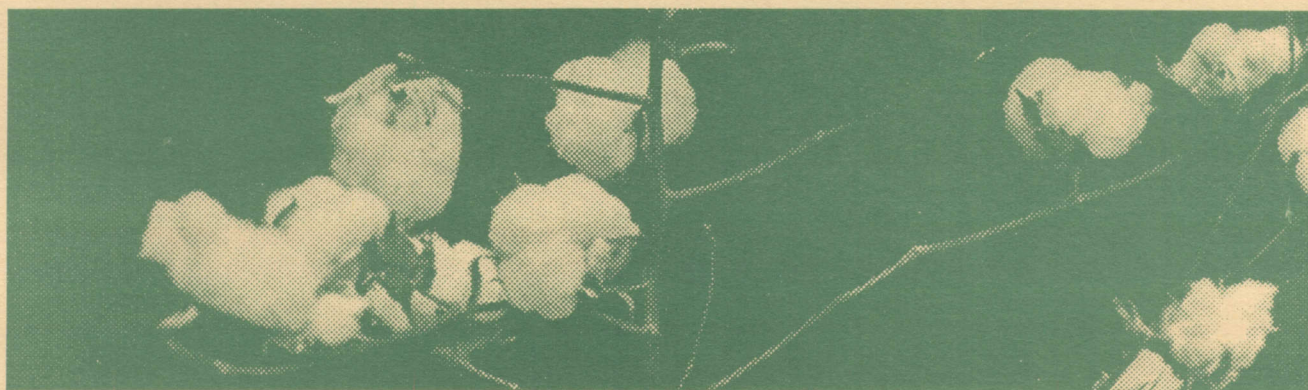


1991 Alabama Cotton Variety Report



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Information contained herein is available to all persons
regardless of race, color, sex, or national origin.

1991 ALABAMA COTTON VARIETY REPORT

A Report of the Performance of Cotton Varieties Tested in Alabama

W. C. Johnson¹

INTRODUCTION

The Alabama Cotton Variety Test is a continuing evaluation of available cotton varieties from private companies and state agricultural experiment stations. Breeding lines that are likely to be released as varieties are also tested. Tests are conducted on units of the Alabama Agricultural Experiment Station by Experiment Station personnel. Cultural practices are those generally recommended by Auburn University to farmers. For the first time, data are reported on an irrigated test at Belle Mina. No other tests received scheduled supplemental irrigation. Every effort is made to test the varieties and present the results in an unbiased manner.

EXPERIMENTAL CONDITIONS

A randomized complete block experimental design with four replications was used at each location. Row length varied at different locations from 20 to 120 feet. Plot width was two rows at Prattville, Headland, Belle Mina, Shorter, Tallassee, Fairhope, and Crossville, and one row at Brewton and Monroeville. Rainfall was generally adequate to excessive at all locations during the spring. After early July, rainfall was less than normal at most locations. In northern Alabama, the drouth was especially severe.

¹Professor of Agronomy and Soils.

The harvest season was warm, fair, and favorable for maturing and harvesting the crop.

EXPLANATION OF DATA

Harvest of Seed Cotton

Tests at Prattville, Brewton, Monroeville, Tallassee, Belle Mina, and Shorter were harvested by a mechanical spindle picker. Tests at Headland and Crossville were harvested by hand. Average yield of seed cotton was determined for each variety at each location.

Lint Percentage

Seed cotton samples from each variety were ginned on a 10-saw gin. Lint percentage was calculated by dividing weight of lint by weight of seed cotton.

Yield of Lint

Lint yield was determined by multiplying the lint percentage by yield of seed cotton.

Fiber Properties

Fiber qualities of all varieties were determined by the Auburn University Textile Engineering fiber testing laboratory using High Volume Instrumentation (HVI). Data are reported on a single composite sample of each variety from all locations except the regional tests at Shorter and Belle Mina.

Length. This is the fiber length measured with the HVI instrument. This measurement of length is about the same as the classer's staple.

Strength. A measure of breaking strength of a standard fiber bundle with the holding jaws separated by 1/8 inch. Tex is a size

measurement of the fiber bundle and the data given are the force in grams needed to break this bundle.

Elongation. A measure of the percentage stretch before the fibers break.

Micronaire. This measures the fineness of the cotton fibers. The smaller the micronaire reading, the finer and/or more immature the fibers. The desirable range of micronaire is 3.5 to 4.9.

Earliness

Where more than one harvest was made, earliness is reported as the percentage of the total yield harvested at the first picking.

Fusarium Wilt

Reaction of varieties to Fusarium oxysporum f. vasinfectum (fusarium wilt) was evaluated at the Plant Breeding Unit, Tallassee. The varieties were grown in a field with a high natural incidence of the fusarium wilt disease. During 1991 fusarium wilt was severe in the test area. Severity of the disease varies from year to year and also within the experimental area in the same year. Therefore, several years' data are necessary to realistically characterize a variety's wilt reaction.

Verticillium wilt is being identified more frequently in northern Alabama than previously reported. Varietal comparisons reported in table 11 do not apply in any way to this disease.

STATISTICAL ANALYSIS

Appropriate analyses of the yield data were made. For each location, the variability in the test was measured and expressed as a percentage of the test mean, i.e., the coefficient of variation (C.V.). An indication of the magnitude of difference between

variety averages necessary to be considered a real difference is given for each location. It is designated Least Significance Difference (L.S.D._{.05}).

