Missouri Crop Performance

1979

Cotton

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MISSOURI CROP PERFORMANCE

COTTON

1979

This report is a contribution of the Department of Agronomy, University of Missouri Agricultural Experiment Station, which reports on Research Project 363. The work was supported in part by funds from the Missouri Seed Improvement Association and fees from the companies submitting varieties for evaluation.

Cotton variety tests became part of the University of Missouri's crop performance testing program in 1978. These tests are conducted to provide a reliable, unbiased, up-to-date source of information which will permit valid comparisons among the varieties evaluated.

COMPARING VARIETIES

In each trial, the "top yielding varieties" have been identified. These varieties are those which did not yield significantly less than the highest yielding variety in the test. They are denoted in the tables by an asterisk (*) next to their yields. Thus, by going down a column, the highest yielding varieties in a trial can be readily identified. By going across, the relative performance of a variety during several years or at several locations can be evaluated. From the standpoint of yield, the most desirable varieties will be those which are among the "top yielding" varieties (that is, have an asterisk) the greatest number of times.

Although yield usually receives first consideration, other agronomic characteristics may be equally important when selecting a cotton variety. For southeastern Missouri, maturity, seedling vigor, and reaction to diseases are among the additional characteristics which deserve careful consideration. Late maturing varieties can be injured by early fall frost, particularly when planting is delayed. High seed viability and good seedling vigor help insure uniform and adequate stands under occasionally adverse conditions. Several prevalent diseases can markedly reduce final yield of susceptible varieties. Thus, all the information presented in this report should be considered when selecting a variety.

The Missouri Agricultural Experiment Station does not make specific recommendations for varieties. It is suggested that the farmers growing a new variety for the first time consider the information contained in this report and then grow a small acreage to determine adaptability. This should be the practice for all new varieties regardless of origin.

EXPERIMENTAL PROCEDURES

Five locations were selected to represent the soil diversity in the cotton growing area of southeastern Missouri. These locations were the Robert Matthews farm near Sikeston (sandy loam soil), the University of Missouri's Rhodes farm near Clarkton (sandy soil), the E. B. Gee, Jr. farm near Frailey and the Delta Research Center near Portageville (clay and sand loam soils, respectively), and the David Andrews farm near Senath (loam soil). The Clarkton test was on a site heavily infested with fusarium wilt. Locations of the sites are shown on Figure 1.

Entries

All producers of cotton seed were eligible to enter varieties in the 1979 evaluation plots. Participation was voluntary and no control was exercised by the program over which, or how many varieties were entered. However, to help finance the evaluation program, a fee of forty dollars per location was charged for each entry entered by the seed producer. A total of 15 cotton varieties were compared in 1979.

Field Plot Design

Individual entries were planted in four-row plots with four replications. Arrangement of plots within the field followed a lattice design. Each plot had a row length of 40 feet and a between-row spacing of 38 inches. The two center rows were used for all yield and quality information.

Plot Management

The tests were planted and harvested with commercial equipment. On University properties, rate of fertilizer application was equal to, or above, that recommended by the University of Missouri's Soil Testing Laboratory. On farmer fields, fertilizer application was at the discretion of the farm operator. Treflan and Cotoran were used for weed control at all locations. Additionally, at all sites hand weeding was done as required. Planting rate was 6 seeds per foot of row on sand and loam and 8 seeds per foot of row on clay. Dates of planting and harvest are given in the headings of the individual tables.

Data Recorded

Seedling vigor notes were taken soon after emergence to give a relative indication of survival capabilities of the young plants. Seedling vigor was rated on a scale of 1 to 5 with 1 indicative of high vigor and 5 indicative or low vigor. The total number of plants in the center two rows of each plot were counted and converted to number of plants per acre. Date of flowering was recorded and the number of days from planting to flowering calculated to give a relative measure of maturity. At maturity, height, lodging, and yield were measured. Height was taken as the average distance in inches from the soil surface to the top of the plant. Lodging, which gives the degree of erectness, was scored on a scale of 1 to 5 with 1 indicating that all plants were erect (no lodging) and 5 indicating that 80 percent, or more, of the plants were lodged. Yield was measured in total pounds of lint per acre. This value was calculated by multiplying the gin percentage (lint percentage) by the total seed cotton yield. Fiber quality characteristics were determined for each variety utilizing lint cotton samples from two replications at each test location. These characteristics and their importance are described below. Their values were determined by the Starlab, Inc., Knoxville, Tennessee.

