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in the  
**Yazoo-Mississippi Delta**  
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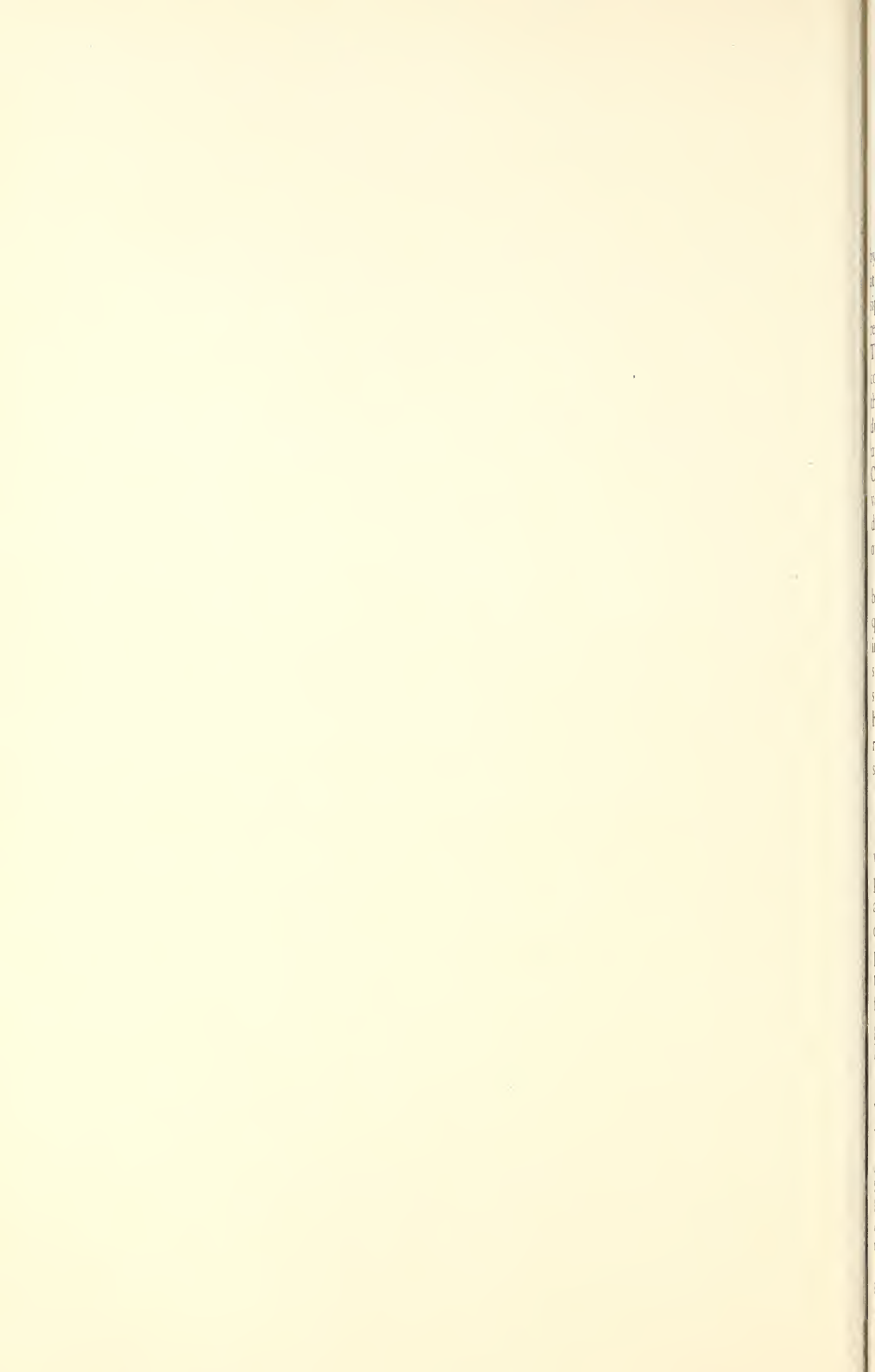
By

JAMES B. DICK and SIDNEY G. BRAIN

Delta Branch Experiment Station, Stoneville

MISSISSIPPI STATE COLLEGE  
AGRICULTURAL EXPERIMENT STATION

RUSSELL COLEMAN, Director



# Cotton Variety Tests in the Yazoo-Mississippi Delta, 1945-47

By JAMES B. DICK and SIDNEY G. BRAIN<sup>1</sup>

Cotton variety tests conducted in 1947 by the Delta Branch Experiment Station at seven locations in the Yazoo-Mississippi Delta were the continuation of a research project of many years standing. The objective is to obtain information concerning the relative performance of the leading varieties under varying production conditions approximating those under which cotton is grown in the Delta. Continuous effort is made to adapt the variety tests to current needs of producers, buyers, spinners, and oil mill operators.

Special attention is given by cotton breeders and spinners to the spinning quality of cotton. Fiber properties which influence spinning quality and yarn strength most are staple length, tensile strength and uniformity. Much progress has been made by cotton breeders in recent years toward increasing tensile strength of certain varieties.

## Procedure

Characteristics and fiber properties which have been determined and are reported upon are: Yield of seed cotton and of lint in pounds per acre, gin turnout, staple length, number of bolls per pound of seed cotton, earliness, fiber tensile strength, and fiber length uniformity. Total money value per acre is given, based upon Middling, Strict Low Middling, and Low Middling grades.

