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Cotton Variety Tests
in the
Yazoo-Mississippi Delta
1943-45

By

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MISSISSIPPI STATE COLLEGE
AGRICULTURAL EXPERIMENT STATION
CLARENCE DORMAN, Director



Cotton Variety Tests in the Yazoo-Mississippi Delta, 1943-45

By J. WINSTON NEELY and SIDNEY G. BRAIN
Delta Branch Experiment Station, Stoneville

For many years the Delta Branch Station has been testing varieties of cotton at Stoneville and on selected plantations in other representative sections of the Yazoo-Mississippi Delta in an effort to evaluate the performance of the various cottons under as nearly as possible the same conditions that they are to be grown by Delta planters.

It has been the policy of the station to adapt the variety tests to the current needs of producers, buyers, spinners, weavers, and oil-mill operators for information relative to the characteristics of varieties. During the time that the boll weevil was first becoming a factor in production, information was obtained regarding the relative boll-weevil tolerance of cotton varieties because of earliness. When pathogenic wilt became a production factor in some parts of the Delta, information was provided regarding the relative wilt resistance of the different varieties.

At the present time cotton mills are paying a great deal of attention to tensile strength of fiber and fiber length uniformity, since these characteristics, along with length, give an indication of the resulting manufacturing quality of the cotton. The current report is the third from the Delta Station in which tensile strength of fiber and fiber length uniformity for each of the varieties grown at each of the locations have been reported.

As additional information relative to the characteristics of cotton varieties is required, the tests will be planned to supply as much of this information as possible.

During the past 3 years, the following characteristics of the most common-

ly planted varieties have been determined: (1) Yield of seed cotton, (2) yield of lint, (3) gin turn-out, (4) staple length, (5) size of boll, (6) earliness, (7) fiber tensile strength, (8) length uniformity of fiber, and (9) money value per acre.

The yields of seed cotton are based upon the weights harvested from ten, one-row plots at each location each season.

The yields of lint are based upon the respective yields of seed cotton and gin turn-outs.

Gin turn-out values were determined by ginning ten, 100-boll samples which were picked from each variety at each location during each of the three seasons.

The staple lengths of each variety at each location were determined by classifiers of the Staple Cotton Cooperative Association, Greenwood, Mississippi, and of the Greenwood office of the Board of Cotton Examiners, Production and Marketing Administration, of the U. S. Department of Agriculture.

The sizes of boll are based upon the average weight of ten, 100-boll samples from each variety at each location.

The percentage of cotton obtained from the first picking, which is considered a measure of earliness, was determined by dividing the weight of the first picking by the weight of the total production.

The fiber tensile strength and the length uniformity of fiber were determined in the Stoneville Fiber Laboratory of the Production and Marketing Administration.

The money values per acre are based upon: (1) Yields of seed and lint, (2)

Table 1. Stoneville cotton variety test, 1945.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking	Fiber tensile strength	Fiber length uniformity	Total money value		
	Seed cotton	Lint							Mid-dling	Strict Low Mid-dling	Low Mid-dling
	Lbs.	Lbs.	Pct.	1/32 in.	Bolls	Pct.	Lbs./sq.in.	Ratio	Dols.	Dols.	Dols.
Bobdel	2872	948	33.0	35.7	67.5	33.4	83,600	83.0	304	291	252
Bobshaw 1..	2928	1016	34.7	34.9	66.5	27.1	82,800	82.7	310	293	261
Coker 100-9	2865	1043	36.4	36.2	66.5	23.9	81,800	80.0	341	312	266
Coker 100- Staple Str. 1	2821	990	35.1	36.6	65.0	22.9	78,900	80.3	335	306	257
Delfos 444....	2975	890	29.9	36.9	78.9	23.2	74,500	79.7	320	292	244
Delfos 531C..	2601	843	32.4	37.0	74.7	33.6	78,300	78.9	303	277	230
Delfos 651..	2659	877	33.0	36.9	72.6	34.4	77,400	79.7	313	285	238
Delfos 9169..	2947	1020	34.6	36.3	63.5	28.2	78,000	80.5	345	317	269
Deltapine 14	2668	1025	38.4	34.9	71.4	22.4	77,700	83.6	308	290	254
Miller	3010	1072	35.6	32.8	59.3	25.9	76,900	85.5	309	296	264
Stoneville 2B	3049	1061	34.8	35.6	60.7	23.7	82,800	82.1	341	316	275
Wilds 17.....	2319	730	31.5	40.6	64.7	17.2	89,900	81.3	300	271	204
Dif. barely significant..	204	73	.7	.6	1.9	4.8	1,700	1.8	26	24	19
Dif. highly significant..	270	97	.9	.8	2.6	6.4	2,300	2.4	35	32	25

staple lengths, and (3) seed grades. The values for three grades— Middling, Strict Low Middling, and Low Middling—are given. The average prices for cotton of the respective grades and several lengths for 10 weeks of the 1945 marketing season in Memphis were used. The seed were evaluated on a basis of \$56 per ton, with premiums and discounts in accordance with official standards for grading cottonseed set up by the U. S. Department of Agriculture. The seed analyses were made in the Stoneville Laboratory of the Production and Marketing Administration of the U. S. Department of Agriculture.