LOCATIONS OF EXPERIMENTS

Tennessee Valley Substation, Belle Mina - W.B. Webster, Superintendent
Sand Mountain Substation, Crossville - J.T. Eason, Superintendent
Prattville Experiment Field - D.P. Moore, Superintendent
E.V. Smith Research Center, Shorter - R.R. Duffield, Superintendent
Plant Breeding Unit, Tallassee - S.P. Nightengale, Superintendent
Brewton Experiment Field - J.R. Akridge, Superintendent
Monroeville Experiment Field - J.R. Akridge, Superintendent
Wiregrass Substation, Headland - H.W. Ivey, Superintendent
Gulf Coast Substation, Fairhope - E.L. Carden, Superintendent

TABLE 1. PERFORMANCE OF COTTON VARIETIES AT BELLE MINA, ALABAMA, 1991

VARIETY	1991			2-YR. AV. LINT/ACRE	3-YR. AV. LINT/ACRE
	LINT/ACRE	LINT	EARLINESS		
	LB.	PCT.	PCT.		
CHEMBRED 1135	793	41	91	699	-
SS 35	785	40	93	-	-
DES 119	766	42	92	723	871
HS 23	763	42	91	649	-
DELTAPINE 5690	759	43	87	705	-
CB 333	745	42	91	-	-
DELTAPINE 51	730	42	89	691	851
CHEMBRED 219	724	41	93	684	-
SS 533	712	41	90	-	-
STONEVILLE LA 887	708	43	85	664	-
DELTAPINE 20	708	39	92	700	811
DELTAPINE 5415	705	43	84	709	-
DELTAPINE 50	705	39	90	670	803
STONEVILLE 907	697	41	92	573	693
HS 46	693	42	90	658	754
TERRA 207	688	41	91	644	-
STONEVILLE 453	674	44	89	669	850
DELTAPINE 90	671	39	87	655	774
TERRA C 40	665	41	89	628	754
KC 311	659	40	87	622	746
TIFCOT 56	659	39	87	619	728
GEORGIA KING	658	42	86	612	-
CHEMBRED 407	646	39	88	627	-
STONEVILLE 324	642	42	88	-	-
COKER 315	619	42	87	597	743
TROPICAL 225	617	40	87	591	694
COKER 130	610	42	88	564	752
PD 3	597	40	83	569	728
COKER 320	595	41	89	556	701
ACALA 1517-88	565	41	88	552	-
SUREGROW 1001	549	40	88	587	723
PAYMASTER HS-26	457	36	76	456	-
TEST MEAN	674				
L.S.D. (.05)	109				
C.V.	12%				

TABLE 2. PERFORMANCE OF COTTON VARIETIES AT CROSSVILLE, ALABAMA, 1991

VARIETY	1991			2-YR. AV.	3-YR. AV.
	LINT/ACRE LB.	LINT PCT.	EARLINESS PCT.	LINT/ACRE LB.	LINT/ACRE LB.
STONEVILLE 453	1,073	43	85	886	751
STONEVILLE LA 887	1,020	42	83	811	-
CHEMBRED 219	978	41	90	794	-
CHEMBRED 1135	969	39	85	792	-
CB 333	965	40	82	-	-
DES 119	938	41	87	793	630
HS 23	927	40	88	778	-
HS 46	926	41	86	707	553
TERRA C 40	922	37	80	799	666
KC 311	919	41	88	707	564
STONEVILLE 324	916	42	90	-	-
CHEMBRED 407	914	40	87	751	-
DELTAPINE 90	912	41	89	724	586
SS 35	905	40	89	-	-
DELTAPINE 5690	902	40	87	754	-
PD 3	885	40	79	724	633
STONEVILLE 907	884	40	91	761	628
DELTAPINE 51	871	38	85	748	604
DELTAPINE 20	870	38	85	776	649
COKER 320	869	39	84	687	553
TROPICAL 225	865	40	89	727	597
TERRA 207	848	40	88	724	-
SUREGROW 1001	832	40	83	690	534
DELTAPINE 5415	831	40	81	669	-
GEORGIA KING	785	40	74	641	-
DELTAPINE 50	672	37	78	681	590
SS 533	647	38	81	-	-
TEST MEAN	891				
L.S.D. (.05)	156				
C.V.	12%				

TABLE 3. PERFORMANCE OF COTTON VARIETIES AT PRATTVILLE, ALABAMA, 1991

VARIETY	1991			2-YR. AV.	3-YR. AV.
	LINT/ACRE	LINT	EARLINESS	LINT/ACRE	LINT/ACRE
	LB.	PCT.	PCT.	LB.	LB.
DELTAPINE 5415	977	42	92	978	-
CB 333	887	40	93	-	-
DELTAPINE 20	879	40	92	839	785
STONEVILLE 453	874	40	93	950	874
KC 311	859	41	93	860	822
DES 119	858	43	90	916	846
TERRA 207	855	41	94	866	-
TERRA C 40	853	41	91	861	792
DELTAPINE 51	832	39	93	868	842
CHEMBRED 1135	820	40	94	879	-
DELTAPINE 50	820	36	92	823	804
SS 35	795	39	91	-	-
HS 23	772	38	91	830	-
CHEMBRED 219	766	39	93	864	-
SUREGROW 1001	761	40	91	835	823
HS 46	755	40	93	869	858
DELTAPINE 90	751	40	90	842	814
STONEVILLE LA 887	751	41	93	771	-
DELTAPINE 5690	746	40	93	827	-
STONEVILLE 324	730	42	89	-	-
CHEMBRED 407	718	39	91	862	-
GEORGIA KING	709	42	90	763	-
TROPICAL 225	686	39	91	825	753
STONEVILLE 907	665	40	91	750	677
COKER 320	633	41	89	749	715
SS 533	629	38	91	-	-
PD 3	619	41	90	717	692
TEST MEAN	778				
L.S.D. (.05)	136				
C.V.	12%				

