.300	9	14628	29	151	23
DP 2141NR B3XF	1725	22	44.1	14	98	34	39	13	9.6	19	7.7	18	76	13	10.220	23	14554	32	147	34
DP 2020 B3XF	1716	23	40.5	39	99	32	50	4	9.4	25	6.5	39	59	38	12.030	5	14127	34	145	35
NG 3299 B3XF	1713	24	45.1	8	108	14	40	10	9.2	28	7.7	17	76	10	10.110	25	14657	28	152	20
ST 4550 GLTP	1698	25	46.0	5	109	11	45	9	9.1	30	7.8	12	78	8	9.837	29	16252	8	170	6
PHY 443 W3FE	1692	26	44.8	9	104	20	53	2	10.6	6	8.8	4	85	5	8.752	38	16389	7	155	15
PX1130B333-04W3	1689	27	43.8	18	101	29	29	27	9.0	32	7.3	28	69	26	10.520	21	14701	27	155	17
DG 3456 B3XF	1689	28	43.5	22	107	18	39	13	10.9	3	8.6	6	75	14	8.892	37	18381	1	171	5
PHY 415 W3FE	1686	29	42.3	33	115	5	19	40	10.7	5	8.0	10	71	20	9.608	33	15040	21	142	38
BX 2392B3XF	1668	30	43.9	16	107	17	36	17	9.3	26	7.4	25	72	18	10.200	24	15810	11	162	10
BX 2394B3XF	1668	31	41.0	36	97	37	40	10	8.8	35	6.3	40	56	39	12.090	4	14056	35	150	26
ST 4990 B3XF	1655	32	39.9	40	95	38	55	1	10.0	13	6.8	38	63	35	11.110	12	13974	36	138	39
DG 3511 B3XF	1625	33	43.8	19	100	30	34	20	10.7	4	8.6	5	88	3	8.549	40	16187	9	152	21
BX 2398B3XF	1601	34	40.9	37	114	6	20	39	10.6	7	7.5	24	73	17	9.751	31	15104	18	143	37
PX1150A450-04W3	1595	35	43.9	15	118	3	24	35	9.9	14	7.9	11	79	7	9.189	35	14908	24	148	32
DP 1646 B2XF	1592	36	44.1	13	108	15	50	4	8.8	34	7.2	29	66	31	9.989	27	13578	38	145	36
PHY 332 W3FE	1568	37	41.5	34	103	25	25	32	10.6	8	7.6	21	70	23	9.333	34	15729	13	149	28
DG 3644 B3XF	1544	38	40.8	38	113	7	25	32	10.1	12	7.2	31	69	26	9.750	32	13542	40	132	40
PX1130B336-04W3	1533	39	42.8	32	97	36	29	27	9.1	30	7.0	35	66	31	9.967	28	14937	22	156	13
DG 3402 B3XF	1519	40	41.5	35	107	16	28	29	11.1	2	8.0	9	61	36	8.604	39	16052	10	147	33
Mean	1761		43.7		105		35		9.6		7.6		72		10.535		15349		155	
$LSD_{0.10}$	174.4		1.9		13		12		0.6		0.5		13		1.072		1263		14	
C.V.%	8.4		2.5		10.2		28.8		3.7		4.0		10.4		8.7		4.9		5.4	
R^2 x 100	63.5		84.6		43.2		61.5		90.7		90.2		73.8		70.9		84.9		75.7	

[a] r = ranking.

Table 13. Fiber properties–2022 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
	(lb/ac)						(in.)		(%)		(g/tex)		(%)	
DP 2115 B3XF	2142	1	46	37	4.9	9	1.19	36	85.2	35	31.5	25	7.7	6
PX1140A385-04W3FE	2107	2	47	36	5.1	4	1.18	37	87.0	8	35.6	4	9.1	2
ST 4595 B3XF	1987	3	68	13	4.7	21	1.24	11	86.2	22	31.9	23	7.6	9
Armor 9371 B3XF	1946	4	49	34	4.9	10	1.19	33	85.2	34	30.6	33	6.4	28
DG 3519 B3XF	1922	5	78	3	4.6	27	1.26	6	87.6	3	31.9	24	7.3	14
DP 2127 B3XF	1921	6	55	29	4.9	10	1.21	30	86.1	24	32.7	18	6.1	34
DG 3535 B3XF	1886	7	65	19	4.7	25	1.22	21	86.7	13	30.8	31	5.1	39
PHY 360 W3FE	1886	8	56	28	4.8	17	1.22	21	85.1	36	29.7	37	6.1	32
ST 5091 B3XF	1871	9	66	17	4.3	38	1.23	19	86.3	18	29.9	36	5.5	36
PHY 411 W3FE	1863	10	27	40	5.1	4	1.15	40	84.2	40	33.2	16	7.4	12
DP 2038 B3XF	1851	11	48	35	4.9	10	1.19	33	84.8	38	32.5	21	6.1	34
NG 3195 B3XF	1850	12	67	15	4.7	21	1.23	15	86.7	12	31.1	29	6.1	32
Armor 9831 B3XF	1817	13	46	37	5.0	6	1.20	31	85.0	37	33.8	14	8.5	4
NG 4190 B3XF	1804	14	63	21	4.7	21	1.21	28	86.9	9	32.6	19	6.7	26
PX1140B373-04W3FE	1799	15	66	18	4.7	19	1.22	21	87.1	7	35.8	1	9.5	1
DP 2239 B3XF	1788	16	77	4	4.7	19	1.27	5	86.9	9	31.4	27	6.9	21
DG 3528 B3XF	1783	17	73	9	4.6	32	1.23	13	87.8	1	32.2	22	7.1	18
BX 2396B3XF	1760	18	74	7	4.6	32	1.25	9	87.1	6	29.4	39	7.5	10
PHY 400 W3FE	1760	19	67	14	4.7	21	1.23	15	86.8	11	34.1	11	6.1	31
DG 3387 B3XF	1758	20	67	15	4.6	30	1.23	15	86.3	18	30.8	32	4.7	40
DP 2012 B3XF	1754	21	62	22	4.6	27	1.22	21	85.9	27	31.5	26	5.4	38
DP 2141NR B3XF	1725	22	54	30	5.1	2	1.22	21	85.6	29	35.7	2	6.8	23
DP 2020 B3XF	1716	23	70	12	4.3	39	1.24	11	86.0	25	31.2	28	5.5	37
NG 3299 B3XF	1713	24	52	33	5.1	2	1.20	31	86.7	13	35.5	5	6.8	23
ST 4550 GLTP	1698	25	46	37	4.8	14	1.17	39	85.6	29	34.7	9	7.6	7
PHY 443 W3FE	1692	26	54	31	5.1	1	1.21	28	86.4	17	35.0	8	7.3	14
PX1130B333-04W3FE	1689	27	53	32	4.8	14	1.18	37	87.5	4	35.6	3	7.6	8
DG 3456 B3XF	1689	28	61	25	4.5	36	1.22	21	85.6	31	29.7	38	6.4	29
PHY 415 W3FE	1686	29	81	1	4.8	17	1.27	2	87.8	1	35.5	5	6.7	25
BX 2392B3XF	1668	30	58	26	4.6	30	1.22	21	84.7	39	29.2	40	6.3	30
BX 2394B3XF	1668	31	74	7	4.2	40	1.26	6	85.9	28	32.9	17	6.9	20
ST 4990 B3XF	1655	32	64	20	4.6	27	1.23	15	85.5	32	31.1	29	7.2	16
DG 3511 B3XF	1625	33	62	23	5.0	6	1.23	13	86.5	16	35.0	7	7.7	5
BX 2398B3XF	1601	34	76	5	4.6	32	1.27	2	85.5	33	30.0	35	7.0	19
PX1150A450-04W3FE	1595	35	62	23	5.0	8	1.23	19	87.2	5	33.9	13	7.2	16
DP 1646 B2XF	1592	36	75	6	4.9	10	1.27	2	86.7	13	30.5	34	7.4	12
PHY 332 W3FE	1568	37	72	10	4.5	36	1.25	8	86.3	20	33.4	15	6.9	21
DG 3644 B3XF	1544	38	79	2	4.8	16	1.29	1	86.2	23	34.6	10	6.5	27
PX1130B336-04W3FE	1533	39	57	27	4.6	32	1.19	33	86.0	26	34.1	12	7.5	11
DG 3402 B3XF	1519	40	71	11	4.7	25	1.25	9	86.3	20	32.6	20	8.8	3
Mean	1761		62		4.7		1.22		86.2		32.6		6.9	
$LSD_{0.10}$	174.1		16		0.2		0.04		1.8		2.2		0.6	
C.V.%	8.4		15.4		3.1		2.1		1.2		3.9		5.2	
R^2 x 100	63.5		76.5		84.0		74.0		5.8		84.2		94.3	

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

Table 14. Yield and related properties–2022 Arkansas Transgenic Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.

