

ANNUAL REPORT

1965

SHORT STAPLE COTTON BREEDING



*Fisher, W. D., L. S. Stith, and E. H. Pressley*

*Published by the*  
AGRICULTURAL EXPERIMENT STATION

*The University of Arizona*  
*Tucson, Arizona*

ANNUAL REPORT

1965

SHORT STAPLE COTTON BREEDING

Fisher, W. D., L. S. Stith, and E. H. Pressley

Published by the

AGRICULTURAL EXPERIMENT STATION

The University of Arizona  
Tucson, Arizona

## ACKNOWLEDGEMENTS

The authors wish to acknowledge a number of people without whose assistance this publication would not be possible. We wish to give credit to Mrs. Jean L. Dykeman for the fiber analyses in the laboratory; Mr. C. D. Manderscheid for assistance in preparing for plantings, harvesting, ginning, crossing, etc.; Mr. Fred Carraso for field supervision at the Yuma Experimental Farm; the farm superintendents - Mr. Harold Reyher, C. W. Fitzgibbons, Frank Pritchard, and Fred Turner, Jr. for growing the crop at their stations; the Arizona Cotton Planting Seed Distributors for their contribution in maintaining seed stocks for us, and to the numerous cotton breeders who furnished seed for testing purposes in Arizona. We wish to give recognition to the USDA - ARS Cotton Fiber Laboratory in Knoxville for the Micro-spinning tests.

## SHORT STAPLE COTTON BREEDING

### ANNUAL REPORT

1965

#### The Season

The most unusual feature of the 1965 cotton season was the cold, rainy weather at planting time. The wet weather resulted in delayed planting dates at some locations, and skippy stands at others. The accompanying low temperatures contributed to the increase in the damage due to seedling diseases. Also the low temperatures experienced in Pinal and Pima counties were favorable for the early development of Verticillium Wilt.

Beginning in June, and lasting until December, weather conditions were warm and favorable for the cotton. The insect problem was relatively light over most of the area. Santa Cruz and part of Pima county suffered a severe outbreak of cotton rust causing heavy yield losses to some growers.

Ideal harvest conditions prevailed until December at which time general rains covered the whole cotton area of the state, and delayed harvest for many growers until January 1966.

#### The Regional Variety Tests

The western regional variety tests were grown at Yuma, Phoenix (Cotton Research Center), and Marana. The test at Yuma was discarded because of poor stands. Rhizoctonia, aided by unfavorable weather and too deep planting, was extremely severe in this test.

At the Cotton Research Center, Deltapine and Stoneville cottons produced the highest yield with Strain A from California also performing quite well (Table 1).

At Marana, Verticillium Wilt was very severe and therefore the wilt tolerant acala varieties such as Hopicala, 1517 V (N. Mex.) and E 364 (Texas) were among the better yielding entries (Table 2). Arizona strain 6020 made the highest yield and showed exceptionally good wilt tolerance. Deltapine 5540 also showed good wilt tolerance and yielded very well although it does have shorter and weaker fiber than the acala strains. Further quality evaluation was made on several selected varieties and strains at the USDA Spinning Laboratory at Knoxville, Tennessee. Results of these microspinning tests are given in Tables 3 and 4.

#### Advanced Strains Test

Nine experimental strains selected for tolerance to Verticillium Wilt and for high fiber quality were planted in a number of small plot tests with grower cooperators as well as on the Experimental Farms at Marana and Phoenix. Also included in these tests as checks were three commercial varieties, Deltapine Smooth Leaf, Hopicala, and Acala 44-10. Some tests were not harvested due to erratic stands, rust or root rot damage or other conditions causing extreme variation within the test area. All tests were hand picked. Samples were taken from most of the tests for fiber laboratory analysis. Yields and laboratory measurements for the various test locations are shown in Tables 5 - 10. Yields for all test locations and the average yield over all locations are shown in Table 11.