TABLE 4. PERFORMANCE OF COTTON VARIETIES AT TALLASSEE, ALABAMA, 1991

VARIETY	1991			2-YR. AV. LINT/ACRE LB.	3-YR. AV. LINT/ACRE LB.
	LINT/ACRE	LINT	EARLINESS		
	LB.	PCT.	PCT.		
KC 311	1,449	42	84	1,365	1,214
DELTAPINE 5690	1,419	44	87	1,362	-
STONEVILLE LA 887	1,409	44	87	1,449	-
SUREGROW 1001	1,389	42	87	1,304	1,096
DELTAPINE 90	1,342	41	84	1,330	1,109
CB 333	1,319	43	92	-	-
PD 3	1,302	45	82	1,382	1,197
HS 46	1,295	42	89	1,185	1,011
CHEMBRED 407	1,289	43	86	1,250	-
DELTAPINE 5415	1,276	43	84	1,342	-
SS 35	1,269	42	85	-	-
DELTAPINE 51	1,227	42	82	1,275	1,080
HS 23	1,207	42	87	1,236	-
STONEVILLE 453	1,206	43	85	1,212	1,050
CHEMBRED 219	1,167	42	89	1,259	-
DELTAPINE 50	1,157	40	88	1,163	1,007
CHEMBRED 1135	1,147	43	89	1,181	-
DES 119	1,146	44	92	1,351	1,164
DELTAPINE 20	1,145	42	87	1,141	992
TERRA 207	1,133	43	88	1,189	-
COKER 320	1,126	42	83	1,162	1,013
TROPICAL 225	1,113	42	82	1,251	1,021
GEORGIA KING	1,104	45	86	1,252	-
STONEVILLE 907	1,103	43	94	1,076	909
STONEVILLE 324	1,070	42	85	-	-
TERRA C 40	1,063	42	84	1,106	913
SS 533	1,015	41	87	-	-
TEST MEAN	1,218				
L.S.D. (.05)	182				
C.V.	11%				

TABLE 5. PERFORMANCE OF COTTON VARIETIES AT SHORTER, ALABAMA, 1991

VARIETY	1991			2-YR. AV.	3-YR. AV.
	LINT/ACRE	LINT	EARLINESS	LINT/ACRE	LINT/ACRE
	LB.	PCT.	PCT.	LB.	LB.
CHEMBRED 219	1,700	41	-	1,586	-
CHEMBRED 407	1,699	41	-	1,494	-
SS 35	1,698	41	-	-	-
STONEVILLE 453	1,663	43	-	1,506	1,206
STONEVILLE LA 887	1,655	43	-	1,538	-
CHEMBRED 1135	1,649	41	-	1,471	-
DELTAPINE 5415	1,647	43	-	1,499	-
HS 46	1,645	41	-	1,503	1,198
DELTAPINE 90	1,638	41	-	1,487	1,185
DELTAPINE 5690	1,633	42	-	1,447	-
DELTAPINE 51	1,623	41	-	1,466	1,136
DELTAPINE 20	1,618	42	-	1,413	1,137
CB 333	1,609	41	-	-	-
DES 119	1,606	42	-	1,524	1,200
TROPICAL 225	1,582	42	-	1,438	1,124
STONEVILLE 907	1,573	41	-	1,395	1,078
TERRA C 40	1,558	42	-	1,406	1,085
DELTAPINE 50	1,551	40	-	1,404	1,147
GEORGIA KING	1,511	43	-	1,427	-
HS 23	1,506	42	-	1,337	-
COKER 130	1,502	43	-	1,354	1,028
KC 311	1,480	41	-	1,340	1,025
TERRA 207	1,479	41	-	1,341	-
COKER 320	1,476	40	-	1,361	1,059
STONEVILLE 324	1,475	42	-	-	-
SUREGROW 1001	1,452	41	-	1,415	1,131
SS 533	1,452	40	-	-	-
PD 3	1,440	41	-	1,367	1,068
TIFCOT 56	1,392	40	-	1,318	1,064
COKER 315	1,365	42	-	1,326	1,062
ACALA 1517-88	1,271	40	-	1,184	-
PAYMASTER HS-26	1,109	39	-	1,049	-
TEST MEAN	1,539				
L.S.D. (.05)	167				
C.V.	8%				

TABLE 6. PERFORMANCE OF COTTON VARIETIES AT MONROEVILLE, ALABAMA, 1991

VARIETY	1991			2-YR. AV.	3-YR. AV.
	LINT/ACRE	LINT	EARLINESS	LINT/ACRE	LINT/ACRE
	LB.	PCT.	PCT.	LB.	LB.
KC 311	1,638	40	75	998	975
DELTAPINE 5415	1,533	40	68	961	-
DELTAPINE 5690	1,442	40	73	964	-
SUREGROW 1001	1,432	41	71	924	832
DELTAPINE 90	1,363	39	70	919	866
DELTAPINE 51	1,340	40	71	833	740
HS 46	1,318	40	69	877	813
DELTAPINE 20	1,312	39	80	902	867
DES 119	1,311	41	80	908	854
CHEMBRED 407	1,303	39	68	906	-
SS 533	1,288	37	76	-	-
DELTAPINE 50	1,262	37	74	868	805
COKER 320	1,225	42	75	832	791
CHEMBRED 1135	1,197	39	79	870	-
PD 3	1,180	40	64	840	807
GEORGIA KING	1,160	42	72	799	-
STONEVILLE 324	1,159	40	80	-	-
TERRA C 40	1,150	38	74	763	716
STONEVILLE LA 887	1,144	42	82	759	-
CHEMBRED 219	1,142	39	77	841	-
TROPICAL 225	1,084	40	70	746	723
STONEVILLE 453	1,083	40	84	772	763
CB 333	1,078	39	77	-	-
STONEVILLE 907	1,073	39	82	751	672
SS 35	1,066	40	79	-	-
HS 23	972	39	77	692	-
TERRA 207	913	38	81	680	-
TEST MEAN	1,228				
L.S.D. (.05)	258				
C.V.	15%				