Variety	Lint yield[a]	r[b]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed-score	r	Seed/ acre[a]	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
ST 4595 B3XF	1018	1	44.7	4			61	12	10.6	24	8.8	10	82	5	5.254	3	16526	15	157	7
ST 5091 B3XF	980	2	42.5	24			71	1	10.9	19	8.2	21	74	17	5.423	2	15396	31	143	31
PHY 411 W3FE	940	3	43.7	12			63	8	10.3	30	8.1	23	73	20	5.250	4	16903	9	163	2
PHY 332 W3FE	938	4	44.0	8			63	8	11.3	11	9.1	7	86	3	4.687	8	16620	14	151	18
PHY 360 W3FE	910	5	43.7	13			70	2	9.6	39	7.6	34	56	36	5.449	1	15471	29	156	8
DP 1646 B2XF	908	6	43.9	10			63	8	10.0	36	8.0	25	71	21	5.135	5	14354	37	141	33
Armor 9371 B3XF	855	7	43.9	9			58	21	11.9	5	9.5	2	74	17	4.089	20	17612	3	154	15
DG 3387 B3XF	845	8	42.4	25			66	4	10.4	25	7.8	29	69	24	4.919	6	16502	16	158	6
PHY 415 W3FE	819	9	42.7	21			55	26	11.6	7	8.9	8	84	4	4.168	17	16709	10	149	22
NG 3195 B3XF	818	10	43.3	15			69	3	11.0	17	8.6	14	80	9	4.302	11	16061	17	148	25
NG 3299 B3XF	818	11	42.9	20			60	14	10.6	23	8.0	28	71	23	4.669	9	15703	24	149	23
DP 2115 B3XF	805	12	44.4	5			63	8	9.7	37	8.1	24	69	24	4.531	10	15595	27	156	9
DP 2239 B3XF	798	13	44.2	7			55	26	10.4	26	8.4	17	77	12	4.291	12	15645	25	150	20
DG 3511 B3XF	792	14	42.9	19			59	18	11.3	12	8.6	15	79	10	4.179	15	16983	8	155	13
DG 3519 B3XF	783	15	41.7	30			58	21	11.4	10	8.4	19	76	14	4.249	13	15634	26	141	32
PHY 400 W3FE	757	16	44.7	3			60	14	10.6	22	8.8	11	82	5	3.915	21	17077	6	162	3
DG 3456 B3XF	757	17	41.8	28			60	14	12.6	2	9.2	6	55	38	3.739	22	18341	1	154	14
PX1140B373-04W3	756	18	42.6	22			51	36	11.1	14	8.4	18	76	14	4.102	19	17338	4	159	4
DP 2012 B3XF	745	19	39.1	40			58	21	10.3	28	6.9	40	56	37	4.918	7	14065	39	135	37
PHY 443 W3FE	739	20	43.1	18			55	26	11.8	6	9.2	4	88	1	3.639	26	17205	5	152	17
ST 4990 B3XF	706	21	39.8	38			53	33	11.5	8	7.8	30	68	26	4.121	18	14710	35	132	39
DG 3528 B3XF	702	22	41.6	32			60	14	10.3	29	7.6	35	63	32	4.217	14	15483	28	149	21
NG 4190 B3XF	698	23	43.5	14			50	37	11.0	16	8.7	13	81	8	3.641	25	15946	20	147	29
DP 2020 B3XF	664	24	39.3	39			65	5	10.9	21	7.2	38	61	33	4.174	16	13886	40	129	40
DG 3535 B3XF	647	25	41.5	34			56	25	12.3	3	8.8	9	64	31	3.328	28	16053	18	137	36
ST 4550 GLTP	632	26	44.4	6			55	26	11.1	13	9.2	3	88	1	3.113	31	16678	12	153	16
PX1130B336-04W3	622	27	42.6	23			61	12	10.2	33	7.7	31	66	28	3.644	24	14937	33	146	30
BX 2392B3XF	611	28	41.9	27			65	5	10.9	18	8.0	26	71	21	3.457	27	15923	22	148	26
BX 2394B3XF	603	29	41.6	31			64	7	10.2	31	7.5	37	64	29	3.659	23	15198	32	148	27
DP 2141NR B3XF	585	30	41.8	29			54	31	11.0	15	8.2	22	74	19	3.257	29	15995	19	148	28
PX1130B333-04W3	557	31	43.2	17			59	18	10.9	20	8.5	16	78	11	2.978	35	16702	11	156	11
DG 3402 B3XF	549	32	39.9	37			50	37	13.4	1	9.2	5	38	40	2.707	37	17020	7	138	34
BX 2398B3XF	547	33	41.1	35			55	26	11.5	8	8.3	20	75	16	3.004	34	14734	34	132	38
DP 2127 B3XF	534	34	43.2	16			59	18	12.3	4	9.5	1	77	13	2.550	38	18047	2	155	12
PX1150A450-04W3	525	35	42.2	26			53	33	10.2	32	7.7	33	67	27	3.089	32	15414	30	150	19
DG 3644 B3XF	521	36	41.6	33			50	37	10.4	27	7.5	36	64	29	3.155	30	14309	38	137	35
Armor 9831 B3XF	512	37	43.9	11			54	31	9.5	40	7.7	32	52	39	3.007	33	14617	36	148	24
DP 2038 B3XF	477	38	45.2	2			58	21	9.6	38	8.0	27	60	34	2.711	36	15723	23	158	5
PX1140A385-04W3	388	39	45.5	1			53	33	10.1	34	8.7	12	81	7	2.021	40	15942	21	156	10
BX 2396B3XF	349	40	40.6	36			43	40	10.0	35	7.0	39	58	35	2.250	39	16647	13	164	1
Mean	705		42.7				58.2		10.9		8.3		71		3.875		15993		149	
$LSD_{0.10}$	202		1.7				ns		0.6		0.7		14		1.117		1485		14	
C.V.%	24.4		2.4				10.7		3.4		5.6		11.6		24.6		5.1		5.6	
	58.2		84.5				29.7		91.7		80.9		78.3		57.8		74.8		68.8	

[a] Stands in first planting were adversely affected by herbicide injury. Plots were replanted on 31 May, but plants did not develop and mature well. Lint yield and seed per acre data are reported for single location but were not included in overall location means and analyses.

[b] r = ranking.

Table 15. Fiber properties–2022 Arkansas Transgenic Cotton Variety Test, with irrigation on a Hebert silt loam at Rohwer.

	Lint		Quality		Fiber properties									
Variety	yield[a]	r[b]	score	r	Micronaire	r	Length	r	Uib	r	Strength	r	Elongation	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)	
ST 4595 B3XF	1018	1	73	9	4.8	25	1.28	9	87.1	14	30.3	33	6.8	15
ST 5091 B3XF	980	2	49	32	5.1	8	1.21	30	87.2	11	29.9	35	5.0	39
PHY 411 W3FE	940	3	40	37	4.8	22	1.19	38	84.6	38	34.0	9	7.1	12
PHY 332 W3FE	938	4	59	20	5.1	8	1.25	19	87.1	15	33.0	16	7.4	5
PHY 360 W3FE	910	5	42	36	4.9	18	1.20	35	84.2	40	28.5	39	5.9	29
DP 1646 B2XF	908	6	76	6	5.0	12	1.30	3	87.2	11	31.2	27	7.3	8
Armor 9371 B3XF	855	7	50	30	5.1	7	1.21	28	87.3	7	30.4	32	5.9	29
DG 3387 B3XF	845	8	61	17	4.4	38	1.26	13	86.2	27	27.8	40	4.8	40
PHY 415 W3FE	819	9	85	2	4.7	30	1.31	1	88.1	3	34.0	9	6.6	20
NG 3195 B3XF	818	10	44	34	5.2	6	1.20	35	87.0	16	32.3	22	5.3	37
NG 3299 B3XF	818	11	70	11	4.7	30	1.25	16	87.2	13	36.2	1	6.1	27
DP 2115 B3XF	805	12	63	16	4.8	25	1.25	16	86.3	26	31.9	24	7.4	6
DP 2239 B3XF	798	13	73	9	4.9	18	1.29	6	86.6	22	31.0	28	6.8	17
DG 3511 B3XF	792	14	61	17	4.8	28	1.23	24	86.4	24	35.3	4	7.2	10
DG 3519 B3XF	783	15	82	3	4.7	29	1.29	4	88.4	1	32.8	17	6.2	26
PHY 400 W3FE	757	16	57	23	4.9	18	1.25	19	85.1	37	32.6	19	5.8	32
DG 3456 B3XF	757	17	67	15	4.7	30	1.26	13	85.6	31	29.7	36	6.3	23
PX1140B373-04W3FE	756	18	56	25	4.6	34	1.21	28	87.0	18	34.7	5	8.8	1
DP 2012 B3XF	745	19	77	5	4.4	37	1.28	9	87.2	9	33.3	14	5.4	35
PHY 443 W3FE	739	20	36	40	5.3	2	1.19	38	86.1	28	35.6	3	7.1	11
ST 4990 B3XF	706	21	61	17	4.9	15	1.25	19	86.8	20	32.6	20	6.9	13
DG 3528 B3XF	702	22	87	1	4.3	39	1.30	2	88.3	2	30.6	30	7.6	4
NG 4190 B3XF	698	23	70	11	4.9	15	1.27	12	88.0	4	30.2	34	5.9	29
DP 2020 B3XF	664	24	80	4	4.6	34	1.29	4	87.9	5	32.4	21	5.4	35
DG 3535 B3XF	647	25	73	7	4.9	15	1.28	7	87.7	6	29.7	37	5.6	34
ST 4550 GLTP	632	26	50	28	5.2	4	1.23	26	87.0	18	34.5	6	7.4	6
PX1130B336-04W3FE	622	27	50	30	5.0	13	1.21	30	86.7	21	32.7	18	6.9	13
BX 2392B3XF	611	28	70	11	4.6	34	1.26	13	87.0	16	32.2	23	5.8	33
BX 2394B3XF	603	29	59	21	4.7	30	1.25	16	85.5	33	31.7	25	6.6	19
DP 2141NR B3XF	585	30	56	24	4.8	25	1.25	19	85.6	32	33.3	13	6.4	22
PX1130B333-04W3FE	557	31	42	35	5.0	10	1.19	38	86.1	28	34.3	7	6.6	21
DG 3402 B3XF	549	32	73	7	4.9	18	1.28	7	87.3	7	33.2	15	7.8	3
BX 2398B3XF	547	33	51	27	5.3	2	1.25	19	85.9	30	30.8	29	6.3	23
DP 2127 B3XF	534	34	50	28	5.0	10	1.21	30	87.2	9	30.5	31	5.3	38
PX1150A450-04W3FE	525	35	53	26	4.8	22	1.23	26	85.2	35	33.4	12	6.8	15
DG 3644 B3XF	521	36	67	14	4.8	22	1.28	9	86.6	22	34.1	8	6.1	27
Armor 9831 B3XF	512	37	38	39	5.2	4	1.21	33	84.4	39	33.6	11	7.3	8
DP 2038 B3XF	477	38	44	33	5.0	13	1.21	33	85.3	34	31.6	26	6.2	25
PX1140A385-04W3FE	388	39	39	38	5.3	1	1.19	37	86.4	24	35.6	2	8.3	2
BX 2396B3XF	349	40	58	22	4.1	40	1.23	25	85.2	36	29.6	38	6.8	17
Mean	705		60		4.8		1.24		86.5		32.3		6.5	
$LSD_{0.10}$	202		20		0.6		0.05		1.7		1.8		0.7	
C.V.%	24.4		19.5		6.8		2.1		1.2		3.3		6.5	
R^2 x 100	58.2		74.8		58.4		78.0		69.7		88.4		89.8	

[a] Stands in first planting were adversely affected by herbicide injury. Plots were replanted on 31 May, but plants did not develop and mature well. Lint yield data are reported for single location but were not included in overall location means and analyses.

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

Table 16. Morphological and host-plant resistance traits in the 2022 Arkansas Transgenic Cotton Variety Test.