A. Micronaire: The micronaire test provides a combined measure of maturity and fineness of cotton fibers. Fiber maturity is a relative measure of the cell-wall development throughout the entire length of the cotton fiber. Immature fibers result in decreased rates of processing, dyeing problems, and the production of yarns and fabrics with low appearance grade. Fineness is a relative measure of either the diameter of individual cotton fibers or the weight per unit length. Fine cottons produce stronger yarns but require a reduced rate of processing.

   In the test, air is passed through a compressed sample of cotton fiber. The rate of flow through

the sample follows a relationship between diameter or thickness of the textile fibers and the air resistance they provide. Finer fibers result in greater resistance and, therefore, a lesser air flow. Values recorded can be interpreted as follows:

4.9 and above = coarse fibers
3.5 to 4.8 = premium range
3.4 and below = fine and often immature

B. Length: Long-fibered cottons are desirable because fiber length relates positively to yarn strength, spinning of finer yearns, and high speed processing. The 2.5 percent span length measures the length in inches spanned by 2.5 percent of the fibers. The 50 percent span length is another measurement of fiber quality. This measures the length in inches spanned by 50 percent of the fiber.

C. Elongation: Cottons having high fiber elongation values have less end breakage during the weaving process than those with low values. The elongation figure is expressed in percent elongation at the breaking point. The following designations will aid in the interpretation of the elongation values.

Descriptive Designation	Fiber Elongation
	--Percent--
Very low	5.3 and below
Low	5.4 - 6.2
Average	6.3 - 7.1
High	7.2 - 8.0
Very high	8.1 and above

D. Strength: Yarn Strength and ease of manufacturing are correlated positively with strong-fibered cottons. The following chart categorizes strength readings and aids in the interpretation of strength values.

Strength Rating	1/8-inch Gauge
	--grams/tex--
Very high	Above 24.9
High	23.0 - 24.9
Average	21.0 - 22.9
Low	19.0 - 20.9
Very low	Below 19.0

RESULTS

Fifteen cotton varieties were evaluated at 5 locations in southeastern Missouri during 1979. The trial locations were selected to represent the soil diversity in the cotton growing area of the state. Performance of the crop varied markedly from location-to-location. Yield of lint cotton averaged 675 pounds per acre but ranged from 320 pounds per acre at Frailey to 1035 pounds per acre at Senath. Yet, several varieties could be classified as "top" yielders with relative consistency (see Table 1). Conditions at each location are briefly described below. Results from each individual test are summarized in the tables which follow.

Sikeston The soil at this location was a sandy loam. Rainfall was adequate throughout the season and insect populations were minimal. Total lint yield, (Table 1), ranged from 651 to 1030 pounds per acre with an average of 874. The lowest yielding entries in this test were those with poor stand establishment and low seedling vigor.

Clarkton This test was on a fusarium wilt infested sandy soil. Stand establishment averaged 58 percent but was as low as 26 percent for one variety (Table 3). Growth was poor and the generally unfavorable environment limited expression of yield potential. The "best" variety out yielded the "poorest" by only 158 pounds per acre. Total lint yield averaged 350 pounds per acre.

Frailey This test was on a clay soil. Late planting (May 30) followed by lack of moisture limited growth. Mature plant height averaged only 22 inches and total lint yield averaged only 318 pounds per acre (Table 5). A number of varieties with good overall performance in the testing program yielded poorly at this location. A contributing factor was incomplete maturity of some varieties at the date of first frost.

Portageville This test location was on a sandy loam soil resembling that at Sikeston. While average lint yields were slightly lower at Portageville than at Sikeston, general performance trends were similar at both locations.

Senath A loam soil was sampled by the Senath locations. Ample rainfall throughout the season combined with good fertility resulted in rapid vegetative growth. Total lint yield averaged 1036 pounds per acre with range among varieties of from 828 to 1274 pounds per acre. This was the only location requiring two pickings.