The current report is divided into two parts: (1) The 1945 tests, and (2) the 1943 to 1945 tests.

Results of the 1945 Tests

During the 1945 season the Delta Branch Experiment Station conducted cotton variety tests at the following locations in the Yazoo-Mississippi Delta: Stoneville, Jonestown, Money, Heathman, Valley Hill, Yazoo City, and Kelso.

Excessive amounts of rainfall during the planting, growing, and harvesting

seasons occurred at all locations.

Stoneville Test

The Stoneville test was located at the Delta Branch Experiment Station and was conducted in cooperation with the late J. W. Whitaker, county agent of Washington County. The soil is a sandy loam, typical of banks along upper Deer Creek. A nitrogenous fertilizer was "bedded on" about 2 weeks before planting. The test was planted on April 27. The first picking was made on September 18, and the second and third pickings were made on October 11 and December 7, respectively. Results of the 1945 Stoneville tests are given in table 1.

When comparisons are based upon Middling grade, the following varieties were leading money-value producers: Delfos 9169, Coker 100-9, Stoneville 2B, Coker 100-Staple Strain 1, and Delfos 444. If comparisons are made on the basis of Strict Low Middling grade, the leading varieties are Delfos 9169, Stoneville 2B, Coker 100-9, Coker 100-Staple Strain 1, Miller, and Bobshaw 1. The following varieties are leading money-value producers when comparisons are

Table 2. Jonestown cotton variety test, 1945.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking	Fiber tensile strength	Fiber length uniformity	Total money value		
	Seed cotton	Lint							Mid-dling	Strict Low Mid-dling	Low Mid-dling
	Lbs.	Lbs.	Pct.	1/32 in.	Bolls	Pct.	Lbs./sq.in.	Ratio	Dols.	Dols.	Dols.
Bobdel	1623	489	30.1	36.5	69.8	76.1	83,300	76.5	172	157	134
Bobshaw 1....	1627	513	31.5	35.3	65.9	72.1	82,600	76.2	163	153	136
Coker 100-9	1158	395	34.1	36.5	72.4	79.2	81,900	71.3	131	120	101
Coker 100- Staple Str. 1	1419	468	33.0	37.1	70.3	70.9	80,900	72.2	164	149	123
Delfos 444....	1365	366	26.8	37.4	79.2	75.9	74,400	73.6	138	126	104
Delfos 531C	1439	445	30.9	36.9	74.5	76.1	78,300	72.7	159	145	122
Delfos 651	1400	430	30.7	36.6	71.0	77.8	78,400	73.5	151	138	118
Delfos 9169	1591	522	32.8	35.9	63.9	72.3	77,400	74.4	173	160	139
Deltapine 14	1290	490	38.0	35.6	76.8	64.3	77,900	77.5	151	140	122
Miller	1564	533	34.1	33.1	58.5	65.8	77,000	77.8	155	148	132
Stoneville 2B	1373	450	32.8	35.5	62.2	67.7	80,400	75.0	144	135	118
Wilds 17....	901	266	29.5	41.1	66.2	42.4	86,500	75.4	111	100	75
Dif. barely significant	185	62	.8	.5	2.0	6.7	2,000	1.7	21	19	16
Dif. highly significant	245	83	1.0	.7	2.6	8.8	2,700	2.3	28	25	21

made on the basis of Low Middling: Stoneville 2B, Delfos 9169, Coker 100-9, Miller, Bobshaw 1, and Coker 100-Staple Strain 1.

Jonestown Test

The Jonestown test was conducted in cooperation with Carey Cocke, Jr., farm operator, and Harris Barnes, county agent of Coahoma County. The test is located on the Eagle Nest Plantation west of Jonestown. The soil is a sandy loam and is well drained. A nitrogenous fertilizer was "bedded on" and the test planted on May 11. The first and second pickings were made on October 18 and February 21, respectively. The plants were rank. There was a light boll-weevil infestation and considerable boll rot. Pathogenic wilt killed a few plants but probably was of no consequence. There was some falling out of cotton between the first and last pickings, but very little difference in this respect between varieties was noted. The results of the tests conducted at Jonestown in 1945 are given in table 2.

