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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 2008 Arkansas Cotton Variety Test was separated into two experiments: one with 30 entries that were evaluated in both 2007 and 2008 and one for 20 first-year entries. Two common check varieties were included in both experiments. Reported data include yield, lint percentage, plant height, open bolls, yield component variables, fiber properties, Verticillium wilt rating, 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.

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J.M. Hornbeck, and A.J. Hood[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® (BG and 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 2007 Arkansas Cotton Variety Test and were re-submitted in 2008 were entered in the 2008 Main experiment. Lines that were not evaluated in the 2007 test were entered into the 2008 1st-year variety test. Common check varieties were included in both experiments.

Materials and Methods

The 2008 Main experiment included 30 entries while the 1st-year experiment had 20 entries (Table 1). The 30 varieties in the Main experiment included 26 Round-up Ready Flex® varieties (18 B2RF, 6 RF, and 2 WRF), 2 non-Round-up Ready Flex® varieties (1 WR and 1 B2LL), and 2 check varieties (1 BR and 1 conventional). The 1st-year experiment included 18 entries plus two check varieties (1 B2RF and 1 BR). The 18 entries included 11 Round-up Ready Flex® varieties (all B2RF) and 7 non-Round-up Ready Flex® varieties (4 B2LL and 3 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 Southeast Branch Experiment 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 6oz/100 lb seed. Plots were planted with a constant number of seed (about 4 seed/row ft). All varieties were

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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

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.

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 were 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(TPB): 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 23 and managed to encourage TPB infestations. An area of mustard beside the field and four rows of frego bract cotton between the experiments were planted approximately one month prior to planting the experiments. Response to TPB was determined by examining white flowers (6 flowers/plot/day for 9 days in late August) for presence of anther damage. Accumulate percentage of damaged flowers ("dirty blooms") was determined for each plot.

Verticillium wilt: Naturally occurring incidence of Verticillium wilt was visually rated at the Judd Hill site on August 29. The percentage of plants showing Verticillium wilt symptoms was estimated from both ends of each plot and plot means (average of the two estimates) were evaluated.

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: Immediately before or after first application of defoliants, 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-average 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 (Q-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 x length uniformity x (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 index converted to a volumetric measure was used to estimate seed surface area.

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. Since CV is a function of the mean of a parameter, R-squared is considered to be a better tool for comparing the precision of different experiments.

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 2008 production season.

Rain and subsequent wet conditions hindered emergence or delayed planting at every location (Tables 2 and 3). Tests at Marianna were re-planted due to erratic stands and at Rohwer due to chemical injury to one side of field. Stands at Judd Hill were less than optimal, but were considered adequate. Northeast and central Arkansas experienced near normal accumulation of heat units (DD60s) throughout the growing season, while southeast Arkansas experienced cooler-than-normal temperatures in August and September. These cooler temperatures were associated with rain from

Hurricanes Gustav and Ike, which caused much boll rot and harmed yields. Most of northeast Arkansas experienced drought conditions during June and July. Rainfall in September tended to interfere with defoliation and harvest of tests at all locations. Late crop maturity was generally associated with delayed planting or slow early development of plants. Other observations associated with each test site include:

Keiser. Very good stand establishment was obtained with late planting date, but plant development and subsequent flowering were slow. Due to its clay soil, no growth regulators were applied.

Judd Hill. Early planting produced adequate stands that emerged and grew slowly. Moderate incidence of Verticillium wilt occurred in August.

Marianna. Erratic stands were obtained from first planting date. Excellent stands and good early growth were attained from second planting.

Rohwer. Good stands were obtained from an early planting, but chemical injury occurred on one side of field. The tests were subsequently replanted. During the summer of 2008, symptoms associated with root knot nematode were observed for the first time in this field. The symptoms were generally throughout the field, but seemed to be less in the replanted tests. Good boll retention was attained but excess rainfall from hurricanes caused heavy incidence of boll rots.

Performance of entries in the Main experiment of 2008 Arkansas Cotton Variety Test, which includes varieties that were evaluated in both 2007 and 2008, is 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 1st-year entries, which were evaluated in 2008 but not evaluated in 2007, 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.

Literature Cited

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 trichome density in Upland cotton. J. Cotton Sci. 11:242-251. Available at http://www.cotton.org/journal/2007-11/4/242.cfm

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Cultural Inputs and Production Information

Table 1. Participants and entries in the 2008 Arkansas Cotton Variety Test.

Institution/Contact person	Main Test	1st year Test
Americot Inc. / Chiree Lopez	AM 1532 B2RF AM 1550 B2RF	NG 3331 B2RF NG 4370 B2RF NG 4377 B2RF
Bayer Crop Science / Steve Nichols	FM 1735 LLB2 ST 4427 B2RF ST 4498 B2RF ST 4554 B2RF ST 5327 B2RF ST 5458 B2RF	FM 1740 B2F FM 835 LLB2 FM 840 B2F BCSX 0721 B2F BCSX 0102 LLB2 BCSX 0187 LLB2 BCSX 0614 B2F BCSX 0704 B2F BCSX 0727 B2F BCSX 0888 LLB2 ST 4554 B2RF, ck
Monsanto / Diane Freeman	DP 121 RF DP 141 B2RF DP 143 B2RF DP 161 B2RF DP 164 B2RF DP 174 RF DP 393, ck DP 454 BG/RR, ck	DP 0924 B2RF DP 0935 B2RF DP 454 BG/RR, ck
PhytoGen Seed Co./ Bobby Haygood	PHY 315 RF PHY 370 WR PHY 375 WRF PHY 425 RF PHY 485 WRF	
Seed-Tec Genetics / Ed Jungmann		STG-CT-210
United Agri Products / Larry Stauber	Dyna-Gro 2400 Dyna-Gro 2490 Dyna-Gro 2520 Dyna-Gro 2570	
Winfield Solutions, LLC / Jaime Yanes Jaime Yanes	CG 3020 B2RF CG 3035 RF CG 3220 B2RF CG 3520 B2RF CG 4020 B2RF	
Ark. Agric. Exp. Station / Fred Bourland		Ark 9704-13-05 Ark 9706-38-06

Table 2. Cultural practices for locations of the 2008 Arkansas Cotton Variety Test.

	Location			
Input	Keiser	Judd Hill	Marianna	Rohwer
Soil type	Sharkey clay	Dundee silt loam	Callaway silt loam	Desha silt loam
N, P, K	100,0,0	92,28,82	84,0,67	0,30,70
Planting date	5/19	5/6	5/6, 5/21*	5/6, 5/14*
Irrigation method	Furrow	Furrow	Furrow	Furrow
Irrigation dates	6/17	6/6, 6/13, 6/20, 6/27		6/25
	7/1, 7/10, 7/22, 7/30	7/3, 7/11, 7/18, 7/24	7/16, 7/22	7/11, 7/17, 7/28
	8/6	8/1, 8/8, 8/15	8/5	8/6
Defoliation date	9/25	9/15	10/4	9/18
Harvest date	10/21	10/2	10/25	10/13

* Tests at Marianna and Rohwer had to be replanted.

Table 3. Weather summary for the 2008 production season in north, central and south Arkansas.

Location	Month	DD60's in 2008	Historical avg.[1] DD60's	Rainfall (in.) in 2008
Keiser	May	331.0	309.6	5.64
(northeast)	June	645.5	530.1	0.65
	July	700.5	645.4	1.80
	August	598.0	576.0	4.07
	September	398.0	361.5	5.20
	Total	2673.0	2422.6	17.36
Marianna	May	317.5	336.2	3.88
(central)	June	572.5	541.5	1.54
	July	671.0	648.8	2.11
	August	566.0	596.6	5.98
	September	385.5	393.1	2.60
	Total	5028.7	2516.2	16.11
Rohwer	May	340.5	351.4	4.16
(southeast)	June	582.5	550.6	3.49
	July	667.5	661.8	1.63
	August	555.0	612.4	9.17
	September	389.5	414.0	8.65
	Total	2535.0	2590.2	27.10

[1]DD60 (growing degree days based on 60F) from historical weather data, 1948-2005 for Marianna and 1960-2005 for Keiser and Rohwer.

Table 4. Yield and related propertes - 2008 Main Cotton Variety Test across four Arkansas test sites.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber den.	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
PHY 370 WR	1139	1	41.1	12	115	5	59	3	10.5	17	7.5	12	6.976	2	20434	12	32.6	11
PHY 315 RF	1106	2	41.4	9	108	18	56	11	10.8	5	7.9	6	6.371	20	17384	24	27.2	24
PHY 375 WRF	1102	3	41.8	4	111	11	56	11	10.3	23	7.6	10	6.661	11	17831	21	28.6	21
CG 4020 B2RF	1096	4	39.4	21	103	28	57	7	10.6	12	7.1	19	7.059	1	16761	25	26.4	25
ST 5458 B2RF	1090	5	40	14	104	27	46	25	11.1	1	7.7	9	6.468	15	16702	26	24.9	29
AM 1550 B2RF	1084	6	41.7	5	103	29	57	8	10.4	19	7.7	8	6.397	19	17816	22	28.6	22
Dyna-Gro 2570	1076	7	41.6	6	111	12	53	17	10.7	8	7.9	5	6.251	22	23207	2	36.3	1
CG 3220 B2RF	1075	8	41.4	10	106	21	58	5	10.7	7	7.7	7	6.319	21	19238	17	30.0	18
Dyna-Gro 2520	1074	9	39.9	16	107	19	58	4	10.6	11	7.2	16	6.872	4	18585	19	29.2	19
PHY 425 RF	1067	10	38.9	24	114	7	57	8	10.5	18	7.0	22	6.968	3	21034	7	33.6	8
DP 174 RF	1050	11	42.9	1	113	9	54	16	10.5	16	8.2	2	5.854	26	19346	16	30.9	17
Dyna-Gro 2400	1046	12	42.5	3	110	14	52	19	10.8	6	8.3	1	5.805	28	21129	6	32.7	9
DP 121 RF	1043	13	41.3	11	113	10	58	5	9.9	27	7.3	13	6.539	13	20970	9	35.2	6
CG 3035RF	1037	14	42.5	2	111	13	57	8	10.4	20	8.0	4	5.966	25	20338	13	32.4	12
CG 3520 B2RF	1026	15	39.5	20	105	24	61	1	10.4	21	7.0	20	6.698	10	19693	15	31.6	14
ST 5327 B2RF	1024	16	40.2	13	110	16	49	23	10.1	25	7.0	21	6.794	8	20449	11	33.8	7
ST 4498 B2RF	1020	17	39.8	17	104	26	46	25	10.5	13	7.2	14	6.437	17	22740	3	35.8	4
AM 1532 B2RF	1018	18	39.5	19	106	22	56	11	10.6	9	7.2	15	6.434	18	20818	10	32.7	10
CG 3020 B2RF	1017	19	38.7	26	101	30	59	2	11.0	4	7.2	17	6.444	16	18850	18	28.7	20
PHY 485 WRF	1017	20	39.7	18	114	6	52	19	10.0	26	6.8	24	6.827	6	21588	4	36.0	3
DP 454 BG/RR, ck	1012	21	41.5	8	121	1	51	21	9.7	28	7.1	18	6.500	14	21033	8	36.1	2
DP 393, ck	1012	22	41.5	7	106	23	56	11	11.1	2	8.1	3	5.709	29	23637	1	35.8	5
ST 4427 B2RF	1011	23	38.9	23	107	20	51	22	10.6	10	6.9	23	6.655	12	19770	14	31.0	16
Dyna-Gro 2490	984	24	38.3	28	105	25	54	15	10.4	22	6.6	26	6.796	7	15875	27	25.5	28
DP 164 B2RF	974	25	38.8	25	120	2	45	28	10.2	24	6.6	28	6.745	9	15663	28	25.6	27
DP 161 B2RF	974	26	39.2	22	116	4	47	24	9.7	29	6.5	29	6.836	5	18046	20	31.0	15
ST 4554 B2RF	953	27	39.9	15	109	17	46	25	11.0	3	7.5	11	5.820	27	21167	5	31.9	13
FM 1735 LLB2	916	28	38.2	29	110	15	53	18	10.5	14	6.8	25	6.149	23	17658	23	28.0	23
DP 141 B2RF	825	29	38.6	27	117	3	43	30	9.5	30	6.2	30	6.148	24	14557	30	25.6	26
DP 143 B2RF	784	30	37.5	30	114	8	44	29	10.5	15	6.6	27	5.410	30	14757	29	23.4	30
Mean	1022		40.2		110		53		10.4		7.3		6.430		19236		30.7	
Var. LSD 0.10	74		0.8		5		4		0.4		0.3		0.465		2561		3.8	
Loc. LSD 0.10	27		0.3		2		2		0.2		0.1		0.169		935		1.4	
C.V.%	12.5		2.4		7.7		14.2		4.3		5.4		12.4		16.1		15.1	
R-sq x 100	82.2		89.4		88.9		81.4		86.5		86.7		84.4		71.7		70.9	
Prob (var x loc)	<0.001		0.181		0.231		0.047		0.007		0.130		<0.001		0.517		0.519	