Seven of these strains along with Hopicala, Acala 4-42 and Deltapine Smooth Leaf were sent to the USDA Spinning Laboratory at Texas A & M for

spinning tests. The data from these tests are shown in Table 12. The spinning performance of all the strains was excellent being equal to or slightly above 4-42 with one exception. Hopicala was also outstanding in spinning performance.

#### New Mexico Strains Test

Cottons developed in New Mexico have over the years proven to be the best varieties for the higher elevation cotton growing areas of Arizona, particularly Graham and Cochise counties.

Several promising new strains from the New Mexico Experiment Station were tested at Safford and at Marana in 1965. Results of the Safford test are shown in Table 13. Hopicala led the test in yield but is not recommended over 1517 because the staple length is too short for the trade area (1 3/32" for Hopicala vs. 1 5/32" for 1517). Many of the new strains performed quite satisfactorily but did not exceed 1517 D, the standard variety. This test was virtually free of disease whereas the Marana test was severely infested with Verticillium Wilt. The results of the Marana test (Table 14) show all strains outyielding 1517 D which can be at least partially explained by a greater tolerance of the strains to Verticillium Wilt.

#### Preliminary Strains Tests

This test was grown at Cotton Research Center and Marana (Tables 15, 16). Most of the entries in this test are reselections from Wilt-tolerant strains tested in the advanced strains test. The yield performance of most of these entries was relatively higher at Marana under wilt conditions than at the Cotton Research Center. It appears that few if any of these strains are well-adapted to the lower hot valleys of the state.

Cotton Breeding Program (Development Phase)

Four locations (Yuma, Phoenix, Marana, and Safford) were used for progeny row evaluations. Phoenix and Marana are the primary locations with Marana being the center for wilt screening. Safford and Yuma were used primarily for observation purposes rather than sites for selection in 1965. Phoenix and Yuma are considered to have similar environmental conditions in which selections are made primarily for yield, quality, and earliness. Safford and Marana are similar in that Verticillium Wilt is a common problem at both locations.

At Yuma, approximately 400 progeny rows were grown for environmental evaluation. The information obtained here was used primarily to supplement the evaluation of the same progenies grown at Marana and Phoenix (Cotton Research Center). Five progenies were selected on the basis of Yuma performance for yield testing in 1966 over the entire state. This phase of the program will be considerably expanded in 1966.

Approximately 500 plant selections were made at the Cotton Research Center, a major portion from segregating  $F_2$  populations. 60% of the selections exceeded our minimum fiber laboratory standards. This percentage is higher than is normally experienced from  $F_2$  populations. Several of these selections possess exceptionally good combination of earliness and good fiber quality. Approximately 50 advanced generation progenies were bulked for yield tests in 1966.

Verticillium Wilt screening was very effective at Marana as the infestation was uniformly severe. The infestation reached its peak in late September and reached such proportions that only the most tolerant escaped

damage. Selection 5915 emerged from this screening as very promising. 809 selections were made in the field and 57% were acceptable in the laboratory. The majority of these selections were from F<sub>2</sub> populations. Promising advanced generation progeny rows were bulked for 1966 preliminary strain tests. All the selections that were bulked from either Phoenix or Marana for further evaluation were sent to the USDA - ARS Spinning Laboratory, Knoxville, Tennessee for microspinning tests.

Observation on 140 progeny rows grown at Safford was used to supplement information on the same entries grown at Marana or the Cotton Research Center.

#### Laboratory Research

Intensive effort is being made to develop a laboratory technique to screen genotypes for Verticillium Wilt reaction using biochemical methods. Scopoletin has been identified as a plant metabolite associated with infection.