The upper money value producing group includes Delfos 9169, Bobdel, Coker 100-Staple Strain 1, Bobshaw 1,

Delfos 531C, and Miller when comparisons are made on the basis of Middling grade. Delfos 9169, Bobdel, Bobshaw 1, Coker 100-Staple Strain 1, Miller, and Delfos 531C are leading money-value producers in the Strict Low Middling comparisons. Delfos 9169, Bobshaw 1, Bobdel, Miller, and Coker 100-Staple Strain 1 lead in regard to money value per acre when comparisons are based upon the Low Middling grade.

Money Test

In cooperation with H. L. Gary, president of Wildwood, Incorporated, and J. S. McBee, county agent of Leflore County, a test was conducted near Money on the east banks of the Tallahatchie River. The soil is a fine, sandy loam and is well drained. A nitrogenous fertilizer was "bedded on" before planting. The test was planted on April 19. "Damping off" of seedlings resulted in irregular stands, but apparently none of the varieties were discriminated against because of poor stands. The first picking was made on September 28 and the second picking on November 23. The results of the 1945 Money tests are given in table 3.

Table 3. Money cotton variety test, 1945.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking	Fiber tensile strength	Fiber length uniformity	Total money value		
	Seed cotton	Lint							Mid-dling	Strict Low Mid-dling	Low Mid-dling
	Lbs.	Lbs.	Pct.	1/32 in.	Bolls	Pct.	Lbs./sq.in.	Ratio	Dols.	Dols.	Dols.
Bobdel	1950	597	30.6	35.0	69.2	61.7	79,300	77.6	192	181	161
Bobshaw 1..	2204	734	33.3	34.9	67.8	61.6	75,000	77.7	226	214	190
Coker 100-9	1977	700	35.4	35.4	68.7	58.7	76,400	75.2	216	201	177
Coker 100- Staple Str. 1	2141	728	34.0	36.1	67.9	56.3	73,100	74.9	239	220	189
Delfos 444..	2301	656	28.5	35.7	75.4	62.4	68,300	75.0	223	208	182
Delfos 531C..	2175	689	31.7	35.9	72.1	64.8	72,800	73.8	232	215	187
Delfos 651....	2183	694	31.8	36.2	69.9	63.5	74,900	73.4	238	219	189
Delfos 9169..	2014	677	33.6	35.4	60.3	65.4	73,900	75.8	217	202	178
Deltapine 14	1987	761	38.3	34.7	73.7	50.8	73,400	77.8	224	212	187
Miller	2086	738	35.4	32.8	60.9	57.6	70,200	79.9	214	205	182
Stoneville 2B	2323	783	33.7	35.0	60.8	60.1	76,800	75.8	241	228	203
Wilds 17....	1547	463	29.9	39.9	66.6	47.3	83,800	76.9	188	170	131
Dif. barely significant..	202	68	.6	.4	1.8	5.1	2,100	1.3	22	20	18
Dif. highly significant..	268	90	.8	.6	2.4	6.7	2,800	1.7	29	27	23

Stoneville 2B, Coker 100-Staple Strain 1, Delfos 651, Delfos 531C, Bobshaw 1, Deltapine 14, and Delfos 444 lead the test in money value produced on the basis of Middling and Strict Low Middling comparisons. Stoneville 2B, Bobshaw 1, Coker 100-Staple Strain 1, Del-

fos 651, Delfos 531C, and Deltapine 14 are leading money-value producers in the Low Middling comparisons.

Heathman Test

The Heathman test, in Sunflower County, was conducted in cooperation with Roy Kuykendall, general manager

Table 4. Heathman cotton variety test, 1945.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking	Fiber tensile strength	Fiber length uniformity	Total money value		
	Seed cotton	Lint							Mid-dling	Strict Low Mid-dling	Low Mid-dling
	Lbs.	Lbs.	Pct.	1/32 in.	Bolls	Pct.	Lbs./sq.in.	Ratio	Dols.	Dols.	Dols.
Bobdel	2102	660	31.4	36.1	63.6	67.1	80,200	78.3	225	207	179
Bobshaw 1..	2281	746	32.7	35.6	61.9	54.7	78,600	78.9	242	224	196
Coker 100-9	2199	774	35.2	36.3	64.1	59.5	79,000	76.3	255	234	198
Coker 100- Staple Str. 1	2522	847	33.6	37.6	61.4	53.2	75,300	78.2	305	277	224
Delfos 444..	2608	759	29.1	37.2	69.3	61.4	70,900	78.7	282	257	213
Delfos 531C..	2417	776	32.1	37.6	66.2	61.4	75,100	75.4	286	260	212
Delfos 651....	2270	722	31.8	36.8	65.8	62.3	74,700	77.3	257	235	197
Delfos 9169..	2343	790	33.7	36.4	56.7	60.5	75,300	77.8	269	246	210
Deltapine 14	2052	802	39.1	35.0	67.2	51.9	74,200	79.4	236	223	196
Miller	2144	765	35.7	33.0	54.4	55.9	75,000	81.2	221	212	188
Stoneville 2B	2373	795	33.5	36.0	56.6	59.5	77,700	76.1	263	242	210
Wilds 17....	1767	523	29.6	40.9	63.3	51.5	85,900	76.3	218	196	147
Dif. barely significant..	221	75	.6	.6	1.6	5.1	2,200	1.9	27	24	20
Dif. highly significant..	293	99	.8	.8	2.1	6.7	2,900	2.6	36	32	26

