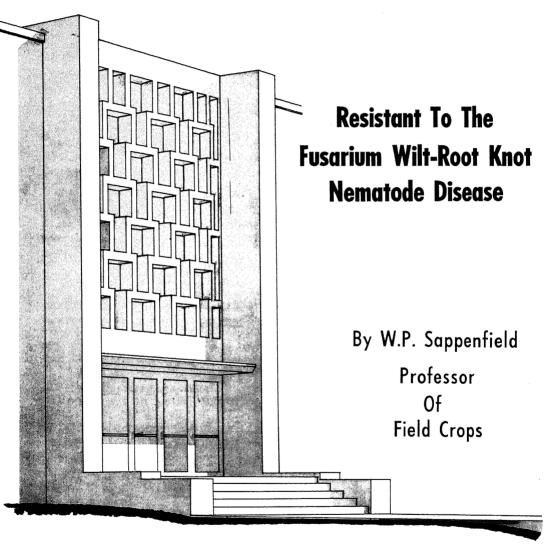
AUBURN M: A New Extra-Early Cotton Variety



UNIVERSITY OF MISSOURI

AGRICULTURAL EXPERIMENT STATION

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AUBURN M: A NEW EXTRA-EARLY COTTON VARIETY RESISTANT TO THE FUSARIUM WILT-ROOT KNOT NEMATODE DISEASE

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Cotton production losses, caused by the fusarium wilt-root knot nematode disease complex (<u>Fusarium oxysporium f. vasinfectum</u> (Atk.) Snyder and Hansen-Meloidogyne incognita var. acrita Chitwood, 1949), occur annually on Missouri's light sandy soils. These soils constitute approximately 1/3 or 130,000 acres of southeast Missouri's current cotton acres.

With the introduction of the Auburn 56 and Rex cotton varieties, resistant to this desease complex, losses have steadily declined.

Although Auburn 56 is highly resistant to the fusarium wilt-root knot disease and intermediate to early in maturity, it frequently has lacked the very-early maturity features required for maximum lint production during most seasons in southeast Missouri. On occasion, it also has exhibited hard-to-pick characteristics. Obvious maturity differences among plants within the Auburn 56 variety were frequently observed.

Rex, although very-early maturing and resistant to fusarium wilt, appears less tolerant to root-knot nematodes. Leaves of this variety are quite hairy and have created problems in ginning for acceptable grades. Its fiber spinning characteristics also may be below that of the Auburn 56 variety.

The Breeding of Auburn M (formerly Mo 58-3249)

A simple selection program was initiated in 1957 to develop an early-maturing, fusarium wilt-root knot nematode resistant variety by taking advantage of the obvious variability observed in Auburn 56. The new strain, Auburn M, is the product of this work.

Early maturing plants, selected from Auburn 56 by A. L. Smith at the Alabama Agricultural Experiment Station, were obtained for planting at the Delta Center, Missouri Agricultural Experiment Station at Sikeston, 1957. One of these selections was designated, Auburn 56-888.

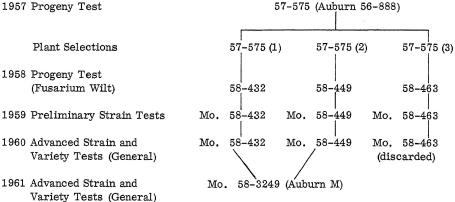
The following illustrates selection and testing procedures during the development of Auburn M. Test results are given in Tables 1-8.

 Professor of Field Crops, University of Missouri. (Delta Center, Sikeston, Missouri)

Years and Tests

Designations





This program has been one of selection, testing, and seed increase, simultaneously. Mass selection within self-pollinated sister strains, and a following winter increase of seed at Iquala, Mexico, were carried out annually during 1959-61. The initial production of breeder's seed of Mo. 58-432 and Mo. 58-449 began in 1960, following the first Mexico increase (winter, 1959, 60). Later, seed of these closely related and quite similar sister strains were blended in equal parts for production of Mo. 58-3249 foundation seed in 1961. This seed was released to Missouri registered seed producers for planting in 1962.

