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SUMMARY

The primary aim of the Arkansas Cotton Variety Test is to provide unbiased data regarding the agronomic performance of cotton varieties in the major cotton growing areas in Arkansas. This information helps seed dealers establish marketing strategies and assists producers in choosing varieties to plant. In this way the annual test facilitates the inclusion of new, improved genetic material into Arkansas cotton production. The 1998 test had 58 entries (including 19 transgenic genotypes and 21 first-year entries), which were evaluated at six sites in eastern Arkansas. The presence of four transgenic and five first-year entries among the top 10 yielding entries suggests that improvement is being accomplished in varietal development. This report also includes the Mississippi County Variety Test (an on-farm evaluation of selected varieties) and the Commercial Strain Test (a two-location evaluation of advanced breeding lines.

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INTRODUCTION

Varieties and advanced strains of cotton are evaluated annually by the Arkansas Agricultural Experiment Station. The Arkansas Cotton Variety Test provides unbiased comparisons and helps to establish specific adaptation of cotton genotypes that are either presently, or potentially will be, available to Arkansas cotton producers. Genotypes from public and private sources were evaluated in the 1998 Arkansas Cotton Variety Test and the 1998 Commercial Strain Test. In addition, varieties are routinely evaluated in off-station tests in production fields. One off-station test in Mississippi County is included in this report.

The Arkansas Variety Test consisted of 58 entries, which included 19 transgenic genotypes and 21 first-year entries. The primary purpose of the Commercial Cotton Strain Test is to evaluate advanced breeding lines that have not previously been tested in Arkansas environments. The 1998 Commercial Strain Test included 18 strains and two standard varieties ('Stoneville 474' and 'Sure-Grow 125'). The Mississippi County Test consisted of 21 varieties and was planted on the David Wildy farm near Manila.

The 1998 Arkansas Cotton Variety Test was conducted at the Northeast Research and Extension Center at Keiser; the Delta Branch Experiment Station at Clarkedale; the Cotton Branch Experiment Station at Marianna; and the Southeast Branch Experiment Station at Rohwer. An irrigated test was conducted at each site and non-irrigated tests were also conducted at Clarkedale and Marianna. The non-irrigated tests were in different fields from the irrigated tests at the same station. However, soil types, planting dates, and management (except irrigation) were similar. These experiment stations vary with respect to soil type, disease and insect problems, environmental factors and cultural practices but do not encompass all cotton growing conditions in the state. Entries in the Commercial Cotton Strain Test were evaluated in irrigated tests at Clarkedale and Marianna, adjacent to the Arkansas Cotton Variety Tests at each site.

MATERIALS AND METHODS

For the Arkansas Variety Test and the Commercial Strain Test, entries were arranged using a randomized complete block design with six replications. Plots were two rows, 40 to 50 ft long on 38-in. centers. Recommended management practices were followed in each test. Management practices in the Commercial Strain Tests were identical to the adjacent Arkansas Cotton Variety Test at both Clarkedale and Marianna. Soil types and dates of planting, irrigation, defoliation, and harvest are indicated on the respective tables. Except for the non-irrigated tests at Clarkedale and Marianna, each test was furrow-irrigated as needed. The seed of each entry were supplied by the respective breeders or companies. All seed were doubled-treated (two fungicides, no systemic insecticide). Seed were packaged for planting using a seed counter, so as to plant approximately 5 seed / row foot.

Leaf pubescence of 10 plants per plot (two reps / test) were rated using a scale of 1 (smooth leaf), to 7 (dense cover of trichomes) then averaged for the irrigated tests at Keiser, Clarkedale, and Marianna. In each test, variation in maturity was estimated by rating the percentage of open bolls for each plot near the time of defoliation. Lint fraction and fiber data were obtained from hand-harvested samples (50 random bolls) from two replications of each test. Fiber properties were determined using HVI classification. Each test was once-over harvested with a mechanical picker.

All variables were analyzed over locations and within locations using appropriate analysis of variance statistical proce-

dures. Means were separated by Fisher's Least Significant Difference (LSD) Test at the 0.10 level of probability when F-tests showed significant differences. Coefficients of variation (CV) and R^2's are reported for each measurement. R^2's indicate that the proportion of variation that can be explained by the sources of variation other than error. Thus, confidence in data increases with high R^2's.

Varieties in the Mississippi County Variety Test were planted in 6-row plots, approximately 1280 feet long, and replicated four times. Lint fraction and fiber data were determined in the same way as in the other tests except that samples were taken from all four replications. Plots were harvested with a 6-row picker and weighed in a boll buggy equipped with load cells. Data were evaluated using a analysis of variance procedure for one location.

RESULTS

Arkansas Cotton Variety Test

Attaining uniform stands was difficult at most of the 1998 sites of the Arkansas Cotton Variety Test. Relatively cool conditions resulted in non-uniform stands at Keiser and Clarkedale. Marginal moisture delayed and reduced stands in some replications at Marianna. A planter problem forced replanting of the Rohwer test. Tests at Keiser and Clarkedale were exposed to hot, dry conditions in June and most of July, followed by about two weeks of rainy, cloudy weather. Hot, dry conditions characterized the entire season at Marianna and Rohwer.

Significant (but relatively small as a source of variation) variety by location interactions were found for all traits except fiber length, uniformity index, and elongation (Table 1). Significant interaction for yield indicates that relative performance of the varieties varied at different locations. Variety by location interactions are typically low for the fiber quality properties. R^2 values exceeded 70% for all variables except open bolls and length uniformity. Mean lint yields of irrigated tests increased as the test site moved south. The two non-irrigated sites had the lowest mean yields, with the more southern site (Marianna) yield less than the northern site (Clarkedale). Compared to 1997, means for lint yield, lint fraction, and fiber length (UHM) were noticeably lower in 1998.

The 58 entries in the Arkansas Variety Test included 19 transgenic genotypes and 21 entered for the first time in 1998. Four transgenic and five first-year entries were among the top 10 yielding entries. Performance of transgenic genotypes varied greatly among themselves and in comparison to their recurrent parent. These results continue to indicate that transgenic genotypes must be tested as new genotypes. Performance of first-year entries suggests that higher yielding genotypes are being achieved in breeding programs.

The low R^2 value for yield in the Keiser test reduces confidence in the test (Table 2). Although final yields were relatively high, variation in seedling emergence and differences in field conditions (within replications) caused much random error. The irrigated and non-irrigated tests at Clarkedale and Marianna are in the same general area, but not adjacent to each other (Table 3-6). The irrigated tests out yielded the non-irrigated tests by 64 and 456 lb / acre at Clarkedale and Marianna, respectively. Rainfall conditions during late July and early August varied greatly between Clarkedale and Marianna. Among the 1998 test sites, mean lint yield was highest at Rohwer (Table 7).

Of the 58 entries in the 1997 Arkansas Variety Test, only 27 (Table 8) and 11 (Table 9) have been in the test for two and three years, respectively. This high turnover reflects the rapid change that is occurring in cotton variety development and availability.

Mississippi County Variety Test

A two-fold difference in lint yield was found among the 21 varieties in this test (Table 10). The very high R^2 for lint yield indicated that these differences were consistent across replications. Some bronze wilt symptoms were observed. To perform well, a variety should be adapted to sandy soil conditions in north Arkansas.

Commercial Cotton Strain Test

The Commercial Strain Test included 18 strains and two check varieties (Table 11). Strain by location interaction was not significant for any of the variables. As indicated in Tables 8 and 9, the two check varieties (Stoneville 474 and Sure-Grow 125) are among the most adapted varieties for Arkansas. Lint yield of the two check varieties ranked 2nd and 13th at Clarkedale (Table 12) and 3rd and 5th at Marianna (Table 13). Compared to the check varieties, most of the strains were earlier maturing and many had superior fiber quality.

Table 1. Results of the 1998 Arkansas Cotton Variety Test across six locations.

Variety / location	Lint Yield[a]	*r*[b]	Lint Frac[c]	*r*	Open Bolls	*r*	Height	*r*	Leaf Pub[d]	*r*	Fiber Properties[e] Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches													
Phytogen PSC-355	1158	*1*	39.3	*24*	65	*26*	44.4	*25*	5.9	*3*	4.94	*26*	1.14	*16*	83.4	*16*	30.4	*3*	7.7	*4*
Paymaster PM-1218BGRR	1139	*2*	40.0	*15*	69	*8*	44.3	*27*	3.3	*27*	5.08	*10*	1.09	*55*	82.8	*41*	26.5	*48*	7.0	*38*
Paymaster PM-1560BG	1128	*3*	40.0	*16*	70	*5*	41.6	*49*	4.1	*20*	5.09	*8*	1.11	*34*	83.8	*10*	28.8	*18*	7.2	*31*
Deltapine 5111	1099	*4*	38.7	*37*	71	*4*	42.3	*44*	5.8	*5*	5.29	*1*	1.10	*48*	84.0	*7*	29.2	*14*	6.6	*48*
Sure-Grow 890	1093	*5*	41.2	*5*	71	*2*	42.9	*39*	2.6	*34*	4.76	*44*	1.14	*13*	82.8	*43*	27.2	*41*	7.6	*9*
Sure-Grow 501	1092	*6*	41.8	*2*	61	*43*	44.4	*24*	3.9	*24*	5.02	*16*	1.13	*18*	84.2	*3*	30.2	*5*	7.5	*14*
Sure-Grow 747	1076	*7*	40.5	*9*	69	*9*	43.6	*34*	2.1	*42*	5.01	*18*	1.13	*21*	83.3	*18*	26.9	*44*	7.7	*6*
Paymaster PMX-31746RR	1076	*8*	40.1	*13*	70	*5*	40.7	*54*	3.8	*25*	5.08	*11*	1.10	*38*	83.1	*28*	27.6	*32*	7.0	*40*
Sure-Grow 105	1073	*9*	39.0	*30*	66	*19*	42.7	*43*	2.0	*43*	4.92	*29*	1.13	*21*	83.8	*9*	27.8	*29*	7.3	*23*
Paymaster PM-1220BGRR	1064	*10*	39.7	*18*	67	*16*	44.5	*23*	4.1	*21*	4.97	*24*	1.11	*34*	83.3	*22*	27.5	*33*	7.4	*18*
Deltapine DP-428B	1064	*11*	37.8	*47*	62	*39*	43.2	*36*	2.7	*33*	4.98	*22*	1.11	*31*	82.5	*50*	25.1	*58*	7.2	*28*
Stoneville 474	1055	*12*	40.0	*14*	65	*26*	46.1	*12*	5.9	*4*	5.11	*6*	1.09	*53*	83.0	*36*	27.3	*36*	7.3	*22*
Deltapine 20B	1044	*13*	38.9	*33*	67	*18*	40.5	*55*	2.5	*37*	4.76	*46*	1.10	*44*	83.2	*25*	25.7	*55*	7.9	*1*
Sure-Grow 125	1043	*14*	39.0	*31*	68	*13*	43.9	*29*	1.8	*46*	4.91	*31*	1.13	*23*	83.3	*21*	27.3	*39*	7.5	*11*
Deltapine DPX-9758	1041	*15*	39.3	*25*	70	*5*	41.2	*51*	3.6	*26*	4.75	*47*	1.10	*47*	83.0	*32*	29.8	*8*	7.7	*8*
Phytogen PSC-952	1040	*16*	40.8	*7*	59	*50*	49.4	*2*	5.7	*6*	5.04	*14*	1.10	*46*	83.0	*33*	27.9	*27*	7.7	*6*
Deltapine DPX-8C27	1036	*17*	40.2	*12*	69	*10*	45.8	*14*	3.9	*23*	4.92	*28*	1.10	*43*	82.4	*51*	26.6	*46*	7.2	*31*
Stoneville 373	1034	*18*	39.7	*20*	60	*44*	45.7	*15*	4.9	*13*	4.54	*55*	1.14	*15*	83.0	*31*	25.5	*57*	7.0	*41*
Germains GC-251	1032	*19*	37.2	*49*	65	*29*	39.2	*58*	2.5	*35*	5.06	*12*	1.13	*18*	84.1	*5*	29.6	*12*	7.1	*35*
Stoneville BG4740	1031	*20*	41.2	*4*	60	*44*	40.9	*53*	6.2	*1*	5.11	*7*	1.09	*54*	83.0	*37*	27.7	*30*	7.0	*36*
Stoneville BXN47	1025	*21*	41.0	*6*	63	*33*	47.2	*7*	5.5	*7*	4.94	*27*	1.10	*45*	82.7	*46*	27.5	*34*	7.1	*34*
AgriPro AP-7115	1023	*22*	39.4	*22*	66	*19*	43.8	*30*	2.3	*39*	4.71	*50*	1.10	*49*	82.6	*49*	27.4	*35*	7.2	*27*
Paymaster PM-1242RR	1019	*23*	39.7	*19*	64	*31*	45.1	*20*	4.2	*18*	5.06	*13*	1.10	*40*	83.7	*11*	29.8	*10*	7.9	*2*
Paymaster PM-1210	1019	*24*	41.5	*3*	69	*10*	42.3	*45*	5.3	*8*	4.89	*32*	1.07	*57*	82.0	*55*	25.7	*56*	6.9	*42*
Paymaster PM-1440	1012	*25*	38.8	*35*	66	*21*	42.1	*46*	2.7	*32*	5.11	*5*	1.10	*40*	83.3	*19*	27.1	*42*	6.8	*45*
Phytogen PSC-636	1009	*26*	38.0	*42*	59	*48*	43.6	*33*	1.7	*53*	4.81	*40*	1.12	*28*	82.0	*56*	28.1	*24*	6.5	*51*
AgriPro AP-6101	994	*27*	39.2	*27*	59	*49*	43.6	*32*	1.4	*55*	5.01	*19*	1.15	*7*	83.5	*13*	29.6	*12*	6.9	*43*
FiberMax FM-832	987	*28*	39.1	*29*	50	*58*	51.3	*1*	1.6	*54*	4.71	*49*	1.21	*1*	84.2	*1*	29.7	*11*	6.3	*54*
TX-224	984	*29*	38.9	*34*	67	*16*	42.9	*40*	1.8	*47*	4.66	*52*	1.10	*39*	82.6	*48*	26.9	*45*	7.4	*21*
Paymaster PM-1266	979	*30*	38.6	*39*	62	*36*	43.9	*28*	6.2	*2*	4.48	*56*	1.16	*4*	82.8	*42*	26.2	*52*	6.7	*47*
Paymaster PM-1220RR	975	*31*	39.4	*21*	62	*36*	46.5	*10*	4.0	*22*	5.01	*17*	1.12	*25*	84.0	*6*	29.9	*7*	7.8	*3*
Phytogen PSC-556	968	*32*	39.1	*28*	68	*12*	43.1	*37*	5.2	*11*	4.47	*57*	1.14	*12*	83.0	*34*	28.5	*20*	7.0	*39*
FiberMax FM-819	966	*33*	40.8	*8*	61	*41*	45.2	*19*	2.3	*40*	4.78	*42*	1.17	*2*	84.2	*3*	29.2	*15*	6.1	*57*
Deltapine DP-436RR	954	*34*	34.8	*57*	65	*24*	42.1	*47*	1.7	*49*	4.76	*43*	1.12	*26*	83.2	*24*	26.5	*49*	7.5	*13*
Deltapine 32B	951	*35*	38.5	*40*	57	*52*	43.7	*31*	2.8	*31*	5.09	*9*	1.11	*36*	82.9	*38*	27.3	*37*	7.5	*15*
Paymaster PM-1330BG	942	*36*	37.8	*48*	65	*24*	43	*38*	5.2	*10*	4.85	*36*	1.15	*9*	84.2	*2*	28.5	*21*	6.8	*44*
Germains GC-120	941	*37*	40.2	*10*	66	*21*	45.9	*13*	4.3	*16*	4.76	*44*	1.11	*33*	83.3	*23*	29.0	*17*	7.7	*5*
Paymaster PM-1244RR	940	*38*	40.2	*11*	62	*36*	46.6	*9*	3.0	*28*	5.13	*3*	1.07	*57*	82.8	*43*	27.9	*28*	7.6	*10*
AgriPro AP-6102	940	*39*	37.8	*46*	61	*41*	41.2	*52*	1.9	*44*	4.98	*23*	1.14	*11*	83.4	*15*	30.3	*4*	7.3	*24*
Deltapine 50B	939	*40*	34.6	*58*	71	*3*	39.7	*56*	2.9	*30*	4.79	*41*	1.15	*8*	82.9	*39*	26.5	*47*	7.5	*12*
Paymaster PM-1215BG	937	*41*	37.8	*45*	66	*21*	47.6	*3*	4.1	*19*	4.83	*38*	1.15	*5*	83.4	*14*	29.1	*16*	7.5	*16*
Terra 366	935	*42*	37.0	*51*	63	*33*	46.1	*11*	4.3	*17*	4.91	*30*	1.11	*37*	82.7	*45*	25.8	*54*	6.8	*46*
Phytogen PSC-569	928	*43*	39.3	*26*	60	*44*	47.2	*5*	1.4	*57*	5.13	*3*	1.09	*51*	83.1	*29*	31.9	*1*	7.4	*20*
Terra 292	927	*44*	35.3	*56*	68	*13*	41.3	*50*	2.5	*38*	4.84	*37*	1.13	*17*	82.9	*40*	26.0	*53*	7.2	*29*
Deltapine DP-425RR	926	*45*	37.0	*52*	65	*30*	41.9	*48*	1.7	*49*	4.87	*34*	1.10	*40*	82.2	*53*	26.4	*51*	7.4	*19*
Deltapine NuCotn-33B	909	*46*	37.9	*44*	58	*51*	44.3	*26*	2.2	*41*	4.96	*25*	1.11	*32*	82.3	*52*	27.2	*40*	7.2	*30*
Seed Source SS-9802	904	*47*	37.0	*50*	60	*44*	45.7	*16*	5.2	*9*	4.62	*53*	1.14	*10*	83.1	*30*	28.2	*22*	7.2	*26*
Deltapine DP-458B/RR	896	*48*	39.8	*17*	51	*57*	43.4	*35*	1.7	*52*	5.03	*15*	1.11	*29*	82.7	*47*	28.2	*23*	7.0	*37*
Seed Source SS-9801	883	*49*	36.2	*54*	65	*26*	42.8	*42*	4.5	*15*	4.85	*35*	1.16	*3*	83.4	*17*	30.7	*2*	6.6	*50*
TX-121	869	*50*	36.9	*53*	64	*32*	45.1	*21*	1.8	*48*	4.87	*33*	1.12	*26*	83.0	*35*	30.1	*6*	7.1	*33*
FiberMax FM-989	866	*51*	38.7	*38*	53	*55*	45.5	*17*	1.4	*55*	4.62	*54*	1.14	*14*	83.9	*8*	29.8	*9*	6.2	*55*
FiberMax FM-975	866	*52*	43.4	*1*	56	*53*	47.2	*6*	1.9	*45*	4.99	*20*	1.15	*6*	83.2	*26*	27.3	*38*	5.7	*58*
Deltapine 5415RR	859	*53*	39.3	*23*	53	*55*	45.1	*22*	1.4	*58*	4.99	*21*	1.11	*30*	83.3	*19*	28.6	*19*	7.4	*17*
AgriPro AP-4103	852	*54*	37.9	*43*	55	*54*	45.3	*18*	3.0	*29*	5.21	*2*	1.13	*18*	83.1	*27*	27.9	*26*	6.5	*52*
FiberMax FM-963	847	*55*	38.9	*32*	63	*35*	47.5	*4*	1.7	*51*	4.83	*39*	1.09	*52*	83.5	*12*	28.0	*25*	6.4	*53*
DynaGro DG-201	820	*56*	38.8	*36*	61	*40*	47	*8*	4.7	*14*	4.73	*48*	1.08	*56*	82.2	*54*	26.4	*50*	7.2	*25*
TX-300	743	*57*	38.2	*41*	67	*15*	42.8	*41*	5.1	*12*	4.69	*51*	1.10	*50*	81.4	*58*	27.1	*43*	6.1	*56*
TX-141	690	*58*	35.8	*55*	72	*1*	39.4	*57*	2.5	*36*	4.39	*58*	1.12	*24*	81.9	*57*	27.7	*31*	6.6	*49*