of Bobshaw Chemurgic Plantation, and H. A. Carpenter, county agent. The field is located on Highway 82. The soil is a light colored, well drained, silt loam. A nitrogenous fertilizer was "bedded on" before planting. The test was planted on May 5. Stands were irregular due to "damping off," but apparently none of the varieties were discriminated against because of poor stands. Boll-weevil infestations were heavy. The first picking was made on September 24 and the second picking on November 28. The results of the Heathman test are given in table 4.

When comparisons were made upon the basis of Middling or Strict Low Middling grades, Coker 100-Staple Strain 1, Delfos 531C, and Delfos 444 were leading money-value-per-acre producers. Coker 100-Staple Strain 1, Delfos 444, Delfos 531C, Delfos 9169, and Stoneville 2B produced significantly higher money values per acre than did the other varieties when comparisons were based upon Low Middling grade.

Valley Hill Test

In cooperation with L. S. Hemphill, landowner, and R. A. Cooper, county agent, a test was conducted at Valley Hill in Carroll County about 6 miles east of Greenwood on Highway 82. The test is on the eastern border of the Delta. The surface soil is a light colored, well drained, silt loam made up of outwash from the hills. A nitrogeous fertilizer was "bedded on" before planting. The test was planted on May 23. An earlier planting on April 20 failed to give sufficient stands. Pathogenic wilt was very bad. Delfos 651, Delfos 444, Delfos 531C, Coker 100-Staple Strain 1, and Coker 100-9 were the most susceptible varieties. Miller and Bobshaw 1 were the most resistant varieties. Boll-weevil infestations were very heavy, and losses due to weevil were of some consequence, particularly in the late varieties. The test was picked on October 19. Earliness data are not available. The results of the 1945 Valley Hill test are given in table 5.

Delfos 9169, Bobdel, Miller, Bobshaw 1, and Coker 100-Staple Strain 1 were

Table 5. Valley Hill cotton variety test, 1945.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Fiber tensile strength	Fiber length uniformity	Total money value		
	Seed cotton	Lint						Middling	Strict Low Middling	Low Middling
	Lbs.	Lbs.	Pct.	1/32 in.	Bolls	Lbs./sq.in.	Ratio	Dols.	Dols.	Dols.
Bobdel	1501	444	29.6	35.1	65.5	79,100	77.9	143	135	121
Bobshaw 1	1428	456	31.9	34.3	64.7	78,400	78.2	140	133	118
Coker 100-9	790	269	34.1	35.6	66.0	77,400	72.0	84	78	68
Coker 100-Staple Str. 1	1231	409	33.2	36.1	65.3	75,800	74.6	135	124	106
Delfos 444	1205	329	27.3	36.4	75.4	68,900	76.7	118	109	93
Delfos 531C	782	239	30.5	35.9	75.7	74,900	72.2	81	75	65
Delfos 651	973	298	30.6	35.9	68.8	76,100	74.8	101	93	81
Delfos 9169	1454	475	32.7	35.4	62.0	74,300	76.0	152	142	126
Deltapine 14	1006	377	37.5	35.0	73.1	75,500	77.8	113	106	93
Miller	1411	492	34.9	32.5	57.4	74,600	80.4	141	136	121
Stoneville 2B	1274	417	32.7	34.8	59.8	77,800	75.5	128	121	108
Wilds 17	873	254	29.1	39.8	66.2	87,200	75.3	99	90	69
Dif. barely significant	173	57	.7	.4	2.0	2,100	1.5	18	17	15
Dif. highly significant	228	76	1.0	.6	2.7	2,800	2.0	24	23	20

Table 6. Yazoo City cotton variety test, 1945.