Yield test results in Missouri indicate that Auburn M produces well on sandy loam, sand and loam soils. It has not been adequately evaluated on gumbo or heavy clay soils. It has been earlier maturing than Auburn 56 and as early as Rex. Spinning qualities have been equal to those of Auburn 56 and slightly better than those of Rex.

Currently, Auburn M is being evaluated by Agricultural Experiment Stations in Alabama, Tennessee, Arkansas, Mississippi, Louisiana, Oklahoma, Texas, Arizona and Mexico. This information will be available at a later date. Some 1961 data for this variety are available from certain of these stations.

A description of Auburn M, as determined and observed under prevailing test conditions in southeast Missouri, is given below. Fiber and spinning quality data are from the Cotton and Cordage Fiber's Spinning Laboratory, Crops Research Branch, A.R.S., U.S.D.A., Knoxville, Tennessee.

Characteristics of Auburn M

- 1. Yields: High potential on sand, sandy loam and loam soils.
- 2. Maturity: early to extra-early.
- 3. Fruiting habit: compact.
- 4. Growth habit: determinate to semi-determinate.
- 5. Leaf hairs: short and reduced in number (approaches semi-smoothness).

- 6. Bolls: moderately storm resistant but fluff well and are easily picked by hand and machine. Average size 6.8 to 7.0 grams seed cotton per boll.
- 7. Disease reaction: resistant to the fusarium wilt-root knot nematode disease complex (Fusarium oxysporium f. vasinfectum (Atk.) Snyder and Hansen-Meloidogyne incognita var. acrita (Chitwood, 1949); moderately tolerant to verticillium wilt (Verticillium alboatrum Reinke and Berth); susceptible to bacterial blight (Xanthomonas malvacearum).
- 8. Lint percentage: 35.8 37.5 %
- 9. Fiber quality:
 - a. Length:

Staple: $1 \frac{1}{16} - 1 \frac{3}{32} + inches$

Upper half means: 1.10 - 1.14 inches

Mean length: .94 - .98 inches Uniformity ratio: 85-86

b. Strength:

Tenacity (T_1) : 1.74 - 1.83 grams per grex

Elongation (E_1) : 7.5 - 8.6 %

c. Fineness:

Micronaire: 4.07 - 4.50 units

d. Spinning quality (50 gram test)

Calculate standard yarn

skein strength of 27 tex yarns: 116-125 pounds

Manufacturing performance index: 100 (good)

In the tables to follow Auburn M is designated Mo. 58-3249 and its component strains are Mo. 58-432 and Mo. 58-449.

Table 1. Lint Cotton Yields for Varieties and New Strains Grown on Sandy Soil infested with Fusarium Wilt and Root-Knot Nematodes. Diehlstadt, Missouri, (1959-61).

					Disease Reaction	ion		Boll Size
Variety	Total Lint	aı	ness	Bacterial	erial	Fusarium		Grams
Strain	lbs/acre	lbs/acre	% Crop	Rating ^a	Bilgnt Incid. D	% Incid.	jur %	Seedcotton /boll
			1959 - 61 Average	Average			c	
1. Mo. 58-432	833	618	74	S	3.7	8.9	37.1	8.8
2. Mo. 58-449	692	601	78	ß	3.7	10.8	37.2	9.9
3. Rex	731	536	73	Я	4.	19.6	37.6	6.5
4. Auburn 56	722	477	99	ß	4.0	12,3	36.6	6.2
,			1960 - 61 Average	Average				
1. Mo. 58-3249 ^d	716	496	69	S	4.1	3,3	37.5	8.9
2. Rex	899	456	89	Я	9.	5.4	37,1	6.8
3. Auburn 56	636	387	61	ß	4.5	4.0	36.4	5.6
			1961	15				
1. Mo. 58-432	821	510		Ω I	4,5	es.	37.7	6.5
2. Mo. 58-3249	764	465	61	ß	4,3	0.	37.5	6.7
3. Rex	759	451	29	R	∞.	1.7	37.1	6.4
4. Mo. 58-449	716	474	99	Ø	4.5	1.2	37.7	6.5
5. Dixie King	695	372	54	ß	3,8	.5	37.7	6.9
6. Auburn 56	683	327	48	S	5.0	7.	36.4	6.0
	617	334	54	ß	3,5	2,1	37.4	5.9
8. Stoneville 213	610	375	61	ß	2.8	14,4	37,3	0.9
L.S.D. (.05)	102	78						
C								

^bSeverity of bacterial blight: 0-1 (trace); 2 (milk); 3 (moderate); 4 (severe); 5 (very severe). ^aS is susceptible; R is resistant.