continued

Table 1. Results of the 1998 Arkansas Cotton Variety Test across six location. Continued.

Variety / location	Lint Yield	*r*	Lint Frac	*r*	Open Bolls	*r*	Height	*r*	Leaf Pub	*r*	Fiber Properties Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches													
$LSD_{0.10}$	51		0.9		4		1.7		0.8		0.14		0.02		0.7		0.8		0.2	
Keiser, irrigated	937		40.3		66		47.8		3.5		5.19		1.10		83.6		28.6		7.2	
Clarkedale, irrigated	951		37.5		55		44.0		3.6		4.67		1.13		83.9		26.3		7.0	
Clarkedale, not irrigated	887		38.3		59		38.8		*		4.90		1.12		82.8		26.2		6.8	
Marianna, irrigated	1111		39.1		70		53.9		2.9		4.77		1.13		82.9		28.4		7.2	
Marianna, not irrigated	655		38.6		76		34.5		*		4.84		1.10		82.8		30.5		7.3	
Rohwer, irrigated	1319		39.8		55		47.9		*		5.00		1.14		82.8		28.1		7.2	
$LSD_{0.10}$	0.16		0.3		1		0.5		0.2		0.05		0.01		0.2		0.3		0.1	
Mean	977		38.9		64		44.1		3.4		4.89		1.12		83.1		28		7.1	
CV (%)	13.5		3.4		16.5		9.7		24.4		4.40		2.0		1.2		4.2		4.8	
R-square x 100	80.4		85		59.5		80		88.9		80.60		82.6		68.3		88.7		87	
Variety x Location	**		**		**		**		*		**		*		ns[f]		*		ns	

*, ** Significant at the 0.05 and 0.01 probability levels, respectively.
[a] Six replications / location for lint yield, height and open bolls; two replications / location for all other variables.
[b] r = ranking.
[c] (Lint weight / sample weight) x 100, from boll samples.
[d] Leaf pubescence is mean of 10 plants / plot rated from 1 (smooth leaf) to 7 (very hairy).
[e] Fiber micronaire (Mic), length (Len), length uniformity (Unif), strength (Str) and elongation (Elo) determined using HVI classing.
[f] Not Significant.

Table 2. Results of the 1998 Arkansas Cotton Variety Test with irrigation on a Sharkey-Steele complex soil at Keiser.[a]

Variety	Lint Yield[b]	*r*[c]	Lint Frac[d]	*r*	Open Bolls	*r*	Height	*r*	Leaf Pub[e]	*r*	Fiber Properties[f] Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches													
Stoneville BXN47	1140	*1*	42.4	*11*	66	*29*	52.3	*6*	6.0	*8*	5.32	*20*	1.09	*36*	83.0	*42*	28.3	*27*	7.0	*40*
FiberMax FM-832	1136	*2*	41.7	*14*	52	*57*	55.1	*1*	1.9	*50*	4.90	*51*	1.15	*2*	84.6	*9*	29.1	*21*	6.2	*54*
Stoneville 474	1133	*3*	42.1	*12*	62	*46*	48.6	*25*	5.8	*10*	5.46	*9*	1.10	*26*	84.5	*10*	27.4	*40*	7.2	*28*
Deltapine DP-428B	1115	*4*	39.8	*31*	68	*18*	46.5	*39*	3.0	*31*	5.21	*28*	1.09	*35*	82.3	*55*	25.9	*55*	7.0	*40*
Phytogen PSC-355	1102	*5*	39.2	*42*	72	*8*	42.6	*54*	6.5	*4*	5.16	*31*	1.13	*9*	83.9	*20*	30.8	*8*	7.8	*9*
Paymaster PM-1560BG	1085	*6*	40.3	*27*	68	*18*	44.2	*49*	4.1	*20*	5.33	*18*	1.09	*36*	83.1	*39*	30.1	*13*	7.1	*30*
Germains GC-251	1045	*7*	39.3	*40*	58	*50*	43.4	*51*	3.2	*30*	5.36	*14*	1.08	*41*	83.2	*38*	30.0	*14*	6.8	*42*
Sure-Grow 125	1042	*8*	39.9	*30*	72	*8*	47.6	*32*	1.3	*57*	5.23	*26*	1.13	*8*	85.0	*5*	28.3	*26*	7.9	*5*
Sure-Grow 501	1040	*9*	43.4	*4*	56	*54*	49.8	*16*	4.0	*22*	5.59	*4*	1.11	*20*	83.8	*22*	30.8	*8*	7.2	*27*
AgriPro AP-7115	1039	*10*	41.5	*16*	64	*38*	48.8	*24*	2.7	*35*	4.99	*44*	1.09	*36*	84.5	*10*	27.9	*32*	7.6	*15*
Paymaster PM-1440	1035	*11*	39.1	*43*	64	*38*	46.5	*39*	2.2	*41*	5.33	*18*	1.11	*23*	85.1	*4*	26.1	*53*	7.1	*32*
Stoneville BG4740	1026	*12*	40.9	*21*	62	*46*	45.9	*45*	6.3	*6*	5.37	*13*	1.08	*47*	83.8	*22*	30.2	*12*	7.0	*36*
Sure-Grow 747	1020	*13*	40.9	*20*	64	*38*	52.7	*3*	1.6	*54*	5.28	*21*	1.14	*7*	85.8	*1*	27.7	*33*	8.2	*2*
Deltapine 5111	1017	*14*	39.7	*32*	68	*18*	43.0	*52*	6.6	*3*	5.48	*7*	1.10	*32*	85.7	*2*	29.9	*16*	6.7	*47*
AgriPro AP-6101	1000	*15*	42.5	*9*	64	*38*	50.6	*15*	1.7	*51*	5.39	*11*	1.14	*4*	83.8	*22*	32.1	*5*	7.1	*30*
Deltapine 20B	1000	*16*	39.4	*39*	72	*8*	39.6	*58*	2.5	*38*	4.95	*48*	1.08	*41*	83.4	*33*	25.0	*58*	8.2	*1*
Sure-Grow 890	995	*17*	43.8	*2*	72	*8*	49.0	*23*	2.1	*43*	5.03	*40*	1.12	*13*	83.9	*20*	27.3	*42*	7.9	*5*
Deltapine DPX-9758	991	*18*	41.1	*17*	68	*18*	48.0	*30*	4.1	*19*	5.08	*38*	1.10	*26*	82.7	*48*	30.9	*7*	8.2	*2*
TX-224	984	*19*	40.7	*24*	66	*29*	46.8	*38*	2.0	*44*	5.13	*35*	1.08	*47*	82.6	*49*	26.7	*50*	7.4	*21*
Phytogen PSC-636	971	*20*	39.4	*38*	64	*38*	48.4	*26*	2.0	*44*	5.23	*26*	1.12	*19*	83.1	*39*	28.2	*29*	6.8	*42*
Deltapine DPX-8C27	969	*21*	40.6	*26*	72	*8*	50.7	*13*	4.9	*14*	4.99	*43*	1.08	*41*	82.5	*52*	27.2	*45*	7.3	*25*
AgriPro AP-6102	964	*22*	42.5	*10*	54	*55*	45.2	*48*	2.5	*37*	5.52	*6*	1.15	*3*	83.9	*19*	31.6	*6*	7.0	*36*
FiberMax FM-819	963	*23*	43.7	*3*	76	*1*	52.0	*7*	2.8	*33*	5.35	*16*	1.14	*5*	83.8	*25*	28.0	*31*	6.1	*56*
Deltapine DP-436RR	963	*24*	36.3	*58*	66	*29*	49.7	*17*	1.4	*56*	5.16	*33*	1.10	*32*	83.7	*29*	26.8	*48*	7.8	*10*
Paymaster PM-1242RR	961	*25*	39.0	*45*	70	*16*	48.2	*28*	4.0	*21*	5.19	*29*	1.09	*36*	84.8	*7*	32.2	*3*	7.7	*13*
Phytogen PSC-952	953	*26*	41.7	*15*	68	*18*	51.9	*8*	6.6	*2*	5.39	*12*	1.06	*53*	83.4	*36*	27.2	*45*	7.8	*10*
Paymaster PMX-31746RR	946	*27*	40.2	*28*	74	*3*	41.9	*56*	2.9	*32*	5.24	*25*	1.08	*41*	83.4	*33*	27.6	*36*	7.0	*36*
Deltapine NuCotn-33B	945	*28*	39.6	*33*	68	*18*	47.1	*37*	3.4	*29*	5.77	*1*	1.08	*47*	82.5	*51*	27.6	*34*	7.1	*33*
Paymaster PM-1330BG	942	*29*	38.4	*48*	74	*3*	49.3	*20*	6.2	*7*	4.94	*50*	1.13	*9*	84.1	*16*	28.4	*25*	6.8	*45*
Stoneville 373	940	*30*	41.8	*13*	64	*38*	51.0	*9*	4.6	*17*	4.77	*55*	1.12	*13*	84.1	*17*	25.6	*56*	6.8	*42*
FiberMax FM-975	934	*31*	47.6	*1*	66	*29*	52.6	*4*	2.3	*40*	5.35	*16*	1.12	*13*	83.7	*28*	27.4	*41*	6.0	*57*
Sure-Grow 105	932	*32*	39.5	*36*	68	*18*	49.5	*18*	1.5	*55*	4.89	*52*	1.12	*13*	84.8	*6*	28.9	*23*	7.7	*13*
Terra 366	923	*33*	37.9	*52*	60	*49*	50.9	*10*	2.8	*34*	5.27	*23*	1.11	*23*	83.0	*42*	27.3	*44*	7.0	*36*
Paymaster PM-1220BGRR	919	*34*	39.5	*34*	72	*8*	47.4	*33*	3.6	*24*	5.19	*30*	1.07	*51*	83.6	*31*	26.8	*47*	7.1	*33*
Deltapine 32B	917	*35*	41.1	*18*	58	*50*	48.4	*27*	3.4	*28*	5.48	*8*	1.08	*47*	83.4	*33*	29.1	*19*	7.9	*7*
Phytogen PSC-556	914	*36*	40.8	*23*	68	*18*	46.2	*44*	3.5	*27*	4.94	*49*	1.13	*9*	83.6	*30*	30.5	*11*	6.8	*45*
FiberMax FM-989	912	*37*	40.7	*25*	58	*50*	49.1	*22*	2.0	*44*	4.99	*45*	1.10	*26*	84.5	*13*	29.9	*16*	6.2	*55*
Deltapine 50B	893	*38*	36.3	*57*	66	*29*	41.6	*57*	2.7	*35*	5.16	*31*	1.10	*26*	82.3	*56*	27.6	*39*	7.8	*10*
AgriPro AP-4103	892	*39*	41.0	*19*	64	*38*	47.2	*36*	3.6	*25*	5.70	*3*	1.10	*26*	83.0	*45*	28.7	*24*	6.6	*49*
DynaGro DG-201	874	*40*	38.7	*46*	62	*46*	50.6	*14*	4.7	*16*	4.98	*46*	1.06	*53*	82.9	*46*	26.7	*51*	7.2	*29*
Paymaster PM-1218BGRR	870	*41*	39.3	*41*	72	*8*	47.3	*34*	1.9	*48*	5.25	*24*	1.05	*55*	82.8	*47*	26.6	*52*	7.3	*24*
FiberMax FM-963	863	*42*	40.8	*22*	66	*29*	53.5	*2*	2.0	*47*	5.36	*15*	1.08	*41*	84.2	*15*	27.6	*34*	6.6	*49*
Paymaster PM-1266	862	*43*	38.7	*47*	70	*16*	42.6	*53*	7.0	*1*	4.51	*58*	1.14	*5*	84.3	*14*	25.1	*57*	6.6	*52*
Terra 292	860	*44*	36.9	*55*	66	*29*	46.3	*41*	2.2	*41*	5.11	*37*	1.11	*23*	83.6	*31*	27.6	*36*	7.5	*17*
Seed Source SS-9802	860	*45*	38.4	*49*	66	*29*	49.2	*21*	5.8	*9*	5.06	*39*	1.13	*9*	83.1	*41*	29.1	*19*	7.1	*33*
Paymaster PM-1215BG	855	*46*	37.3	*53*	74	*3*	50.7	*12*	4.9	*14*	4.81	*54*	1.12	*13*	84.5	*12*	28.1	*30*	7.6	*15*
Deltapine DP-425RR	855	*47*	39.1	*44*	58	*50*	43.6	*50*	1.6	*53*	5.28	*21*	1.10	*26*	82.6	*49*	26.8	*48*	7.4	*21*
Phytogen PSC-569	851	*48*	43.0	*6*	64	*38*	50.7	*11*	1.3	*57*	5.72	*2*	1.05	*57*	83.8	*26*	32.5	*2*	7.5	*18*
Paymaster PM-1244RR	847	*49*	39.4	*37*	76	*1*	48.0	*29*	3.6	*26*	5.02	*41*	1.03	*58*	82.4	*53*	27.3	*42*	7.5	*19*
Deltapine DP-458B/RR	823	*50*	42.9	*7*	54	*55*	47.3	*35*	2.4	*39*	5.54	*5*	1.10	*32*	83.0	*42*	30.6	*10*	7.3	*26*
TX-121	821	*51*	38.1	*50*	68	*18*	49.3	*19*	1.7	*51*	5.13	*35*	1.12	*13*	83.4	*36*	34.3	*1*	7.4	*20*
Deltapine 5415RR	820	*52*	42.6	*8*	48	*58*	52.3	*5*	1.9	*48*	5.42	*10*	1.09	*36*	83.8	*26*	29.0	*22*	7.4	*21*
Paymaster PM-1210	820	*53*	43.1	*5*	68	*18*	45.2	*47*	5.2	*13*	5.01	*42*	1.05	*55*	82.4	*53*	26.0	*54*	6.7	*48*
Seed Source SS-9801	820	*54*	36.9	*56*	66	*29*	45.4	*46*	5.3	*12*	5.13	*34*	1.19	*1*	84.7	*8*	32.1	*4*	6.4	*53*
Germains GC-120	785	*55*	40.0	*29*	74	*3*	47.6	*31*	5.5	*11*	4.76	*56*	1.08	*41*	84.0	*18*	29.7	*18*	8.0	*4*