TABLE 1  
REGIONAL VARIETY TEST  
COTTON RESEARCH CENTER - 1965

Variety	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
Stoneville 7A	1215	83	34.8	1.11	.86	2.96	5.07
Stoneville 213	1206	81	35.7	1.10	.89	2.93	5.09
Deltapine Sm. Lf.	1203	78	36.3	1.08	.84	3.06	5.10
Strain A (Calif.)	1155	73	32.6	1.17	1.00	3.69	4.63
Deltapine 7139	1139	82	35.0	1.10	.90	3.18	5.09
Carolina Queen	1102	72	35.1	1.11	.90	3.13	5.17
Deltapine 5540	1101	76	36.3	1.07	.85	3.13	4.36
Hopicala	1083	66	34.8	1.15	.96	3.83	4.61
Auburn 56	1083	77	32.6	1.09	.87	3.14	4.77
EA 12302 (Calif.)	1074	66	32.5	1.20	1.02	3.97	4.62
McNair 1032	1074	82	34.7	1.02	.82	3.16	5.06
E-364 (Tex.)	1073	66	33.1	1.21	1.02	3.92	4.44
EA 67-2 (Calif.)	1071	65	32.8	1.18	1.01	3.87	4.60
Dekalb 5156	1067	63	33.1	1.17	.95	3.77	4.64
1517 D	1051	66	31.4	1.26	1.06	3.97	4.44
1517 V	1028	70	33.0	1.25	1.02	3.93	4.24
6020 (Ariz.)	1021	69	32.1	1.19	1.00	3.69	4.48
5909 (Ariz.)	1016	67	34.1	1.14	.97	3.99	4.48
B1415 (N.M.)	987	69	31.7	1.20	1.02	4.15	4.63
4-42	950	61	35.8	1.17	.96	3.89	4.48
Means	1085	72	33.9	1.15	.95	3.57	4.70
LSD .05	105	2.7	.95	.03	.05	.14	.12
.01	139	3.6	1.26	.04	.06	.18	.15
C.V. %	8.5	3.3	2.44	2.24	4.49	3.32	2.17

TABLE 2

## REGIONAL VARIETY TEST

MARANA,\* ARIZONA - 1965

Variety	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
6020 (Ariz.)	1135	63	36.7	1.12	.91	3.58	4.50
Deltapine 5540	1090	75	38.6	1.01	.73	3.18	3.86
Hopicala	1028	63	38.0	1.09	.89	3.85	4.31
1517 V	1024	65	36.9	1.15	.90	3.75	4.34
E-364 (Tex.)	1021	66	36.4	1.12	.87	3.75	4.42
5909 (Ariz.)	992	67	36.9	1.09	.89	3.98	4.58
Deltapine 7139	987	82	37.4	1.08	.85	3.17	4.57
B1415 (N. Mex.)	961	66	35.4	1.11	.91	3.83	4.65
Stoneville 213	957	77	38.4	1.06	.81	2.97	4.79
4-42	956	59	38.3	1.09	.87	3.91	4.20
Dekalb 5156	952	60	36.4	1.12	.91	3.68	4.44
McNair 1032	920	75	37.1	0.99	.78	3.23	4.71
1517 D	879	68	34.4	1.17	.97	3.92	4.53
EA 12302 (Calif.)	877	67	34.9	1.10	.91	3.92	4.56
Auburn 56	853	73	35.8	1.01	.78	3.04	4.32
Deltapine Sm. Lf.	846	79	38.6	1.05	.77	3.13	4.48
Stoneville 7A	838	78	38.0	1.08	.81	2.96	4.87
Carolina Queen	827	72	38.5	1.04	.78	3.01	4.74
EA 67-2 (Calif.)	800	65	35.6	1.10	.89	3.85	4.29
Strain A (Calif.)	684	73	35.3	1.08	.84	3.69	4.22
Means	931	70	36.9	1.08	.86	3.52	4.47
LSD	.05	74	.69	.02	.09	.12	.19
	.01	99	.91	.03	.11	.15	.25
C.V. %	7.0	4.0	1.63	1.53	8.78	2.90	3.72