Yields of seed cotton are based upon weights harvested from 10 one-row plots

of each variety at each location. Yields of lint are based upon respective yields of seed cotton and gin turnouts.

For the Stoneville test the gin turnout, staple length, and fiber properties were determined from ten 100-boll samples from each variety. For the other locations 2-pound samples were drawn from the harvested seed cotton of all of four series, providing four samples of each variety.

Staple length of each variety for each location are determinations by classers of the Staple Cotton Cooperative Association, Greenwood, Mississippi, and of the Greenwood Office of the Board of Cotton Examiners, Production and Marketing Administration, United States Department of Agriculture.

Sizes of bolls are given only for Stoneville and are based upon the average weight of ten 100-boll samples from each variety. Relative boll size of varieties will hold for the other locations, within reasonable limits.

The percentage of cotton obtained at 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 fiber length uniformity are the findings from tests made of these cottons in the Knoxville Laboratory of the Division of Cotton and Other Fiber Crops, United States Department of Agriculture.

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

<sup>1</sup>Based upon results from cooperative research conducted by Mississippi Agricultural Experiment Station and the Division of Cotton and Other Fiber Crops, Bureau of Plant Industry, Soils and Agricultural Engineering, United States Department of Agriculture.

<sup>1</sup>Mr. Brain, former agronomist of the Delta Branch Station, died September 27, 1948.

the respective grades and several staple lengths for the active Memphis spot cotton market for September and October 1947 were used. The seed were evaluated on a basis of \$95 per ton, with premiums and discounts in accordance with official standards for grading cottonseed set up by the United States Department of Agriculture. Analyses of samples of seed taken at the first picking were used in determining grades in each test for the several varieties. The analyses were made in the Stoneville Laboratory of the Production and Marketing Administration.

Differences representing significance between varietal averages for each of the characteristics are included in the bottom two lines of the tables. To be considered significant, the difference between any two varietal averages in a column must be greater than the item designated as "barely significant." Varieties mentioned as leading varieties generally fall within the range of barely significant difference below the variety with highest value per acre. In some tests several of the varieties are so closely grouped in value per acre that there is no clear cut line of differentiation, and the additional varieties are cited.

Early season rainfall was ample at each test location and original stands for the 1947 tests were very good. The latter half of July and the month of August were characterized by hot, dry weather throughout the Delta. As a rule, the gin turnout in the 1947 tests was abnormally high. In most cases, staple lengths were from 1/32 to 1/16 inches shorter than is usually produced by the same varieties under more normal conditions of precipitation. Tensile strength was from 5 percent to 10 percent greater than normal.

The current report is divided into two parts: (1) The 1947 tests, and (2) the average of tests for 1945, 1946, and 1947 at the same location.

## 1947 Variety Trials

During the 1947 season the Delta Branch Experiment Station conducted variety trials at Stoneville, Tunica, Jones-town, Money, Valley Hill, Yazoo City, and Kelso Plantation, Cary, Mississippi. Ten varieties were included, most of which are grown commercially in the Delta.

In each test the varieties are arranged according to the average of the money value per acre for the three grades: Middling, Strict Low Middling, and Low Middling.

### Stoneville Test

The Stoneville test was located at the Delta Branch Experiment Station. The soil is a sandy loam, typical of the banks along upper Deer Creek. A nitrogenous fertilizer was "bedded on" one day before planting. The test was planted on April 23. The first picking was made on September 8 and the last picking on October 30. Cool weather and insect damage caused some shedding of small squares in late June. Boll weevil damage was light. Hot, dry weather in late July and August matured the crop rapidly but apparently did not result in reduction of yield. Results of the test are given in table 1.

Based upon the average money value per acre for Middling, Strict Low Middling, and Low Middling grades, the leading varieties in the Stoneville test were Stoneville 2B, Delfos 9169, Empire, Deltapine 15, and Bobshaw 1. The values for Delfos 651 were only slightly lower than for Bobshaw. There was no difference in the rank of varieties for the three grades.

### Tunica Test

In cooperation with E. G. (Gene) Johnson, landowner, and H. J. Vickery, county agent, a variety test was conduct-

Table 1. Stoneville cotton variety test, 1947.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking	Fiber tensile strength 1000 lbs. per sq. in.	Fiber length uni-formity	Total money value per acre		
	Seed cotton	Lint							Middling	Strict	Low Middling
Stoneville 2B	Lbs.	Lbs.	Pct.	1/32 in.	Bolls	Pct.	1000 lbs.	Ratio	Dols.	Dols.	Dols.
.....	2572	877	34.1	35.3	62.2	61.9	83.2	80.8	381	369	318
Dellos 9169	2509	846	33.7	35.7	63.5	58.4	81.1	79.3	377	364	312
Empire P <sub>aa</sub> W. R.	2469	857	34.7	35.1	56.9	70.4	82.4	81.4	370	359	311
Deltapine 15	2314	877	37.9	35.1	70.7	60.3	79.0	83.0	359	348	299
Bobshaw 1	2403	807	33.6	35.0	67.6	62.1	84.2	81.3	349	339	295
Dellos 651	2333	777	33.3	35.8	72.7	63.8	80.6	79.0	349	337	289
Coker 100 Wilt (1947)	2336	785	33.6	35.7	67.6	58.7	81.4	80.1	343	331	283
Coker 100 Staple (1947)	2164	729	33.7	36.1	70.0	55.0	83.8	81.8	323	311	263
Miller	2187	763	34.9	33.6	61.2	54.7	80.3	84.7	316	307	272
Wilds (1946)	1824	538	29.5	40.9	73.6	45.7	92.8	80.3	280	262	210
Dif. barely significant	156	53	.4	.4	2.2	6.1	1.7	1.3	23	23	19
Dif. highly significant	207	70	.5	.6	3.0	8.1	2.3	1.7	31	30	25

Table 2. Tunica cotton variety test, 1947.