Table 5. Fiber properties - 2008 Main Cotton Variety Test across four Arkansas test sites.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
PHY 370 WR	1139	1	41	30	4.0	13	1.16	29	84.1	30	30.6	13	10.6	18
PHY 315 RF	1106	2	42	29	4.7	1	1.18	26	84.1	29	28.5	27	10.2	23
PHY 375 WRF	1102	3	46	27	4.4	4	1.19	21	84.3	27	28.9	24	10.4	19
CG 4020 B2RF	1096	4	68	6	4.2	8	1.22	7	84.9	16	28.1	30	11.1	11
ST 5458 B2RF	1090	5	54	15	4.6	2	1.21	11	84.3	26	30.8	11	9.5	29
AM 1550 B2RF	1084	6	49	25	4.4	5	1.18	28	84.5	24	28.3	29	10.7	16
Dyna-Gro 2570	1076	7	54	18	3.4	24	1.19	19	85.5	3	31.5	7	11.2	10
CG 3220 B2RF	1075	8	56	14	4.1	9	1.19	17	85.2	10	29.7	19	11.1	12
Dyna-Gro 2520	1074	9	70	5	3.8	17	1.24	5	85.1	12	28.7	25	11.0	14
PHY 425 RF	1067	10	51	22	3.4	27	1.18	23	85.3	6	31.7	6	11.8	3
DP 174 RF	1050	11	64	7	4.2	7	1.23	6	84.5	25	29.2	22	10.4	20
Dyna-Gro 2400	1046	12	58	10	3.9	14	1.19	20	84.7	20	30.7	12	11.5	6
DP 121 RF	1043	13	53	20	3.5	20	1.19	15	85.1	15	30.6	14	10.6	17
CG 3035RF	1037	14	53	19	4.1	10	1.18	24	84.7	18	30.8	10	11.3	8
CG 3520 B2RF	1026	15	58	11	3.5	20	1.21	10	85.3	6	29.0	23	11.5	6
ST 5327 B2RF	1024	16	56	13	3.4	25	1.20	12	85.3	6	32.2	5	10.4	20
ST 4498 B2RF	1020	17	50	24	3.2	29	1.19	15	85.3	5	33.1	1	11.6	5
AM 1532 B2RF	1018	18	60	8	3.4	26	1.22	8	85.5	4	28.4	28	11.0	13
CG 3020 B2RF	1017	19	52	21	3.9	15	1.18	26	84.7	21	28.6	26	11.3	9
PHY 485 WRF	1017	20	48	26	3.2	30	1.19	17	85.1	12	32.4	3	11.8	2
DP 454 BG/RR, ck	1012	21	51	23	3.4	22	1.18	24	85.2	9	30.5	15	10.1	24
DP 393, ck	1012	22	60	9	3.3	28	1.22	9	85.5	2	32.3	4	10.9	15
ST 4427 B2RF	1011	23	54	17	3.6	19	1.20	12	84.7	21	30.1	17	10.2	22
Dyna-Gro 2490	984	24	42	28	4.5	3	1.16	30	84.2	28	29.3	21	11.7	4
DP 164 B2RF	974	25	70	4	4.1	10	1.26	3	85.2	11	30.5	16	9.5	28
DP 161 B2RF	974	26	70	3	3.4	22	1.24	4	85.8	1	31.2	8	9.7	26
ST 4554 B2RF	953	27	54	15	3.6	18	1.20	14	84.7	18	32.4	2	12.2	1
FM 1735 LLB2	916	28	57	12	3.9	16	1.19	22	84.8	17	29.9	18	8.7	30
DP 141 B2RF	825	29	82	1	4.0	12	1.27	2	85.1	14	31.0	9	10.0	25
DP 143 B2RF	784	30	79	2	4.2	6	1.27	1	84.6	23	29.6	20	9.6	27
Mean	1022		57		3.8		1.20		84.9		30.3		10.7	
Var. LSD 0.10	74		8		0.5		0.02		0.6		0.7		0.4	
Loc. LSD 0.10	27		3		0.2		0.01		0.2		ns		0.1	
C.V.%	12.5		17.2		15.7		1.6		0.8		2.9		4.4	
R-sq x 100	82.2		76.5		64.5		86.9		64.8		86.7		88.9	
Prob (var x loc)	<0.001		0.047		0.743		0.051		0.494		0.140		0.103	

Table 6. Yield and related properties - 2008 Main Cotton Variety Test with irrigation on a Tunica silty clay soil at Keiser, AR.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber den.	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
CG 3035RF	1198	1	43.0	2	90	4	43	11	10.3	2	7.9	1	6.876	14	17824	11	28.9	18
Dyna-Gro 2400	1162	2	42.3	3	86	11	40	20	9.9	5	7.5	3	7.062	10	17653	13	29.6	14
PHY 370 WR	1157	3	41.1	12	86	9	50	1	9.4	22	6.8	14	7.759	2	18423	8	32.7	6
Dyna-Gro 2570	1129	4	41.2	10	84	15	39	21	9.8	11	7.1	9	7.265	6	17398	14	29.6	15
PHY 375 WRF	1129	5	42.3	4	86	10	44	8	9.3	23	7.1	8	7.193	8	14163	26	25.3	26
DP 164 B2RF	1118	6	39.8	21	92	3	41	13	9.2	25	6.3	24	8.099	1	14001	28	25.4	25
DP 454 BG/RR, ck	1117	7	42.0	7	92	2	41	13	9.0	30	6.8	15	7.503	4	18008	10	33.5	5
PHY 315 RF	1116	8	42.2	5	81	19	45	6	9.8	9	7.4	4	6.875	15	16613	20	28.2	20
CG 4020 B2RF	1098	9	39.2	24	82	18	46	4	10.4	1	6.9	12	7.229	7	16455	21	26.6	24
PHY 425 RF	1097	10	40.1	16	93	1	41	13	9.6	19	6.6	19	7.529	3	22936	2	39.7	1
CG 3220 B2RF	1078	11	41.6	8	77	27	41	13	9.5	20	6.9	11	7.071	9	16777	19	29.2	16
AM 1550 B2RF	1066	12	42.2	6	74	30	46	4	9.6	14	7.2	7	6.710	19	18392	9	31.8	9
ST 5327 B2RF	1063	13	41.0	13	84	12	41	13	9.0	29	6.5	22	7.457	5	17110	17	31.8	10
CG 3020 B2RF	1024	14	40.4	14	78	25	45	6	10.3	3	7.2	6	6.430	22	19183	5	31.1	12
DP 174 RF	1022	15	44.2	1	90	6	38	22	9.6	18	7.8	2	5.916	28	20134	4	35.0	4
Dyna-Gro 2520	1016	16	40.0	17	80	21	48	2	9.8	10	6.7	16	6.865	16	16187	22	27.5	23
AM 1532 B2RF	996	17	40.0	18	81	20	43	11	9.9	6	6.8	13	6.656	20	18897	6	31.8	8
DP 393, ck	988	18	41.1	11	79	23	44	8	10.1	4	7.2	5	6.204	25	23475	1	39.1	3
CG 3520 B2RF	982	19	38.7	28	78	26	48	2	9.9	8	6.4	23	7.007	11	17130	16	28.9	19
DP 121 RF	981	20	41.3	9	79	22	41	13	9.7	13	7.0	10	6.391	23	22666	3	39.2	2
Dyna-Gro 2490	975	21	39.1	25	75	29	41	13	9.9	7	6.5	21	6.829	17	14573	25	24.6	28
ST 4427 B2RF	941	22	39.4	22	84	13	34	25	9.2	24	6.2	26	6.906	13	15586	23	28.1	21
PHY 485 WRF	930	23	39.1	26	89	7	34	25	9.1	26	6.1	28	6.951	12	17323	15	31.6	11
DP 161 B2RF	914	24	38.7	29	84	13	36	23	9.5	21	6.2	27	6.720	18	18543	7	32.4	7
ST 5458 B2RF	902	25	39.9	19	77	28	30	30	9.6	17	6.6	18	6.196	26	14053	27	24.5	29
ST 4554 B2RF	877	26	39.3	23	83	17	34	25	9.1	28	6.0	29	6.649	21	15266	24	28.0	22
ST 4498 B2RF	850	27	40.2	15	79	23	31	29	9.7	12	6.7	17	5.779	29	17677	12	30.4	13
DP 141 B2RF	825	28	39.0	27	90	5	36	23	9.1	27	6.0	30	6.284	24	13644	29	25.1	27
FM 1735 LLB2	825	29	39.9	20	84	16	44	8	9.6	15	6.6	20	5.664	30	16808	18	29.1	17
DP 143 B2RF	820	30	38.6	30	88	8	34	25	9.6	16	6.2	25	6.001	27	12242	30	21.3	30
Mean	1013		40.6		83		41		6.3		6.8		6.803		17305		30.0	
LSD 0.10	161		1.4		7		6		ns		0.6		1.085		4356		6.6	
C.V.%	13.5		2.0		7.2		12.4		5.1		5.6		13.6		14.8		13.0	
R-sq x 100	54.3		86.7		75.8		58.4		55.1		78.7		46.1		69.1		72.3	