Variety	Leaf pubescence[a] rating	r[b]	Stem pubescence[a] rating	r	Bract trichomes[c] (no./cm)	r	Tarnished plant bug Damage[d] (%)	r	Tarnished plant bug Perf. Rating	r	Bacterial blight[e] (% sus.)
Armor 9371 B3XF	1.1	12	3.7	19	32.2	27	47	31	6.1	1	42
Armor 9831 B3XF	1.9	30	2.7	8	34.5	32	36	4	5.6	5	0
DG 3387 B3XF	2.0	31	4.6	32	31.0	24	39	8	5.1	18	0
DG 3402 B3XF	1.5	22	4.9	37	43.3	40	41	14	4.3	34	0
DG 3456 B3XF	1.3	16	2.7	8	27.6	13	45	25	4.6	27	100
DG 3511 B3XF	1.0	1	1.3	2	23.7	6	51	38	4.4	32	0
DG 3519 B3XF	2.2	34	3.8	20	39.6	39	48	33	4.8	25	4
DG 3528 B3XF	2.8	37	4.4	30	34.5	33	41	15	4.9	24	0
DG 3535 B3XF	1.0	1	3.9	22	24.8	9	49	36	5.6	7	100
DG 3644 B3XF	3.8	40	4.6	32	29.2	20	41	16	5.0	22	94
DP 1646 B2XF	1.0	1	3.4	14	31.8	26	42	19	5.5	9	0
DP 2012 B3XF	1.0	1	5.3	39	24.0	7	52	39	5.5	12	0
DP 2020 B3XF	1.0	1	4.9	37	27.4	12	60	40	5.2	16	0
DP 2038 B3XF	1.0	1	2.3	6	21.3	4	43	21	4.1	36	0
DP 2115 B3XF	1.4	19	3.3	12	34.9	36	45	26	5.2	16	61
DP 2127 B3XF	1.6	23	3.5	17	34.2	30	44	24	5.1	18	82
DP 2239 B3XF	1.1	12	2.4	7	24.7	8	33	1	5.8	4	87
DP 2141NR B3XF	2.0	31	4.5	31	30.5	22	46	29	4.6	27	100
NG 3195 B3XF	1.0	1	4.2	26	32.3	28	39	9	6.1	1	97
NG 3299 B3XF	1.4	19	1.2	1	19.0	1	45	27	4.0	38	0
NG 4190 B3XF	1.1	12	3.9	22	34.6	34	34	3	5.5	9	100
PHY 332 W3FE	1.8	27	4.0	25	28.0	16	38	6	5.0	22	0
PHY 360 W3FE	1.3	16	3.4	14	28.6	18	39	10	5.9	3	0
PHY 400 W3FE	1.8	27	3.9	22	28.8	19	42	20	5.6	7	0
PHY 411 W3FE	3.2	39	4.3	27	33.3	29	37	5	5.1	21	0
PHY 443 W3FE	1.7	25	3.2	11	26.1	10	43	22	4.4	32	0
PX1130B333-04W3FE	1.3	16	4.7	34	28.1	17	39	11	5.3	14	0
PX1130B336-04W3FE	1.6	24	4.7	34	22.9	5	39	12	5.3	14	0
PX1140B373-04W3FE	2.0	31	5.3	40	30.7	23	33	2	4.8	25	0
PHY 415 W3FE	2.3	35	4.8	36	34.4	31	41	17	4.6	27	0
PX1140A385-04W3FE	2.3	35	4.3	27	27.9	15	38	7	4.6	27	0
PX1150A450-04W3FE	1.7	25	3.3	13	27.7	14	41	18	4.1	37	0
ST 4550 GLTP	1.8	27	3.4	14	37.4	38	50	37	3.8	40	77
ST 4595 B3XF	3.0	38	4.3	27	35.0	37	39	13	5.6	5	74
ST 4990 B3XF	1.0	1	2.1	5	27.3	11	45	28	5.4	13	49
ST 5091 B3XF	1.1	12	2.8	10	31.6	25	47	32	5.1	18	80
BX 2392B3XF	1.0	1	3.8	20	29.5	21	43	23	4.4	31	100
BX 2394B3XF	1.4	19	3.5	17	34.8	35	46	30	5.5	9	88
BX 2396B3XF	1.0	1	1.6	4	20.5	3	48	34	3.9	39	88
BX 2398B3XF	1.0	1	1.5	3	19.7	2	48	35	4.3	35	93
Ark 0628fg RF (sus.)							90	42	3.3	41	
Ark 0628fg RF (sus.)							88	41	3.1	42	
Mean	1.6		3.6		29.7		45		4.9		38
LSD 0.10	0.8		1.3		5.3		7		0.6		16
C.V.%	43.3		30.8		15.1		19.5		14.0		31.5
R^2 x 100	57.3		63.6		71.2		66.1		59.0		95.3

[a] Leaf and stem pubescence rated at the Keiser irrigated test (6 plants per plot, 6 reps) using a scale of 1 (smooth leaf) to 9 (pilose, very hairy). Both leaf (12 September) and stem (17 December) pubescence ratings were done later than in previous years.

[b] r = rating.

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

[d] Response to tarnished plant bug was determined by examining white flowers (6 flowers/plot/day for 6 days) for presence of anther damage. Performance based on boll load was visually rated from 0 (no bolls) to 10 (excellent) on 21 October. Plots were 1 row, replicated 8 times.

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

Table 17. Two-year and three-year average lint yields (pounds/acre) for transgenic varieties at the five locations of the 2020–2022 Arkansas Transgenic Cotton Variety Test.

Variety	Manila Irrigated		Keiser Irrigated	r[a]	Judd Hill Irrigated	r	Marianna Irrigated	r	Rohwer[b] Irrigated	r	All locations	r
	(lb/ac)		(lb/ac)		(lb/ac)		(lb/ac)		(lb/ac)		(lb/ac)	
Two-year (2021–2022) means												
ST 5091 B3XF	1780	7	1370	8	1337	4	1761	1			1562	1
NG 3195 B3XF	1844	3	1405	4	1372	2	1619	7			1560	2
DP 2127 B3XF	1881	1	1309	15	1348	3	1690	3			1557	3
PX1140A385-04W3FE	1835	5	1313	13	1297	8	1666	5			1527	4
DG 3535 B3XF	1780	6	1309	16	1291	9	1619	8			1500	5
DP 2038 B3XF	1658	16	1347	10	1405	1	1567	9			1494	6
DP 2115 B3XF	1865	2	1259	21	1118	22	1733	2			1493	7
DP 1646 B2XF	1659	15	1501	1	1313	7	1487	21			1490	8
Armor 9371 B3XF	1743	9	1438	3	1097	23	1680	4			1489	9
PHY 411 W3FE	1712	10	1455	2	1276	12	1515	16			1489	10
ST 4550 GLTP	1839	4	1318	12	1288	10	1491	19			1484	11
ST 4695 B3XF	1754	8	1362	9	1132	21	1665	6			1478	12
DP 2012 B3XF	1696	13	1377	7	1217	14	1542	11			1458	13
PHY 400 W3FE	1675	14	1382	6	1210	15	1535	15			1450	14
PHY 360 W3FE	1625	19	1285	19	1316	6	1536	13			1440	15
PHY 443 W3FE	1576	22	1386	5	1229	13	1557	10			1437	16
PX1140A383-04W3FE	1564	23	1311	14	1278	11	1493	18			1411	17
ST 4990 B3XF	1697	12	1246	22	1149	20	1536	14			1407	18
PHY 332 W3FE	1704	11	1329	11	1165	18	1413	24			1403	19
DG 3456 B3XF	1650	18	1101	25	1319	5	1539	12			1402	20
NG 3299 B3XF	1612	20	1292	17	1181	16	1511	17			1399	21
DP 2020 B3XF	1652	17	1285	18	1180	17	1471	23			1397	22
Armor 9831 B3XF	1591	21	1277	20	1008	25	1490	20			1341	23
NG 4190 B3XF	1511	24	1246	23	1092	24	1480	22			1332	24
DG 3644 B3XF	1372	25	1171	24	1165	19	1312	25			1255	25
Mean	1691		1323		1231		1556				1450	
Three-year (2020–2022) means												
Armor 9831 B3XF	1782	5	1382	6	1438	1	1579	4			1535	1
DG 3456 B3XF	1901	1	1352	10	1308	5	1580	3			1535	2
Armor 9371 B3XF	1795	4	1367	9	1273	9	1686	2			1531	3
DP 2012 B3XF	1833	2	1349	11	1223	13	1706	1			1528	4
DG 3644 B3XF	1740	6	1321	15	1340	3	1518	6			1480	5
DP 2115 B3XF	1696	7	1447	3	1318	4	1426	12			1472	6
DP 2038 B3XF	1693	8	1472	2	1165	17	1556	5			1472	7
DP 2127 B3XF	1824	3	1337	12	1299	6	1424	14			1471	8
DP 1646 B2XF	1644	12	1383	5	1350	2	1476	8			1463	9
DP 2020 B3XF	1624	15	1494	1	1282	8	1420	15			1455	10
NG 3299 B3XF	1680	10	1376	7	1254	10	1456	10			1441	11
PX1140A383-04W3FE	1690	9	1222	18	1298	7	1497	7			1427	12
ST 4550 GLTP	1634	14	1329	13	1234	12	1426	13			1406	13
NG 4190 B3XF	1634	13	1375	8	1139	18	1457	9			1401	14
PHY 360 W3FE	1537	18	1399	4	1218	14	1413	16			1392	15
PHY 411 W3FE	1646	11	1270	17	1203	15	1447	11			1392	16
PHY 332 W3FE	1585	17	1306	16	1248	11	1394	17			1383	17
PHY 443 W3FE	1585	16	1327	14	1178	16	1366	18			1364	18
Mean	1696		1362		1265		1490				1453	

[a] r = rating.

[b] Two- and three-year means are not available because the 2021 tests at Rohwer were abandoned due to flooding in June.

Table 18. Yield and related properties–2022 Arkansas Conventional Cotton Variety Test across four test sites (Rohwer excluded from lint yield and seed/acre).

Variety	Lint yield[a]	r[b]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed-score	r	Seed/acre[a]	r	Fibers/seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
Ark 1214-52	1565	1	43.5	1	96	11	60	11	10.7	20	8.4	4	69	10	8.622	5	16870	4	159	1
Ark 1202-34	1539	2	40.7	6	102	3	66	5	12.2	7	8.6	2	87	2	8.327	8	16912	2	146	5
Ark 1214-42	1485	3	42.1	2	94	13	52	20	11.2	16	8.2	6	79	5	8.279	10	16908	3	155	3
Ark 1208-39	1479	4	41.7	3	98	7	55	14	11.9	12	8.7	1	88	1	7.914	15	16933	1	148	4
Ark 1207-32	1471	5	40.9	5	106	1	53	19	10.8	18	7.6	13	62	17	9.052	2	14700	12	137	10
UA212ne	1471	6	41.2	4	97	8	55	15	10.9	17	7.8	9	66	13	8.692	4	16867	5	157	2
Ark 1208-21	1464	7	40.7	7	90	14	60	10	12.2	9	8.6	3	86	3	7.979	13	16087	9	139	8
Ark 1207-11	1464	8	38.7	12	105	2	54	17	10.7	19	6.9	19	51	20	9.758	1	13404	14	126	13
Arkot 1102	1407	9	39.6	8	101	5	57	12	12.0	11	8.0	7	79	6	8.183	11	16187	8	142	6
SSG UA248	1389	10	39.2	10	89	16	66	7	11.6	14	7.7	11	73	8	8.590	6	14946	10	133	11
0102-48-85e	1382	11	36.8	16	85	18	70	3	12.3	6	7.2	18	67	11	8.837	3	12829	19	110	15
Ark 1206-25	1348	12	38.3	14	101	4	57	13	11.9	13	7.5	15	71	9	8.314	9	14762	11	130	12
SSG UA114	1347	13	38.3	13	100	6	55	15	11.6	15	7.4	17	67	12	8.465	7	13892	13	124	14
0102-48-14e	1340	14	36.8	15	86	17	62	9	12.9	3	7.6	12	65	16	8.091	12	13007	17	108	17
SSG UA222	1338	15	38.9	11	95	12	54	18	12.1	10	7.9	8	76	7	7.796	16	16259	7	141	7
SSG UA107	1328	16	39.3	9	97	9	72	1	12.5	5	8.2	5	82	4	7.451	20	16352	6	139	9
0102-48-62e	1293	17	36.7	17	84	19	72	2	13.1	2	7.7	10	65	15	7.742	18	13206	15	108	16
0102-48-52e	1267	18	36.1	19	90	15	67	4	13.2	1	7.6	14	61	18	7.643	19	13135	16	108	19
AM UA48	1261	19	36.4	18	82	20	66	6	12.8	4	7.5	16	66	14	7.775	17	12913	18	108	18
Ark 8304	1073	20	33.2	20	96	10	64	8	12.2	8	6.2	20	56	19	7.931	14	12458	20	107	20
Mean	1386		39.0		95		61		11.9		7.8		70.7		8.272		14931		131.2	
Var. $LSD_{0.10}$	86		0.8		6		6		0.4		0.3		10.6		0.519		716		5.51	
Loc. $LSD_{0.10}$	33		0.3		ns		3		0.2		0.2		ns		0.200		ns		2	
C.V.%	9.2		2.4		1.1		16.1		4.1		5.2		17.9		9.3		5.8		5.0	
R^2 x 100	81.2		94.0		65.6		69.8		91.9		86.9		65.1		76.4		89.9		94.7	
Prob (var x loc)	<0.0001		0.836		0.252		<0.001		0.278		0.741		0.984		<0.0001		0.305		0.026	