Variety	Yield per acre		Gin turn-out	Staple length	Percent picked first picking	Fiber tensile strength 1000 lbs. per sq. in.	Fiber length uni-formity	Total money value per acre		
	Seed cotton	Lint						Middling	Strict	Low Middling
Stoneville 2B	Lbs.	Lbs.	Pct.	1/32 in.	Pct.	1000 lbs.	Ratio	Dols.	Dols.	Dols.
.....	2029	751	37.0	34.1	57.9	83.6	81.8	312	305	267
Dellos 9169	1860	692	37.2	34.5	52.9	80.9	79.2	292	284	248
Bobshaw 1	1934	696	36.0	34.5	57.0	87.7	81.5	287	279	244
Empire P <sub>aa</sub> W. R.	1763	693	39.3	33.6	60.3	85.2	80.0	281	274	241
Deltapine 15	1630	703	43.1	33.3	60.6	81.2	82.6	273	265	234
Coker 100 Wilt (1947)	1758	654	37.2	34.6	55.9	82.6	79.5	272	265	230
Dellos 651	1740	637	36.6	34.3	59.3	84.3	78.7	269	262	229
Miller	1657	640	38.6	31.6	65.5	82.9	84.2	255	248	220
Wilds (1946)	1455	506	34.8	38.3	55.2	96.5	79.2	242	226	185
Coker 100 Staple (1947)	1462	556	38.0	34.9	59.4	84.4	81.5	232	225	195
Difference barely significant	138	52	1.1	.9	4.7	3.1	2.0	22	21	18
Difference highly significant	183	69	1.5	1.2	6.2	4.2	2.7	29	28	24



ed in the northern part of the Delta in Tunica County, nine miles south of Tunica on Highway 61. The test was on Forrestdale silty loam soil, classification number 425, commonly known as white oak or white sandy loam. A nitrogenous fertilizer was "bedded on" and the test was planted May 7. Favorable conditions existed during the growing season, with a hot, dry August. Staple lengths were slightly shorter than normal, while gin turnouts were abnormally high. Plants were small but well-fruited. The first picking was made on September 23, and the second picking on October 29. Results of the Tunica test are given in table 2.

The leading varieties were Stoneville 2B, Delfos 9169, Bobshaw 1, Empire and Deltapine 15. Coker 100 Wilt and Delfos 651 fell slightly below Deltapine 15.

#### Jonestown Test

The Jonestown test was conducted in cooperation with the late Carey Cocke, Jr., farm operator, and Harris Barnes, county agent of Coahoma County, and was located on the Eagle Nest Plantation west of Jonestown. The soil is a sandy loam, generally well drained. A nitrogenous fertilizer was "bedded on" ten days before planting. The test was planted on April 28. Favorable conditions prevailed throughout the growing season. The first picking was made on September 23 and the second picking on October 29. Test results are given in table 3.

Varieties with highest average money values were Stoneville 2B, Delfos 9169, and Bobshaw 1. The values of Empire, Miller, Deltapine 15, and Coker 100 Wilt were within a very narrow range, somewhat lower than those for the first three varieties named.

#### Money Test

The Money test was located on Wildwood Plantation on the east bank of the

Tallahatchie River and was conducted in cooperation with H. L. Gary, owner, and J. S. McBee, county agent of Leflore County. The soil is a fine sandy loam and is well drained. Nitrogenous fertilizer was "bedded on" eight days before planting. The test was planted on May 6, and perfect stands were obtained. The season was favorable, with hot, dry weather in August. Weevil damage was negligible. Gin turnout was high, with staple length slightly shorter than normal. The yield was high. The first picking was made on September 25 and the second on December 1. Results of the Money test are given in table 4.

Leading varieties in the Money test were Delfos 9168, Stoneville 2B, Delfos 651, Empire, and Bobshaw 1.

#### Valley Hill Test

In cooperation with L. S. Hemphill, landowner, a test was conducted near Valley Hill in Carroll County about 6 miles east of Greenwood on Highway 82. The location is near the eastern border of the Delta and is on the light colored, well-drained silt loam made of outwash from the hills. Fertilizer was applied in the open furrow on April 8 but bedding could not be accomplished because of flood rains. Another application of fertilizer was "bedded on" and the test was planted May 6. Early "damping-off" of seedlings injured stands to some extent. Later counts showed an average stand for all varieties. Heavy weevil infestation in early August curtailed yield. First picking was on September 25 at which time a high percentage of the total yield was harvested. The balance was harvested November 28. Results of the Valley Hill test are given in table 5.

Stoneville 2B, Miller, Delfos 9169, Coker 100 Wilt, and Deltapine 15 were the leading money-value-per-acre producers in the Valley Hill test.