\* severe wilt

TABLE 3  
MICROSPINNING TEST RESULTS - 1965 CROP

REGIONAL VARIETY TEST

COTTON RESEARCH CENTER - PHOENIX

Variety	Sample No.	Yarn Strength 22's	FIBER LENGTH			Fineness Micronaire
			2.5% Span	50% Span	Uniformity Index	
Auburn 56	1	124	1.12	0.52	45	4.8
	2	129	1.14	0.54	47	4.8
Deltapine Sm. Lf.	1	122	1.14	0.52	45	5.1
	2	116	1.14	0.52	45	5.1
Stoneville 7A	1	123	1.14	0.52	45	5.0
	2	124	1.15	0.52	44	5.0
4-42	1	144	1.16	0.58	50	4.4
	2	144	1.14	0.55	48	4.4
1517 D	1	162	1.23	0.56	45	4.5
	2	154	1.25	0.62	49	4.5
1517 V	1	161	1.27	0.63	49	4.2
	2	161	1.27	0.59	46	4.2
B 1415	1	163	1.22	0.59	48	4.6
	2	166	1.22	0.59	48	4.5
EA 67-2	1	152	1.16	0.56	48	4.5
	2	147	1.20	0.60	50	4.5
EA 12302	1	150	1.21	0.57	46	4.5
	2	153	1.21	0.59	48	4.5
E 364	1	159	1.21	0.56	46	4.3
	2	159	1.22	0.59	48	4.4
Hopicala	1	155	1.14	0.57	49	4.5
	2	150	1.17	0.57	49	4.6
Strain A	1	148	1.13	0.53	47	4.6
	2	146	1.14	0.56	49	4.7

TABLE 4  
MICROSPINNING TEST RESULTS .. 1965 CROP  
REGIONAL VARIETY TEST

MARANA

Variety	Sample No.	Yarn Strength 22's	FIBER LENGTH			Fineness Micronaire
			2.5% Span	50% Span	Uniformity Index	
Auburn 56	1	124	1.08	0.52	47	4.3
	2	122	1.10	0.52	46	4.4
Deltapine Sm. Lf.	1	125	1.11	0.51	45	4.4
	2	125	1.11	0.50	45	4.4
Stoneville 7A	1	123	1.11	0.52	46	5.0
	2	125	1.14	0.50	44	5.0
4-42	1	145	1.14	0.56	49	4.2
	2	147	1.15	0.56	48	4.2
1517 D	1	163	1.18	0.55	46	4.5
	2	155	1.21	0.59	48	4.4
1517 V	1	151	1.20	0.56	46	4.3
	2	150	1.21	0.59	48	4.3
B 1415	1	159	1.12	0.55	49	4.6
	2	163	1.16	0.55	47	4.7
EA 67-2	1	138	1.14	0.55	48	4.2
	2	137	1.14	0.53	46	4.2
EA 12302	1	141	1.14	0.54	47	4.5
	2	150	1.10	0.53	48	4.4
E 364	1	152	1.16	0.53	45	4.4
	2	155	1.16	0.54	46	4.4
Hopicala	1	157	1.11	0.54	48	4.2
	2	154	1.11	0.55	49	4.3
Strain A	1	144	1.10	0.53	48	4.3
	2	138	1.12	0.54	48	4.3

TABLE 5  
 ADVANCED STRAINS TEST  
 COTTON RESEARCH CENTER -- 1965

Strain	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
Deltapine Sm. Lf.	1290	79	36.4	1.11	.88	3.13	4.96
6017	1193	71	36.4	1.16	.91	3.69	4.25
6016	1178	62	34.2	1.17	.97	3.58	4.83
Hopicala	1126	67	34.4	1.13	.91	3.88	4.36
6024-11	1115	66	34.1	1.14	.93	3.63	4.60
5915	1099	70	33.6	1.18	.96	3.79	4.59
5805	1088	64	33.5	1.15	.93	3.59	4.15
44-10	1085	58	33.7	1.15	.93	3.46	4.46
6024-2	1069	66	32.3	1.11	.90	3.64	4.29
5909	1055	70	33.6	1.14	.94	3.86	4.34
6020	1042	68	32.3	1.19	.99	3.64	4.42
6022	1026	71	32.4	1.20	.97	3.80	4.07
Means	1114	69	33.9	1.15	.94	3.64	4.63
LSD .05	84	2.6	.47	.02	.05	.13	.17
.01		3.4	.62	.03	.07	.18	.22
C.V. %	6.5	3.3	1.2	1.7	4.6	3.1	3.2