TABLE 7. PERFORMANCE OF COTTON VARIETIES AT BREWTON, ALABAMA, 1991

VARIETY	1991			2-YR. AV. LINT/ACRE	3-YR. AV. LINT/ACRE
	LINT/ACRE	LINT	EARLINESS		
	LB.	PCT.	PCT.		
DELTAPINE 5415	1,678	40	85	1,580	-
SUREGROW 1001	1,621	41	83	1,484	1,287
KC 311	1,602	39	84	1,603	1,373
DELTAPINE 90	1,594	40	83	1,497	1,395
DELTAPINE 51	1,562	39	85	1,502	1,325
DELTAPINE 5690	1,554	40	84	1,640	-
CHEMBRED 407	1,526	41	83	1,544	-
DES 119	1,513	40	88	1,521	1,374
CHEMBRED 219	1,511	39	89	1,600	-
STONEVILLE LA 887	1,490	41	91	1,476	-
HS 46	1,475	41	85	1,546	1,423
CHEMBRED 1135	1,473	40	88	1,538	-
TROPICAL 225	1,473	40	84	1,398	1,275
COKER 320	1,433	40	85	1,405	1,291
CB 333	1,409	39	88	-	-
DELTAPINE 20	1,357	40	90	1,471	1,318
SS 35	1,351	40	92	-	-
PD 3	1,347	40	78	1,418	1,323
GEORGIA KING	1,346	42	83	1,527	-
SS 533	1,338	38	87	-	-
HS 23	1,305	40	91	1,277	-
STONEVILLE 453	1,280	41	92	1,409	1,288
STONEVILLE 907	1,267	39	94	1,156	1,012
DELTAPINE 50	1,251	38	85	1,278	1,175
TERRA C 40	1,245	39	89	1,347	1,141
TERRA 207	1,199	40	89	1,262	-
STONEVILLE 324	1,145	41	89	-	-
TEST MEAN	1,420				
L.S.D. (.05)	187				
C.V.	9%				

TABLE 8. PERFORMANCE OF COTTON VARIETIES AT HEADLAND, ALABAMA, 1991

VARIETY	1991			2-YR. AV.	3-YR. AV.
	LINT/ACRE LB.	LINT PCT.	EARLINESS PCT.	LINT/ACRE LB.	LINT/ACRE LB.
HS 46	1,677	42	-	1,170	1,054
KC 311	1,628	42	-	1,159	1,007
CHEMBRED 407	1,625	42	-	1,167	-
DELTAPINE 5690	1,622	42	-	1,184	-
SS 35	1,581	42	-	-	-
STONEVILLE 324	1,572	42	-	-	-
DELTAPINE 90	1,561	41	-	1,133	984
CHEMBRED 1135	1,557	42	-	1,107	-
DELTAPINE 50	1,539	38	-	1,112	1,010
SUREGROW 1001	1,523	41	-	1,107	930
TERRA C 40	1,523	41	-	1,139	1,000
HS 23	1,518	42	-	1,084	-
CB 333	1,517	42	-	-	-
DELTAPINE 51	1,510	41	-	1,157	966
DELTAPINE 5415	1,505	43	-	1,094	-
COKER 320	1,490	41	-	1,096	983
TROPICAL 225	1,477	41	-	1,088	983
PD 3	1,461	40	-	1,051	916
STONEVILLE LA 887	1,460	44	-	1,063	-
STONEVILLE 907	1,446	41	-	1,031	938
DES 119	1,446	44	-	1,086	969
CHEMBRED 219	1,405	41	-	1,071	-
SS 533	1,399	40	-	-	-
STONEVILLE 453	1,388	44	-	1,056	943
GEORGIA KING	1,361	44	-	1,021	-
DELTAPINE 20	1,360	40	-	1,040	915
TERRA 207	1,354	40	-	1,011	-
TEST MEAN	1,500				
L.S.D. (.05)	221				
C.V.	10%				

TABLE 9. PERFORMANCE OF COTTON VARIETIES AT FAIRHOPE, ALABAMA, 1991

VARIETY	1991			2-YR. AV.	3-YR. AV.
	LINT/ACRE	LINT	EARLINESS	LINT/ACRE	LINT/ACRE
	LB.	PCT.	PCT.	LB.	LB.
DELTAPINE 5690	1,583	39	-	1,272	-
DELTAPINE 51	1,565	39	-	1,281	1,225
HS 46	1,434	40	-	1,209	1,189
SUREGROW 1001	1,418	40	-	1,214	1,201
CHEMBRED 407	1,377	39	-	1,205	-
STONEVILLE 907	1,368	41	-	1,146	1,111
CB 333	1,367	40	-	-	-
STONEVILLE LA 887	1,364	42	-	1,117	-
KC 311	1,354	38	-	1,106	1,144
DELTAPINE 50	1,350	36	-	1,164	1,114
DELTAPINE 20	1,348	38	-	1,233	1,181
DELTAPINE 90	1,347	40	-	1,154	1,189
DELTAPINE 5415	1,339	38	-	1,144	-
GEORGIA KING	1,330	43	-	1,151	-
DES 119	1,284	42	-	1,212	1,192
COKER 320	1,277	41	-	1,022	1,022
TROPICAL 225	1,265	40	-	1,170	1,122
CHEMBRED 1135	1,246	39	-	1,119	-
TERRA C 40	1,208	39	-	1,093	999
CHEMBRED 219	1,206	39	-	1,101	-
STONEVILLE 453	1,201	41	-	1,061	971
STONEVILLE 324	1,182	40	-	-	-
SS 533	1,164	37	-	-	-
HS 23	1,155	39	-	991	-
SS 35	1,151	40	-	-	-
TERRA 207	1,138	39	-	1,020	-
PD 3	1,084	42	-	974	1,025
TEST MEAN	1,300				
L.S.D. (.05)	215				
C.V.	12%				