Table 3. Jonestown cotton variety test, 1947.

Variety	Yield per acre		Gin turn-out	Staple length: 1/32 in.	Percent picked first picking	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value per acre					
	Seed cotton	Lint						Middling	Middling	Strict Low	Middling	Dols.	Dols.
Stoneville 2B	2277	813	35.7	33.9	70.7	83.0	77.1	337	329	289			
Delfos 9169	2176	779	35.8	34.4	71.4	81.0	76.3	328	320	280			
Bobshaw 1	2139	761	35.6	34.0	73.5	86.9	79.0	316	309	271			
Empire P <sub>13</sub> W. R.	1836	692	37.7	33.5	75.2	86.2	79.7	282	275	243			
Miller	1869	695	37.2	32.8	66.9	84.9	81.7	279	271	241			
Deltapine 15	1694	705	41.6	33.3	75.9	82.2	81.6	273	265	233			
Coker 100 Wilt (1947)	1838	651	35.4	34.4	71.3	85.0	78.3	270	262	229			
Delfos 651	1743	607	34.8	34.4	73.8	83.5	77.3	258	252	220			
Coker 100 Staple (1947)	1602	580	36.2	34.5	70.6	85.2	78.8	240	234	204			
Wilds (1946)	1345	445	33.1	38.9	61.0	94.8	77.3	217	202	164			
Difference barely significant	205	74	.6	.6	5.7	2.0	2.3	31	30	26			
Difference highly significant	272	99	.8	.8	7.5	2.8	3.1	41	40	35			

Table 4. Money cotton variety test, 1947.

Variety	Yield per acre		Gin turn-out	Staple length: 1/32 in.	Percent picked first picking	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value per acre					
	Seed cotton	Lint						Middling	Middling	Strict Low	Middling	Dols.	Dols.
Delfos 9169	2490	934	37.5	33.9	84.5	78.5	77.4	388	379	333			
Stoneville 2B	2425	907	37.4	34.0	83.1	81.6	79.6	375	366	321			
Delfos 651	2396	872	36.4	34.4	84.0	79.7	76.7	369	359	314			
Empire P <sub>13</sub> W. R.	2290	877	38.3	33.6	89.1	84.5	77.4	359	350	309			
Bobshaw 1	2207	817	37.0	33.8	87.2	85.0	79.8	338	329	290			
Coker 100 Wilt (1947)	2182	801	36.7	33.8	82.7	81.4	77.8	328	320	281			
Deltapine 15	1932	827	42.8	33.4	79.7	81.0	80.4	322	313	275			
Miller	1996	762	38.2	31.9	80.9	80.6	80.3	305	296	262			
Coker 100 Staple (1947)	1881	707	37.6	34.5	84.2	82.4	78.3	293	285	248			
Wilds (1946)	1689	569	33.7	39.4	74.8	94.5	77.7	280	261	211			
Difference barely significant	139	52	.6	.8	4.0	1.8	3.8	22	21	18			
Difference highly significant	184	69	.8	1.1	5.3	2.5	5.2	29	28	24			



### Yazoo City Test

In cooperation with the late Marx Schaeffer, landowner, and A. R. Ruby, county agent of Yazoo County, the variety trial for the southeastern part of the Delta was conducted on the Schaeffer farm three miles west of Yazoo City. The soil is a fine sandy loam and is well drained. A nitrogenous fertilizer was "bedded on" early in April and the test was planted on April 24. Dry weather predominated throughout the growing season. Stalks were small but well fruited. Weevil damage was moderate. Gin turnout was high. First and second pickings were made on September 9 and December 1. Results of the Yazoo City test are given in table 6.

Leading varieties in the Yazoo City test were Stoneville 2B, Delfos 9169, Bobshaw 1, Deltapine 15, and Coker 100 Wilt.

### Kelso Plantation Test

The Kelso test was located near the Sharkey-Issaquena County line 11 miles

south of Cary on Highway 61. It was conducted in cooperation with James Hand, landowner, and C. L. Cary, county agent of Sharkey County. The soil is a fine sandy loam, well-drained, and is typical of Deer Creek soil in Sharkey, Issaquena, and Warren counties. The test was planted in check rows, 40 inches each way, on April 25 and was thinned to six plants per hill. Cultivation was with 4-row equipment. Mature plants were smaller than usual. Weevil infestation was moderate but reduced the yields somewhat. The first picking was on September 12 and the second on December 1. Results of the Kelso test are given in table 7.

Eight of the ten varieties were very closely grouped in value per acre. These are ranked as follows: Deltapine 15, Delfos 651, Coker 100 Staple, Coker 100 Wilt, Empire, Stoneville 2B, Delfos 9169, and Bobshaw 1.

## 2- AND 3-YEAR VARIETY STUDIES

Seasonal conditions greatly affect the yield of cotton and modify to some extent other characteristics and properties of varieties. Average results of the several variety trials conducted at different locations in the Delta in one year provide interesting and useful information on some varietal characteristics, but are probably not indicative of long-time performance. It is believed that the average results of tests conducted over a period of several years in a given locality provide the grower residing in the vicinity of the test, or farming on a similar soil type, with more reliable information as to the behavior of a variety under average conditions. Average results of tests conducted at the same locality during the years 1945 to 1947 are given.