 $^{^{\}rm c}$ Severity of wilt as measured by the precentage of plants showing wilt symptoms. $^{\rm d}1960$ data were averages between Mo. 58–432 and Mo. 58–449 (1960).

Table 2. Fiber Properties of Cotton Varieties and New Strains Grown at Diehlstadt, Missouri, 1959-61.

Strength Fineness Standard Yarn Mfg.	E+	Mic.	1959-61 Avg. a	1,72 8,9 4,06 114	83		86 1,73 8,8 4,29 119	1960-61 Avg.	4,36 116	.94 84 4.05 112 100	85 4,50 119	1961	.98 87 4.28 118 100	.95 86 4.50 118 100	84 3,89 116		.96 86 4.44 122 100	4.55 121	4,23 125	122	. 28 6
Strength		1		2	9	_	3		ı	1	1		į.	1	ļ	1		į	1	1	
	Tena	T1	8	1.7	1.7	1.6	1.7			i			1	1	1	1	1	1	1	1	
	Unif. Ratio	%	1959-61 Avg.	98	83	85	86	1960-61 Ave.	85	84	85	1961	87	86	84	84	98	85	87	85	
	Mean	Ins.		96	. 91	. 93	. 93		. 94	. 94	.94		. 98	. 95	. 95	. 93	96	. 93	1.02	.98	20
Length	Upper Half Mean	Ins.		1,12	1,09	1,10	1.08		1,10	1,12	1,10		1,13	1,11	1,13	1,11	1.12	1,09	1,17	1.15	04
	Staple 1/32	hs.		34,7	34.7	34.7	35,0		34.9	35.0	35.5		35.0	34.7	35.0	34.7	34.7	34.7	35,7	34.7	
				8-432	8-449	Rex	Auburn 56		58-3249b	2. Rex	Auburn 56		Mo. 58-432	58-3249		58-449	Dixie King	ırn 56	a Queen	Stoneville 213	T G D / 0E)

 $^{a}\mathrm{T}_{1}$, and E_{1} averages for 1959-60: Standard yarn skein strength and manufacturing performance averages for 1960-61. $^{b}\mathrm{1960}$ data were averages between Mo. 58-432 and Mo. 58-449 (1960).

Table 3. Lint Cotton Yields for Varieties and New Strains on Loam Soils Infested With Verticillium Wilt (1959-61)³.

$\begin{array}{c c} & & Boll Size \\ \hline llium & Grams \\ \hline t & Lint & Seedcot- \\ id. & \% & ton/Boll \\ \hline \end{array}$	0 36.9 6.5 0 35.7 6.8	2 35.8 6.9 9 36.6 6.7 5 35.7 7.0 1 36.7 6.2	36.4 35.0 35.9	3 36.2 6.8 3 36.5 6.5 3 35.4 6.9 4 35.8 6.8	1 36.3 6.4 3 35.3 6.7
Verticillium Wilt Wild Michael	44.0	44.2 41.9 50.5	47.3 51.6 57.9	44.8 34.3 33.8	41.4
Disease Reaction ht Fusarium Wilt Id. Incid.	37.0 8.0	5.8 71.6 9.0 65.7	72.0 7.2 32.6	1.2	1.7
Se Se 5	c c	1.6 1.4 0	1.2	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	2.7
, H	S R	S S S S	S S S 1961	α α α α α	s H s
Earliness Lint-1st. Picking Lbs/A % Crop	81	75 77 72 61	59 66 69	74 63 63 65	57 57
Ea Lint-1s Lbs/A	675	667 642 613 512	457 503 497	759 633 621 627	504 504
Total Lint Yield Lbs/A	834	891 880 849 838	771 760 722	1,022 1,003 985 965	888 874
Variety or <u>Strain</u>	1. Mo. 58–321 2. Rex	Mo. 58–3249 ^d Mo. 58–321 Rex Stoneville 7	Deltapine-SL Auburn 56 Fox 4	Mo. 58-449 Mo. 58-321A Mo. 58-432 Mo. 58-3249 Mo. 58-321	Rex Auburn 56