continued

Table 2. Results of the 1998 Arkansas Cotton Variety Test with irrigation on a Sharkey-Steele complex soil at Keiser. Continued.

	Lint		Lint		Open				Leaf		Fiber Properties									
Variety / location	Yield	*r*	Frac	*r*	Bolls	*r*	Height	*r*	Pub	*r*	Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches													
Paymaster PM-1220RR	777	*56*	38.0	*51*	68	*18*	46.3	*42*	4.4	*18*	4.97	*47*	1.11	*22*	85.2	*3*	30.0	*15*	7.9	*7*
TX-141	731	*57*	37.1	*54*	72	*8*	42.0	*55*	3.7	*23*	4.68	*57*	1.11	*20*	82.0	*57*	28.3	*27*	6.6	*51*
TX-300	679	*58*	39.5	*35*	74	*3*	46.2	*43*	6.5	*4*	4.87	*53*	1.07	*52*	81.6	*58*	27.6	*36*	6.0	*57*
Mean	937		40.3		66		47.8		3.5		5.19		1.10		83.6		28.6		7.2	
$LSD_{0.10}$	154		6.1		10		1.7		2.0		0.38		0.04		1.6		1.7		0.5	
C.V. (%)	17.9		13.5		14.7		29.4		3.0		4.40		2.10		1.1		3.6		4.1	
R-square x 100	36.8		27.8		39.7		84.1		85.9		74.40		78.30		69.9		88.4		87.5	

[a] Planted May 7; furrow-irrigated June 30, July 23; open bolls rated Sep 3; defoliated Sep 30 and Oct 5, 9; harvested Oct 23. Six replications for lint yield, height and open bolls; two replications for all other variables.
[b] Six replications for lint yield, height and open bolls; two replications for all other variables.
[c] r= ranking.
[d] (Lint weight / sample weight) x 100, from boll samples.
[e] Leaf pubescence is mean of 10 plants / plot rated from 1 (smooth leaf) to 7 (very hairy).
[f] Fiber micronaire (Mic), length (Len), length uniformity (Unif), strength (Str) and elongation (Elo) determined using HVI classing.

Table 3. Results of the 1998 Arkansas Cotton Variety Test with irrigation on a Dundee silt loam soil at Clarkedale.[a]

Variety	Lint Yield[b]	*r*[c]	Lint Frac[d]	*r*	Open Bolls	*r*	Leaf Height	*r*	Leaf Pub[e]	*r*	Fiber Properties[f] Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches													
Paymaster PM-1218BGRR	1300	*1*	39.6	*5*	68	*5*	40.2	*51*	4.1	*23*	4.92	*6*	1.11	*46*	83.2	*42*	24.3	*54*	6.5	*50*
Paymaster PM-1560BG	1231	*2*	38.5	*16*	77	*1*	37.9	*57*	4.7	*18*	4.82	*15*	1.11	*42*	84.8	*12*	26.4	*23*	7.4	*12*
Stoneville 373	1199	*3*	37.7	*29*	53	*35*	43.0	*39*	5.8	*7*	4.33	*54*	1.18	*3*	83.2	*44*	25.0	*44*	6.4	*54*
Deltapine 5111	1191	*4*	38	*23*	60	*16*	43.3	*36*	6.3	*4*	4.92	*6*	1.12	*33*	84.1	*23*	27.0	*20*	6.8	*39*
Sure-Grow 890	1183	*5*	39.5	*7*	65	*8*	40.5	*49*	3.6	*25*	4.33	*55*	1.15	*11*	84.2	*20*	26.0	*33*	7.4	*17*
Germains GC-251	1176	*6*	36.5	*45*	70	*3*	35.2	*58*	2.8	*35*	4.88	*9*	1.15	*16*	85.5	*4*	27.9	*8*	6.9	*34*
Paymaster PM-1220BGRR	1143	*7*	38.7	*14*	57	*25*	42.4	*41*	4.9	*17*	5.00	*2*	1.11	*42*	84.9	*9*	24.7	*51*	7.4	*12*
Sure-Grow 501	1142	*8*	41.9	*1*	52	*37*	44.1	*25*	4.2	*22*	4.56	*41*	1.16	*9*	85.7	*3*	27.5	*14*	7.6	*6*
Sure-Grow 105	1109	*9*	36.9	*39*	55	*31*	41.0	*47*	2.1	*42*	4.70	*28*	1.15	*16*	84.9	*9*	24.9	*46*	6.8	*37*
Paymaster PMX-31746RR	1105	*10*	39.1	*11*	63	*9*	39.0	*55*	4.6	*20*	4.92	*5*	1.13	*26*	84.3	*19*	26.7	*22*	7.2	*24*
Paymaster PM-1210	1096	*11*	40.6	*2*	68	*5*	41.2	*45*	5.3	*13*	4.88	*10*	1.09	*55*	82.7	*53*	24.8	*49*	6.8	*39*
Sure-Grow 747	1091	*12*	40.2	*4*	72	*2*	41.4	*44*	2.3	*40*	4.62	*34*	1.15	*11*	84.2	*20*	26.4	*26*	7.7	*3*
Deltapine DPX-9758	1066	*13*	37.9	*24*	57	*25*	40.3	*50*	3.8	*24*	4.53	*43*	1.12	*33*	83.6	*34*	27.8	*9*	7.4	*12*
Deltapine DPX-8C27	1064	*14*	38.3	*22*	58	*22*	46.4	*13*	3.4	*28*	4.73	*22*	1.12	*29*	82.8	*52*	24.7	*50*	6.8	*39*
Paymaster PM-1266	1064	*15*	37.9	*27*	55	*31*	43.9	*27*	5.8	*7*	4.38	*51*	1.18	*2*	82.9	*51*	25.2	*42*	7.1	*26*
Phytogen PSC-355	1042	*16*	38.3	*20*	52	*37*	43.5	*34*	6.2	*6*	4.65	*32*	1.14	*22*	83.6	*32*	29.5	*2*	7.1	*28*
Deltapine 20B	1034	*17*	36.9	*38*	58	*22*	40.8	*48*	2.7	*36*	4.62	*37*	1.10	*52*	83.7	*29*	24.0	*56*	7.4	*12*
Phytogen PSC-556	1033	*18*	39.1	*12*	63	*9*	45.9	*15*	6.7	*1*	4.56	*41*	1.16	*8*	83.7	*30*	27.2	*18*	6.6	*48*
Paymaster PM-1242RR	1020	*19*	37.3	*33*	62	*15*	41.7	*43*	5.3	*13*	4.72	*24*	1.13	*26*	84.8	*11*	26.2	*27*	7.5	*8*
Deltapine DP-428B	1020	*20*	34.9	*55*	50	*41*	45.8	*16*	3.2	*31*	4.65	*32*	1.09	*55*	82.3	*57*	23.3	*57*	7.5	*8*
Stoneville BG4740	1014	*21*	39.4	*8*	60	*16*	39.6	*53*	6.4	*3*	5.12	*1*	1.07	*58*	83.2	*41*	25.8	*38*	6.5	*52*
Deltapine 50B	1006	*22*	35.1	*54*	63	*9*	39.6	*53*	3.6	*26*	4.72	*24*	1.14	*20*	83.5	*38*	23.2	*58*	7.8	*1*
Sure-Grow 125	1005	*23*	37.8	*28*	60	*16*	43.8	*30*	2.2	*41*	4.73	*22*	1.15	*16*	84.1	*23*	25.9	*36*	7.5	*8*
Paymaster PM-1440	996	*24*	38.3	*21*	67	*7*	39.6	*52*	3.3	*29*	4.88	*11*	1.10	*49*	84.3	*18*	25.2	*41*	6.9	*33*
Paymaster PM-1220RR	988	*25*	38.4	*19*	57	*25*	43.7	*32*	4.6	*19*	5.00	*2*	1.16	*9*	85.8	*1*	27.5	*15*	7.5	*8*
Phytogen PSC-636	987	*26*	36.4	*46*	48	*43*	43.7	*31*	1.3	*57*	4.59	*40*	1.11	*38*	82.4	*56*	26.4	*23*	6.7	*44*
Germains GC-120	981	*27*	39.3	*10*	60	*16*	44.6	*24*	3.5	*27*	4.71	*27*	1.13	*26*	85.0	*8*	26.1	*30*	7.3	*19*
Paymaster PM-1244RR	977	*28*	39.4	*9*	57	*25*	44.1	*26*	2.9	*33*	4.97	*4*	1.1	*52*	83.0	*49*	26.4	*23*	7.2	*24*
TX-224	973	*29*	37.6	*31*	63	*9*	43.0	*38*	2.1	*44*	4.23	*57*	1.12	*29*	83.0	*47*	25.0	*44*	7.6	*7*
Stoneville 474	964	*30*	37.9	*25*	48	*43*	49.5	*5*	6.3	*5*	4.84	*14*	1.12	*33*	84.1	*25*	27.3	*17*	7.2	*21*
Terra 366	963	*31*	36	*47*	60	*16*	42.9	*40*	5.6	*11*	4.88	*11*	1.12	*36*	84.0	*26*	24.1	*55*	7.3	*19*
FiberMax FM-819	960	*32*	40.4	*3*	45	*49*	47.0	*10*	2	*45*	4.50	*46*	1.14	*20*	85.3	*5*	28.9	*4*	5.7	*57*
AgriPro AP-6101	913	*33*	38.6	*15*	40	*56*	47.8	*8*	1.3	*55*	4.81	*17*	1.15	*11*	84.7	*13*	27.7	*11*	6.8	*36*
Terra 292	913	*34*	33.7	*57*	55	*31*	41.2	*46*	3.2	*31*	4.52	*44*	1.17	*6*	84.2	*22*	24.9	*46*	7	*31*
Deltapine DP-425RR	910	*35*	35.1	*53*	60	*16*	42.2	*42*	1.8	*47*	4.49	*47*	1.11	*42*	83.0	*48*	24.5	*52*	7.2	*21*
TX-121	898	*36*	37.5	*32*	57	*25*	45.6	*18*	2.1	*42*	4.85	*13*	1.12	*36*	83.5	*36*	28.2	*5*	7.1	*28*
Paymaster PM-1215BG	889	*37*	35.8	*49*	63	*9*	49.9	*4*	3.3	*29*	4.67	*31*	1.17	*5*	83.1	*45*	28.2	*5*	7.2	*21*
Seed Source SS-9801	879	*38*	35.2	*51*	55	*31*	45.7	*17*	4.4	*21*	4.68	*30*	1.15	*16*	83.5	*36*	29.3	*3*	6.5	*50*
Stoneville BXN47	874	*39*	39	*13*	48	*43*	51.2	*3*	6.5	*2*	4.82	*15*	1.12	*29*	83.1	*45*	25.7	*39*	6.9	*34*
AgriPro AP-7115	855	*40*	37.1	*34*	50	*41*	45.5	*19*	2.3	*38*	4.37	*52*	1.12	*29*	84.4	*16*	26.1	*30*	7.7	*2*
Deltapine 32B	854	*41*	36.6	*42*	45	*49*	45.0	*21*	2.9	*33*	4.71	*26*	1.10	*52*	82.6	*54*	25.1	*43*	6.7	*44*
Phytogen PSC-952	849	*42*	38.5	*17*	47	*47*	51.5	*2*	5.6	*12*	4.89	*8*	1.11	*42*	83.7	*30*	27.6	*13*	7.7	*4*
Phytogen PSC-569	846	*43*	37.9	*26*	52	*37*	46.1	*14*	1.6	*52*	4.75	*19*	1.11	*38*	84.5	*14*	29.7	*1*	7.3	*18*
Deltapine DP-436RR	844	*44*	33.1	*58*	53	*35*	43.2	*37*	2.3	*38*	4.24	*56*	1.14	*24*	83.6	*34*	24.9	*46*	7	*31*
Deltapine NuCotn-33B	840	*45*	37	*37*	48	*43*	45.4	*20*	1.7	*50*	4.62	*34*	1.11	*46*	83.3	*40*	24.4	*53*	6.8	*39*
DynaGro DG-201	838	*46*	36.8	*41*	57	*25*	47.8	*9*	5.3	*15*	4.4	*50*	1.11	*46*	82.6	*54*	25.7	*39*	7.1	*28*
FiberMax FM-832	810	*47*	37.1	*35*	47	*47*	53.7	*1*	1.5	*54*	4.62	*34*	1.24	*1*	85.1	*7*	27.4	*16*	6.7	*43*
Paymaster PM-1330BG	808	*48*	37.1	*36*	58	*22*	43.9	*28*	5.3	*15*	4.76	*18*	1.15	*11*	84.4	*16*	26.9	*21*	6.5	*52*
FiberMax FM-989	798	*49*	37.6	*30*	42	*53*	43.9	*28*	1.2	*58*	4.22	*58*	1.18	*3*	85.8	*2*	27.7	*10*	6.8	*37*
AgriPro AP-6102	770	*50*	34.8	*56*	42	*53*	44.8	*22*	1.8	*49*	4.61	*38*	1.11	*38*	83.4	*39*	28.1	*7*	7.7	*4*
Seed Source SS-9802	769	*51*	35.4	*50*	33	*58*	49.2	*6*	5.7	*9*	4.47	*48*	1.17	*6*	84.5	*14*	27.6	*12*	7.4	*12*
Deltapine DP-458B/RR	760	*52*	38.4	*18*	40	*56*	43.4	*35*	1.6	*52*	4.69	*29*	1.11	*38*	83.9	*28*	26.2	*28*	6.6	*48*
FiberMax FM-963	717	*53*	36	*48*	52	*37*	48.7	*7*	1.9	*46*	4.51	*45*	1.09	*55*	84.0	*27*	26.0	*33*	6.3	*55*
Deltapine 5415RR	706	*54*	36.6	*44*	45	*49*	44.7	*23*	1.3	*55*	4.75	*19*	1.10	*49*	83.6	*33*	27.1	*19*	7.1	*26*
FiberMax FM-975	706	*55*	39.5	*6*	43	*52*	47.0	*11*	1.7	*50*	4.61	*39*	1.14	*22*	83.2	*42*	26.2	*28*	5.5	*58*

