

**ARKANSAS
COTTON VARIETY
TEST 2010**



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and D.P. Roberts Jr.*

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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 four University of Arkansas research sites (near Keiser, Judd Hill, Marianna, and Rohwer). The 2010 Arkansas Cotton Variety Test was separated into two experiments, one with 32 entries that were evaluated in both 2009 and 2010 and one for 23 1st year entries. Common check varieties were included in both experiments. Reported data include yield, lint percentage, plant height, open bolls, yield component variables, fiber properties, leaf pubescence, stem pubescence, and bract trichome density. Entries in both experiments were evaluated for response to tarnished plant bug in a separate test at Keiser. The 2010 growing season was characterized by wet conditions prior to planting followed by warm, dry conditions through harvest. Consequently, harvest was complete at all locations prior to the end of September.

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Arkansas Cotton Variety Test 2010

*F.M. Bourland, A.B. Beach,
and D.P. Roberts Jr.¹*

Introduction

The purpose of the University of Arkansas Cotton Variety Testing Program is to provide unbiased comparisons of cotton varieties and advanced breeding lines over a range of environments. Data from these tests help to identify the potential adaptability of varieties to particular cotton growing regions of the state. Bourland et al. (2000) documented several unintentional biases, which are inherent to the Arkansas cotton variety testing program. These include management associated with varieties expressing herbicide and insect resistance. The biases tend to cancel each other so that no great advantage is given to any particular variety. Since evaluation of genetic differences among entries is the ultimate goal of the evaluations, all varieties are treated identically within a location. No specialized production inputs were implemented with respect to genetically enhanced varieties. Round-up Ready® (RR) varieties, Round-up Ready Flex® (RF), Liberty Link® (LL) varieties, BollGard® (B2) varieties, Widestrike® (W) and conventional varieties were all treated equally with respect to weed and insect control.

Cotton varieties that were evaluated in the 2009 Arkansas Cotton Variety Test and were re-submitted in 2010 were entered in the 2010 main experiment. Lines submitted in 2010 that were not evaluated in the 2009 test were entered into the 2010 1st year variety test. Common check varieties were included in both experiments.

Materials and Methods

The 2010 Main experiment included 32 entries while the 1st year experiment had 23 entries (Table 1). The 32 varieties in the Main experiment included 27 Round-up Ready Flex® varieties (19 B2RF, 3 RF, and 5 WRF), 5 non-Round-up Ready Flex® varieties (2 B2LL and 3 conventional), and 3 check varieties (1, B2RF, 1 BR and 1 conventional). The 1st year experiment included 21 entries plus two check

varieties (1 WRF and 1 conventional). The 21 entries included 15 Round-up Ready Flex® varieties (12 B2RF and 3 WRF) and 8 non-Round-up Ready Flex® varieties (1 W and 7 conventional). Check varieties were chosen at the discretion of the project leader. All test sites included the same entries. Replications of the two experiments were randomized within each field.

Test sites included the Northeast Research and Extension Center at Keiser; the Judd Hill Cooperative Research Site at Judd Hill (near Trumann); the Lon Mann Cotton Research Station at Marianna; and the Rohwer Research Station at Rohwer. Cultural practices and weather data (heat units and rainfall) associated with the test sites are listed in Table 2 and Table 3, respectively.

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

Data Collected at Single Location:

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

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

Bract variables: After cutout, a bract from a mid-plant, 1st position boll was randomly sampled from six 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 six bracts were evaluated as plot means.

Tarnished plant bug: Entries in the two experiments were evaluated for response to TPB in a separate field at Keiser. Each experiment included 12 replications of 1-row plots (18 feet long on 38-inch wide rows). The experiments were planted on May 28 and managed to encourage TPB infestations. Four rows of frego bract cotton between the experiments were planted on May 8. Response to TPB was determined by examining white flowers (6 flowers/plot/day for 6 days in late August) for presence of anther damage. A cumulative percentage of damaged flowers (“dirty blooms”) was determined for each plot.

Verticillium wilt: Since incidence of Verticillium wilt was relatively low at the Judd Hill site in 2010, visual ratings of wilted plants was not obtained. Relative yields of varieties over years at Judd Hill should be indicative of tolerance to Verticillium wilt.

Data Collected at All Locations:

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

% Open bolls: After first application of defoliant, percentage of open bolls was estimated from the front and back of each plot (4 replications), then averaged for each plot.

Boll samples and lint percentage: Prior to mechanical harvest, hand-harvested samples of 50 open bolls were obtained from two replications at each location. The samples were obtained by picking all open bolls from consecutive plants. Within each row of two-row plots, a site having average or above plant density was chosen and 25 consecutive bolls were harvested and bulked to form a 50-boll sample. The 50-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 included micronaire, fiber length, length uniformity index (Unif. ind.), strength and elongation. To reflect market demand for fiber quality, a weighted quality score was calculated. Parameters (and weighting) included in Q-score were fiber length (50%), micronaire (25%), length uniformity index (15%), and strength (10%).

Seed index: Two sets of 50 fuzzy seed from the ginned seed of each 50-boll sample were counted and weighed. If the two weights varied greatly, a third sample was taken. Two consistent weights of 50 seed were added to obtain fuzzy seed index (weight of 100 seed).

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

Lint index: Lint index (weight of lint on 100 seed) was determined from 50-boll sample data by dividing lint weight from ginned sample by the number of seed per sample (estimated using average seed weight) then multiplying by 100.

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

Fiber density: Fiber density, reported as the number of fibers per mm², 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): $SSA = 35.74 + 6.59SI$, where SI is equal to seed index associated with the sample.

Lint Yield: Seedcotton yield per plot (determined by 2-row cotton picker) was converted to seedcotton yield per acre then multiplied by average lint percentage (determined by variety and location) to estimate lint per acre.

Yield Comparisons:

Uncontrolled variation is inherent to collection of variety performance data (particularly yield data). In addition to

their genetic ability, variation among varieties may be due to slight differences in soil, pest or climatic conditions within a field, various interactions with specific management practices, or experimental error. Statistics allow users to define the degree of uncontrolled variation and to interpret data. The statistical tool used to compare means in these tests was Fisher's Protected Least Significant Difference (LSD). An LSD was calculated when the F value from ANOVA 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 main and 1st year test are listed in Table 1. Cultural inputs and production information for variety trials at Keiser, Judd Hill, Marianna, and Rohwer are reported in Table 2. Table 3 reports weather information for north, central, and south Arkansas locations during the 2010 production season.

Rain and subsequent wet conditions delayed planting at Keiser and affected emergence at Judd Hill (Tables 2 and 3). Good stands were obtained at all locations except Judd Hill. Except for a relatively warm June and a cool October, heat units from May through the growing season were near normal. Rainfall was higher than normal for most of the months, and was particularly high in May and October at all locations.

Other observations associated with each test site include:

Keiser. Early rains delayed planting until late May. Good stands were achieved, but plant development and subsequent flowering was slow. For some unknown reason, plants did not appear to respond to early nitrogen application, and consequently did not develop good plant structure. One irrigation application was delayed a few days in early July due to a broken well-head. Final plant height and yields in the field were lower than expected. No mepiquat chloride was applied.

Judd Hill. Poor stands in the lower portion of the field necessitated dropping the fourth replications of both the Main and 1st-year experiments. Incidence of Verticillium wilt was relatively low in 2010. Since wilt symptoms did not occur until late in the season, they were confounded by maturity of the varieties. Thus, ratings of Verticillium wilt incidence were not made. Mepiquat chloride (total of 20 oz/a) were used to control plant height.

Marianna. Good plant stands were achieved, and plants grew at a rapid, unrestricted pace. Subsequently, early maturation and high yields were attained. Mepiquat chloride (total of 10 oz/a) were used to control plant height.

Rohwer. Good plant stands were achieved, and plants grew at a rapid, unrestricted pace. Subsequently, early maturation and high yields were attained. Growth and development of the earliest maturing varieties may have been affected by application of mepiquat chloride (total of 32 oz/a).

Performance of entries in the Main experiment of 2010 Arkansas Cotton Variety Test, which includes varieties that were evaluated in both 2009 and 2010, are provided in Tables 4 through 13 with yield and yield-related variables in the even-numbered tables and fiber properties in the odd-numbered tables. Two and three year yield means for entries in the Main test are in Tables 14 and 15, respectively. Performance data for first-year entries, which were evaluated in 2010 but not evaluated in 2009, are in Tables 16-25 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 entries are in Tables 26 and 27.

References

- 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., 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/2003-07/2/8.cfm>
- Bourland, F.M., and J.M. Hornbeck. 2007. Variation in marginal bract trichomes on Upland cotton. *J. Cotton Sci.* 11:242-251. Available at <http://www.cotton.org/journal/2007/11/4/242.cfm>
- 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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Hill Foundation generously provides the test site for experiments at Judd Hill. Annual evaluation of cotton varieties is made possible by the work of the research assistants and technicians at these locations, and by the contributions of seed companies participating in the Arkansas Cotton Variety Test.

Table 1. Participants and entries in the 2010 Arkansas Cotton Variety Test.

Institution/Contact person	Main Test	Experimental no.	1st year Test
All-Tex Seed Co. / Charlie Cook			All-Tex A102 All-Tex LA122
Americot Inc. / Chiree Lopez	AM 1550 B2RF	XAM 1550 B2RF	AMX 001 B2RF NG 4010 B2RF NG 4012 B2RF NG F015 B2RF
Ark. Agric. Exp. Station / Fred Bourland	UA48	Ark 0102-48	Ark 0219-15 Ark 0222-12 Ark 9803-23-04
Bayer Crop Science / Steve Lee	FM 1740B2F FM 1773LLB2 FM 1845LLB2 BCSX 1010B2F ST 4288B2F ST 5288B2F ST 5458B2RF DP 393 ck.	BCSX 1005LLB2 BCSX 0102LLB2 BCSX 0704B2RF BCSX 0727B2RF	BCSX 1030B2F BCSX 1040B2F DP 393 ck.
Crop Production Services / Larry Stauber	DG 2570 B2RF	DG CT07550	DG 2450 B2RF CT 10612 B2RF CT 10624 B2RF
Monsanto / David Albers	DP 0912 B2RF DP 0920 B2RF DP 0924 B2RF DP 0935 B2RF DP 0949 B2RF 09R 619 B2R2 DP 1028 B2RF DP 1032 B2RF DP 174 RF	07W 902 DF MCS 0701 B2RF 09R 615 B2R2 09R 550 B2R2	DP 1034 B2RF 09R555 B2R2 10R052 B2R2
PhytoGen Seed Co./ Joel Faircloth	PHY 315 RF PHY 367 WRF PHY 375 WRF PHY 485 WRF PHY 565 WRF PHY 569 WRF	PHY 5922 WRF	PHY 375 WRF ck. PHY 440 W PHY 499 WRF PHY 519 WRF
Seed-Tec Genetics / Edward Jungmann	SSG HQ210 CT		SSG HQ110 CT
Winfield Solutions, LLC / Jaime Yanes	CG 3020 B2RF CG 3035RF CG 3220 B2RF CG 3520 B2RF CG 4020 B2RF		

Table 2. Cultural practices for locations of the 2010 Arkansas Cotton Variety Test.

Input	Location			
	Keiser	Judd Hill	Marianna	Rohwer
Soil type	Sharkey clay	Dundee silt loam	Callaway silt loam	Hebert silt loam
N, P, K (lbs)	135,0,0	100,28,82	100,46,60	100,0,90
Planting date	5/21	5/8	5/6	5/6
Irrigation method	furrow	furrow	furrow	furrow
Irrigation dates	6/15,7/9,7/21,7/29, 8/5,8/12	6/12,6/18,6/24,7/1 7/8,7/23,8/3,8/11	6/18,6/26,7/3,7/11 7/24,8/1,8/12,8/21	6/18,7/14,7/23 8/3
Defoliation date	9/11	9/10,9/15	9/2,9/9	8/23,8/30
Harvest date	9/22	9/22	9/17	9/23

Table 3. Weather summary for the 2010 production season in north, central and south Arkansas.

	Month	DD60s in 2010	Historical avg. ¹ DD60's	Rainfall (in.) in 2010	Historical avg. ¹ rainfall
Keiser (northeast)	May	458	314	9.4	5.2
	June	772	532	1.0	3.9
	July	749	644	3.5	3.7
	August	775	583	0.2	2.9
	September	494	363	1.1	3.7
	October	120	127	0.9	3.3
	Total	3368	2563	16.0	22.6
Marianna (central)	May	432	336	7.8	5.1
	June	713	538	1.3	3.9
	July	701	646	2.6	3.9
	August	776	601	0.6	2.8
	September	514	397	0.8	3.2
	October	136	154	2.1	3.5
	Total	3272	2672	15.3	22.4
Rohwer (southeast)	May	442	354	2.2	4.9
	June	623	551	1.7	3.6
	July	699	661	3.8	3.7
	August	765	618	6.4	2.6
	September	527	415	0.2	3.0
	October	160	167	2.5	3.4
	Total	3216	2766	16.8	21.3

¹DD60 (growing degree days based on 60 °F) and rainfall from historical weather data from 1960 through 2007.

Table 4. Yield and related properties - 2010 Main Cotton Variety Test across four Arkansas test sites.