Variety trials similar to those described above were conducted during the three years, 1945 to 1947, at Stoneville, Jones-

town, Money, Valley Hill, Yazoo City, and Kelso, and during the years 1946 and 1947 at Tunica. Only eight varieties were common to tests grown during all the seasons.

Methods used in conducting the tests and analyzing data were the same as outlined for the 1947 tests. In 1945 and 1946 the samples used in obtaining data on gin turnout, staple length, bolls per pound and fiber properties were 100-boll samples taken from each plot. In 1947 the same method was used for the Stoneville test, but at other locations representative 2-pound samples of the harvested seed cotton were taken from each row of four series, thus providing four samples of each variety.

Descriptions of the 1945 and 1946 tests, with results of each test and 2- and 3-year averages for the several localities,

are given in bulletins 435 and 445 of the Mississippi Agricultural Experiment Station. The 1947 results were described earlier in this report.

The 1945 growing season in the Yazoo-Mississippi Delta was characterized by excessive amounts of rainfall during the planting, growing and harvesting seasons. In 1946 the amount of rainfall during the early season was generally excessive, followed by a dry late growing season and excellent harvesting season. Staple lengths were about normal. In 1947 there was ample rainfall to secure good stands. Cool weather in June delayed fruiting and encouraged insect damage. The last half of July and the month of August were hot and dry at all locations. Staple lengths were generally shorter, with increased tensile strength.

The yield of seed cotton and lint, gin turnout, staple length, boll size, earliness, fiber tensile strength and uniformity of fiber length, and total money values based upon Middling, Strict Low Middling, and Low Middling grades are given in tables 8 to 14 for the respective locations.

The yields of seed cotton were determined by averaging the seed cotton yields of each variety obtained during each of the seasons that the tests were conducted at a given locality. The yields of lint were obtained by multiplying the average gin turnout by the average yield of seed cotton per acre.

The gin turnout, 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 for each grade were obtained by averaging

the total money-per-acre values for the 2- or 3-year period for that particular grade for each variety. Money values for Middling, Strict Low Middling, and Low Middling grades were averaged, and in each table the varieties are arranged according to these averages.

During the 3-year period 1945-1947 the leading varieties at Stoneville were Stoneville 2B, Delfos 9169, and Deltapine.

Bobshaw 1 and Stoneville 2B were the leading varieties at Tunica for the two years 1946 and 1947.

At Jonestown the leading money-value producing varieties for the 3-year period were Stoneville 2B, Delfos 9169, and Bobshaw 1.

Leading varieties at Money were Delfos 651, Stoneville 2B, Delfos 9169, and Bobshaw 1.

Stoneville 2B, Miller, Delfos 9169, and Bobshaw 1 were leading varieties during the 3-year period at Valley Hill.

In the Yazoo City tests for the 3-year period the leading money-value producers were Delfos 9169, Stoneville 2B, Bobshaw 1, and Deltapine.

At Kelso the highest ranking varieties were Stoneville 2B, Deltapine, and Coker 100 Staple.

### Seed Grades

In describing the methods of sample taking and analyzing for the 1947 tests, the statement was made that seed grades used in evaluating seed of each variety for each test were determined by analyses of samples taken at first picking. In order to determine the correctness of such procedure samples of seed taken from the Stoneville test at the time of the second picking, October 30, and from cotton which had been exposed to the weather from opening to November 27 were analyzed.

In table 15 are given the seed grades for each variety for the first and second pickings and for the exposed material for the Stoneville test, and the earliness,

Table 5. Valley Hill cotton variety test, 1947.

Variety	Yield per acre		Gin turn-out	Staple length	Percent picked first picking	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value per acre			
	Seed cotton	Lint						Dols.	Middling	Low Middling	Strict Low
			Lbs.	Pct.	1/32 in.	Pct.	1000 lbs.				
Stoneville 2B	1653	584	35.3	34.9	74.2	79.7	80.6	250	243	211	
Miller	1546	570	36.9	33.1	73.8	80.9	83.6	231	225	200	
Delfos 9169	1471	513	34.9	35.0	71.5	78.0	77.0	223	217	188	
Coker 100 Wilt (1947)	1496	512	34.2	35.4	70.3	80.0	80.1	222	215	185	
Deltapine 15	1375	547	39.8	34.5	72.3	80.1	80.1	220	214	185	
Bobshaw 1	1420	490	34.5	34.5	73.2	84.8	81.0	209	203	177	
Empire P <sub>as</sub> W. R.	1375	492	35.8	34.4	73.7	85.1	80.4	208	203	177	
Coker 100 Staple (1947)	1232	434	35.2	35.6	66.7	79.5	78.9	188	182	156	
Delfos 651	1243	423	34.0	34.9	78.0	80.6	76.7	184	178	155	
Wilds (1946)	1080	346	32.0	39.9	64.1	90.9	80.7	174	163	131	
Difference barely significant	160	56	1.0	.7	7.1	2.7	1.9	24	23	20	
Difference highly significant	212	75	1.3	1.0	9.4	3.6	2.5	32	31	27	

Table 6. Yazoo City cotton variety test, 1947.