Table 7. Fiber properties - 2008 Main Cotton Variety Test with irrigation on a Tunica silty clay soil at Keiser, AR.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
CG 3035RF	1198	1	60	18	4.4	6	1.19	22	84.8	17	30.6	12	11.4	7
Dyna-Gro 2400	1162	2	60	16	4.2	8	1.20	20	84.4	24	30.3	17	11.4	5
PHY 370 WR	1157	3	40	29	3.9	18	1.16	30	84.0	27	31.2	9	10.9	15
Dyna-Gro 2570	1129	4	62	8	4.0	11	1.20	20	85.1	8	31.7	7	11.3	9
PHY 375 WRF	1129	5	26	30	5.2	1	1.18	26	83.1	30	28.8	23	10.4	21
DP 164 B2RF	1118	6	79	2	4.2	7	1.26	1	84.9	13	28.3	27	10.1	24
DP 454 BG/RR, ck	1117	7	51	24	3.8	20	1.17	28	84.6	20	30.5	14	10.1	26
PHY 315 RF	1116	8	56	21	4.5	5	1.19	22	83.8	28	28.7	25	9.8	27
CG 4020 B2RF	1098	9	76	3	4.0	12	1.25	6	85.3	4	28.6	26	11.0	12
PHY 425 RF	1097	10	42	28	3.0	28	1.18	26	85.2	6	32.0	5	11.7	3
CG 3220 B2RF	1078	11	67	7	4.1	10	1.22	12	85.2	7	29.8	19	10.9	14
AM 1550 B2RF	1066	12	62	10	3.9	19	1.21	16	85.0	11	28.1	29	11.1	11
ST 5327 B2RF	1063	13	62	10	3.7	22	1.21	16	84.8	15	31.7	6	10.6	19
CG 3020 B2RF	1024	14	46	27	3.9	15	1.19	24	85.1	9	29.0	22	10.9	15
DP 174 RF	1022	15	68	5	3.8	21	1.25	4	84.5	21	30.0	18	10.4	22
Dyna-Gro 2520	1016	16	75	4	4.0	12	1.25	6	84.5	21	28.8	24	10.7	17
AM 1532 B2RF	996	17	61	15	3.5	25	1.22	11	85.4	3	28.3	28	11.8	1
DP 393, ck	988	18	61	14	2.9	30	1.26	1	86.4	1	32.4	4	11.4	5
CG 3520 B2RF	982	19	60	16	3.7	24	1.22	12	84.9	14	29.5	21	11.2	10
DP 121 RF	981	20	49	25	3.0	29	1.23	9	85.3	4	31.4	8	10.4	20
Dyna-Gro 2490	975	21	46	26	4.6	3	1.16	29	84.4	25	30.9	10	11.0	12
ST 4427 B2RF	941	22	62	8	3.9	15	1.22	12	84.1	26	29.6	20	10.7	18
PHY 485 WRF	930	23	54	22	3.5	25	1.21	16	84.8	15	32.7	3	11.5	4
DP 161 B2RF	914	24	68	5	3.3	27	1.25	4	85.9	2	30.8	11	9.6	29
ST 5458 B2RF	902	25	62	10	4.6	4	1.23	9	84.5	21	30.5	14	10.1	25
ST 4554 B2RF	877	26	59	19	4.0	12	1.22	12	84.6	19	32.8	2	11.8	2
ST 4498 B2RF	850	27	62	10	3.7	22	1.21	16	84.8	17	33.6	1	11.3	8
DP 141 B2RF	825	28	79	1	4.1	9	1.26	1	85.0	11	30.5	14	10.3	23
FM 1735 LLB2	825	29	59	19	3.9	15	1.19	24	85.1	9	30.5	13	8.7	30
DP 143 B2RF	820	30	54	23	4.9	2	1.24	8	83.5	29	28.1	30	9.8	28
Mean	1013		59		3.9		1.21		84.7		30.3		10.7	
LSD 0.10	161		11		0.8		0.03		1.2		1.3		0.8	
C.V.%	13.5		11.0		12.3		1.6		83.0		2.5		4.4	
R-sq x 100	54.3		86.8		71.2		82.5		63.7		89.4		82.3	

Table 8. Yield and related properties - 2008 Main Cotton Variety Test with irrigation on a Dundee silt loam soil at Judd Hill, AR.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber den.	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
PHY 425 RF	1482	1	38.2	20	136	6	40	23	10.7	19	7.0	18	9.638	1	18462	13	28.9	15
Dyna-Gro 2520	1396	2	38.3	19	119	24	51	4	10.8	18	6.9	20	9.179	3	17062	20	26.4	21
PHY 485 WRF	1385	3	38.8	16	131	8	43	18	10.1	26	6.7	21	9.363	2	19127	12	31.7	7
PHY 315 RF	1372	4	39.6	9	124	17	48	10	11.6	3	8.1	2	7.745	18	15514	25	22.4	27
PHY 370 WR	1341	5	39.8	8	126	15	53	3	10.9	16	7.4	10	8.268	9	18192	15	27.8	18
ST 5458 B2RF	1312	6	38.9	14	118	25	46	12	11.1	10	7.4	9	8.022	12	14696	26	22.0	29
CG 3520 B2RF	1294	7	38.8	15	120	22	56	1	10.1	25	6.6	24	8.921	6	18089	16	29.9	10
CG 4020 B2RF	1292	8	37.9	21	114	29	49	8	10.5	20	6.7	22	8.752	7	14676	27	23.3	25
DP 393, ck	1276	9	40.5	5	126	14	43	18	11.4	5	8.0	3	7.199	25	22123	3	32.4	4
Dyna-Gro 2490	1273	10	37.7	23	121	20	51	4	9.9	27	6.3	28	9.171	4	16420	24	27.6	19
ST 5327 B2RF	1269	11	38.6	17	123	19	43	18	9.7	29	6.4	26	8.962	5	20458	6	34.9	1
PHY 375 WRF	1268	12	39.9	6	130	10	48	10	10.9	14	7.4	11	7.821	15	19654	10	29.6	14
DP 121 RF	1261	13	39.8	7	143	2	45	14	10.1	24	7.0	16	8.123	11	17987	17	29.7	12
Dyna-Gro 2400	1261	14	41.3	1	124	18	43	18	11.1	8	8.4	1	6.861	28	19826	9	29.7	13
Dyna-Gro 2570	1256	15	39.1	12	128	13	44	16	11.4	4	7.9	7	7.238	24	22131	2	32.3	5
CG 3220 B2RF	1250	16	39.5	10	120	23	51	4	11.9	2	8.0	4	7.060	27	16792	22	23.6	24
AM 1532 B2RF	1244	17	37.3	25	113	30	46	12	11.1	8	7.1	14	7.902	13	20296	8	30.3	9
AM 1550 B2RF	1226	18	40.6	4	116	27	49	8	10.9	15	7.7	8	7.263	23	17028	21	26.1	23
ST 4498 B2RF	1208	19	38.4	18	117	26	38	27	11.0	12	7.2	13	7.624	21	21012	4	31.8	6
ST 4427 B2RF	1202	20	37.9	22	121	21	41	22	11.2	6	7.0	17	7.799	17	20904	5	31.0	8
CG 3035RF	1198	21	40.7	3	128	12	50	7	10.2	23	7.3	12	7.440	22	17143	19	27.9	16
DP 454 BG/RR, ck	1193	22	39.3	11	144	1	39	25	10.4	22	7.1	15	7.635	20	20391	7	32.9	3
FM 1735 LLB2	1192	23	35.6	29	125	16	44	16	10.5	20	6.5	25	8.315	8	14563	28	23.1	26
CG 3020 B2RF	1183	24	37.1	26	115	28	56	1	11.0	11	6.9	19	7.710	19	17446	18	26.3	22
DP 174 RF	1163	25	40.8	2	133	7	45	14	10.9	13	7.9	6	6.649	29	19526	11	29.8	11
DP 161 B2RF	1143	26	37.5	24	141	3	36	29	9.9	28	6.3	27	8.191	10	16466	23	27.8	17
DP 164 B2RF	1136	27	36.3	27	138	5	36	29	11.2	7	6.6	23	7.828	14	18222	14	27.3	20
ST 4554 B2RF	1053	28	39	13	129	11	40	23	12.1	1	8.0	5	5.955	30	25315	1	34.9	2
DP 143 B2RF	974	29	35.2	30	131	9	38	27	10.8	17	6.3	29	7.072	26	13877	29	21.5	30
DP 141 B2RF	955	30	35.8	28	140	4	39	25	9.3	30	5.6	30	7.803	16	12364	30	22.2	28
Mean	1235		38.6		126		45		10.8		7.1		7.917		18192		28.2	
LSD 0.10	160		1.7		12		10		0.9		0.7		1.005		5000		7.1	
C.V.%	11.0		2.6		8.3		18.8		5.0		5.6		10.8		16.2		14.8	
R-sq x 100	55.3		83.0		66.0		55.6		74.5		85.1		62.7		64.6		63.1	

Table 9. Fiber properties - 2008 Main Cotton Variety Test with irrigation on a Dundee silt loam soil at Judd Hill, AR.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
PHY 425 RF	1482	1	60	11	3.8	18	1.18	20	85.4	7	32.5	2	11.7	6
Dyna-Gro 2520	1396	2	64	6	4.0	13	1.24	5	84.7	20	29.3	20	11.0	14
PHY 485 WRF	1385	3	55	15	3.5	23	1.20	12	84.8	18	31.7	8	12.4	2
PHY 315 RF	1372	4	28	30	5.3	1	1.17	24	83.8	29	28.6	25	10.3	23
PHY 370 WR	1341	5	34	29	4.4	7	1.16	29	83.8	29	30.5	17	11.1	13
ST 5458 B2RF	1312	6	38	28	5.0	2	1.20	12	84.2	26	30.4	18	9.4	28
CG 3520 B2RF	1294	7	60	11	3.6	21	1.20	12	85.5	4	28.8	24	11.5	8
CG 4020 B2RF	1292	8	63	8	4.5	6	1.21	10	84.6	23	28.2	29	11.8	5
DP 393, ck	1276	9	64	6	3.5	22	1.22	6	85.3	8	32.0	7	10.8	19
Dyna-Gro 2490	1273	10	45	24	4.0	13	1.16	28	84.3	24	28.0	30	12.5	1
ST 5327 B2RF	1269	11	54	19	3.3	28	1.20	12	85.3	8	32.2	5	10.8	19
PHY 375 WRF	1268	12	57	14	3.8	17	1.21	10	85.5	4	28.9	22	10.5	22
DP 121 RF	1261	13	60	9	3.9	16	1.20	16	85.0	16	29.8	19	11.3	12
Dyna-Gro 2400	1261	14	60	9	4.2	9	1.18	20	85.1	13	31.4	11	11.4	11
Dyna-Gro 2570	1256	15	55	15	3.6	20	1.19	19	85.3	8	31.0	12	11.5	8
CG 3220 B2RF	1250	16	44	26	5.0	3	1.17	24	84.8	18	30.8	14	10.8	18
AM 1532 B2RF	1244	17	60	11	3.5	23	1.22	8	85.5	4	28.3	27	11.0	14
AM 1550 B2RF	1226	18	45	24	4.7	4	1.15	30	84.3	24	28.9	23	10.9	16
ST 4498 B2RF	1208	19	53	20	3.4	26	1.19	17	85.9	2	34.0	1	11.6	7
ST 4427 B2RF	1202	20	53	20	3.3	28	1.21	9	85.3	12	31.5	9	9.7	26
CG 3035RF	1198	21	51	23	4.4	7	1.18	20	84.2	26	31.0	13	11.5	8
DP 454 BG/RR, ck	1193	22	53	22	3.5	23	1.19	17	85.1	15	30.6	16	10.5	21
FM 1735 LLB2	1192	23	54	18	4.6	5	1.17	24	84.0	28	29.3	20	9.0	30
CG 3020 B2RF	1183	24	55	15	4.1	12	1.17	27	84.7	20	28.5	26	12.1	4
DP 174 RF	1163	25	69	5	4.0	15	1.22	6	84.7	20	28.2	28	10.9	17
DP 161 B2RF	1143	26	72	4	3.7	19	1.25	4	85.7	3	32.2	5	10.2	24
DP 164 B2RF	1136	27	75	3	3.4	26	1.27	3	86.1	1	32.3	4	9.2	29
ST 4554 B2RF	1053	28	42	27	3.2	30	1.18	23	85.1	13	32.4	3	12.3	3
DP 143 B2RF	974	29	89	1	4.2	10	1.29	2	84.9	17	30.7	15	9.7	26
DP 141 B2RF	955	30	86	2	4.1	11	1.30	1	85.3	8	31.5	9	10.1	25
Mean	1235		56		4.0		1.20		84.9		30.4		10.9	
LSD 0.10	160		17		1.0		0.03		ns		1.8		0.8	
C.V.%	11.0		17.8		15.4		1.7		81.7		3.5		4.4	
R-sq x 100	55.3		78.2		63.2		86.6		59.4		82.4		88.6	