TABLE 6  
ADVANCED STRAINS TEST

MARANA\* - 1965

Strain	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
6024-11	1193	61	37.1	1.10	.89	3.55	4.62
6020	1171	63	36.9	1.13	.93	3.61	4.57
6016	1169	62	37.2	1.11	.89	3.56	4.67
6024-2	1160	62	36.3	1.07	.84	3.66	4.65
6022	1139	68	37.0	1.12	.87	3.77	4.40
5915	1107	65	37.3	1.15	.92	3.76	4.80
5805	1054	63	37.6	1.08	.84	3.58	4.31
6017	1027	69	38.8	1.11	.87	3.61	4.34
Hopicala	1009	63	37.5	1.08	.88	3.82	4.36
5909	972	67	37.4	1.09	.91	3.86	4.61
Deltapine Sm. Lf.	803	82	38.4	1.03	.75	3.10	4.34
44-10	682	61	36.5	1.07	.83	3.46	4.22
Means	1040	65	37.3	1.10	.87	3.61	4.49
LSD .05	67	2.3	.63	.02	.04	.12	.12
.01	90	3.1	.84	.03	.05	.16	.17
C.V. %	5.6	3.1	1.4	1.3	3.9	2.9	2.4

\* severe wilt

TABLE 7  
 ADVANCED STRAINS TEST  
 CASA GRANDE - 1965  
 McFADDEN FARM

Strain	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
Hopicala	1477	62	37.4	1.12	.93	3.86	4.76
Deltapine Sm. Lf.	1450	79	38.4	1.05	.81	3.13	5.07
6024-11	1360	67	37.5	1.11	.92	3.50	4.87
6017	1348	68	38.5	1.14	.92	3.46	4.56
5805	1347	61	35.9	1.13	.89	3.77	4.46
44-10	1334	58	35.7	1.10	.86	3.42	4.66
6016	1283	61	36.4	1.15	.97	3.63	4.95
5915	1214	67	36.1	1.16	.94	3.67	4.89
6024-2	1212	64	36.1	1.11	.91	3.65	4.65
6022	1198	69	36.3	1.14	.93	3.54	4.58
6020	1184	69	35.7	1.12	.92	3.70	4.85
5909	1159	67	36.3	1.13	.95	3.79	4.95
Means	1297						
ISD	.05	95					
	.01						
C.V. %		6.3					

TABLE 8  
 ADVANCED STRAINS TEST  
 DYSART - 1965  
 BENNETT FARM

Strain	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
Deltapine Sm. Lf.	1673	76	36.8	1.07	.86	3.05	5.07
6016	1441	63	34.9	1.15	.97	3.49	4.95
Hopicala	1372	65	34.6	1.14	.96	3.73	4.55
5805	1354	61	33.7	1.17	.98	3.60	4.55
6017	1347	70	36.9	1.16	.95	3.48	4.58
6020	1278	71	33.3	1.18	.98	3.74	4.66
5915	1270	70	34.5	1.18	.99	3.80	4.84
5909	1264	68	34.4	1.11	.96	3.74	4.88
44-10	1220	58	34.2	1.11	.88	3.31	4.60
6024-11	1216	68	35.5	1.14	.98	3.57	4.67
6022	1121	69	33.9	1.15	.95	3.55	4.32
6024-2	1106	64	32.6	1.10	.88	3.62	4.61
Means	1305						
LSD	.05	116					
	.01						
C.V. %		7.7					