Variety	Yield per acre		Gin turn- out	Staple length	Bolls per lb. seed cotton	Percent picked first picking	Fiber tensile strength	Fiber length uni- formity	Total money value		
	Seed cotton	Lint							Mid- dling	Strict Low Mid- dling	Low Mid- dling
	Lbs.	Lbs.	Pct.	1/32 in.	Bolls	Pct.	Lbs./sq.in.	Ratio	Dols.	Dols.	Dols.
Bobdel	1790	551	30.8	35.6	68.8	85.8	77,400	77.9	187	174	153
Bobshaw 1 ..	1913	626	32.7	35.3	68.1	84.1	75,300	77.4	207	194	171
Coker 100-9	1644	579	35.2	35.9	70.6	85.0	76,500	76.1	187	173	149
Coker 100- Staple Str. 1	1888	648	34.3	36.5	68.5	83.5	73,200	76.9	214	196	164
Delfos 444 ..	2091	594	28.4	36.4	76.7	87.5	69,400	77.8	204	188	160
Delfos 531C ..	1908	605	31.7	36.3	75.1	88.8	73,000	75.1	201	184	158
Delfos 651 ..	1828	578	31.6	36.4	70.7	86.5	74,000	75.8	200	183	157
Delfos 9169 ..	2017	670	33.2	35.4	64.0	86.8	73,400	75.7	213	198	174
Deltapine 14	1877	717	38.2	34.7	73.3	80.4	71,700	79.4	209	198	175
Miller	1795	623	34.7	32.9	61.2	80.8	69,600	80.9	177	170	152
Stoneville 2B	1903	632	33.2	35.5	61.8	87.9	77,200	75.7	200	187	164
Wilds 17	1377	410	29.8	40.1	64.8	82.2	85,000	76.4	185	167	128
Dif. barely significant..	178	62	.7	.5	1.9	3.7	1,500	1.8	23	21	17
Dif. highly significant	235	82	1.0	.6	2.5	4.9	2,000	3.2	31	28	23

leading money-value producers when comparisons were made upon the basis of Middling grade.

When comparisons were made on the basis of Strict Low Middling or Middling grades, Delfos 9169, Bobdel, Miller, and Bobshaw 1 were leading money-value-per-acre producers.

Yazoo City Test

The Yazoo City test was conducted on the Marx Schaefer farm 3 miles west of Yazoo City in cooperation with Mr. Schaefer and with A. R. Ruby, county agent of Yazoo County. The soil is a fine sandy loam and is well drained. A nitrogenous fertilizer was "bedded on" and the test planted on April 12. There was considerable "damping off" of seedlings, but the stands were fairly good. The plants grew tall, and the foliage was very heavy. Boll rot and boll-weevil infestations were very bad. The test was picked on September 26 and again on November 29. Results of the Yazoo City test are given in table 6.

Leading money-value producers were Coker 100-Staple Strain 1, Delfos 9169,

Deltapine 14, Bobshaw 1, Delfos 444, Delfos 531C, Delfos 651, and Stoneville 2B when comparisons are made on the basis of Middling grade. Delfos 9169, Deltapine 14, Coker 100-Staple Strain 1, Bobshaw 1, Delfos 444, Stoneville 2B, Delfos 531C, and Delfos 651 lead in regard to money value per acre when comparisons are based upon Strict Low Middling grade. When comparisons are based upon Low Middling grade, the following varieties were the leading money-value producers: Deltapine 14, Delfos 9169, Bobshaw 1, Coker 100-Staple Strain 1, Stoneville 2B, Delfos 444, and Delfos 531C.

Kelso Test

The Kelso test was conducted in cooperation with James Hand of Kelso Plantation and C. L. Cary, county agent of Sharkey County. It is located on the Sharkey-Issaquena county line 11 miles south of Cary on Highway 61. The soil is a sandy loam and is well drained. The test was planted in check rows on April 17. The rows were 40 inches apart each way. Six plants were left in each

Table 7. Kelso cotton variety test, 1945.

Variety	Yield per acre		Gin turn- out	Staple length	Bolls per lb. seed cotton	Fiber tensile strength	Fiber length uni- formity	Total money value		
	Seed cotton	Lint						Mid- dling	Strict Low Mid- dling	Low Mid- dling
	Lbs.	Lbs.	Pct.	1/32 in.	Bolls	Lbs./sq.in.	Ratio	Dols.	Dols.	Dols.
Bobdel	1385	414	29.9	35.4	70.0	75,100	76.3	135	127	112
Bobshaw	1439	435	30.2	34.7	68.2	73,300	77.6	137	130	116
Coker 100-9...	1389	454	32.7	35.9	72.0	74,500	75.8	148	136	118
Coker 100-Staple Str. 1.....	1363	425	31.2	36.4	69.5	71,600	74.0	146	134	114
Delfos 444.....	1615	417	25.8	36.2	79.1	67,700	74.3	150	138	120
Delfos 531C	1483	430	29.0	36.3	73.6	70,800	73.5	152	140	121
Delfos 651.....	1468	421	28.7	36.1	72.9	71,300	74.2	147	136	118
Delfos 9169...	1390	441	31.7	35.3	63.1	69,900	74.6	142	133	118
Deltapine 14	1179	428	36.3	35.2	74.7	70,700	77.6	130	122	108
Miller	1161	383	33.0	32.9	63.3	68,300	79.6	113	109	97
Stoneville 2B	1513	474	31.3	35.2	61.8	74,600	75.1	152	143	126
Wilds 17.....	990	276	27.9	40.0	66.2	81,900	76.8	114	103	79
Dif. barely significant	122	39	.6	.4	2.0	1,900	1.7	12	12	10
Dif. highly significant	162	51	.8	.5	2.6	2,400	2.2	16	15	13

hill. The plants grew very tall, and the foliage was very heavy. Boll-weevil infestations were bad. The entire production was picked on October 16. Earliness data were not obtained. Results of the 1945 Kelso test are given in table 7.