Variety	Yield per acre		Gin turn-out	Staple length	Percent picked first picking	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value per acre			
	Seed cotton	Lint						Dols.	Middling	Low Middling	Strict Low
			Lbs.	Pct.	1/32 in.	Pct.	1000 lbs.				
Stoneville 2B	2628	964	36.7	34.0	66.7	80.9	79.8	399	389	341	
Delfos 9169	2580	947	36.7	34.3	64.6	79.8	78.7	396	386	337	
Bobshaw 1	2560	932	36.4	34.0	70.9	84.9	79.8	386	376	330	
Deltapine 15	2349	989	42.1	33.6	61.0	78.3	82.2	385	375	328	
Coker 100 Wilt (1947)	2457	912	37.1	34.0	64.6	81.4	78.9	371	362	317	
Delfos 651	2340	842	36.0	34.4	65.9	80.8	78.6	355	346	303	
Empire P <sub>as</sub> W. R.	2256	864	38.3	33.5	74.4	83.8	79.7	351	342	302	
Miller	2263	851	37.6	32.3	70.1	78.3	83.0	341	331	293	
Coker 100 Staple (1947)	2040	757	37.1	34.9	67.0	82.9	78.9	315	306	264	
Wilds (1946)	1716	577	33.6	39.3	56.7	92.3	77.9	281	262	212	
Difference barely significant	179	67	.6	.8	7.2	2.4	2.8	28	27	23	
Difference highly significant	237	88	.8	1.1	9.5	3.2	3.7	37	36	31	

Table 7. Kelso cotton variety test, 1947.

Variety	Yield per acre		Gin turn-out	Staple length	Percent picked first picking	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value					
	Seed cotton	Lint						Dols.	Middling	Low	Strict	Dols.	
												Middling	Middling
Deltapine 15	1423	589	Pct. 41.4	1/32 in. 34.0	Pct. 61.6	1000 lbs. 72.9	Ratio 80.8	234	228	199			
Delfos 651	1480	528	35.7	34.6	60.1	74.4	78.1	226	220	192			
Coker 100 Staple (1947)	1472	537	36.5	35.0	58.0	75.6	79.0	227	220	190			
Coker 100 Wilt (1947)	1454	534	36.7	34.4	53.3	75.6	80.9	222	216	188			
Empire Pa W. R.	1421	531	37.4	34.0	71.5	77.1	79.7	220	215	188			
Stoneville 2B	1437	527	36.7	34.5	58.2	76.6	79.9	221	211	188			
Delfos 9169	1412	517	36.6	34.6	55.8	73.4	79.0	219	213	186			
Bobshaw 1	1410	515	36.5	34.0	60.2	77.8	82.5	214	209	184			
Miller	1379	523	37.9	32.8	57.7	73.3	81.5	211	205	182			
Wilds (1946)	1099	358	32.6	39.6	52.7	87.9	78.9	179	167	135			
Difference barely significant	133	49	.8	.5	4.0	1.8	1.9	21	20	17			
Difference highly significant	176	65	1.1	.6	5.2	2.5	2.6	27	27	23			

Table 8. Yield and other data from cotton variety tests at Stoneville; 3-year averages, 1945-47.

Variety	Yield per acre		Gin turn-out	Staple length	Bolls per lb. seed cotton	Percent picked first picking	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value					
	Seed cotton	Lint							Dols.	Middling	Low	Strict	Dols.	
													Middling	Middling
Stoneville 2B	2649	893	Pct. 33.7	1/32 in. 35.4	Bolls 62.2	Pct. 43.2	1000 lbs. 81.8	Ratio 83.2	350	335	294			
Delfos 9169	2532	851	33.6	35.7	64.8	43.5	78.8	81.5	343	326	284			
Deltapine*	2352	882	37.5	34.9	72.9	43.4	78.1	84.5	328	316	277			
Bobshaw 1	2462	820	33.3	34.9	68.0	44.8	82.5	83.6	315	303	269			
Coker 100 Staple**	2367	802	33.9	36.2	69.2	39.2	80.1	82.6	321	304	262			
Delfos 651	2320	759	32.7	36.1	74.2	47.3	78.2	81.0	314	298	257			
Miller	2400	826	34.4	32.9	62.1	40.1	76.8	86.0	303	293	261			
Wilds***	1931	577	29.9	40.5	69.5	32.2	89.8	82.0	274	254	203			

\*Deltapine 14 in 1945; Deltapine 15 in 1946 and 1947.

\*\*Coker 100 Staple Strain 1 in 1945; Coker 100 Staple (1946) in 1946; Coker 100 Staple (1947) in 1947.

\*\*\*Wilds 17 in 1945; Wilds (1946) in 1946 and 1947.



Table 9. Yield and other data from cotton variety tests at Tunica; 2-year averages, 1946-47.

Variety	Yield per acre		Gin turn-out	Staple length: 1/32 in.	Percent picked first picking	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value per acre					
	Seed cotton	Lint						Dols.		Dols.		Dols.	
								Middling	Low	Middling	Low	Middling	Low
Bobshaw 1	2231	788	Pct. 35.3	34.6	46.2	87.4	84.1	332	322	287			
Stoneville 2B	2192	785	35.8	34.5	42.4	84.2	83.4	331	323	287			
Delfos 9169	2038	740	36.3	35.0	40.7	82.1	82.4	316	307	272			
Delfos 651	2065	729	35.3	34.7	48.2	84.8	82.1	312	304	270			
Miller	2007	753	37.5	32.0	50.2	83.0	85.9	308	299	268			
Coker 100 Staple*	1946	710	36.5	35.3	46.4	84.7	83.5	300	291	258			
Deltapine 15	1814	751	41.4	33.9	43.3	82.7	85.4	299	291	259			
Wilds (1946)	1827	599	32.8	39.4	50.7	95.5	82.6	292	273	229			

\*Coker 100 Staple (1946) in 1946 and Coker 100 Staple (1947) in 1947.