continued

Table 3. Results of the 1998 Arkansas Cotton Variety Test with irrigation on a Dundee silt loam soil at Clarkedale. Continued.

	Lint		Lint		Open				Leaf		Fiber Properties									
Variety	Yield	*r*	Frac	*r*	Bolls	*r*	Height	*r*	Pub	*r*	Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches													
TX-300	696	*56*	36.9	*40*	63	*9*	43.6	*33*	5.7	*9*	4.35	*53*	1.10	*49*	82.2	*58*	25.9	*36*	6.3	*56*
AgriPro AP-4103	679	*57*	36.6	*43*	42	*53*	47.0	*11*	2.7	*36*	4.75	*21*	1.15	*11*	85.3	*6*	25.9	*35*	6.6	*47*
TX-141	619	*58*	35.1	*52*	70	*3*	38.1	*56*	1.8	*47*	4.41	*49*	1.13	*25*	82.9	*50*	26.1	*32*	6.7	*44*
Mean	951		37.5		55		44		3.6		4.67		1.13		83.9		26.3		7	
$LSD_{0.10}$	134		2.1		10		4.1		1.2		0.3		0.04		ns		1.7		0.5	
CV (%)	14.8		3.4		20		9.8		21.1		3.9		2		1.3		3.8		4.7	
R-square x 100	61		79.3		55.3		51.7		91.1		74.3		79.1		57.8		83.2		84.6	

[a] Planted May 5; furrow-irrigated June 22, July 2, 23; open bolls rated Sep 11; defoliated Sep 15, 18, 21; harvested Oct. 14.
[b] Six replications for lint yield, height and open bolls; two replications for all other variables.
[c] r = ranking.
[d] (Lint weight / sample weight) x100, from boll samples.
[e] Leaf pubescence is mean of 10 plants / plot rated from 1 (smooth leaf) to 7 (very hairy).
[f] Fiber micronaire (Mic), length (Len), length uniformity (Unif), strength (Str) and elongation (Elo) determined using HVI classing.

Table 4. Results of the 1998 Arkansas Cotton Variety Test without irrigation on a Dundee silt loam soil at Clarkedale.[a]

	Lint		Lint		Open				Fiber Properties[e]									
Variety	Yield[b]	r[c]	Frac[d]	r	Bolls	r	Height	r	Mic	r	Len	r	Unif	r	Str	r	Elo	r
	lb/a		%		%		inches											
Paymaster PM-1560BG	1032	1	39.6	14	60	27	38.1	32	5.14	8	1.11	30	83.2	21	26.4	24	6.7	29
Paymaster PM-1242RR	1025	2	40.4	4	66	7	37.9	37	5.24	4	1.11	38	82.9	27	26.5	22	7.9	1
Sure-Grow 890	1007	3	40.0	7	62	20	40.5	12	4.90	35	1.14	16	81.7	51	26.0	32	7.2	18
Paymaster PM-1218BGRR	1001	4	40.1	6	58	31	38.6	26	5.10	10	1.10	44	82.4	36	25.5	42	6.6	40
Deltapine 5111	998	5	38.9	23	68	4	37.9	38	5.50	1	1.11	38	84.7	2	26.8	16	6.0	54
Paymaster PM-1210	992	6	41.7	2	65	8	36.8	49	4.95	27	1.09	53	82.2	43	25.7	40	6.7	33
Stoneville 474	977	7	39.9	9	63	14	42.3	4	5.01	20	1.09	53	82.2	43	26.0	31	7.2	18
Sure-Grow 105	977	8	38.0	32	60	27	36.2	52	5.13	9	1.13	19	83.0	25	27.1	13	6.8	28
FiberMax FM-989	966	9	38.0	33	52	48	41.2	11	4.65	49	1.16	6	82.8	30	28.2	7	6.2	50
FiberMax FM-832	959	10	39.3	18	48	56	46.3	1	4.63	52	1.25	1	84.2	4	27.6	9	6.5	43
Stoneville 373	954	11	37.7	37	65	8	37.2	45	4.67	48	1.15	9	84.2	6	24.0	56	7.4	8
Paymaster PMX-31746RR	953	12	39.9	10	64	13	37.6	43	5.24	6	1.10	47	82.2	43	24.8	49	7.2	18
Paymaster PM-1440	946	13	37.7	36	57	35	39.0	23	4.99	21	1.10	47	82.7	34	26.6	20	6.3	49
Sure-Grow 747	945	14	39.6	15	50	52	37.0	47	4.93	29	1.10	47	81.5	54	24.5	53	6.6	40
Phytogen PSC-569	941	15	37.5	40	62	20	41.9	6	4.93	29	1.10	44	82.3	41	29.1	2	7.1	21
Paymaster PM-1215BG	941	16	38.3	25	65	8	40.2	16	4.96	24	1.16	7	83.1	23	28.1	8	7.0	23
Paymaster PM-1220RR	934	17	39.7	12	67	5	42.1	5	5.09	11	1.13	19	83.5	16	28.3	4	7.2	16
Deltapine 50B	933	18	35.8	54	70	2	36.2	51	5.01	18	1.15	9	82.8	28	24.7	51	7.5	5
Terra 366	928	19	37.6	39	62	20	43.6	2	4.92	32	1.11	35	81.8	49	24.6	52	5.7	57
Stoneville BG4740	926	20	39.1	22	55	41	35.6	54	4.76	42	1.12	25	82.8	30	26.8	16	6.7	29
Sure-Grow 501	919	21	40.5	3	55	41	37.4	44	5.03	16	1.13	17	83.0	25	28.9	3	7.0	24
Paymaster PM-1266	918	22	38.1	31	52	48	39.4	21	4.71	43	1.14	14	82.4	36	27.3	11	6.9	25
Paymaster PM-1220BGRR	916	23	39.5	16	63	14	38.3	30	4.91	33	1.13	19	83.3	19	26.7	18	7.3	10
FiberMax FM-975	910	24	43.0	1	57	35	40.3	14	4.70	44	1.17	4	83.4	18	25.8	36	5.5	58
Stoneville BXN47	902	25	40.1	5	62	20	41.3	9	5.01	18	1.11	30	82.8	29	26.6	19	7.7	2
Phytogen PSC-355	895	26	38.2	30	53	47	39.8	18	5.07	14	1.16	7	83.5	15	28.3	6	7.2	13
TX-224	895	27	39.7	13	57	35	37.7	41	4.97	23	1.10	44	82.8	30	26.2	25	6.6	36
Phytogen PSC-556	893	28	38.3	26	73	1	38.1	34	4.04	58	1.12	28	81.7	50	25.2	44	6.5	45
Deltapine DP-428B	892	29	37.2	43	50	52	36.9	48	4.96	25	1.11	38	82.0	46	23.9	57	7.2	13
FiberMax FM-819	891	30	39.7	11	57	35	41.8	7	4.38	57	1.21	2	84.6	3	27.1	13	6.7	33
Sure-Grow 125	889	31	36.9	46	63	14	40.2	15	4.78	41	1.11	38	82.3	40	25.5	41	7.1	21
Paymaster PM-1330BG	888	32	37.3	42	58	31	35.1	56	5.21	7	1.15	9	85.2	1	27.4	10	6.6	39
Germains GC-120	883	33	39.9	8	67	5	41.2	10	4.70	44	1.08	55	81.2	55	25.8	38	6.7	33
Seed Source SS-9801	882	34	35.5	56	65	8	37.8	40	5.03	17	1.17	3	84.1	8	29.5	1	6.4	47
AgriPro AP-7115	882	35	39.3	19	62	20	38.2	31	4.52	54	1.07	57	81.1	56	25.8	37	6.7	31
FiberMax FM-963	881	36	39.3	20	58	31	40.2	16	4.86	37	1.11	30	83.6	12	26.6	20	6.1	53
Phytogen PSC-636	873	37	36.9	48	55	41	34.1	58	4.96	25	1.13	19	82.0	48	26.5	23	5.9	55
Seed Source SS-9802	862	38	35.6	55	62	20	39.1	22	4.65	49	1.13	19	82.4	36	26.2	27	7.3	10
Phytogen PSC-952	860	39	38.3	27	52	48	43.5	3	5.24	5	1.13	17	82.8	30	25.3	43	6.7	31
Germains GC-251	857	40	37.8	35	50	52	37.6	42	5.09	11	1.12	25	84.0	9	26.2	28	6.9	25
Deltapine DP-436RR	854	41	34.4	58	62	20	34.9	57	4.98	22	1.12	25	83.2	22	24.5	54	7.2	13
Deltapine DPX-9758	847	42	38.2	29	60	27	38.6	28	4.82	38	1.10	47	83.6	12	28.3	4	7.5	6
AgriPro AP-6101	846	43	35.2	57	50	52	36.5	50	4.90	35	1.17	4	83.3	20	26.1	29	5.8	56
Deltapine DP-425RR	845	44	36.6	50	63	14	39.6	20	4.70	44	1.11	38	82.2	42	23.3	58	6.4	46
AgriPro AP-6102	833	45	36.5	51	70	2	35.5	55	4.58	53	1.11	35	82.0	46	27.0	15	6.6	36
Deltapine DPX-8C27	833	46	39.3	21	63	14	38.4	29	4.91	34	1.11	30	82.5	35	24.9	48	6.5	43
Terra 292	828	47	36.8	49	65	8	37.2	46	4.95	28	1.14	12	82.3	39	24.3	55	6.6	36
Deltapine 20B	825	48	37.4	41	55	41	39.8	18	4.68	47	1.10	47	83.7	10	25.1	46	7.6	4
Deltapine 32B	818	49	37.1	45	55	41	36.0	53	5.08	13	1.14	12	84.1	7	25.8	38	7.6	3
Deltapine DP-458B/RR	817	50	37.2	44	52	48	38.0	36	4.79	40	1.14	15	83.6	11	25.9	35	6.3	48
AgriPro AP-4103	807	51	38.3	28	45	57	40.5	13	5.34	2	1.11	35	83.1	23	25.0	47	6.2	51
Deltapine 5415RR	799	52	37.9	34	42	58	38.9	24	4.92	31	1.13	19	83.4	17	26.1	29	7.3	9
Deltapine NuCotn-33B	779	53	36.9	47	57	35	38.7	25	4.81	39	1.10	47	81.1	57	26.2	25	7.3	10
TX-121	766	54	36.0	52	57	35	37.8	39	5.07	15	1.12	29	83.6	14	27.3	11	7.2	16

continued

Table 4. Results of the 1998 Arkansas Cotton Variety Test without irrigation on a Dundee silt loam soil at Clarkedale. Continued.

	Lint		Lint		Open				Fiber Properties									
Variety	Yield	*r*	Frac	*r*	Bolls	*r*	Height	*r*	Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches											
DynaGro DG-201	754	*55*	39.4	*17*	58	*31*	41.5	*8*	4.65	*49*	1.07	*57*	81.7	*51*	26.0	*32*	6.6	*40*
TX-300	744	*56*	37.6	*38*	63	*14*	38.6	*26*	4.52	*54*	1.08	*56*	80.6	*58*	25.2	*45*	6.2	*51*
Paymaster PM-1244RR	718	*57*	38.8	*24*	60	*27*	38.1	*35*	5.28	*3*	1.11	*38*	84.2	*5*	26.0	*32*	7.4	*7*
TX-141	600	*58*	35.9	*53*	55	*41*	38.1	*32*	4.39	*56*	1.11	*30*	81.6	*53*	24.8	*49*	6.8	*27*
Mean	951		37.5		55		44		4.9		1.12		82.8		26.2		6.8	
$LSD_{0.10}$	134		2.1		10		4.1		0.43		0.04		ns		2.6		0.6	
C.V. (%)	14.8		3.4		20		9.8		5.2		2		1.5		5.9		5.7	
R-square x 100	61		79.3		55.3		51.7		66.7		79.6		59.2		60.2		84.2	

[a] Planted May 5; open bolls rated Sep 11; defoliated Sept. 9; harvested Oct. 2.

[b] Six replications for lint yield, height and open bolls; two replications for all other variables.

[c] r = ranking.

[d] (Lint weight / sample weight) x 100, from boll samples.

[e] Fiber micronaire (Mic), length (Len), length uniformity (Unif), strength (Str) and elongation (Elo) determined using HVI classing.