Overall, few insect or weed problems occurred during the season, however, replanting was required at Clarkton, Portageville, and Senath because of adverse weather conditions in early May. The results obtained, therefore, are indicative of yield potential in years with wet springs.

While conditions among tests varied markedly, several varieties ranked high in terms of yield at nearly all locations. The average lint yield of the highest yielding entries exceeded 750 pounds per acre. In selecting among these varieties, results from past years should be considered, if available.

FIGURE 1, COTTON TEST SITE LOCATIONS.

TABLE 1. YIELD PERFORMANCE OF COTTON VARIETIES GROWN NEAR SIKESTON, MISSOURI IN 1979.
PLANTED: 16 MAY 1979. HARVESTED: 6 NOVEMBER 1979.

BRAND/VARIETY	STAND (PL/A)	LODGING (1-5)	VIGOR (1-5)	HGT. (IN)	DAYS TO FLOWR	LINT (%)	TOTAL LINT (LBS/ACRE) 1979	1978	1977
M063-277-1B	36383	2.3	1.0	37	69	38.8	1030**	--	--
COKER 315	34715	1.0	1.2	38	69	38.3	1024*	--	--
COKER 304	39992	1.4	1.3	40	69	36.9	1004*	779*	855#
DELTAPINE 7141	41137	1.3	0.9	35	71	40.6	1003*	--	--
COKER 310	36976	1.6	1.0	38	69	37.1	989*	752	878#
STONEVILLE 825	32244	1.6	1.0	37	70	37.8	922	--	--
DELTAPINE 61	32488	1.6	1.3	38	71	35.4	918	605	725
STONEVILLE 213	34690	1.9	0.9	38	70	36.2	897	757	763
DELTAPINE 55	36584	1.2	0.9	36	70	37.9	888	815*	745
M074-944	38746	1.9	0.9	39	71	36.3	847	826*	--
DELTAPINE 26	38445	1.9	0.9	37	71	38.3	766	650	811#
DELCOT 277J	24498	2.0	1.6	36	72	35.0	743	782*	--
DELTAPINE 70	31998	2.0	1.3	37	70	37.7	737	--	--
VAIL 7	20059	1.3	1.5	40	71	33.4	717	663	--
BRYCOT 4	15857	2.3	2.0	39	71	34.5	651	--	--
MEAN	32861	1.8	1.2	38	70	36.8	876	742	--
LSD.05	4860	0.4	0.3	1	1	0.8	84	96	--
C.V. %	10.0	15.6	15.1	2.5	0.9	1.5	6.8	11.3	--

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING VARIETY IN THE TEST.

* VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING VARIETY IN THE TEST.

VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING VARIETY IN THE TEST USING A DUNCANS MULTIPLE RANGE TEST.

TABLE 2. FIBER CHARACTERISTICS OF COTTON VARIETIES GROWN NEAR SIKESTON, MISSOURI IN 1979.

BRAND/VARIETY	MICRO-NAIRE	STAPLE LENGTH (50%)	STAPLE LENGTH (2.5%)	ELONGATION (%)	STRENGTH (G/TEX)
BRYCOT 4	3.50	0.57	1.21	7.13	21.75
COKER 304	3.95	0.60	1.24	6.38	22.70
COKER 310	4.10	0.56	1.23	7.00	22.90
COKER 315	4.15	0.57	1.22	6.88	21.70
DELCOT 277J	3.40	0.59	1.25	7.75	22.37
DELTAPINE 26	3.95	0.57	1.17	8.25	22.12
DELTAPINE 55	3.35	0.55	1.19	7.63	20.42
DELTAPINE 61	3.75	0.58	1.20	9.25	20.90
DELTAPINE 70	3.85	0.56	1.17	7.25	22.45
DELTAPINE 7141	3.75	0.56	1.19	6.88	22.55
MO63-277-1B	3.80	0.59	1.22	7.25	23.80
MO74-944	3.85	0.59	1.17	8.38	24.00
STONEVILLE 213	4.15	0.56	1.16	8.25	21.05
STONEVILLE 825	4.10	0.54	1.17	7.38	20.52
VAIL 7	3.35	0.55	1.18	6.75	21.15
MEAN	3.80	0.57	1.20	7.49	22.02
LSD.05	0.27	0.02	0.03	0.78	1.05
C.V. %	4.72	2.53	1.47	6.87	3.17

NS OBSERVED DIFFERENCES FOR A GIVEN CHARACTERISTIC ARE NOT SIGNIFICANT AT THE 5% LEVEL.

