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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 2009 Arkansas Cotton Variety Test was separated into two experiments, one with 30 entries that were evaluated in both 2008 and 2009 and one for 20 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. Excessive rainfall in May (planting) and October (harvest) adversely affected each location.

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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® (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 2008 Arkansas Cotton Variety Test and were re-submitted in 2009 were entered in the 2009 main experiment. Lines submitted in 2009 that were not evaluated in the 2008 test were entered into the 2009 1st year variety test. Common check varieties were included in both experiments.

Materials and Methods

The 2009 Main experiment included 30 entries while the 1st year experiment had 20 entries (Table 1). The 30 varieties in the Main experiment included 24 Round-up Ready Flex® varieties (19 B2RF, 3 RF, and 2 WRF), 3 non-Round-up Ready Flex® varieties (1 WR, 1 B2LL and 1 conventional), and 3 check varieties (1, B2RF, 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 12 Round-up Ready Flex® varieties (8 B2RF, 3 WRF and 1 RF) and 6 non-Round-up Ready Flex® varieties (4 B2LL and 2 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 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.

[1]F.M. Bourland is center director and professor and A.B. Beach is a program technician at the Northeast Research and Extension Center; D.P. Roberts Jr. is a program technician at the Southwest Branch Experiment Station.

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 22 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 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: Although incidence of Verticillium wilt was relatively high at the Judd Hill site in 2009, visual ratings of wilted plants was not obtained due to the continued rainy, wet conditions.

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 averaged sized plant in each of the two rows. Plot means (average of the two measurements) were evaluated.

% Open bolls: After first application of defoliants, percentage of open bolls was estimated from the front and back of each plot (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 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.

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 2009 production season.

Rain and subsequent wet conditions hindered emergence and/or delayed planting at every location (Tables 2 and 3). Tests at Marianna and Rohwer were re-planted due to erratic stands. Good stands were obtained at Keiser and 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. The intense rainfall in late September and October interfered with maturity and defoliation of the tests and contributed to boll rots and tight lock bolls. At each location, measureable rainfall was recorded on more than half of the days in September and October (data not shown). Although not reported, cloud cover reduced light quality throughout much of the late season. Unseasonable high rainfall in October caused much damage and further delayed harvest.

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. The test was irrigated only once (June 14), but received 0.4 inches of rain the next day and 0.9 inches of rain from June 15-17. Insect and disease pressures were relatively light.

Judd Hill. Early planting produced adequate stands that emerged and grew slowly. Incidence of Verticillium wilt was high in late August and September, but wet conditions prevented workers from entering field and making ratings. Verticillium wilt exasperated the occurrence tight boll and reduced harvest efficiency.

Marianna. Erratic stands were obtained from first planting date. Improved stands and good early growth were attained from second planting. The fourth replication was on the lower end of the field and was lost due to excess standing water.

Rohwer. Heavy rainfall reduced stands in the first planting to the extent that the test had to be replanted. Good growth and boll retention was attained, but excess rainfall in late September and October damaged the crop.

Performance of entries in the main experiment of 2009 Arkansas Cotton Variety Test, which includes varieties that were evaluated in both 2008 and 2009, 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 2009 but not evaluated in 2008, 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.

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Table 1. Participants and entries in the 2009 Arkansas Cotton Variety Test.

Institution/Contact person	Main Test	1st year Test
Americot Inc. / Chiree Lopez	AM 1550 B2RF AM NG 3331 B2RF AM NG 4370 B2RF	
Bayer Crop Science / Andy White	FM 1740 B2F FM 1845LLB2 ST 4288B2F ST 4554 B2RF, ck. ST 4498 B2RF ST 5288B2F ST 5458 B2RF	BCSX 1010B2F BCSX 1005LLB2 BCSX 1015LLB2 BCSX 1025LLB2 BCSX 1035LLB2 ST 4554 B2RF, ck.
Monsanto / David Albers	DP 0924 B2RF DP 0935 B2RF DP 141 B2RF DP 161 B2RF DP 174 RF DP 393 ck. DP 454 BG/RR ck.	DP 0912 B2RF DP 0920 B2RF DP 0949 B2RF DP 1028 B2RF DP 1032 B2RF 09R 619 B2R2 09R 796 B2R2 DP 454 BG/RR ck.
PhytoGen Seed Co./ Joel Faircloth	PHY 315 RF PHY 370 WR PHY 375 WRF PHY 485 WRF	PHY 367 WRF PHY 525 RF PHY 565 WRF PHY 5922 WRF
Seed-Tec Genetics / Edward Jungmann	SSG HQ210CT	SSG 59-6-9
United Agri Products / Larry Stauber	Dyna-Gro 2490 Dyna-Gro 2520 Dyna-Gro 2570	
Winfield Solutions, LLC / Jaime Yanes	CG 3020 B2RF CG 3035RF CG 3220 B2RF CG 3520 B2RF CG 4020 B2RF	
Ark. Agric. Exp. Station / Fred Bourland		Ark 0102-48

Table 2. Cultural practices for locations of the 2009 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 (lbs)	100,0,0	100,28,82	87.5,0,60	112,0,60 (+1 lb B)
Planting date	5/18	5/19	4/29, 5/20*	5/21, 6/3*
Irrigation method	Furrow	Furrow	Furrow	Furrow
Irrigation dates	6/14	6/23,6/27 7/1,7/10, 8/19	6/27, 7/20 8/15, 8/28	6/29, 7,16 8/15, 8/27
Defoliation date	9/29,10/9	9/29,10/7	9/28	9/30, 10/9
Harvest date	11/5	11/6	11/3	11/5

* Due to poor stands in first planting, tests at Marianna and Rohwer were replanted.

Table 3. Weather summary for the 2009 production season in north, central and south Arkansas.

Location	Month	DD60's in 2009	Historical avg.[1] DD60's	Rainfall (in.) in 2009	Historical avg.[1] rainfall
Keiser	May	324	314	7.1	5.2
(northeast)	June	649	532	5.0	3.9
	July	592	644	8.3	3.7
	August	564	583	2.9	2.9
	September	431	363	3.2	3.7
	October	0	127	9.4	3.3
	Total	2559	2563	35.9	22.6
Marianna	May	305	336	13.0	5.1
(central)	June	604	538	3.5	3.9
	July	568	646	8.6	3.9
	August	555	601	2.5	2.8
	September	409	397	4.8	3.2
	October	0	154	12.6	3.5
	Total	2441	2672	45.1	22.4
Rohwer	May	308	354	11.4	4.9
(southeast)	June	628	551	1.9	3.6
	July	572	661	6.6	3.7
	August	574	618	2.1	2.6
	September	426	415	6.0	3.0
	October	0	167	11.7	3.4
	Total	2508	2766	39.8	21.3

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

Table 4. Yield and related properties - 2009 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 density	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
DP 174 RF	1010	1	43.6	1	109	5	52	22	9.8	9	7.8	1	5.976	10	17704	2	301	3
ST 4288B2F	957	2	38.6	17	97	30	50	27	10.7	2	6.9	6	6.450	4	15500	16	241	28
ST 5288B2F	910	3	39.9	10	105	16	52	23	9.0	29	6.1	19	6.864	1	13647	29	255	22
PHY 370 WR	881	4	40.2	8	112	4	58	9	9.8	11	6.7	10	6.006	9	15766	14	270	15
DP 393 ck.	878	5	40.1	9	107	11	54	17	10.2	3	7.0	5	5.791	12	16307	11	268	16
DG 2570	868	6	41.6	2	108	10	58	10	9.6	15	7.0	4	5.731	14	16691	8	290	8
ST 5458 B2RF	856	7	38.7	15	106	14	48	29	10.0	6	6.5	13	6.025	8	15580	15	260	19
FM 1740 B2F	853	8	39.5	14	99	29	59	8	10.1	4	6.8	9	5.769	13	16947	6	282	10
PHY 375 WRF	848	9	41.0	6	109	8	55	16	9.5	19	6.8	7	5.660	16	17384	5	305	2
DP 0924 B2RF	836	10	39.6	12	108	9	56	14	9.3	25	6.2	18	6.197	6	15012	20	271	13
DP 0935 B2RF	833	11	40.3	7	109	7	50	27	9.7	12	6.8	8	5.723	15	15982	12	274	11
DP 141 B2RF	826	12	38.2	19	109	6	50	26	9.2	26	5.8	25	6.468	3	13737	27	250	26
PHY 485 WRF	818	13	38.6	18	116	2	57	13	9.3	24	6.0	22	6.289	5	14012	26	252	24
AM NG 3331 B2RF	807	14	38.2	20	107	12	58	10	9.9	7	6.2	17	5.958	11	14633	23	248	27
ST 4498 B2RF	804	15	37.8	24	103	18	51	25	9.6	16	6.0	21	6.070	7	14976	21	261	18
PHY 315 RF	799	16	41.6	3	106	15	59	6	9.8	10	7.1	3	5.122	28	17414	4	298	4
DP 161 B2RF	794	17	37.4	27	112	3	53	20	9.0	28	5.5	30	6.629	2	12644	30	235	29
AM 1550 B2RF	791	18	39.6	11	100	28	57	12	9.5	21	6.4	15	5.655	18	16820	7	296	5
DP 454 BG/RR ck.	786	19	41.5	4	119	1	52	23	9.0	30	6.5	12	5.642	19	17905	1	335	1
CG 3035RF	786	20	41.3	5	103	20	54	18	10.0	5	7.2	2	5.004	30	17533	3	293	6
FM 1845LLB2	766	21	36.3	29	101	25	53	20	11.3	1	6.6	11	5.303	25	14092	25	208	30
CG 4020 B2RF	727	22	37.9	23	101	26	60	4	9.6	14	6.1	20	5.532	21	14785	22	257	20
AM NG 4370 B2RF	727	23	38.1	21	107	13	54	18	9.5	20	6.0	23	5.548	20	14542	24	255	21
CG 3220 B2RF	723	24	39.5	13	101	24	59	6	9.7	13	6.5	14	5.157	27	15774	13	273	12
ST 4554 B2RF, ck.	717	25	38.6	16	103	19	56	15	9.8	8	6.4	16	5.166	26	15053	18	255	23
CG 3520 B2RF	702	26	37.7	25	102	21	63	1	9.5	22	5.9	24	5.464	22	15021	19	265	17
DG 2490	687	27	36.2	30	102	22	60	5	9.5	18	5.6	29	5.659	17	16580	9	291	7
DG 2520	684	28	37.4	26	103	17	62	2	9.4	23	5.8	26	5.434	24	15209	17	270	14
CG 3020 B2RF	680	29	36.8	28	102	23	61	3	9.5	17	5.7	28	5.441	23	16394	10	287	9
SSG HQ210CT	635	30	38.1	22	100	27	46	30	9.1	27	5.8	27	5.032	29	13680	28	252	25
Mean	801		39.1		106		55		9.7		6.4		5.763		15578		270	
Var. LSD 0.10	62		1.0		5		5		0.3		0.3		0.452		666		15	
Loc. LSD 0.10	22		0.4		2		2		0.1		0.1		0.158		243		5	
C.V.%	12.8		3.2		7.9		13.0		4.1		5.8		12.9		5.2		6.5	
R-sq x 100	69.0		85.8		83.0		81.8		85.3		89.4		71.5		89.7		86.8	
Prob (var x loc)	<.0001		0.120		0.035		0.144		<.0001		<.001		<.001		0.001		0.033	

Table 5. Fiber properties - 2009 Main Cotton Variety Test across four Arkansas test sites.