Table 3. CONTINUED

					Dise	Disease Reaction			Boll Size
Variety	Total Lint	Ea	Earliness	Bacterial	d Blight	Fusarium	Verticillium		Grams
or ,	Yield	Lint-1st, Pi	t, Picking			Wilt	Wilt	Lint	Seedcot-
Strain	Lbs/A	Lbs/A	% Crop	Rating	Incid.	% Incid.	% Incid.	8	ton/Boll
8. Stoneville 213	848	423	20	ß	1.7	14.4	47.1	36,5	6.2
9. Deltapine-SL	791	352	45	κα	∞.	100.0	45.2	35.6	6.2
10. Stoneville 7	765	354	46	ß	1.7	59.6	34.8	35.9	0.9
11. Dixie King	726	267	37	ß	2.0	.5	40.0	35,3	6.9
12. Delta Queen	710	305	43	ß	2,3	2.1	36.0	35.7	0.9
13. Fox 4	645	322	20	Ø	2.0	30.2	53.8	35.3	6.2
L.S.D. (.05)	154	142							

^aDorena (1959), Sikeston (1960) and Dry Bayou (1961), ^b1959-60 averages for fusarium wilt incidence from Diehlstadt, ^c1960 data for fusarium wilt from Diehlstadt, ^d1960 data were averages between Mo, 58-432 and Mo, 58-449 (1960).

Table 4. Fiber Properties of Cotton Varieties and New Strains Grown on Loam Soils Infested With Verticillium Wilt (1959-61).

		Length	cth		Strength	ıgth	Fineness	Spinning Performance Standard Yarn Mfg.	mance Mfg.
Variety	Staple	Upper Half Mean	an Mean	Unif.	Tenac-	Elon-		Skein Strength	Perf.
or	1/32			Ratio	ity	gation		27 tex (22's)	
Strain	Ins.	Ins.	Ins.	%	T_1	E1	Mic.	(Lbs.)	
				1959-61	1959-61 Avg. a				
1. Mo. 58-321	35,6	1.18	1.01	98	1,95	7.3	4.57	126	100
2. Rex	35,5	1,14	. 93	82	1.63	7.1	3.89	115	100
				1960-6	1960-61 Avg. b				
1. Mo. 58-3249 ^c	35.8	1,14	. 97	85	1.83	7.5	4.07	122	100
2 Mo. 58-321	35,9	1,19	1,01	85	1.97	7.1	4.58	127	100
3. Rex	35,7	1,16	. 95	82	1,65	8.9	3.90	116	100
4. Stoveville 7	36.2	1.17	1.00	85	1,80	7.4	4.69	!!!	[
5. Deltapine-SL	36.4	1.18	86.	83	1.89	8.7	4,23	1	ļ
	35,8	1.14	.97	85	1.77	7.6	4.28	121	100
	36.2	1.16	1.01	87	1,77	7.3	4,55	1	1
				1961					
1. Mo. 58-449	34.3	1.12	. 92	82	1	!	4,01	120	100
2, Mo, 58-321A	34.7	1.19	1.03	87	!	!!!	4,61	130	100
	35.0	1,13	. 95	84	I I I	!!!	4.06	127	100
4. Mo. 58-3249	34.7	1.14	. 98	98	1 1 1	!	4.08	125	100
5, Mo. 58-321	35.0	1.19	1.02	98	!	!!	4.47	130	100
	34.7	1.17	96.	82	1	! ! !	3,85	121	100
7. Auburn 56	35.0	1,15	66.	98	1 1 1	! !	4.19	120	100
	34.7	1.16	86.	84	! ! !	I I	4.50	123	100