TABLE 9  
 ADVANCED STRAINS TEST  
 CHANDLER - 1965  
 KNOX FARM

Strain	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
Daltapine Sm. Lf.	869	86	34.9	1.08	.84	3.29	5.00
5805	863	64	34.1	1.15	.95	3.68	4.44
Hopicala	825	64	34.0	1.15	.92	3.82	4.58
6022	811	69	33.8	1.20	.97	3.81	4.40
6016	807	62	34.6	1.14	.94	3.83	4.91
44-10	796	63	33.6	1.14	.91	3.38	4.51
6024-11	792	63	34.1	1.15	.94	3.76	4.65
5915	767	68	32.9	1.20	.99	3.84	4.76
6020	734	69	32.3	1.17	1.00	3.57	4.57
6017	733	69	35.9	1.16	.90	3.76	4.35
5909	704	71	33.0	1.13	.97	3.92	4.40
6024-2	689	65	32.9	1.10	.91	3.68	4.52
Means	782						
LSD	.05	94					
	.01						
C.V. %	10.3						

TABLE 10  
 ADVANCED STRAINS TEST  
 BUCKEYE - 1965  
 HODGES FARM

Strain	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
Deltapine Sm. Lf.	1191	86	38.8	1.07	.88	3.24	5.25
6017	1183	78	38.6	1.15	.96	3.81	4.62
6016	1033	71	37.4	1.14	.93	3.71	5.07
44-10	1008	67	36.9	1.10	.90	3.75	4.78
6020	989	76	34.6	1.15	.96	3.81	4.69
5909	986	75	36.8	1.09	.95	3.81	5.10
6024-2	980	74	34.1	1.12	.93	3.80	4.42
5805	972	75	35.3	1.15	.99	3.86	4.61
Hopicala	960	78	37.1	1.10	.89	3.84	4.66
6024-11	947	74	36.0	1.15	.96	3.70	4.88
5915	889	78	36.1	1.15	.96	3.75	4.87
6022	888	74	35.8	1.13	.94	3.90	4.57
Means	1002						
ISD	.05	153					
	.01						
C.V. %	13.2						

TABLE 11  
SUMMARY  
ADVANCED STRAINS TEST  
ARIZONA - 1965

Entry	Yield - Lint Per Acre									Average All tests
	Marana	Phoenix	Roll	Casa Grande	Horn	Buckeye	Dysart	Chandler	Queen Creek	
5805	1054	1088	1481	1347	1378	972	1354	863	1560	1233
5909	972	1055	1305	1159	1179	986	1264	704	1477	1122
5915	1107	1099	1375	1214	1257	889	1270	767	1469	1161
6016	1169	1178	1409	1283	1285	1033	1441	807	1595	1244
6017	1027	1193	1444	1348	1198	1183	1347	733	1649	1236
6020	1171	1042	1443	1184	1103	989	1278	734	1549	1166
6022	1139	1026	1379	1198	1188	888	1121	811	1384	1126
6024-11	1193	1115	1545	1360	998	947	1216	792	1458	1180
6024-2	1160	1069	1343	1212	1004	980	1106	689	1403	1107
Hopicala	1009	1126	1539	1477	1327	960	1372	825	1628	1251
44-10	682	1085	1635	1334	1207	1008	1220	796	1424	1155
Deltapine Sm. Lf.	803	1290	1746	1450	1603	1191	1673	869	1818	1382
Average	1040	1114	1470	1297	1227	1002	1305	782	1534	1197
ISD 05	67	84	187	95	241	153	116	94	110	
C.V.	5.6%	6.5%	9.9%	6.3%	13.6%	13.2%	7.7%	10.3%	5.6%	