[a] Stands in first planting at Rohwer were adversely affected by herbicide injury. Plots were replanted on 31 May, but plants did not develop and mature well. Lint yield and seed per acre data from Rohwer were not included in overall location means and analyses.

[b] r = rating.

Table 19. Fiber properties–2022 Arkansas Conventional Cotton Variety Test across four test sites.

	Lint		Quality		Fiber properties									
Variety	yield[a]	r[b]	score	r	Micronaire	r	Length	r	UI[b]	r	Strength	r	Elongation	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)	
Ark 1214-52	1565	1	54	16	4.7	14	1.24	16	86.1	16	32.2	14	7.6	8
Ark 1202-34	1539	2	70	6	4.6	16	1.29	6	86.3	15	31.9	16	6.1	17
Ark 1214-42	1485	3	55	15	4.6	16	1.24	18	86.3	13	34.2	6	7.9	7
Ark 1208-39	1479	4	63	8	4.7	13	1.27	8	86.6	8	31.2	19	9.3	2
Ark 1207-32	1471	5	62	9	4.7	11	1.27	9	86.3	12	31.8	17	7.6	9
UA212ne	1471	6	52	17	4.4	20	1.24	19	85.2	19	31.3	18	8.0	6
Ark 1208-21	1464	7	57	11	4.9	7	1.26	10	86.4	10	32.0	15	9.3	2
Ark 1207-11	1464	8	58	10	4.7	10	1.26	11	86.3	11	33.5	10	8.2	5
Arkot 1102	1407	9	56	13	4.6	15	1.25	15	86.3	14	30.2	20	7.2	11
SSG UA248	1389	10	51	18	4.8	8	1.25	13	84.9	20	33.5	9	7.5	10
0102-48-85e	1382	11	74	4	4.9	4	1.31	4	87.6	5	36.4	5	6.3	16
Ark 1206-25	1348	12	71	5	4.6	18	1.29	7	86.7	6	33.6	8	5.7	20
SSG UA114	1347	13	50	19	4.9	5	1.24	17	86.7	7	33.9	7	8.2	4
0102-48-14e	1340	14	77	2	5.1	2	1.33	2	87.9	2	37.3	2	6.0	18
SSG UA222	1338	15	57	12	4.5	19	1.25	12	85.9	17	33.1	11	9.3	1
SSG UA107	1328	16	55	14	4.7	12	1.25	14	86.4	9	33.1	12	6.5	15
0102-48-62e	1293	17	67	7	5.2	1	1.30	5	87.9	3	36.9	3	6.8	12
0102-48-52e	1267	18	80	1	4.9	6	1.33	1	88.2	1	36.5	4	6.6	14
AM UA48	1261	19	75	3	5.0	3	1.31	3	87.9	4	37.6	1	5.9	19
Ark 8304	1073	20	44	20	4.8	9	1.22	20	85.4	18	32.4	13	6.8	13
Mean	1386		61		4.8		1.27		86.6		33.6		7.3	
Var. $LSD_{0.10}$	86		7		0.2		0.02		0.8		0.3		0.3	
Loc. $LSD_{0.10}$	33		ns		ns		0.01		0.4		ns		ns	
C.V.%	9.2		14.2		4.4		1.9		1.1		3.1		5.6	
R^2 x 100	81.2		79.9		78.7		86.7		78.9		91.3		94.5	
Prob (var x loc)	<0.0001		0.354		0.159		0.743		0.068		0.099		0.293	

[a] Stands in first planting at Rohwer were adversely affected by herbicide injury. Plots were replanted on 31 May, but plants did not develop and mature well. Lint yield data from Rohwer were not included in overall location means and analyses.

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

Table 20. Yield and related properties–2022 Arkansas Conventional Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.

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 1214-52	1693	1	44.7	1	87	12	70	8	10.1	19	8.3	2	80	6	9.257	1	16844	6	164	3
Ark 1202-34	1523	2	41.1	6	97	2	66	11	11.7	6	8.4	1	88	1	8.199	9	18093	2	160	4
Ark 1214-42	1503	3	42.3	3	96	4	58	17	10.7	16	8.0	6	82	5	8.530	6	16860	5	159	5
Ark 1206-25	1429	4	39.6	12	95	6	60	15	11.1	12	7.4	11	73	9	8.785	3	15488	10	142	9
Arkot 1102	1414	5	40.3	9	90	9	61	14	11.1	11	7.7	8	77	7	8.377	8	16395	7	150	7
Ark 1207-11	1392	6	39.6	11	95	5	55	19	10.2	17	6.9	19	60	18	9.194	2	13630	16	132	13
SSG UA248	1391	7	39.3	13	91	7	71	7	10.8	14	7.3	15	71	12	8.705	4	15277	11	143	8
Ark 1207-32	1387	8	42.0	4	100	1	48	20	10.1	20	7.4	13	61	17	8.534	5	14351	12	141	11
Ark 1208-39	1383	9	41.8	5	87	11	60	15	11.4	10	8.3	3	85	2	7.610	14	16959	4	153	6
Ark 1208-21	1344	10	40.9	7	82	19	69	9	11.6	8	8.2	4	84	3	7.482	16	15830	9	141	10
UA212ne	1299	11	43.2	2	90	8	56	18	10.2	18	7.8	7	72	11	7.540	15	17501	3	170	1
SSG UA114	1295	12	39.3	14	97	3	63	13	10.8	15	7.0	17	68	14	8.379	7	13992	13	131	14
0102-48-52e	1242	13	36.6	19	85	15	74	6	12.6	1	7.4	12	58	19	7.631	13	13902	14	117	18
SSG UA222	1237	14	40.6	8	87	12	68	10	10.9	13	7.6	9	76	8	7.380	17	18190	1	168	2
0102-48-14e	1233	15	37.3	16	86	14	66	11	11.9	5	7.2	16	71	13	7.788	12	13512	17	119	15
AM UA48	1216	16	37.1	18	80	20	76	4	11.4	9	6.9	18	66	16	8.021	10	12348	20	112	20
0102-48-62e	1155	17	37.2	17	84	18	76	4	12.2	2	7.4	10	67	15	7.092	18	13087	19	113	19
0102-48-85e	1135	18	37.6	15	85	15	79	3	12.1	4	7.4	14	73	9	6.981	19	13716	15	119	16
Ark 8304	1089	19	34.3	20	89	10	80	2	11.7	6	6.2	20	58	19	7.924	11	13260	18	117	17
SSG UA107	1079	20	39.7	10	84	17	85	1	12.1	3	8.0	5	82	4	6.085	20	16008	8	138	12
Mean	1322		39.7		89.3		67		11.2		7.5		72.3		7.975		15262		139	
$LSD_{0.10}$	132.7		1.3		8.8		11		0.7		0.5		14.8		0.805		1839		14	
C.V.%	8.5		1.9		8.4		13.8		3.5		3.9		11.9		8.5		7.0		59.0	
R^2 x 100	73.6		95.7		55.3		63.9		88.7		89.5		73.5		66.5		85.2		91.6	

[a] r = rating.

Table 21. Fiber properties–2022 Arkansas Conventional Cotton Variety Test, with irrigation on a Sharkey clay soil at Keiser.

	Lint		Quality		Fiber properties									
Variety	yield	r[a]	score	r	Micronaire	r	Length	r	UI[a]	r	Strength	r	Elongation	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)	
Ark 1214-52	1693	1	52	16	4.8	8	1.20	16	85.8	8	31.7	13	7.7	10
Ark 1202-34	1523	2	67	7	4.4	19	1.25	7	85.1	13	31.2	17	6.6	16
Ark 1214-42	1503	3	49	18	4.7	13	1.19	19	85.2	12	34.7	6	8.5	4
Ark 1206-25	1429	4	64	9	4.6	17	1.23	8	85.0	14	31.2	16	6.1	19
Arkot 1102	1414	5	53	14	4.6	14	1.20	16	84.7	16	30.3	20	7.2	12
Ark 1207-11	1392	6	60	11	4.8	6	1.23	12	85.8	8	34.0	9	8.4	5
SSG UA248	1391	7	59	12	4.6	14	1.23	11	84.0	19	34.3	7	7.9	8
Ark 1207-32	1387	8	66	8	4.8	6	1.23	8	86.9	5	31.4	14	7.8	9
Ark 1208-39	1383	9	56	13	4.7	10	1.22	13	85.0	15	30.9	19	8.8	3
Ark 1208-21	1344	10	62	10	4.9	5	1.23	8	86.1	6	31.0	18	9.0	2
UA212ne	1299	11	51	17	4.5	18	1.21	14	83.5	20	31.4	14	8.1	7
SSG UA114	1295	12	48	19	4.9	4	1.19	18	85.6	11	33.7	10	8.2	6
0102-48-52e	1242	13	93	1	4.6	14	1.32	1	88.1	1	36.3	3	7.2	13
SSG UA222	1237	14	53	14	4.2	20	1.21	14	84.1	18	32.2	12	9.1	1
0102-48-14e	1233	15	86	2	4.7	10	1.30	2	87.6	3	36.6	1	5.9	20
AM UA48	1216	16	75	3	5.0	2	1.27	4	87.8	2	36.6	2	6.2	18
0102-48-62e	1155	17	72	4	5.1	1	1.28	3	87.1	4	35.9	5	7.4	11
0102-48-85e	1135	18	69	5	5.0	3	1.27	5	86.0	7	36.3	3	6.4	17
Ark 8304	1089	19	41	20	4.8	9	1.17	20	84.3	17	32.5	11	6.8	14
SSG UA107	1079	20	68	6	4.7	10	1.26	6	85.8	8	34.2	8	6.7	15
Mean	1322		62		4.7		1.23		85.6		33.3		7.5	
$LSD_{0.10}$	132.7		14		0.3		0.05		1.5		2.4		0.9	
C.V.%	8.5		13.1		3.8		2.20		1.0		4.1		6.8	
R^2 x 100	73.6		85.3		81.2		80.0		81.6		83.6		89.0	