TABLE 3. YIELD PERFORMANCE OF COTTON VARIETIES GROWN NEAR CLARKTON, MISSOURI IN 1979.
PLANTED: 17 MAY 1979. HARVESTED: 7 NOVEMBER 1979.

BRAND/VARIETY	STAND (PL/A)	LODGING (1-5)	VIGOR (1-5)	HGT. (IN)	DAYS TO FLOWR	LINT (%)	TOTAL LINT (LBS/ACRE) 1979	1978	1977
DELCOT 277J	42166	2.0	2.3	21	81	38.2	433**	644	--
MO74-944	59364	1.7	2.0	22	81	37.6	417*	810**	--
COKER 310	53662	0.9	2.0	21	81	36.5	415*	689	996#
COKER 304	52759	1.0	1.6	22	79	39.7	384*	686	971#
MO63-277-1B	52910	1.9	1.8	22	80	39.2	380*	--	--
DELTAPINE 7141	47484	1.6	1.6	20	79	40.2	376*	--	--
DELTAPINE 26	53251	1.0	2.0	22	81	37.9	371*	633	792
DELTAPINE 61	50481	1.3	1.6	22	82	36.9	348	705	894#
COKER 315	48697	1.0	2.0	22	79	38.9	338	--	--
DELTAPINE 70	52538	1.6	2.1	20	80	39.6	331	--	--
DELTAPINE 55	55306	2.0	2.2	21	81	39.6	327	607	900#
STONEVILLE 213	45529	1.3	1.9	23	81	36.3	288	552	809
BRYCOT 4	21797	1.6	2.1	25	81	37.0	288	--	--
STONEVILLE 825	43207	1.6	1.5	22	80	39.0	279	--	--
VAIL 7	36379	1.9	2.2	24	80	37.9	275	562	--
MEAN	47677	1.5	2.0	22	80	38.3	350	636	--
LSD.05	3423	0.3	0.5	1	1	0.8	64	111	--
C.V. %	5.1	15.0	17.2	4.0	0.9	1.5	13.1	15.2	--

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING VARIETY IN THE TEST.

* VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING VARIETY IN THE TEST.

VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING VARIETY IN THE TEST USING A DUNCANS MULTIPLE RANGE TEST.

TABLE 4. FIBER CHARACTERISTICS OF COTTON VARIETIES GROWN NEAR CLARKTON, MISSOURI IN 1979.

BRAND/VARIETY	MICRO-NAIRE	STAPLE LENGTH (50%)	STAPLE LENGTH (2.5%)	ELONGATION (%)	STRENGTH (G/TEX)
BRYCOT 4	3.25	0.52	1.10	5.50	20.22
COKER 304	3.60	0.55	1.16	6.13	23.45
COKER 310	3.65	0.56	1.21	6.50	22.10
COKER 315	3.50	0.58	1.19	6.38	22.90
DELCOT 277J	3.20	0.56	1.18	8.13	22.00
DELTAPINE 26	3.15	0.55	1.14	7.75	22.55
DELTAPINE 55	3.15	0.53	1.15	7.13	21.42
DELTAPINE 61	3.25	0.55	1.16	8.00	21.55
DELTAPINE 70	3.60	0.52	1.10	7.25	23.57
DELTAPINE 7141	3.40	0.54	1.14	6.50	23.52
M063-277-1B	3.20	0.55	1.16	6.38	23.27
M074-944	3.50	0.58	1.15	8.13	23.10
STONEVILLE 213	3.55	0.53	1.11	8.57	21.10
STONEVILLE 825	3.30	0.53	1.13	7.00	21.17
VAIL 7	3.35	0.53	1.12	6.13	20.62
MEAN	3.38	0.55	1.15	7.03	22.17
LSD.05	NS	0.03	0.04	0.74	1.33
C.V. %	5.05	3.20	2.01	6.98	3.98

NS OBSERVED DIFFERENCES FOR A GIVEN CHARACTERISTIC ARE NOT SIGNIFICANT AT THE 5% LEVEL.