Table 10. Yield and other data from cotton variety tests Jonestown; 3-year averages 1945-47.

Variety	Yield per acre		Gin turn-out	Staple length: 1/32 in.	Percent picked first picking	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value per acre					
	Seed cotton	Lint						Dols.		Dols.		Dols.	
								Middling	Low	Middling	Low	Middling	Low
Stoneville 2B	1939	650	Pct. 33.5	34.7	57.6	80.4	76.6	262	253	225			
Delfos 9169	1929	642	33.3	35.1	59.6	78.2	76.4	260	251	222			
Bobshaw 1	1958	636	32.5	34.4	60.2	82.0	78.8	255	246	220			
Deltapine*	1679	651	38.8	34.4	60.4	78.1	79.5	247	238	211			
Miller	1824	635	34.8	32.8	55.3	77.7	81.1	242	234	209			
Coker 100 Staple**	1739	586	33.7	35.8	59.3	80.6	76.7	238	228	199			
Delfos 651	1697	543	32.0	35.4	63.2	79.2	75.6	226	217	191			
Wilds***	1298	396	30.5	39.5	44.8	89.1	75.9	189	176	145			

\*Deltapine 14 in 1945; Deltapine 15 in 1946 and 1947.

\*\*Coker 100 Staple Strain 1 in 1945; Coker 100 Staple (1946) in 1946; Coker 100 Staple (1947) in 1947.

\*\*\*Wilds 17 in 1945; Wilds (1946) in 1946 and 1947.

Table 11. Yield and other data from cotton variety tests Money; 3-year averages 1945-47.

Variety	Yield per acre		Gin turn-out	Staple length	Percent picked first picking	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value per acre				
	Seed cotton	Lint						Middling	Middling	Low	Middling	Dols.
			Lbs.	Pct.	1/32 in.	Pct.	1000 lbs.					
Delfos 651	2131	701	32.9	35.5	71.3	78.5	78.5	286	274	241		
Stoneville 2B	2138	731	34.2	34.8	68.9	80.3	80.0	282	273	242		
Delfos 9169	2049	701	34.2	35.1	71.7	77.5	79.8	279	268	238		
Bobshaw 1	2065	700	33.9	34.5	70.0	81.2	81.3	270	261	232		
Coker 100 Staple*	1812	625	34.5	35.6	66.9	79.1	80.0	244	233	203		
Deltapine**	1697	660	38.9	34.4	69.4	79.4	82.2	241	232	205		
Miller	1805	639	35.4	32.6	66.3	76.4	83.0	235	228	203		
Wilds***	1363	414	30.4	39.9	59.6	89.7	79.6	196	182	146		

\*Coker 100 Staple Strain 1 in 1945; Coker 100 Staple (1946) in 1946; Coker 100 Staple (1947) in 1947.

\*\*Deltapine 14 in 1945; Deltapine 15 in 1946 and 1947.

\*\*\*Wilds 17 in 1945; Wilds (1946) in 1946 and 1947.

Table 12. Yield and other data from cotton variety tests Valley Hill; 3-year averages 1945-47.

Variety	Yield per acre		Gin turn-out	Staple length	Percent picked first picking ****	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value per acre				
	Seed cotton	Lint						Middling	Middling	Low	Middling	Dols.
			Lbs.	Pct.	1/32 in.	Pct.	1000 lbs.					
Stoneville 2B	1534	518	33.8	34.8	68.9	80.3	80.4	207	200	178		
Miller	1523	539	35.4	32.8	68.1	78.8	83.0	203	197	177		
Delfos 9169	1513	508	33.6	35.3	68.5	77.6	79.5	203	196	173		
Bobshaw 1	1491	497	33.3	34.2	66.3	83.8	82.2	195	188	167		
Deltapine*	1254	479	38.2	34.9	67.5	79.6	80.9	183	176	155		
Coker 100 Staple**	1334	452	33.9	35.9	60.7	79.5	79.6	182	175	152		
Delfos 651	1211	390	32.2	35.3	70.8	79.1	78.7	162	156	138		
Wilds***	1013	306	30.2	39.9	58.9	90.0	80.1	145	135	110		

\*Deltapine 14 in 1945; Deltapine 15 in 1946 and 1947.

\*\*Coker 100 Staple Strain 1 in 1945; Coker 100 Staple (1946) in 1946; Coker 100 Staple (1947) in 1947.

\*\*\*Wilds 17 in 1945; Wilds (1946) in 1946 and 1947.

\*\*\*\*Based on 1946 and 1947 tests.



Table 13. Yield and other data from cotton variety tests Yazoo City; 3-year averages 1945-47.