Variety	Lint		Lint		Ht.	Open		Seed		Lint		Seed/		Fibers/		Fiber		
	yield	r	frac.	r		r	bolts	r	index	r	index	r	acre	r	seed	r	density	r
	lb/a		%		cm	%		g		g		mil.		no.		no.		
ST 5458 B2RF	1306	1	41.3	14	92	25	54	19	10.3	17	7.4	15	7.980	2	14666	25	142	27
DP 0912 B2RF	1285	2	40.6	19	93	24	59	10	10.8	7	7.6	12	7.568	6	16051	15	150	20
DG 2570 B2RF	1279	3	41.7	10	96	14	58	12	11.1	4	8.2	6	7.092	10	17035	8	157	12
AM 1550 B2RF	1234	4	41.3	15	91	28	61	7	9.9	24	7.2	20	7.757	4	16302	13	162	8
CG 3220 B2RF	1216	5	41.2	16	92	26	62	4	9.8	27	7.0	23	7.925	3	14503	26	145	26
DP 0920 B2RF	1214	6	41.8	9	89	31	66	2	9.7	28	7.2	18	7.578	5	14918	24	150	19
DP 1032 B2RF	1202	7	42.7	4	100	6	54	20	11.1	5	8.4	2	6.418	22	18183	1	167	3
PHY 375 WRF	1165	8	42.5	5	99	8	57	13	10.3	15	7.9	9	6.692	19	17182	7	166	4
PHY 315 RF	1152	9	42.2	8	97	11	59	10	10.6	10	7.9	8	6.588	21	17870	4	169	2
DP 0935 B2RF	1146	10	41.4	13	97	12	51	25	10.2	21	7.4	16	7.020	12	16196	14	158	11
DP 174 RF	1143	11	42.5	6	101	5	62	5	9.9	25	7.5	14	6.929	14	16578	11	165	5
ST 5288 B2F	1142	12	40.4	21	97	13	51	25	11.0	6	7.6	13	6.776	16	16721	10	155	13
PHY 367 WRF	1133	13	41.6	11	95	18	59	9	11.3	3	8.2	4	6.302	23	17962	3	164	7
CG 3520 B2RF	1110	14	38.9	26	90	29	67	1	10.5	12	6.9	24	7.234	9	15586	18	148	23
CG 3035RF	1110	15	42.9	3	95	20	57	14	9.4	31	7.2	17	6.936	13	15702	16	161	9
DP 393 ck.	1103	16	39.9	24	95	19	57	14	12.2	1	8.3	3	6.005	27	17223	6	149	22
UA48	1098	17	37.8	31	91	27	66	2	9.6	29	5.9	32	8.315	1	10728	32	108	32
09R 619 B2R2	1097	18	43.4	2	102	4	51	23	10.1	22	8.0	7	6.203	26	16832	9	164	6
FM 1740 B2F	1090	19	41.4	12	90	30	56	16	10.8	8	7.8	10	6.286	24	16439	12	154	14
DP 1028 B2RF	1088	20	43.9	1	106	2	49	28	10.7	9	8.6	1	5.657	32	18072	2	170	1
DP 0949 B2RF	1069	21	42.2	7	99	7	47	31	10.1	23	7.6	11	6.228	25	15416	21	150	17
PHY 569 WRF	1067	22	40.7	18	96	17	48	30	11.6	2	8.2	5	5.841	30	17799	5	159	10
DP 0924 B2RF	1065	23	40.5	20	96	16	55	17	9.3	32	6.5	27	7.451	7	14111	27	146	25
PHY 485 WRF	1063	24	40.3	22	105	3	55	17	10.2	18	7.1	22	6.711	17	15257	23	148	24
CG 4020 B2RF	1062	25	40.1	23	128	1	61	6	10.5	13	7.2	21	6.667	20	15641	17	150	21
CG 3020 B2RF	1050	26	38.7	27	93	22	60	8	9.8	26	6.4	29	7.334	8	15372	22	153	15
BCSX 1010 B2F	1042	27	39.4	25	98	9	52	22	10.2	19	6.9	25	6.819	15	15449	20	150	18
ST 4288 B2F	1022	28	38.0	30	89	32	52	21	10.3	16	6.4	28	7.052	11	13785	28	133	28
FM 1773 LLB2	947	29	37.3	32	96	15	49	27	10.6	11	6.4	30	6.707	18	12676	31	121	31
PHY 565 WRF	936	30	40.7	17	97	10	49	29	10.2	20	7.2	19	5.887	29	15584	19	152	16
FM 1845 LLB2	860	31	38.2	29	93	23	51	23	10.4	14	6.6	26	5.918	28	13157	29	126	30
SSG HQ210 CT	787	32	38.4	28	94	21	44	32	9.5	30	6.1	31	5.795	31	12780	30	130	29
Mean	1103		40.7		97		56		10.4		7.3		6.803		15680		151	
Var. LSD 0.10	71		0.7		15		4		0.6		0.4		0.445		1047		6	
Loc. LSD 0.10	24		0.2		5		1		0.2		0.2		0.214		370		2	
C.V.%	10.6		2.0		25.3		12.4		7.2		7.1		10.8		8.1		5.1	
R-sq x 100	89.0		93.0		64.6		87.6		77.9		83.6		85.9		83.3		90.4	
Prob (var x loc)	<.0001		0.001		0.551		<.0001		0.999		0.684		<.0001		0.919		0.070	

Table 5. Fiber properties - 2010 Main Cotton Variety Test across four Arkansas test sites.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire		Length		Unif. index		Strength		Elongation	
	lb/a					r	in.	r	%	r	g/tex	r	%	r
ST 5458 B2RF	1306	1	64	22	5.2	1	1.17	13	83.7	20	32.1	10	5.5	29
DP 0912 B2RF	1285	2	60	30	5.1	3	1.13	31	83.6	23	30.4	21	6.6	10
DG 2570 B2RF	1279	3	69	13	5.0	9	1.14	26	84.5	4	32.5	9	7.0	4
AM 1550 B2RF	1234	4	55	31	4.7	27	1.13	30	83.6	24	28.3	32	6.8	8
CG 3220 B2RF	1216	5	65	21	5.0	8	1.16	17	83.7	22	31.4	15	7.1	3
DP 0920 B2RF	1214	6	67	19	5.0	6	1.16	15	84.0	17	30.0	24	6.6	14
DP 1032 B2RF	1202	7	70	9	4.7	25	1.18	4	84.0	15	31.2	17	5.7	27
PHY 375 WRF	1165	8	67	18	4.8	18	1.15	20	84.0	16	30.3	22	6.3	20
PHY 315 RF	1152	9	63	26	4.7	24	1.14	27	83.2	32	29.4	26	5.9	24
DP 0935 B2RF	1146	10	62	27	4.8	21	1.14	24	83.5	26	30.4	20	6.2	22
DP 174 RF	1143	11	68	17	4.6	29	1.18	5	83.9	18	29.1	29	6.3	20
ST 5288 B2F	1142	12	61	29	4.8	22	1.15	19	83.2	31	29.2	27	6.5	16
PHY 367 WRF	1133	13	72	6	4.7	26	1.17	10	84.3	10	32.5	8	6.7	9
CG 3520 B2RF	1110	14	70	9	4.5	31	1.17	11	84.1	14	30.1	23	7.1	2
CG 3035RF	1110	15	70	11	4.8	19	1.14	22	84.4	6	31.7	13	7.0	5
DP 393 ck.	1103	16	72	7	4.9	14	1.17	6	84.3	10	33.4	5	6.6	13
UA48	1098	17	91	1	5.0	4	1.28	1	86.2	1	35.4	1	4.7	31
09R 619 B2R2	1097	18	64	22	4.9	11	1.15	18	83.5	29	30.6	19	6.6	12
FM 1740 B2F	1090	19	69	15	4.9	10	1.14	23	84.5	5	31.5	14	5.7	26
DP 1028 B2RF	1088	20	74	5	4.8	17	1.17	7	84.8	2	30.7	18	6.9	6
DP 0949 B2RF	1069	21	69	16	5.1	2	1.16	15	84.4	7	32.7	7	6.2	23
PHY 569 WRF	1067	22	74	4	4.8	19	1.15	20	84.3	8	34.8	2	7.3	1
DP 0924 B2RF	1065	23	63	25	4.9	15	1.14	28	83.5	28	31.3	16	6.4	17
PHY 485 WRF	1063	24	69	12	4.9	11	1.13	29	84.3	12	33.9	4	6.6	11
CG 4020 B2RF	1062	25	71	8	4.6	28	1.17	8	84.3	9	29.2	28	6.4	19
CG 3020 B2RF	1050	26	54	32	4.5	32	1.11	32	83.3	30	28.8	31	6.9	7
BCSX 1010 B2F	1042	27	61	28	4.6	30	1.17	9	83.5	25	29.1	30	5.6	28
ST 4288 B2F	1022	28	65	20	4.8	16	1.16	14	83.5	27	30.0	25	6.4	18
FM 1773 LLB2	947	29	69	13	5.0	7	1.21	3	83.8	19	32.0	12	4.6	32
PHY 565 WRF	936	30	77	2	4.7	23	1.17	12	84.2	13	34.8	3	6.5	15
FM 1845 LLB2	860	31	75	3	4.9	13	1.21	2	84.7	3	32.9	6	5.2	30
SSG HQ210 CT	787	32	64	22	5.0	5	1.14	24	83.7	21	32.1	11	5.8	25
Mean	1103		68		4.8		1.16		84.0		31.3		6.3	
Var. LSD 0.10	71		7		0.1		0.02		0.7		0.9		0.4	
Loc. LSD 0.10	24		ns		ns		0.01		0.3		0.3		0.1	
C.V.%	10.6		12.1		3.5		1.9		1.1		3.5		7.1	
R-sq x 100	89.0		70.0		81.6		85.8		70.0		89.7		88.9	
Prob (var x loc)	<.0001		0.294		<.0001		0.646		0.561		0.129		0.099	

Table 6. Yield and related properties - 2010 Main Cotton Variety Test with irrigation on a Tunica silty clay soil at Keiser, Ark.

Variety	Lint yield		Lint frac.		Ht.	Open bolls		Seed index		Lint index		Seed/acre		Fibers/seed		Fiber density		
	lb/a	r	%	r		cm	%	r	g	r	g	mil.	r	no.	r	no.		
PHY 375 WRF	925	1	44.3	3	68	15	50	6	9.3	17	7.7	5	5.468	8	16850	6	173	4
ST 5458 B2RF	920	2	42.6	9	66	22	48	17	9.5	12	7.2	12	5.801	4	14382	25	146	27
DP 393 ck.	903	3	40.5	26	71	7	50	6	11.5	1	8.1	2	5.087	13	16982	5	153	22
AM 1550 B2RF	874	4	41.8	16	63	30	55	2	8.7	29	6.5	26	6.127	2	15914	10	171	6
DG 2570 B2RF	863	5	42.2	13	68	15	48	17	9.6	10	7.1	13	5.494	7	15414	15	156	15
CG 3220 B2RF	855	6	41.5	20	66	23	55	2	8.9	27	6.5	25	5.996	3	14461	24	153	19
DP 0912 B2RF	847	7	41.4	21	64	25	53	5	9.8	7	7.1	14	5.378	9	15404	16	153	21
DP 0920 B2RF	844	8	41.7	17	64	28	55	2	9.2	21	6.8	20	5.631	5	14584	22	151	24
DP 0935 B2RF	843	9	42.9	8	73	4	38	31	9.0	25	6.9	19	5.564	6	16276	7	171	5
PHY 315 RF	828	10	44.6	2	77	3	50	6	9.5	14	7.9	4	4.783	19	18001	3	183	1
ST 5288 B2F	814	11	42.0	14	66	21	50	6	10.0	6	7.4	9	5.005	15	15866	12	156	14
PHY 367 WRF	792	12	42.4	10	68	17	50	6	11.0	2	8.5	1	4.205	28	19178	1	176	3
CG 3035RF	747	13	43.8	5	71	7	45	24	8.5	31	6.8	21	5.020	14	15003	20	164	10
BCSX 1010 B2F	745	14	41.3	23	68	17	48	17	9.5	13	6.9	18	4.923	16	16185	8	164	9
DP 0924 B2RF	736	15	41.9	15	69	11	48	17	8.7	30	6.5	24	5.156	12	14206	27	153	20
DP 174 RF	734	16	44.7	1	69	14	49	14	9.3	20	7.7	6	4.352	24	16100	9	166	8
PHY 569 WRF	725	17	41.3	22	69	11	45	24	10.4	3	7.6	8	4.293	25	18389	2	177	2
CG 3020 B2RF	721	18	40.0	27	63	30	50	6	9.0	26	6.3	27	5.224	10	14647	21	154	17
UA48	716	19	37.9	32	64	25	50	6	8.3	32	5.2	32	6.290	1	9307	32	103	32
CG 3520 B2RF	702	20	39.9	28	64	25	60	1	9.6	9	6.6	23	4.809	18	15086	19	153	23
09R 619 B2R2	693	21	43.4	7	78	1	48	17	9.3	19	7.4	11	4.264	27	15755	14	162	12
ST 4288 B2F	692	22	38.0	31	62	32	44	27	9.6	8	6.0	29	5.220	11	13792	28	139	29
PHY 485 WRF	692	23	40.8	25	67	19	49	14	9.3	18	6.7	22	4.721	20	14497	23	149	26
DP 0949 B2RF	683	24	42.3	11	73	5	40	29	9.0	24	6.9	17	4.498	22	14335	26	150	25
FM 1740 B2F	683	25	41.7	18	64	29	46	22	10.1	5	7.4	10	4.196	29	15790	13	155	16
CG 4020 B2RF	683	26	41.5	19	65	24	50	6	9.5	11	6.9	16	4.472	23	15144	18	154	18
DP 1032 B2RF	682	27	43.6	6	72	6	49	14	10.1	4	8.0	3	3.879	31	17219	4	167	7
DP 1028 B2RF	678	28	44.2	4	78	2	46	22	9.4	16	7.7	7	4.016	30	15910	11	164	11
PHY 565 WRF	652	29	42.3	12	71	9	45	24	9.2	22	6.9	15	4.277	26	15192	17	158	13
FM 1845 LLB2	633	30	38.4	29	71	10	40	29	9.1	23	5.9	30	4.888	17	12367	30	129	30
FM 1773 LLB2	589	31	38.3	30	66	20	41	28	9.4	15	5.9	31	4.555	21	11441	31	117	31
SSG HQ210 CT	499	32	40.8	24	69	13	36	32	8.8	28	6.1	28	3.693	32	13362	29	143	28
Mean	750		41.7		68		48		9.4		7.0		4.915		15220		155	
LSD 0.10	101		1.4		5		5		1.2		0.9		0.661		2455		16	
C.V.%	11.5		2.0		6.6		8.7		7.7		7.8		11.4		9.5		5.9	
R-sq x 100	67.2		91.0		67.8		68.9		65.0		79.0		68.2		78.2		87.1	