TABLE 5. YIELD PERFORMANCE OF COTTON VARIETIES GROWN NEAR FRAILEY, MISSOURI IN 1979.
PLANTED: 30 MAY 1979. HARVESTED: 21 NOVEMBER 1979.

BRAND/VARIETY	STAND (PL/A)	LODGING (1-5)	VIGOR (1-5)	HGT. (IN)	DAYS TO FLOWR	LINT (%)	TOTAL LINT (LBS/ACRE) 1979	1978	1977
MO74-944	60479	2.1	1.7	24	72	42.3	493**	879*	--
COKER 304	61625	1.3	1.3	22	73	42.0	493*	739*	410
DELCOT 277J	55192	1.8	1.6	23	73	41.6	392	727*	--
DELTAPINE 7141	53656	1.0	1.9	21	74	44.6	358	--	--
COKER 315	46068	1.0	1.6	22	72	45.0	352	--	--
MO63-277-1B	48987	2.0	1.9	21	75	43.6	347	--	--
BRYCOT 4	44198	2.0	2.0	24	72	38.7	337	--	--
COKER 310	51567	0.8	1.7	21	73	39.5	328	624	526#
VAIL 7	40508	2.1	2.0	23	74	44.1	320	775*	--
DELTAPINE 55	54170	1.3	2.0	21	75	42.2	252	656	460
DELTAPINE 26	50575	1.3	2.0	23	74	42.6	248	687	473#
DELTAPINE 70	47304	1.2	1.9	20	75	41.9	232	--	--
STONEVILLE 825	53720	1.5	2.0	23	73	39.6	227	--	--
DELTAPINE 61	38093	1.2	2.0	22	77	39.7	226	478	522#
STONEVILLE 213	44738	1.4	1.8	22	73	39.1	196	765	573#
MEAN	50376	1.5	1.9	22	74	41.8	320	695	--
LSD.05	4555	0.2	0.3	2	2	1.0	64	238	--
C.V. %	14.3	10.1	9.8	5.4	1.5	1.7	14.3	24.2	--

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING VARIETY IN THE TEST.

* VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING VARIETY IN THE TEST.

VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING VARIETY IN THE TEST USING A DUNCANS MULTIPLE RANGE TEST.

TABLE 6. FIBER CHARACTERISTICS OF COTTON VARIETIES GROWN NEAR FRAILEY, MISSOURI IN 1979.

BRAND/VARIETY	MICRO-NAIRE	STAPLE LENGTH (50%)	STAPLE LENGTH (2.5%)	ELONGATION (%)	STRENGTH (G/TEX)
BRYCOT 4	3.90	0.54	1.17	7.00	20.30
COKER 304	3.75	0.57	1.24	6.25	22.87
COKER 310	3.75	0.57	1.22	6.75	21.85
COKER 315	4.15	0.58	1.23	6.25	21.67
DELCOT 277J	3.30	0.56	1.21	8.25	22.25
DELTAPINE 26	4.00	0.55	1.16	6.88	21.55
DELTAPINE 55	3.65	0.55	1.19	7.50	20.30
DELTAPINE 61	4.40	0.57	1.19	8.00	21.32
DELTAPINE 70	3.85	0.55	1.16	7.38	22.72
DELTAPINE 7141	3.85	0.56	1.20	6.50	21.40
MO63-277-1B	3.70	0.57	1.21	7.38	22.75
MO74-944	3.80	0.55	1.13	7.88	23.72
STONEVILLE 213	4.20	0.55	1.15	7.00	21.02
STONEVILLE 825	3.95	0.55	1.16	7.25	21.17
VAIL 7	4.00	0.54	1.17	6.75	20.15
MEAN	3.88	0.52	1.19	7.13	21.65
LSD.05	0.27	NS	0.03	0.64	0.89
C.V. %	4.68	2.49	1.71	5.98	2.72

NS OBSERVED DIFFERENCES FOR A GIVEN CHARACTERISTIC ARE NOT SIGNIFICANT AT THE 5% LEVEL.