TABLE 10. PERFORMANCE OF COTTON VARIETIES IN ALABAMA, AVERAGE OF ALL LOCATIONS

VARIETY	YIELD, LINT/ACRE			LINT			EARLINESS		
	1991	1990-91	1989-91	1991	1990-91	1989-91	1991	1990-91	1989-91
	LB.	LB.	LB.	PCT.	PCT.	PCT.	PCT.	PCT.	PCT.
DES 119	1,207	1,115	1,011	42	42	41	88	90	91
DELTAPINE 90	1,242	1,082	989	40	40	40	84	86	87
KC 311	1,288	1,084	985	40	40	40	85	87	87
HS 46	1,246	1,080	984	41	41	41	85	87	87
DELTAPINE 51	1,251	1,091	974	40	40	40	84	87	88
STONEVILLE 453	1,160	1,058	966	42	43	43	88	89	90
DELTAPINE 20	1,177	1,057	962	40	40	40	88	89	90
SUREGROW 1001	1,219	1,062	951	41	41	40	84	87	88
DELTAPINE 50	1,145	1,018	939	38	38	38	85	87	88
PD 3	1,102	1,005	932	41	41	41	79	84	85
TROPICAL 225	1,129	1,026	921	40	40	40	84	87	87
COKER 320	1,125	985	903	41	41	41	84	87	87
TERRA C 40	1,132	1,016	896	40	40	40	85	87	88
TIFCOT 56	1,025	952	879	40	40	40	87	89	89
COKER 315	992	935	869	42	42	42	87	89	89
STONEVILLE 907	1,119	960	858	41	40	40	91	91	91
COKER 130	1,056	931	854	43	42	42	88	89	89
DELTAPINE 5690	1,296	1,128	-	41	41	-	85	88	-
DELTAPINE 5415	1,277	1,108	-	41	42	-	82	86	-
CHEMBRED 407	1,233	1,090	-	40	41	-	84	87	-
CHEMBRED 219	1,178	1,089	-	40	40	-	89	90	-
CHEMBRED 1135	1,206	1,073	-	40	40	-	88	90	-
STONEVILLE LA 887	1,222	1,072	-	42	42	-	87	88	-
GEORGIA KING	1,107	1,021	-	43	42	-	82	86	-
HS 23	1,125	986	-	40	40	-	88	90	-
TERRA 207	1,067	971	-	40	40	-	89	90	-
CB 333	1,211	-	-	41	-	-	87	-	-
SS 35	1,178	-	-	40	-	-	88	-	-
STONEVILLE 324	1,099	-	-	41	-	-	87	-	-
SS 533	1,071	-	-	39	-	-	85	-	-
THESE VARIETIES AT 2 LOCATIONS ONLY									
ACALA 1517-88	918	868	-	41	41	-	88	89	-
PAYMASTER HS-26	783	752	-	38	38	-	76	79	-

TABLE 11. PERFORMANCE OF IRRIGATED COTTON VARIETIES AT BELLE MINA,
ALABAMA, 1991

VARIETY	1991			2-YR. AV.
	LINT/ACRE	LINT	EARLINESS	LINT/ACRE
	LB.	PCT.	PCT.	LB.
DELTAPINE 5415	1,670	44	82	-
DELTAPINE 51	1,605	42	82	1,392
HS 46	1,583	43	88	1,394
CHEMBRED 1135	1,568	42	88	-
DES 119	1,525	43	90	1,401
STONEVILLE 453	1,505	44	86	1,369
DELTAPINE 5690	1,493	42	82	-
DELTAPINE 20	1,488	42	86	-
DELTAPINE 50	1,456	40	87	1,251
COKER 130	1,452	43	86	1,214
CHEMBRED 407	1,440	42	88	-
DELTAPINE 90	1,436	41	86	1,235
COKER 320	1,428	42	85	-
KC 311	1,422	41	89	1,236
STONEVILLE 907	1,413	42	91	1,181
SUREGROW 1001	1,405	41	84	1,202
TERRA 207	1,357	41	92	-
PD 3	1,352	42	80	1,200
TEST MEAN	1,477			
L.S.D. (.05)	147			
C.V.	7%			

TABLE 12. Percentage of Plants Showing Symptoms of Fusarium Wilt, Tallassee, Alabama

Variety	Average wilt percentage										
	1 yr. 1991	2 yr. 90-91	3 yr. 89-91	4 yr. 88-91	5 yr. 87-91	6 yr. 86-91	9 yr. 83-91	10 yr. 82-91	11 yr. 81-91	13 yr. 79-91	15 yr. 77-91
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Coker 315	69.0	72.9	63.3	49.0	54.0	52.7	41.4	39.0	35.9	35.9	32.7
Stoneville 825	78.5	82.9	87.2	81.1	84.3	80.9	71.1	67.8	63.0	63.4	
Deltapine 90	51.0	31.7	32.5	26.1	24.5	25.1	18.6	18.0	17.1		
Deltapine 50	62.3	57.8	46.8	41.2	43.3	43.1	32.8	30.8			
Deltapine 20	28.5	42.3	34.4	27.8	36.3	36.0	28.7				
DES 119	54.5	51.5	46.1	41.5	45.3	41.8					
Tifcot 56	60.5	58.9	57.0	53.5	55.1	54.8					
Coker 320	42.5	46.3	37.4	37.9	43.6						
Terra C 40	41.8	42.9	41.7	35.6	41.1						
Stoneville 453	71.8	66.9	57.6	56.0	61.2						
PD 3	61.8	56.3	48.2	41.4	41.7						
HS 46	57.3	52.3	54.7	46.6							
Deltapine 51	46.8	41.6	32.9	29.4							
Coker 130	22.3	33.4	31.9	29.0							
KC 311	58.5	45.8	36.5								
Tropical 225	44.8	39.2	36.5								
Suregrow 1001	52.5	49.9	43.4								
Stoneville 907	51.0	40.3	38.5								
Georgia King	64.0	54.5									
Chembred 407	46.8	40.4									
Auburn 56	26.2	23.4									
HS 23	27.5	33.0									
Terra 207	14.8	32.7									
Stoneville LA 887	34.3	31.1									
Chembred 219	48.5	43.5									
Deltapine 5690	36.5	35.3									
Chembred 1135	31.0	33.4									
Deltapine 5415	51.3	36.9									
SS 35	47.0										
SS 533	71.8										
CB 333	59.5										
Stoneville 324	67.5										
Paymaster HS 26	5.5										