Delfos 531C, Stoneville 2B, Delfos 444, Coker 100-9, Delfos 651, Coker 100-Staple Strain 1, and Delfos 9169 were leading money-value-per-acre producers when comparisons were made on the basis of Middling and Strict Low Middling grades. When comparisons were made on the basis of Low Middling grade, Stoneville 2B, Delfos 531C, Delfos 444, Coker 100-9, Delfos 651, Delfos 9169, and Bobshaw 1 were leading money-value-per-acre producers.

Results From 2- and 3-Year Variety Studies

Seasonal conditions have a marked effect upon the yield and other characteristics of cotton varieties. For this reason, data from a variety study conducted for only one season are probably not indicative of long-time performance. The results obtained by averaging the data

obtained by conducting variety tests over a period of years provide much more useful information.

Variety tests similar to those described above were conducted during the 3 years 1943 to 1945 at Stoneville, Money, Heathman, Valley Hill, and Yazoo City, and during the years 1944 and 1945 at Kelso. Only 10 varieties were common to tests grown during all of the seasons.

Methods of conducting the tests, collecting samples, and analyzing data are the same as outlined for the 1945 tests. Dates of planting and picking at the different locations in 1943 and 1944 are given in bulletins 398 and 416 of the Mississippi Agricultural Experiment Station. The dates for the 1945 tests were given earlier in this report.

The 1943 and 1944 growing seasons in the Yazoo-Mississippi Delta were characterized by marked deficiencies of soil moisture during the boll-maturation period. The staple lengths of all varieties were shorter than normal, and the lengths of Bobdel, Coker 100, and the Delfos strains were affected more by dry

Table 8. Yield and other data from cotton variety tests—Stoneville—3 year averages, 1943-45.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking	Fiber tensile strength	Fiber length uniformity	Total money value		
	Seed cotton	Lint							Mid-dling	Strict Low Mid-dling	Low Mid-dling
Bobdel	Lbs. 2335	Lbs. 754	Pct. 32.3	1/32 in. 35.4	Bolls 73.2	Pct. 56.4	Lbs./sq.in. 87,100	Ratio 79.7	Dols. 194	Dols. 180	Dols. 152
Bobshaw 1..	2371	830	35.0	34.4	71.7	49.6	87,000	80.2	203	190	163
Coker 100*..	2346	852	36.3	35.3	72.1	46.7	83,400	76.4	218	201	171
Delfos 444..	2387	702	29.4	36.5	84.5	51.0	78,500	78.1	199	178	144
Delfos 531C	2306	749	32.5	36.2	79.8	52.6	80,200	74.8	207	186	154
Delfos 651..	2321	771	33.2	36.0	78.2	51.7	80,700	75.6	209	189	158
Deltapine 14	2333	931	39.9	34.6	77.2	42.9	79,400	80.3	229	214	184
Miller	2451	885	36.1	31.9	63.2	50.1	80,900	82.5	206	196	170
Stoneville 2B.	2614	920	35.2	35.2	64.8	45.8	83,600	77.6	233	216	185
Wilds 15**..	1978	625	31.6	40.2	74.2	38.1	92,500	76.1	213	187	132

*Coker 100-7 in 1943; Coker 100-8 in 1944; Coker 100-9 in 1945.

**Wilds 15 in 1943; Wilds 16 in 1944; Wilds 17 in 1945.

weather than were the lengths of the slower maturing varieties. Excessive amounts of rainfall during the planting, growing, and harvesting seasons occurred at all locations in 1945.

The yields of seed cotton and lint, gin turn-out, staple length, boll size, earliness, fiber tensile strength, uniformity of fiber length, and total money values, based upon Middling, Strict Low Middling, and Low Middling, are given in tables 8 to 13 for the respective locations.

The yields of seed cotton were determined by averaging the seed cotton yields obtained during each of the seasons that the tests were conducted at a given location.

The yield of lint was obtained by multiplying the average gin turn-out by the average yield of seed cotton per acre.

The gin turn-out data presented in each table were obtained by determining the mean lint percentages of 30 samples for each variety for the 3-year tests and of 20 samples for the 2-year tests.

The staple length, the number of bolls required for a pound of seed cotton, the percent of seed cotton picked during the first picking, the fiber tensile strength, and the fiber length uniformity ratio, were determined by averaging the values obtained for each variety during the seasons that the tests were conducted at a

given location.