Table 10. Yield and related properties - 2008 Main Cotton Variety Test with irrigation on a Calloway silt loam soil at Marianna, AR.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber den.	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
PHY 375 WRF	1259	1	43.1	7	105	11	63	7	9.8	25	7.6	13	7.529	2	16624	25	28.5	23
CG 3220 B2RF	1239	2	42.9	9	103	15	63	7	10.5	9	8.1	7	6.948	13	24378	4	38.6	4
AM 1532 B2RF	1230	3	42.4	11	100	23	64	6	9.9	24	7.4	14	7.518	3	20724	14	35.1	11
DP 174 RF	1225	4	44.9	1	105	13	63	7	10.3	15	8.5	3	6.527	21	16652	24	27.1	26
ST 4498 B2RF	1212	5	40.7	21	98	27	48	26	10.1	21	7.3	18	7.589	1	23116	8	38.2	7
AM 1550 B2RF	1207	6	43.0	8	104	14	55	20	10.3	17	7.9	11	6.933	14	18339	20	29.8	20
ST 4554 B2RF	1183	7	41.2	18	98	26	49	25	11.1	3	8.0	10	6.713	20	21480	12	32.2	15
CG 4020 B2RF	1172	8	40.7	22	99	24	59	17	10.3	13	7.2	21	7.398	5	15648	27	25.2	29
Dyna-Gro 2400	1171	9	44.7	2	107	7	58	18	10.4	12	8.6	2	6.182	27	23802	6	38.2	6
ST 5458 B2RF	1166	10	41.3	16	98	27	44	27	11.6	1	8.4	4	6.290	25	18675	19	26.9	27
Dyna-Gro 2570	1159	11	43.7	4	109	6	61	11	10.1	18	8.1	8	6.509	22	26287	2	43.2	2
ST 4427 B2RF	1158	12	40.2	25	91	30	61	11	10.5	10	7.2	22	7.306	6	22518	9	35.7	10
PHY 370 WR	1155	13	42.2	13	115	2	61	11	10.1	20	7.6	12	6.886	15	24633	3	40.3	3
CG 3520 B2RF	1145	14	41.5	14	103	16	69	2	10.6	5	8.1	9	6.480	23	22047	10	34.6	13
CG 3035RF	1144	15	43.7	3	102	17	63	7	10.3	16	8.4	5	6.230	26	23925	5	38.6	5
ST 5327 B2RF	1121	16	41.4	15	105	10	44	27	10.1	22	7.3	16	6.999	11	21683	11	35.9	9
Dyna-Gro 2520	1121	17	41.2	19	105	12	60	15	9.9	23	7.2	23	7.104	9	17541	23	29.5	22
PHY 485 WRF	1115	18	41.3	17	106	8	61	11	10.1	19	7.3	17	6.977	12	26325	1	43.4	1
DP 161 B2RF	1112	19	41.0	20	110	5	51	23	9.4	28	6.7	28	7.491	4	17569	22	31.0	16
CG 3020 B2RF	1109	20	39.1	28	99	25	60	15	10.8	4	7.1	24	7.052	10	19210	17	29.7	21
DP 393, ck	1108	21	43.5	5	96	29	66	4	11.2	2	8.7	1	5.763	29	23428	7	34.9	12
PHY 315 RF	1107	22	43.3	6	102	21	65	5	10.4	11	8.3	6	6.053	28	19154	18	30.8	18
DP 121 RF	1086	23	42.3	12	102	17	68	3	9.6	26	7.3	15	6.768	17	17868	21	31.0	17
Dyna-Gro 2490	1082	24	38.4	30	100	22	55	20	10.6	7	6.8	27	7.252	7	13601	30	21.5	30
PHY 425 RF	1073	25	40.5	23	102	19	71	1	10.3	14	7.2	20	6.751	19	20577	15	33.3	14
DP 454 BG/RR, ck	1054	26	42.6	10	115	3	56	19	9.2	30	7.0	25	6.846	16	21042	13	38.2	8
DP 164 B2RF	1047	27	40.1	26	117	1	39	29	9.4	27	6.5	29	7.252	8	15482	29	27.2	25
FM 1735 LLB2	975	28	39.0	29	102	19	53	22	10.5	8	6.9	26	6.377	24	19423	16	30.7	19
DP 141 B2RF	945	29	40.4	24	113	4	36	30	9.2	29	6.3	30	6.757	18	15623	28	28.3	24
DP 143 B2RF	912	30	39.9	27	106	9	50	24	10.6	6	7.2	19	5.715	30	16566	26	26.1	28
Mean	1126		41.7		104		57		10.2		7.5		6.807		20131		32.8	
LSD 0.10	120		1.7		11		12		0.6		0.7		0.702		ns		9.9	
C.V.%	9.0		2.4		9.3		17.3		3.6		5.1		8.8		19.1		17.8	
R-sq x 100	51.7		85.4		63.5		58.2		82.5		83.2		54.0		62.3		65.2	

Table 11. Fiber properties - 2008 Main Cotton Variety Test with irrigation on a Calloway silt loam soil at Marianna, AR.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
PHY 375 WRF	1259	1	38	28	4.8	3	1.15	27	83.5	29	28.8	23	10.9	18
CG 3220 B2RF	1239	2	56	12	3.4	25	1.19	13	85.9	2	28.9	22	12.1	6
AM 1532 B2RF	1230	3	61	9	3.6	20	1.20	10	85.1	8	28.4	24	11.1	14
DP 174 RF	1225	4	50	19	5.2	2	1.19	11	83.5	29	29.4	19	10.6	22
ST 4498 B2RF	1212	5	45	24	3.2	28	1.18	22	84.9	14	32.6	1	12.0	7
AM 1550 B2RF	1207	6	49	22	4.4	7	1.17	24	84.3	21	28.0	27	11.2	13
ST 4554 B2RF	1183	7	56	12	3.8	12	1.17	24	84.0	26	32.0	4	12.7	1
CG 4020 B2RF	1172	8	70	5	4.5	5	1.22	5	84.4	20	27.4	29	11.5	12
Dyna-Gro 2400	1171	9	55	15	3.7	17	1.18	14	84.7	18	29.8	17	12.6	2
ST 5458 B2RF	1166	10	54	17	4.5	5	1.20	7	84.0	26	30.6	11	9.3	29
Dyna-Gro 2570	1159	11	46	23	3.1	29	1.18	14	85.7	3	31.5	6	11.6	11
ST 4427 B2RF	1158	12	45	24	3.6	20	1.18	14	84.3	23	29.2	20	10.9	18
PHY 370 WR	1155	13	37	29	3.6	20	1.14	29	84.1	25	29.7	18	10.8	20
CG 3520 B2RF	1145	14	50	19	3.8	14	1.20	7	84.8	16	27.4	30	12.3	4
CG 3035RF	1144	15	50	19	3.7	18	1.17	26	84.8	15	30.3	14	11.6	10
ST 5327 B2RF	1121	16	55	15	3.3	26	1.19	11	85.5	6	32.2	3	10.6	23
Dyna-Gro 2520	1121	17	71	4	4.0	11	1.22	5	85.1	8	28.0	27	11.7	9
PHY 485 WRF	1115	18	41	27	2.8	30	1.18	14	85.3	7	32.2	2	12.1	5
DP 161 B2RF	1112	19	76	3	3.7	18	1.23	4	85.9	1	30.7	8	9.5	28
CG 3020 B2RF	1109	20	58	11	3.8	14	1.18	14	84.3	23	28.3	25	11.1	14
DP 393, ck	1108	21	60	10	3.8	14	1.18	22	84.9	12	31.8	5	10.7	21
PHY 315 RF	1107	22	42	26	4.6	4	1.15	27	84.5	19	28.3	25	11.0	16
DP 121 RF	1086	23	62	8	4.1	9	1.18	14	84.3	21	30.4	13	10.9	17
Dyna-Gro 2490	1082	24	32	30	5.4	1	1.13	30	83.7	28	29.0	21	11.8	8
PHY 425 RF	1073	25	56	12	3.5	23	1.18	14	84.9	12	30.6	11	12.5	3
DP 454 BG/RR, ck	1054	26	53	18	3.3	26	1.18	14	85.6	5	30.7	8	10.1	25
DP 164 B2RF	1047	27	66	6	4.1	8	1.25	3	85.6	4	30.7	8	10.1	26
FM 1735 LLB2	975	28	62	7	3.5	23	1.20	7	85.1	8	30.0	15	8.8	30
DP 141 B2RF	945	29	86	2	3.8	12	1.26	1	85.0	11	30.9	7	10.6	23
DP 143 B2RF	912	30	86	1	4.1	9	1.26	1	84.7	17	30.0	16	9.6	27
Mean	1126		55		3.9		1.19		84.7		29.9		11.1	
LSD 0.10	120		21		ns		0.03		1.3		1.3		0.9	
C.V.%	9.0		22.5		18.2		1.6		0.9		2.6		5.0	
R-sq x 100	51.7		69.0		60.3		85.4		62.3		88.1		86.9	

Table 12. Yield and related properties - 2008 Main Cotton Variety Test with irrigation on a Desha silt loam at Rohwer, AR.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber den.	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
ST 5458 B2RF	982	1	39.7	17	124	19	64	26	12.3	1	8.3	6	5.364	1	19382	23	26.2	28
PHY 370 WR	903	2	41.2	10	132	3	73	7	11.6	5	8.2	8	4.989	2	20490	17	29.4	19
DP 121 RF	845	3	41.9	4	126	12	76	1	10.3	27	7.9	13	4.873	4	25358	4	41.1	2
AM 1550 B2RF	836	4	41.2	9	118	28	76	1	10.9	24	8.1	9	4.683	8	17507	27	26.8	27
PHY 315 RF	828	5	40.5	12	127	10	68	19	11.2	16	7.8	14	4.810	6	18255	26	27.3	25
CG 4020 B2RF	820	6	39.8	15	118	29	75	4	11.0	20	7.7	18	4.857	5	20266	18	30.7	18
ST 4498 B2RF	812	7	39.7	18	124	22	68	19	11.3	13	7.8	16	4.755	7	29155	1	42.9	1
DP 174 RF	791	8	41.7	6	125	16	70	15	11.1	17	8.3	7	4.325	13	21074	15	31.6	16
Dyna-Gro 2520	763	9	40.0	14	124	19	73	7	11.8	2	8.0	11	4.338	12	23550	7	33.3	10
Dyna-Gro 2570	761	10	42.6	1	124	24	70	15	11.3	14	8.7	1	3.992	19	27011	2	40.0	3
PHY 375 WRF	753	11	41.8	5	125	18	71	11	11.3	15	8.3	5	4.102	16	20883	16	31.0	17
CG 3020 B2RF	752	12	38.2	25	113	30	76	1	11.8	3	7.5	20	4.585	10	19562	22	27.7	24
ST 4427 B2RF	743	13	38.1	27	131	5	66	24	11.5	10	7.3	21	4.608	9	20070	19	29.0	20
CG 3220 B2RF	731	14	41.4	8	124	19	75	4	11.0	21	7.9	12	4.197	15	19006	24	28.7	22
DP 161 B2RF	725	15	39.6	19	130	8	65	25	9.9	30	6.7	30	4.943	3	19606	21	32.9	11
ST 4554 B2RF	698	16	40.3	13	126	12	61	28	11.6	4	8.0	10	3.962	20	22607	10	32.4	15
DP 454 BG/RR, ck	686	17	42.2	3	133	1	68	19	10.3	28	7.8	17	4.015	18	24693	5	39.9	4
CG 3520 B2RF	684	18	38.8	22	120	27	71	11	10.9	25	7.1	25	4.384	11	21508	14	32.9	12
DP 393, ck	676	19	40.9	11	122	26	73	7	11.6	6	8.4	3	3.670	26	25524	3	36.7	6
FM 1735 LLB2	671	20	38.1	26	130	8	71	11	11.4	11	7.2	23	4.242	14	19837	20	28.9	21
ST 5327 B2RF	643	21	39.8	16	126	14	68	19	11.6	9	7.8	15	3.760	24	22546	11	32.7	13
PHY 485 WRF	637	22	39.5	20	131	5	70	15	10.6	26	7.2	22	4.016	17	23577	6	37.2	5
PHY 425 RF	615	23	36.7	29	127	11	74	6	11.4	12	7.1	26	3.952	21	22162	13	32.5	14
CG 3035RF	610	24	42.6	2	124	23	71	11	11.0	23	8.3	4	3.320	28	22460	12	34.0	7
Dyna-Gro 2490	606	25	37.9	28	123	25	69	18	11.1	18	7.0	27	3.932	22	18906	25	28.4	23
AM 1532 B2RF	604	26	38.5	24	131	7	73	7	11.6	8	7.5	19	3.659	27	23358	8	33.7	8
DP 164 B2RF	595	27	38.8	23	132	2	62	27	11.0	22	7.1	24	3.803	23	14947	30	22.6	30
Dyna-Gro 2400	588	28	41.5	7	125	15	68	19	11.6	7	8.6	2	3.115	29	23234	9	33.4	9
DP 141 B2RF	575	29	39.3	21	125	16	60	29	10.3	29	7.0	28	3.747	25	16597	28	27.0	26
DP 143 B2RF	431	30	36.3	30	131	4	56	30	11.1	19	6.9	29	2.853	30	16345	29	24.6	29
Mean	715		40.0		126		69		11.2		7.7		4.195		21316		31.8	
LSD 0.10	155		1.7		8		7		0.7		0.7		0.916		4858		7.4	
C.V.%	18.5		2.5		5.4		8.1		3.5		5.2		18.6		13.4		13.7	
R-sq x 100	66.3		85.2		53.0		53.5		79.3		82.0		62.8		72.3		72.2	