Table 4. Continued

formance n Mfg.	s) Perf.		100	100	100	100	100	
Spinning Performance Standard Yarn Mfg.	Skein Strength 27 tex (22's)	(Lbs.)	133	122	132	131	134	9
Fineness		Mic.	4,32	4.52	4,11	3,95	4.42	. 23
ngth	Elon- gation	\mathbf{E}_{1}	!	!	! !	!	1	
Strength	Tenac- ity	T_1	1 1 1	1 1 1	1	1 1 1	1 1	
	Unif. Ratio	%	85	85	98	84	88	
	Mean	Ins.	66.	66.	1.00	1.00	1.02	.05
Length	Upper Half Mean	Ins.	1.17	1.17	1,16	1,19	1.16	. 04
	Staple 1/32	Ins.	35.0	35.0	34,7	35,3	35,3	
	Variety or	Strain	9. Deltapine-SL	10. Stoneville 7	11. Dixie King	12. Delta Queen	13. Fox 4	L.S.D. (.05)

 $^{a}\rm T_1$ and $\rm E_1$ averages for 1959-60, $^{b}\rm T_1$ and $\rm E_1$ 1960 only. $^{c}\rm C_{1960}$ data were averages between Mo. 58-432 and Mo. 58-449 (1960).

Table 5. Lint Cotton Yields for Varieties Grown on Sandy Loam Soils at Portageville, Missouri, 1960-61.