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

Table 22. Yield and related properties–2022 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 1208-21	1447	1	40.5	7	92	14	70	10	11.3	12	7.9	4	82	4	8.303	3	16059	7	146	7
Ark 1202-34	1389	2	40.6	6	109	4	69	12	12.0	5	8.3	2	88	1	7.566	8	16696	5	146	8
Ark 1208-39	1388	3	41.5	3	103	8	65	15	11.5	11	8.3	1	88	1	7.548	10	16936	3	152	4
Arkot 1102	1341	4	39.4	9	107	5	68	13	11.6	10	7.6	8	78	6	7.982	5	16456	6	147	6
0102-48-85e	1332	5	37.7	15	87	18	79	5	11.7	9	7.1	16	71	9	8.517	2	12906	17	114	15
Ark 1207-11	1323	6	39.1	10	113	1	60	18	9.9	20	6.5	19	42	20	9.268	1	13358	13	132	12
UA212ne	1304	7	40.7	5	101	9	71	9	10.3	17	7.2	15	71	9	8.202	4	15331	8	148	5
Ark 1214-52	1295	8	42.9	1	96	10	80	2	10.1	19	7.8	5	64	16	7.552	9	17070	2	167	1
Ark 1207-32	1277	9	41.5	4	111	3	70	10	10.3	18	7.4	11	62	17	7.845	6	14779	10	143	9
Ark 1214-42	1269	10	42.7	2	88	16	59	19	10.8	14	8.3	3	87	3	6.985	16	16861	4	157	2
0102-48-14e	1206	11	36.8	17	86	19	66	14	12.7	1	7.5	10	66	15	7.311	12	12687	18	106	19
SSG UA107	1199	12	39.5	8	103	7	80	2	11.7	8	7.8	6	80	5	7.016	14	17587	1	156	3
0102-48-62e	1173	13	36.1	19	87	17	81	1	12.6	3	7.3	13	69	14	7.349	11	12121	20	102	20
SSG UA114	1135	14	38.5	14	104	6	54	20	10.7	16	6.8	18	57	19	7.599	7	13246	14	125	14
SSG UA222	1120	15	38.8	12	96	11	63	17	11.2	13	7.2	14	69	12	6.999	15	14777	11	135	11
Ark 1206-25	1102	16	38.7	13	112	2	64	16	11.9	7	7.6	7	78	6	6.543	17	14874	9	130	13
SSG UA248	1101	17	39.0	11	91	15	80	2	10.7	15	7.0	17	69	12	7.132	13	14392	12	136	10
AM UA48	1062	18	36.9	16	79	20	74	8	12.6	2	7.6	9	70	11	6.381	19	13208	15	111	16
0102-48-52e	1038	19	36.6	18	94	13	75	7	12.5	4	7.3	12	72	8	6.468	18	13070	16	111	17
Ark 8304	826	20	33.6	20	94	12	76	6	12.0	5	6.2	20	58	18	6.067	20	12226	19	107	18
Mean	1216		39.1		97.6		70		11.4		7.4		70.8		7.432		14732		134	
$LSD_{0.10}$	141.4		1.7		105		15		0.9		0.8		ns		0.863		1363		11	
C.V.%	9.8		2.5		9.1		17.5		4.8		6.5		18.0		9.8		5.3		4.9	
R^2 x 100	67.7		92.5		74.1		37.8		83.6		74.6		61.7		61.0		91.8		94.8	

[a] r = rating.

Table 23. Fiber properties–2022 Arkansas Conventional 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
	(lb/ac)						(in.)		(%)		(g/tex)		(%)	
Ark 1208-21	1447	1	52	17	4.7	8	1.24	14	85.6	15	33.0	12	8.8	3
Ark 1202-34	1389	2	79	3	4.4	18	1.32	2	86.1	11	31.7	18	5.8	18
Ark 1208-39	1388	3	70	7	4.5	15	1.28	8	86.6	10	31.9	16	9.0	2
Arkot 1102	1341	4	64	9	4.3	19	1.25	11	87.5	5	30.6	19	7.1	10
0102-48-85e	1332	5	79	4	4.8	6	1.31	5	88.4	2	36.6	5	6.3	16
Ark 1207-11	1323	6	56	13	4.6	11	1.25	12	85.7	13	33.4	10	8.0	4
UA212ne	1304	7	55	14	4.5	15	1.24	14	85.4	18	30.5	20	8.0	4
Ark 1214-52	1295	8	45	19	4.5	15	1.23	18	83.8	20	31.7	17	7.2	8
Ark 1207-32	1277	9	61	10	4.7	8	1.27	9	85.0	19	32.1	15	7.1	10
Ark 1214-42	1269	10	57	12	4.6	11	1.23	17	87.2	8	34.3	7	7.5	6
0102-48-14e	1206	11	75	6	5.1	2	1.33	1	87.5	5	38.4	1	5.9	17
SSG UA107	1199	12	48	18	4.3	19	1.21	20	85.6	14	33.8	8	6.8	12
0102-48-62e	1173	13	69	8	5.2	1	1.32	4	87.5	5	37.1	3	6.4	14
SSG UA114	1135	14	53	16	4.8	7	1.25	12	87.0	9	33.8	9	7.2	8
SSG UA222	1120	15	59	11	4.6	11	1.26	10	85.8	12	32.7	13	9.6	1
Ark 1206-25	1102	16	80	2	4.5	14	1.30	7	88.0	3	35.0	6	5.1	20
SSG UA248	1101	17	54	15	4.6	10	1.24	14	85.4	16	32.4	14	7.3	7
AM UA48	1062	18	81	1	4.9	3	1.32	2	88.5	1	37.6	2	5.8	18
0102-48-52e	1038	19	77	5	4.9	4	1.31	5	87.9	4	36.9	4	6.5	13
Ark 8304	826	20	43	20	4.9	4	1.22	19	85.4	16	33.4	10	6.3	15
Mean	1216		63		4.6		1.27		86.5		33.8		7.1	
$LSD_{0.10}$	141.4		16		0.4		0.04		1.9		1.6		0.8	
C.V.%	9.8		14.8		5.5		1.90		1.3		2.8		6.7	
R^2 x 100	67.7		79.5		66.9		82.6		73.7		92.7		92.6	

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

Table 24. Yield and related properties–2022 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.)	
UA212ne	1811	1	41.4	4	101	8	36	19	11.1	16	8.0	10	72	10	10.330	4	16431	3	151	3
Ark 1207-32	1751	2	40.2	7	106	2	39	17	10.8	19	7.4	16	53	18	10.780	3	13739	14	129	11
Ark 1214-52	1708	3	44.4	1	104	6	36	19	10.6	20	8.6	3	67	12	9.057	13	16613	2	157	2
SSG UA107	1706	4	39.9	9	105	5	64	6	12.5	7	8.4	5	82	4	9.253	10	16079	5	136	7
Ark 1202-34	1705	5	41.3	5	100	11	65	3	11.8	12	8.4	4	83	3	9.215	11	16078	6	142	5
Ark 1214-42	1684	6	42.6	2	98	12	43	13	10.9	18	8.2	7	80	6	9.321	9	17141	1	159	1
0102-48-85e	1679	7	37.4	16	83	19	66	2	11.4	14	6.9	19	63	15	11.010	1	11862	19	107	17
Ark 1207-11	1677	8	38.6	12	107	1	41	15	11.0	17	7.0	18	60	16	10.810	2	13625	15	126	12
SSG UA248	1674	9	39.9	10	86	18	51	8	11.4	15	7.7	15	72	10	9.934	5	14789	10	134	9
Ark 1208-39	1664	10	41.9	3	103	7	41	15	12.1	10	8.8	2	88	2	8.586	18	16421	4	142	4
SSG UA222	1657	11	38.7	11	101	9	39	17	12.9	4	8.4	6	82	4	9.009	14	15944	7	132	10
SSG UA114	1612	12	38.3	13	101	10	44	12	12.2	8	7.8	13	74	9	9.418	8	13944	13	120	14
Ark 1208-21	1603	13	41.0	6	97	14	50	9	12.6	5	8.9	1	90	1	8.152	20	15936	8	134	8
0102-48-14e	1581	14	38.2	14	87	16	65	3	12.5	6	7.8	11	75	8	9.173	12	12936	17	109	16
0102-48-62e	1551	15	36.9	17	81	20	69	1	13.5	1	8.0	9	55	17	8.785	17	14088	11	113	15
0102-48-52e	1521	16	36.5	19	89	15	65	3	13.3	2	7.8	12	52	20	8.828	16	13067	16	106	18
Ark 1206-25	1513	17	37.7	15	97	13	46	11	11.7	13	7.2	17	65	14	9.614	7	14083	12	125	13
AM UA48	1506	18	36.8	18	87	17	63	7	12.9	3	7.7	14	67	13	8.924	15	12405	18	103	19
Arkot 1102	1467	19	40.1	8	105	3	43	13	11.9	11	8.1	8	79	7	8.190	19	15918	9	139	6
Ark 8304	1306	20	32.9	20	105	4	49	10	12.1	9	6.1	20	53	18	9.802	6	11799	20	102	20
Mean	1619		39.2		97.1		51		12.0		7.8		70		9.410		14645		128	
$LSD_{0.10}$	173.6		1.7		13.7		11		0.9		0.6		22		1.042		135		9	
C.V.%	9.1		2.5		12.0		17.9		4.2		4.1		16.7		9.4		5.3		4.0	
R^2 x 100	51.1		93.6		53.9		74.8		86.2		90.2		65.3		57.9		90.5		96.0	

[a] r = rating.