Table 13. Fiber properties - 2008 Main Cotton Variety Test with irrigation on a Desha silt loam at Rohwer, AR.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
ST 5458 B2RF	982	1	63	6	4.2	4	1.21	12	84.5	27	31.8	7	9.3	27
PHY 370 WR	903	2	53	19	4.1	6	1.18	24	84.5	26	31.1	13	9.8	22
DP 121 RF	845	3	41	29	3.1	25	1.17	30	85.8	6	30.8	14	9.9	18
AM 1550 B2RF	836	4	42	28	4.7	1	1.18	24	84.4	29	28.2	30	9.8	19
PHY 315 RF	828	5	43	27	4.5	3	1.20	15	84.6	25	28.4	28	9.8	19
CG 4020 B2RF	820	6	63	7	3.7	15	1.23	9	85.5	11	28.2	29	10.2	15
ST 4498 B2RF	812	7	41	29	2.6	30	1.20	15	85.7	7	32.1	5	11.6	2
DP 174 RF	791	8	71	3	3.8	13	1.25	3	85.3	16	29.2	24	9.9	17
Dyna-Gro 2520	763	9	69	4	3.2	22	1.26	2	86.2	1	28.8	25	10.5	13
Dyna-Gro 2570	761	10	52	20	3.1	25	1.21	14	86.0	2	31.9	6	10.6	11
PHY 375 WRF	753	11	62	8	3.9	8	1.21	12	85.1	19	29.3	23	10.1	16
CG 3020 B2RF	752	12	50	22	3.9	9	1.18	24	84.7	23	28.7	26	11.0	7
ST 4427 B2RF	743	13	56	15	3.6	16	1.19	21	85.2	18	30.0	18	9.7	24
CG 3220 B2RF	731	14	59	13	4.2	5	1.20	18	85.0	20	29.6	21	10.5	12
DP 161 B2RF	725	15	67	5	3.2	20	1.25	3	85.9	5	31.1	12	9.4	26
ST 4554 B2RF	698	16	61	9	3.4	18	1.22	10	85.4	14	32.6	3	12.0	1
DP 454 BG/RR, ck	686	17	46	25	3.2	20	1.18	24	85.7	9	30.5	16	9.8	22
CG 3520 B2RF	684	18	61	9	3.1	25	1.24	8	86.0	2	30.3	17	11.1	6
DP 393, ck	676	19	56	15	3.2	23	1.22	10	85.5	11	33.1	1	10.8	8
FM 1735 LLB2	671	20	53	18	3.6	16	1.19	22	85.0	22	29.9	19	8.4	30
ST 5327 B2RF	643	21	55	17	3.4	18	1.20	15	85.5	13	32.6	3	9.8	19
PHY 485 WRF	637	22	43	26	3.1	28	1.18	24	85.7	7	32.9	2	11.4	4
PHY 425 RF	615	23	49	23	3.2	23	1.20	18	85.6	10	31.8	7	11.4	5
CG 3035RF	610	24	51	21	3.9	11	1.19	22	85.2	17	31.5	9	10.7	9
Dyna-Gro 2490	606	25	47	24	3.9	10	1.18	29	84.5	27	29.6	21	11.5	3
AM 1532 B2RF	604	26	61	9	3.0	29	1.25	6	85.9	4	28.6	27	10.3	14
DP 164 B2RF	595	27	60	12	4.6	2	1.25	6	84.1	30	30.7	15	8.8	29
Dyna-Gro 2400	588	28	57	14	3.7	14	1.20	18	84.7	23	31.4	10	10.7	10
DP 141 B2RF	575	29	76	2	4.0	7	1.25	3	85.0	20	31.2	11	9.1	28
DP 143 B2RF	431	30	87	1	3.8	12	1.31	1	85.4	14	29.8	20	9.5	25
Mean	715		56		3.6		1.21		85.2		30.5		10.2	
LSD 0.10	155		15		ns		0.03		ns		1.4		0.6	
C.V.%	18.5		15.9		16.5		1.3		0.7		2.8		3.6	
R-sq x 100	66.3		74.5		59.6		88.8		64.3		86.7		91.9	

Table 14. Two-year average lint yields (lb/a) for varieties at the four locations of the 2007-2008 Arkansas Cotton Variety Test.

	Keiser		Judd Hill		Marianna		Rohwer		All	
Variety	Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r	loc.	r
	lb/a		lb/a		lb/a		lb/a		lb/a	
PHY 370 WR	1331	4	1471	2	1395	8	1024	4	1305	1
PHY 315 RF	1287	8	1526	1	1319	14	1023	5	1289	2
AM 1550 B2RF	1225	11	1451	5	1435	3	966	9	1269	3
DP 174 RF	1270	9	1327	18	1380	9	1068	1	1261	4
DG 2570	1325	5	1381	11	1433	4	901	13	1260	5
PHY 375 WRF	1238	10	1417	8	1422	6	944	10	1255	6
DG 2400	1333	3	1360	14	1415	7	845	20	1238	7
CG 3220 B2RF	1214	13	1425	7	1435	2	852	19	1232	8
DP 454 BG/RR, ck	1217	12	1381	12	1282	19	1033	3	1228	9
PHY 425 RF	1290	7	1454	4	1226	27	932	11	1225	10
PHY 485 WRF	1164	18	1443	6	1236	24	983	7	1206	11
CG 3035RF	1358	1	1328	17	1341	12	780	27	1201	12
DP 121 RF	1189	15	1295	23	1295	17	1004	6	1195	13
DP 393, ck	1292	6	1307	20	1303	16	879	15	1195	14
AM 1532 B2RF	1125	22	1384	10	1429	5	802	23	1185	15
ST 4498 B2RF	1036	29	1329	16	1451	1	916	12	1183	16
ST 5458 B2RF	1095	26	1322	19	1231	26	1060	2	1177	17
DG 2520	1158	20	1469	3	1264	22	802	24	1173	18
CG 3520 B2RF	1130	21	1379	13	1358	10	803	22	1167	19
CG 4020 B2RF	1204	14	1298	22	1317	15	826	21	1161	20
DP 164 B2RF	1341	2	1278	25	1234	25	772	28	1156	21
ST 4554 B2RF	1095	27	1302	21	1341	11	886	14	1156	22
ST 4427 B2RF	1164	19	1262	26	1326	13	860	18	1153	23
ST 5327 B2RF	1172	17	1354	15	1266	21	798	25	1147	24
DG 2490	1113	23	1388	9	1285	18	731	29	1129	25
CG 3020 B2RF	1098	25	1287	24	1239	23	874	16	1124	26
DP 161 B2RF	1187	16	1236	27	1271	20	796	26	1122	27
FM 1735 LLB2	962	30	1225	28	1084	29	976	8	1062	28
DP 141 B2RF	1073	28	1131	30	1061	30	868	17	1033	29
DP 143 B2RF	1102	24	1136	29	1132	28	709	30	1020	30
Mean	1193		1345		1307		890		1184	

Table 15. Three-year average lint yields (lb/a) for varieties at four locations of the 2006-2008 Arkansas Cotton Variety Test.

	Keiser		Judd Hill		Marianna		Rohwer		All	
Variety	Irrigated	r	Irrigated	r	Irrigated	r	Irrigated	r	loc.	r
	lb/a		lb/a		lb/a		lb/a		lb/a	
PHY 370 WR	1275	1	1440	1	1414	3	1093	3	1306	1
DP 454 BG/RR, ck	1166	5	1350	5	1377	4	1198	1	1273	2
PHY 485 WRF	1121	7	1364	3	1296	11	1104	2	1221	3
PHY 425 RF	1146	6	1357	4	1294	12	1055	4	1213	4
DP 393, ck	1222	3	1250	10	1324	9	963	5	1190	5
ST 4427 B2RF	1170	4	1215	12	1439	1	933	8	1189	6
ST 5327 B2RF	1089	8	1309	6	1353	6	916	9	1167	7
DG 2520	1089	9	1388	2	1310	10	880	12	1167	8
ST 4554 B2RF	1043	14	1247	11	1419	2	957	6	1166	9
CG 3520 B2RF	1084	10	1305	7	1359	5	866	14	1154	10
DP 164 B2RF	1237	2	1183	14	1282	13	893	11	1149	11
CG 4020 B2RF	1083	11	1203	13	1339	7	956	7	1145	12
DG 2490	1046	13	1298	8	1332	8	877	13	1138	13
CG 3020 B2RF	1005	15	1296	9	1245	14	859	15	1101	14
DP 143 B2RF	1056	12	1107	15	1241	15	904	10	1077	15
Mean	1122		1288		1335		964		1177	

Table 16. Yield and related properties - 2008 1st-year Cotton Variety Test across four Arkansas test sites.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber den.	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
BCSX 0727 B2F	1195	1	40.5	6	107	12	49	13	9.5	19	6.7	15	8.109	1	14908	20	26.4	19
FM 1740 B2F	1189	2	40.7	5	99	18	54	4	10.9	8	7.8	4	6.896	8	20376	7	31.0	10
BCSX 0721 B2F	1141	3	41.8	1	107	11	51	9	9.1	20	6.7	14	7.694	2	15462	18	28.6	14
DP 454 BG/RR, ck	1120	4	41.6	3	115	1	55	3	9.5	18	7.1	9	7.235	3	18951	12	33.0	4
DP 0924 B2RF	1071	5	40.2	7	109	9	49	13	9.9	15	7	11	7.012	6	20462	6	34.0	3
BCSX 0888 LLB2	1069	6	38.2	16	92	20	57	1	11.8	1	7.6	5	6.415	12	20127	9	28.4	15
NG 4377 B2RF	1067	7	39.8	8	114	2	52	8	9.9	13	6.8	13	7.146	5	18537	14	31.2	9
Ark 9706-38-06	1030	8	40.8	4	113	4	54	5	11.4	5	8.2	1	5.815	19	26041	1	37.9	1
NG 3331 B2RF	1027	9	39.3	11	108	10	54	5	9.8	16	6.5	17	7.228	4	17368	16	29.3	12
ST 4554 B2RF, ck	1025	10	39.5	10	102	15	50	12	10.6	11	7.2	7	6.430	11	20307	8	31.9	7
DP 0935 B2RF	1025	11	41.6	2	113	3	47	18	10.6	10	7.9	3	5.831	18	18644	13	29.1	13
NG 4370 B2RF	1002	12	38.9	13	109	7	51	9	9.9	14	6.6	16	6.985	7	20957	4	35.1	2
BCSX 0187 LLB2	997	13	39.1	12	103	14	53	7	10.6	9	7	10	6.490	10	16851	17	26.5	18
BCSX 0102 LLB2	976	14	38.5	14	98	19	49	16	11.7	2	7.6	6	5.901	16	23178	2	32.5	5
Ark 9704-13-05	970	15	39.8	9	109	8	57	2	11.6	4	7.9	2	5.578	20	22470	3	32.0	6
BCSX 0704 B2F	963	16	36.6	19	101	17	47	17	11.7	3	7.1	8	6.170	13	19047	11	26.9	16
FM 840 B2F	943	17	37.8	17	102	16	51	11	10.4	12	6.5	18	6.581	9	19787	10	31.6	8
FM 835 LLB2	912	18	36.8	18	110	6	49	15	11.3	6	6.8	12	6.063	14	20796	5	30.7	11
STG-CT-210	829	19	38.3	15	105	13	45	19	9.8	17	6.3	20	5.971	15	15257	19	26.0	20
BCSX 0614 B2F	823	20	36.0	20	112	5	40	20	11	7	6.5	19	5.851	17	17605	15	26.6	17
Mean	1019		39.3		106		51		10.5		7.1		6.575		19357		30.4	
Var. LSD 0.10	66		0.9		5		4		0.4		0.3		0.426		2816		4.1	
Loc. LSD 0.10	29		0.4		2		2		0.2		0.1		0.189		1257		ns	
C.V.%	11.1		2.7		7.2		14.5		4.3		5.1		11.1		17.5		16.2	
R-sq x 100	86.0		88.7		89.6		84.8		93.0		88.9		87.3		75.6		65.5	
Prob (var x loc)	<0.001		0.146		0.029		0.001		0.358		0.530		<0.001		0.499		0.527	