Table 7. Fiber properties - 2010 Main Cotton Variety Test with irrigation on a Tunica silty clay soil at Keiser, Ark.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
PHY 375 WRF	925	1	68	15	4.9	12	1.11	25	84.0	8	31.3	19	6.2	15
ST 5458 B2RF	920	2	67	19	5.2	1	1.15	7	83.9	11	32.9	12	5.3	26
DP 393 ck.	903	3	74	4	4.9	12	1.15	7	84.3	6	34.1	4	5.7	22
AM 1550 B2RF	874	4	37	32	4.5	29	1.10	31	82.6	31	27.6	32	6.3	13
DG 2570 B2RF	863	5	75	3	4.9	16	1.13	17	84.8	2	34.0	5	6.8	3
CG 3220 B2RF	855	6	65	24	4.8	21	1.13	17	83.1	26	31.5	18	7.3	2
DP 0912 B2RF	847	7	64	27	5.1	5	1.10	28	83.6	21	31.2	21	6.2	17
DP 0920 B2RF	844	8	70	12	4.9	16	1.15	7	83.8	13	30.9	23	6.4	10
DP 0935 B2RF	843	9	63	28	4.6	27	1.13	17	82.7	30	31.6	16	5.3	26
PHY 315 RF	828	10	56	31	4.9	12	1.09	32	82.2	32	28.5	31	5.6	23
ST 5288 B2F	814	11	67	19	5.0	10	1.13	17	83.8	13	29.5	28	6.0	20
PHY 367 WRF	792	12	68	15	4.8	25	1.13	17	83.7	17	32.2	14	6.6	4
CG 3035RF	747	13	65	24	4.9	16	1.12	23	83.4	22	33.3	9	6.5	9
BCSX 1010 B2F	745	14	69	13	4.5	32	1.15	7	83.4	22	29.6	27	5.1	28
DP 0924 B2RF	736	15	68	17	4.9	16	1.13	17	83.8	16	33.0	11	6.4	10
DP 174 RF	734	16	65	24	5.0	6	1.15	12	83.2	25	30.1	25	6.0	19
PHY 569 WRF	725	17	72	8	4.5	29	1.11	26	83.6	19	34.9	3	7.7	1
CG 3020 B2RF	721	18	63	28	4.7	26	1.10	28	83.1	26	30.0	26	6.6	7
UA48	716	19	89	1	5.2	2	1.26	1	85.6	1	35.7	1	4.5	31
CG 3520 B2RF	702	20	72	8	4.6	27	1.15	7	84.0	10	31.0	22	6.4	10
09R 619 B2R2	693	21	67	19	4.9	12	1.14	14	83.6	19	31.3	20	6.6	5
ST 4288 B2F	692	22	73	6	4.5	29	1.16	4	83.9	11	29.4	30	6.6	5
PHY 485 WRF	692	23	74	4	5.0	9	1.11	26	84.3	5	35.5	2	6.2	17
DP 0949 B2RF	683	24	73	6	5.0	6	1.14	14	84.5	4	33.2	10	6.3	14
FM 1740 B2F	683	25	68	17	5.0	6	1.12	23	84.0	8	32.3	13	5.3	24
CG 4020 B2RF	683	26	69	14	4.8	23	1.14	14	83.7	17	29.5	28	6.0	20
DP 1032 B2RF	682	27	67	22	4.9	16	1.16	4	83.2	24	31.5	17	5.1	29
DP 1028 B2RF	678	28	72	8	5.0	10	1.16	4	84.3	6	30.4	24	6.5	8
PHY 565 WRF	652	29	66	23	4.8	23	1.15	12	83.0	28	33.8	6	6.2	15
FM 1845 LLB2	633	30	76	2	4.8	21	1.17	3	84.6	3	33.8	6	4.8	30
FM 1773 LLB2	589	31	72	8	5.2	2	1.19	2	83.8	13	33.7	8	4.2	32
SSG HQ210 CT	499	32	60	30	5.1	4	1.10	28	82.9	29	32.1	15	5.3	24
Mean	750		68		4.8		1.14		83.7		31.8		6.0	
LSD 0.10	101		15		0.3		0.04		ns		2.0		0.7	
C.V.%	11.5		12.9		3.5		2.1		1.1		3.8		6.9	
R-sq x 100	67.2		63.7		77.6		79.6		53.4		85.2		88.2	

Table 8. Yield and related properties - 2010 Main Cotton Variety Test with irrigation on a Dundee silt loam soil at Judd Hill, Ark.

Variety	Lint yield		Lint frac.		Ht.	Open bolls		Seed index		Lint index		Seed/acre		Fibers/seed		Fiber density		
	lb/a	r	%	r		cm	%	r	g	r	g	mil.	r	no.	r	no.		
ST 5458 B2RF	1505	1	39.8	12	128	16	42	23	10.7	22	7.2	20	9.490	2	14362	26	135	26
AM 1550 B2RF	1467	2	40.7	7	125	21	42	23	10.5	26	7.4	16	9.018	3	16749	10	159	4
DP 0912 B2RF	1451	3	39.1	18	128	17	35	32	11.3	13	7.5	12	8.788	4	15957	15	144	15
DG 2570 B2RF	1389	4	40.8	5	125	22	45	8	12.5	3	8.8	2	7.150	13	17862	3	151	8
CG 3520 B2RF	1321	5	37.9	25	118	27	43	11	11.7	10	7.3	17	8.182	5	16334	13	145	14
DP 174 RF	1281	6	41.6	3	136	4	48	1	10.5	27	7.6	11	7.629	10	16827	8	161	3
DP 1032 B2RF	1281	7	40.8	6	125	20	42	23	11.8	8	8.3	5	7.027	15	18229	2	161	2
CG 3220 B2RF	1278	8	40.3	11	122	24	43	11	11.0	18	7.4	14	7.796	8	14713	21	136	23
UA48	1242	9	36.3	28	136	4	45	8	10.1	31	5.8	31	9.671	1	10273	32	100	32
DP 1028 B2RF	1222	10	42.7	1	134	6	43	11	11.6	11	8.9	1	6.220	25	18405	1	164	1
DP 0920 B2RF	1202	11	40.4	10	116	30	48	1	10.2	29	7.1	23	7.702	9	14708	22	143	17
CG 4020 B2RF	1182	12	38.0	23	129	14	43	11	11.0	17	6.9	25	7.802	7	15119	19	140	20
PHY 375 WRF	1165	13	40.4	9	134	7	47	3	11.3	14	7.8	10	6.771	19	17137	6	156	6
DP 393 ck.	1163	14	38.8	20	127	18	43	11	13.2	1	8.5	3	6.180	26	16791	9	137	22
ST 5288 B2F	1153	15	38.0	24	129	13	43	11	12.0	5	7.5	13	6.967	16	16633	11	145	13
09R 619 B2R2	1147	16	42.2	2	124	23	43	11	10.9	19	8.1	6	6.457	22	17050	7	158	5
PHY 485 WRF	1127	17	38.4	22	142	1	43	11	11.1	15	7.1	22	7.223	12	15098	20	138	21
FM 1740 B2F	1122	18	40.6	8	121	25	47	3	11.4	12	7.9	9	6.469	21	16116	14	146	10
PHY 315 RF	1116	19	39.7	13	127	19	40	30	11.8	9	7.9	8	6.415	23	17460	4	153	7
DP 0935 B2RF	1114	20	39.4	16	130	12	45	8	10.7	23	7.1	21	7.094	14	15255	17	144	16
CG 3035RF	1109	21	41.0	4	119	26	47	3	10.4	28	7.4	15	6.803	18	15201	18	146	9
CG 3020 B2RF	1104	22	36.4	27	137	3	43	11	10.6	25	6.2	29	8.088	6	14250	27	135	25
PHY 367 WRF	1074	23	39.5	14	141	2	43	11	12.5	2	8.3	4	5.862	30	17210	5	146	11
PHY 569 WRF	1068	24	39.0	19	117	29	40	30	12.1	4	8.0	7	6.093	29	16563	12	143	18
DP 0924 B2RF	1064	25	38.5	21	131	10	42	23	10.1	30	6.5	27	7.473	11	14407	24	141	19
PHY 565 WRF	1058	26	39.4	17	117	28	42	23	10.8	20	7.2	19	6.673	20	15555	16	145	12
DP 0949 B2RF	977	27	39.4	15	115	31	47	3	10.6	24	7.1	24	6.295	24	14365	25	136	24
FM 1845 LLB2	922	28	37.4	26	130	11	42	23	12.0	6	7.2	18	5.780	31	14507	23	126	28
ST 4288 B2F	914	29	35.2	30	114	32	47	3	11.1	16	6.1	30	6.841	17	13166	29	121	29
FM 1773 LLB2	884	30	35.2	31	133	8	42	23	11.9	7	6.5	26	6.152	27	13013	30	114	31
BCSX 1010 B2F	846	31	36.2	29	132	9	43	11	10.8	21	6.3	28	6.122	28	13667	28	128	27
SSG HQ210 CT	674	32	35.1	32	129	15	43	11	9.7	32	5.4	32	5.635	32	11394	31	114	30
Mean	1144		39.0		127		43		11.2		7.3		7.121		15449		141	
LSD 0.10	157		1.3		ns		ns		1.3		0.8		0.951		1820		11	
C.V.%	10.0		2.0		45.0		11.3		6.7		6.8		9.8		6.9		4.7	
R-sq x 100	79.2		93.1		8.8		44.0		70.0		85.1		77.9		86.1		90.6	

Table 9. Fiber properties - 2010 Main Cotton Variety Test with irrigation on a Dundee silt loam soil at Judd Hill, Ark.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire		Length		Unif. ind.		Strength		Elongation	
	lb/a					r	in.	r	%	r	g/tex	r	%	
ST 5458 B2RF	1505	1	64	26	5.0	4	1.19	13	84.3	24	34.1	6	5.0	28
AM 1550 B2RF	1467	2	60	32	4.6	23	1.16	26	83.6	32	29.5	32	6.2	10
DP 0912 B2RF	1451	3	63	27	4.9	8	1.15	29	84.3	24	31.8	17	6.5	5
DG 2570 B2RF	1389	4	67	19	5.0	4	1.16	26	85.1	12	33.3	12	5.8	16
CG 3520 B2RF	1321	5	74	7	4.4	30	1.20	12	85.4	9	30.9	26	6.9	2
DP 174 RF	1281	6	66	21	4.5	27	1.20	10	84.0	28	29.9	31	5.6	20
DP 1032 B2RF	1281	7	78	3	4.3	32	1.24	4	85.6	3	33.4	11	5.3	25
CG 3220 B2RF	1278	8	68	17	5.1	1	1.18	21	85.3	11	32.8	14	6.7	3
UA48	1242	9	94	1	5.1	2	1.29	1	87.4	1	37.6	1	3.3	32
DP 1028 B2RF	1222	10	72	12	4.8	12	1.20	10	85.3	10	30.5	29	7.2	1
DP 0920 B2RF	1202	11	64	24	4.9	6	1.17	25	84.5	20	31.5	20	5.6	22
CG 4020 B2RF	1182	12	75	6	4.4	30	1.21	7	85.5	5	30.4	30	5.8	17
PHY 375 WRF	1165	13	68	18	4.6	24	1.19	13	84.5	20	31.2	23	5.3	26
DP 393 ck.	1163	14	73	10	4.9	6	1.22	6	85.5	5	33.5	10	6.5	6
ST 5288 B2F	1153	15	67	19	4.5	27	1.19	13	84.4	22	31.1	25	6.5	6
09R 619 B2R2	1147	16	63	27	4.8	10	1.18	21	84.0	27	31.2	24	6.0	12
PHY 485 WRF	1127	17	69	16	4.8	10	1.16	28	84.8	16	34.8	5	5.6	20
FM 1740 B2F	1122	18	64	24	5.1	2	1.14	31	84.9	15	33.6	9	5.2	27
PHY 315 RF	1116	19	66	21	4.6	24	1.19	17	84.1	26	30.6	28	5.5	23
DP 0935 B2RF	1114	20	66	21	4.7	18	1.18	19	84.3	23	31.5	19	6.5	6
CG 3035RF	1109	21	74	8	4.9	8	1.17	23	85.9	2	32.4	16	6.6	4
CG 3020 B2RF	1104	22	62	29	4.6	24	1.14	32	84.0	28	30.8	27	6.2	11
PHY 367 WRF	1074	23	77	5	4.7	18	1.21	9	85.4	7	34.9	4	5.9	15
PHY 569 WRF	1068	24	83	2	4.8	12	1.19	17	85.6	3	36.6	2	6.4	9
DP 0924 B2RF	1064	25	62	29	4.7	21	1.15	29	83.8	30	31.3	22	5.8	17
PHY 565 WRF	1058	26	78	4	4.6	22	1.19	13	84.6	19	36.5	3	6.0	13
DP 0949 B2RF	977	27	74	8	4.8	12	1.21	7	85.4	8	34.1	7	5.4	24
FM 1845 LLB2	922	28	71	14	4.8	12	1.24	2	84.7	17	33.2	13	4.9	29
ST 4288 B2F	914	29	61	31	4.7	18	1.17	23	83.7	31	31.7	18	6.0	13
FM 1773 LLB2	884	30	73	10	4.8	12	1.24	2	85.1	12	32.5	15	4.3	31
BCSX 1010 B2F	846	31	71	13	4.5	29	1.22	5	84.7	17	31.4	21	4.9	29
SSG HQ210 CT	674	32	70	15	4.8	12	1.18	19	85.1	14	33.8	8	5.7	19
Mean	1144		70		4.7		1.19		84.8		32.6		5.8	
LSD 0.10	157		11		0.3		0.04		ns		1.5		0.8	
C.V.%	10.0		9.3		3.5		1.8		1.1		2.8		8.6	
R-sq x 100	79.2		71.3		75.1		82.6		60.0		90.8		84.0	

Table 10. Yield and related properties - 2010 Main Cotton Variety Test with irrigation on a Calloway silt loam soil at Marianna, Ark.