Table 5. Results of the 1998 Arkansas Cotton Variety Test with irrigation on a Calloway silt loam soil at Marianna.[a]

Variety	Lint Yield[b]	r[c]	Lint Frac[d]	r	Open Bolls	r	Leaf Height	r	Leaf Pub[e]	r	Fiber Properties[f] Mic	r	Len	r	Unif	r	Str	r	Elo	r
	lb/a		%		%		inches													
Phytogen PSC-355	1458	1	38.8	36	80	7	57.0	11	5.1	6	4.72	35	1.15	14	83.7	11	31.0	3	8.0	5
Deltapine DPX-8C27	1378	2	41.2	7	82	6	57.3	10	3.5	23	4.90	22	1.11	40	82.9	24	26.4	49	6.9	42
Paymaster PM-1218BGRR	1376	3	40.4	15	73	18	56.0	16	3.8	18	4.96	14	1.10	45	83.1	20	26.6	46	7.4	22
Stoneville 474	1288	4	42.5	3	80	7	55.7	20	5.6	3	5.09	7	1.06	57	82.4	37	26.4	48	7.0	38
Paymaster PM-1560BG	1276	5	41.3	6	77	13	51.7	42	3.6	22	4.95	16	1.13	24	83.9	5	28.5	22	7.4	25
Deltapine 5111	1261	6	37.4	47	85	1	51.7	42	4.6	8	5.26	1	1.08	55	82.6	33	28.9	21	6.8	46
Sure-Grow 747	1248	7	41	9	78	12	52.8	34	2.6	31	5.22	3	1.15	16	83.7	13	26.1	53	8.0	5
Paymaster PM-1244RR	1233	8	41.4	5	67	35	58.8	2	2.7	29	5.16	5	1.06	58	81.8	51	27.6	36	8.0	5
Deltapine DPX-9758	1221	9	39.5	25	85	1	50.7	49	2.8	27	4.77	33	1.10	43	82.1	48	29.4	19	7.8	8
Phytogen PSC-952	1219	10	42.1	4	62	47	60.3	1	5.1	7	4.78	31	1.09	50	83.7	13	28.3	26	8.4	3
Sure-Grow 501	1214	11	40.6	11	73	18	52.8	34	3.7	20	4.81	29	1.14	20	83.8	10	30.6	9	7.8	10
Sure-Grow 890	1202	12	39.6	23	85	1	50.7	49	2.0	37	4.56	48	1.14	18	82.2	42	27.1	43	7.6	15
Paymaster PMX-31746RR	1198	13	38.7	37	77	13	50.2	52	4.0	16	4.75	34	1.13	24	83.1	22	27.3	41	6.4	52
Paymaster PM-1210	1196	14	39.9	21	73	18	53.0	33	5.4	4	4.72	37	1.09	53	82.1	45	24.9	58	7.3	28
AgriPro AP-7115	1195	15	39.3	30	80	7	52.2	40	1.9	41	4.82	27	1.10	45	81.3	57	27.3	40	6.8	45
Deltapine DP-428B	1187	16	38.4	43	68	32	51.5	45	1.8	42	4.98	12	1.14	20	82.7	31	25.3	56	7.2	32
Paymaster PM-1220RR	1187	17	40.3	18	67	35	57.8	7	3.1	26	5.04	10	1.12	29	83.5	17	28.2	28	8.4	1
Germains GC-251	1180	18	34.3	56	77	13	47.0	58	1.6	46	4.58	46	1.16	11	83.5	16	30.8	4	7.5	20
Deltapine 20B	1174	19	38.7	39	77	13	50.8	47	2.3	34	4.72	37	1.10	45	82.6	36	25.8	54	7.7	11
Stoneville BG4740	1162	20	42.6	2	63	45	50.8	47	6.0	1	5.14	6	1.08	55	82.2	42	27.3	42	7.5	18
Sure-Grow 125	1162	21	39.3	27	72	24	52.0	41	2.1	35	4.92	20	1.13	23	82.7	32	27.6	37	7.8	9
Paymaster PM-1220BGRR	1161	22	39	33	73	18	56.5	14	3.7	20	4.57	47	1.14	18	82.8	28	28.5	23	7.6	13
Stoneville 373	1161	23	41.1	8	62	47	57.7	9	4.4	10	4.35	53	1.12	29	82.2	44	25.3	56	6.8	46
Sure-Grow 105	1156	24	39.1	31	70	28	53.2	32	2.3	33	4.78	31	1.15	16	83.7	11	28.1	31	7.5	20
Phytogen PSC-636	1153	25	39.1	32	60	51	54.2	26	1.8	44	4.54	49	1.11	38	81.8	52	27.8	33	6.8	46
Deltapine 32B	1150	26	40	20	68	32	55.2	22	2.0	38	4.95	16	1.12	29	82.1	48	26.6	46	7.3	29
Paymaster PM-1330BG	1149	27	37.4	48	70	28	52.7	36	4.2	11	4.66	41	1.17	7	84.4	2	29.6	18	7.0	38
AgriPro AP-6102	1146	28	36.8	50	72	24	50.3	51	1.6	48	4.86	25	1.19	2	83.9	5	30.2	14	7.1	34
Germains GC-120	1135	29	40.6	12	73	18	55.8	18	3.9	17	4.62	43	1.13	24	83.9	7	30.7	7	8.2	4
Paymaster PM-1440	1130	30	40.4	16	77	13	51.5	45	2.7	29	5.22	2	1.11	40	83.1	21	27.6	35	7.0	38
TX-224	1111	31	38.5	41	72	24	51.7	42	1.4	51	4.33	54	1.11	38	82.9	25	26.8	44	7.4	22
FiberMax FM-832	1106	32	40.2	19	52	57	58.8	2	1.4	53	4.52	50	1.21	1	84.5	1	30.6	10	6.0	56
Stoneville BXN47	1105	33	40.4	14	70	28	54.7	25	4.0	15	4.95	15	1.10	45	81.7	53	26.8	44	7.2	32
Paymaster PM-1266	1096	34	38	45	72	24	57.0	11	5.9	2	4.20	56	1.18	3	82.3	39	27.4	39	6.5	50
FiberMax FM-819	1095	35	40.7	10	63	45	53.8	28	2.1	35	4.88	23	1.18	3	83.9	7	30.7	6	5.8	57
Terra 292	1085	36	35	55	83	4	49.7	55	2.0	40	4.66	40	1.10	43	82.1	45	26.2	50	7.3	29
AgriPro AP-4103	1084	37	38.1	44	67	35	56.0	16	2.8	28	5.09	7	1.12	35	82.4	38	27.7	34	6.4	51
Deltapine DP-425RR	1082	38	36.1	53	67	35	52.3	39	1.8	44	4.81	28	1.09	50	81.9	50	26.2	50	7.6	13
AgriPro AP-6101	1081	39	38.7	40	68	32	52.5	37	1.4	53	4.97	13	1.18	5	83.2	19	30.3	13	6.9	41
Deltapine DP-436RR	1074	40	34	57	80	7	49.7	55	1.5	49	4.37	52	1.14	20	82.9	25	27.4	38	7.4	22
Paymaster PM-1242RR	1073	41	40.6	13	67	35	57.8	7	3.2	25	5.03	11	1.12	29	83.8	9	30.5	11	8.4	2
Phytogen PSC-556	1038	42	38.9	34	73	18	50.2	52	5.4	5	4.17	58	1.17	9	82.3	40	30.4	12	7.1	34
Deltapine 50B	1008	43	33.3	58	80	7	50.0	54	2.5	32	4.47	51	1.18	5	82.8	27	28.3	26	7.5	18
Deltapine DP-458B/RR	998	44	39.8	22	53	56	53.8	28	1.1	57	4.92	21	1.12	29	81.4	56	28.0	32	7.1	34
Seed Source SS-9802	993	45	38.8	35	65	42	55.8	18	4.2	11	4.27	55	1.15	14	82.8	28	29.8	16	7.4	25
Paymaster PM-1215BG	978	46	37.4	46	65	42	55.7	20	4.2	14	4.63	42	1.16	10	82.6	35	30.0	15	7.6	15
TX-121	956	47	36	54	65	42	56.7	13	1.5	49	4.85	26	1.16	11	83.6	15	29.2	20	6.9	42
FiberMax FM-989	952	48	39.3	29	60	51	52.5	37	1.2	56	4.58	45	1.12	29	83.3	18	30.7	7	6.2	54
Deltapine NuCotn-33B	941	49	38.7	38	62	47	53.3	31	1.6	46	4.79	30	1.11	37	82.3	40	28.2	28	7.4	25
FiberMax FM-963	938	50	40.3	17	57	54	58.0	5	1.4	53	4.70	39	1.08	54	84.0	4	28.4	24	6.4	52
Terra 366	938	51	36.6	51	67	35	56.3	15	4.5	9	4.72	36	1.10	45	82.1	45	25.6	55	7.1	37
FiberMax FM-975	937	52	44.4	1	50	58	58.7	4	1.8	42	5.21	4	1.17	7	83.1	22	28.3	25	5.8	58
Phytogen PSC-569	934	53	39.6	24	62	47	55.2	22	1.4	51	5.09	9	1.12	35	82.6	33	32.9	1	7.3	29
Seed Source SS-9801	927	54	36.5	52	57	54	53.7	30	3.7	19	4.94	18	1.16	11	82.8	28	30.8	5	6.9	42
TX-300	911	55	39.4	26	70	28	54.0	27	3.3	24	4.87	24	1.11	40	81.1	58	28.1	30	6.0	55

continued

Table 5. Results of the 1998 Arkansas Cotton Variety Test with irrigation on a Calloway silt loam soil at Marianna. Continued.

	Lint		Lint		Open				Leaf		Fiber Properties									
Variety	Yield	*r*	Frac	*r*	Bolls	*r*	Height	*r*	Pub	*r*	Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches													
Deltapine 5415RR	906	*56*	38.4	*42*	58	*53*	55.0	*24*	1.0	*58*	4.93	*19*	1.13	*24*	84.1	*3*	29.8	*16*	7.7	*12*
DynaGro DG-201	878	*57*	39.3	*28*	67	*35*	58.0	*5*	4.2	*11*	4.60	*44*	1.09	*50*	81.4	*55*	26.2	*52*	7.6	*15*
TX-141	857	*58*	37	*49*	83	*4*	48.0	*57*	2.0	*38*	4.18	*57*	1.13	*24*	81.5	*54*	31.0	*2*	6.7	*49*
Mean	1111		39.1		70		53.9		2.9		4.77		1.13		82.9		28.4		7.2	
$LSD_{0.10}$	130		1.9		12		2.9		1.0		0.40		0.03		1.4		1.4		0.6	
C.V. (%)	12.3		2.9		17.9		5.6		19.3		5.00		1.80		1.0		3.0		4.8	
R-square x 100	53.1		87.6		45.3		69.0		92.4		75.10		86.50		71.7		90.1		86.4	

[a] Planted May 12; furrow-irrigated June 24, July 1, 8, 22, 29, and Aug. 5, 12, 26; open bolls rated Sept 24; defoliated Sept. 25 and Oct. 1; harvested Oct. 12.
[b] Six replications for lint yield, height and open bolls; two replications for all other variables.
[c] r = ranking.
[d] (Lint weight / sample weight) x 100, from boll samples.
[e] Leaf pubescence is mean of 10 plants / plot rated from 1 (smooth leaf) to 7 (very hairy).
[f] Fiber micronaire (Mic), length (Len), length uniformity (Unif), strength (Str) and elongation (Elo) determined using HVI classing.

Table 6. Results of the 1998 Arkansas Cotton Variety Test without irrigation on a mixed Calloway, Loring, and Memphis silt loam soil at Marianna.[a]

	Lint		Lint		Open				Fiber Properties[e]									
Variety	Yield[b]	r[c]	Frac[d]	r	Bolls	r	Height	r	Mic	r	Len	r	Unif	r	Str	r	Elo	r
	lb/a		%		%		inches											
Phytogen PSC-355	869	1	40.4	11	77	29	36.8	14	5.18	7	1.09	39	82.2	44	33.0	7	8.3	3
Paymaster PMX-31746RR	827	2	41.0	6	80	14	33.8	30	4.95	23	1.10	37	82.7	28	29.9	33	7.2	37
Phytogen PSC-952	821	3	40.8	10	77	29	38.5	7	4.95	22	1.07	53	82.0	50	29.4	43	8.2	4
Paymaster PM-1220BGRR	807	4	40.0	17	78	21	37.5	11	5.13	8	1.10	28	82.6	37	30.5	24	7.7	15
Deltapine DP-428B	801	5	38.2	35	80	14	33.5	32	4.99	19	1.12	17	82.7	30	27.3	55	7.3	33
Deltapine DPX-9758	789	6	41.6	3	87	2	27.7	58	4.60	46	1.07	51	82.8	25	31.4	19	7.7	17
Paymaster PM-1218BGRR	787	7	40.4	12	78	21	38.3	9	5.22	5	1.07	53	83.1	17	29.2	44	7.4	29
Paymaster PM-1560BG	784	8	38.7	28	82	7	34.3	27	5.33	2	1.11	26	84.1	3	32.3	11	7.2	38
Sure-Grow 105	776	9	40.0	18	82	7	32.3	42	4.84	32	1.10	28	83.4	11	30.3	29	7.7	17
Sure-Grow 125	775	10	39.7	20	82	7	34.0	29	4.84	33	1.12	19	82.6	33	29.6	40	7.7	20
Sure-Grow 501	759	11	40.1	13	80	14	36.8	14	4.94	25	1.09	39	83.6	9	33.3	4	7.8	12
Sure-Grow 747	759	12	40.1	15	85	4	32.3	42	4.81	35	1.10	28	82.3	43	29.9	35	8.2	5
Deltapine DP-436RR	726	13	35.2	55	75	37	31.5	49	4.79	36	1.10	28	82.5	40	29.9	35	8.0	6
Paymaster PM-1215BG	718	14	38.5	30	77	29	40.3	5	5.19	6	1.13	7	83.8	5	30.6	23	7.5	28
Phytogen PSC-636	712	15	37.0	44	75	37	35.7	19	4.59	47	1.09	42	81.1	57	31.7	16	6.6	49
Paymaster PM-1242RR	710	16	39.5	21	68	48	38.0	10	5.23	4	1.10	28	84.2	2	32.1	14	7.7	17
Deltapine 5111	707	17	38.2	36	82	7	34.7	26	5.11	11	1.07	51	83.0	18	32.3	11	7.0	43
Deltapine 5415RR	703	18	40.0	16	72	43	32.8	37	4.96	21	1.08	45	82.6	33	31.0	21	7.9	10
AgriPro AP-7115	703	19	39.0	25	80	14	32.5	40	4.58	48	1.08	45	82.0	50	30.2	31	7.2	40
Deltapine 20B	700	20	40.0	19	82	7	29.5	57	4.73	40	1.11	26	82.2	47	28.6	47	8.4	1
Paymaster PM-1244RR	697	21	41.0	7	68	48	40.7	4	5.41	1	1.03	58	82.2	44	30.3	28	7.8	12
Terra 292	692	22	34.4	57	77	29	31.7	47	4.79	36	1.12	19	81.9	53	28.1	52	7.6	27
Seed Source SS-9802	691	23	38.3	32	80	14	34.8	24	4.39	54	1.13	11	82.9	19	28.9	46	7.4	30
AgriPro AP-6101	680	24	38.2	33	78	21	31.2	50	4.94	25	1.11	25	82.7	30	32.5	9	7.8	12
Sure-Grow 890	679	25	41.9	2	80	14	32.7	38	4.40	51	1.13	7	82.3	41	29.9	35	7.7	20
Paymaster PM-1220RR	676	26	39.5	22	68	48	41.2	3	5.11	10	1.11	22	83.6	10	34.2	3	8.0	9
FiberMax FM-832	674	27	38.9	27	62	57	41.8	1	4.94	24	1.17	1	83.3	12	33.1	6	6.5	51
TX-121	665	28	36.5	50	80	14	35.2	22	4.37	56	1.10	28	81.8	54	31.6	17	7.0	45
Deltapine DPX-8C27	664	29	40.9	8	78	21	35.0	23	5.07	13	1.08	50	82.7	27	29.0	45	8.3	2
TX-224	660	30	36.7	49	82	7	32.5	40	4.40	52	1.11	22	82.6	33	30.2	30	7.6	24
Terra 366	655	31	37.0	46	77	29	36.5	16	4.65	45	1.10	37	82.3	41	28.3	51	6.8	47
Germains GC-251	650	32	37.9	37	77	29	30.8	52	5.24	3	1.14	6	83.7	8	31.3	20	7.1	42
Deltapine DP-458B/RR	648	33	38.7	29	63	56	33.5	32	5.11	11	1.10	28	82.1	49	30.8	22	7.4	30
Stoneville 474	640	34	40.1	14	77	29	33.7	31	5.02	16	1.06	55	82.2	47	28.4	50	7.7	20
Stoneville BXN47	636	35	41.3	5	75	37	35.3	21	4.73	40	1.08	45	82.8	25	29.5	42	7.3	33
Phytogen PSC-569	628	36	36.7	48	68	48	41.3	2	4.92	27	1.08	45	82.8	23	36.4	1	7.7	20
AgriPro AP-6102	628	37	37.8	39	75	37	30.5	53	5.13	9	1.15	2	84.3	1	34.5	2	7.6	24
Deltapine 50B	626	38	33.1	58	83	5	31.2	50	4.43	50	1.15	2	83.2	15	29.6	40	7.6	26
Stoneville BG4740	616	39	42.1	1	72	43	29.7	55	5.00	18	1.06	55	82.9	19	27.7	53	7.3	35
Paymaster PM-1210	605	40	40.9	9	78	21	34.3	27	4.85	31	1.04	57	81.0	58	27.1	56	7.0	43
Stoneville 373	603	41	38.2	34	67	53	37.3	12	4.53	49	1.12	15	82.5	39	26.8	57	7.3	35
Seed Source SS-9801	603	42	36.2	53	88	1	32.3	42	4.37	56	1.13	7	82.2	46	33.2	5	6.8	46
Paymaster PM-1266	601	43	39.2	24	75	37	34.8	24	4.72	42	1.12	19	82.0	52	26.4	58	6.4	54
Deltapine 32B	599	44	35.9	54	65	55	33.5	32	5.03	15	1.12	17	83.7	6	30.4	26	7.9	10
Paymaster PM-1440	597	45	36.8	47	78	21	31.8	46	4.81	34	1.09	42	82.6	33	30.5	25	6.7	48
Deltapine DP-425RR	574	46	36.3	51	82	7	30.3	54	4.91	28	1.09	42	82.6	38	29.7	39	8.0	6
Phytogen PSC-556	571	47	37.5	40	73	42	33.3	36	4.39	53	1.13	7	82.9	19	29.8	38	7.2	38
Deltapine NuCotn-33B	570	48	37.0	45	70	45	35.5	20	4.78	38	1.13	11	82.7	30	30.2	31	7.4	30
Germains GC-120	567	49	39.4	23	68	48	38.8	6	4.90	30	1.12	15	83.2	16	32.3	13	8.0	8
Paymaster PM-1330BG	551	50	37.2	42	77	29	32.7	38	4.69	43	1.11	22	83.3	12	30.4	26	7.1	41
FiberMax FM-963	550	51	37.5	41	83	5	35.8	18	4.67	44	1.09	39	82.8	23	31.9	15	6.5	52
DynaGro DG-201	525	52	38.5	31	67	53	37.3	12	5.01	17	1.08	45	82.9	22	27.4	54	7.7	15
FiberMax FM-819	520	53	38.9	26	78	21	32.2	45	4.98	20	1.14	5	83.7	7	31.5	18	6.4	54
FiberMax FM-989	486	54	37.8	38	62	57	38.5	7	4.39	54	1.13	11	83.9	4	32.6	8	6.3	56
AgriPro AP-4103	466	55	36.2	52	70	45	33.5	32	5.04	14	1.15	4	82.7	28	32.5	9	6.5	52