TABLE 13. Cotton Fiber Analysis, HVI, Crossville, Alabama, 1991

Brand-variety	Micronaire	Length	Uniformity	Strength	Elongation
	<u>Units</u>	<u>In.</u>	<u>Pct.</u>	<u>g/tex</u>	<u>Pct.</u>
Chembred 219	4.3	1.14	82	26.5	9.4
Chembred 333	4.3	1.16	85	26.0	10.2
Chembred 407	4.1	1.16	85	33.0	9.2
Chembred 1135	3.8	1.17	82	30.0	9.2
Coker 320	4.1	1.18	86	27.5	8.8
Deltapine 20	4.7	1.13	84	24.5	11.0
Deltapine 50	4.9	1.16	84	25.0	10.4
Deltapine 51	4.7	1.20	87	24.0	10.4
Deltapine 90	4.7	1.16	84	29.0	9.0
Deltapine 5415	4.7	1.20	86	30.5	10.0
Deltapine 5690	4.5	1.17	84	31.0	9.2
DES 119	4.5	1.17	86	26.0	11.2
Georgia King	4.2	1.18	84	29.5	9.6
HS 23	3.7	1.12	83	29.0	9.4
HS 46	4.3	1.22	90	28.5	9.2
KC 311	5.0	1.15	86	29.5	9.0
PD 3	4.2	1.18	88	30.5	9.2
SS 35	4.0	1.17	83	27.5	8.8
SS 533	4.4	1.15	88	28.5	11.0
Suregrow 1001	4.8	1.18	86	29.5	9.2
Stoneville LA 887	4.6	1.17	86	30.0	9.6
Stoneville 324	4.4	1.15	86	28.0	9.6
Stoneville 453	4.7	1.12	85	27.0	9.8
Stoneville 907	4.8	1.12	87	28.5	9.6
Terra C 40	4.3	1.12	83	26.0	10.6
Terra 207	4.9	1.14	87	29.0	10.6
Tropical 225	4.6	1.16	83	30.5	8.8

TABLE 14. Cotton Fiber Analysis, HVI, Prattville, Alabama, 1991

Brand-variety	Micronaire	Length	Uniformity	Strength	Elongation
	Units	In.	Pct.	g/tex	Pct.
Chembred 219	4.4	1.11	84	26.0	7.6
Chembred 333	4.1	1.11	82	24.5	8.6
Chembred 407	4.8	1.10	85	30.0	8.0
Chembred 1135	4.7	1.14	83	29.0	7.6
Coker 320	4.5	1.12	85	28.0	8.2
Deltapine 20	4.3	1.10	86	24.5	9.4
Deltapine 50	4.4	1.12	82	25.0	9.2
Deltapine 51	4.5	1.14	82	25.5	9.0
Deltapine 90	5.0	1.10	83	27.5	7.2
Deltapine 5415	4.8	1.08	83	30.0	9.2
Deltapine 5690	4.8	1.16	81	29.0	8.0
DES 119	4.5	1.10	85	28.0	9.4
Georgia King	4.8	1.12	86	28.0	8.4
HS 23	4.2	1.08	83	27.5	8.2
HS 46	4.2	1.13	83	28.5	8.2
KC 311	5.0	1.10	84	30.0	7.8
PD 3	4.4	1.12	83	27.0	8.0
SS 35	4.1	1.13	86	27.0	8.6
SS 533	4.4	1.13	86	30.0	9.2
Suregrow 1001	4.6	1.16	87	31.0	8.2
Stoneville LA 887	4.3	1.14	86	29.5	8.6
Stoneville 324	4.2	1.10	80	32.0	8.2
Stoneville 453	4.7	1.08	82	27.0	8.6
Stoneville 907	4.6	1.11	83	27.5	8.6
Terra C 40	4.4	1.13	83	24.0	9.8
Terra 207	4.4	1.11	84	27.5	9.6
Tropical 225	4.3	1.15	84	30.0	8.2

TABLE 15. Cotton Fiber Analysis, HVI, Tallassee, Alabama, 1991

Brand-variety	Micronaire	Length	Uniformity	Strength	Elongation
	<u>Units</u>	<u>In.</u>	<u>Pct.</u>	<u>g/tex</u>	<u>Pct.</u>
Chembred 219	4.4	1.11	84	25.5	8.6
Chembred 333	4.4	1.15	82	26.0	9.0
Chembred 407	4.8	1.16	86	30.5	8.4
Chembred 1135	4.0	1.14	86	28.0	8.6
Coker 320	4.3	1.20	84	28.0	8.2
Deltapine 20	4.4	1.09	83	26.0	10.0
Deltapine 50	4.3	1.12	82	24.0	9.4
Deltapine 51	4.4	1.13	82	23.5	9.6
Deltapine 90	4.5	1.12	82	28.0	8.6
Deltapine 5415	4.5	1.15	84	28.0	9.4
Deltapine 5690	4.5	1.09	85	30.0	8.6
DES 119	4.8	1.16	87	27.5	10.2
Georgia King	4.4	1.12	86	30.0	8.4
HS 23	4.2	1.15	87	29.0	8.6
HS 46	4.1	1.20	83	28.0	8.4
KC 311	4.5	1.13	84	29.5	8.4
PD 3	4.7	1.09	84	26.5	8.6
SS 35	4.0	1.14	86	28.5	8.8
SS 533	4.3	1.09	85	28.0	10.0
Suregrow 1001	4.4	1.11	83	29.0	8.4
Stoneville LA 887	4.3	1.15	86	27.5	9.4
Stoneville 324	3.9	1.15	84	27.0	8.6
Stoneville 453	4.5	1.15	84	25.0	9.4
Stoneville 907	4.8	1.13	84	27.5	9.4
Terra C 40	4.1	1.11	84	25.5	10.0
Terra 207	4.2	1.15	86	24.0	9.8
Tropical 225	4.2	1.16	85	27.5	8.8