Table 17. Fiber properties - 2008 1st-year Cotton Variety Test across four Arkansas test sites.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
BCSX 0727 B2F	1195	1	49	13	4.6	1	1.19	9	83.9	19	28.2	20	10.6	6
FM 1740 B2F	1189	2	59	7	3.9	8	1.19	10	85.4	5	30.3	10	10.1	11
BCSX 0721 B2F	1141	3	59	8	4.3	5	1.22	6	84.8	12	30.0	14	11.5	2
DP 454 BG/RR, ck	1120	4	46	18	3.9	7	1.16	20	84.7	14	29.5	18	9.9	14
DP 0924 B2RF	1071	5	47	16	3.7	12	1.17	16	85.0	8	30.1	13	10.8	4
BCSX 0888 LLB2	1069	6	60	6	3.8	10	1.20	7	85.1	7	30.6	8	9.2	18
NG 4377 B2RF	1067	7	43	20	3.8	9	1.16	19	84.8	11	29.8	15	11.1	3
Ark 9706-38-06	1030	8	52	12	3.2	17	1.20	8	85.7	3	31.1	6	9.8	15
NG 3331 B2RF	1027	9	49	14	3.9	6	1.18	13	84.6	15	29.8	17	10.7	5
ST 4554 B2RF, ck	1025	10	53	11	3.7	14	1.18	11	84.6	16	31.5	3	11.7	1
DP 0935 B2RF	1025	11	53	10	4.4	2	1.18	15	84.5	17	29.8	16	10.4	8
NG 4370 B2RF	1002	12	45	19	3.3	16	1.18	14	84.7	13	30.3	12	10.4	7
BCSX 0187 LLB2	997	13	48	15	4.3	4	1.17	17	83.8	20	28.5	19	9.0	20
BCSX 0102 LLB2	976	14	67	3	3.2	18	1.26	2	85.6	4	31.8	1	9.5	16
Ark 9704-13-05	970	15	47	17	3.7	13	1.17	17	84.8	10	30.7	7	9.3	17
BCSX 0704 B2F	963	16	72	2	3.6	15	1.24	3	85.3	6	30.5	9	10.1	10
FM 840 B2F	943	17	78	1	3.1	20	1.28	1	86.4	1	31.6	2	9.9	12
FM 835 LLB2	912	18	65	4	3.1	19	1.24	3	86.1	2	31.2	5	9.2	19
STG-CT-210	829	19	53	9	4.3	3	1.18	12	84.3	18	31.3	4	9.9	13
BCSX 0614 B2F	823	20	63	5	3.7	11	1.24	5	85.0	9	30.3	11	10.3	9
Mean	1019		55		3.8		1.20		85.0		30.3		10.2	
Var. LSD 0.10	66		10		0.6		0.02		0.7		0.6		0.3	
Loc. LSD 0.10	29		ns		0.3		0.01		0.3		0.3		0.2	
C.V.%	11.1		21.8		18.3		2.0		93.1		2.3		4.0	
R-sq x 100	86.0		68.0		67.0		86.4		72.3		88.0		90.4	
Prob (var x loc)	<0.001		0.543		0.616		0.222		0.339		0.010		0.192	

Table 18. Yield and related properties - 2008 1st-year Cotton Variety Test with irrigation on a Tunica silty clay soil at Keiser, AR.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber den.	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
BCSX 0727 B2F	1173	1	41.5	3	80	11	36	7	8.8	17	6.4	12	8.276	1	13918	16	26.3	14
NG 4377 B2RF	1043	2	40.4	10	81	8	35	10	8.9	15	6.3	13	7.547	4	17178	10	32.1	4
FM 1740 B2F	1041	3	40.9	7	75	19	38	6	10.3	6	7.5	2	6.306	12	18449	2	29.8	8
NG 3331 B2RF	1034	4	41.0	6	79	12	36	7	8.7	19	6.1	15	7.667	2	13331	18	25.4	16
DP 0924 B2RF	1028	5	41.1	5	86	3	35	10	9.2	12	6.5	11	7.138	6	17576	6	31.7	5
BCSX 0721 B2F	999	6	41.3	4	84	6	33	15	8.2	20	6	18	7.624	3	15733	13	32.2	3
DP 454 BG/RR, ck	981	7	42.7	1	91	1	39	5	8.7	18	6.7	7	6.602	7	15794	12	30.1	7
ST 4554 B2RF, ck	974	8	40.2	11	80	10	33	15	10	8	6.9	5	6.410	10	17813	5	29.7	9
NG 4370 B2RF	965	9	40.1	12	75	17	36	7	8.8	16	6.1	16	7.226	5	17504	7	33.2	2
Ark 9706-38-06	952	10	40.7	9	81	7	43	4	10.7	3	7.6	1	5.701	18	22791	1	35.4	1
Ark 9704-13-05	948	11	40.9	8	78	14	44	2	9.9	9	7.1	3	6.071	16	17385	9	28.8	11
BCSX 0888 LLB2	945	12	38.2	16	70	20	45	1	10.9	1	7	4	6.151	14	17493	8	26.9	13
DP 0935 B2RF	942	13	41.7	2	85	5	30	17	9.1	13	6.9	6	6.210	13	13377	17	24.4	17
BCSX 0704 B2F	940	14	36.5	20	77	15	34	12	10.8	2	6.6	10	6.462	9	14948	14	23.1	19
BCSX 0187 LLB2	904	15	39.8	13	75	18	44	2	9.9	9	6.7	8	6.132	15	18072	4	30.4	6
BCSX 0102 LLB2	842	16	38.5	14	76	16	34	12	10.3	4	6.7	9	5.738	17	17059	11	27.4	12
BCSX 0614 B2F	836	17	36.5	19	88	2	24	20	10.2	7	6	17	6.331	11	12825	19	21.1	20
FM 840 B2F	835	18	38.1	17	81	9	28	19	9.2	11	5.8	20	6.486	8	14408	15	26.3	15
FM 835 LLB2	758	19	36.6	18	86	4	29	18	10.3	5	6.1	14	5.602	19	18321	3	29.6	10
STG-CT-210	713	20	38.3	15	79	12	34	12	9	14	5.9	19	5.510	20	12745	20	23.6	18
Mean	943		39.7		80		35		9.6		6.5		6.568		16336		28.4	
LSD 0.10	136		1.9		7		6		1.0		0.6		0.965		ns		ns	
C.V.%	11.9		2.8		6.8		13.4		5.9		5.1		12.1		20.7		18.4	
R-sq x 100	67.3		85.1		63.8		77.3		82.2		83.4		67.6		51.9		50.7	

Table 19. Fiber properties - 2008 1st-year Cotton Variety Test with irrigation on a Tunica silty clay soil at Keiser, AR.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
BCSX 0727 B2F	1173	1	55	9	4.6	5	1.21	6	84.0	15	28.1	19	10.7	7
NG 4377 B2RF	1043	2	36	19	4.0	11	1.15	18	84.6	10	29.6	15	10.8	6
FM 1740 B2F	1041	3	65	4	4.0	10	1.20	8	85.6	4	30.5	10	10.0	11
NG 3331 B2RF	1034	4	34	20	5.0	3	1.14	19	83.4	18	29.5	17	11.1	4
DP 0924 B2RF	1028	5	51	13	3.9	14	1.18	14	84.9	7	30.0	12	11.2	3
BCSX 0721 B2F	999	6	72	3	3.6	17	1.26	2	85.1	6	30.6	8	11.4	1
DP 454 BG/RR, ck	981	7	52	12	4.4	6	1.16	16	84.0	15	29.3	18	9.7	14
ST 4554 B2RF, ck	974	8	55	9	4.0	11	1.19	12	84.3	14	31.9	4	11.3	2
NG 4370 B2RF	965	9	48	15	3.5	18	1.17	15	84.6	10	29.5	16	10.9	5
Ark 9706-38-06	952	10	49	14	3.3	19	1.20	8	85.7	2	31.6	5	9.5	15
Ark 9704-13-05	948	11	37	17	4.4	6	1.14	19	84.6	12	30.9	6	9.4	16
BCSX 0888 LLB2	945	12	56	7	4.1	9	1.19	10	84.9	8	30.6	7	9.3	17
DP 0935 B2RF	942	13	46	16	5.3	1	1.18	13	83.4	18	29.8	13	10.2	9
BCSX 0704 B2F	940	14	82	2	4.2	8	1.25	3	85.2	5	30.6	8	10.1	10
BCSX 0187 LLB2	904	15	56	7	3.7	15	1.19	10	84.5	13	28.1	19	9.2	18
BCSX 0102 LLB2	842	16	57	6	4.0	11	1.23	5	84.7	9	32.6	2	9.1	19
BCSX 0614 B2F	836	17	52	11	4.7	4	1.20	7	83.8	17	29.8	14	10.5	8
FM 840 B2F	835	18	86	1	3.7	15	1.27	1	85.7	2	32.6	1	9.9	13
FM 835 LLB2	758	19	65	4	3.2	20	1.25	3	86.2	1	32.2	3	9.0	20
STG-CT-210	713	20	37	17	5.2	2	1.16	16	83.4	18	30.2	11	9.9	12
Mean	943		54		4.1		1.19		84.6		30.4		10.1	
LSD 0.10	136		24		ns		0.04		ns		1.2		0.6	
C.V.%	11.9		25.7		22.1		1.8		1.3		2.4		3.6	
R-sq x 100	67.3		67.8		46.7		86.4		49.9		87.0		90.5	