continued

Table 6. Results of the 1998 Arkansas Cotton Variety Test without irrigation on a mixed Calloway, Loring, and Memphis silt loam soil at Marianna. Continued.

	Lint		Lint		Open				Fiber Properties									
Variety	Yield	*r*	Frac	*r*	Bolls	*r*	Height	*r*	Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches											
FiberMax FM-975	454	*56*	41.5	*4*	70	*45*	36.0	*17*	4.91	*29*	1.13	*11*	83.3	*12*	29.9	*33*	6.0	*58*
TX-141	419	*57*	34.7	*56*	87	*2*	29.7	*55*	4.16	*58*	1.10	*28*	81.4	*56*	28.5	*48*	6.6	*50*
TX-300	385	*58*	37.1	*43*	78	*21*	31.7	*47*	4.78	*38*	1.10	*28*	81.6	*55*	28.5	*49*	6.2	*57*
Mean	655		38.6		76		34.5		4.84		1.1		82.8		30.5		7.3	
$LSD_{0.10}$	130		2		9		2.9		0.3		0.04		ns[f]		2.2		0.6	
C.V. (%)	20.9		3		12.1		8.8		3.8		2.1		1.1		4.3		5	
R-square x 100	45.6		85.8		38.7		60.8		82.4		75		57.5		83.3		83.7	

[a] Planted May 11; open bolls rated Sep 3; defoliated Sep 3,11 harvested Sep 22.
[b] Six replications for lint yield, height and open bolls; two replications for all other variables.
[c] r = ranking.
[d] (Lint weight / sample weight) x 100, from boll samples.
[e] Fiber micronaire (Mic), length (Len), length uniformity (Unif), strength (Str) and elongation (Elo) determined using HVI classing.
[f] Not significant.

Table 7. Results of the Arkansas Cotton Variety Test with irrigation on a Desha silt loam soil at Rohwer.[a]

Variety	Lint Yield[b]	*r*[c]	Lint Frac[d]	*r*	Open Bolls	*r*	Height	*r*	Fiber Properties[e] Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches											
Phytogen PSC-355	1583	*1*	40.9	*21*	58	*17*	51.5	*7*	4.89	*43*	1.16	*15*	83.3	*14*	29.9	13	8.2	*2*
Phytogen PSC-952	1539	*2*	43.6	*3*	50	*46*	54.0	*2*	5.00	*27*	1.14	*25*	82.6	*35*	29.9	14	7.7	*15*
Deltapine 20B	1529	*3*	41.1	*18*	57	*22*	47.0	*33*	4.89	*43*	1.12	*40*	83.7	*9*	25.5	53	8.2	*2*
Paymaster PM-1218BGRR	1502	*4*	40.2	*29*	67	*1*	47.0	*33*	5.05	*19*	1.12	*40*	82.5	*39*	26.7	45	6.9	*41*
Stoneville BXN47	1494	*5*	42.8	*6*	60	*11*	50.0	*13*	4.82	*48*	1.1	*56*	82.7	*34*	28.5	24	6.7	*48*
Sure-Grow 890	1491	*6*	42.3	*7*	65	*2*	46.5	*39*	5.37	*4*	1.16	*12*	82.6	*38*	27.0	41	8.0	*6*
Sure-Grow 105	1490	*7*	40.5	*26*	62	*8*	47.0	*33*	5.19	*14*	1.13	*32*	83.2	*18*	27.8	31	7.3	*30*
Sure-Grow 501	1477	*8*	44.6	*1*	47	*53*	48.0	*28*	5.23	*11*	1.15	*21*	85.1	*1*	30.0	9	7.7	*12*
AgriPro AP-7115	1464	*9*	40.2	*32*	60	*11*	49.5	*16*	4.97	*30*	1.13	*32*	82.2	*46*	27.1	39	7.3	*29*
Paymaster PMX-31746RR	1447	*10*	41.3	*14*	63	*4*	46.0	*45*	5.36	*5*	1.11	*51*	83.1	*23*	29.2	19	7.0	*39*
AgriPro AP-6101	1443	*11*	42.1	*8*	55	*32*	42.5	*55*	5.03	*22*	1.17	*9*	83.4	*13*	29.0	21	7.0	*39*
Stoneville BG4740	1439	*12*	42.9	*5*	48	*49*	49.0	*20*	5.27	*8*	1.14	*25*	82.9	*26*	28.5	25	7.4	*26*
Paymaster PM-1220BGRR	1439	*13*	41.7	*11*	58	*17*	46.5	*39*	5.03	*22*	1.11	*47*	82.8	*28*	28.2	27	7.6	*21*
Deltapine 5111	1421	*14*	39.9	*35*	60	*11*	46.0	*45*	5.51	*1*	1.12	*40*	83.9	*5*	30.6	6	6.7	*47*
Paymaster PM-1210	1405	*15*	42.9	*4*	58	*17*	45.5	*47*	4.95	*35*	1.08	*58*	81.8	*52*	25.5	53	7.2	*32*
Sure-Grow 747	1396	*16*	41.2	*16*	63	*4*	48.5	*24*	5.21	*12*	1.14	*28*	82.7	*31*	27.0	42	7.8	*9*
Sure-Grow 125	1381	*17*	40.3	*28*	58	*17*	49.0	*20*	4.96	*31*	1.13	*32*	83.3	*15*	26.9	43	7.3	*27*
Deltapine NuCotn-33B	1378	*18*	38.2	*45*	47	*53*	48.5	*24*	5.01	*24*	1.16	*15*	82.3	*43*	26.9	43	7.2	*32*
Deltapine 32B	1367	*19*	40.5	*24*	53	*37*	45.5	*47*	5.29	*7*	1.11	*51*	81.8	*54*	27.1	40	7.6	*19*
Deltapine DP-428B	1367	*20*	38.2	*44*	55	*32*	48.0	*28*	5.10	*17*	1.15	*21*	83.1	*20*	24.9	58	7.1	*37*
FiberMax FM-819	1367	*21*	41.2	*17*	48	*49*	43.0	*51*	4.61	*55*	1.23	*2*	83.7	*8*	29.1	20	5.9	*56*
Phytogen PSC-569	1365	*22*	41	*19*	53	*37*	50.0	*13*	5.39	*3*	1.11	*51*	82.7	*31*	30.7	5	7.5	*22*
Paymaster PM-1440	1365	*23*	40.8	*22*	52	*40*	49.0	*20*	5.45	*2*	1.13	*32*	82.3	*43*	26.7	45	6.9	*41*
Phytogen PSC-556	1361	*24*	40.2	*30*	57	*22*	48.5	*24*	4.72	*52*	1.15	*18*	83.9	*5*	28.1	28	8.0	*7*
Phytogen PSC-636	1359	*25*	39.5	*38*	55	*32*	49.5	*16*	4.95	*37*	1.15	*18*	81.6	*55*	27.9	29	6.5	*51*
Paymaster PM-1560BG	1358	*26*	41.4	*13*	57	*22*	46.5	*39*	5.01	*26*	1.12	*40*	83.8	*7*	29.2	18	7.2	*32*
Stoneville 373	1349	*27*	41.4	*12*	50	*46*	53.5	*4*	4.61	*56*	1.14	*25*	82.3	*43*	26.4	48	7.2	*32*
Paymaster PM-1266	1330	*28*	39.9	*34*	52	*40*	49.5	*16*	4.38	*58*	1.2	*3*	83.2	*19*	25.8	51	6.8	*45*
Deltapine DPX-9758	1330	*29*	37.4	*50*	63	*4*	43.5	*50*	4.70	*53*	1.11	*50*	83.7	*9*	31.3	3	7.8	*9*
Stoneville 474	1330	*30*	37.7	*46*	60	*11*	48.5	*24*	5.26	*9*	1.13	*32*	82.5	*42*	28.6	23	7.6	*16*
Deltapine DP-458B/RR	1328	*31*	41.7	*10*	47	*53*	47.0	*33*	5.14	*16*	1.12	*40*	82.1	*49*	27.8	32	7.6	*16*
Paymaster PM-1242RR	1327	*32*	41.2	*15*	52	*40*	48.0	*28*	4.95	*35*	1.08	*57*	81.8	*51*	31.2	4	8.1	*5*
Paymaster PM-1330BG	1316	*33*	39.3	*39*	57	*22*	47.5	*32*	4.86	*47*	1.17	*6*	83.9	*3*	28.3	26	6.8	*45*
Deltapine DPX-8C27	1308	*34*	40.5	*25*	58	*17*	49.0	*20*	4.96	*34*	1.12	*45*	81.2	*57*	27.3	38	7.3	*30*
AgriPro AP-6102	1297	*35*	38.4	*43*	52	*40*	40.0	*56*	5.16	*15*	1.16	*15*	82.9	*24*	30.3	7	7.6	*19*
Germains GC-120	1296	*36*	41.9	*9*	53	*37*	49.5	*16*	4.91	*41*	1.13	*32*	82.6	*35*	29.5	17	8.4	*1*
Deltapine DP-425RR	1289	*37*	38.7	*41*	57	*22*	46.5	*39*	5.01	*24*	1.13	*32*	81.2	*58*	27.9	30	7.8	*9*
Paymaster PM-1220RR	1288	*38*	40.8	*23*	48	*49*	51.5	*7*	4.88	*45*	1.12	*45*	82.7	*31*	31.6	1	8.2	*2*
TX-224	1283	*39*	40.2	*31*	62	*8*	51.0	*10*	4.92	*39*	1.11	*47*	81.8	*52*	26.4	49	7.7	*14*
Germains GC-251	1283	*40*	37.4	*49*	57	*22*	45.5	*47*	5.24	*10*	1.13	*29*	85.0	*2*	31.4	2	7.4	*23*
Deltapine DP-436RR	1264	*41*	35.9	*54*	57	*22*	47.0	*33*	5.06	*18*	1.15	*18*	83.6	*11*	25.3	56	7.7	*12*
FiberMax FM-975	1252	*42*	44.4	*2*	50	*46*	51.0	*10*	5.19	*13*	1.19	*4*	82.5	*39*	26.4	49	5.7	*57*
Seed Source SS-9802	1247	*43*	35.7	*55*	55	*32*	46.5	*39*	4.92	*39*	1.17	*6*	82.9	*26*	27.8	32	6.9	*44*
Paymaster PM-1215BG	1244	*44*	39.7	*37*	52	*40*	51.5	*7*	4.73	*51*	1.18	*5*	83.6	*11*	30.0	11	7.9	*8*
FiberMax FM-832	1240	*45*	37.1	*51*	42	*57*	54.0	*2*	4.67	*54*	1.25	*1*	83.9	*3*	30.3	8	6.2	*54*
Deltapine 5415RR	1219	*46*	40.4	*27*	52	*40*	50.0	*13*	4.95	*37*	1.16	*12*	82.6	*37*	28.9	22	7.3	*27*
Terra 366	1204	*47*	37	*52*	55	*32*	47.0	*33*	5.04	*21*	1.13	*29*	83.1	*22*	25.4	55	6.9	*41*
Seed Source SS-9801	1189	*48*	36.8	*53*	60	*11*	40.0	*56*	4.97	*29*	1.17	*9*	82.9	*24*	29.6	15	6.5	*52*
Terra 292	1187	*49*	35.2	*56*	60	*11*	43.0	*51*	5.05	*20*	1.16	*11*	83.3	*15*	25.2	57	7.2	*36*
AgriPro AP-4103	1184	*50*	37.6	*47*	42	*57*	53.0	*5*	5.34	*6*	1.15	*21*	82.5	*39*	27.7	34	6.6	*49*
Deltapine 50B	1170	*51*	33.6	*58*	63	*4*	39.5	*58*	4.96	*31*	1.17	*6*	82.8	*28*	25.6	52	7.0	*38*
Paymaster PM-1244RR	1169	*52*	41	*20*	48	*49*	56.5	*1*	4.96	*31*	1.11	*47*	83.2	*17*	29.6	15	7.6	*16*
FiberMax FM-963	1135	*53*	39.8	*36*	62	*8*	51.0	*10*	4.87	*46*	1.11	*51*	82.8	*28*	27.7	34	6.4	*53*
TX-121	1110	*54*	37.5	*48*	57	*22*	48.0	*28*	4.97	*28*	1.13	*29*	82.1	*47*	30.0	12	7.4	*23*
FiberMax FM-989	1083	*55*	38.5	*42*	45	*56*	53.0	*5*	4.90	*42*	1.15	*21*	83.1	*20*	30.0	9	5.6	*58*

continued

Table 7. Results of the Arkansas Cotton Variety Test with irrigation on a Desha silt loam soil at Rohwer. Continued.