	Lint		Quality		Fiber properties									
Variety	yield	r	score	r	Micronaire	r	Length	r	Unif. index	r	Strength	r	Elongation	r
	lb/a						in.		%		g/tex		%	
DP 174 RF	1010	1	80	2	4.3	13	1.21	4	85.1	2	29.2	19	11.0	16
ST 4288B2F	957	2	66	8	4.5	3	1.19	5	83.9	17	30.0	12	10.6	18
ST 5288B2F	910	3	61	17	4.6	1	1.18	9	83.7	23	29.1	20	10.4	23
PHY 370 WR	881	4	53	26	4.5	2	1.14	26	84.0	14	30.3	8	10.8	17
DP 393 ck.	878	5	69	5	4.3	12	1.18	8	84.7	5	30.8	7	11.1	13
DG 2570	868	6	64	10	4.3	14	1.17	14	84.6	6	30.3	9	11.4	8
ST 5458 B2RF	856	7	65	9	4.3	15	1.19	6	83.8	20	29.4	17	9.7	29
FM 1740 B2F	853	8	61	16	4.1	23	1.17	13	84.3	8	29.4	18	10.3	24
PHY 375 WRF	848	9	62	12	4.0	26	1.16	16	83.9	18	29.0	22	10.5	20
DP 0924 B2RF	836	10	52	27	4.4	6	1.14	27	83.3	28	29.0	21	11.3	10
DP 0935 B2RF	833	11	62	13	4.3	9	1.17	12	84.2	10	30.2	10	10.5	21
DP 141 B2RF	826	12	77	4	4.2	20	1.21	3	84.2	9	31.3	4	10.1	27
PHY 485 WRF	818	13	68	6	4.3	9	1.17	11	84.7	3	31.6	2	11.8	5
AM NG 3331 B2RF	807	14	55	25	4.5	3	1.14	25	83.7	22	30.0	13	10.5	19
ST 4498 B2RF	804	15	60	18	4.2	21	1.15	22	84.0	13	31.5	3	12.2	3
PHY 315 RF	799	16	63	11	4.2	19	1.16	15	83.9	16	28.7	23	10.3	25
DP 161 B2RF	794	17	79	3	4.3	17	1.22	2	84.3	7	30.2	11	9.8	28
AM 1550 B2RF	791	18	50	28	4.1	25	1.13	28	83.4	27	27.9	26	11.2	12
DP 454 BG/RR ck.	786	19	59	20	3.7	28	1.16	16	84.7	4	29.6	15	10.2	26
CG 3035RF	786	20	57	24	4.3	11	1.14	24	83.7	25	29.5	16	11.7	6
FM 1845LLB2	766	21	84	1	4.5	5	1.24	1	85.1	1	31.7	1	9.3	30
CG 4020 B2RF	727	22	68	7	4.2	22	1.18	7	84.0	15	27.7	29	11.1	15
AM NG 4370 B2RF	727	23	59	22	4.3	15	1.15	23	84.1	11	29.7	14	11.1	13
CG 3220 B2RF	723	24	59	20	4.3	17	1.16	19	83.7	24	28.7	24	11.3	11
ST 4554 B2RF, ck.	717	25	62	14	4.4	7	1.16	21	83.8	19	31	6	12.6	1
CG 3520 B2RF	702	26	59	19	4.1	24	1.16	20	83.8	21	27.8	27	11.5	7
DG 2490	687	27	41	30	3.7	30	1.12	30	82.8	30	27.7	28	12.3	2
DG 2520	684	28	61	15	3.9	27	1.18	10	83.7	26	28.0	25	11.4	9
CG 3020 B2RF	680	29	44	29	3.7	29	1.12	29	83.3	29	26.9	30	12.0	4
SSG HQ210CT	635	30	58	23	4.4	7	1.16	16	84.1	12	31.2	5	10.4	22
Mean	801		62		4.2		1.17		84.1		29.6		10.9	
Var. LSD 0.10	62		8		0.2		0.02		0.7		0.9		0.4	
Loc. LSD 0.10	22		ns		0.1		0.01		ns		0.3		0.1	
C.V.%	12.8		16.5		5.3		2.0		1.1		3.5		4.1	
R-sq x 100	69.0		74.2		90.8		84.2		63.8		82.3		88.9	
Prob (var x loc)	<.0001		0.083		0.005		0.001		0.649		0.811		0.008	

Table 6. Yield and related properties - 2009 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 density	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
ST 5458 B2RF	960	1	40.4	13	88	17	53	28	10.5	4	7.2	7	6.046	3	14266	17	227	26
DP 393 ck.	952	2	41.9	6	88	17	55	26	9.5	20	7.0	11	6.220	2	15265	9	268	7
DP 174 RF	940	3	44.0	1	93	7	56	21	9.9	14	7.9	1	5.389	13	16438	3	278	4
ST 4288B2F	913	4	39.2	18	78	30	56	21	10.7	2	6.9	14	6.020	5	13859	21	217	28
PHY 375 WRF	875	5	42.4	4	90	13	59	17	9.6	19	7.1	8	5.563	11	16374	4	285	3
DP 454 BG/RR ck.	865	6	43.2	2	97	1	59	17	8.8	29	6.8	15	5.781	8	16757	2	319	1
ST 5288B2F	841	7	41.0	11	92	8	53	28	9.3	24	6.6	16	5.822	7	12970	26	233	23
CG 3035RF	841	8	42.8	3	87	19	56	21	9.6	17	7.3	5	5.235	17	17417	1	301	2
FM 1740 B2F	837	9	41.2	9	80	28	59	17	10.6	3	7.6	2	5.029	23	15329	8	241	18
FM 1845LLB2	831	10	37.2	28	94	4	61	13	11.7	1	7.1	9	5.303	15	13368	25	190	30
DP 0924 B2RF	828	11	41.1	10	86	21	65	7	8.7	30	6.2	22	6.039	4	13993	20	269	6
DP 0935 B2RF	817	12	42.1	5	91	11	54	27	9.9	11	7.3	4	5.046	22	15607	6	263	9
DG 2570	805	13	41.6	8	88	16	60	16	9.9	13	7.2	6	5.066	21	14975	11	253	12
DP 161 B2RF	804	14	38.1	25	95	3	64	9	9.0	27	5.6	30	6.476	1	12319	29	228	25
AM 1550 B2RF	786	15	40.5	12	86	23	66	4	9.3	25	6.5	18	5.493	12	14965	12	270	5
PHY 370 WR	785	16	40.0	16	93	6	64	9	10.2	7	6.9	13	5.167	19	14042	19	230	24
ST 4498 B2RF	780	17	38.7	23	84	24	58	20	9.7	16	6.3	20	5.625	10	14601	14	251	13
PHY 485 WRF	766	18	38.5	24	93	5	61	13	9.2	26	5.9	26	5.879	6	12782	27	233	22
AM NG 3331 B2RF	756	19	38.7	22	89	14	61	13	10.1	9	6.5	19	5.313	14	13593	24	225	27
AM NG 4370 B2RF	742	20	39.0	19	90	12	56	21	10.0	10	6.5	17	5.185	18	14168	18	237	19
PHY 315 RF	727	21	41.7	7	92	10	64	9	10.2	6	7.4	3	4.479	26	16263	5	266	8
DP 141 B2RF	722	22	37.1	29	97	2	49	30	9.5	22	5.7	29	5.749	9	11739	30	206	29
CG 3220 B2RF	698	23	40.2	14	89	15	64	9	10.3	5	7.0	10	4.505	25	14859	13	241	17
SSG HQ210CT	684	24	39.8	17	92	9	56	21	8.9	28	6.0	24	5.130	20	12572	28	236	21
CG 3020 B2RF	666	25	37.3	27	80	27	66	4	9.5	21	5.8	28	5.246	16	14510	15	254	11
ST 4554 B2RF, ck.	633	26	40.0	15	86	22	65	7	10.1	8	6.9	12	4.146	30	15118	10	249	14
DG 2520	629	27	37.7	26	87	20	68	3	9.4	23	5.8	27	4.922	24	13854	22	245	16
CG 4020 B2RF	613	28	38.9	20	79	29	69	1	9.8	15	6.3	21	4.418	28	13846	23	237	20
CG 3520 B2RF	606	29	38.8	21	81	26	69	1	9.6	18	6.2	23	4.434	27	14333	16	248	15
DG 2490	561	30	36.8	30	83	25	66	4	9.9	12	5.9	25	4.296	29	15353	7	258	10
Mean	775		40.0		88		60		9.8		6.6		5.301		14518		249	
LSD 0.10	125		1.2		9		7		0.7		0.5		0.877		1012		19	
C.V.%	13.7		1.8		8.8		9.6		4.1		4.6		14.1		4.1		4.5	
R-sq x 100	58.1		93.4		60.5		64.6		83.9		89.2		48.3		91.4		92.3	

Table 7. Fiber properties - 2009 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		%	
ST 5458 B2RF	960	1	59	14	5.2	2	1.17	6	84.1	13	29.7	18	9.5	27
DP 393 ck.	952	2	69	6	4.6	20	1.17	6	84.6	3	31.9	4	10.8	14
DP 174 RF	940	3	77	2	4.8	14	1.20	3	84.6	3	29.6	19	10.4	18
ST 4288B2F	913	4	58	16	5.1	3	1.17	6	83.6	18	30.5	13	10.3	19
PHY 375 WRF	875	5	66	7	4.5	24	1.16	9	83.6	18	30.0	15	10.5	17
DP 454 BG/RR ck.	865	6	59	12	4.3	28	1.13	27	84.3	10	29.1	22	10.2	21
ST 5288B2F	841	7	50	29	5.3	1	1.16	13	83.4	25	29.3	21	10.1	23
CG 3035RF	841	8	60	11	4.4	26	1.14	21	83.6	21	30.5	12	11.6	5
FM 1740 B2F	837	9	58	15	5.1	6	1.16	9	84.3	7	29.5	20	9.9	25
FM 1845LLB2	831	10	77	2	5.1	3	1.23	2	85.3	1	32.8	1	8.7	30
DP 0924 B2RF	828	11	51	27	4.8	14	1.12	30	83.6	21	28.7	25	10.8	12
DP 0935 B2RF	817	12	48	30	5.0	7	1.13	29	83.7	17	29.7	17	10.2	21
DG 2570	805	13	54	25	5.0	7	1.14	21	84.6	3	31.0	9	11.7	4
DP 161 B2RF	804	14	71	5	4.7	18	1.19	4	82.9	30	30.5	14	8.9	29
AM 1550 B2RF	786	15	55	23	4.6	20	1.13	27	83.6	18	28.6	27	10.8	12
PHY 370 WR	785	16	57	20	5.1	5	1.16	13	84.3	7	31.1	7	10.9	11
ST 4498 B2RF	780	17	57	18	4.6	23	1.14	25	83.6	21	32.2	3	11.4	7
PHY 485 WRF	766	18	55	24	4.9	11	1.14	25	84.1	14	31.6	5	11.7	3
AM NG 3331 B2RF	756	19	51	27	5.0	7	1.14	18	83.5	24	31.0	8	10.1	24
AM NG 4370 B2RF	742	20	57	20	4.8	13	1.14	18	83.8	16	30.9	11	10.6	15
PHY 315 RF	727	21	58	16	4.8	14	1.15	16	83.4	27	29.1	22	9.9	26
DP 141 B2RF	722	22	88	1	4.7	18	1.24	1	84.3	7	32.6	2	9.2	28
CG 3220 B2RF	698	23	62	10	4.9	11	1.16	13	84.7	2	29.9	16	11.3	8
SSG HQ210CT	684	24	54	25	5.0	7	1.14	21	84.5	6	31.3	6	10.5	16
CG 3020 B2RF	666	25	57	20	4.2	29	1.14	18	83.0	29	28.1	29	11.9	1
ST 4554 B2RF, ck.	633	26	65	8	4.7	17	1.16	9	84.1	11	31.0	9	11.8	2
DG 2520	629	27	59	12	4.4	26	1.15	16	83.4	26	28.7	25	11.2	10
CG 4020 B2RF	613	28	72	4	4.6	20	1.18	5	84.1	11	28.3	28	10.3	19
CG 3520 B2RF	606	29	64	9	4.5	25	1.16	9	84.0	15	27.8	30	11.2	9
DG 2490	561	30	57	18	4.1	30	1.14	24	83.2	28	28.8	24	11.6	5
Mean	775		61		4.7		1.16		83.9		30.1		10.6	
LSD 0.10	125		ns		0.4		0.04		ns		1.4		0.7	
C.V.%	13.7		17.9		4.5		2.1		1.0		2.8		3.6	
R-sq x 100	58.1		58.1		80.6		72.5		50.4		85.6		90.8	