TABLE 7. YIELD PERFORMANCE OF COTTON VARIETIES GROWN ON THE DELTA RESEARCH CENTER NEAR PORTAGEVILLE, MISSOURI IN 1979.
PLANTED: 16 MAY 1979. HARVESTED: 14 NOVEMBER 1979.

BRAND/VARIETY	STAND (PL/A)	LOD-GING (1-5)	VIGOR (1-5)	HGT. (IN)	DAYS TO FLOWR	LINT (%)	TOTAL LINT (LBS/ACRE) 1979	1978	1977
MO63-277-1B	46278	2.0	1.5	34	73	39.5	923**	--	--
COKER 315	33891	1.0	1.8	39	74	40.0	898*	--	--
STONEVILLE 825	37633	1.5	2.0	37	73	36.5	897*	--	--
DELTAPINE 7141	29806	1.3	2.8	37	75	40.5	880*	--	--
STONEVILLE 213	32730	1.5	2.0	36	74	37.3	846*	902	954#
DELTAPINE 55	26666	1.5	2.5	32	74	37.0	818*	869	983#
COKER 310	31698	1.5	2.3	39	74	38.5	801*	833	975#
COKER 304	27913	1.3	2.3	41	74	39.5	793*	807	922#
MO74-944	24644	2.3	2.8	40	74	38.0	773*	968	--
DELTAPINE 26	26322	1.8	2.8	39	73	39.3	765	708	985#
VAIL 7	26035	1.3	2.3	39	74	33.3	753	1024*	--
DELCOT 277J	16344	2.5	2.8	36	74	38.5	742	820	--
DELTAPINE 61	30322	1.8	2.5	40	74	37.3	711	762	922#
DELTAPINE 70	24429	2.0	3.3	37	75	38.5	651	--	--
BRYCO 4	11613	2.5	3.3	39	76	35.0	629	--	--
MEAN	29853	1.7	2.4	38	74	38.0	792	737	--
LSD.05	1583	0.9	1.0	4	1	3.4	175	142	--
C.V. %	4.5	36.6	39.3	8.2	17.7	3.9	11.6	16.8	--

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING VARIETY IN THE TEST.

* VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING VARIETY IN THE TEST.

VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING VARIETY IN THE TEST USING A DUNCANS MULTIPLE RANGE TEST.

TABLE 8. FIBER CHARACTERISTICS OF COTTON VARIETIES GROWN ON THE DELTA RESEARCH CENTER NEAR PORTAGEVILLE, MISSOURI IN 1979.

BRAND/VARIETY	MICRO-NAIRE	STAPLE LENGTH (50%)	STAPLE LENGTH (2.5%)	ELONGATION (%)	STRENGTH (G/TEX)
BRYCOT 4	3.80	0.54	1.15	6.75	21.47
COKER 304	4.25	0.60	1.23	6.63	23.35
COKER 310	4.15	0.60	1.24	7.13	22.57
COKER 315	4.10	0.60	1.24	6.88	23.22
DELCOT 277J	3.75	0.62	1.24	8.75	24.00
DELTAPINE 26	3.95	0.57	1.17	8.25	22.40
DELTAPINE 55	3.70	0.59	1.24	7.13	21.57
DELTAPINE 61	4.65	0.59	1.19	8.13	22.30
DELTAPINE 70	3.65	0.57	1.16	7.63	22.12
DELTAPINE 7141	3.90	0.57	1.19	7.63	21.77
MO63-277-1B	4.05	0.59	1.22	7.75	23.32
MO74-944	4.20	0.60	1.16	9.13	23.02
STONEVILLE 213	4.35	0.56	1.15	7.50	21.17
STONEVILLE 825	4.65	0.57	1.18	6.75	22.22
VAIL 7	3.80	0.54	1.15	6.50	21.72
MEAN	4.06	0.58	1.19	7.50	22.41
LSD.05	0.35	0.03	0.02	0.62	1.25
C.V. %	5.68	6.22	1.36	5.45	3.74

NS OBSERVED DIFFERENCES FOR A GIVEN CHARACTERISTIC ARE NOT SIGNIFICANT AT THE 5% LEVEL.