	Lint		Lint		Open				Fiber Properties									
Variety / location	Yield	*r*	Frac	*r*	Bolls	*r*	Height	*r*	Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches											
DynaGro DG-201	1054	*56*	40	*33*	57	*22*	46.5	*39*	4.74	*50*	1.11	*51*	82.0	*50*	26.6	47	7.4	*23*
TX-300	1045	*57*	38.8	*40*	57	*22*	43	*51*	4.79	*49*	1.13	*32*	81.4	*56*	27.3	37	6.1	*55*
TX-141	915	*58*	35.1	*57*	65	*2*	43	*51*	4.51	*57*	1.16	*12*	82.1	*48*	27.6	36	6.6	*50*
Mean	1319		39.8		55		47.9		5		1.14		82.8		28.1		7.2	
$LSD_{0.10}$	84		3.2		7		5.3		0.31		0.04		1.4		1.9		0.5	
C.V. %	6.7		4.8		12.5		6.5		3.7		2.1		1		4.1		4.4	
R-square x 100	77.3		75.2		47.9		76.6		75.2		78.9		67		83.2		89.2	

[a] Planted May 19; furrow-irrigated June 18, 26 and July 6, 23 , Aug 3, 10, 19, 27; open bolls rated Sep 2; defoliated Sep 3; harvested Oct 12.
[b] Six replications for lint yield and open bolls; two replications for all other variables.
[c] r = ranking.
[d] (Lint weight / sample weight) x 100, from boll samples.
[e] Fiber micronaire (Mic), length (Len), length uniformity (Unif), strength (Str) and elongation (Elo) determined using HVI classing.

Table 8. Lint yields and ranking in Arkansas Cotton Variety Test at six locations, two-year means 1997-98.

Variety	Keiser Irrig.	r [a]	Clarkedale Irrig.	r	Clarkedale Non-irrig.	r	Marianna Irrig.	r	Marianna Non-irrig.	r	Rohwer Irrig.	r	All Loc.	r
	lb/a		lb/a		lb/a		lb/a		lb/a		lb/a		lb/a	
Paymaster 1560BG	1261	*2*	1198	*2*	958	*4*	1377	*2*	1035	*1*	1500	*4*	1221	*1*
Deltapine 5111	1207	*6*	1164	*4*	904	*9*	1334	*4*	990	*3*	1439	*8*	1172	*2*
Sure-Grow 747	1172	*7*	1164	*5*	918	*7*	1328	*5*	931	*5*	1511	*2*	1169	*3*
Stoneville BXN 47	1247	*3*	1097	*8*	878	*12*	1290	*6*	840	*16*	1601	*1*	1168	*4*
Sure-Grow 501	1239	*5*	1097	*9*	837	*16*	1349	*3*	996	*2*	1433	*9*	1158	*5*
Stoneville 474	1264	*1*	1070	*11*	909	*8*	1417	*1*	929	*7*	1340	*16*	1155	*6*
Stoneville 373	1150	*8*	1229	*1*	940	*5*	1194	*14*	902	*10*	1490	*5*	1151	*7*
Germains 251	1240	*4*	1181	*3*	836	*17*	1275	*8*	857	*14*	1390	*12*	1129	*8*
Paymaster 1266	1131	*10*	1118	*7*	973	*2*	1195	*13*	883	*11*	1410	*10*	1118	*9*
Deltapine 20B	1136	*9*	1025	*12*	842	*15*	1279	*7*	917	*8*	1452	*7*	1108	*10*
Sure-Grow 125	1121	*12*	1078	*10*	848	*14*	1183	*17*	905	*9*	1506	*3*	1106	*11*
Paymaster 1220 BG/RR	1044	*23*	1137	*6*	939	*6*	1166	*18*	955	*4*	1394	*11*	1106	*12*
Paymaster 1330BG	1064	*21*	974	*19*	890	*10*	1266	*9*	865	*13*	1458	*6*	1086	*13*
Paymaster 1220 RR	1066	*20*	1018	*13*	967	*3*	1225	*10*	833	*18*	1333	*17*	1074	*14*
Deltapine 32B	1110	*14*	975	*17*	818	*20*	1198	*12*	847	*15*	1370	*13*	1053	*15*
FiberMax 832	1106	*17*	994	*15*	1009	*1*	1158	*19*	799	*23*	1201	*23*	1044	*16*
FiberMax 819	1113	*13*	997	*14*	799	*22*	1194	*15*	787	*25*	1358	*15*	1039	*17*
Deltapine NuCotn 33B	1090	*19*	901	*24*	785	*24*	1152	*20*	839	*17*	1359	*14*	1021	*18*
Deltapine 50B	1022	*24*	977	*16*	830	*19*	1105	*22*	872	*12*	1273	*19*	1013	*19*
FiberMax 989	1125	*11*	974	*18*	886	*11*	1102	*23*	807	*22*	1122	*25*	1000	*20*
Dyna-Gro 201	1090	*18*	926	*22*	769	*25*	1063	*25*	825	*20*	1302	*18*	994	*21*
Terra 366	1060	*22*	908	*23*	835	*18*	1060	*26*	833	*19*	1238	*20*	989	*22*
Terra 292	1006	*25*	928	*21*	786	*23*	1096	*24*	815	*21*	1238	*21*	988	*23*
FiberMax 975	1108	*16*	853	*20*	865	*13*	1147	*21*	795	*24*	1156	*24*	986	*24*
Agri-Pro 4103	1109	*15*	817	*26*	817	*21*	1193	*16*	776	*26*	1097	*27*	968	*25*
Stoneville BG4740	962	*27*	874	*25*	749	*26*	1214	*11*	724	*27*	1234	*22*	959	*26*
Deltapine 5415RR	1000	*26*	768	*27*	745	*27*	1027	*27*	930	*6*	1099	*26*	928	*27*
Mean	1120		1016		864		1207		870		1345		1072	

[a] r = ranking.

Table 9. Lint yields and ranking of varieties in Arkansas Cotton Variety Test, three-year means 1997-98.

Variety	Keiser Irrig.	*r* [a]	Clarkedale Irrig.	*r*	Clarkedale Non-irrig.	*r*	Marianna Irrig.	*r*	Marianna Non-irrig.	*r*	Rohwer Irrig.	*r*	All Loc.	*r*
	lb/a		lb/a		lb/a		lb/a		lb/a		lb/a		lb/a	
Paymaster 1560BG	1142	*1*	1161	*4*	882	*2*	1345	*1*	975	*1*	1541	*2*	1174	*1*
Stoneville BXN 47	1073	*3*	1195	*2*	856	*4*	1245	*4*	879	*6*	1657	*1*	1151	*2*
Stoneville 474	1094	*2*	1196	*1*	858	*3*	1318	*2*	934	*3*	1459	*6*	1143	*3*
Sure-Grow 501	1063	*4*	1137	*5*	812	*7*	1293	*3*	962	*2*	1488	*5*	1126	*4*
Sure-Grow 125	1011	*7*	1182	*3*	826	*6*	1188	*7*	910	*4*	1540	*3*	1109	*5*
Paymaster 1330BG	1028	*5*	1058	*8*	839	*5*	1200	*6*	851	*8*	1521	*4*	1076	*6*
Germains 251	1025	*6*	1135	*6*	803	*8*	1187	*8*	877	*7*	1420	*7*	1075	*7*
Paymaster 1220 RR	978	*9*	1104	*7*	908	*1*	1222	*5*	889	*5*	1154	*11*	1043	*8*
Deltapine NuCotn 33B	1003	*8*	973	*11*	779	*11*	1059	*10*	786	*10*	1401	*8*	1000	*9*
Terra 292	909	*11*	1008	*9*	795	*9*	1063	*9*	837	*9*	1293	*10*	984	*10*
Terra 366	942	*10*	976	*10*	788	*10*	1050	*11*	777	*11*	1296	*9*	971	*11*
Mean	1024		1102		831		1197		880		1464		1082	

[a] r = ranking.

Table 10. Results of 1998 Mississippi County Variety Test on a Routon-Dundee-Crevasse soil complex, David Wildy Farm, Manila.[a]

Variety	Lint Yield[b]	*r*[c]	Lint Frac[d]	*r*	Boll Size	*r*	Fiber Properties[e] Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		no./lb											
Stoneville BXN47	1220	*1*	40.0	*3*	112	*4*	4.73	*7*	1.15	*14*	84.5	*11*	27.8	*12*	6.8	*14*
Stoneville 474	1192	*2*	39.4	*6*	109	*6*	4.92	*3*	1.14	*17*	83.8	*15*	28.2	*9*	6.6	*17*
Sure-Grow 501	1178	*3*	41.2	*1*	103	*9*	4.80	*4*	1.15	*10*	85.5	*1*	31.4	*2*	7.4	*3*
Phytogen PSC-952	1116	*4*	39.2	*7*	113	*2*	4.49	*14*	1.14	*16*	84.1	*14*	29.6	*7*	7.3	*6*
Deltapine 5111	1101	*5*	37.8	*15*	95	*16*	5.02	*1*	1.13	*18*	85.2	*3*	31.4	*3*	6.3	*18*
Sure-Grow 890	1074	*6*	39.7	*5*	103	*10*	4.58	*11*	1.15	*12*	83.3	*19*	27.9	*11*	7.1	*12*
AgriPro AP-7115	1068	*7*	38.4	*12*	101	*11*	4.38	*17*	1.12	*19*	83.7	*17*	27.0	*16*	7.2	*9*
FiberMax FM-832	1055	*8*	38.9	*8*	86	*20*	4.18	*21*	1.23	*1*	84.7	*7*	30.3	*4*	5.9	*21*
AgriPro AP-6101	1039	*9*	37.2	*17*	98	*12*	4.74	*6*	1.16	*7*	84.2	*13*	29.7	*6*	7.3	*5*
Deltapine DES607	1020	*10*	40.0	*4*	106	*8*	4.44	*16*	1.17	*6*	84.5	*9*	27.6	*13*	7.4	*4*
Deltapine 5409	1015	*11*	37.0	*19*	109	*5*	4.37	*18*	1.12	*19*	83.0	*21*	25.5	*19*	7.2	*10*
Sure-Grow 747	1014	*12*	38.6	*10*	126	*1*	4.98	*2*	1.16	*9*	84.5	*9*	27.4	*15*	7.5	*1*
Jajo-9556	1008	*13*	38.5	*11*	84	*21*	4.46	*15*	1.19	*2*	84.4	*12*	28.5	*8*	6.7	*15*
Sure-Grow 125	1007	*14*	38.2	*13*	93	*19*	4.71	*8*	1.17	*4*	84.8	*5*	27.4	*14*	7.5	*2*
Deltapine 51	956	*15*	36.4	*21*	108	*7*	4.75	*5*	1.15	*11*	84.8	*5*	24.9	*21*	7.2	*8*
FiberMax FM-939	943	*16*	37.0	*20*	95	*15*	4.55	*12*	1.18	*3*	85.4	*2*	31.5	*1*	5.9	*20*
Paymaster PM-1266	838	*17*	38.8	*9*	94	*17*	4.26	*20*	1.17	*4*	83.3	*19*	26.5	*18*	6.3	*19*
Paymaster PM-1210	825	*18*	41.2	*2*	96	*14*	4.70	*9*	1.11	*21*	83.8	*15*	25.1	*20*	7.0	*13*
Paymaster PM-1220RR	789	*19*	37.6	*16*	97	*13*	4.54	*13*	1.15	*12*	84.6	*8*	30.2	*5*	7.3	*7*
Stoneville 373	647	*20*	37.9	*14*	94	*18*	4.35	*19*	1.16	*8*	83.6	*18*	28.2	*10*	6.6	*16*
Dyna-Gro DG-201	603	*21*	37.0	*18*	113	*3*	4.70	*10*	1.15	*14*	84.8	*4*	26.8	*17*	7.1	*11*
Mean	986		38.6		10.2		4.60		1.15		84.3		28.2		6.9	
$LSD_{0.10}$	62		1.7		21		0.24		0.03		0.5		0.5		0.5	
R-square x 100	94.9		65.1		44.5		70.9		73.4		41.2		75.9		74.5	
CV (%)	4.6		3.1		15.1		3.8		1.7		1.3		4.9		5.0	

[a] Planted May 4; sprinkler irrigated May 24, June 2, 15, 27, July 2, 7, and 18; defoliation Sep 9, 14; harvested Sep 26.
[b] All variables determined for 4 replications.
[c] r = ranking.
[d] (Lint weight / sample weight) x 100, from boll samples.
[e] Fiber micronaire (Mic), length (Len), length uniformity (Unif), strength (Str), and elongation (Elo) determined using HVI classing.

Table 11. Performance of cotton strains in the 1998 Commercial Strain Test at Clarkedale and Marianna.