Table 8. Yield and related properties - 2009 Main Cotton Variety Test with irrigation on a Dundee silt loam soil at Judd Hill, AR.

	Lint		Lint				Open		Seed		Lint		Seed/		Fibers/		Fiber	
Variety	yield	r	frac.	r	Ht.	r	bolls	r	index	r	index	r	acre	r	seed	r	density	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
ST 4288B2F	1112	1	37.6	17	114	28	39	19	10.7	2	6.6	9	7.704	1	14998	19	234	28
DP 174 RF	1071	2	42.0	1	125	13	39	19	9.7	10	7.2	2	6.770	12	17479	4	301	8
DP 0935 B2RF	1038	3	41.2	4	125	11	36	26	10.1	4	7.2	1	6.541	16	16807	10	278	13
DG 2570	1035	4	40.9	5	130	7	46	3	9.3	16	6.6	7	7.093	9	16342	11	292	10
PHY 375 WRF	976	5	40.6	6	134	4	44	11	9.8	7	7.0	3	6.356	21	18377	1	312	5
PHY 370 WR	948	6	40.1	7	131	5	40	15	9.6	12	6.6	8	6.510	17	16937	8	294	9
DP 0924 B2RF	947	7	39.8	8	134	3	38	21	9.2	21	6.2	13	6.929	10	14369	24	262	23
ST 5288B2F	946	8	38.5	14	112	30	45	6	8.9	26	5.7	21	7.472	2	13061	29	244	27
AM NG 3331 B2RF	932	9	38.3	15	130	8	45	6	9.2	20	5.9	16	7.179	7	14560	22	264	22
ST 4554 B2RF, ck.	930	10	39.3	10	120	20	38	21	9.8	8	6.5	10	6.475	19	15558	16	264	21
ST 4498 B2RF	908	11	37.5	19	122	17	38	21	9.4	13	5.8	20	7.096	8	15420	17	273	16
FM 1740 B2F	905	12	37.4	20	115	27	46	3	9.6	11	6.1	14	6.734	13	15977	15	278	14
PHY 485 WRF	897	13	36.7	25	143	2	44	11	9.4	14	5.6	22	7.276	5	14128	26	251	26
DP 454 BG/RR ck.	891	14	39.8	9	144	1	40	15	8.5	29	5.9	19	6.912	11	17405	6	342	1
PHY 315 RF	884	15	41.3	2	125	11	43	13	9.3	16	6.8	4	5.932	29	17697	2	316	2
CG 3035RF	881	16	41.3	3	119	24	48	1	9.3	18	6.7	6	5.998	28	17422	5	314	4
DP 161 B2RF	872	17	36.6	26	129	9	34	29	9.0	24	5.3	27	7.418	3	12420	30	230	29
DP 393 ck.	871	18	38.7	12	130	6	38	21	10.5	3	6.7	5	5.863	30	15990	14	255	25
AM 1550 B2RF	869	19	39.1	11	115	26	38	21	9.9	6	6.5	11	6.062	25	16924	9	286	11
DP 141 B2RF	862	20	37.8	16	125	10	40	15	8.6	28	5.3	28	7.393	4	13456	28	261	24
FM 1845LLB2	847	21	35.3	30	116	25	36	26	11.4	1	6.4	12	6.043	26	13987	27	205	30
CG 3220 B2RF	839	22	38.6	13	112	29	45	6	9.0	25	5.9	18	6.509	18	16259	12	301	7
DG 2490	832	23	35.9	29	122	19	45	6	9.1	23	5.2	29	7.238	6	17080	7	315	3
ST 5458 B2RF	827	24	36.4	28	122	16	36	26	10.0	5	5.9	17	6.371	20	16112	13	269	19
DG 2520	824	25	37.1	22	122	14	45	6	9.2	19	5.6	23	6.687	14	15211	18	276	15
CG 3020 B2RF	815	26	37.6	18	122	18	48	1	9.7	9	6.0	15	6.167	23	17688	3	303	6
CG 4020 B2RF	784	27	36.5	27	122	14	40	15	8.9	27	5.4	26	6.569	15	14468	23	270	17
CG 3520 B2RF	749	28	37.0	23	120	20	46	3	9.1	22	5.6	25	6.118	24	14773	21	269	18
AM NG 4370 B2RF	739	29	36.8	24	120	22	41	14	9.3	15	5.6	24	6.020	27	14975	20	267	20
SSG HQ210CT	717	30	37.3	21	120	23	31	30	8.4	30	5.2	30	6.265	22	14133	25	280	12
Mean	892		38.4		124		41		9.5		6.1		6.657		15667		277	
LSD 0.10	111		1.9		11		ns		0.7		0.6		0.833		1455		31	
C.V.%	10.6		2.9		7.2		18.4		4.2		5.4		10.6		5.5		6.5	
R-sq x 100	61.6		85.6		61.4		42.4		89.4		86.6		50.9		86.7		84.1	

Table 9. Fiber properties - 2009 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		%	
ST 4288B2F	1112	1	63	15	4.4	1	1.19	15	83.9	23	30.4	14	10.3	25
DP 174 RF	1071	2	77	5	4.0	11	1.22	6	85.5	2	29.7	21	11.1	15
DP 0935 B2RF	1038	3	65	13	4.3	4	1.18	16	84.7	12	30.7	12	10.6	18
DG 2570	1035	4	77	6	3.9	12	1.22	6	85.6	1	31.3	6	11.2	14
PHY 375 WRF	976	5	56	25	3.9	14	1.16	26	83.8	24	29.2	25	11.0	16
PHY 370 WR	948	6	49	28	4.1	8	1.13	29	84.5	16	31.5	5	10.4	23
DP 0924 B2RF	947	7	63	16	4.4	3	1.18	20	84.6	14	30.3	16	11.4	10
ST 5288B2F	946	8	66	10	4.4	1	1.20	10	83.7	25	29.4	24	10.4	22
AM NG 3331 B2RF	932	9	54	26	4.2	7	1.15	28	84.0	18	30.7	11	10.6	18
ST 4554 B2RF, ck.	930	10	60	19	4.3	6	1.18	20	84.0	19	31.3	6	12.7	2
ST 4498 B2RF	908	11	62	17	3.8	16	1.18	20	84.4	17	32.1	3	11.8	4
FM 1740 B2F	905	12	65	12	3.8	20	1.19	11	85.4	4	30.4	13	10.5	21
PHY 485 WRF	897	13	78	3	3.8	16	1.22	5	85.5	2	32.5	1	11.9	3
DP 454 BG/RR ck.	891	14	54	26	3.4	29	1.18	16	85.3	6	30.3	16	10.6	18
PHY 315 RF	884	15	67	9	3.8	16	1.19	11	84.6	13	29.9	20	10.3	26
CG 3035RF	881	16	59	22	3.9	12	1.17	24	84.0	19	30.0	19	11.5	7
DP 161 B2RF	872	17	85	1	4.1	10	1.25	1	85.3	6	30.9	10	10.0	28
DP 393 ck.	871	18	73	7	4.1	9	1.21	9	85.4	5	31.2	9	11.5	7
AM 1550 B2RF	869	19	64	14	3.9	15	1.18	20	85.1	9	29.5	23	10.7	17
DP 141 B2RF	862	20	78	4	3.8	20	1.24	3	84.9	11	32.3	2	10.1	27
FM 1845LLB2	847	21	83	2	4.3	4	1.25	1	85.0	10	31.8	4	9.2	30
CG 3220 B2RF	839	22	57	24	3.7	26	1.18	16	83.7	26	29.7	22	11.3	11
DG 2490	832	23	29	30	3.3	30	1.12	30	82.8	30	28.0	28	12.8	1
ST 5458 B2RF	827	24	58	23	3.8	20	1.19	11	83.0	29	30.3	16	9.3	29
DG 2520	824	25	69	8	3.6	27	1.23	4	84.6	14	28.3	26	11.2	13
CG 3020 B2RF	815	26	45	29	3.5	28	1.16	27	84.0	19	27.8	30	11.4	9
CG 4020 B2RF	784	27	66	10	3.7	24	1.21	8	83.7	26	27.8	29	11.3	11
CG 3520 B2RF	749	28	62	17	3.8	16	1.18	16	84.0	19	28.2	27	11.6	6
AM NG 4370 B2RF	739	29	60	19	3.8	20	1.17	25	85.2	8	30.4	14	11.7	5
SSG HQ210CT	717	30	60	21	3.7	24	1.19	11	83.6	28	31.3	8	10.4	23
Mean	892		63		3.9		1.19		84.4		30.2		10.9	
LSD 0.10	111		16		0.4		0.04		ns		1.5		0.8	
C.V.%	10.6		14.8		5.3		1.8		1.1		2.9		4.3	
R-sq x 100	61.6		76.1		80.8		81.2		61.2		81.5		86.6	