TABLE 12

## ADVANCED STRAINS

## FIBER AND SPINNING RESULTS\*

Entry	FIBER LABORATORY					SPINNING DATA				
	Fiber Length			Strength 1/8" Pressley	Micronaire	Yarn Strength			Waste %	Appear- ance Index
	UHM	M	Unif. Ratio			22's	50's	Break Factor		
5915	1.18	.96	81	3.79	4.59	150	59	3125	5.19	115
Hopicala	1.15	.96	84	3.83	4.61	148	58	3078	6.41	110
5909	1.14	.94	82	3.86	4.34	149	57	3064	6.40	115
6020	1.19	.99	84	3.64	4.42	145	56	2995	5.20	115
6024-11	1.14	.93	81	3.63	4.60	141	55	2926	4.21	115
6024-2	1.11	.90	82	3.64	4.29	141	55	2926	5.59	120
6017	1.16	.91	79	3.69	4.25	143	54	2923	5.19	120
4-42	1.17	.96	82	3.89	4.48	140	55	2915	5.41	115
6016	1.17	.97	82	3.58	4.83	137	54	2857	5.40	115
Deltapine Sm. Lf.	1.11	.88	79	3.13	4.96	119	44	2409	4.59	115

\* Fiber data from Tucson laboratory, spinning data from USDA Spinning Laboratory at Texas A & M University

TABLE 13  
 NEW MEXICO STRAINS TEST  
 SAFFORD - 1965  
 CURTIS FARM

Strain	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
Hopicala	1510	54	38.3	1.14	.96	3.56	4.42
1517 D	1412	57	36.2	1.19	.97	3.72	4.63
6020 (Ariz.)	1412	57	36.9	1.18	1.00	3.44	4.41
9765	1358	56	37.4	1.16	.99	3.73	4.68
9170	1358	61	37.3	1.22	.98	3.77	4.66
1517 V	1346	59	37.4	1.21	1.02	3.62	4.29
B 1415	1334	55	37.5	1.18	.99	3.52	4.65
8050	1324	52	36.3	1.20	1.02	3.66	4.74
8229	1314	61	38.6	1.16	.95	3.72	4.46
8076	1312	57	38.7	1.20	.95	3.69	4.07
8116	1291	59	37.4	1.21	1.01	3.78	4.43
8952	1290	55	36.5	1.19	.99	3.66	4.53
B 2242	1274	56	36.9	1.17	.95	3.70	4.63
8861	1269	60	38.6	1.19	.98	3.47	4.27
Means	1333	57	36.4	1.18	.98	3.65	4.49
LSD .05	84	2.5	.85	.03	.06	.15	.10
.01	112	3.5	1.15	.04	.08	.21	.14
C.V. %	5.4	2.7	1.4	1.7	3.4	2.5	1.4

TABLE 14

## NEW MEXICO STRAINS TEST

MARANA\* - 1965

Strain	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
6020 (Ariz.)	1153	67	35.3	1.14	.93	3.35	4.40
8861	1132	68	36.3	1.18	.89	3.55	4.16
9170	1130	70	34.4	1.20	.93	3.70	4.37
8076	1117	67	36.6	1.17	.87	3.55	4.03
8229	1117	67	36.8	1.11	.86	3.49	4.22
8050	1109	62	34.7	1.17	.93	3.45	4.35
8116	1101	65	35.7	1.19	.94	3.71	4.20
9765	1060	61	35.2	1.16	.93	3.80	4.60
Hopicala	1019	63	36.7	1.10	.86	3.54	4.22
8952	1018	63	34.8	1.16	.91	3.53	4.24
1517 V	1006	66	35.5	1.18	.89	3.50	4.05
B 2242	998	64	34.1	1.14	.89	3.74	4.32
B 1415	960	66	34.6	1.12	.85	3.57	4.38
1517 D	849	65	33.8	1.17	.91	3.65	4.29
Means	1062	65	35.3	1.16	.90	3.58	4.27
ISD .05	88	3.3	.68	.02	.05	.12	.12
.01	118	4.3	.91	.03	.06	.16	.15
C.V. %	7.2	3.9	1.53	1.69	4.27	2.71	2.15