The total money values per acre were obtained by using the average yields of seed cotton and lint, the average staple length for the 2- or 3-year period, the average seed grade for 1944 and 1945, and the price of lint for the respective grades and lengths for 1945.

During the 3-year period 1943 to 1945, the leading money value producing varieties at Stoneville were Stoneville 2B, Deltapine 14, and Coker 100.

At Money the leading money-value producers were Stoneville 2B, Deltapine 14, and Bobshaw 1.

The leading money-value producers at Heathman, based on the 3-year averages, were Stoneville 2B and Deltapine 14.

Stoneville 2B, Miller, Bobshaw 1, and Deltapine 14 were leading money-value producers at Valley Hill during the 3-year period.

The total money values produced by Deltapine 14, Stoneville 2B, and Bobshaw 1 were higher than the values produced by the other seven varieties at Yazoo City during the years 1943 to 1945.

At Kelso the leading money-value producing varieties during the 2-year period 1944 to 1945 were Delfos 531C, Coker 100, and Stoneville 2B.

Table 9. Yield and other data from cotton variety tests—Money—3-year averages, 1943-45.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking	Fiber tensile strength	Fiber length uniformity	Total money value		
	Seed cotton	Lint							Mid-dling	Strict Low Mid-dling	Low Mid-dling
	Lbs.	Lbs.	Pct.	1/32 in.	Bolls	Pct.	Lbs./sq.in.	Ratio	Dols.	Dols.	Dols.
Bobdel	1870	587	31.4	35.4	73.2	65.2	84,100	77.6	151	140	118
Bobshaw 1.	2059	698	33.9	34.6	70.4	60.2	82,300	77.7	171	161	138
Coker 100*..	1748	621	35.5	35.3	72.2	59.2	79,100	75.2	159	146	125
Delfos 444..	1988	567	28.5	36.5	81.3	61.8	74,500	75.0	161	144	117
Delfos 531C	1850	596	32.2	35.8	77.9	65.2	78,700	73.8	159	144	121
Delfos 651..	1859	602	32.4	36.0	75.7	63.5	79,000	73.4	164	147	123
Deltapine 14	1830	723	39.5	34.5	77.0	52.4	76,800	77.8	177	166	142
Miller	1885	671	35.6	32.3	62.5	62.0	78,000	79.9	157	149	129
Stoneville 2B	2112	720	34.1	35.1	64.8	60.4	81,300	75.8	181	168	144
Wilds 15**..	1407	428	30.4	40.1	72.5	53.1	89,400	76.9	145	128	91

*Coker 100-7 in 1943; Coker 100-8 in 1944; Coker 100-9 in 1945.

**Wilds 15 in 1943; Wilds 16 in 1944; Wilds 17 in 1945.

Table 10. Yield and other data from cotton variety tests—Heathman—3-year averages, 1943-45.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking	Fiber tensile strength	Fiber length uniformity	Total money value		
	Seed cotton	Lint							Mid-dling	Strict Low Mid-dling	Low Mid-dling
	Lbs.	Lbs.	Pct.	1/32 in.	Bolls	Pct.	Lbs./sq.in.	Ratio	Dols.	Dols.	Dols.
Bobdel	1547	501	32.4	35.1	79.7	72.7	84,200	76.2	126	117	100
Bobshaw 1.	1735	599	34.5	34.1	77.1	68.9	84,500	78.2	145	136	117
Coker 100*..	1596	575	36.0	34.7	81.0	68.3	80,700	74.3	142	133	114
Delfos 444..	1763	518	29.4	35.9	87.8	75.3	76,500	75.4	140	126	106
Delfos 531C	1635	538	32.9	35.7	85.7	73.7	78,800	73.0	142	130	109
Delfos 651..	1615	531	32.9	35.3	83.2	72.8	78,700	74.1	136	125	107
Deltapine 14	1555	627	40.3	33.9	83.4	61.8	76,200	77.6	151	142	122
Miller	1687	611	36.2	32.2	66.3	69.3	79,100	79.3	143	136	118
Stoneville 2B	1852	639	34.5	34.6	69.9	69.9	80,500	74.9	157	147	126
Wilds 15**..	1378	438	31.8	39.5	79.1	56.0	87,800	72.8	145	129	92

*Coker 100-7 in 1943; Coker 100-8 in 1944; Coker 100-9 in 1945.