Table 10. Yield and related properties - 2009 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 density	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
ST 5288B2F	927	1	41.2	8	109	7	60	24	9.4	26	6.9	15	6.134	1	14148	25	250	25
DP 174 RF	899	2	45.1	1	107	12	65	19	9.9	16	8.3	1	4.897	12	17927	4	301	5
PHY 370 WR	869	3	41.3	6	108	9	75	4	9.8	19	7.0	12	5.628	5	16383	14	279	10
ST 4288B2F	842	4	39.7	16	100	24	55	29	11.5	2	7.7	4	4.974	11	16536	13	241	27
DP 393 ck.	837	5	40.5	12	111	4	75	4	11.0	3	7.6	6	4.999	10	16746	12	254	22
ST 5458 B2RF	823	6	39.9	14	111	5	57	28	10.0	13	6.9	14	5.425	7	15701	19	262	16
FM 1740 B2F	799	7	40.7	11	94	30	75	4	10.0	11	7.1	10	5.127	9	16979	10	283	8
PHY 485 WRF	793	8	40.8	10	116	1	68	15	9.6	21	6.8	17	5.261	8	15120	21	262	17
DP 141 B2RF	790	9	38.2	24	106	15	65	19	9.2	28	5.9	27	6.124	2	13009	29	236	28
DP 161 B2RF	783	10	39.4	17	109	6	63	21	9.1	29	6.1	25	5.870	3	12692	30	231	29
DG 2570	747	11	43.9	2	106	13	70	11	9.7	20	7.6	5	4.445	19	18146	3	314	2
PHY 315 RF	747	12	42.5	4	113	3	75	4	9.6	23	7.4	8	4.570	16	18405	1	320	1
ST 4498 B2RF	730	13	37.3	28	102	21	60	24	9.5	25	5.9	26	5.614	6	14993	23	264	15
DG 2490	723	14	35.5	30	101	22	70	11	10.0	14	5.7	30	5.761	4	16815	11	281	9
CG 3035RF	711	15	41.9	5	104	17	58	26	10.7	5	7.8	2	4.118	27	17697	5	277	12
DP 0935 B2RF	710	16	41.1	9	102	19	62	23	10.8	4	7.7	3	4.178	26	17525	6	272	13
PHY 375 WRF	700	17	41.2	7	106	14	67	17	9.6	24	7.0	11	4.532	17	17371	8	303	4
FM 1845LLB2	687	18	37.4	26	98	26	63	21	11.5	1	7.0	13	4.493	18	14147	26	205	30
CG 3220 B2RF	682	19	39.9	15	108	10	72	9	10.4	6	7.1	9	4.353	22	15918	17	254	21
DP 454 BG/RR ck.	677	20	42.7	3	114	2	58	26	9.9	17	7.6	7	4.039	28	18399	2	310	3
DP 0924 B2RF	671	21	39.4	19	99	25	70	11	10.2	8	6.8	16	4.439	20	16058	15	264	14
AM 1550 B2RF	653	22	39.4	18	102	20	72	9	9.8	18	6.5	20	4.574	15	17001	9	288	6
CG 3520 B2RF	642	23	37.3	27	100	23	77	2	10.0	12	6.2	23	4.734	14	15016	22	251	23
AM NG 3331 B2RF	634	24	38.7	22	105	16	70	11	10.2	9	6.6	19	4.373	21	15560	20	255	20
AM NG 4370 B2RF	619	25	39.2	20	109	7	67	17	9.0	30	5.8	28	4.819	13	13749	27	255	19
CG 4020 B2RF	615	26	38.2	23	96	29	77	2	10.3	7	6.7	18	4.181	25	15885	18	256	18
SSG HQ210CT	610	27	40.2	13	96	28	53	30	9.4	27	6.5	22	4.282	24	13602	28	242	26
DG 2520	582	28	38.1	25	98	27	78	1	9.6	22	6.1	24	4.347	23	15990	16	277	11
ST 4554 B2RF, ck.	563	29	38.8	21	108	10	68	15	9.9	15	6.5	21	3.949	29	14911	24	250	24
CG 3020 B2RF	472	30	35.8	29	103	18	73	8	10.1	10	5.8	29	3.725	30	17459	7	288	7
Mean	717		40.0		105		67		10.0		6.8		4.800		15996		267	
LSD 0.10	136		2.8		9		12		0.6		0.7		0.888		1308		31	
C.V.%	13.7		4.1		6.6		12.6		3.5		6.1		13.3		4.8		6.8	
R-sq x 100	71.9		78.2		60.6		51.6		86.2		85.4		71.4		89.8		80.6	

Table 11. Fiber properties - 2009 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		%	
ST 5288B2F	927	1	61	20	5.0	1	1.17	7	84.1	8	27.9	22	10.7	21
DP 174 RF	899	2	79	5	4.6	10	1.20	4	84.7	3	28.5	18	10.9	18
PHY 370 WR	869	3	46	26	4.7	5	1.10	28	82.9	26	28.1	20	11.2	14
ST 4288B2F	842	4	67	11	4.8	3	1.17	6	83.6	17	29.5	12	11.0	17
DP 393 ck.	837	5	64	14	4.7	5	1.16	13	83.7	16	30.1	8	11.2	15
ST 5458 B2RF	823	6	81	4	4.4	18	1.20	4	84.4	6	29.1	17	10.0	24
FM 1740 B2F	799	7	65	13	4.4	18	1.15	14	83.5	18	28.1	20	10.0	26
PHY 485 WRF	793	8	72	6	4.6	10	1.17	7	84.5	5	31.1	2	11.9	5
DP 141 B2RF	790	9	90	2	4.4	18	1.24	2	83.9	11	30.4	6	9.8	30
DP 161 B2RF	783	10	92	1	4.6	14	1.23	3	85.3	1	29.9	9	10.0	26
DG 2570	747	11	72	6	4.3	22	1.17	7	84.4	6	29.2	15	11.5	10
PHY 315 RF	747	12	61	19	4.3	23	1.15	17	82.9	24	27.9	23	10.6	22
ST 4498 B2RF	730	13	62	17	4.2	26	1.14	21	83.7	14	30.9	3	12.6	3
DG 2490	723	14	37	29	3.9	29	1.08	29	81.8	30	27.5	27	13.2	2
CG 3035RF	711	15	52	24	4.8	3	1.12	24	83.3	21	29.7	10	11.8	6
DP 0935 B2RF	710	16	59	22	4.7	8	1.13	22	83.7	14	29.3	13	10.9	18
PHY 375 WRF	700	17	70	8	4.2	26	1.17	7	83.5	18	29.2	16	10.0	24
FM 1845LLB2	687	18	87	3	4.7	8	1.25	1	85.0	2	30.8	4	10.0	26
CG 3220 B2RF	682	19	69	10	4.6	10	1.16	11	83.8	13	28.3	19	11.6	8
DP 454 BG/RR ck.	677	20	69	9	4.3	23	1.15	14	84.6	4	30.4	7	10.0	26
DP 0924 B2RF	671	21	45	28	4.7	5	1.11	26	81.9	29	27.6	25	11.8	6
AM 1550 B2RF	653	22	46	27	4.2	25	1.11	27	82.2	28	26.8	29	11.5	9
CG 3520 B2RF	642	23	63	16	4.3	21	1.15	14	83.0	22	27.6	25	11.4	12
AM NG 3331 B2RF	634	24	52	24	4.6	10	1.11	25	82.9	24	29.3	14	10.8	20
AM NG 4370 B2RF	619	25	60	21	4.5	16	1.13	22	83.5	20	29.6	11	11.1	16
CG 4020 B2RF	615	26	62	17	4.4	17	1.14	19	83.8	12	27.5	28	11.3	13
SSG HQ210CT	610	27	56	23	5.0	2	1.15	17	84.0	9	30.6	5	10.5	23
DG 2520	582	28	66	12	4.0	28	1.16	11	83.0	22	27.8	24	11.5	10
ST 4554 B2RF, ck.	563	29	63	15	4.6	15	1.14	20	84.0	9	31.2	1	12.6	4
CG 3020 B2RF	472	30	33	30	3.8	30	1.06	30	82.3	27	25.1	30	13.4	1
Mean	7.7		63		4.4		1.15		83.6		28.9		11.1	
LSD 0.10	136		19		0.3		0.05		ns		1.8		0.8	
C.V.%	13.7		17.4		3.6		2.5		1.2		3.6		4.2	
R-sq x 100	71.9		77.8		87.0		82.5		60.8		79.6		89.5	

Table 12. Yield and related properties - 2009 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 density	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
DP 174 RF	1103	1	43.4	1	112	7	.	.	9.7	9	7.6	1	6.579	7	18974	3	326	3
ST 4288B2F	932	2	37.8	20	97	25	.	.	10.1	3	6.3	9	6.734	4	16607	12	275	21
ST 5288B2F	930	3	39.0	12	108	10	.	.	8.2	30	5.4	26	7.845	1	14410	27	294	12
DP 141 B2RF	921	4	39.9	5	107	11	.	.	9.4	17	6.4	7	6.518	10	16746	11	297	10
PHY 370 WR	918	5	39.5	8	115	4	.	.	9.5	15	6.3	8	6.625	5	15702	18	277	20
CG 4020 B2RF	870	6	38.1	17	105	16	.	.	9.4	16	6.0	16	6.623	6	14942	21	264	22
AM NG 3331 B2RF	864	7	37.0	22	104	19	.	.	10.0	5	6.0	14	6.571	8	14819	24	249	29
FM 1740 B2F	858	8	38.6	13	107	13	.	.	10.0	4	6.5	5	6.025	15	19503	1	324	4
DP 0924 B2RF	858	9	38.2	16	112	6	.	.	9.0	24	5.6	23	6.943	2	15626	19	290	15
DG 2570	854	10	40.2	4	107	11	.	.	9.6	13	6.5	6	5.998	16	17302	7	302	8
DP 393 ck.	842	11	39.3	10	100	23	.	.	9.7	10	6.5	4	5.883	20	17227	9	297	11
PHY 315 RF	826	12	40.9	2	96	28	.	.	9.9	6	7.0	3	5.367	25	17290	8	290	14
AM 1550 B2RF	823	13	39.5	7	97	27	.	.	9.0	22	6.0	13	6.222	14	18391	4	339	2
PHY 485 WRF	809	14	38.3	14	113	5	.	.	8.9	25	5.7	21	6.482	11	14018	28	262	23
PHY 375 WRF	802	15	39.7	6	104	18	.	.	9.1	20	6.2	10	5.907	19	17414	6	319	5
ST 5458 B2RF	798	16	38.2	15	105	14	.	.	9.6	11	6.1	11	5.960	18	16242	13	282	17
CG 3520 B2RF	797	17	37.9	19	109	9	.	.	9.1	21	5.7	20	6.386	13	15960	15	293	13
AM NG 4370 B2RF	782	18	37.4	21	109	8	.	.	9.7	7	5.9	19	5.987	17	15278	20	262	24
ST 4498 B2RF	780	19	37.9	18	105	16	.	.	9.7	8	6.1	12	5.832	21	14891	22	256	26
DP 0935 B2RF	736	20	37.0	23	116	3	.	.	8.3	29	5.0	29	6.740	3	13987	29	282	18
CG 3020 B2RF	728	21	36.5	26	103	20	.	.	8.8	26	5.1	28	6.450	12	15920	16	304	7
DP 161 B2RF	714	22	35.7	28	116	2	.	.	8.7	27	4.9	30	6.561	9	13143	30	251	27
ST 4554 B2RF, ck.	703	23	36.4	27	98	24	.	.	9.5	14	5.5	24	5.790	22	14624	25	256	25
CG 3035RF	693	24	39.4	9	101	22	.	.	10.5	2	7.1	2	4.444	29	17595	5	279	19
FM 1845LLB2	681	25	35.3	29	94	29	.	.	10.7	1	6.0	15	5.171	26	14868	23	231	30
DG 2520	676	26	36.8	24	105	14	.	.	9.3	18	5.6	22	5.508	23	15783	17	283	16
CG 3220 B2RF	662	27	39.1	11	97	25	.	.	9.0	23	6.0	17	5.060	27	16061	14	297	9
DP 454 BG/RR ck.	658	28	40.4	3	118	1	.	.	8.7	28	5.9	18	5.034	28	19060	2	367	1
DG 2490	640	29	36.8	25	102	21	.	.	9.2	19	5.5	25	5.368	24	17071	10	310	6
SSG HQ210CT	409	30	35.0	30	90	30	.	.	9.6	12	5.3	27	3.492	30	14415	26	250	28
Mean	796		38.3		105		.		9.4		6.0		6.043		16129		287	
LSD 0.10	132		2.2		11		.		0.7		0.7		1.012		1614		36	
C.V.%	13.8		3.5		8.6		.		4.6		6.8		13.9		5.9		7.3	
R-sq x 100	62.7		81.0		49.3		.		79.4		84.0		56.8		85.5		80.1	