Strain / location	Lint Yield[a]	*r*[b]	Lint Frac[c]	*r*	Open Bolls	*r*	Plant Height	*r*	Leaf Pub[d]	*r*	Fiber Properties[e] Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches													
SG-626	1253	*1*	42.1	*1*	63	*8*	50.1	*7*	5.5	*4*	4.8	*3*	1.12	*17*	81.8	*14*	27.4	*14*	7.0	*10*
IG-1017	1106	*2*	39.2	*4*	55	*16*	50.2	*6*	3.2	*11*	4.6	*11*	1.18	*1*	81.9	*13*	29.3	*4*	5.7	*19*
APX-9257	1086	*3*	38.1	*8*	65	*3*	46.9	*17*	2.8	*13*	4.4	*18*	1.11	*18*	82.2	*9*	27.8	*8*	7.0	*9*
Stoneville 474, ck.	1084	*4*	38.9	*5*	56	*15*	55.7	*1*	6.8	*1*	5.0	*1*	1.13	*13*	82.3	*7*	27.6	*12*	6.9	*11*
SG-838	1056	*5*	37.7	*9*	68	*1*	44.2	*20*	6.5	*2*	4.6	*12*	1.12	*15*	82.9	*2*	27.7	*9*	7.6	*2*
IF-1019	1043	*6*	38.6	*6*	53	*17*	50.4	*5*	2.9	*12*	4.5	*14*	1.18	*2*	83.0	*1*	30.4	*1*	5.3	*20*
APX-7114	1043	*7*	39.2	*3*	63	*8*	46.7	*18*	1.1	*20*	4.3	*20*	1.12	*14*	81.7	*17*	26.2	*17*	7.3	*7*
Sure-Grow 125, ck.	1039	*8*	37.4	*11*	58	*13*	50.0	*8*	2.1	*18*	4.7	*7*	1.15	*7*	82.4	*6*	26.9	*16*	7.5	*4*
GC-152	1004	*9*	34.5	*16*	64	*4*	47.6	*16*	5.5	*5*	4.4	*17*	1.18	*2*	82.3	*8*	29.1	*5*	6.2	*17*
APX-9220	995	*10*	37.4	*12*	63	*8*	48.2	*12*	2.3	*17*	4.7	*4*	1.10	*19*	82.1	*11*	25.5	*20*	7.6	*1*
GC-182	995	*11*	34.5	*15*	61	*12*	48.7	*11*	2.4	*16*	4.8	*2*	1.16	*5*	82.9	*4*	29.8	*2*	6.8	*12*
GC-162	979	*12*	35.7	*13*	66	*2*	46.5	*19*	5.1	*6*	4.6	*10*	1.14	*9*	81.8	*15*	27.9	*7*	7.4	*5*
DG-206	943	*13*	33.6	*19*	63	*6*	48.7	*10*	3.8	*8*	4.5	*16*	1.14	*10*	81.1	*20*	27.3	*15*	7.5	*3*
PSC-262	886	*14*	34.6	*14*	63	*7*	48.2	*13*	3.6	*9*	4.6	*9*	1.16	*5*	82.1	*10*	26.0	*19*	7.4	*6*
UPAX-2113	863	*15*	34.3	*17*	64	*5*	48.2	*14*	3.3	*10*	4.7	*8*	1.15	*7*	82.9	*3*	27.7	*11*	6.5	*15*
Terra-257RR	815	*16*	37.5	*10*	53	*19*	51.6	*3*	4.0	*7*	4.7	*5*	1.14	*12*	81.8	*16*	28.7	*6*	7.1	*8*
UPAX-2140	793	*17*	33.6	*18*	63	*8*	47.8	*15*	2.6	*14*	4.4	*19*	1.14	*10*	81.4	*19*	26.0	*18*	6.5	*14*
IG-1023	771	*18*	39.7	*2*	53	*17*	49.5	*9*	1.6	*19*	4.7	*6*	1.12	*15*	81.6	*18*	29.6	*3*	6.6	*13*
IF-1018	766	*19*	38.5	*7*	43	*20*	51.2	*4*	2.5	*15*	4.6	*13*	1.17	*4*	82.8	*5*	27.7	*10*	5.8	*18*
UAPX-209-8	659	*20*	32.2	*20*	58	*13*	55.5	*2*	6.0	*3*	4.5	*15*	1.09	*20*	82.0	*12*	27.6	*12*	6.4	*16*
Ent. LSD $_{0.10}$	96		0.4		6.0		2.5		1.0		0.23		0.03		0.9		1.2		0.4	
Clarkedale	799		36.2		43.0		45.0		3.7		4.51		1.14		82.0		27.5		6.6	
Marianna	1119		37.5		76.0		53.6		3.6		4.69		1.14		82.3		28.1		7.0	
Loc LSD $_{0.10}$	30.0		ns[f]		2.0		0.8		ns		ns		ns		ns		ns		0.1	
Mean	959		36.9		60		49.3		3.7		4.6		1.14		82.1		27.8		6.8	
CV(%)	14.9		3.0		15.9		7.6		23.3		4.1		2.0		0.9		3.7		4.8	
R-square* x 100	78.6		92.6		85.0		78.4		89.0		73.9		76.6		61.3		82.7		90.4	
Strain x Loc	ns		ns		ns		ns		ns		ns		ns		ns		ns		ns	

[a] Six replications / location for lint yield, height and open bolls; two replications / location for all other variables.
[b] r = ranking.
[c] (Lint weight / sample weight) x 100, from boll samples.
[d] Leaf pubescence is mean of 10 plants / plot rated from 1 (smooth leaf) to 7 (very hairy).
[e] Fiber micronaire (Mic), length (Len), length uniformity (Unif), strength (Str) and elongation (Elo) determined using HVI classing.
[f] Not significant.
* Significant at the 0.05 and 0.01 probability levels, respectively.

Table 12. Results of the 1998 Commercial Strain Test at Clarkedale.[a]

Strain / location	Lint Yield[b]	*r*[c]	Lint Frac[d]	*r*	Open Bolls	*r*	Plant Height	*r*	Leaf Pub[e]	*r*	Fiber Properties[f] Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches													
SG-626	1011	*1*	40.7	*1*	45	*9*	46.8	*5*	5.6	*5*	4.63	*6*	1.14	*11*	81.5	*16*	27.3	*11*	6.7	*12*
Stoneville 474, ck.	942	*2*	38.0	*4*	33	*19*	53.8	*1*	7.0	*1*	4.89	*2*	1.12	*16*	82.1	*11*	27.2	*12*	6.8	*9*
SG-838	930	*3*	37.5	*7*	53	*1*	40.0	*20*	7.0	*1*	4.53	*8*	1.11	*18*	82.7	*2*	27.1	*13*	7.6	*1*
APX-9257	913	*4*	37.9	*5*	48	*3*	42.3	*18*	2.5	*13*	4.44	*12*	1.13	*15*	82.5	*5*	29.1	*3*	7.0	*7*
GC-152	881	*5*	35.1	*13*	48	*3*	43.0	*15*	6.3	*4*	4.41	*13*	1.17	*3*	82.1	*11*	27.9	*6*	6.0	*17*
APX-7114	881	*6*	38.8	*2*	43	*11*	42.6	*17*	1.1	*20*	4.19	*20*	1.14	*11*	81.5	*14*	26.3	*17*	7.1	*6*
GC-182	869	*7*	33.7	*18*	43	*11*	45.8	*7*	2.4	*15*	4.93	*1*	1.17	*2*	82.7	*3*	29.5	*2*	6.7	*11*
IF-1019	865	*8*	37.4	*8*	38	*15*	45.6	*8*	3.2	*11*	4.22	*19*	1.17	*3*	82.4	*10*	29.9	*1*	5.3	*20*
IG-1017	857	*9*	37.3	*9*	35	*17*	45.5	*9*	2.9	*12*	4.39	*14*	1.21	*1*	82.6	*4*	28.7	*4*	5.7	*19*
DG-206	849	*10*	33.8	*17*	48	*3*	44.5	*10*	4.5	*7*	4.36	*15*	1.14	*11*	80.8	*20*	26.5	*16*	7.3	*3*
GC-162	818	*11*	34.1	*16*	48	*3*	40.3	*19*	4.9	*6*	4.51	*9*	1.15	*6*	81.2	*18*	27.9	*6*	6.9	*8*
APX-9220	809	*12*	35.9	*12*	48	*3*	43.0	*16*	2.3	*16*	4.54	*7*	1.11	*19*	82.5	*7*	25.4	*20*	7.3	*4*
Sure-Grow 125, ck.	805	*13*	36.6	*10*	35	*17*	46.0	*6*	2.0	*18*	4.78	*3*	1.15	*9*	82.5	*5*	26.8	*14*	7.4	*2*
PSC-262	709	*14*	34.9	*14*	43	*11*	44.0	*12*	4.0	*9*	4.5	*10*	1.15	*6*	82.7	*1*	26.0	*19*	7.2	*5*
IG-1023	707	*15*	38.8	*3*	43	*11*	44.4	*11*	1.3	*19*	4.48	*11*	1.12	*17*	81.5	*14*	28.7	*5*	6.4	*14*
UPAX-2113	662	*16*	34.1	*15*	50	*2*	43.1	*14*	3.4	*10*	4.66	*5*	1.15	*6*	82.4	*9*	26.6	*15*	6.4	*13*
UPAX-2140	653	*17*	33.0	*19*	47	*8*	44.0	*12*	2.1	*17*	4.33	*17*	1.15	*9*	81.1	*19*	26.3	*17*	6.2	*16*
Terra-257RR	625	*18*	36.4	*11*	37	*16*	48.1	*3*	4.2	*8*	4.74	*4*	1.14	*14*	81.3	*17*	27.5	*9*	6.8	*10*
UAPX-209-8	594	*19*	31.8	*20*	45	*9*	50.4	*2*	6.3	*3*	4.35	*16*	1.10	*20*	82.0	*13*	27.8	*8*	6.3	*15*
IF-1018	593	*20*	37.7	*6*	27	*20*	47.1	*4*	2.4	*14*	4.32	*18*	1.16	*5*	82.5	*7*	27.4	*10*	5.9	*18*
Mean	799		36.2		43.0		45.0		3.7		4.5		1.14		82		27.5		6.6	
$LSD_{0.10}$	120		1.7		12.0		4.6		1.9		0.24		0.03		ns		1.9		0.6	
CV (%)	15.7		2.8		21.9		10.6		29.4		3.0		1.5		0.8		4.1		5.1	
R-square x 100	73.9		91.7		65.0		67.5		85.2		84.2		82.3		62.6		74		87.2	

[a] Planted May 5; furrow-irrigated June 22, July 2, 23; open bolls rated Sep 11; defoliated Sep 15, 18, 21; harvested Oct. 14.
[b] Six replications for lint yield, height and open bolls; two replications for all other variables.
[c] r = ranking.
[d] (Lint weight / sample weight) x 100, from boll samples.
[e] Leaf pubescence is mean of 10 plants / plot rated from 1 (smooth leaf) to 7 (very hairy).
[f] Fiber micronaire (Mic), length (Len), length uniformity (Unif), strength (Str) and elongation (Elo) determined using HVI classing.

Table 13. Performance of cotton strains in the 1998 Commercial Strain Test at Marianna.[a]

Variety	Lint Yield[b]	*r*[c]	Lint Frac[d]	*r*	Open Bolls	*r*	Plant Height	*r*	Leaf Pub[e]	*r*	Fiber Properties[f] Mic	*r*	Len	*r*	Unif	*r*	Str	*r*	Elo	*r*
	lb/a		%		%		inches													
SG-626	1495	*1*	43.4	*1*	80	*6*	53.3	*11*	5.5	*4*	4.87	*4*	1.10	*17*	82.2	*10*	27.4	*13*	7.3	*9*
IG-1017	1355	*2*	41.0	*2*	75	*15*	54.8	*6*	3.5	*8*	4.79	*7*	1.16	*5*	81.2	*20*	29.9	*6*	5.7	*18*
Sure-Grow 125, ck.	1272	*3*	38.3	*10*	82	*2*	54.0	*9*	2.2	*18*	4.54	*16*	1.15	*6*	82.2	*10*	27.1	*15*	7.6	*5*
APX-9257	1259	*4*	38.2	*11*	82	*2*	51.5	*17*	3.2	*10*	4.37	*19*	1.09	*18*	81.9	*13*	26.6	*16*	7.1	*10*
Stoneville 474, ck.	1226	*5*	39.7	*5*	78	*10*	57.5	*2*	6.6	*1*	5.11	*1*	1.13	*12*	82.6	*6*	28.0	*11*	7.1	*11*
IF-1019	1221	*6*	39.9	*4*	68	*17*	55.2	*4*	2.6	*14*	4.82	*5*	1.19	*1*	83.7	*1*	30.9	*1*	5.4	*20*
APX-7114	1206	*7*	39.6	*6*	82	*2*	50.8	*19*	1.2	*20*	4.48	*17*	1.11	*16*	81.9	*14*	26.1	*17*	7.6	*5*
APX-9220	1182	*8*	38.8	*8*	77	*14*	53.5	*10*	2.4	*17*	4.88	*3*	1.09	*19*	81.7	*16*	25.6	*20*	7.9	*2*
SG-838	1182	*9*	38.0	*12*	82	*2*	48.3	*20*	6.1	*2*	4.63	*14*	1.13	*14*	83.1	*3*	28.3	*8*	7.6	*4*
GC-162	1140	*10*	37.4	*13*	83	*1*	52.7	*13*	5.2	*5*	4.75	*9*	1.13	*12*	82.4	*8*	27.9	*12*	8.0	*1*
GC-152	1127	*11*	33.9	*18*	80	*6*	52.2	*14*	4.7	*6*	4.47	*18*	1.19	*1*	82.5	*7*	30.4	*3*	6.4	*17*
GC-182	1121	*12*	35.3	*14*	78	*10*	51.7	*16*	2.5	*15*	4.72	*10*	1.15	*7*	83.1	*4*	30.2	*4*	6.8	*12*
UPAX-2113	1103	*13*	34.6	*15*	80	*6*	54.4	*8*	3.3	*9*	4.63	*13*	1.15	*7*	83.4	*2*	28.8	*7*	6.6	*16*
PSC-262	1038	*14*	34.3	*16*	80	*6*	51.9	*15*	3.1	*11*	4.77	*8*	1.17	*4*	81.6	*18*	26.0	*18*	7.6	*5*
DG-206	1037	*15*	33.4	*19*	78	*10*	53.0	*12*	3.1	*13*	4.57	*15*	1.15	*7*	81.4	*19*	28.1	*9*	7.7	*3*
Terra-257RR	1005	*16*	38.5	*9*	68	*17*	55.2	*4*	3.8	*7*	4.65	*12*	1.15	*7*	82.3	*9*	29.9	*5*	7.4	*8*
IF-1018	940	*17*	39.3	*7*	58	*20*	55.3	*3*	2.5	*15*	4.79	*6*	1.18	*3*	83.1	*4*	28.0	*10*	5.7	*19*
UPAX-2140	933	*18*	34.3	*17*	78	*10*	51.5	*17*	3.1	*11*	4.37	*19*	1.14	*11*	81.8	*15*	25.8	*19*	6.8	*12*
IG-1023	834	*19*	40.5	*3*	63	*19*	54.7	*7*	1.9	*19*	4.89	*2*	1.12	*15*	81.7	*17*	30.6	*2*	6.8	*14*
UAPX-209-8	725	*20*	32.6	*20*	72	*16*	60.5	*1*	5.7	*3*	4.69	*11*	1.08	*20*	82.0	*12*	27.4	*14*	6.6	*15*
Mean	1119		37.5		76.0		53.6		3.6		4.69		1.14		82.3		28.1		7.0	
$LSD_{0.10}$	152		2.1		6.0		2.3		0.8		ns		0.05		ns		1.6		0.6	
CV(%)	14.2		3.2		7.9		4.4		13.6		4.9		2.4		1.0		3.2		4.6	
R-square x 100	61.9		92.4		60.9		61.7		95.2		57.1		73.0		58.9		88.0		91.8	

[a] Planted May 12; furrow-irrigated June 24, July 1, 8, 22,29, and Aug 5, 12, 26; open bolls rated Sep 24; defoliated Sep 25 and Oct 1; harvested Oct 12.
[b] Six replications for lint yield, height and open bolls; two replications for all other variables.
[c] r = ranking.
[d] (Lint weight / sample weight) x 100, from boll samples.
[e] Leaf pubescence is mean of 10 plants / plot rated from 1 (smooth leaf) to 7 (very hairy).
[f] Fiber micronaire (Mic), length (Len), length uniformity (Unif), strength (Str) and elongation (Elo) determined using HVI classing.


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