Variety	Lint yield	Lint r	Lint frac.	Lint r	Ht.	Open r	Open bolls	Open r	Seed index	Seed r	Lint index	Lint r	Seed/ acre	Seed/ r	Fibers/ seed	Fibers/ r	Fiber density	Fiber r
	lb/a		%		cm	%			g		g		mil.		no.		no.	
DP 0920 B2RF	1368	1	43.5	7	108	21	70	3	9.5	29	7.5	15	8.269	3	15556	16	158	9
PHY 367 WRF	1363	2	42.6	9	111	19	54	14	9.9	20	7.5	16	8.248	4	16288	10	161	6
DP 0912 B2RF	1320	3	41.2	19	105	28	61	6	10.7	6	7.6	11	7.828	6	16041	14	151	17
DG 2570 B2RF	1309	4	41.6	14	115	16	58	8	10.9	5	8.0	7	7.458	12	16633	5	154	12
PHY 375 WRF	1278	5	44.1	3	118	9	50	16	10.1	17	8.1	5	7.187	15	17452	2	171	1
AM 1550 B2RF	1262	6	41.8	11	108	23	56	10	9.8	21	7.2	19	7.924	5	15174	20	151	16
DP 1032 B2RF	1248	7	43.9	5	117	13	48	20	11.3	3	9.0	1	6.286	26	18729	1	170	2
PHY 315 RF	1241	8	42.3	10	112	18	58	8	10.2	14	7.6	13	7.459	11	16576	6	161	7
ST 5458 B2RF	1234	9	41.3	18	106	26	56	10	10.2	13	7.4	18	7.579	10	14449	24	140	26
DP 0924 B2RF	1230	10	41.4	17	117	12	50	16	8.7	32	6.2	29	8.944	1	13222	28	142	24
PHY 485 WRF	1190	11	41.5	16	129	3	49	18	10.3	12	7.4	17	7.280	14	15521	17	150	18
CG 3035RF	1171	12	43.9	4	116	15	55	13	9.4	30	7.5	14	7.055	18	15463	18	158	10
CG 3220 B2RF	1164	13	41.6	13	106	27	61	6	9.6	28	6.9	22	7.646	9	14053	26	142	25
UA48	1160	14	37.9	31	103	32	75	1	9.8	23	6.1	31	8.667	2	10865	32	108	32
DP 0949 B2RF	1160	15	43.5	6	122	6	36	29	9.9	19	7.8	9	6.753	20	15456	19	153	14
DP 174 RF	1144	16	41.8	12	117	13	64	5	9.7	27	7.1	20	7.315	13	15596	15	157	11
ST 5288 B2F	1125	17	40.7	21	118	11	39	26	11.0	4	7.7	10	6.655	21	16046	13	148	20
BCSX 1010 B2F	1101	18	40.4	22	122	7	38	27	10.2	15	7.0	21	7.106	17	15023	22	146	22
09R 619 B2R2	1090	19	44.7	1	124	5	43	25	9.8	24	8.1	4	6.122	27	16477	8	165	3
DP 0935 B2RF	1089	20	42.7	8	113	17	46	22	10.3	11	7.8	8	6.317	24	16502	7	159	8
PHY 569 WRF	1085	21	40.7	20	118	10	44	24	11.5	2	8.1	3	6.095	28	16400	9	147	21
FM 1740 B2F	1082	22	41.5	15	108	22	49	18	10.5	7	7.6	12	6.466	23	16185	12	154	13
CG 3520 B2RF	1073	23	38.5	29	104	30	74	2	9.8	22	6.4	28	7.651	8	14708	23	146	23
FM 1773 LLB2	1028	24	38.4	30	119	8	36	29	10.4	10	6.5	26	7.149	16	13508	27	130	29
CG 4020 B2RF	1011	25	40.2	24	238	1	65	4	10.1	16	6.9	23	6.652	22	15148	21	148	19
CG 3020 B2RF	1007	26	37.6	32	107	25	56	10	9.7	26	5.9	32	7.731	7	16242	11	163	5
DP 1028 B2RF	991	27	44.6	2	131	2	38	27	10.5	8	8.5	2	5.283	31	17243	3	164	4
ST 4288 B2F	990	28	39.6	26	108	24	45	23	9.7	25	6.5	27	6.925	19	13017	29	130	28
DP 393 ck.	984	29	40.0	25	109	20	48	20	11.7	1	8.0	6	5.558	30	17185	4	153	15
PHY 565 WRF	902	30	40.3	23	125	4	36	29	10.1	18	6.9	24	5.936	29	14251	25	140	27
SSG HQ210 CT	851	31	39.4	27	105	28	36	29	9.3	31	6.1	30	6.295	25	12199	31	126	30
FM 1845 LLB2	730	32	38.9	28	104	31	51	15	10.4	9	6.7	25	4.940	32	12560	30	120	31
Mean	1124		41.3		118		51		10.2		7.3		7.024		15305		149	
LSD 0.10	153		1.5		ns		12		ns		0.8		1.000		2127		13	
C.V.%	11.5		2.2		38.4		19.2		7.2		6.6		12.3		8.2		5.3	
R-sq x 100	65.7		91.2		28.3		66.9		64.2		82.7		64.4		78.6		86.6	

Table 11. Fiber properties - 2010 Main Cotton Variety Test with irrigation on a Calloway silt loam soil at Marianna, Ark.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
DP 0920 B2RF	1368	1	64	24	5.1	9	1.15	20	83.6	23	29.6	25	7.5	6
PHY 367 WRF	1363	2	70	8	4.7	28	1.17	7	83.9	16	31.7	10	7.5	3
DP 0912 B2RF	1320	3	59	30	5.1	5	1.13	29	83.1	31	29.8	21	7.3	10
DG 2570 B2RF	1309	4	68	10	5.0	10	1.14	25	84.4	8	32.1	8	7.8	1
PHY 375 WRF	1278	5	65	20	4.9	20	1.13	27	83.8	19	29.7	24	7.1	18
AM 1550 B2RF	1262	6	67	16	5.0	10	1.14	25	84.1	12	29.2	27	7.4	7
DP 1032 B2RF	1248	7	68	10	4.9	20	1.18	5	83.9	16	31.1	14	6.1	28
PHY 315 RF	1241	8	68	12	4.8	27	1.15	20	83.9	16	29.2	26	6.3	27
ST 5458 B2RF	1234	9	53	31	5.5	1	1.14	23	82.3	32	29.8	21	6.3	25
DP 0924 B2RF	1230	10	65	20	5.0	10	1.13	29	83.9	14	30.1	18	6.7	23
PHY 485 WRF	1190	11	68	12	5.0	18	1.15	17	84.0	13	34.0	4	7.2	13
CG 3035RF	1171	12	70	7	5.0	10	1.16	14	84.5	7	32.2	7	7.5	3
CG 3220 B2RF	1164	13	64	24	5.1	5	1.16	14	83.6	24	31.0	15	7.2	14
UA48	1160	14	96	1	5.0	10	1.29	1	86.9	1	35.3	3	5.2	31
DP 0949 B2RF	1160	15	62	28	5.4	2	1.13	29	83.9	14	31.6	12	7.2	14
DP 174 RF	1144	16	67	14	4.6	30	1.19	3	84.2	10	27.8	31	6.9	20
ST 5288 B2F	1125	17	66	18	4.9	20	1.17	7	83.5	25	28.9	28	7.0	19
BCSX 1010 B2F	1101	18	63	27	4.8	26	1.17	7	83.7	22	28.7	30	6.7	22
09R 619 B2R2	1090	19	65	22	5.1	5	1.15	17	83.7	21	30.4	16	7.3	10
DP 0935 B2RF	1089	20	66	18	5.0	17	1.15	20	83.8	19	30.0	19	6.3	25
PHY 569 WRF	1085	21	79	3	5.0	10	1.16	12	85.0	2	35.8	2	7.4	7
FM 1740 B2F	1082	22	69	9	4.8	25	1.16	12	84.3	9	30.2	17	6.5	24
CG 3520 B2RF	1073	23	64	24	4.6	31	1.15	17	83.1	30	29.9	20	7.5	3
FM 1773 LLB2	1028	24	66	17	4.9	20	1.19	4	83.5	25	31.8	9	5.0	32
CG 4020 B2RF	1011	25	74	4	4.6	29	1.17	7	84.7	5	28.7	29	7.1	17
CG 3020 B2RF	1007	26	45	32	4.0	32	1.11	32	83.3	27	27.4	32	7.7	2
DP 1028 B2RF	991	27	74	6	5.0	10	1.17	11	85.0	2	31.7	10	7.3	10
ST 4288 B2F	990	28	61	29	5.2	4	1.16	14	83.3	29	29.8	23	6.8	21
DP 393 ck.	984	29	67	14	5.0	18	1.14	24	83.3	27	33.3	5	7.3	9
PHY 565 WRF	902	30	86	2	4.9	24	1.18	5	85.0	2	36.3	1	7.2	14
SSG HQ210 CT	851	31	64	23	5.3	3	1.13	27	84.1	11	31.2	13	6.0	29
FM 1845 LLB2	730	32	74	4	5.1	5	1.23	2	84.6	6	32.7	6	5.6	30
Mean	1124		67		4.9		1.16		84.0		30.9		6.8	
LSD 0.10	153		14		0.3		0.04		1.4		1.9		0.7	
C.V.%	11.5		12.1		3.2		2.2		1.0		3.6		6.0	
R-sq x 100	65.7		71.8		87.2		78.6		66.8		88.7		85.4	

Table 12. Yield and related properties - 2010 Main Cotton Variety Test with irrigation on a Hebert silt loam at Rohwer, Ark.