Table 13. Fiber properties - 2009 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		%	
DP 174 RF	1103	1	87	2	3.8	13	1.23	3	85.8	1	29.0	16	11.6	9
ST 4288B2F	932	2	78	3	3.7	22	1.23	4	84.7	6	29.8	10	10.8	20
ST 5288B2F	930	3	67	9	3.8	16	1.20	6	83.7	23	29.7	11	10.3	25
DP 141 B2RF	921	4	52	24	4.1	5	1.13	29	83.7	23	29.9	9	11.4	12
PHY 370 WR	918	5	62	13	4.1	3	1.16	18	84.3	12	30.7	6	10.9	17
CG 4020 B2RF	870	6	72	5	4.0	9	1.20	5	84.3	12	27.3	25	11.6	10
AM NG 3331 B2RF	864	7	64	11	4.1	3	1.17	16	84.6	7	28.9	17	10.6	21
FM 1740 B2F	858	8	57	19	3.4	26	1.19	10	83.8	21	29.5	14	10.9	17
DP 0924 B2RF	858	9	48	26	3.8	14	1.14	28	83.4	27	29.6	13	11.4	12
DG 2570	854	10	55	21	3.9	11	1.15	23	84.0	18	29.7	12	11.5	11
DP 393 ck.	842	11	68	7	3.8	16	1.19	10	85.1	3	30.1	8	11.2	16
PHY 315 RF	826	12	67	9	4.1	5	1.18	12	84.9	4	28.0	21	10.4	24
AM 1550 B2RF	823	13	36	30	3.6	25	1.12	30	82.8	29	26.8	27	12.0	3
PHY 485 WRF	809	14	68	7	4.1	5	1.18	12	84.9	4	31.1	4	11.7	7
PHY 375 WRF	802	15	59	18	3.6	24	1.17	16	84.6	7	27.8	23	10.5	22
ST 5458 B2RF	798	16	63	12	3.8	14	1.19	8	83.7	25	28.7	18	10.0	29
CG 3520 B2RF	797	17	50	25	3.7	21	1.15	23	84.2	15	27.7	24	11.7	7
AM NG 4370 B2RF	782	18	59	16	4.0	8	1.16	20	84.1	17	28.1	20	11.3	15
ST 4498 B2RF	780	19	60	15	4.2	1	1.15	21	84.5	10	30.8	5	12.9	2
DP 0935 B2RF	736	20	78	3	3.4	26	1.26	1	84.6	7	31.3	3	10.3	25
CG 3020 B2RF	728	21	42	28	3.4	26	1.14	27	84.1	16	26.8	28	11.4	14
DP 161 B2RF	714	22	70	6	3.8	16	1.20	6	83.9	20	29.5	15	10.5	23
ST 4554 B2RF, ck.	703	23	59	16	3.9	10	1.16	18	83.3	28	30.6	7	13.4	1
CG 3035RF	693	24	56	20	4.2	1	1.15	23	83.9	19	27.9	22	11.8	6
FM 1845LLB2	681	25	91	1	3.8	16	1.26	2	85.4	2	31.5	2	9.4	30
DG 2520	676	26	52	23	3.7	23	1.17	15	83.8	21	27.3	25	11.9	4
CG 3220 B2RF	662	27	48	26	3.9	11	1.15	21	82.8	29	26.8	28	10.9	19
DP 454 BG/RR ck.	658	28	54	22	3.1	30	1.19	8	84.5	10	28.6	19	10.3	27
DG 2490	640	29	41	29	3.4	26	1.15	23	83.6	26	26.7	30	11.8	5
SSG HQ210CT	409	30	62	14	3.8	16	1.18	12	84.3	12	31.6	1	10.3	27
Mean	796		61		3.8		1.17		84.2		29.0		11.1	
LSD 0.10	132		16		0.5		0.03		1.2		2.2		0.8	
C.V.%	13.8		15.8		8.0		1.6		0.9		4.4		4.4	
R-sq x 100	62.7		77.9		69.4		88.2		66.1		75.0		85.8	

Table 14. Two-year average lint yields for varieties at the four locations of the 2008-2009 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	
ST 5288B2F	1007	2	1208	1	1056	2	942	2	1053	1
DP 174 RF	981	4	1117	10	1062	1	947	1	1027	2
FM 1740 B2F	939	10	1207	2	1003	4	930	3	1020	3
PHY 370 WR	971	5	1145	4	1012	3	911	4	1010	4
ST 5458 B2RF	931	11	1070	16	995	5	890	5	971	5
PHY 375 WRF	1002	3	1122	9	980	6	778	16	970	6
DG 2570	967	7	1146	3	953	12	808	13	968	7
ST 4288B2F	927	13	1090	13	965	9	844	7	956	8
PHY 315 RF	922	15	1128	7	927	16	827	11	951	9
DP 0924 B2RF	928	12	1132	6	906	20	830	10	949	10
DP 393 ck.	970	6	1074	15	973	7	759	18	944	11
AM 1550 B2RF	926	14	1048	20	930	14	830	9	933	12
DP 0935 B2RF	880	18	1125	8	918	17	759	19	920	13
DP 454 BG/RR ck.	957	9	1110	12	905	21	706	25	920	14
PHY 485 WRF	848	21	1141	5	954	11	723	23	917	15
AM NG 3331 B2RF	895	16	1076	14	844	26	831	8	912	16
ST 4498 B2RF	815	26	1058	18	971	8	796	14	910	17
CG 3035RF	1020	1	1040	22	928	15	652	28	910	18
CG 4020 B2RF	856	19	1038	23	894	23	845	6	908	19
DP 141 B2RF	818	25	1003	26	951	13	823	12	899	20
CG 3220 B2RF	888	17	1045	21	961	10	697	26	897	21
DP 161 B2RF	961	8	1004	25	915	18	655	27	884	22
DG 2520	823	24	1110	11	852	25	720	24	876	23
FM 1845LLB2	837	23	974	29	911	19	755	20	869	24
ST 4554 B2RF, ck.	804	27	1069	17	805	29	788	15	866	25
CG 3520 B2RF	794	28	1022	24	894	24	741	21	862	26
AM NG 4370 B2RF	854	20	996	28	835	27	761	17	861	27
CG 3020 B2RF	845	22	999	27	791	30	740	22	844	28
DG 2490	768	29	1053	19	903	22	623	29	837	29
SSG HQ210CT	699	30	881	30	826	28	464	30	717	30
Mean	894		1074		927		779		919	

Table 15. Three-year average lint yields for varieties at four locations of the 2007-2009 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	
DP 174 RF	1160	4	1241	9	1219	2	1080	1	1175	1
PHY 370 WR	1149	6	1296	2	1220	1	989	2	1163	2
DG 2570	1151	5	1265	4	1204	4	885	9	1126	3
PHY 315 RF	1100	8	1312	1	1128	10	957	4	1124	4
PHY 375 WRF	1117	7	1270	3	1181	6	897	8	1116	5
AM 1550 B2RF	1078	9	1257	7	1174	7	918	7	1107	6
DP 454 BG/RR ck.	1077	10	1263	5	1107	13	931	5	1094	7
DP 393 ck.	1178	2	1162	15	1148	8	866	11	1089	8
PHY 485 WRF	1031	14	1261	6	1088	16	925	6	1076	9
ST 5458 B2RF	1050	11	1157	16	1095	15	973	3	1069	10
CG 3035RF	1185	1	1179	13	1131	9	751	19	1061	11
CG 3220 B2RF	1042	12	1230	10	1184	5	789	16	1061	12
ST 4498 B2RF	950	19	1188	12	1210	3	871	10	1055	13
DP 161 B2RF	1162	3	1143	17	1083	17	753	18	1035	14
DP 141 B2RF	1032	13	1111	20	1111	12	837	13	1023	15
CG 4020 B2RF	1007	15	1127	19	1083	18	841	12	1014	16
CG 3520 B2RF	955	17	1169	14	1119	11	801	15	1011	17
DG 2520	982	16	1254	8	1036	19	760	17	1008	18
DG 2490	929	20	1203	11	1098	14	700	20	982	19
CG 3020 B2RF	954	18	1129	18	983	20	825	14	973	20
Mean	1065		1211		1130		867		1068	

Table 16. Yield and related properties - 2009 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 density	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
DP 0912 B2RF	935	1	39.9	12	105	11	59	3	9.3	11	6.4	8	6.884	1	14274	15	256	13
09R 796 B2R2	900	2	43.0	2	106	10	58	5	9.4	9	7.2	2	5.879	5	16417	2	293	4
DP 0949 B2RF	892	3	40.8	7	115	4	55	8	8.8	18	6.2	15	6.790	2	14919	10	283	7
DP 1028 B2RF	859	4	43.2	1	116	3	50	16	8.8	19	6.8	4	5.809	8	15626	6	299	2
09R 619 B2R2	845	5	41.7	5	117	2	50	14	9.5	8	6.9	3	5.820	7	15818	5	279	8
PHY 5922 WRF	842	6	40.7	8	111	7	50	19	9.0	16	6.3	12	6.331	3	14249	17	265	11
Ark 0102-48	826	7	38.5	13	99	18	63	1	11.6	1	7.3	1	5.278	13	14740	12	213	20
DP 0920 B2RF	797	8	40.2	11	102	13	58	6	9.1	14	6.2	13	5.826	6	13773	19	253	15
DP 1032 B2RF	795	9	42.4	3	111	6	56	7	8.5	20	6.3	11	6.129	4	14517	13	287	6
PHY 565 WRF	792	10	40.5	9	113	5	50	19	9.2	13	6.3	10	5.746	10	14943	9	272	9
PHY 367 WRF	786	11	40.3	10	101	14	59	3	9.0	15	6.2	16	5.783	9	15940	4	296	3
DP 454 BG/RR ck.	704	12	41.7	4	118	1	50	14	8.9	17	6.5	6	5.039	15	17664	1	334	1
PHY 525 RF	682	13	41.0	6	108	9	50	16	9.3	12	6.6	5	4.868	17	16240	3	291	5
BCSX 1010B2F	682	14	36.4	19	109	8	52	12	10.5	4	6.1	18	5.343	12	14406	14	230	17
ST 4554 B2RF, ck.	678	15	38.5	14	98	19	55	8	9.3	10	5.9	20	5.343	11	14907	11	269	10
BCSX 1025LLB2	654	16	37.9	16	100	16	52	12	10.2	5	6.3	9	4.892	16	15452	7	254	14
BCSX 1035LLB2	652	17	37.6	17	101	15	61	2	9.9	6	6.1	17	5.050	14	13715	20	232	16
BCSX 1015LLB2	621	18	36.3	20	100	17	50	16	10.7	3	6.2	14	4.801	18	13853	18	215	19
BCSX 1005LLB2	584	19	36.7	18	102	12	54	11	11.0	2	6.5	7	4.340	19	14261	16	218	18
SSG 59-6-9	560	20	38.1	15	96	20	55	10	9.6	7	6.0	19	4.181	20	15062	8	263	12
Mean	755		39.8		11		54		9.6		6.4		5.509		15039		265	
Var. LSD 0.10	64		0.7		4		4		0.4		0.3		0.461		679		16	
Loc. LSD 0.10	28		0.3		2		2		0.2		0.1		0.205		303		7.0	
C.V.%	14.4		2.1		7.2		11.5		5.0		5.1		14.3		5.4		7.1	
R-sq x 100	73.8		94.5		86.5		86.8		89.1		88.8		76.4		84.3		89.2	
Prob (var x loc)	0.006		0.032		0.356		0.002		0.110		0.171		0.001		0.229		0.176	