Table 20. Yield and related properties - 2008 1st-year Cotton Variety Test with irrigation on a Dundee silt loam soil at Judd Hill, AR.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber den.	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
FM 1740 B2F	1509	1	40.9	3	110	17	53	1	10.9	10	7.8	3	8.728	6	21408	7	32.8	5
BCSX 0727 B2F	1470	2	39	8	123	5	44	12	9.7	18	6.6	14	10.05	1	13795	20	23.9	20
DP 454 BG/RR, ck	1464	3	41	1	130	4	45	7	9.6	19	7.1	9	9.412	2	19411	11	33.8	3
Ark 9706-38-06	1441	4	39.3	5	131	2	50	3	11.2	6	7.7	4	8.485	8	21546	6	32.0	7
Ark 9704-13-05	1333	5	39.1	7	123	6	43	14	12	2	8	2	7.589	14	22228	3	30.7	10
DP 0924 B2RF	1316	6	39.7	4	119	10	45	7	10.2	15	7	10	8.545	7	24758	1	39.8	1
BCSX 0888 LLB2	1306	7	37.5	11	103	20	45	7	12.2	1	7.5	5	7.948	12	18452	14	25.0	18
NG 4377 B2RF	1296	8	38.2	10	136	1	45	7	10.3	13	6.7	13	8.825	5	20209	8	32.6	6
NG 4370 B2RF	1253	9	37	16	121	9	46	5	10	16	6.3	19	9.064	4	23395	2	39.2	2
FM 840 B2F	1242	10	37.1	15	108	18	49	4	10.9	9	6.7	11	8.381	10	21649	5	33.0	4
NG 3331 B2RF	1220	11	36.8	17	122	7	53	1	9.7	17	5.9	20	9.36	3	18610	13	31.8	8
DP 0935 B2RF	1211	12	41	2	119	12	44	12	10.9	8	8.1	1	6.815	19	18301	15	27.9	14
ST 4554 B2RF, ck	1207	13	38.5	9	118	13	45	7	11.1	7	7.3	6	7.502	15	20042	9	30.1	11
BCSX 0721 B2F	1206	14	39.2	6	130	3	41	15	9.5	20	6.5	16	8.393	9	14634	19	25.7	17
BCSX 0187 LLB2	1139	15	37.4	13	116	16	41	15	10.5	12	6.6	15	7.896	13	16587	17	26.3	15
BCSX 0614 B2F	1137	16	35.9	19	117	15	39	19	10.7	11	6.4	18	8.079	11	18769	12	29.2	12
BCSX 0102 LLB2	1101	17	37.1	14	107	19	41	15	11.9	3	7.2	7	6.943	18	22198	4	31.0	9
BCSX 0704 B2F	1068	18	36.8	18	117	14	39	19	11.9	4	7.1	8	6.808	20	17538	16	24.5	19
FM 835 LLB2	1057	19	35.8	20	122	7	46	5	11.6	5	6.7	12	7.136	17	19607	10	28.2	13
STG-CT-210	1045	20	37.4	12	119	11	41	15	10.3	14	6.4	17	7.424	16	15965	18	25.7	16
Mean	1251		38.2		120		45		10.8		7.0		8.169		19455		30.2	
LSD 0.10	132		2.3		10		7		0.7		0.8		0.877		ns		ns	
C.V.%	8.9		3.5		7.3		13.3		3.5		6.5		9.1		18.1		17.1	
R-sq x 100	77.7		75.2		70.3		69.1		91.3		78.8		77.2		62.9		64.8	

Table 21. Fiber properties - 2008 1st-year Cotton Variety Test with irrigation on a Dundee silt loam soil at Judd Hill, AR.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
FM 1740 B2F	1509	1	55	10	3.7	10	1.18	15	85.4	8	31.5	11	9.8	14
BCSX 0727 B2F	1470	2	40	20	5.2	1	1.18	15	83.4	20	29.1	20	10.9	4
DP 454 BG/RR, ck	1464	3	46	18	3.8	8	1.16	20	85.0	13	31.2	13	9.6	16
Ark 9706-38-06	1441	4	62	7	3.5	12	1.21	7	85.7	3	32.5	3	9.8	14
Ark 9704-13-05	1333	5	50	15	3.7	9	1.18	17	85.1	12	32.1	6	9.0	19
DP 0924 B2RF	1316	6	47	17	3.1	17	1.19	13	85.3	9	30.9	17	10.9	5
BCSX 0888 LLB2	1306	7	62	8	4.1	4	1.20	10	84.7	15	31.5	10	9.5	17
NG 4377 B2RF	1296	8	52	13	3.3	13	1.20	11	85.5	7	31.9	8	11.2	3
NG 4370 B2RF	1253	9	41	19	2.7	20	1.19	13	85.7	3	32.2	4	10.5	9
FM 840 B2F	1242	10	71	3	2.8	19	1.29	1	86.5	1	32.2	5	10.0	13
NG 3331 B2RF	1220	11	53	12	3.1	16	1.21	7	85.6	6	31.9	8	10.4	11
DP 0935 B2RF	1211	12	51	14	4.5	2	1.17	18	84.1	18	29.5	19	10.6	6
ST 4554 B2RF, ck	1207	13	57	9	3.6	11	1.20	11	84.7	16	32.1	7	12.0	1
BCSX 0721 B2F	1206	14	55	10	4.4	3	1.22	6	84.8	14	31.1	14	11.7	2
BCSX 0187 LLB2	1139	15	50	16	4.1	4	1.17	18	84.0	19	30.7	18	9.0	19
BCSX 0614 B2F	1137	16	67	5	3.2	14	1.26	3	85.2	10	31.4	12	10.6	6
BCSX 0102 LLB2	1101	17	72	2	3.0	18	1.29	1	85.6	5	32.6	2	10.5	9
BCSX 0704 B2F	1068	18	79	1	3.8	7	1.26	3	85.2	11	30.9	16	10.6	8
FM 835 LLB2	1057	19	68	4	3.2	14	1.25	5	86.0	2	31.0	15	9.3	18
STG-CT-210	1045	20	64	6	4.0	6	1.21	9	84.7	16	32.9	1	10.1	12
Mean	1251		57		3.6		1.21		85.1		31.4		10.3	
LSD 0.10	132		ns		0.9		0.05		1.2		1.3		0.7	
C.V.%	8.9		24.0		14.9		2.3		0.8		2.5		3.8	
R-sq x 100	77.7		56.0		74.4		80.0		69.1		76.6		90.8	

Table 22. Yield and related properties - 2008 1st-year Cotton Variety Test with irrigation on a Calloway silt loam soil at Marianna, AR.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber den.	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
BCSX 0721 B2F	1349	1	44.9	1	94	17	60	3	8.9	20	7.3	7	8.388	1	14932	19	28.0	14
DP 454 BG/RR, ck	1212	2	42.2	4	104	8	64	2	9	19	6.9	15	7.99	3	16864	15	31.1	9
FM 1740 B2F	1207	3	41.7	7	93	18	54	10	10.3	12	7.7	6	7.103	8	17056	14	27.7	16
NG 4377 B2RF	1201	4	41.6	8	112	3	59	5	9.8	15	7.2	9	7.534	4	18072	10	30.6	10
BCSX 0727 B2F	1185	5	42.3	3	102	14	44	17	9	18	6.7	17	8.002	2	16052	16	29.8	11
BCSX 0888 LLB2	1182	6	40.3	12	89	20	60	3	11.1	6	7.8	5	6.887	11	21369	5	31.9	8
Ark 9706-38-06	1153	7	43	2	113	2	58	6	11.2	5	8.6	1	6.068	18	25584	2	38.1	1
DP 0924 B2RF	1140	8	41.5	9	103	9	49	14	9.4	16	6.9	14	7.462	5	15254	18	27.1	18
FM 835 LLB2	1137	9	38.3	17	107	6	54	10	11.3	4	7.2	12	7.158	7	22587	3	33.4	5
BCSX 0102 LLB2	1135	10	40.9	11	97	15	48	16	11.5	2	8	3	6.399	17	22264	4	32.2	7
DP 0935 B2RF	1125	11	41.8	5	114	1	34	20	10.7	9	8	4	6.426	16	20988	6	32.8	6
BCSX 0187 LLB2	1109	12	40	13	102	13	58	6	10.5	10	7.2	11	6.981	10	15261	17	24.3	20
Ark 9704-13-05	1098	13	41.7	6	106	7	70	1	11.8	1	8.6	2	5.802	20	25909	1	36.8	2
BCSX 0704 B2F	1088	14	38	18	96	16	49	14	11.4	3	7.3	8	6.776	12	19834	9	28.9	12
NG 3331 B2RF	1054	15	41.2	10	103	10	56	8	10	13	7.2	13	6.687	14	20022	8	33.4	4
NG 4370 B2RF	1051	16	40	14	111	5	51	12	9.9	14	6.8	16	7.005	9	20146	7	33.5	3
ST 4554 B2RF, ck	1046	17	39.7	15	90	19	56	8	10.4	11	7.2	10	6.559	15	17713	13	28.5	13
STG-CT-210	1041	18	39.6	16	103	10	35	19	9.3	17	6.4	20	7.416	6	14725	20	26.5	19
FM 840 B2F	988	19	37.7	19	103	12	51	12	10.7	8	6.7	18	6.692	13	17816	12	27.8	15
BCSX 0614 B2F	846	20	36.5	20	111	4	40	18	10.9	7	6.5	19	5.866	19	17934	11	27.5	17
Mean	1117		40.6		103		52		10.3		7.3		6.960		19019		30.5	
LSD 0.10	114		1.5		10		13		0.8		0.5		0.727		5612		ns	
C.V.%	8.6		2.2		7.9		21.0		4.4		3.7		8.8		17.1		15.5	
R-sq x 100	62.8		90.9		66.7		50.5		88.7		91.6		65.6		68.4		53.0	

Table 23. Fiber properties - 2008 1st-year Cotton Variety Test with irrigation on a Calloway silt loam soil at Marianna, AR.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
BCSX 0721 B2F	1349	1	42	18	5.0	1	1.17	10	83.7	19	29.8	5	11.6	3
DP 454 BG/RR, ck	1212	2	33	20	4.5	5	1.11	20	83.8	18	28.0	18	10.9	6
FM 1740 B2F	1207	3	65	6	4.6	4	1.18	8	84.7	10	29.0	14	10.4	13
NG 4377 B2RF	1201	4	54	11	4.2	9	1.14	19	84.7	10	28.5	17	11.9	2
BCSX 0727 B2F	1185	5	61	9	4.3	7	1.18	8	84.2	14	27.3	19	11.1	4
BCSX 0888 LLB2	1182	6	66	5	3.6	15	1.20	6	85.3	4	29.6	8	9.8	17
Ark 9706-38-06	1153	7	50	14	3.6	16	1.16	12	85.3	6	29.3	13	10.7	8
DP 0924 B2RF	1140	8	47	16	4.8	3	1.16	12	84.3	13	28.9	15	10.8	7
FM 835 LLB2	1137	9	62	8	3.1	20	1.22	4	86.2	2	30.8	2	9.5	18
BCSX 0102 LLB2	1135	10	72	2	3.5	17	1.24	2	84.9	9	30.9	1	9.3	19
DP 0935 B2RF	1125	11	68	4	3.8	10	1.18	7	85.6	3	29.7	7	10.6	9
BCSX 0187 LLB2	1109	12	39	19	5.0	2	1.15	16	83.6	20	27.1	20	9.2	20
Ark 9704-13-05	1098	13	46	17	3.4	19	1.15	16	85.0	7	29.5	9	10.1	16
BCSX 0704 B2F	1088	14	63	7	3.7	11	1.21	5	85.0	7	29.4	12	10.5	10
NG 3331 B2RF	1054	15	51	13	3.7	11	1.16	12	84.7	10	28.7	16	11.0	5
NG 4370 B2RF	1051	16	49	15	3.7	13	1.17	10	84.2	15	29.7	6	10.5	12
ST 4554 B2RF, ck	1046	17	54	11	4.3	7	1.15	18	84.1	17	29.5	9	12.4	1
STG-CT-210	1041	18	59	10	4.5	6	1.16	12	84.2	15	30.7	3	10.2	15
FM 840 B2F	988	19	84	1	3.5	17	1.27	1	86.3	1	30.5	4	10.4	14
BCSX 0614 B2F	846	20	70	3	3.7	13	1.23	3	85.3	4	29.5	9	10.5	10
Mean	1117		57		4.0		1.18		84.7		29.3		10.6	
LSD 0.10	114		19		ns		0.04		1.1		1.3		0.7	
C.V.%	8.6		19.4		16.0		1.8		0.7		2.7		36.7	
R-sq x 100	62.8		73.0		62.0		87.3		76.7		78.3		90.1	

Table 24. Yield and related properties - 2008 1st-year Cotton Variety Test with irrigation on a Desha silt loam at Rohwer, AR.