Table 25. Fiber properties–2022 Arkansas Conventional 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
	(lb/ac)						(in.)		(%)		(g/tex)		(%)	
UA212ne	1811	1	57	15	4.5	19	1.25	17	86.5	13	31.9	15	8.4	6
Ark 1207-32	1751	2	58	13	4.9	8	1.27	9	86.4	15	30.8	18	8.0	9
Ark 1214-52	1708	3	65	7	4.7	17	1.27	11	87.7	5	33.5	8	8.1	8
SSG UA107	1706	4	56	16	4.8	12	1.25	15	86.9	9	31.7	16	6.7	15
Ark 1202-34	1705	5	63	8	4.8	13	1.29	6	85.6	19	32.2	13	6.6	16
Ark 1214-42	1684	6	58	14	4.5	20	1.25	17	86.5	13	34.3	6	8.4	5
0102-48-85e	1679	7	66	6	5.2	4	1.31	4	86.9	9	35.2	4	6.6	17
Ark 1207-11	1677	8	62	9	4.7	16	1.27	11	86.9	9	33.4	9	8.4	6
SSG UA248	1674	9	47	19	4.9	8	1.25	15	84.5	20	33.2	11	7.6	11
Ark 1208-39	1664	10	70	3	4.8	13	1.29	6	87.8	3	30.2	19	10.0	1
SSG UA222	1657	11	50	18	4.9	8	1.25	17	85.9	18	32.7	12	9.7	3
SSG UA114	1612	12	52	17	5.1	5	1.26	14	87.1	7	33.3	10	9.3	4
Ark 1208-21	1603	13	59	12	5.1	7	1.28	8	87.1	8	32.1	14	9.9	2
0102-48-14e	1581	14	69	4	5.3	1	1.32	2	87.3	6	35.5	3	6.4	18
0102-48-62e	1551	15	61	10	5.1	5	1.27	9	87.9	2	37.0	2	7.1	13
0102-48-52e	1521	16	68	5	5.2	3	1.31	3	87.8	3	34.8	5	6.8	14
Ark 1206-25	1513	17	70	2	4.6	18	1.29	5	86.6	12	34.1	7	5.8	19
AM UA48	1506	18	77	1	5.3	1	1.33	1	88.4	1	38.3	1	5.8	19
Arkot 1102	1467	19	59	11	4.7	15	1.26	13	86.4	16	29.7	20	7.6	10
Ark 8304	1306	20	42	20	4.9	8	1.21	20	86.1	17	31.7	16	7.2	12
Mean	1619		60		4.9		1.27		86.8		33.3		7.7	
$LSD_{0.10}$	173.6		15		0.2		0.04		1.6		1.5		0.5	
C.V.%	9.1		14.5		2.3		1.9		1.1		2.6		3.7	
R^2 x 100	51.1		74.8		91.4		77.8		65.6		93.0		97.7	

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

Table 26. Yield and related properties–2022 Arkansas Conventional Cotton Variety Test, with irrigation on a Hebert silt loam soil at Rohwer.

Variety	Lint yield[a]	r[b]	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed-score	r	Seed/ acre[a]	r	Fibers/ seed	r	Fiber density	r
	(lb/ac)		(%)		(cm)		(%)		(g)		(g)				(mil.)		(no.)		(no.)	
Ark 1208-21	1159	1	40.6	4			53	14	13.2	11	9.3	2	90	2	5.677	1	16521	6	135	7
Ark 1208-39	1119	2	41.8	2			55	11	12.8	14	9.4	1	91	1	5.394	3	17417	2	146	3
Ark 1207-32	924	3	39.8	6			58	7	12.2	17	8.2	11	75	8	5.12	4	15934	9	137	5
Ark 1207-11	876	4	37.4	12			61	2	11.7	20	7.1	19	42	20	5.583	2	13006	16	115	14
Ark 1214-42	863	5	40.6	3			49	18	12.3	16	8.5	8	69	12	4.641	5	16771	5	144	4
Ark 1214-52	843	6	42.1	1			54	13	12.0	18	9.0	4	65	13	4.27	6	16953	3	148	2
Ark 1202-34	830	7	39.9	5			65	1	13.5	8	9.2	3	89	3	4.09	9	16782	4	135	6
SSG UA107	815	8	38.2	10			59	5	13.8	6	8.8	5	83	4	4.216	7	15734	10	124	10
0102-48-62e	742	9	36.4	15			60	3	14.3	2	8.3	10	71	9	4.056	10	13527	15	104	16
Arkot 1102	685	10	38.8	8			56	9	13.2	10	8.6	7	81	6	3.612	14	15978	8	130	9
SSG UA222	647	11	37.4	11			46	20	13.4	9	8.3	9	77	7	3.534	15	16126	7	130	8
0102-48-52e	647	12	34.6	18			53	14	14.3	3	7.7	17	63	14	3.799	11	12501	20	96	20
SSG UA114	634	13	37.3	13			59	5	12.7	15	7.8	14	70	10	3.679	12	14387	13	121	13
SSG UA248	631	14	38.6	9			60	3	13.6	7	8.7	6	82	5	3.29	20	15327	11	122	11
Ark 1206-25	625	15	37.1	14			56	9	12.9	13	7.8	16	69	11	3.642	13	14604	12	121	12
0102-48-14e	605	16	34.9	17			49	18	14.7	1	8.0	13	49	18	3.415	18	12894	17	97	19
AM UA48	604	17	34.9	16			51	17	14.2	4	7.8	15	61	16	3.515	16	13690	14	106	15
UA212ne	591	18	39.5	7			55	11	11.8	19	8.1	12	49	19	3.314	19	18204	1	161	1
0102-48-85e	573	19	34.5	19			58	7	14.1	5	7.5	18	63	14	3.476	17	12832	18	100	18
Ark 8304	565	20	31.9	20			53	14	13.0	12	6.3	20	54	17	4.091	8	12549	19	103	17
Mean	749		37.8				55		13.2		8.2		69		4.121		15087		124	
$LSD_{0.10}$	169		1.9				ns		0.9		0.8		ns		0.914		1332		11	
C.V.%	19.0		2.9				14.5		3.8		5.9		22.9		18.8		5.1		4.9	
R^2 x 100	68.7		92.5				37.9		86.7		83.8		63.9		60.3		91.7		94.9	

[a] Stands in first planting were adversely affected by herbicide injury. Plots were replanted on 31 May, but plants did not develop and mature well. Lint yield and seed per acre data are reported for single location but were not included in overall location means and analyses.

[b] r = ranking.

Table 27. Fiber properties–2022 Arkansas Conventional Cotton Variety Test, with irrigation on a Hebert silt loam soil at Rohwer.

	Lint		Quality		Fiber properties									
Variety	yield[a]	r[b]	score	r	Micronaire	r	Length	r	Uib	r	Strength	r	Elongation	r
	(lb/ac)						(in.)		(%)		(g/tex)		(%)	
Ark 1208-21	1159	1	57	11	5.0	6	1.31	9	86.8	15	31.9	17	9.5	1
Ark 1208-39	1119	2	58	10	4.8	12	1.29	11	87.3	9	31.7	18	9.3	2
Ark 1207-32	924	3	64	9	4.6	17	1.30	10	87.0	13	33.0	12	7.4	8
Ark 1207-11	876	4	53	14	4.9	9	1.29	13	87.1	12	33.3	11	8.1	5
Ark 1214-42	863	5	55	12	4.6	17	1.29	13	86.3	17	33.7	10	7.4	8
Ark 1214-52	843	6	54	13	4.8	13	1.28	16	87.3	10	32.0	16	7.5	6
Ark 1202-34	830	7	72	4	4.7	14	1.33	6	88.2	5	32.7	13	5.6	20
SSG UA107	815	8	50	16	5.0	5	1.28	16	87.5	7	32.6	14	6.1	16
0102-48-62e	742	9	67	6	5.2	1	1.33	6	89.2	3	37.9	4	6.6	13
Arkot 1102	685	10	48	17	4.9	9	1.27	18	86.6	16	30.3	20	7.0	11
SSG UA222	647	11	66	7	4.5	19	1.31	8	87.8	6	34.8	7	8.8	3
0102-48-52e	647	12	84	1	5.1	4	1.38	1	89.2	3	38.0	3	6.1	15
SSG UA114	634	13	47	18	5.0	7	1.27	19	87.1	11	34.9	6	8.2	4
SSG UA248	631	14	46	19	5.2	2	1.29	11	85.6	18	34.3	8	7.5	7
Ark 1206-25	625	15	72	4	4.6	15	1.33	4	87.3	8	34.3	9	5.7	18
0102-48-14e	605	16	78	3	5.2	2	1.36	2	89.4	1	38.5	1	5.9	17
AM UA48	604	17	66	7	5.0	7	1.33	4	86.9	14	38.0	2	5.7	19
UA212ne	591	18	46	19	4.2	20	1.26	20	85.3	20	31.7	18	7.4	8
0102-48-85e	573	19	81	2	4.9	11	1.35	3	89.3	2	37.6	5	6.2	14
Ark 8304	565	20	52	15	4.6	16	1.29	13	85.6	18	32.2	15	6.9	12
Mean	749		60.6		4.8		1.30		87.3		34.2		7.1	
$LSD_{0.10}$	169		15.79		0.4		0.03		1.8		1.5		0.6	
C.V.%	19.0		15.1		5.3		1.5		1.2		2.5		4.8	
	68.7		77.7		72.0		84.7		73.9		94.5		96.0	

[a] Stands in first planting were adversely affected by herbicide injury. Plots were replanted on 31 May, but plants did not develop and mature well. Lint yield data are reported for single location but were not included in overall location means and analyses.

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

Table 28. Morphological and host-plant resistance traits in the 2022 Arkansas Conventional Cotton Variety Test.

Variety	Leaf pubescence[a] rating	r[b]	Stem pubescence[a] rating	r	Bract trichomes[c] (no./cm)	r	Tarnished plant bug Damage[d] (%)	r	Tarnished plant bug Perf. Rating	r	Bacterial blight[e] (% sus.)
SSG UA222	3.6	20	4.5	13	34.3	13	40	4	4.7	3	0
SSG UA107	1.5	5	1.5	2	18.9	1	43	6	4.3	11	0
SSG UA114	1.8	10	6.3	20	40.0	20	53	13	4.1	17	0
SSG UA248	1.4	3	3.8	10	28.3	7	55	14	4.3	11	0
AM UA48	1.5	6	2.8	4	26.8	4	59	19	3.8	19	0
UA212ne	2.5	17	5.5	18	27.3	6	35	1	4.1	18	0
Arkot 1102	1.6	7	1.0	1	35.7	15	41	5	4.5	7	0
Ark 1202-34	2.0	13	4.3	11	30.7	9	50	11	4.7	3	0
Ark 1206-25	1.1	2	4.6	14	25.8	3	52	12	4.2	14	0
Ark 1207-11	3.2	19	4.8	16	32.3	10	45	8	4.4	8	0
Ark 1207-32	2.5	17	4.9	17	39.6	19	48	9	4.4	9	0
Ark 1208-21	2.2	15	6.0	19	33.3	12	37	3	5.4	2	0
Ark 1208-39	2.3	16	4.3	11	37.1	17	35	1	5.6	1	0
Ark 1214-42	1.6	7	2.6	3	36.9	16	55	14	4.6	6	0
Ark 1214-52	1.9	11	3.1	6	34.3	13	48	9	4.3	11	0
Ark 8304	1.4	3	3.7	9	37.2	18	44	7	4.4	9	0
0102-48-14e	1.0	1	3.5	8	24.5	2	58	18	4.6	5	0
0102-48-52e	1.7	9	4.6	14	32.4	11	65	20	3.8	19	0
0102-48-62e	2.1	14	3.3	7	29.8	8	57	17	4.2	14	0
0102-48-85e	1.9	11	2.8	4	27.3	5	56	16	4.2	14	0
Ark 0628fg RF (sus.)							92	22	2.4	22	
Ark 0628fg RF (sus.)							90	21	2.8	21	
Mean	1.9		3.9		31.6		53		4.3		0
$LSD_{0.10}$	0.9		1.3		5.2		8		0.6		
C.V.%	40.0		29.4		13.9		19.1		17.9		
R^2 x 100	58.8		68.3		68.7		72.4		53.6		

[a] Leaf and stem pubescence were rated at the Keiser irrigated test (6 plants per plot, 6 reps) using a scale of 1 (smooth leaf) to 9 (pilose, very hairy). Both leaf (12 September) and stem (17 December) pubescence ratings were done later than in previous years.