\* severe wilt

TABLE 15

## PRELIMINARY STRAINS TEST

COTTON RESEARCH CENTER - 1965

Strain	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
6017-2-7	1240	72	37.3	1.13	.91	3.58	4.56
6016-11	1238	61	35.0	1.16	.96	3.67	5.07
5908	1194	67	34.4	1.10	.92	3.78	4.60
5909-7-1	1133	70	34.5	1.12	.93	4.12	4.45
6103-27	1111	64	34.3	1.14	.94	3.60	4.37
6017-2-1	1098	71	36.9	1.14	.93	3.48	4.62
6016-2-1	1065	60	34.3	1.19	.95	3.86	4.59
5909-7-2	1062	69	34.1	1.14	.95	3.83	4.49
5804	1050	60	35.3	1.13	.94	3.60	4.88
Hopicala	1047	65	35.5	1.12	.94	3.94	4.52
Deltapine Sm. Lf.	1043	82	36.2	1.07	.84	3.05	4.91
6020-9	1042	67	33.1	1.16	.95	3.76	4.51
6024-11-1	1034	65	35.4	1.14	.94	3.84	4.58
9765	1003	65	33.6	1.16	.95	4.00	4.60
6022-5-9	987	69	34.2	1.16	.96	3.79	4.59
5915-2	982	68	34.0	1.17	.97	3.69	4.64
6022-4-4	981	70	33.9	1.16	.96	3.73	4.32
690	953	59	35.1	1.13	.94	3.77	4.97
6010	869	70	35.9	1.04	.88	3.28	5.08
Means	1060	67	34.9	1.14	.96	3.70	4.65
ISD .05	85	2.7	.73	.02	.04	.11	.14
.01	127	3.6	.96	.03	.05	.14	.18
C.V. %	7.0	3.5	1.8	1.9	3.5	2.6	2.5

TABLE 16

## PRELIMINARY STRAINS TEST

MARANA\* - 1965

Strain	Yield Lint/acre	Bolls/lb. Seed Cotton	Lint %	FIBER MEASUREMENTS			
				Length		Strength 1/8" Pressley	Fineness Micronaire
				UHM	M		
6020-9	1213	62	36.7	1.11	.92	3.68	4.60
6022-4-4	1168	66	37.2	1.12	.86	3.71	4.42
9765	1166	59	35.7	1.15	.93	3.99	4.67
6024-11-1	1151	61	37.1	1.11	.90	3.71	4.45
6022-5-9	1145	67	38.0	1.13	.92	3.80	4.58
6017-2-1	1078	69	39.4	1.12	.89	3.58	4.50
690	1073	57	37.9	1.09	.90	3.71	4.84
6016-11	1066	58	37.3	1.12	.91	3.58	4.91
5915-2	1043	66	37.6	1.11	.92	3.69	4.76
6017-2-7	1040	71	38.7	1.08	.83	3.55	4.44
5804	1009	62	38.8	1.09	.89	3.48	4.68
Hopicala	1007	62	36.7	1.09	.88	3.86	4.48
5909-7-1	993	69	37.2	1.09	.90	4.01	4.59
6103-27	982	65	37.0	1.09	.89	3.54	4.47
5909-7-2	980	68	36.5	1.09	.89	3.79	4.57
6016-2-1	973	61	37.1	1.13	.90	3.72	4.39
5908	875	69	37.1	1.07	.89	3.75	4.45
Deltapine Sm. Lf.	819	85	38.2	1.04	.77	3.19	4.37
63-17	800	106	34.6	1.35	1.04	4.52	3.32
6010	629	72	38.0	1.01	.81	3.24	4.78
Means	1010	68	37.4	1.11	.89	3.71	4.56
LSD .05	91	2.6	.77	.02	.04	.10	.11
.01	120	3.5	1.02	.03	.05	.14	.15
C.V. %	7.8	3.4	1.8	1.5	3.7	2.4	2.2

\* severe wilt