TABLE 9. YIELD PERFORMANCE OF COTTON VARIETIES GROWN NEAR SENATH, MISSOURI IN 1979.
PLANTED: 16 MAY 1979. HARVESTED: 25 OCTOBER AND 12 NOVEMBER 1979.

BRAND/VARIETY	STAND (PL/A)	LODGING (1-5)	VIGOR (1-5)	HGT. (IN)	DAYS TO FLOWR	LINT (%)	TOTAL LINT (LBS/ACRE) 1979	1978	1977
DELTAPINE 7141	55629	1.9	0.9	43	66	38.8	1274**	--	--
MO63-277-1B	62693	2.0	1.0	44	66	37.3	1217*	--	--
COKER 315	55544	1.4	1.0	44	65	36.3	1151*	--	--
COKER 304	59835	1.9	1.3	47	65	36.4	1099	--	--
STONEVILLE 825	62986	1.7	0.9	47	65	36.4	1080	--	--
STONEVILLE 213	50268	1.6	1.0	42	66	35.7	1079	--	--
COKER 310	62072	2.0	1.3	42	65	36.2	1067	--	--
DELTAPINE 61	62400	1.9	1.0	45	67	35.4	1032	--	--
DELTAPINE 55	61238	2.2	1.3	45	66	37.9	1030	--	--
DELCOT 277J	48809	2.5	1.0	46	66	35.0	1024	--	--
MO74-944	63850	1.9	1.6	47	66	35.9	1011	--	--
DELTAPINE 70	56834	1.6	1.3	45	66	37.3	905	--	--
BRYCOT 4	40249	1.9	1.0	44	66	34.4	899	--	--
DELTAPINE 26	61119	1.9	1.3	45	67	34.7	845	--	--
VAIL 7	53748	1.9	1.6	45	66	35.7	828	--	--
MEAN	57424	1.9	1.2	45	65	36.1	1035		
LSD.05	4260	0.4	0.3	3	1	1.2	128		
C.V. %	5.2	14.3	16.0	4.9	0.7	2.4	8.7		

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING VARIETY IN THE TEST.

* VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING VARIETY IN THE TEST.

TABLE 10. FIBER CHARACTERISTICS OF COTTON VARIETIES GROWN NEAR SENATH, MISSOURI IN 1979.

BRAND/VARIETY	MICRO-NAIRE	STAPLE LENGTH (50%)	STAPLE LENGTH (2.5%)	ELONGATION (%)	STRENGTH (G/TEX)
BRYCOT 4	3.35	0.55	1.19	7.13	19.85
COKER 304	3.30	0.58	1.25	7.63	21.80
COKER 310	3.30	0.56	1.24	7.25	21.97
COKER 315	3.50	0.60	1.26	7.38	21.92
DELCOT 277J	3.05	0.59	1.22	8.63	22.07
DELTAPINE 26	2.80	0.54	1.16	8.25	20.72
DELTAPINE 55	2.75	0.55	1.22	7.75	21.37
DELTAPINE 61	3.20	0.57	1.21	9.25	20.10
DELTAPINE 70	2.80	0.55	1.17	8.63	21.45
DELTAPINE 7141	2.85	0.56	1.20	7.88	21.00
MO63-277-1B	3.05	0.58	1.23	7.75	22.75
MO74-944	3.20	0.58	1.18	6.50	23.10
STONEVILLE 213	3.10	0.57	1.18	8.63	21.20
STONEVILLE 825	3.00	0.54	1.15	7.88	20.45
VAIL 7	2.90	0.56	1.19	7.25	19.45
MEAN	3.09	0.57	1.20	7.88	21.23
LSD.05	NS	NS	0.04	NS	0.74
C.V. %	7.79	3.49	1.97	9.58	2.31

NS OBSERVED DIFFERENCES FOR A GIVEN CHARACTERISTIC ARE NOT SIGNIFICANT AT THE 5% LEVEL.