[b] r = ranking.

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

[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. Plots were 1-row, replicated 8 times.

[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 was determined.

Table 29. Two-year and three-year average lint yields (pounds/acre) for conventional varieties at the four locations of the 2020–2022 Arkansas Cotton Variety Test.

Variety	Keiser Irrigated	r[a]	Judd Hill Irrigated	r	Marianna Irrigated	r	Rohwer Irrigated[b]	r	All locations	r
	(lb/ac)		(lb/ac)		(lb/ac)		(lb/ac)		(lb/ac)	
Two-year (2020–2021) means										
Arkot 1102ne	1440	1	1333	1	1434	3			1402	1
UA212ne	1237	5	1304	2	1526	1			1355	2
UA248	1291	2	1199	3	1483	2			1324	3
SGS UA222	1263	4	1053	6	1397	4			1238	4
AM UA48	1263	3	1140	4	1240	6			1214	5
SGS UA107	1093	6	1059	5	1359	5			1170	6
Mean	1264		1181		1406				1284	
Three-year (2020–2022) means										
SGS UA222	1214	3	1151	3	1321	3			1154	1
UA212ne	1222	2	1352	1	1386	1			1135	2
UA248	1247	1	1255	2	1364	2			1116	3
SGS UA107	953	5	1095	5	1274	4			955	4
AM UA48	1152	4	1127	4	1086	5			856	5
Mean	1158		1196		1286				1158	

[a] r = ranking.

[b] Two- and three-year means are not available because the 2021 tests at Rohwer were abandoned due to flooding in June.

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

Cooperator(s):	Bruce Bond	**Date Planted:**	5/16/22
Soil Type:	Hebert Silt Loam	**Date of Harvest:**	10/18/22
Irrigation:	Furrow	**Replications:**	4
Agent(s):	Kevin Norton and Kurt Beaty		

Variety	Lint yield	Loan rate	Income	r[a]	Fiber properties			
					Micronaire	Length	UI[a]	Strength
	(lb/ac)	(¢/lb)	($/ac)			(in.)	(%)	(g/tex)
DG 3511 B3XF	1353	54.21	734	1	4.3	1.20	84.1	31.4
DP 2115 B3XF	1269	53.45	678	2	4.3	1.21	84.8	31.9
ST 5091 B3XF	1274	52.61	670	3	3.8	1.21	85.3	31.2
DP 2127 B3XF	1301	51.55	646	4	4.0	1.22	84.1	30.3
NG 3195 B3XF	1180	53.39	630	5	4.0	1.20	84.5	31.4
DP 2020 B3XF	1170	53.35	625	6	3.8	1.23	83.7	31.4
ST 4595 B3XF	1164	52.34	609	7	4.3	1.20	84.3	29.6
DG 3456 B3XF	1159	52.65	609	8	4.1	1.23	84.5	32.3
DP 2038 B3XF	1131	52.60	595	9	4.1	1.22	84.6	31.6
NG 4190 B3XF	1103	53.30	588	10	3.9	1.21	84.1	30.2
Mean	1210	52.95	638		4.1	1.21	84.4	31.1
$LSD_{0.05}$	193.6	ns	56.0		ns	ns	ns	ns
C.V.%	6.5	3.0	6.1		8.8	2.7	1.3	3.8
Prob (var)	0.0013	0.5424	0.0003		0.3604	0.8981	0.0794	0.7333

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

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

Cooperator(s):	Ted Honeycutt	**Date Planted:**	5/7/22
Soil Type:	Houston Clay	**Date of Harvest:**	10/22/22
Irrigation:	Dryland	**Replications:**	1
Agent(s):	Amy Simpson		

Variety	Lint yield	Loan rate	Income	r[a]	Fiber properties			
					Micronaire	Length	UI[a]	Strength
	(lb/ac)	(¢/lb)	($/ac)			(in.)	(%)	(g/tex)
ST 5091 B3XF	669	53.85	360	1	4.3	1.27	83.8	29.5
DP 2127 B3XF	706	50.95	360	2	4.3	1.22	83.3	31.6
DP 2038 B3XF	662	54.25	359	3	4.4	1.23	83.8	32.5
NG 4190 B3XF	693	51.15	355	4	4.0	1.28	85.2	35.6
ST 4595 B3XF	661	50.80	336	5	4.5	1.22	84.5	30.2
DP 2115 B3XF	611	51.05	312	6	4.3	1.28	84.1	34.6
DG 3456 B3XF	573	54.20	311	7	4.5	1.24	86.6	30.6
PHY PX1140 W3FE	608	51.05	310	8	4.5	1.28	85.0	31.1
PHY 411 W3FE	571	50.80	290	9	4.1	1.21	83.8	30.8
DG 3511 B3XF	517	54.30	281	10	4.4	1.20	84.8	32.7
NG 3195 B3XF	611	45.15	276	11	4.2	1.22	82.8	31.0
DP 2020 B3XF	520	51.00	265	12	4.5	1.19	84.3	31.0
Mean	617	51.55	318		4.3	1.24	84.3	31.8

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

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

Cooperator(s):	Brannon and Gary Qualls	**Date Planted:**	5/13/22
Soil Type:	Fountain Silt Loam	**Date of Harvest:**	11/2/22
Irrigation:	Furrow	**Replications:**	1
Agent(s):	Branon Thiesse and Chris Grimes		

	Lint	Loan			Fiber properties			
Variety	**yield**	**rate**	**Income**	**r[a]**	**Micronaire**	**Length**	**UI[a]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
DP 2115 B3XF	1775	51.00	905	1	4.1	1.14	83.7	32.1
DP 2038 B3XF	1622	53.80	873	2	4.3	1.18	83.5	28.8
DP 2127 B3XF	1713	50.95	873	3	3.8	1.25	86.8	30.2
ST 5091 B3XF	1641	50.90	835	4	4.0	1.22	82.7	31.7
DG 3456 B3XF	1515	54.40	824	5	4.4	1.23	85.5	35.0
AS 9371 B3XF	1481	54.20	803	6	3.8	1.21	82.9	32.4
NG 3195 B3XF	1554	51.10	794	7	4.5	1.20	85.3	34.3
ST 4595 B3XF	1582	48.55	768	8	3.9	1.24	82.7	31.7
NG 4190 B3XF	1510	50.70	766	9	4.1	1.25	82.8	30.8
DP 2020 B3XF	1442	50.90	734	10	4.6	1.25	86.3	30.3
DG 3511 B3XF	1299	51.20	665	11	3.7	1.21	87.1	34.3
Mean	1584	51.65	817		4.2	1.22	84.2	31.7

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

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

Cooperator(s):	Cornerstone Farms	**Date Planted:**	5/12/22
Soil Type:	Coushatta Silt Loam	**Date of Harvest:**	10/5/22
Irrigation:	Furrow	**Replications:**	4
Agent(s):			

	Lint	Loan			Fiber properties			
Variety	**yield**	**rate**	**Income**	**r[a]**	**Micronaire**	**Length**	**UI[a]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
DP 2115 B3XF	1489	51.71	770	1	4.4	1.20	86.0	30.9
DP 2038 B3XF	1483	51.09	755	2	4.1	1.22	83.7	31.4
ST 5091 B3XF	1416	52.00	737	3	4.8	1.22	86.0	31.3
NG 3195 B3XF	1425	51.20	730	4	4.7	1.22	84.5	32.2
DP 2127 B3XF	1405	51.85	729	5	4.3	1.23	86.3	31.5
PHY 411 W3FE	1397	51.85	724	6	5.0	1.24	85.9	31.6
DG 3456 B3XF	1391	51.04	710	7	4.6	1.20	85.5	32.1
NG 4190 B3XF	1340	52.56	703	8	4.3	1.21	83.4	31.9
ST 4595 B3XF	1342	51.79	695	9	4.6	1.22	84.0	32.0
DG 3511 B3XF	1349	50.85	686	10	4.5	1.23	84.9	30.4
PHY PX1140 W3FE	1350	48.69	658	11	4.6	1.18	85.2	30.6
DP 2020 B3XF	1240	50.06	621	12	4.7	1.18	85.1	29.4
Mean	1386	51.22	710		4.6	1.21	85.0	31.3
$LSD_{0.05}$	122.0	ns	71.4		0.5	ns	1.6	1.6
C.V.%	6.1	3.5	7.0		7.5	3.3	1.3	3.5
Prob (var)	0.0178	0.2718	0.0113		0.0443	0.6281	0.0080	0.0338

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

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

Cooperator(s):	Reed Story	**Date Planted:**	5/12/22
Soil Type:	Henry Silt Loam	**Date of Harvest:**	10/10/22
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[a]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
DP 2127 B3XF	1913	50.86	973	1	4.7	1.21	85.6	31.2
ST 5091 B3XF	1856	51.73	962	2	4.6	1.22	85.3	31.6
NG 3195 B3XF	2063	51.86	941	3	4.4	1.22	85.6	31.8
DP 2038 B3XF	1810	51.08	924	4	4.5	1.21	85.8	31.9
ST 4595 B3XF	1781	50.99	908	5	4.6	1.21	84.8	31.2
DP 2115 B3XF	1792	50.40	904	6	4.8	1.18	85.2	31.6
NG 4190 B3XF	1692	51.85	876	7	4.3	1.21	85.6	31.2
DG 3511 B3XF	1639	52.70	863	8	4.7	1.19	86.2	32.4
DP 2020 B3XF	1652	51.59	852	9	4.9	1.20	86.5	35.5
PHY 411 W3FE	1637	51.03	835	10	4.4	1.21	85.4	32.0
DG 3456 B3XF	1613	50.45	813	11	4.7	1.23	85.4	33.3
PHY PX1140 W3FE	1591	51.31	756	12	4.9	1.20	86.0	33.1
Mean	1784	51.41	904		4.6	1.20	85.6	32.0
$LSD_{0.05}$	ns	ns	122.3		0.3	ns	ns	1.9
C.V.%	11.9	2.6	9.6		4.8	1.8	1.4	4.2
Prob (var)	0.1034	0.4536	0.0338		0.0089	0.3342	0.8446	0.0035

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

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

Cooperator(s):	Brantly Farms	**Date Planted:**	5/13/22
Soil Type:	Hebert Silt Loam	**Date of Harvest:**	10/20/22
Irrigation:	Furrow	**Replications:**	4
Agent(s):	Keith Perkins		