Table 17. Fiber properties - 2009 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		%	
DP 0912 B2RF	935	1	44	20	4.7	1	1.14	20	83.9	18	28.9	14	11.0	10
09R 796 B2R2	900	2	50	17	4.5	5	1.16	18	84.0	16	28.9	15	12.2	2
DP 0949 B2RF	892	3	58	11	4.2	12	1.18	12	84.0	15	29.0	12	11.2	8
DP 1028 B2RF	859	4	57	12	4.4	8	1.18	14	84.3	10	28.1	19	12.1	3
09R 619 B2R2	845	5	55	14	4.4	7	1.18	12	84.3	8	28.6	18	11.4	6
PHY 5922 WRF	842	6	66	8	4.4	9	1.20	9	85.1	2	31.8	3	11.7	4
Ark 0102-48	826	7	87	1	4.6	4	1.27	2	86.4	1	32.1	2	9.0	19
DP 0920 B2RF	797	8	48	19	4.7	1	1.16	17	83.8	19	27.7	20	11.1	9
DP 1032 B2RF	795	9	65	9	4.3	10	1.21	8	84.2	12	29.0	13	10.2	14
PHY 565 WRF	792	10	67	6	4.2	14	1.21	7	84.9	3	32.1	1	11.4	7
PHY 367 WRF	786	11	57	13	3.9	17	1.18	11	84.3	11	30.0	8	10.8	11
DP 454 BG/RR ck.	704	12	50	15	3.8	20	1.16	15	84.2	13	28.8	17	10.2	13
PHY 525 RF	682	13	73	3	3.9	19	1.24	3	84.7	4	31.0	4	11.7	5
BCSX 1010B2F	682	14	59	10	4.3	11	1.19	10	84.0	17	29.1	11	10.2	12
ST 4554 B2RF, ck.	678	15	49	18	4.2	15	1.16	19	83.4	20	30.2	6	12.4	1
BCSX 1025LLB2	654	16	70	4	4.0	16	1.23	4	84.1	14	29.2	10	9.3	17
BCSX 1035LLB2	652	17	50	16	4.6	3	1.16	16	84.3	7	30.1	7	9.1	18
BCSX 1015LLB2	621	18	84	2	4.2	12	1.28	1	84.7	5	28.8	16	8.7	20
BCSX 1005LLB2	584	19	68	5	4.5	6	1.23	5	84.3	9	29.3	9	9.3	16
SSG 59-6-9	560	20	67	7	3.9	17	1.22	6	84.4	6	30.3	5	9.8	15
Mean	755		61		4.3		1.20		84.4		29.6		10.6	
Var. LSD 0.10	64		8		0.2		0.02		0.7		0.8		0.5	
Loc. LSD 0.10	28		ns		0.1		0.01		ns		0.4		ns	
C.V.%	14.4		15.6		5.8		2.1		96.7		3.4		5.8	
R-sq x 100	73.8		80.2		90.6		85.8		69.7		84.7		89.0	
Prob (var x loc)	0.006		0.133		0.174		0.046		0.147		0.223		0.723	

Table 18. Yield and related properties - 2009 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 density	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
DP 0912 B2RF	928	1	41.0	10	83	18	69	2	9.4	9	6.7	10	6.571	1	13927	12	247	12
09R 796 B2R2	903	2	45.3	1	85	15	70	1	9.0	16	7.5	1	5.873	4	15632	2	291	4
PHY 5922 WRF	848	3	41.3	9	92	4	59	17	9.1	14	6.5	13	6.198	3	13641	15	251	9
DP 0949 B2RF	818	4	41.8	7	94	3	65	7	8.4	20	6.1	18	6.379	2	14651	6	291	3
DP 1032 B2RF	809	5	43.3	2	90	8	61	14	8.8	17	6.8	8	5.867	5	14198	8	270	5
DP 0920 B2RF	775	6	40.9	11	88	14	64	11	9.1	15	6.4	16	5.605	6	13430	16	248	10
09R 619 B2R2	768	7	42.0	6	94	2	54	20	9.5	8	7.0	5	5.142	11	14132	10	247	11
PHY 565 WRF	747	8	41.6	8	92	5	56	18	9.3	12	6.7	11	5.234	10	14123	11	254	8
DP 1028 B2RF	741	9	42.9	4	98	1	55	19	9.4	10	7.1	4	4.714	15	14792	5	263	7
BCSX 1035LLB2	727	10	38.7	16	88	12	69	2	10.1	6	6.5	12	5.422	9	12933	19	213	16
BCSX 1025LLB2	721	11	38.8	15	83	17	66	6	10.8	3	7.0	6	4.980	12	14551	7	225	15
PHY 367 WRF	718	12	40.5	12	89	11	69	2	8.5	19	6.0	20	5.509	8	15034	3	296	2
ST 4554 B2RF, ck.	714	13	39.7	13	81	19	64	11	9.2	13	6.2	17	5.545	7	13236	18	240	14
DP 454 BG/RR ck.	657	14	43.1	3	91	6	65	7	8.8	18	6.8	9	4.620	16	16756	1	320	1
BCSX 1015LLB2	654	15	37.3	20	88	13	65	7	10.7	4	6.4	15	4.965	13	12789	20	199	20
Ark 0102-48	653	16	39.0	14	85	15	61	14	11.6	1	7.5	2	4.116	18	13846	13	200	18
PHY 525 RF	653	17	42.4	5	89	9	61	14	9.3	11	7.0	7	4.538	17	14954	4	269	6
BCSX 1010B2F	638	18	37.9	19	91	6	64	11	10.5	5	6.5	14	4.792	14	13319	17	211	17
BCSX 1005LLB2	592	19	38.3	18	89	9	68	5	11.5	2	7.3	3	4.087	19	13775	14	199	19
SSG 59-6-9	521	20	38.6	17	80	20	65	7	9.6	7	6.1	19	3.849	20	14139	9	246	13
Mean	729		40.7		88		63		9.6		6.7		5.200		14193		249	
LSD 0.10	127		1.0		8		8		0.8		0.6		0.901		1176		32	
C.V.%	14.8		1.4		7.7		10.2		4.6		5.0		14.7		4.8		7.4	
R-sq x 100	59.8		96.4		51.6		50.7		90.1		79.1		62.3		79.7		87.6	

Table 19. Fiber properties - 2009 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		%	
DP 0912 B2RF	928	1	49	18	5.0	5	1.16	16	83.9	13	29.0	16	10.9	9
09R 796 B2R2	903	2	48	19	5.0	5	1.15	18	84.1	11	28.7	19	12.1	3
PHY 5922 WRF	848	3	61	9	4.8	10	1.18	10	84.7	5	32.6	1	12.2	2
DP 0949 B2RF	818	4	55	13	4.4	18	1.16	16	83.5	18	29.1	15	11.2	7
DP 1032 B2RF	809	5	67	5	4.8	11	1.19	6	85.0	3	29.2	14	10.2	13
DP 0920 B2RF	775	6	53	15	4.9	7	1.17	13	83.6	17	27.8	20	11.1	8
09R 619 B2R2	768	7	54	14	5.1	3	1.18	10	84.1	9	29.6	9	10.8	10
PHY 565 WRF	747	8	68	4	4.7	14	1.19	7	85.1	2	32.4	2	11.5	5
DP 1028 B2RF	741	9	61	10	4.9	7	1.18	9	84.3	7	29.6	9	11.8	4
BCSX 1035LLB2	727	10	33	20	5.4	1	1.13	20	83.9	12	30.3	6	9.1	16
BCSX 1025LLB2	721	11	76	3	4.7	16	1.23	3	84.2	8	29.6	8	9.0	17
PHY 367 WRF	718	12	50	17	4.1	20	1.18	10	83.7	15	29.4	11	10.8	10
ST 4554 B2RF, ck.	714	13	62	8	4.7	13	1.17	13	84.7	5	32.4	2	12.2	1
DP 454 BG/RR ck.	657	14	53	15	4.3	19	1.14	19	83.8	14	29.3	13	9.7	14
BCSX 1015LLB2	654	15	83	1	4.8	11	1.25	1	84.9	4	28.8	18	8.6	20
Ark 0102-48	653	16	79	2	5.1	4	1.25	2	86.0	1	32.4	2	8.9	19
PHY 525 RF	653	17	63	7	4.7	14	1.19	7	83.6	16	31.1	5	11.3	6
BCSX 1010B2F	638	18	65	6	4.9	7	1.20	5	84.1	9	30.2	7	10.3	12
BCSX 1005LLB2	592	19	58	12	5.3	2	1.21	4	83.4	19	28.9	17	8.9	18
SSG 59-6-9	521	20	60	11	4.5	17	1.17	13	83.4	20	29.3	12	9.6	15
Mean	729		60		4.8		1.18		84.2		30.0		10.5	
LSD 0.10	127		ns		0.4		0.05		ns		2.1		0.9	
C.V.%	14.8		20.6		4.9		2.2		1.2		4.0		5.0	
R-sq x 100	59.8		64.5		79.9		75.7		49.4		74.1		91.5	