TABLE 16. Cotton Fiber Analysis, HVI, Monroeville, Alabama, 1991

Brand-variety	Micronaire	Length	Uniformity	Strength	Elongation
	<u>Units</u>	<u>In.</u>	<u>Pct.</u>	<u>g/tex</u>	<u>Pct.</u>
Chembred 219	4.6	1.17	85	30.0	8.4
Chembred 333	4.6	1.18	86	26.0	9.4
Chembred 407	4.5	1.16	84	32.5	8.0
Chembred 1135	4.2	1.17	84	29.5	7.8
Coker 320	4.6	1.20	88	26.5	8.0
Deltapine 20	4.5	1.14	84	26.5	9.4
Deltapine 50	4.3	1.16	81	28.0	9.6
Deltapine 51	4.2	1.20	84	28.0	8.8
Deltapine 90	4.5	1.15	83	30.0	8.0
Deltapine 5415	4.8	1.21	86	29.5	9.2
Deltapine 5690	4.5	1.13	84	31.0	8.6
DES 119	4.9	1.17	86	27.5	10.2
Georgia King	4.1	1.19	88	30.0	7.8
HS 23	4.4	1.16	82	31.0	7.6
HS 46	4.8	1.24	85	32.0	8.4
KC 311	4.1	1.16	86	32.0	9.6
PD 3	4.4	1.21	84	30.0	8.0
SS 35	4.3	1.16	83	30.0	8.4
SS 533	4.2	1.14	83	30.5	10.0
Suregrow 1001	4.5	1.17	86	31.0	8.8
Stoneville LA 887	4.8	1.17	87	30.5	9.4
Stoneville 324	3.9	1.16	85	29.5	8.8
Stoneville 453	4.5	1.14	85	26.5	9.4
Stoneville 907	4.5	1.18	86	32.5	8.6
Terra C 40	4.2	1.13	83	25.5	9.8
Terra 207	4.4	1.17	85	31.5	9.2
Tropical 225	4.7	1.18	85	30.0	8.2

TABLE 17. Cotton Fiber Analysis, HVI, Brewton, Alabama, 1991

Brand-variety	Micronaire	Length	Uniformity	Strength	Elongation
	<u>Units</u>	<u>In.</u>	<u>Pct.</u>	<u>g/tex</u>	<u>Pct.</u>
Chembred 219	4.4	1.17	84	26.5	7.8
Chembred 333	4.4	1.19	89	25.5	9.6
Chembred 407	4.9	1.17	86	28.5	7.8
Chembred 1135	4.2	1.16	87	31.0	8.2
Coker 320	4.1	1.19	87	27.5	8.0
Deltapine 20	4.4	1.12	83	26.0	10.2
Deltapine 50	4.8	1.19	85	24.0	9.6
Deltapine 51	4.8	1.18	86	25.0	9.8
Deltapine 90	5.2	1.19	85	26.0	8.6
Deltapine 5415	4.5	1.18	86	30.0	9.8
Deltapine 5690	4.7	1.13	83	28.5	8.4
DES 119	4.6	1.17	86	26.0	9.8
Georgia King	4.7	1.17	87	30.5	8.8
HS 23	4.2	1.19	88	28.5	7.8
HS 46	4.7	1.20	83	26.5	8.6
KC 311	4.4	1.16	84	30.5	8.4
PD 3	4.3	1.20	89	28.5	7.8
SS 35	4.4	1.17	84	27.0	7.6
SS 533	4.1	1.15	86	29.5	10.2
Suregrow 1001	4.5	1.16	86	28.0	8.6
Stoneville LA 887	4.5	1.15	86	28.0	9.4
Stoneville 324	4.0	1.15	84	28.5	9.0
Stoneville 453	3.9	1.13	83	26.5	9.2
Stoneville 907	4.8	1.17	85	30.0	9.0
Terra C 40	4.4	1.09	84	25.0	10.4
Terra 207	4.6	1.17	87	24.0	9.4
Tropical 225	4.4	1.21	82	32.5	8.2

TABLE 18. Cotton Fiber Analysis, HVI, Headland, Alabama, 1991

Brand-variety	Micronaire	Length	Uniformity	Strength	Elongation
	Units	In.	Pct.	g/tex	Pct.
Chembred 219	4.4	1.13	83	24.5	8.2
Chembred 333	4.6	1.11	87	24.5	10.2
Chembred 407	4.2	1.13	85	34.5	8.6
Chembred 1135	4.3	1.11	87	25.5	8.4
Coker 320	4.3	1.14	84	28.5	8.4
Deltapine 20	4.1	1.10	82	25.0	10.2
Deltapine 50	4.4	1.19	84	24.5	10.0
Deltapine 51	4.5	1.17	84	25.5	9.8
Deltapine 90	4.3	1.07	83	27.5	8.8
Deltapine 5415	4.6	1.13	87	27.5	10.6
Deltapine 5690	3.9	1.11	83	31.5	8.6
DES 119	4.9	1.14	85	29.5	10.2
Georgia King	4.5	1.13	85	28.5	8.4
HS 23	3.8	1.18	86	30.5	8.6
HS 46	4.2	1.15	85	29.5	8.6
KC 311	4.1	1.10	84	29.5	8.6
PD 3	4.0	1.08	83	29.0	8.8
SS 35	4.2	1.13	84	26.0	8.8
SS 533	3.8	1.13	86	31.0	10.6
Suregrow 1001	4.9	1.17	87	32.0	8.4
Stoneville LA 887	--	--	--	--	--
Stoneville 324	4.2	1.14	84	27.0	9.4
Stoneville 453	4.1	1.10	83	24.5	9.4
Stoneville 907	4.7	1.13	87	27.0	9.8
Terra C 40	--	--	--	--	--
Terra 207	4.7	1.14	84	25.0	9.0
Tropical 225	3.9	1.13	83	26.0	9.2