Variety	Lint yield		Lint frac.		Ht.	Open bolls		Seed index		Lint index		Seed/acre		Fibers/seed		Fiber density		
	lb/a	r	%	r		cm	%	r	g	r	g	r	mil.	r	no.	r	no.	
DP 1032 B2RF	1618	1	42.5	5	91	1	75	21	10.9	12	8.5	7	8.631	10	18554	5	172	5
ST 5458 B2RF	1617	2	41.5	13	79	22	69	27	10.6	16	7.8	16	9.426	2	15472	24	147	26
CG 3220 B2RF	1583	3	41.3	15	80	20	85	6	9.6	30	7.0	27	10.230	1	14784	27	150	24
DG 2570 B2RF	1583	4	42.4	6	84	8	80	14	11.3	5	8.7	4	8.279	17	18233	7	165	11
DP 0912 B2RF	1564	5	40.6	20	82	10	81	12	11.4	4	8.2	11	8.583	12	16800	19	152	22
DP 0935 B2RF	1531	6	40.5	23	81	14	73	22	10.6	17	7.6	19	9.122	4	16751	20	159	18
DP 1028 B2RF	1495	7	44.0	1	88	5	68	29	11.3	6	9.4	1	7.248	28	20728	1	188	1
FM 1740 B2F	1480	8	41.7	9	74	31	81	12	11.1	8	8.4	9	8.057	19	17665	11	162	16
ST 5288 B2F	1476	9	41.0	16	82	11	69	27	11.0	9	7.9	14	8.526	14	18338	6	169	9
09R 619 B2R2	1470	10	43.1	3	87	6	70	24	10.5	19	8.3	10	8.032	20	18045	8	172	6
ST 4288 B2F	1464	11	39.1	28	78	23	71	23	10.8	14	7.2	25	9.171	3	15165	25	142	28
DP 174 RF	1445	12	41.9	8	91	2	83	10	10.0	28	7.6	17	8.594	11	17788	10	175	4
DP 0920 B2RF	1440	13	41.6	10	75	26	86	2	9.9	29	7.5	20	8.741	9	14824	26	147	27
DP 0949 B2RF	1433	14	43.5	2	88	4	64	30	10.9	13	8.8	3	7.384	26	17509	12	163	14
BCSX 1010 B2F	1426	15	39.7	26	81	18	76	18	10.4	22	7.2	26	8.951	6	16922	18	163	15
PHY 315 RF	1413	16	42.1	7	82	13	84	8	11.0	10	8.4	8	7.652	24	19442	3	180	2
CG 3035RF	1410	17	42.9	4	79	21	79	16	9.3	32	7.2	24	8.835	7	17139	17	177	3
CG 4020 B2RF	1403	18	40.5	22	81	18	83	10	11.2	7	7.9	13	8.027	22	17152	16	157	19
CG 3520 B2RF	1397	19	39.2	27	81	15	85	6	11.0	11	7.4	21	8.532	13	16217	22	150	23
PHY 569 WRF	1392	20	41.6	12	85	7	63	31	12.2	2	9.1	2	6.945	31	19846	2	171	8
AM 1550 B2RF	1390	21	40.8	19	75	29	86	2	10.5	21	7.6	18	8.275	18	17372	13	165	10
CG 3020 B2RF	1380	22	41.0	17	76	25	86	2	10.2	24	7.4	22	8.483	16	16349	21	159	17
DP 393 ck.	1378	23	40.2	25	81	15	84	8	12.4	1	8.6	5	7.239	29	17935	9	153	21
UA48	1312	24	38.9	29	74	30	89	1	10.1	26	6.6	29	8.969	5	12466	32	122	31
PHY 375 WRF	1293	25	41.4	14	83	9	80	14	10.5	20	8.0	12	7.363	27	17290	15	165	12
PHY 367 WRF	1289	26	41.6	11	72	32	86	2	11.6	3	8.6	6	6.785	32	19170	4	171	7
DP 0924 B2RF	1287	27	40.3	24	75	28	78	17	9.5	31	6.9	28	8.498	15	14607	28	149	25
FM 1773 LLB2	1270	28	37.3	32	75	27	76	18	10.6	17	6.5	32	8.833	8	12743	31	121	32
PHY 485 WRF	1259	29	40.5	21	91	3	76	18	10.2	23	7.4	23	7.747	23	15913	23	154	20
PHY 565 WRF	1237	30	40.8	18	81	15	70	24	10.7	15	7.8	15	7.180	30	17338	14	163	13
FM 1845 LLB2	1170	31	38.3	31	77	24	70	24	10.1	27	6.6	31	8.031	21	13192	30	129	30
SSG HQ210 CT	1098	32	38.5	30	82	12	59	32	10.1	25	6.6	30	7.517	25	14164	29	138	29
Mean	1409		40.9		81		77		10.7		7.8		8.253		16747		158	
LSD 0.10	154		1.4		7		8		1.3		0.9		0.925		2122		12	
C.V.%	9.4		2.0		71.0		8.6		7.2		7.2		9.4		7.5		4.3	
R-sq x 100	58.5		87.4		64.9		68.0		64.6		79.2		61.2		84.0		91.5	

Table 13. Fiber properties - 2010 Main Cotton Variety Test with irrigation on a Hebert silt loam at Rohwer, Ark.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
DP 1032 B2RF	1618	1	69	13	4.7	23	1.17	11	83.4	19	28.8	22	6.2	24
ST 5458 B2RF	1617	2	73	9	5.1	5	1.18	6	84.5	5	31.6	7	5.5	30
CG 3220 B2RF	1583	3	64	21	4.9	10	1.17	11	82.9	25	30.6	12	7.2	6
DG 2570 B2RF	1583	4	67	16	5.0	6	1.14	24	83.8	16	30.6	12	7.6	2
DP 0912 B2RF	1564	5	56	28	5.2	1	1.13	28	83.7	18	28.8	22	6.6	19
DP 0935 B2RF	1531	6	52	29	4.9	10	1.12	30	83.4	20	28.5	26	6.8	15
DP 1028 B2RF	1495	7	78	3	4.6	28	1.18	7	84.8	2	30.3	14	6.8	13
FM 1740 B2F	1480	8	75	6	4.9	17	1.15	17	84.8	4	30.1	15	6.0	26
ST 5288 B2F	1476	9	43	31	4.7	22	1.13	28	81.2	32	27.5	29	6.7	16
09R 619 B2R2	1470	10	62	25	4.9	17	1.15	17	82.6	29	29.5	17	6.6	20
ST 4288 B2F	1464	11	66	17	4.9	10	1.17	11	83.2	22	29.1	21	6.3	23
DP 174 RF	1445	12	76	5	4.3	32	1.19	5	84.4	6	28.7	24	6.6	18
DP 0920 B2RF	1440	13	70	12	5.1	3	1.18	7	84.2	8	28.0	28	6.9	9
DP 0949 B2RF	1433	14	66	17	5.2	1	1.16	15	83.7	17	31.8	6	5.8	27
BCSX 1010 B2F	1426	15	41	32	4.6	29	1.14	21	82.5	31	26.7	32	5.8	27
PHY 315 RF	1413	16	63	22	4.6	26	1.14	24	82.6	28	29.4	18	6.5	22
CG 3035RF	1410	17	71	11	4.5	31	1.14	23	83.9	13	29.2	19	7.4	5
CG 4020 B2RF	1403	18	66	19	4.8	21	1.17	11	83.4	21	28.1	27	6.8	13
CG 3520 B2RF	1397	19	72	10	4.7	24	1.18	7	83.9	14	28.6	25	7.6	2
PHY 569 WRF	1392	20	62	24	4.9	10	1.13	27	82.9	25	32.0	5	7.9	1
AM 1550 B2RF	1390	21	57	27	4.6	26	1.14	24	84.2	8	27.1	31	7.2	7
CG 3020 B2RF	1380	22	48	30	4.9	10	1.11	32	83.0	24	27.2	30	7.1	8
DP 393 ck.	1378	23	74	8	4.8	20	1.20	4	84.1	11	32.6	3	6.9	9
UA48	1312	24	86	1	5.0	8	1.27	1	85.0	1	33.0	1	5.7	29
PHY 375 WRF	1293	25	69	13	4.8	19	1.15	17	83.9	14	29.2	20	6.6	20
PHY 367 WRF	1289	26	75	6	4.6	29	1.18	7	84.2	10	31.3	9	6.7	16
DP 0924 B2RF	1287	27	60	26	5.0	6	1.14	21	82.6	30	30.7	11	6.8	11
FM 1773 LLB2	1270	28	65	20	5.1	3	1.21	2	83.0	23	30.0	16	4.8	32
PHY 485 WRF	1259	29	68	15	5.0	8	1.12	30	84.0	12	31.5	8	7.5	4
PHY 565 WRF	1237	30	79	2	4.7	24	1.15	17	84.3	7	32.7	2	6.8	11
FM 1845 LLB2	1170	31	78	3	4.9	10	1.21	3	84.8	2	32.1	4	5.4	31
SSG HQ210 CT	1098	32	63	22	4.9	10	1.16	16	82.8	27	31.3	9	6.1	25
Mean	1409		66		4.8		1.16		83.6		29.2		6.6	
LSD 0.10	154		16		0.3		0.03		1.3		1.9		0.8	
C.V.%	9.4		14.0		3.7		1.5		0.9		3.7		6.9	
R-sq x 100	58.5		70.9		75.4		87.8		70.9		84.4		84.4	

Table 14. Two-year average lint yields (lb/a) for varieties at the four locations of the 2009-2010 Arkansas Cotton Variety Test.

Variety	Keiser		Judd Hill		Marianna		Rohwer		All locations	
	Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r	lb/a	r
DP 0912 B2RF	888	4	1210	2	1103	1	1261	2	1115	1
ST 5458B2RF	940	1	1166	5	1029	4	1208	5	1086	2
DP 174 RF	837	5	1176	3	1022	7	1274	1	1077	3
DG 2570 B2RF	834	6	1212	1	1028	5	1219	4	1073	4
ST 5288B2F	828	9	1050	14	1026	6	1203	7	1027	5
AM 1550 B2RF	830	7	1168	4	958	13	1107	18	1016	6
DP 0920 B2RF	810	10	1095	7	1054	2	1064	22	1005	7
PHY 375 WRF	900	3	1071	12	989	11	1048	25	1002	8
DP 1032 B2RF	746	20	1087	9	943	15	1230	3	1001	9
DP 393 ck.	928	2	1017	16	911	22	1110	17	991	10
DP 0935 B2RF	830	8	1076	11	900	23	1134	13	985	11
ST 4288B2F	803	11	1013	18	916	20	1198	8	982	12
DP 1028 B2RF	710	24	1093	8	916	21	1193	9	978	13
DP 0949 B2RF	751	19	1003	22	991	10	1167	11	978	14
PHY 315 RF	778	15	1000	23	994	8	1120	15	973	15
09R 619 B2R2	731	22	1086	10	869	25	1205	6	973	16
FM 1740B2F	760	17	1014	17	941	17	1169	10	971	17
CG 3220 B2RF	777	16	1059	13	923	19	1123	14	970	18
UA48	685	28	1107	6	973	12	1103	19	967	19
PHY 367 WRF	755	18	1008	20	1050	3	1017	29	957	20
PHY 569 WRF	787	13	992	25	926	18	1116	16	955	21
DP 0924 B2RF	782	14	1006	21	951	14	1073	21	953	22
CG 3035RF	794	12	995	24	941	16	1052	24	945	23
PHY 485 WRF	729	23	1012	19	992	9	1034	28	942	24
CG 3520 B2RF	654	29	1035	15	858	26	1097	20	911	25
CG 4020 B2RF	648	30	983	26	813	28	1137	12	895	26
PHY 565 WRF	700	25	936	28	831	27	1043	27	877	27
CG 3020 B2RF	694	26	960	27	740	30	1054	23	862	28
BCSX 1010B2F	692	27	803	30	884	24	1043	26	855	29
FM 1845LLB2	732	21	885	29	709	32	926	30	813	30
FM 1773LLB2	591	32	799	31	788	29	876	31	763	31
SSG HQ210 CT	592	31	696	32	731	31	754	32	693	32
Mean	894		1074		927		779		919	

Table 15. Three-year average lint yields (lb/a) for varieties at four locations of the 2008-2010 Arkansas Cotton Variety Test.

Variety	Keiser		Judd Hill		Marianna		Rohwer		All locations	
	Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r	lb/a	r
ST 5458B2RF	927	6	1215	2	1074	4	1132	1	1087	1
ST 5288B2F	943	3	1190	3	1079	2	1120	2	1083	2
DG 2570 B2RF	932	4	1227	1	1072	5	1066	5	1074	3
DP 174 RF	899	8	1172	6	1089	1	1113	3	1068	4
FM 1740B2F	854	13	1179	5	1029	9	1113	4	1044	5
AM 1550 B2RF	909	7	1187	4	1041	6	1016	9	1038	6
PHY 375 WRF	976	1	1136	7	1079	3	949	16	1035	7
PHY 315 RF	890	9	1124	9	1032	8	1022	8	1017	8
CG 3220 B2RF	877	10	1122	10	1028	10	992	11	1005	9
DP 393 ck.	948	2	1103	14	976	13	965	13	998	10
DP 0935 B2RF	867	11	1121	12	975	14	1016	10	995	11
DP 0924 B2RF	864	12	1109	13	1014	11	982	12	992	12
CG 3035RF	929	5	1063	16	1009	12	904	17	976	13
ST 4288B2F	848	14	1031	18	973	15	1050	6	976	14
PHY 485 WRF	796	17	1136	8	1033	7	902	18	967	15
CG 4020 B2RF	798	16	1086	15	933	17	1031	7	962	16
CG 3520 B2RF	763	19	1121	11	953	16	959	14	949	17
CG 3020 B2RF	804	15	1034	17	863	18	953	15	913	18
FM 1845LLB2	769	18	957	19	851	19	893	19	867	19
SSG HQ210 CT	632	20	812	20	834	20	675	20	738	20
Mean	1065		1211		1130		867		1068	

Table 16. Yield and related properties - 2010 1st-year Cotton Variety Test across four Arkansas test sites.