TABLE 11. SUMMARY PERFORMANCE OF COTTON VARIETIES GROWN AT FIVE MISSOURI LOCATIONS IN 1979.

BRAND/VARIETY	LOCATIONS-1979					
	SIKESTON	CLARKTON	FRAILEY	PRTGVLLE	SENATH	MEAN
	POUNDS/ACRE					
MO63-277-1B	1030**	380*	347	923**	1217*	779**
DELTAPINE 7141	1003*	376*	358	880*	1274**	778*
COKER 304	1004*	384*	493*	793*	1099	755*
COKER 315	1024*	338	352	898*	1151*	753*
COKER 310	989*	415	328*	801	1067	720
MO74-944	847	417*	493**	773*	1011	708
STONEVILLE 825	922	279	227	897*	1080	681
DELCOT 277J	743	433**	392	742	1024	667
DELTAPINE 55	888	327	252	818*	1030	663
STONEVILLE 213	897	288	196	846*	1079	661
DELTAPINE 61	918	348	226	711	1032	647
DELTAPINE 26	766	371*	248	765	845	599
VAIL 7	717	275	320	753	828	579
DELTAPINE 70	737	331	232	651	905	571
BRYCOT 4	651	288	337	629	899	561
MEAN	876	350	320	792	1035	675
LSD.05	84	64	64	175	128	47
C.V. %	6.8	13.1	14.3	11.6	8.7	10.9

** HIGHEST YIELDING VARIETY IN THE TEST.

* VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING VARIETY IN THE TEST.

TABLE 12. SUMMARY OF FIBER CHARACTERISTICS OF COTTON VARIETIES GROWN AT FIVE MISSOURI LOCATIONS IN 1979.

BRAND/VARIETY	MICRO-NAIRE	STAPLE LENGTH (50%)	STAPLE LENGTH (2.5%)	ELONGATION (%)	STRENGTH (G/TEX)
BRYCO 4	3.56	0.55	1.16	6.70	20.72
COKER 304	3.77	0.58	1.23	6.60	22.83
COKER 310	3.79	0.57	1.23	6.92	22.28
COKER 315	3.88	0.59	1.23	6.75	22.28
DELCOT 277J	3.34	0.59	1.22	8.30	22.54
DELTAPINE 26	3.57	0.56	1.16	7.88	21.87
DELTAPINE 55	3.32	0.55	1.20	7.42	21.02
DELTAPINE 61	3.85	0.57	1.19	8.52	21.23
DELTAPINE 70	3.55	0.55	1.15	7.63	22.46
DELTAPINE 7141	3.55	0.56	1.18	7.07	22.05
MO63-277-1B	3.56	0.58	1.21	7.30	23.18
MO74-944	3.71	0.58	1.16	8.00	23.39
STONEVILLE 213	3.87	0.55	1.15	7.99	21.11
STONEVILLE 825	3.80	0.55	1.16	7.25	21.11
VAIL 7	3.48	0.54	1.16	6.67	20.62
MEAN	3.65	0.56	1.18	7.42	21.83
LSD.05	0.12	0.01	0.01	0.34	0.45
C.V. %	5.56	3.00	1.72	7.21	3.26

NS OBSERVED DIFFERENCES FOR A GIVEN CHARACTERISTIC ARE NOT SIGNIFICANT AT THE 5% LEVEL.

TABLE 13. NAME OF COTTON ENTRIES AND SEED SOURCE EVALUATED IN 1979.

BRAND	VARIETY	SEED SOURCE
BRYCO	BRYCOT 4, VAIL 7	BRYCO, P.O. BOX C, LEACHVILLE, AR 72438
COKER	304, 310, 315	COKER PEDIGREE SEED CO.,HARTSVILLE, SC 29550
DELTAPINE	26, 55, 61, 70, 7141	DELTAPINE LAND CO.,SCOTT, MS 38772
STONEVILLE	213, 285	STONEVILLE PEDIGREED SEED CO., STONEVILLE, MS 38776
	DELCOT 277J, M074-944, M063-277-1B	ENTERED BY STATE RESEARCH STATIONS AND CENTERS