Table 20. Yield and related properties - 2009 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 density	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
09R 796 B2R2	1093	1	41.9	2	123	14	39	7	9.5	7	7.0	2	7.135	6	16237	3	284	7
DP 0949 B2RF	1028	2	39.7	10	142	3	34	14	8.5	18	5.7	13	8.189	1	14683	10	286	6
09R 619 B2R2	1025	3	40.4	4	143	2	35	10	9.4	8	6.4	4	7.221	5	15262	7	271	11
DP 0920 B2RF	987	4	40.3	6	124	12	44	3	8.7	15	6.0	10	7.531	2	13692	16	262	13
Ark 0102-48	971	5	37.5	15	113	20	49	1	11.7	1	7.1	1	6.218	14	13854	13	197	19
DP 0912 B2RF	968	6	39.0	12	126	11	39	7	9.3	9	6.1	8	7.238	4	13767	15	248	15
DP 1028 B2RF	963	7	43.0	1	136	4	38	9	8.4	19	6.5	3	6.759	10	16135	4	321	2
PHY 367 WRF	942	8	40.2	7	124	13	41	4	9.0	12	6.2	5	6.919	8	16399	2	302	4
PHY 5922 WRF	916	9	39.3	11	130	9	34	14	8.8	13	5.9	12	7.104	7	13853	14	264	12
DP 1032 B2RF	892	10	39.7	9	132	8	35	10	8.2	20	5.5	19	7.424	3	13654	17	278	8
DP 454 BG/RR ck.	874	11	40.9	3	144	1	35	10	8.7	17	6.1	7	6.493	11	17659	1	342	1
ST 4554 B2RF, ck.	859	12	37.6	14	121	15	40	5	9.2	10	5.6	15	6.913	9	15225	8	277	10
PHY 565 WRF	813	13	40.3	5	134	5	34	14	8.8	14	6.0	9	6.156	16	14626	11	278	9
BCSX 1035LLB2	790	14	36.1	17	120	17	46	2	9.9	5	5.7	14	6.315	12	13137	19	221	17
BCSX 1010B2F	760	15	35.2	18	134	6	35	10	10.0	4	5.5	18	6.301	13	13989	12	235	16
BCSX 1025LLB2	757	16	36.6	16	120	16	31	19	9.6	6	5.6	16	6.167	15	14717	9	257	14
PHY 525 RF	743	17	39.8	8	134	7	33	18	9.2	11	6.1	6	5.511	18	16080	5	293	5
BCSX 1015LLB2	733	18	34.6	20	118	18	30	20	10.1	3	5.4	20	6.141	17	13213	18	217	18
BCSX 1005LLB2	714	19	34.7	19	128	10	34	14	11.0	2	6.0	11	5.448	19	12806	20	195	20
SSG 59-6-9	645	20	38.7	13	114	19	40	5	8.7	16	5.5	17	5.284	20	15800	6	303	3
Mean	873		38.8		128		37		9.3		6.0		6.623		14739		267	
LSD 0.10	113		2.0		12		7		0.7		0.6		0.835		1333		29	
C.V.%	10.9		3.0		8.2		16.2		4.6		6.1		10.7		5.2		6.2	
R-sq x 100	78.7		89.5		51.5		50.0		89.9		78.6		74.9		85.4		91.9	

Table 21. Fiber properties - 2009 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		%	
09R 796 B2R2	1093	1	62	10	4.3	6	1.20	12	84.7	4	30.6	9	11.9	4
DP 0949 B2RF	1028	2	69	4	3.8	14	1.22	7	85.1	2	30.3	12	10.9	9
09R 619 B2R2	1025	3	60	11	4.2	7	1.19	13	84.5	7	29.6	18	11.6	5
DP 0920 B2RF	987	4	55	15	4.4	4	1.18	16	84.2	14	28.5	19	11.2	8
Ark 0102-48	971	5	91	1	4.6	1	1.30	1	87.0	1	33.7	1	8.6	20
DP 0912 B2RF	968	6	52	17	4.5	2	1.17	18	83.8	17	30.2	13	10.6	10
DP 1028 B2RF	963	7	47	19	4.2	8	1.16	20	84.0	15	28.1	20	12.2	1
PHY 367 WRF	942	8	59	13	3.8	14	1.19	13	84.5	8	31.6	4	10.5	11
PHY 5922 WRF	916	9	64	8	4.2	8	1.20	11	84.8	3	32.4	2	12.2	2
DP 1032 B2RF	892	10	67	7	3.9	12	1.23	6	84.5	8	30.8	8	9.9	14
DP 454 BG/RR ck.	874	11	45	20	3.5	19	1.17	18	84.5	8	29.9	15	10.3	12
ST 4554 B2RF, ck.	859	12	51	18	3.8	14	1.19	15	83.5	20	31.3	5	11.9	3
PHY 565 WRF	813	13	64	8	4.1	10	1.21	10	84.2	13	32.3	3	11.6	5
BCSX 1035LLB2	790	14	55	15	4.4	4	1.18	16	84.0	15	30.6	10	9.1	18
BCSX 1010B2F	760	15	60	12	3.9	11	1.22	9	84.5	8	29.8	16	9.8	15
BCSX 1025LLB2	757	16	68	6	3.7	17	1.24	4	83.8	17	29.8	16	9.3	16
PHY 525 RF	743	17	69	4	3.7	17	1.25	3	83.8	17	31.3	5	11.4	7
BCSX 1015LLB2	733	18	85	2	3.8	13	1.28	2	84.4	12	30.0	14	8.6	19
BCSX 1005LLB2	714	19	73	3	4.5	3	1.24	5	84.6	6	30.6	10	9.2	17
SSG 59-6-9	645	20	57	14	3.4	20	1.22	7	84.7	4	31.2	7	10.0	13
Mean	873		62		4.0		1.21		84.4		30.6		10.5	
LSD 0.10	113		12		0.5		0.04		1.2		1.4		0.7	
C.V.%	10.9		11.3		7.3		1.9		0.8		2.6		3.6	
R-sq x 100	78.7		84.6		76.1		84.0		71.5		85.8		95.2	

Table 22. Yield and related properties - 2009 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 density	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
DP 0912 B2RF	885	1	41.0	10	105	10	70	3	10.3	8	7.2	6	5.893	1	15103	13	245	13
DP 1028 B2RF	841	2	44.1	2	118	2	58	15	9.0	19	7.2	5	5.417	3	15319	11	285	3
DP 0949 B2RF	821	3	41.4	8	111	5	68	4	9.8	13	7.1	8	5.464	2	15359	10	262	9
Ark 0102-48	786	4	39.6	13	99	14	79	1	11.6	1	7.7	2	4.895	7	14931	15	214	19
09R 796 B2R2	767	5	43.4	4	109	7	65	7	10.2	10	7.9	1	4.549	11	16972	2	279	7
PHY 5922 WRF	766	6	42.8	5	108	8	56	17	9.4	16	7.1	10	5.331	4	15598	6	277	8
PHY 565 WRF	759	7	40.7	12	111	5	59	12	10.2	9	7.1	9	4.887	8	15161	12	248	12
DP 0920 B2RF	739	8	41.0	11	98	16	65	7	9.2	18	6.5	19	5.212	5	13826	18	252	10
PHY 367 WRF	737	9	41.4	9	97	17	68	4	9.3	17	6.6	16	5.182	6	15861	5	283	5
BCSX 1010B2F	666	10	36.8	20	100	11	58	15	11.5	2	6.8	15	4.668	10	15048	14	218	18
09R 619 B2R2	648	11	43.9	3	116	3	63	9	9.7	14	7.6	3	4.197	14	16190	4	280	6
PHY 525 RF	646	12	42.5	6	107	9	56	17	9.9	12	7.4	4	4.215	13	16866	3	283	4
DP 1032 B2RF	637	13	44.7	1	112	4	71	2	8.3	20	6.8	13	4.745	9	14818	16	299	2
SSG 59-6-9	635	14	38.8	15	100	13	59	12	10.7	6	6.9	12	4.166	15	15436	9	240	14
DP 454 BG/RR ck.	624	15	41.8	7	120	1	51	20	9.6	15	7.0	11	4.140	16	17179	1	301	1
BCSX 1025LLB2	579	16	39.4	14	99	15	59	12	10.9	4	7.2	7	3.944	19	15595	7	238	15
BCSX 1035LLB2	575	17	38.4	16	96	19	68	4	10.1	11	6.4	20	4.326	12	13336	20	221	16
BCSX 1015LLB2	569	18	37.6	18	100	12	55	19	11.2	3	6.8	14	4.113	17	13460	19	201	20
BCSX 1005LLB2	547	19	37.5	19	97	18	61	11	10.8	5	6.6	18	4.095	18	14205	17	220	17
ST 4554 B2RF, ck.	538	20	38.3	17	93	20	63	9	10.5	7	6.6	17	3.753	20	15437	8	250	11
Mean	689		40.8		105		62		10.1		7.0		4.659		15285		255	
LSD 0.10	137		1.4		6		7		1.1		0.5		0.922		1216.0		36	
C.V.%	16.6		2.0		4.9		9.9		6.1		4.3		16.6		4.6		8.1	
R-sq x 100	56.2		94.3		78.8		62.8		80.8		78.7		49.2		82.2		81.0	

Table 23. Fiber properties - 2009 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		%	
DP 0912 B2RF	885	1	36	20	5.0	1	1.13	20	84.1	14	28.3	15	11.3	10
DP 1028 B2RF	841	2	62	9	4.7	6	1.19	9	84.5	11	27.9	17	12.5	3
DP 0949 B2RF	821	3	55	14	4.7	6	1.18	11	84.0	16	27.7	18	11.4	8
Ark 0102-48	786	4	98	1	4.6	13	1.30	1	87.2	1	32.6	1	8.6	20
09R 796 B2R2	767	5	45	18	4.9	3	1.15	19	84.1	14	28.9	11	12.6	2
PHY 5922 WRF	766	6	59	13	4.6	10	1.17	14	85.1	8	31.0	3	12.2	4
PHY 565 WRF	759	7	68	6	4.6	10	1.20	7	85.3	5	32.5	2	11.3	9
DP 0920 B2RF	739	8	39	19	5.0	2	1.16	18	82.9	20	27.4	19	11.2	11
PHY 367 WRF	737	9	62	9	4.2	18	1.18	11	85.0	9	30.7	4	11.7	7
BCSX 1010B2F	666	10	51	16	4.7	9	1.16	15	83.6	17	27.4	20	11.2	11
09R 619 B2R2	648	11	51	15	4.8	4	1.16	16	84.5	12	28.2	16	12.1	6
PHY 525 RF	646	12	86	3	4.1	20	1.25	3	85.9	2	30.4	6	12.1	5
DP 1032 B2RF	637	13	62	8	4.6	10	1.20	7	83.6	17	28.8	12	10.0	15
SSG 59-6-9	635	14	77	5	4.3	17	1.23	4	85.0	9	30.3	7	9.8	16
DP 454 BG/RR ck.	624	15	61	11	4.1	19	1.17	13	85.1	6	29.0	10	10.7	13
BCSX 1025LLB2	579	16	78	4	4.4	16	1.23	5	85.5	4	29.9	8	9.3	17
BCSX 1035LLB2	575	17	60	12	4.8	5	1.19	10	85.5	3	30.5	5	9.1	18
BCSX 1015LLB2	569	18	86	2	4.7	6	1.27	2	85.1	7	28.6	14	9.0	19
BCSX 1005LLB2	547	19	66	7	4.6	13	1.21	6	84.4	13	28.8	12	10.2	14
ST 4554 B2RF, ck.	538	20	51	16	4.5	15	1.16	17	83.0	19	29.3	9	12.9	1
Mean	689		62		4.6		1.19		84.6		29.4		10.9	
LSD 0.10	137		15		0.4		0.04		1.3		1.5		1.0	
C.V.%	16.6		13.5		4.9		2.1		0.9		2.9		5.5	
R-sq x 100	56.2		88.0		72.7		86.2		78.2		86.9		90.7	