Variety	Lint yield		Lint frac.		Ht.		Open bolls		Seed index		Lint index		Seed/acre		Fibers/seed		Fiber density	
	lb/a	r	%	r	cm	r	%	r	g	r	g	r	mil.	r	no.	r	no.	r
Ark 0222-12	1345	1	40.8	13	91	23	58	9	11.6	4	8.2	1	7.324	3	16759	4	150	12
AMX 001 B2RF	1281	2	42.4	6	98	8	56	12	10.5	9	8.0	4	7.199	6	17324	1	165	3
PHY 499 WRF	1226	3	44.4	2	104	2	49	20	10.0	18	8.2	2	6.754	12	16775	3	165	2
PHY 375 WRF ck.	1207	4	42.3	7	99	6	54	15	10.3	14	7.8	7	7.022	8	17208	2	166	1
DG 2450 B2RF	1187	5	40.2	16	92	20	59	7	10.4	11	7.2	17	7.513	1	15552	14	149	13
PHY 440 W	1183	6	41.0	11	95	17	59	5	10.3	14	7.3	15	7.286	4	15696	12	151	10
CT 10624 B2RF	1161	7	41.9	8	94	18	52	16	10.5	10	7.7	9	6.890	10	15040	18	144	19
Ark 9803-23-04	1156	8	39.9	19	97	10	65	1	11.7	3	7.9	5	6.612	14	16579	7	147	17
Ark 0219-15	1155	9	40.7	14	97	11	55	13	11.7	2	8.1	3	6.372	17	16645	5	148	15
SSG HQ110 CT	1136	10	40.1	17	96	12	59	6	10.3	13	7.1	20	7.284	5	14771	20	142	20
BCSX 1030B2F	1126	11	41.5	9	96	13	62	4	9.8	20	7.1	19	7.163	7	16116	9	161	4
DP 1034 B2RF	1117	12	42.9	4	100	4	50	19	9.6	22	7.4	13	6.815	11	15865	11	160	6
BCSX 1040B2F	1104	13	36.1	23	92	21	57	11	11.8	1	6.7	22	7.416	2	13034	23	116	23
09R555 B2R2	1100	14	44.2	3	100	5	50	18	9.7	21	7.8	6	6.369	18	15501	15	156	8
DP 393 ck.	1081	15	40.9	12	93	19	58	10	10.7	7	7.5	10	6.469	15	15323	17	144	18
NG 4012 B2RF	1035	16	40.0	18	95	16	58	8	10.3	16	7.0	21	6.684	13	16635	6	160	5
NG 4010 B2RF	1032	17	38.9	20	95	15	64	2	10.4	12	6.7	23	6.950	9	13994	22	134	21
CT 10612 B2RF	1024	18	42.5	5	99	6	51	17	9.8	19	7.4	11	6.175	19	14854	19	148	16
NG F015 B2RF	1016	19	38.2	22	92	22	63	3	11.3	6	7.1	18	6.415	16	14496	21	132	22
10R052 B2R2	986	20	44.6	1	105	1	42	23	9.4	23	7.7	8	5.701	21	15669	13	160	7
PHY 519 WRF	944	21	40.3	15	103	3	45	22	10.7	8	7.4	12	5.789	20	16093	10	151	9
All-Tex LA122	917	22	41.3	10	96	14	55	14	10.2	17	7.4	14	5.642	22	15481	16	150	11
All-Tex A102	835	23	38.6	21	97	9	47	21	11.3	5	7.3	16	5.204	23	16303	8	148	14
Mean	1103		41.0		97		55		10.5		7.5		6.658		15728		150	
Var. LSD 0.10	76		0.9		5		4		0.4		0.3		0.433		646		6	
Loc. LSD 0.10	29		0.4		2		2		0.2		0.1		0.172		269		2.0	
C.V.%	10.8		2.6		8.3		12.8		4.6		5.0		10.6		4.9		4.8	
R-sq x 100	89.2		91.5		92.3		85.4		90.2		82.8		86.4		85.8		88.2	
Prob (var x loc)	<.0001		0.782		0.001		<.0001		0.290		0.318		<.0001		0.213		0.046	

Table 17. Fiber properties - 2010 1st-year Cotton Variety Test across four Arkansas test sites.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
Ark 0222-12	1345	1	76	3	4.7	14	1.23	3	85.3	6	33.6	8	6.0	5
AMX 001 B2RF	1281	2	53	20	4.7	12	1.17	21	84.0	22	32.4	13	6.8	1
PHY 499 WRF	1226	3	46	23	5.0	2	1.15	22	84.5	14	35.2	2	5.9	7
PHY 375 WRF ck.	1207	4	57	16	4.6	20	1.17	19	84.7	11	31.1	19	5.3	14
DG 2450 B2RF	1187	5	58	15	4.6	18	1.18	17	84.6	13	29.4	23	5.5	12
PHY 440 W	1183	6	50	22	4.8	9	1.15	23	84.9	8	34.5	4	6.0	4
CT 10624 B2RF	1161	7	50	21	5.1	1	1.18	14	84.1	20	31.7	17	5.3	13
Ark 9803-23-04	1156	8	73	4	4.6	19	1.22	4	85.0	7	33.9	7	5.7	9
Ark 0219-15	1155	9	60	12	4.9	6	1.19	8	84.4	18	32.9	12	5.6	10
SSG HQ110 CT	1136	10	56	17	4.8	8	1.18	15	84.3	19	32.3	15	5.1	18
BCSX 1030B2F	1126	11	55	18	4.5	21	1.17	19	84.1	21	29.5	22	5.9	6
DP 1034 B2RF	1117	12	62	8	4.6	15	1.19	13	84.8	10	30.8	20	6.5	2
BCSX 1040B2F	1104	13	89	1	4.7	13	1.27	1	86.8	1	32.3	14	4.7	21
09R555 B2R2	1100	14	61	11	5.0	3	1.19	10	85.4	4	36.2	1	5.3	16
DP 393 ck.	1081	15	62	10	4.9	6	1.19	11	85.5	3	34.1	5	5.7	8
NG 4012 B2RF	1035	16	62	8	4.2	23	1.20	7	83.6	23	31.1	18	4.6	23
NG 4010 B2RF	1032	17	63	7	4.8	10	1.20	6	84.5	16	33.6	10	5.0	20
CT 10612 B2RF	1024	18	77	2	4.7	11	1.23	2	85.8	2	34.1	6	5.2	17
NG F015 B2RF	1016	19	59	13	4.9	5	1.19	12	84.9	9	34.5	3	4.7	22
10R052 B2R2	986	20	54	19	5.0	4	1.18	15	84.6	12	32.0	16	6.3	3
PHY 519 WRF	944	21	59	14	4.6	15	1.18	18	84.5	15	33.6	8	5.5	11
All-Tex LA122	917	22	70	5	4.6	17	1.21	5	85.3	5	33.0	11	5.3	14
All-Tex A102	835	23	65	6	4.4	22	1.19	9	84.5	16	30.4	21	5.0	19
Mean	1103		62		4.7		1.19		84.8		32.7		5.5	
Var. LSD 0.10	76		6		0.2		0.02		0.6		1.0		0.4	
Loc. LSD 0.10	29		ns		ns		ns		ns		0.4		ns	
C.V.%	10.8		12.7		4.0		1.7		0.8		3.5		8.5	
R-sq x 100	89.2		81.6		80.1		84.6		73.3		88.3		82.7	
Prob (var x loc)	<.0001		0.291		0.300		0.191		0.619		0.250		0.405	

Table 18. Yield and related properties - 2010 1st-year Cotton Variety Test with irrigation on a Tunica silty clay soil at Keiser, Ark.

Variety	Lint yield	r	Lint frac.	r	Ht. cm	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber density	r
	lb/a		%				%		g		g		mil.		no.		no.	
AMX 001 B2RF	962	1	44.7	3	68	12	48	16	9.4	13	7.9	2	5.534	5	17964	1	184	1
PHY 499 WRF	961	2	45.5	1	73	6	44	18	9.3	16	7.9	1	5.512	8	16384	3	169	3
SSG HQ110 CT	899	3	41.6	13	65	18	60	1	8.8	22	6.5	21	6.276	1	14357	16	153	8
DP 393 ck.	893	4	41.7	11	71	8	53	8	9.4	13	6.9	17	5.880	2	14182	18	145	19
PHY 375 WRF ck.	888	5	43.7	5	67	14	50	12	9.4	15	7.6	5	5.336	9	16972	2	174	2
DG 2450 B2RF	864	6	41.4	15	61	23	55	5	9.8	9	7.1	13	5.515	7	15148	10	151	11
PHY 440 W	849	7	41.4	14	64	20	53	8	9.6	10	7.0	16	5.524	6	14689	13	148	13
CT 10624 B2RF	841	8	42.2	8	64	20	54	7	9.6	11	7.2	11	5.305	10	14032	20	142	21
Ark 0222-12	836	9	41.0	16	66	17	49	14	10.3	7	7.4	9	5.120	13	15681	7	151	10
NG 4010 B2RF	801	10	40.9	17	64	19	59	2	9.1	18	6.4	22	5.732	3	13632	22	142	20
Ark 9803-23-04	793	11	40.4	19	70	10	53	8	10.8	2	7.5	7	4.806	15	15565	9	146	18
Ark 0219-15	789	12	40.7	18	66	16	50	12	10.7	3	7.5	8	4.792	16	15618	8	147	15
BCSX 1040B2F	775	13	37.5	23	63	22	55	5	10.4	5	6.3	23	5.551	4	12736	23	122	23
BCSX 1030B2F	774	14	41.6	12	69	11	58	4	9.1	18	6.7	19	5.246	11	14576	14	152	9
DP 1034 B2RF	774	15	43.3	7	67	15	49	14	8.9	21	7.0	14	5.004	14	14826	12	157	5
NG 4012 B2RF	761	16	40.3	20	71	8	59	2	9.6	12	6.6	20	5.242	12	16052	6	162	4
PHY 519 WRF	713	17	42.1	10	79	1	45	17	10.3	6	7.7	3	4.221	18	16073	5	155	7
NG F015 B2RF	668	18	39.0	22	68	13	51	11	10.4	4	6.8	18	4.461	17	14296	17	137	22
09R555 B2R2	607	19	43.9	4	72	7	44	18	9.2	17	7.4	10	3.725	20	14099	19	146	17
CT 10612 B2RF	590	20	43.7	6	74	5	43	20	8.9	20	7.0	15	3.832	19	13857	21	146	16
All-Tex LA122	567	21	42.2	9	74	4	43	20	10.1	8	7.6	6	3.410	21	15066	11	148	14
All-Tex A102	523	22	40.3	21	77	2	41	22	11.1	1	7.6	4	3.123	23	16197	4	148	12
10R052 B2R2	521	23	45.1	2	76	3	40	23	8.5	23	7.1	12	3.309	22	14406	15	157	6
Mean	768		41.9		69		50.1		9.7		7.2		4.892		15061		151	
LSD 0.10	107		1.0		4.8		6.1		0.7		0.5		0.663		1119		8	
C.V.%	11.7		1.5		5.9		10.4		4.2		4.1		11.3		4.3		3.1	
R-sq x 100	75.6		95.3		66.7		66.0		86.1		83.9		78.5		87.2		93.6	

Table 19. Fiber properties - 2010 1st-year Cotton Variety Test with irrigation on a Tunica silty clay soil at Keiser, Ark.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
AMX 001 B2RF	962	1	46	23	4.7	18	1.13	22	82.8	23	33.3	12	6.5	1
PHY 499 WRF	961	2	50	21	5.0	3	1.14	21	85.2	6	37.0	2	5.8	5
SSG HQ110 CT	899	3	50	20	4.8	12	1.14	19	83.7	21	32.9	15	5.5	9
DP 393 ck.	893	4	64	7	4.9	8	1.18	10	85.4	4	36.1	5	5.4	10
PHY 375 WRF ck.	888	5	48	22	4.7	17	1.13	23	84.3	19	31.7	18	5.3	12
DG 2450 B2RF	864	6	56	16	4.8	10	1.16	17	84.7	14	29.7	23	5.1	16
PHY 440 W	849	7	53	19	4.9	6	1.14	19	85.0	8	36.7	3	5.5	8
CT 10624 B2RF	841	8	56	17	5.2	1	1.18	9	84.3	18	32.7	17	5.3	13
Ark 0222-12	836	9	72	3	4.7	20	1.20	4	85.1	7	35.3	8	5.7	6
NG 4010 B2RF	801	10	59	14	4.8	12	1.17	15	84.2	20	32.8	16	5.4	11
Ark 9803-23-04	793	11	71	4	4.8	12	1.20	3	84.6	15	35.7	6	5.2	14
Ark 0219-15	789	12	63	10	4.8	9	1.18	10	84.9	9	33.8	10	5.7	6
BCSX 1040B2F	775	13	85	1	4.7	18	1.23	1	86.2	1	33.0	14	4.3	23
BCSX 1030B2F	774	14	63	10	4.7	20	1.16	16	85.3	5	30.7	22	6.0	4
DP 1034 B2RF	774	15	64	8	4.8	12	1.18	10	84.8	12	31.3	20	6.3	2
NG 4012 B2RF	761	16	62	12	4.2	23	1.17	13	83.7	21	31.4	19	4.6	21
PHY 519 WRF	713	17	67	6	4.8	12	1.19	6	84.8	10	35.1	9	5.0	17
NG F015 B2RF	668	18	54	18	4.9	6	1.15	18	84.5	16	36.2	4	4.4	22
09R555 B2R2	607	19	63	9	5.2	1	1.19	6	85.7	3	37.9	1	4.9	19
CT 10612 B2RF	590	20	81	2	4.8	10	1.23	2	85.9	2	35.7	6	5.1	15
All-Tex LA122	567	21	62	13	5.0	3	1.19	6	84.8	13	33.4	11	4.7	20
All-Tex A102	523	22	70	5	4.7	20	1.20	4	84.5	16	31.0	21	4.9	18
10R052 B2R2	521	23	57	15	5.0	3	1.17	13	84.8	10	33.1	13	6.0	3
Mean	768		61		4.8		1.17		84.7		33.7		5.3	
LSD 0.10	107		10		0.2		0.02		1.1		2.0		0.8	
C.V.%	11.7		9.4		2.9		1.2		78.6		3.4		8.4	
R-sq x 100	75.6		85.6		81.5		88.4		71.5		88.9		79.3	

Table 20. Yield and related properties - 2010 1st-year Cotton Variety Test with irrigation on a Dundee silt loam soil at Judd Hill, Ark.