Variety	Lint yield	r	Lint frac.	r	Ht.	r	Open bolls	r	Seed index	r	Lint index	r	Seed/ acre	r	Fibers/ seed	r	Fiber den.	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
BCSX 0721 B2F	1011	1	41.7	2	122	10	70	10	9.7	20	7.2	14	6.373	1	16550	19	28.4	16
FM 1740 B2F	1001	2	39.5	6	118	15	74	3	12.1	7	8.3	3	5.445	3	24590	5	33.8	8
BCSX 0727 B2F	954	3	39.3	7	122	12	74	3	10.4	19	7.1	15	6.105	2	15869	20	25.5	19
ST 4554 B2RF, ck	873	4	39.8	5	122	11	68	16	10.8	13	7.6	9	5.249	4	25661	3	39.5	3
BCSX 0888 LLB2	841	5	36.7	17	107	20	79	1	13	2	8.2	5	4.672	11	23194	10	29.8	13
BCSX 0187 LLB2	837	6	39.1	8	118	16	71	6	11.6	10	7.7	7	4.951	6	17486	18	25.0	20
BCSX 0102 LLB2	828	7	37.7	15	112	19	73	5	13.1	1	8.3	4	4.523	14	31190	2	39.5	2
DP 454 BG/RR, ck	823	8	40.5	3	137	1	71	6	10.7	16	7.6	8	4.937	7	23734	9	37.1	6
DP 0924 B2RF	801	9	38.8	10	126	9	69	14	10.8	13	7.4	10	4.905	8	24262	7	37.3	5
NG 3331 B2RF	798	10	38.3	12	128	7	71	6	10.9	12	7	17	5.196	5	17509	17	26.7	18
DP 0935 B2RF	781	11	41.9	1	121	13	71	6	11.7	9	8.7	1	4.062	16	21911	13	31.2	11
BCSX 0704 B2F	755	12	35.3	19	116	18	66	18	12.8	3	7.4	11	4.632	13	23869	8	31.0	12
NG 4370 B2RF	740	13	38.7	11	130	3	70	10	11	11	7.2	13	4.646	12	22781	11	34.5	7
NG 4377 B2RF	726	14	39	9	129	5	70	10	10.6	17	7.1	16	4.676	10	18687	15	29.3	14
FM 840 B2F	708	15	38.3	13	116	17	75	2	10.7	15	6.7	19	4.766	9	25273	4	39.5	4
FM 835 LLB2	696	16	36.4	18	126	8	68	16	12	8	7.3	12	4.358	15	22668	12	31.5	9
Ark 9706-38-06	575	17	40.1	4	129	5	66	18	12.4	5	8.7	2	3.005	19	34243	1	46.1	1
STG-CT-210	518	18	37.8	14	120	14	69	14	10.4	18	6.7	20	3.533	17	17593	16	28.2	17
Ark 9704-13-05	501	19	37.4	16	130	4	70	10	12.8	4	8	6	2.849	20	24358	6	31.5	10
BCSX 0614 B2F	473	20	35.2	20	130	2	58	20	12.2	6	6.9	18	3.127	18	20893	14	28.7	15
Mean	762		38.6		123		70		11.5		7.5		4.600		22616		32.7	
LSD 0.10	152		1.4		9		7		0.6		0.6		0.880		5811		8.0	
C.V.%	16.9		2.1		6.5		8.3		3.2		4.7		16.2		14.9		14.1	
R-sq x 100	68.7		91.1		53.8		44.0		94.0		86.2		70.8		79.6		74.7	

Table 25. Fiber properties - 2008 1st-year Cotton Variety Test with irrigation on a Desha silt loam at Rohwer, AR.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	Unif. ind.	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
BCSX 0721 B2F	1011	1	68	3	4.2	3	1.23	7	85.5	11	28.7	18	11.2	1
FM 1740 B2F	1001	2	54	10	3.3	10	1.20	12	86.0	6	30.4	11	10.2	6
BCSX 0727 B2F	954	3	42	18	4.5	1	1.19	15	84.2	19	28.4	19	9.9	8
ST 4554 B2RF, ck	873	4	47	15	2.9	16	1.21	9	85.4	12	32.6	1	11.2	1
BCSX 0888 LLB2	841	5	59	7	3.5	8	1.21	9	85.6	10	30.7	9	8.4	20
BCSX 0187 LLB2	837	6	47	15	4.5	1	1.18	17	83.1	20	28.3	20	8.6	19
BCSX 0102 LLB2	828	7	70	2	2.4	19	1.30	1	87.3	2	31.2	3	9.3	14
DP 454 BG/RR, ck	823	8	52	12	3.1	13	1.21	11	86.0	6	29.6	15	9.3	14
DP 0924 B2RF	801	9	43	17	3.1	13	1.18	17	85.7	8	30.8	7	10.5	4
NG 3331 B2RF	798	10	58	8	4.0	6	1.20	12	84.8	15	29.2	17	10.3	5
DP 0935 B2RF	781	11	49	13	4.1	4	1.18	17	84.8	14	30.3	13	10.1	7
BCSX 0704 B2F	755	12	65	6	2.9	16	1.27	3	86.0	5	31.2	4	9.4	12
NG 4370 B2RF	740	13	42	18	3.2	12	1.18	16	84.4	18	29.7	14	9.8	9
NG 4377 B2RF	726	14	29	20	4.0	5	1.16	20	84.5	17	29.4	16	10.6	3
FM 840 B2F	708	15	71	1	2.4	19	1.30	1	87.4	1	31.2	4	9.5	11
FM 835 LLB2	696	16	66	4	3.0	15	1.26	4	86.2	4	30.8	7	9.0	17
Ark 9706-38-06	575	17	49	14	2.4	18	1.23	6	86.3	3	31.1	6	9.2	16
STG-CT-210	518	18	55	9	3.8	7	1.20	12	84.9	13	31.3	2	9.3	13
Ark 9704-13-05	501	19	54	10	3.3	10	1.22	8	84.7	16	30.4	11	8.7	18
BCSX 0614 B2F	473	20	65	5	3.4	9	1.26	5	85.6	9	30.6	10	9.7	10
Mean	762		54		3.4		1.22		85.4		30.3		9.7	
LSD 0.10	152		16		1.1		0.04		1.0		1.0		0.8	
C.V.%	16.9		16.7		18.2		1.9		0.7		1.8		4.9	
R-sq x 100	68.7		75.5		70.5		86.0		85.6		88.9		84.7	

Table 26. Morphological and host plant resistance traits in the 2008 Main Arkansas Cotton Variety Tests.

Variety	Leaf pubescence[1]	r	Stem pubescence[1]	r	Bract trichomes[2]	r	Verticillium wilt[3]	r	Tarnished plant bug damage[4]	r
	rating		rating		no./cm		%		%	
AM 1532 B2RF	1.7	19	5.2	15	38.2	11	20	12	32	28
AM 1550 B2RF	1.0	25	3.3	30	24.0	29	23	8	24	13
CG 3020 B2RF	1.0	25	6.3	5	36.7	17	29	2	24	8
CG 3035RF	1.0	25	5.1	18	28.6	25	25	4	22	7
CG 3220 B2RF	1.0	25	4.5	26	25.5	28	23	8	24	10
CG 3520 B2RF	2.3	16	5.8	8	39.6	8	31	1	28	23
CG 4020 B2RF	1.3	20	4.8	22	38.5	10	19	14	29	24
DP 121 RF	2.7	11	4.9	20	37.8	14	16	20	28	19
DP 141 B2RF	2.5	14	5.7	9	35.9	19	6	30	24	9
DP 143 B2RF	3.0	9	5.9	7	38.9	9	20	12	24	11
DP 161 B2RF	2.1	18	6.4	4	31.0	23	9	28	26	17
DP 164 B2RF	1.1	22	5.2	15	27.7	26	9	28	29	26
DP 174 RF	2.7	12	4.7	23	36.7	17	27	3	21	4
DP 393, ck	1.2	21	5.5	12	34.7	21	13	24	28	21
DP 454 BG/RR, ck	5.0	2	7.1	2	43.9	2	10	25	25	15
Dyna-Gro 2400	1.0	25	4.5	26	26.7	27	24	7	22	5
Dyna-Gro 2490	2.4	15	4.7	23	40.0	6	23	8	25	16
Dyna-Gro 2520	1.1	22	5.1	18	37.9	12	25	4	32	27
Dyna-Gro 2570	1.0	25	4.2	29	28.7	24	15	22	28	20
FM 1735 LLB2	1.1	22	4.3	28	21.0	30	18	17	26	18
PHY 315 RF	3.3	8	5.2	15	37.9	12	18	17	24	12
PHY 370 WR	2.6	13	5.3	14	37.8	15	14	23	34	30
PHY 375 WRF	2.2	17	4.8	21	40.1	5	25	4	33	29
PHY 425 RF	5.2	1	6.8	3	43.7	3	10	25	29	25
PHY 485 WRF	4.3	3	7.2	1	47.2	1	19	14	24	14
ST 4427 B2RF	3.0	9	5.6	11	40.3	4	19	14	28	22
ST 4498 B2RF	4.2	4	5.6	10	35.5	20	16	20	15	1
ST 4554 B2RF	3.8	6	5.4	13	37.3	16	18	17	18	2
ST 5327 B2RF	3.3	7	4.7	25	39.9	7	10	25	19	3
ST 5458 B2RF	4.0	5	6.2	6	34.0	22	21	11	22	6
Frego 1									71	32
Frego 2									69	31
Mean	2.4		5.3		36		18		28	
LSD 0.10	0.8		1.1		4.5		12		6	
C.V.%	30.9		16.9		10.9		57.5		32.0	
R-sq x 100	80.4		58.0		78.8		66.4		66.7	

[1]Leaf 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).

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

[3]Wilted plants (%) was visually rated at Judd Hill on Aug 29.

[4]Response to tarnished plant bug was determined by examining white flowers (6 flowers/plot/day for 9 days) for presence of another damage.

Table 27. Morphological and host plant resistance traits for the 1st-year 2008 Arkansas Cotton Variety Test.

Variety	Leaf pubescence[1]	r	Stem pubescence[1]	r	Bract trichomes[2]	r	Verticillium wilt[3]	r	Tarnished plant bug damage[4]	r
	rating		rating		no./cm		%		%	
Ark 9704-13-05	1.1	16	1.5	19	23.2	18	28	7	19	7
Ark 9706-38-06	2.8	9	1.0	20	26.2	17	30	4	20	10
BCSX 0721 B2F	4.4	4	8.4	2	48.5	1	15	17	20	11
BCSX 0102 LLB2	2.8	10	5.6	9	45.4	3	14	19	21	14
BCSX 0187 LLB2	1.5	12	5.0	14	39.1	10	19	14	19	9
BCSX 0614 B2F	1.0	19	5.1	13	21.5	19	9	20	25	20
BCSX 0704 B2F	3.9	5	5.0	14	39.0	11	16	16	23	17
BCSX 0727 B2F	6.0	1	8.8	1	46.8	2	19	14	17	2
BCSX 0888 LLB2	1.2	15	5.2	11	35.1	15	21	11	19	6
DP 0924 B2RF	2.8	10	5.5	10	38.0	12	23	10	19	8
DP 0935 B2RF	1.2	14	3.3	18	27.4	16	20	13	18	4
DP 454 BG/RR, ck	5.4	2	7.1	3	42.3	7	28	7	17	3
FM 1740 B2F	1.1	16	4.3	16	37.1	13	35	3	20	12
FM 835 LLB2	1.4	13	6.4	6	40.9	8	51	1	22	15
FM 840 B2F	1.1	16	6.0	8	40.8	9	49	2	23	18
NG 3331 B2RF	3.8	8	6.5	5	43.0	5	30	4	22	16
NG 4370 B2RF	3.8	7	6.2	7	42.8	6	21	11	18	5
NG 4377 B2RF	3.9	5	6.9	4	43.8	4	25	9	21	13
ST 4554 B2RF, ck	4.6	3	5.1	12	36.4	14	30	4	14	1
STG-CT-210	1.0	19	3.6	17	18.7	20	15	17	23	19
Frego 1									63	21
Frego 2									67	22
Mean	2.7		5.3		36.8		25		24	
LSD 0.10	0.8		1.0		3.9		11		5	
C.V.%	25.5		16.6		9		38.6		29.3	
R-sq x 100	88.4		87.7		91.1		67.4		80.3	

[1]Leaf 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).

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

[3]Wilted plants (%) was visually rated at Judd Hill on Aug 29.

[4]Response to tarnished plant bug was determined by examining white flowers (6 flowers/plot/day for 9 days) for presence of another damage.


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