Earliness Bacterial Blight Fusarium Wilt a Mitb Wilt b Mitb Lint-1st Picking Lint-1st Picking Wilt a Mitb Lint b Mitb						Dise	Disease Reaction			Boll Size
Lbs/Acre Lbs/Acre % Crop Rating Incid. % Incid. Incid. % I		Total Lint Yield	Earli Lint-1st F	ness	Bacteria	l Blight	Fusarium Wilt ^a	Verticillium Wilt ^b	Lint	Grams Seedcot-
1,030 807 78 4.0 4.5 41.8 35.8 1,004 779 78 8 .9 5.3 43.0 35.8 1,004 779 78 8 .9 5.3 43.0 35.3 966 623 64 8 3.2 31.4 64.4 36.0 950 632 73 8 3.4 29.5 42.8 35.9 948 605 64 8 2.7 62.7 37.2 933 684 73 8 3.5 95.9 75.2 37.2 918 615 64 8 3.5 95.9 75.2 37.2 914 641 70 8 3.9 19.8 63.3 34.4 890 673 64 8 3.5 55.0 64.8 37.8 875 62 7 84.4 45.5 37.0 37.1 881 65 <td></td> <td>Lbs/Acre</td> <td>Lbs/Acre</td> <td>% Crop</td> <td>Rating</td> <td>Incid.</td> <td>% Incid.</td> <td>Incid.</td> <td>%</td> <td>ton/Boll</td>		Lbs/Acre	Lbs/Acre	% Crop	Rating	Incid.	% Incid.	Incid.	%	ton/Boll
1,004 779 78 B .9 5.3 43.0 35.3 966 623 64 S 3.2 31.4 64.4 36.0 950 632 73 S 3.4 29.5 42.8 35.9 2 949 605 64 S 2.7 62.7 52.1 37.0 948 605 64 S 2.7 62.7 52.1 37.0 923 684 73 S 3.5 95.9 75.2 37.2 923 688 75 S 3.4 19.8 63.3 34.4 923 688 75 S 3.4 19.8 63.3 34.4 914 615 67 S 3.9 3.6 35.7 36.1 890 573 64 S 3.1 86.0 53.0 37.8 863 55 64 S 2.7 84.4 45.5	58-3249 ^c	1,030	807	78	ß	4.0	4.5	41.8	35.8	7.2
966 623 64 S 3.2 31.4 64.4 36.0 950 692 73 S 3.4 29.5 42.8 35.9 949 697 73 S 3.7 62.7 52.1 37.0 948 605 64 S 2.7 62.7 52.1 37.0 933 684 73 S 3.5 95.9 75.2 37.2 923 688 75 S 3.4 19.8 63.3 34.4 914 615 67 S 3.9 19.8 65.9 35.5 914 641 70 S 3.9 3.6 55.0 35.1 36.1 890 573 64 S 3.1 86.0 53.7 37.8 875 62 71 S 2.7 84.4 45.5 37.0 881 574 71 S 2.7 84.4 45.5		1,004	477	78	R	o.	5.3	43.0	35,3	7.2
20 692 73 8 3.4 29.5 42.8 35.9 24 694 73 8 3.5 84.8 78.7 35.7 948 605 64 8 2.7 62.7 52.1 37.0 933 684 73 8 3.5 95.9 75.2 37.2 923 684 75 8 3.4 19.8 63.3 34.4 914 641 70 8 3.9 19.8 56.9 35.5 914 641 70 8 3.9 3.6 37.8 36.1 890 573 64 8 3.1 86.0 53.0 37.8 875 622 71 8 3.5 55.0 64.8 37.0 863 555 64 8 2.7 84.4 45.5 37.1 801 490 61 8 4.0 62.9 52.3 37.1	4	996	623	64	Ø	3.2	31.4	64,4	36.0	9*9
2 949 697 73 8 3.5 84.8 78.7 35.7 948 605 64 S 2.7 62.7 52.1 37.0 933 684 73 S 3.5 95.9 75.2 37.2 923 688 75 S 3.4 19.8 63.3 34.4 918 615 67 S 3.9 19.8 56.9 35.5 914 641 70 S 3.9 3.6 53.7 36.1 890 573 64 S 3.1 86.0 53.7 36.1 875 622 71 S 3.5 55.0 64.8 37.8 863 555 64 S 2.7 84.4 45.5 37.0 811 574 71 S 4.0 16.5 52.3 35.1 801 490 61 S 4.5 37.3 37.3	e King	950	692	73	ß	3.4	29.5	42.8	35,9	8,1
948 605 64 S 2.7 62.7 52.1 37.0 933 684 73 S 3.5 95.9 75.2 37.2 923 688 75 S 3.4 19.8 63.3 34.4 918 615 67 S 3.9 19.8 56.9 35.5 914 641 70 S 3.9 19.8 56.9 35.5 890 573 64 S 3.1 86.0 53.7 36.1 875 622 71 S 3.5 55.0 64.8 37.8 863 555 64 S 2.7 84.4 45.5 37.0 811 574 71 S 2.7 84.4 45.5 37.1 801 490 61 S 4.0 16.5 53.7 37.1 600 418 70 S 4.5 37.3 36.4	eville 3202	949	697	73	S	3,5	84.8	78.7	35.7	6.2
933 684 73 8 3.5 95.9 75.2 37.2 923 688 75 8 3.4 19.8 63.3 34.4 918 615 67 8 3.9 19.8 56.9 35.5 914 641 70 8 3.9 19.8 56.9 35.5 890 573 64 8 3.1 86.0 53.7 36.1 863 552 71 8 55.0 64.8 37.8 863 555 64 8 2.7 84.4 45.5 37.0 811 574 71 8 4.0 16.5 52.3 35.5 801 49 61 8 4.0 16.5 53.7 37.1 600 418 70 8 4.5 35.5 37.3 36.4	eville 7	948	605	64	ß	2,7	62.7	52.1	37.0	6.5
923 688 75 S 3.4 19.8 63.3 34.4 918 615 67 S 3.9 19.8 56.9 35.5 914 641 70 S 3.9 19.8 56.9 35.5 890 573 64 S 3.1 86.0 53.7 36.1 875 622 71 S 3.5 55.0 64.8 33.7 863 555 64 S 2.7 84.4 45.5 37.0 811 574 71 S 4.0 16.5 52.3 35.5 801 490 61 S 4.5 35.5 37.3 36.4 600 418 70 S 4.5 35.5 37.3 36.4	del	933	684	73	ß	3.5	95.9	75.2	37.2	5.9
918 615 67 8 3.9 19.8 56.9 35.5 914 641 70 8 3.9 3.6 53.7 36.1 890 57.3 64 8 3.1 86.0 53.0 37.8 875 622 71 8 55.0 64.8 33.7 863 555 64 8 2.7 84.4 45.5 37.0 811 574 71 8 3.2 62.9 52.3 35.5 801 490 61 8 4.0 16.5 53.7 37.1 600 418 70 8 4.5 35.5 37.3 36.4	ire W.R.	923	688	75	Ω	3.4	19.8	63.3	34.4	8.1
914 641 70 S 3.9 3.6 53.7 36.1 890 573 64 S 3.1 86.0 53.0 37.8 875 622 71 S 3.5 55.0 64.8 33.7 863 555 64 S 2.7 84.4 45.5 37.0 811 574 71 S 3.2 62.9 52.3 35.5 801 490 61 S 4.5 35.5 37.1 600 418 70 S 4.5 37.3 36.4	er 124B	918	615	29	ß	3,9	19,8	56.9	35,5	6.7
890 573 64 S 3.1 86.0 53.0 37.8 875 622 71 S 3.5 55.0 64.8 33.7 863 555 64 S 2.7 84.4 45.5 37.0 811 574 71 S 3.2 62.9 52.3 35.5 801 490 61 S 4.6 16.5 53.7 37.1 600 418 70 S 4.5 35.5 37.3 36.4	ırn 56	914	641	70	Ø	3,9	3,6	53,7	36,1	7.0
863 555 64 S 2.7 84.4 45.5 37.0 861 555 64 S 2.7 84.4 45.5 37.0 811 574 71 S 3.2 62.9 52.3 35.5 801 490 61 S 4.0 16.5 53.7 37.1 600 418 70 S 4.5 35.5 37.3 36.4	apine-SL	890	573	64	ß	3,1	86.0	53.0	37.8	6.3
863 555 64 S 2.7 84.4 45.5 37.0 811 574 71 S 3.2 62.9 52.3 35.5 801 490 61 S 4.0 16.5 53.7 37.1 600 418 70 S 4.5 35.5 37.3 36.4	os 9169	875	622	71	ß	3,5	55.0	64.8	33.7	7.5
811 574 71 S 3.2 62.9 52.3 35.5 801 490 61 S 4.0 16.5 53.7 37.1 600 418 70 S 4.5 35.5 37.3 36.4	apine 15	863	555	64	ß	2.7	84.4	45.5	37.0	6.3
801 490 61 S 4.0 16.5 53.7 37.1 600 418 70 S 4.5 35.5 37.3 36.4	cart 57	811	574	7.1	ß	3.2	62.9	52.3	35.5	9.4
600 418 70 S 4.5 35.5 37.3	r 100A	801	490	19	ß	4.0	16.5	53.7	37.1	9.9
	a 4-42	009	418	70	ß	4.5	35.5	37.3	36.4	8.1