Variety	Lint yield	Lint frac.	Ht.	Open bolls	Seed index	Lint index	Seed/ acre	Fibers/ seed	Fiber density
	lb/a	%	cm	%	g	g	mil.	no.	no.
Ark 0222-12	1407	39.3	126	47	12.3	8.0	7.988	16110	138
PHY 440 W	1350	39.6	127	45	11.1	7.4	8.302	15895	146
DG 2450 B2RF	1290	38.2	120	42	10.8	6.9	8.535	15691	147
BCSX 1030B2F	1233	40.4	127	43	10.5	7.3	7.633	16759	160
PHY 499 WRF	1223	42.6	129	45	10.3	7.8	7.154	16740	162
DP 1034 B2RF	1216	41.4	126	42	10.1	7.3	7.613	16290	159
CT 10624 B2RF	1188	39.9	118	38	11.7	7.8	6.869	15247	135
Ark 9803-23-04	1176	38.2	124	50	12.9	8.1	6.593	15174	144
09R555 B2R2	1159	43.7	127	43	10.5	8.3	6.323	16613	159
PHY 375 WRF ck.	1157	40.6	125	42	10.9	7.7	6.845	16944	157
AMX 001 B2RF	1150	40.2	124	48	11.1	7.6	6.870	16990	156
Ark 0219-15	1148	39.1	136	42	13.1	8.4	6.183	16879	139
BCSX 1040B2F	1145	33.5	119	47	12.7	6.6	7.902	13039	109
NG 4010 B2RF	1119	37.0	124	43	11.5	6.9	7.366	14518	130
NG 4012 B2RF	1074	37.4	99	43	10.9	6.6	7.357	16906	158
NG F015 B2RF	1044	35.9	114	48	12.2	7.0	6.795	14543	125
SSG HQ110 CT	1038	38.0	128	45	11.6	7.1	6.625	15748	141
CT 10612 B2RF	1010	39.3	137	42	10.9	7.3	6.252	15388	143
10R052 B2R2	994	42.8	124	47	10.2	7.8	5.799	16295	159
DP 393 ck.	968	38.5	127	42	11.9	7.6	5.790	15223	134
All-Tex LA122	912	38.9	129	40	11.4	7.3	5.653	15073	136
All-Tex A102	846	35.7	123	43	12.0	6.8	5.676	16217	141
PHY 519 WRF	824	37.9	124	42	11.6	7.3	5.134	17357	155
Mean	1116	39.0	124	44	11.4	7.4	6.837	15995	145
LSD 0.10	149	2.2	ns	ns	0.9	0.7	0.901	1493	13
C.V.%	9.8	3.4	10.3	12.3	4.7	5.6	9.6	5.4	5.3
R-sq x 100	74.3	87.1	52.9	34.5	84.0	76.5	75.3	74.9	85.8

Table 21. Fiber properties - 2010 1st-year Cotton Variety Test with irrigation on a Dundee silt loam soil at Judd Hill, Ark.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
Ark 0222-12	1407	1	77	4	4.7	10	1.23	4	85.9	3	32.8	10	6.6	4
PHY 440 W	1350	2	55	17	4.7	8	1.17	18	84.9	8	33.8	3	6.2	8
DG 2450 B2RF	1290	3	49	22	4.5	16	1.16	21	83.8	18	28.8	23	5.7	15
BCSX 1030B2F	1233	4	41	23	4.6	11	1.15	23	82.9	23	28.9	22	6.5	5
PHY 499 WRF	1223	5	51	21	4.8	6	1.16	21	84.2	16	34.5	2	6.5	5
DP 1034 B2RF	1216	6	66	8	4.4	20	1.19	14	85.1	7	30.7	18	6.8	3
CT 10624 B2RF	1188	7	53	18	5.1	1	1.20	9	84.0	17	31.8	15	5.5	16
Ark 9803-23-04	1176	8	71	5	4.5	16	1.22	5	84.9	8	33.5	6	6.0	9
09R555 B2R2	1159	9	68	7	4.9	3	1.21	6	85.5	6	36.7	1	5.5	16
PHY 375 WRF ck.	1157	10	53	18	4.6	11	1.17	18	84.7	10	30.6	19	5.8	14
AMX 001 B2RF	1150	11	57	13	4.6	15	1.18	16	83.6	19	31.9	14	7.3	1
Ark 0219-15	1148	12	57	13	5.0	2	1.20	11	84.5	12	32.1	12	6.0	10
BCSX 1040B2F	1145	13	96	1	4.5	16	1.30	1	86.7	1	31.1	16	5.3	18
NG 4010 B2RF	1119	14	61	11	4.7	8	1.20	9	84.4	14	33.6	5	4.6	23
NG 4012 B2RF	1074	15	60	12	3.9	23	1.21	6	83.3	21	30.3	20	4.7	22
NG F015 B2RF	1044	16	62	10	4.8	6	1.20	11	84.7	10	33.8	4	5.0	20
SSG HQ110 CT	1038	17	57	13	4.6	11	1.18	16	83.6	20	32.5	11	5.3	18
CT 10612 B2RF	1010	18	85	2	4.5	19	1.25	2	85.8	4	33.4	8	5.9	12
10R052 B2R2	994	19	56	16	4.8	4	1.18	15	84.3	15	30.7	17	7.1	2
DP 393 ck.	968	20	69	6	4.8	4	1.21	6	85.9	2	33.5	6	6.0	10
All-Tex LA122	912	21	78	3	4.6	11	1.24	3	85.8	4	33.2	9	5.9	13
All-Tex A102	846	22	65	9	4.2	22	1.20	11	84.4	13	30.3	20	5.0	20
PHY 519 WRF	824	23	52	20	4.4	21	1.17	18	83.1	22	32.1	12	6.5	5
Mean	1116		62		4.6		1.20		84.6		32.2		5.9	
LSD 0.10	149		16		0.4		0.05		1.2		1.8		0.8	
C.V.%	9.8		14.8		4.5		2.2		0.8		3.2		7.8	
R-sq x 100	74.3		81.0		78.3		79.0		80.9		87.1		84.8	

Table 22. Yield and related properties - 2010 1st-year Cotton Variety Test with irrigation on a Calloway silt loam soil at Marianna, Ark.

Variety	Lint yield		Lint frac.		Ht. r	Open bolls		Seed index		Lint index		Seed/acre		Fibers/seed		Fiber density		
	lb/a	r	%	r		cm	%	r	g	r	g	r	mil.	r	no.	r	no.	
Ark 0222-12	1359	1	41.7	14	107	22	53	11	11.7	1	8.6	1	7.176	9	17417	1	156	8
AMX 001 B2RF	1332	2	42.4	9	118	9	55	5	10.4	8	7.9	4	7.670	3	16335	4	156	7
PHY 375 WRF ck.	1236	3	42.5	7	120	7	55	5	10.1	13	7.6	7	7.401	5	16041	6	157	5
CT 10624 B2RF	1213	4	42.4	10	120	8	44	18	10.0	16	7.4	11	7.394	6	14659	17	144	16
PHY 499 WRF	1205	5	44.5	3	129	2	40	20	10.0	15	8.2	2	6.662	14	16367	3	161	2
DG 2450 B2RF	1196	6	40.9	16	113	15	55	5	10.4	9	7.3	15	7.462	4	15638	11	150	12
BCSX 1040B2F	1174	7	36.9	23	113	16	49	17	11.6	2	6.8	21	7.795	2	13263	21	118	23
09R555 B2R2	1173	8	45.1	1	122	5	50	13	9.1	23	7.6	8	7.048	10	15219	13	159	4
BCSX 1030B2F	1165	9	43.1	6	115	13	59	4	9.6	19	7.3	14	7.244	8	15810	8	160	3
SSG HQ110 CT	1155	10	39.6	19	118	10	53	11	10.1	14	6.7	22	7.824	1	12758	22	125	21
Ark 0219-15	1147	11	42.4	8	110	18	53	10	10.7	6	7.9	3	6.540	15	16541	2	156	10
Ark 9803-23-04	1130	12	40.7	17	115	12	71	1	11.0	5	7.7	6	6.686	13	15863	7	147	14
PHY 440 W	1117	13	41.8	12	116	11	54	8	9.6	18	7.0	20	7.276	7	14768	16	149	13
DP 1034 B2RF	1097	14	43.9	4	123	3	43	19	9.3	22	7.4	12	6.707	12	15727	10	162	1
DP 393 ck.	1078	15	41.7	13	102	23	54	8	10.5	7	7.5	10	6.505	16	15000	15	143	18
NG 4012 B2RF	1038	16	41.2	15	121	6	50	13	10.3	11	7.3	13	6.437	17	16154	5	156	9
NG 4010 B2RF	971	17	38.9	21	112	17	66	2	10.2	12	6.6	23	6.714	11	12595	23	123	22
NG F015 B2RF	954	18	38.5	22	107	21	65	3	11.3	3	7.2	16	5.995	18	14198	20	129	20
CT 10612 B2RF	942	19	43.4	5	109	20	50	13	9.7	17	7.5	9	5.666	20	14234	19	143	17
10R052 B2R2	905	20	44.7	2	130	1	26	22	9.5	20	7.9	5	5.231	22	15444	12	157	6
All-Tex LA122	894	21	42.4	11	114	14	50	13	9.4	21	7.1	18	5.707	19	15084	14	154	11
PHY 519 WRF	848	22	40.3	18	123	4	26	22	10.3	10	7.0	19	5.464	21	14573	18	141	19
All-Tex A102	682	23	38.9	20	109	19	38	21	11.1	4	7.2	17	4.317	23	15777	9	145	15
Mean	1093		41.6		116		50		10.3		7.4		6.689		15194		147	
LSD 0.10	153		2.2		10		12		0.8		0.5		0.934		1275		16	
C.V.%	11.5		3.1		7.5		20.2		4.3		4.0		11.5		4.9		6.3	
R-sq x 100	69.2		84.5		49.0		64.3		85.1		83.9		65.6		84.3		80.3	

Table 23. Fiber properties - 2010 1st-year Cotton Variety Test with irrigation on a Calloway silt loam soil at Marianna, Ark.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
Ark 0222-12	1359	1	74	3	4.7	14	1.23	2	85.5	5	33.9	13	5.2	10
AMX 001 B2RF	1332	2	59	15	4.8	12	1.19	14	85.0	14	32.6	17	6.5	1
PHY 375 WRF ck.	1236	3	61	10	4.7	16	1.19	14	84.9	15	30.7	20	5.1	13
CT 10624 B2RF	1213	4	43	21	5.2	1	1.17	21	83.9	22	32.8	16	5.1	11
PHY 499 WRF	1205	5	43	21	5.2	2	1.16	22	84.4	19	36.0	2	5.6	5
DG 2450 B2RF	1196	6	59	17	4.7	18	1.18	20	85.2	9	31.3	19	5.1	11
BCSX 1040B2F	1174	7	88	1	4.7	14	1.26	1	86.9	1	33.0	15	4.5	20
09R555 B2R2	1173	8	60	13	4.9	10	1.19	11	85.1	12	35.2	6	5.7	4
BCSX 1030B2F	1165	9	58	18	4.7	18	1.18	17	84.2	20	30.6	22	5.3	9
SSG HQ110 CT	1155	10	61	10	5.1	3	1.21	7	85.2	9	34.1	11	4.1	23
Ark 0219-15	1147	11	58	18	4.8	11	1.19	11	84.1	21	34.1	12	5.1	13
Ark 9803-23-04	1130	12	71	4	4.7	18	1.22	4	85.3	8	34.5	9	5.4	7
PHY 440 W	1117	13	42	23	5.0	7	1.13	23	84.8	17	35.3	5	5.6	5
DP 1034 B2RF	1097	14	61	12	4.7	16	1.19	14	84.8	16	30.6	23	6.4	2
DP 393 ck.	1078	15	59	15	5.0	9	1.19	11	85.4	7	34.5	10	5.4	7
NG 4012 B2RF	1038	16	64	8	4.5	21	1.20	9	83.9	22	31.8	18	4.5	19
NG 4010 B2RF	971	17	64	9	5.1	6	1.22	6	85.0	13	34.9	7	4.7	18
NG F015 B2RF	954	18	65	7	5.0	7	1.21	8	85.4	6	35.7	3	4.4	21
CT 10612 B2RF	942	19	68	5	5.1	5	1.22	4	86.2	2	34.9	7	4.4	21
10R052 B2R2	905	20	50	20	5.1	3	1.18	17	84.6	18	33.1	14	6.2	3
All-Tex LA122	894	21	77	2	4.5	21	1.23	3	85.6	3	35.6	4	5.0	15
PHY 519 WRF	848	22	60	13	4.8	12	1.18	17	85.5	4	36.0	1	4.9	16
All-Tex A102	682	23	68	5	4.5	23	1.20	9	85.2	9	30.7	21	4.8	17
Mean	1093		61		4.8		1.19		85.0		33.5		5.2	
LSD 0.10	153		12		0.3		0.03		1.1		2.4		1.0	
C.V.%	11.5		11.5		4.0		1.5		0.8		4.2		10.9	
R-sq x 100	69.2		83.8		72.8		84.5		74.8		79.2		73.0	

Table 24. Yield and related properties - 2010 1st-year Cotton Variety Test with irrigation on a Hebert silt loam at Rohwer, Ark.