Variety	Yield per acre		Gin turn-out	Staple length:	Percent picked first picking *****	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value					
	Seed cotton	Lint						Dols.	Dols.	Strict		Low	
										Middling	Middling	Middling	Middling
Delfos 9169	2115	713	Pct. 33.7	1/32 in. 35.0	Pct. 75.7	1000 lbs. 76.9	Ratio 79.1	Dols. 284	Dols. 274	Dols. 242	Dols. 242		
Stoneville 2B	2075	699	33.7	34.7	77.3	79.9	79.8	278	268	237	237		
Bobshaw 1	2006	666	33.2	34.6	77.5	79.7	80.6	267	258	229	229		
Deltapine*	1853	721	38.9	34.4	70.7	76.7	82.1	267	258	228	228		
Coker 100 Staple**	1884	650	34.5	35.8	75.2	77.7	80.1	258	247	214	214		
Delfos 651	1895	620	32.7	35.5	76.2	77.7	79.5	255	244	215	215		
Miller	1820	639	35.1	32.6	75.4	73.9	83.5	239	232	207	207		
Wilds***	1386	426	30.7	39.8	69.4	89.0	78.4	208	192	155	155		

\*Deltapine 14 in 1945; Deltapine 15 in 1946 and 1947.

\*\*Coker 100 Staple Strain 1 in 1945; Coker 100 Staple (1946) in 1946; Coker 100 Staple (1947) in 1947

\*\*\*Wilds 17 in 1945; Wilds (1946) in 1946 and 1947.

\*\*\*\*Based on 1945 and 1947 tests.

Table 14. Yield and other data from cotton variety tests Kelso; 3-year averages 1945-47.

Variety	Yield per acre		Gin turn-out	Staple length:	Percent picked first picking *****	Fiber tensile strength lbs. per sq. in.	Fiber length uniformity	Total money value					
	Seed cotton	Lint						Dols.	Dols.	Strict		Low	
										Middling	Middling	Middling	Middling
Stoneville 2B	1478	494	Pct. 33.4	1/32 in. 34.8	Pct. 58.2	1000 lbs. 76.6	Ratio 78.5	Dols. 194	Dols. 186	Dols. 166	Dols. 166		
Deltapine*	1321	503	38.1	34.5	61.6	73.2	79.8	192	185	164	164		
Coker 100 Staple**	1417	473	33.4	35.6	58.0	74.5	78.2	192	184	161	161		
Delfos 651	1415	451	31.9	35.2	60.1	74.5	77.5	185	178	157	157		
Delfos 9169	1384	461	33.3	35.0	55.8	73.3	77.6	183	177	157	157		
Bobshaw 1	1396	456	32.7	34.3	60.2	76.9	80.9	179	173	155	155		
Miller	1291	452	35.0	32.8	57.7	71.7	81.9	168	168	150	150		
Wilds***	1132	338	29.9	39.4	52.7	85.9	79.6	161	150	123	123		

\*Deltapine 14 in 1945; Deltapine 15 in 1946 and 1947.

\*\*Coker 100 Staple Strain 1 in 1945; Coker 100 Staple (1946) in 1946; Coker 100 Staple (1947) in 1947.

\*\*\*Wilds 17 in 1945; Wilds (1946) in 1946 and 1947.

\*\*\*\*Based on 1947 only.

as measured by the percent of seed cotton harvested at the first picking.

Seed analyzed from the first picking represented the cotton which matured and opened prior to September 8; the second picking represented cotton which matured and opened after September 8 and was picked October 30. None of this cotton was exposed to bad weather. The exposed material remained in the field until November 27 and was subjected to 8 inches of rainfall and many cloudy days between October 31 and November 27.

Grades of seed for the first picking averaged four points lower than those for the second picking. Seed from the material which was exposed from opening until November 27 averaged 1.8 points higher than seed from the second picking. Varietal trends followed the pat-

tern of the average for the several pickings except in the case of Deltapine 15 and Wilds. In the Deltapine 15 variety the seed grade for the second picking was almost ten points higher than the first picking, with the exposed picking 0.7 grade higher than the second picking. In the Wilds variety the seed grade of the second picking was 8.2 points above the grade of the first picking and one point below the exposed picking.

This difference between the grades of the first and second pickings for these two varieties is difficult to explain. Lateness or immaturity might explain the difference in Wilds, as only 46 percent of the cotton was harvested at the first picking, but 60 percent of Deltapine 15 was harvested at the first picking and the theory of immaturity does not hold for that variety.

Table 15. Grades of cottonseed from first, second and exposed pickings of 10 varieties in the Stoneville test, and the average grades of first picking samples for the seven Delta tests for the same varieties, 1947.

Variety	Percent picked at first picking	Composite Grade			
		1st picking Sept. 8	2nd picking Oct. 30	Exposed picking Nov. 28	Average 7 tests in the Delta 1st picking
Delfos 651 .....	64	106.0	107.8	110.3	107.8
Delfos 9169 .....	58	105.3	108.5	110.3	108.2
Empire .....	70	104.3	107.8	109.3	106.7
Bobshaw 62 .....	62	101.8	103.0	107.0	104.3
Stoneville 2B .....	62	101.0	102.8	105.8	104.7
Miller .....	55	98.5	102.5	104.0	101.4
Coker 100 Staple .....	55	96.5	100.5	102.8	100.5
Coker 100 Wilt .....	59	96.0	98.8	98.8	99.3
Wilds .....	46	94.8	103.0	104.0	99.6
Deltapine 15 .....	60	90.8	100.3	101.0	97.4
Average .....		99.5	103.5	105.3	103.0