^aFrom fusarium wilt nursery at Diehlstadt. ^bFrom verticillium wilt nursery at Sikeston (1960); Dry Bayou (1961); and Portageville (1960), ^cData for 1960 from averages between Mo. 58-432 and Mo. 58-449 (1960).

Table 6. Fiber Properties of Cotton Varieties Grown at Portageville, Missouri, 1960-61.

							Spinning Performance	ormance
			Length			Fineness	Standard Yarn	Mfg.
Variety	ty	Staple	Upper Half Mean	Mean	Unif.		Skein Strength	Perf.
or		1/32			Ratio		27 tex (22's)	
Strain		Ins.	īns.	Ins.	8	Mic.	(Lbs.)	
I. M	1. Mo. 58-3249 ^a	35,5	1,14	86.	86	4,24	122	100
2. Rex	Xe	35, 5	1,14	• 95	83	3,95	116	100
3. FC	Fox 4	35.7	1,17	1,01	98	4.90	127	100
4. Di	Dixie King	35,4	1,16	66.	85	4,25	129	100
5. St	5. Stoneville 3202	34.7	1.10	. 94	85	4,37	110	100
6. St	Stoneville 7	35.5	1.17	1,00	85	4.67	124	100
7. St	7. Stardel	35.4	1.17	1,02	87	4,41	131	100
8. E	Empire W.R.	35,9	1.17	66.	85	3,75	131	100
ပ <u>ိ</u>	Coker 124B	35,9	1,19	1,01	85	4,41	125	100
10. Au	uburn 56	35,3	1,14	86.	98	4.42	121	100
11. D	eltapine-SL	35.7	1,19	1,02	98	4,60	127	100
12. D	12. Delfos 9169	36,0	1,23	1.02	83	4.10	125	100
13. D	13. Deltapine 15	35, 7	1.16	66.	85	4,29	129	100
14. L	ankart 57	35,2	1,11	. 95	98	4,57	108	100
15. C	15. Coker 100A	35.9	1,16	. 97	84	4.31	123	100
16. A	Acala 4-42	35.9	1,12	66.	88	4.06	145	100