Variety	Lint		Lint		Ht.	Open		Seed		Lint		Seed/		Fibers/		Fiber		
	yield	r	frac.	r		r	bolts	r	index	r	index	r	acre	r	seed	r	density	r
	lb/a		%		cm	%		g		g		mil.		no.		no.		
Ark 0222-12	1668	1	41.3	11	75	23	81	5	12.2	3	8.8	2	8.627	7	17828	3	154	16
CT 10624 B2RF	1657	2	43.2	6	80	21	70	15	10.6	14	8.3	6	9.084	1	16223	16	154	15
AMX 001 B2RF	1645	3	42.5	7	88	8	73	13	11.2	6	8.6	4	8.640	6	18007	2	164	6
CT 10612 B2RF	1550	4	43.7	4	88	9	69	16	9.8	22	7.9	13	8.969	2	15937	19	158	11
PHY 375 WRF ck.	1536	5	42.3	8	91	5	68	17	11.0	10	8.2	7	8.463	9	18876	1	174	1
Ark 9803-23-04	1531	6	40.3	18	86	13	84	2	12.0	4	8.3	5	8.357	11	17471	6	152	17
Ark 0219-15	1531	7	40.8	17	88	9	71	14	12.4	1	8.7	3	7.968	19	17545	5	150	19
10R052 B2R2	1525	8	45.7	1	96	1	55	23	9.5	23	8.2	8	8.488	8	16531	14	169	4
PHY 499 WRF	1515	9	45.0	2	91	6	66	18	10.4	17	8.8	1	7.787	21	17610	4	169	3
09R555 B2R2	1475	10	44.0	3	87	11	63	22	9.9	21	8.0	10	8.367	10	16070	18	159	10
PHY 440 W	1458	11	41.3	12	80	20	83	4	11.1	8	8.0	11	8.296	12	17434	7	161	9
SSG HQ110 CT	1429	12	41.3	13	83	15	75	11	10.9	11	7.9	12	8.246	14	16219	17	150	18
DG 2450 B2RF	1426	13	40.2	19	82	16	79	8	10.7	13	7.4	20	8.797	4	15730	20	148	20
BCSX 1040B2F	1409	14	36.5	23	81	18	75	11	12.3	2	7.2	21	8.913	3	13098	23	112	23
DP 1034 B2RF	1406	15	43.2	5	93	3	64	21	10.0	19	7.8	14	8.137	16	16619	13	164	7
PHY 519 WRF	1359	16	41.1	14	93	2	65	19	10.6	16	7.6	15	8.172	15	16371	15	155	14
BCSX 1030B2F	1356	17	41.1	15	81	17	84	2	9.9	20	7.1	22	8.645	5	17319	9	171	2
NG 4012 B2RF	1356	18	41.0	16	91	4	78	10	10.6	15	7.5	19	8.263	13	17427	8	165	5
DP 393 ck.	1354	19	41.7	10	81	19	79	8	11.1	7	8.1	9	7.541	23	16889	11	155	13
NG F015 B2RF	1318	20	39.4	21	84	14	85	1	11.3	5	7.5	18	8.016	18	14947	22	136	22
All-Tex LA122	1287	21	41.8	9	78	22	81	5	10.1	18	7.5	17	7.818	20	16701	12	163	8
NG 4010 B2RF	1258	22	38.7	22	89	7	81	5	10.9	12	7.1	23	8.092	17	15233	21	142	21
All-Tex A102	1254	23	39.6	20	87	11	65	19	11.1	9	7.5	16	7.595	22	17020	10	157	12
Mean	1445		41.6		85.6		74		10.9		7.9		8.293		16657		156	
LSD 0.10	173		1.5		7		7		0.9		0.8		ns		1419		11	
C.V.%	9.8		2.1		7.1		7.9		4.9		5.9		9.8		5.0		3.9	
R-sq x 100	51.1		92.2		65.6		80.3		84.4		74.6		29.2		80.2		90.5	

Table 25. Fiber properties - 2010 1st-year Cotton Variety Test with irrigation on a Hebert silt loam at Rohwer, Ark.

Variety	Lint		Quality		Fiber properties									
	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
Ark 0222-12	1668	1	82	2	4.6	15	1.26	2	84.9	8	32.4	7	6.6	3
CT 10624 B2RF	1657	2	48	22	5.1	1	1.19	16	84.4	19	29.8	19	5.3	17
AMX 001 B2RF	1645	3	50	20	4.9	6	1.17	21	84.6	14	31.9	10	6.9	1
CT 10612 B2RF	1550	4	76	4	4.7	12	1.24	3	85.5	2	32.4	6	5.5	15
PHY 375 WRF ck.	1536	5	68	6	4.3	21	1.21	8	85.0	7	31.4	13	5.0	19
Ark 9803-23-04	1531	6	77	3	4.5	17	1.24	3	85.3	4	31.8	12	6.1	5
Ark 0219-15	1531	7	62	10	4.9	6	1.22	6	84.4	19	31.8	11	5.6	13
10R052 B2R2	1525	8	55	18	4.9	4	1.19	14	84.7	11	31.2	14	5.8	10
PHY 499 WRF	1515	9	42	23	5.1	1	1.17	22	84.4	17	33.5	2	5.8	9
09R555 B2R2	1475	10	54	19	5.0	3	1.18	17	85.5	2	35.2	1	5.0	20
PHY 440 W	1458	11	50	20	4.7	12	1.16	23	84.9	8	32.1	9	6.8	2
SSG HQ110 CT	1429	12	57	13	4.8	10	1.20	11	84.6	15	29.7	21	5.6	13
DG 2450 B2RF	1426	13	67	7	4.6	16	1.22	6	84.7	11	28.1	22	6.0	6
BCSX 1040B2F	1409	14	89	1	4.9	6	1.30	1	87.3	1	32.2	8	5.0	20
DP 1034 B2RF	1406	15	59	11	4.7	11	1.19	14	84.5	16	30.6	17	6.4	4
PHY 519 WRF	1359	16	56	15	4.7	12	1.18	20	84.6	13	31.1	15	5.7	11
BCSX 1030B2F	1356	17	57	13	4.1	23	1.20	11	84.0	21	27.7	23	6.0	8
NG 4012 B2RF	1356	18	63	9	4.3	21	1.21	9	83.6	23	30.9	16	4.6	23
DP 393 ck.	1354	19	56	17	4.8	9	1.18	17	85.3	5	32.5	5	6.0	6
NG F015 B2RF	1318	20	58	12	4.9	4	1.20	10	84.9	8	32.5	4	4.9	22
All-Tex LA122	1287	21	65	8	4.4	20	1.20	11	85.2	6	30.0	18	5.7	11
NG 4010 B2RF	1258	22	69	5	4.5	17	1.22	5	84.4	17	33.0	3	5.3	17
All-Tex A102	1254	23	56	15	4.5	19	1.18	17	83.9	22	29.7	20	5.5	16
Mean	1445		61		4.7		1.20		84.8		31.3		5.7	
LSD 0.10	173		15		0.3		0.04		ns		1.6		0.7	
C.V.%	9.8		14.2		4.3		1.8		1.0		3.0		7.1	
R-sq x 100	51.1		77.7		78.8		82.2		59.2		87.1		82.1	

Table 26. Morphological and host plant resistance traits in the 2010 Main Arkansas Cotton Variety Tests.

Variety	Leaf		Stem		Bract		Tarnished plant	
	pubescence ¹ rating	r	pubescence ¹ rating	r	trichomes ² no./cm	r	bug damage ³ %	r
AM 1550 B2RF	1.0	1	5.8	3	15.5	4	38	9
BCSX 1010 B2F	1.8	14	7.3	25	20.3	10	46	24
CG 3020 B2RF	1.0	4	6.5	12	25.5	29	41	17
CG 3035RF	1.1	5	6.8	16	17.7	7	39	11
CG 3220 B2RF	1.7	13	5.7	2	15.7	5	42	19
CG 3520 B2RF	2.3	18	6.8	17	23.5	21	38	10
CG 4020 B2RF	1.3	9	7.2	24	20.9	14	45	22
DG 2570 B2RF	1.1	7	6.0	5	18.9	9	41	18
DP 0912 B2RF	2.4	20	6.6	14	24.8	26	36	4
DP 0920 B2RF	2.3	19	7.1	23	21.8	16	37	6
DP 0924 B2RF	2.8	22	6.7	15	21.8	17	39	12
DP 0935 B2RF	1.1	6	5.8	4	17.4	6	30	1
DP 0949 B2RF	3.7	30	8.2	31	24.9	27	48	25
09R 619 B2R2	1.0	2	5.6	1	14.0	2	39	13
DP 1028 B2RF	1.1	8	6.1	7	14.0	3	39	14
DP 1032 B2RF	1.4	12	6.5	13	20.8	13	49	28
DP 174 RF	3.0	23	7.3	28	23.1	20	40	15
DP 393 ck.	2.2	17	7.0	22	24.1	25	40	16
FM 1740B2F	2.2	16	7.3	26	23.9	23	44	20
FM 1773LLB2	2.0	15	6.3	10	20.4	11	48	26
FM 1845LLB2	3.0	24	7.3	29	27.6	30	49	29
PHY 315 RF	3.4	28	6.8	19	21.9	18	50	30
PHY 367 WRF	2.8	21	6.8	18	23.5	22	34	2
PHY 375 WRF	3.1	25	6.0	6	21.6	15	48	27
PHY 485 WRF	3.4	29	7.9	30	27.6	31	44	21
PHY 565 WRF	3.2	26	6.8	21	25.3	28	37	7
PHY 569 WRF	1.3	10	7.3	27	22.8	19	45	23
SSG HQ210 CT	1.0	3	6.3	9	13.9	1	50	31
ST 4288B2F	3.2	27	6.4	11	24.1	24	37	8
ST 5288B2F	5.7	32	9.0	32	28.4	32	35	3
ST 5458B2RF	3.8	31	6.8	20	20.6	12	36	5
UA48	1.4	11	6.1	8	18.4	8	59	32
Frego bract, ck.	.	.	.	.	.	.	93	34
Frego bract, ck.	.	.	.	.	.	.	90	33
Mean	2.2		6.7		21.4		45	
LSD 0.10	0.6		1.0		2.4		6	
C.V.%	23.8		12.8		9.7		21.1	
R-sq x 100	86.0		54.0		83.6		69.1	

¹Leaf and stem pubescence rated at Keiser irrigated test (6 plants per plots, 4 reps) using scale of 1 (smooth leaf) to 9 (pilose, very hairy).

²Marginal trichome density determined on 6 bracts/plot (4 reps) at Keiser irrigated test.

³Response to tarnished plant bug was determined by examining white flowers (6 flowers/plot/day for 6 days) for presence of anther damage. Plots were 1-row, replicated 12 times.

Table 27. Morphological and host plant resistance traits for the 1st-year 2010 Arkansas Cotton Variety Test.

Variety	Leaf		Stem		Bract		Tarnished plant	
	pubescence ¹	r	pubescence ¹	r	trichomes ²	r	bug damage ³	r
	rating		rating		no./cm		%	
All-Tex A102	2.3	12	5.2	8	23.2	17	41	17
All-Tex LA122	2.7	17	6.1	13	23.2	16	36	8
AMX 001 B2RF	3.5	20	6.8	18	26.4	20	26	1
Ark 0219-15	2.6	15	5.9	10	29.8	23	43	21
Ark 0222-12	4.2	22	5.9	11	25.3	19	31	3
Ark 9803-23-04	1.1	2	5.1	7	16.8	5	43	22
BCSX 1030B2F	1.3	4	6.3	15	21.3	12	33	5
BCSX 1040B2F	4.5	24	6.8	19	26.6	21	34	7
CT 10612 B2RF	1.9	7	4.4	4	16.8	4	33	6
CT 10624 B2RF	2.6	16	6.9	20	21.9	13	30	2
DG 2450 B2RF	1.4	5	6.0	12	22.7	15	41	18
09R555 B2R2	1.8	6	5.8	9	18.9	8	39	14
10R052 B2R2	1.0	1	5.1	6	14.6	2	36	9
DP 1034 B2RF	1.2	3	4.8	5	13.7	1	38	11
DP 393 ck.	2.0	8	7.2	22	24.7	18	32	4
NG 4010 B2RF	2.3	13	1.4	2	18.4	7	39	15
NG 4012 B2RF	2.2	10	1.1	1	19.4	9	42	19
NG F015 B2RF	2.3	11	1.5	3	15.0	3	48	23
PHY 375 WRF ck.	3.0	18	6.7	17	20.2	10	38	12
PHY 440 W	3.3	19	6.9	21	30.0	24	42	20
PHY 499 WRF	3.5	21	7.2	23	28.7	22	38	13
PHY 519 WRF	2.5	14	6.2	14	18.2	6	36	10
SSG HQ110 CT	2.1	9	6.3	16	20.8	11	40	16
Frego bract, ck.	4.3	23	7.4	24	22.0	14	80	25
Frego bract, ck.	.		.		.		74	24
Mean	2.5		5.5		21.6		41	
LSD 0.10	0.7		1.0		3.0		8	
C.V.%	22.9		15.0		11.6		31.0	
R-sq x 100	81.6		86.3		83.0		55.6	

¹Leaf and stem pubescence rated at Keiser irrigated test (6 plants per plots, 4 reps) using scale of 1 (smooth leaf) to 9 (pilose, very hairy).

²Marginal trichome density determined on 6 bracts/plot (4 reps) at Keiser irrigated test.

³Response to tarnished plant bug was determined by examining white flowers (6 flowers/plot/day for 6 days) for presence of anther damage. Plots were 1-row, replicated 12 times.

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