Table 24. Yield and related properties - 2009 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 density	r
	lb/a		%		cm		%		g		g		mil.		no.		no.	
DP 0912 B2RF	958	1	38.7	11	106	9	.	.	8.3	19	5.5	18	7.835	1	14298	18	286	12
09R 619 B2R2	940	2	40.6	5	114	3	.	.	9.3	9	6.4	2	6.720	3	17689	2	317	5
DP 0949 B2RF	900	3	40.5	6	112	5	.	.	8.5	15	5.8	12	7.128	2	14983	16	294	11
Ark 0102-48	894	4	37.8	14	99	15	.	.	11.3	1	7.0	1	5.882	9	16330	7	240	20
DP 1028 B2RF	890	5	42.6	1	111	6	.	.	8.3	19	6.3	3	6.346	7	16256	9	325	2
PHY 565 WRF	848	6	39.2	9	115	2	.	.	8.5	14	5.6	16	6.707	4	15861	11	311	6
DP 1032 B2RF	841	7	41.8	2	111	8	.	.	8.5	16	6.2	6	6.479	6	15400	14	302	9
09R 796 B2R2	839	8	41.3	3	105	10	.	.	8.8	12	6.3	4	5.956	8	16826	5	319	3
PHY 5922 WRF	839	9	39.4	7	112	4	.	.	8.7	13	5.7	14	6.693	5	13904	20	268	14
PHY 367 WRF	744	10	39.1	10	96	18	.	.	9.1	10	6.0	10	5.522	10	16467	6	302	8
PHY 525 RF	687	11	39.3	8	104	11	.	.	8.9	11	5.9	11	5.208	12	17061	3	319	4
DP 0920 B2RF	687	12	38.7	12	100	12	.	.	9.4	8	6.0	9	4.954	14	14142	19	251	18
DP 454 BG/RR ck.	661	13	41.2	4	116	1	.	.	8.5	17	6.2	7	4.902	15	19061	1	374	1
BCSX 1010B2F	660	14	35.6	20	111	6	.	.	9.9	4	5.6	17	5.442	11	15267	15	257	17
ST 4554 B2RF, ck.	601	15	38.3	13	96	17	.	.	8.5	18	5.4	20	5.161	13	15730	12	309	7
BCSX 1025LLB2	558	16	36.7	16	100	14	.	.	9.5	5	5.7	15	4.475	16	16947	4	297	10
BCSX 1015LLB2	528	17	35.7	19	95	19	.	.	11.0	2	6.2	5	3.985	17	15950	10	243	19
BCSX 1005LLB2	482	18	36.5	17	96	16	.	.	10.6	3	6.2	8	3.732	19	16260	8	257	16
BCSX 1035LLB2	471	19	37.2	15	100	13	.	.	9.4	7	5.7	13	3.833	18	15453	13	274	13
SSG 59-6-9	441	20	36.2	18	91	20	.	.	9.5	6	5.5	19	3.426	20	14872	17	262	15
Mean	727		38.8		104		.		9.2		6.0		5.541		15938		290	
LSD 0.10	141		1.2		8		.		0.7		0.5		1.070		1818		34	
C.V.%	16.3		1.7		6.7		.		4.4		5.1		16.2		6.6		6.8	
R-sq x 100	73.5		95.0		67.1		.		90.5		77.7		72.3		73.9		86.0	

Table 25. Fiber properties - 2009 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		%	
DP 0912 B2RF	958	1	40	19	4.2	2	1.11	20	84.0	11	28.3	11	11.3	7
09R 619 B2R2	940	2	57	12	3.6	13	1.19	11	84.2	10	27.0	19	11.4	6
DP 0949 B2RF	900	3	55	14	4.0	4	1.17	15	83.7	16	29.0	7	11.4	5
Ark 0102-48	894	4	80	2	4.1	3	1.24	6	85.5	3	29.8	5	10.1	14
DP 1028 B2RF	890	5	59	11	3.9	8	1.19	12	84.4	8	27.1	17	11.8	4
PHY 565 WRF	848	6	69	7	3.4	17	1.24	8	85.1	4	31.4	1	11.3	7
DP 1032 B2RF	841	7	63	8	4.0	4	1.20	9	83.9	13	27.1	16	10.7	10
09R 796 B2R2	839	8	45	17	4.0	6	1.14	17	83.2	18	27.4	15	12.2	2
PHY 5922 WRF	839	9	79	3	3.9	7	1.25	4	85.8	1	31.1	3	10.5	11
PHY 367 WRF	744	10	56	13	3.7	11	1.18	13	84.0	11	28.5	10	10.4	12
PHY 525 RF	687	11	75	5	3.2	20	1.27	2	85.7	2	31.4	2	11.9	3
DP 0920 B2RF	687	12	47	16	4.5	1	1.14	17	84.4	7	27.0	18	10.9	9
DP 454 BG/RR ck.	661	13	43	18	3.3	18	1.18	14	83.6	17	26.9	20	10.2	13
BCSX 1010B2F	660	14	60	9	3.7	11	1.20	10	83.8	15	29.0	7	9.6	16
ST 4554 B2RF, ck.	601	15	34	20	3.8	10	1.11	19	82.3	20	27.9	13	12.7	1
BCSX 1025LLB2	558	16	60	9	3.3	19	1.24	6	83.1	19	27.6	14	9.5	17
BCSX 1015LLB2	528	17	84	1	3.6	15	1.30	1	84.4	8	28.0	12	8.8	20
BCSX 1005LLB2	482	18	76	4	3.6	13	1.25	3	84.9	5	28.9	9	8.9	19
BCSX 1035LLB2	471	19	53	15	3.8	9	1.17	15	83.9	13	29.2	6	9.1	18
SSG 59-6-9	441	20	73	6	3.5	16	1.25	4	84.5	6	30.2	4	9.7	15
Mean	727		60		3.7		1.20		84.2		28.6		10.6	
LSD 0.10	141		17		0.4		0.05		1.4		1.9		1.5	
C.V.%	16.3		16.3		6.2		2.2		1.0		3.8		8.1	
R-sq x 100	73.5		81.2		81.0		89.1		71.0		79.8		78.6	

Table 26. Morphological and host plant resistance traits in the 2009 Main Arkansas Cotton Variety Tests.

Variety	Leaf pubescence[1]	r	Stem pubescence[1]	r	Bract trichomes[2]	r	Tarnished plant bug damage[3]	r
	rating		rating		no./cm		%	
AM 1550 B2RF	1.2	28	5.4	27	23.5	29	33	6
AM NG 3331 B2RF	3.8	8	6.1	16	37.8	6	45	21
AM NG 4370 B2RF	4.5	3	6.8	5	41.2	3	46	23
CG 3020 B2RF	2.1	23	6.8	6	34.8	10	46	22
CG 3035RF	1.1	29	5.8	20	24.3	28	32	5
CG 3220 B2RF	1.5	25	5.2	28	26.6	27	41	13
CG 3520 B2RF	3.2	12	6.0	18	35.7	9	47	26
CG 4020 B2RF	2.7	21	6.3	12	32.3	15	44	17
SSG HQ210CT	1.1	29	4.6	30	21.8	30	53	31
DG 2490	3.3	10	6.9	4	33.9	11	38	12
DG 2520	2.8	20	5.6	22	31.4	21	47	24
DG 2570	1.4	26	6.2	15	27.4	26	31	3
DP 0924 B2RF	3.0	18	6.6	7	36.9	7	41	14
DP 0935 B2RF	1.3	27	5.0	29	28.4	25	35	8
DP 141 B2RF	3.1	14	6.3	11	29.4	24	47	27
DP 161 B2RF	2.5	22	7.2	3	31.7	20	49	29
DP 174 RF	3.4	9	6.0	17	32.0	17	33	7
FM 1740 B2F	2.9	19	6.6	7	32.1	16	47	25
FM 1845LLB2	3.1	14	6.3	12	40.7	4	43	16
PHY 315 RF	3.1	17	5.5	25	33.1	13	44	18
PHY 370 WR	3.1	14	5.6	24	32.6	14	49	28
PHY 375 WRF	3.2	12	5.5	25	30.8	22	36	9
PHY 485 WRF	4.1	5	6.5	10	43.1	1	44	20
ST 4288B2F	3.3	10	6.5	9	36.5	8	44	19
ST 4498 B2RF	4.0	7	5.6	22	32.0	19	30	1
ST 5288B2F	6.1	1	8.7	1	42.3	2	31	2
ST 5458 B2RF	4.1	5	6.2	14	29.4	23	36	10
DP 393 ck.	2.1	23	5.8	20	33.3	12	37	11
DP 454 BG/RR ck.	5.2	2	8.0	2	37.9	5	42	15
ST 4554 B2RF, ck.	4.2	4	5.8	19	32.0	17	32	4
SG 105, ck	.		.		.		51	30
Frego bract, ck.	.		.		.		85	32
Mean	3.0		6.2		33		45	
LSD 0.10	0.7		1.1		5.3		9.3	
C.V.%	20.9		15.8		13.8		30.7	
R-sq x 100	83.4		63.5		65.5		59.9	

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

Table 27. Morphological and host plant resistance traits for the 1st-year 2009 Arkansas Cotton Variety Test.

Variety	Leaf pubescence[1]	r	Stem pubescence[1]	r	Bract trichomes[2]	r	Tarnished plant bug damage[3]	r
	rating		rating		no./cm		%	
Ark 0102-48	1.5	19	5.4	18	26.4	18	63	22
BCSX 1005LLB2	2.4	13	5.8	15	32.4	12	40	7
BCSX 1010B2F	2.7	12	7.2	3	30.9	13	54	20
BCSX 1015LLB2	1.8	16	5.6	17	29.4	17	52	19
BCSX 1025LLB2	3.0	8	7.2	3	33.6	10	42	11
BCSX 1035LLB2	2.8	10	5.8	14	29.6	16	51	18
SSG 59-6-9	2.9	9	6.1	11	33.3	11	55	21
DP 0912 B2RF	3.8	4	7.1	5	43.5	1	44	12
DP 0920 B2RF	3.2	7	6.4	8	39.0	5	40	8
DP 0949 B2RF	3.6	5	7.3	2	37.8	6	44	13
DP 1028 B2RF	1.7	18	4.7	20	21.2	20	39	5
DP 1032 B2RF	2.2	14	6.0	12	30.2	15	42	9
09R 619 B2R2	1.3	20	5.2	19	22.8	19	36	2
09R 796 B2R2	4.7	2	6.7	6	40.0	4	37	4
PHY 367 WRF	2.7	11	5.9	13	33.8	9	33	1
PHY 525 RF	1.8	17	6.2	10	34.6	7	42	10
PHY 565 WRF	3.6	5	5.7	16	40.3	3	40	6
PHY 5922 WRF	2.2	15	6.3	9	34.4	8	46	16
DP 454 BG/RR ck.	5.5	1	7.4	1	40.6	2	45	15
ST 4554 B2RF, ck.	4.6	3	6.5	7	30.8	14	36	3
DP 393, ck.	.		.		.		44	14
SG 105, ck.	.		.		.		49	17
Frego bract, ck.	.		.		.		83	23
Mean	2.9		6.2		33.2		47	
LSD 0.10	0.9		1.0		4.3		8	
C.V.%	26.2		13.5		10.9		23.8	
R-sq x 100	76.1		67.4		78.0		61.3	

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


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