**Wilds 15 in 1943; Wilds 16 in 1944; Wilds 17 in 1945.

Table 11. Yield and other data from cotton variety tests—Valley Hill—3-year averages, 1943-45.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking ***	Fiber tensile strength	Fiber length uniformity	Total money value		
	Seed cotton	Lint							Mid-dling	Strict Low Mid-dling	Low Mid-dling
	Lbs.	Lbs.	Pct.	1/32 in.	Bolls	Pct.	Lbs./sq.in.	Ratio	Dols.	Dols.	Dols.
Bobdel	1145	356	31.1	34.8	76.0	72.9	82,500	78.3	88	82	71
Bobshaw 1.	1148	383	33.4	34.1	75.6	67.7	82,400	78.2	93	87	75
Coker 100*..	879	312	35.5	34.7	75.5	72.9	77,600	73.7	77	72	62
Delfos 444..	1023	293	28.6	35.8	85.1	71.9	71,700	76.4	78	71	60
Delfos 531C	874	279	31.9	35.5	83.6	67.5	76,500	73.3	73	67	56
Delfos 651..	983	318	32.3	35.1	80.6	63.6	77,400	74.9	80	74	64
Deltapine 14	952	367	38.6	34.6	82.7	51.3	76,900	78.5	90	84	72
Miller	1154	413	35.8	31.9	66.8	62.1	77,100	80.5	96	91	79
Stoneville 2B	1172	400	34.1	34.4	69.1	61.2	79,200	75.7	98	92	79
Wilds 15**..	792	238	30.0	39.2	78.3	60.4	87,400	74.3	78	69	50

*Coker 100-7 in 1943; Coker 100-8 in 1944; Coker 100-9 in 1945.

**Wilds 15 in 1943; Wilds 16 in 1944; Wilds 17 in 1945.

***Based on 1944 data only.

Table 12. Yield and other data from cotton variety tests—Yazoo City—3-year averages, 1943-45.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking	Fiber tensile strength	Fiber length uniformity	Total money value		
	Seed cotton	Lint							Mid-dling	Strict Low Mid-dling	Low Mid-dling
Bobdel	Lbs. 1880	Lbs. 603	Pct. 32.1	1/32 in. 35.0	Bolls 76.9	Pct. 77.4	Lbs./sq.in. 82,500	Ratio 77.8	Dols. 150	Dols. 140	Dols. 120
Bobshaw 1..	2138	748	35.0	34.2	74.9	74.0	81,000	79.2	181	171	146
Coker 100*..	1852	678	36.6	35.0	77.8	73.9	78,300	75.4	168	157	135
Delfos 444...	2001	590	29.5	35.8	86.8	76.4	74,000	77.0	158	143	120
Delfos 531C	1975	654	33.1	35.6	83.2	77.5	77,500	73.6	172	157	133
Delfos 651...	2019	668	33.1	35.3	79.9	76.1	76,900	75.1	170	157	134
Deltapine 14	2070	832	40.2	34.0	81.8	70.3	75,600	79.3	200	189	162
Miller	2020	737	36.5	31.9	65.3	68.5	76,000	81.0	172	163	142
Stoneville 2B	2165	756	34.9	34.6	68.8	74.4	80,200	76.2	186	174	149
Wilds 15**..	1677	522	31.1	39.9	75.2	64.6	88,000	74.1	175	156	110

*Coker 100-7 in 1943; Coker 100-8 in 1944; Coker 100-9 in 1945.

**Wilds 15 in 1943; Wilds 16 in 1944; Wilds 17 in 1945.

Table 13. Yield and other data from cotton variety tests—Kelso—2-year averages, 1944-45.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking ***	Fiber tensile strength	Fiber length uniformity	Total money value		
	Seed cotton	Lint							Mid-dling	Strict Low Mid-dling	Low Mid-dling
Bobdel	Lbs. 1650	Lbs. 515	Pct. 31.2	1/32 in. 35.7	Bolls 73.0	Pct. 81.9	Lbs./sq.in. 77,900	Ratio 77.6	Dols. 137	Dols. 124	Dols. 105
Bobshaw 1..	1798	588	32.7	34.7	69.5	81.4	77,400	78.9	145	136	117
Coker 100*..	1763	615	34.9	35.4	73.1	76.4	76,000	76.5	159	146	124
Delfos 444...	1860	510	27.4	36.4	83.1	70.2	69,900	75.9	143	129	105
Delfos 531C	1885	590	31.3	36.2	76.7	82.5	73,600	73.6	163	147	121
Delfos 651...	1805	565	31.3	35.8	75.4	78.9	73,600	75.1	151	137	115
Deltapine 14	1560	596	38.2	35.1	75.1	73.9	72,000	78.8	149	139	119
Miller	1626	569	35.0	32.9	63.2	78.5	72,100	80.5	134	127	110
Stoneville 2B	1879	624	33.2	35.2	63.9	73.8	76,600	76.5	158	148	125
Wilds 15**..	1393	415	29.8	40.0	67.8	74.7	85,000	76.0	140	124	88

*Coker 100-8 in 1944; Coker 100-9 in 1945.

**Wilds 16 in 1944; Wilds 17 in 1945.

***Based on 1944 test only.