	Lint	Loan			Fiber properties			
Variety	**yield**	**rate**	**Income**	**r[a]**	**Micronaire**	**Length**	**UI[a]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
ST 4595 B3XF	1659	50.38	833	1	4.9	1.15	82.3	29.7
ST 5091 B3XF	1486	53.35	792	2	4.5	1.22	84.5	31.5
NG 3195 B3XF	1489	51.76	772	3	4.7	1.17	83.7	31.2
DP 2115 B3XF	1504	49.66	748	4	5.0	1.19	85.1	32.3
PHY PX1140 W3FE	1473	51.01	747	5	4.6	1.18	83.7	30.2
PHY 411 W3FE	1345	51.95	700	6	4.5	1.18	83.8	31.6
DP 2127 B3XF	1379	49.45	683	7	5.0	1.18	84.6	32.6
DG 3456 B3XF	1448	47.31	682	8	5.3	1.19	84.6	33.1
NG 4190 B3XF	1289	52.05	670	9	4.7	1.21	85.3	32.5
DG 3511 B3XF	1263	51.10	644	10	4.9	1.22	84.9	32.2
DP 2020 B3XF	1136	50.34	572	11	4.7	1.21	85.6	31.0
DP 2038 B3XF	1084	50.01	541	12	4.8	1.20	84.5	32.3
Mean	1380	50.70	699		4.8	1.19	84.4	31.7
$LSD_{0.05}$	101	ns	76		ns	ns	ns	ns
C.V.%	5	5.90	8		9.4	4.34	1.6	5.5
Prob	0.0001	0.4046	0.0001		0.4324	0.6760	0.1284	0.2475

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

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

Cooperator(s):	David Wildy	**Date Planted:**	5/18/22
Soil Type:	Keo Silt Loam	**Date of Harvest:**	11/4/22
Irrigation:	Pivot	**Replications:**	2
Agent(s):	Ethan Brown		

	Lint	Loan			Fiber properties			
Variety	**yield**	**rate**	**Income**	**r[a]**	**Micronaire**	**Length**	**UI[a]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
DP 2038 B3XF	1738	52.78	918	1	4.5	1.28	86.3	33.6
DP 2115 B3XF	1880	48.75	917	2	4.1	1.31	85.9	32.3
DP 2127 B3XF	1768	51.53	912	3	5.0	1.22	85.6	31.9
DG 3456 B3XF	1720	52.60	905	4	4.6	1.28	85.7	31.5
ST 4595 B3XF	1800	49.93	898	5	5.0	1.27	86.0	32.7
PHY PX1140 W3FE	1630	54.35	886	6	4.6	1.26	85.3	32.0
DP 2020 B3XF	1638	52.63	863	7	4.7	1.22	86.2	31.2
ST 5091 B3XF	1631	52.73	858	8	4.5	1.23	84.9	33.7
NG 3195 B3XF	1645	51.45	847	9	4.9	1.28	85.6	32.2
NG 4190 B3XF	1467	52.48	771	10	4.8	1.29	84.6	31.7
PHY 411 W3FE	1473	51.13	753	11	4.5	1.27	86.2	32.5
DG 3511 B3XF	1420	51.60	730	12	4.4	1.25	85.9	34.0
Mean	1651	51.83	855		4.6	1.26	85.7	32.4
$LSD_{0.05}$	175.8	ns	123.9		ns	ns	ns	ns
C.V.%	5	4.74	7		10.5	2.94	1.0	5.4
Prob (var)	0.0025	0.7100	0.0484		0.8037	0.4587	0.8490	0.6501

[a] r = ranking; 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:**	5/13/22
Soil Type:	Dundee Silt Loam	**Date of Harvest:**	11/3/22
Irrigation:	Furrow	**Replications:**	2
Agent(s):	Craig Allen and Jeffery Works		

	Lint	Loan			Fiber properties			
Variety	**yield**	**rate**	**Income**	**r[a]**	**Micronaire**	**Length**	**UI[a]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
DG 3511 B3XF	1613	53.40	861	1	4.6	1.23	84.9	30.8
PHY 411 W3FE	1573	52.26	821	2	4.6	1.27	84.9	31.7
DP 2020 B3XF	1531	53.58	821	3	4.1	1.21	84.1	30.5
DP 2115 B3XF	1529	52.86	810	4	4.6	1.28	86.0	32.8
ST 4595 B3XF	1534	52.69	809	5	4.4	1.29	85.6	32.7
NG 3195 B3XF	1433	53.58	767	6	4.1	1.25	85.0	31.9
DG 3456 B3XF	1443	52.63	760	7	4.1	1.21	83.8	31.5
PHY PX1140 W3FE	1393	53.39	744	8	4.8	1.21	83.4	31.6
DP 2127 B3XF	1407	52.73	740	9	4.9	1.20	85.7	34.5
ST 5091 B3XF	1367	53.36	729	10	4.7	1.29	86.3	31.2
NG 4190 B3XF	1378	51.90	716	11	4.7	1.24	85.8	32.5
DP 2038 B3XF	1262	51.79	653	12	4.1	1.23	84.8	30.2
Mean	1455	52.85	769		4.4	1.24	31.8	85.0
$LSD_{0.05}$	124.9	ns	74.7		ns	ns	ns	ns
C.V.%	57	2.79	4		6.3	2.85	1.4	5.4
Prob (var)	0.0023	0.9454	0.0036		0.0808	0.1677	0.4073	0.5489

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

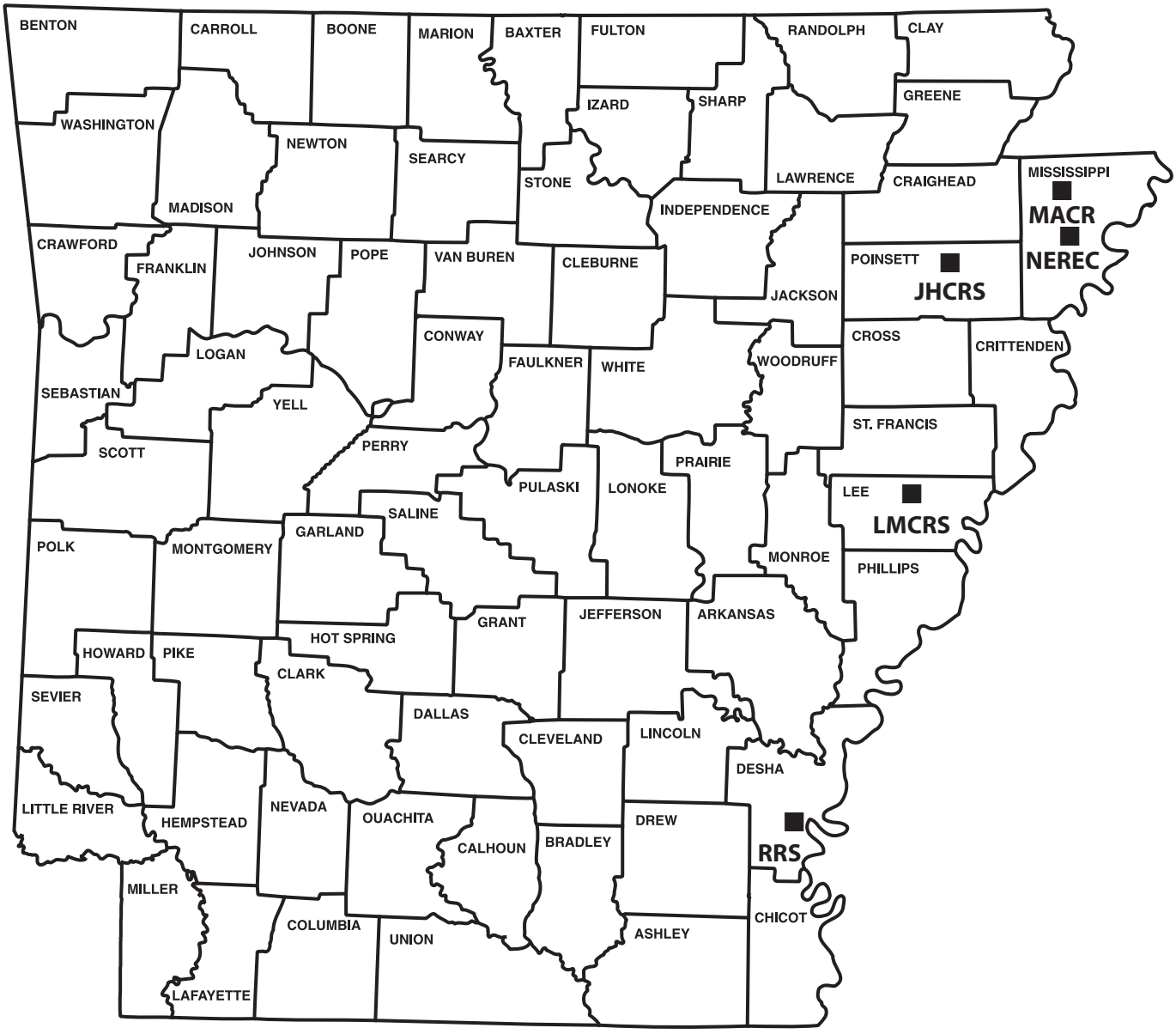
Appendix Table A9. Lint Yield and Fiber Properties–St. Francis County Transgenic Variety Test.

Cooperator(s):	Joe Whittenton	**Date Planted:**	5/18/22
Soil Type:	Loring Silt Loam	**Date of Harvest:**	10/27/22
Irrigation:	Furrow	**Replications:**	4
Agent(s):	Jenna Martin and Sarah Stone		

	Lint	Loan			Fiber properties			
Variety	**yield**	**rate**	**Income**	**r[a]**	**Micronaire**	**Length**	**UI[a]**	**Strength**
	(lb/ac)	**(¢/lb)**	**($/ac)**			**(in.)**	**(%)**	**(g/tex)**
ST 5091 B3XF	1820	53.38	973	1	4.6	1.19	86.7	30.5
DP 2127 B3XF	1856	51.78	962	2	4.5	1.26	85.9	31.8
NG 3195 B3XF	1833	51.65	949	3	4.4	1.22	85.5	31.4
ST 4595 B3XF	1799	52.55	945	4	4.1	1.24	85.1	31.8
DP 2115 B3XF	1789	51.08	914	5	4.5	1.28	85.5	34.0
DP 2038 B3XF	1728	51.73	893	6	4.4	1.25	85.2	31.0
NG 4190 B3XF	1674	50.46	846	7	4.7	1.25	85.7	31.9
PHY 411 W3FE	1589	52.65	837	8	4.2	1.22	86.1	31.1
PHY PX1140 W3FE	1615	51.76	834	9	4.3	1.26	86.2	30.9
DG 3456 B3XF	1599	51.65	824	10	4.4	1.20	85.6	30.3
DG 3511 B3XF	1572	52.46	822	11	4.2	1.21	86.7	30.7
DP 2020 B3XF	1578	49.74	785	12	4.6	1.24	85.2	31.3
Mean	1704	51.74	882		4.4	1.23	31.5	31.4
$LSD_{0.05}$	102.4	ns	67.4		ns	ns	ns	ns
C.V.%	4.2	3.6	5.3		8.9	3.1	1.1	1.8
Prob (var)	0.0001	0.3682	0.0001		0.5423	0.0545	0.5442	0.3356

[a] r = ranking; 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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