TABLE 19. Cotton Fiber Analysis, HVI, Fairhope, Alabama, 1991

Brand-variety	Micronaire	Length	Uniformity	Strength	Elongation
	<u>Units</u>	<u>In.</u>	<u>Pct.</u>	<u>g/tex</u>	<u>Pct.</u>
Chembred 219	3.3	1.16	82	27.5	8.8
Chembred 333	3.6	1.18	82	28.5	8.6
Chembred 407	3.2	1.12	82	29.5	8.8
Chembred 1135	3.2	1.13	79	28.5	8.6
Coker 320	3.7	1.19	83	29.0	8.6
Deltapine 20	3.4	1.13	83	25.0	10.4
Deltapine 50	3.4	1.20	83	28.0	10.0
Deltapine 51	3.7	1.19	80	26.5	9.4
Deltapine 90	3.5	1.17	84	33.0	8.6
Deltapine 5415	3.1	1.15	81	28.5	9.8
Deltapine 5690	3.8	1.14	84	30.0	8.4
DES 119	4.0	1.18	84	26.5	10.4
Georgia King	3.6	1.20	85	30.5	8.8
HS 23	3.1	1.17	81	31.0	9.2
HS 46	3.6	1.21	84	30.5	8.6
KC 311	3.4	1.15	82	29.0	8.6
PD 3	3.5	1.17	80	28.5	8.8
SS 35	3.1	1.14	79	29.0	9.2
SS 533	3.1	1.17	85	26.0	9.8
Suregrow 1001	3.6	1.20	83	32.0	9.0
Stoneville LA 887	3.1	1.12	80	28.5	9.4
Stoneville 324	3.2	1.13	80	27.0	9.2
Stoneville 453	3.5	1.11	84	25.0	9.6
Stoneville 907	3.4	1.14	83	30.5	9.6
Terra C 40	3.2	1.11	81	22.0	10.4
Terra 207	3.6	1.15	83	27.0	9.8
Tropical 225	3.5	1.15	83	32.0	9.4

TABLE 20. Cotton Fiber Analysis, HVI, Irrigated Cotton, Belle Mina, Alabama, 1991

Brand-variety	Micronaire	Length	Uniformity	Strength	Elongation
	<u>Units</u>	<u>In.</u>	<u>Pct.</u>	<u>g/tex</u>	<u>Pct.</u>
Chembred 407	5.1	1.13	87	27.5	9.2
Chembred 1135	4.5	1.06	85	27.0	9.0
Coker 130	4.2	1.14	85	28.0	9.2
Coker 320	5.1	1.14	85	27.0	9.0
DES 119	4.8	1.10	83	27.5	10.8
Deltapine 20	5.0	1.09	84	26.5	11.2
Deltapine 50	5.3	1.09	85	25.5	10.6
Deltapine 51	5.5	1.11	81	25.5	10.4
Deltapine 90	4.7	1.10	86	31.0	9.4
Deltapine 5415	5.1	1.13	86	30.0	10.4
Deltapine 5690	5.1	1.13	84	31.5	9.0
HS 46	5.0	1.12	86	31.0	9.6
KC 311	5.0	1.13	84	31.5	9.4
PD 3	4.9	1.12	85	30.0	8.8
Stoneville 453	5.2	1.08	83	24.5	9.8
Stoneville 907	5.4	1.13	87	28.0	10.0
Suregrow 1001	5.0	1.14	86	32.5	9.2
Terra 207	4.9	1.14	85	29.0	9.6

TABLE 21. Sources of Seed for the 1991 Cotton Variety Tests

Deltapine 90	Delta and Pine Land Co.
Deltapine 50	Scott, Mississippi
Deltapine 51	
Deltapine 20	
Deltapine 5415	
Deltapine 5690	
Stoneville 907	Stoneville Pedigreed Seed Co.
Stoneville 453	Stoneville, Mississippi
Stoneville 324	
Stoneville LA 887	
KC 311	
Coker 315	
Coker 130	
Coker 320	
PD 3	Pee Dee Experiment Station Florence, South Carolina
Tifcot 56	Georgia Coastal Plain Experiment Station
Georgia King	Tifton, Georgia
Terra C 40	Terra International, Inc.
Terra 207	Memphis, Tennessee
HS 23	Hy Performer Seed Co.
HS 46	Memphis, Tennessee
Tropical 225	
Suregrow 1001	Ellis Brothers Seed, Inc. Centre, Alabama
Chembred 219	Chembred, Inc.
Chembred 407	Maricopa, Arizona
Chembred 1135	
Chembred 333	
Paymaster HS 26	Cargill Hybrid Seed Aiken, Texas
SS 35	Seed Source, Inc.
SS 533	Leland, Mississippi
Acala 1517-88	New Mexico State University Las Cruces, New Mexico

RECOMMENDED COTTON VARIETIES FOR ALABAMA

The list of recommended varieties given below was prepared by the author of this report and Keith Edmisten, Extension Agronomist, based on variety test performance for a least 3 years. Varieties differ in performance at individual locations, so selection should be based largely on variety performance at a site that most nearly represents the grower's local situation. As a general rule, a yield difference in the order of 10 percent is needed for varieties to be considered truly different. The recommended varieties listed alphabetically are:

Coker 130	Chembred 219**
Coker 315*	Chembred 407**
Coker 320	Chembred 1135**
Deltapine 20	Deltapine 5415**
Deltapine 50	Deltapine 5690**
Deltapine 51	Georgia King**
Deltapine 90	HS 23**
DES 119	Stoneville LA 887**
HS 46*	Terra 207**
KC 311	
PD 3	
Stoneville 453*	
Stoneville 907	
Suregrow 1001	
Terra C 40	
Tifcot 56*	
Tropical 225	

*Not suited for soils where fusarium wilt has been a problem.

**Tested for two years only and recommended conditionally.