 $^{\rm a}{\rm Data}$ for 1960 from averages between Mo. 58-432 and Mo. 58-449.

Table 7. Average Lint Yields for Mo. 58-432, Mo. 58-449, Mo. 58-3249, Rex and Auburn 56 Grown In Tests in Southeast Missouri (1959-61).

Boll Size	Grams	/Boll			0 2	0.0	6.7	ď	0.0	6.4			
	Lint	%			18	# .	36.5	36 5		35.8			
	Verticillium Wiltd	% Wilt			59.0	0.10	50.8	44.8) L	58.5			
Disease Reaction	Fusarium ^c Wilt	% Incid.			6 8	0 0	10.8	19.6	19.9	14.4			
Dise	Bacterial Blight	Incid.	Vø. a	d	3.0		3.2	4.	2	7.0	2,	α, , ,	ģ
	Bacteri	Rating	1959-61 Ave. a		ß	۵	Ω	Ж	V.	2		1961 Ave.	-
	Earliness nt-1st. Picking	$\% \operatorname{Crop}$			75	04	0	74	6.5				
i	Earliness Lint-1st. Pick	Lbs/A			656	660	200	617	496				
	Total Lint Yield	Lbs/A			878	859	900	833	160				
77	variety or	Strain			Mo.	2. Mo. 58-449	ŗ		4. Auburn 56				

Averages for 6 tests: Diehlstadt (1959-61); Sikeston (1960); Portageville (1960); Dry Bayou (1961) bAverages for 3 tests: Diehlstadt, Dry Bayou and Portageville (1961).

6.7

36.4 35.7 35.7

39.4 49.3 38.5

1.7

S H S

69 65 63

654 550 524

942 850 837

Mo. 58-3249

2. Rex

Auburn 56

3.9

 $^{
m dFrom}$ Dorena (1959); Sikeston (1960); Portageville (1960); and Dry Bayou (1961).

From Diehlstadt (1959-61).

Table 8. Fiber Properties for Mo. 58-432, Mo. 58-449, Mo. 58-3249, Rex and Auburn 56 Grown in Tests in Southeast Missouri (1959-61).

		Length			Strength	gth	Fineness	Spinning Performance Standard Yarn Mfg.	mance Mfg.
Variety Staple	le	Upper Half Mean Mean	Mean	Unif.	Tenac-	Elon-		Skein Strength	Perf.
or 1/32	2			Ratio	ity	gation		27 tex (22's)	
Strain Ins.		Ins.	Ins.	%	T_1	EJ	Mic.	(Lbs.)	
				1959-61 Avg. a	Avg. a				
	2	1,12	96	98	1,75	8,3	4,12	118	100
	3	1,11	. 93	84	1,78	7.9	4.12	120	100
3. Rex 35.3	အ	1,13	. 93	82	1,62	8,1	3,97	113	100
	5	1,11	. 95	98	1,74	8,4	4,32	119	100
				1961 Avg. b	d save				
1. Mo. 58-3249 34.8	_∞	1,13	86.	87	1 ! ! !	[[]	4,32	122	100
2. Rex 34.9	6	1,15	96.	83	! ! !	1	3,89	119	100
3. Auburn 56 34, 7	7	1,13	. 97	98		1	4.45	122	100

aAverage for 6 tests (1959-61). bAverage for 3 tests (1961).