



COTTON VARIETIES FOR SOUTHEAST MISSOURI

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During 1961, cotton variety yield trials were grown at only three locations: (1) Portageville, (2) Diehlstadt, and (3) Dry Bayou. Limited funds for the testing of commercial cotton varieties necessitated a critical reduction in the number and locations of the 1961 tests. However, the current information will be helpful for making good choices of cotton varieties to grow in 1962. For more detailed cotton variety information consult the Missouri Agricultural Experiment Station Special Report 8, "Cotton Variety Improvement for Southeast Missouri."

Most varieties that are currently grown in the Mississippi delta were tested at Portageville. The sandy loam soil was lightly infested with verticillium wilt, fusarium wilt, and root-knot nematodes. Leaf damage by bacterial blight was severe but the dry weather during late summer and fall depressed this disease and little boll damage occurred.

At Diehlstadt, where the sandy soil is heavily infested with fusarium wilt and root-knot nematodes, major attention was given to the testing of varieties resistant to these diseases. However, the severity of this disease complex was not as great as in past years. Bacterial blight was above normal in severity here and heavy damage to leaves and bolls was observed.

The newly acquired verticillium wilt infested field at Dry Bayou will provide a better test field for evaluating commercial varieties and breeding material for tolerance to this increasingly important disease. This field is located near the levee about midway between Hayti and Portageville. On this loam soil, verticillium wilt was severe and yields of the less tolerant varieties were greatly reduced. Varieties found previously to be extremely susceptible were not grown here during 1961. Only the more tolerant varieties and new strains were tested.

No tests were grown on gumbo or the heavy clay soils during 1961 but information obtained during 1958-60 for these areas is included in the tables.

Cotton varieties recommended for southeast Missouri in 1962 are:

Sandy Loam, Non-wilt Soils

Rex	Deltapine Smooth Leaf
Fox 4	Delfos 9169
Auburn 56	

Light Sandy Soils (fusarium wilt and root-knot nematode infested)

Auburn 56	Rex
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Loam and Clay Loam Soils (verticillium wilt infested)

Rex	Fox 4
Auburn 56	Deltapine Smooth Leaf

Clay Soils (gumbo)

Rex

No new varieties were added to the recommended list for 1962. The deletion of Deltapine 15 and Dixie King 6 was approved during the Fifth Annual Crops Conference, December 1-2, 1961. This conference is sponsored by the Missouri Agricultural Experiment Station, Department of Field Crops.

Dixie King 6 was deleted because commercial planting seed will not be available. Dixie King 6 should not be confused with the current "Dixie King" variety marketed by the Bobshaw Pedigreed Seed Company.

Empire W.R. was not recommended. In the past years it has tended to produce extra-fine and immature fiber in southeast Missouri. Additional spinning test information is needed. Though Empire is resistant to fusarium wilt, it has not produced significantly higher or earlier lint yields than Auburn 56 in previous tests.

Coker 124 has not shown significant superiority over recommended varieties. Under very fertile soil conditions, it may grow tall and become vegetatively rank.

Two new varieties and two new Missouri-bred experimental strains were included in 1961 tests. These were Delta Queen, Stoneville 213, Mo. 58-3249, and Mo. 58-321A. Delta Queen, a new release of the Coker Pedigreed Seed Company, was late-maturing and tall-growing. Stoneville 213 was earlier-maturing and perhaps more productive than Stoneville 7. It is susceptible to fusarium wilt and root-knot. These new varieties were grown only at Diehlstadt and Dry Bayou during 1961. Fiber quality data are not yet available. Additional information will be obtained in 1962.

Mo. 58-3249 was grown in the three tests during 1961. Its components, Mo. 58-432 and Mo. 58-449, have been grown in tests during previous seasons. These two early strains, selected from Auburn 56, were composited to make up Mo. 58-3249 which is early-maturing and resistant to fusarium wilt and root-knot. It has demonstrated some tolerance to verticillium wilt but it is very susceptible to bacterial blight. Some seed may be available for 1963 plantings.

Mo. 58-321A was grown only at Dry Bayou in 1961. It has shown some tolerance to verticillium wilt and may prove well adapted to loam and clay loam soils. It is not resistant to fusarium wilt. Its performance in earlier spinning tests has been superior to that of most commercial varieties. Planting seed will not be available in 1962.

Cotton Variety Performance in Southeast Missouri.

Variety	Total Lint Yields			Earliness			Bolls per Lb.	Staple 1/32	Spinning Performance Yarn Strength (Lbs.)	
	(Lbs./Acre)			Lint - 1st Picking (Lbs./Acre)						
	1959-61	1960-61	1961	1959-60	1960-61	1961	1960-61	1960-61	1960	
	Avg.	Avg.		Avg.	Avg.		Avg.	Avg.		
<u>Wilt-Free Sandy Loam Soils a/</u>										
1. Rex	1009	1004	902	832	779	694	35.3	64	35.5	111.0
2. Fox 4	948	966	993	686	623	703	36.0	69	35.5	128.0
3. Auburn 56	932	914	954	720	641	743	36.1	65	35.0	118.5
4. Delfos 9169	917	875	990	715	622	761	33.7	61	36.0	119.5
5. Deltapine-SL	915	890	807	650	573	553	37.8	73	35.5	126.5
6. Empire W.R.	912	923	990	724	688	795	34.4	57	36.0	131.5
7. Coker 124B	911	918	972	662	615	740	35.5	69	36.0	125.0
8. Deltapine 15	865	863	828	605	555	617	37.0	73	35.5	128.0
9. Coker 100A	841	801	844	588	490	621	37.1	69	36.0	122.5
10. Mo. 58-3249		1030	1097		807	871	35.8	64	35.5	121.5
11. Dixie King		950	1033		692	825	35.9	56	35.5	122.5
12. Stoneville 3202		949	981		697	743	37.5	74	34.5	110.0
13. Stoneville 7		948	828		605	569	37.0	67	35.5	123.5
14. Stardel		933	984		684	743	37.2	77	35.5	127.0
15. Lankart 57		811	676		574	468	35.5	49	35.5	106.5
16. Acala 4-42		600	566		418	407	36.4	55	36.0	142.5
<u>Fusarium Wilt-Root Knot Infested b/</u>										
<u>Sandy Soils</u>										
	1959-61	1960-61	1961	1959-61	1960-61	1961	1961	1961	1961	
	Avg.	Avg.		Avg.	Avg.					
1. Rex	711	688	759	535	456	451	37.1	71	35.0	
2. Auburn 56	693	636	683	486	387	327	36.4	76	34.7	
3. Mo. 58-3249		716	764		496	465	37.5	68	34.7	
4. Dixie King			695			372	37.7	66	34.7	
5. Delta Queen			617			334	37.4	77	35.7	
6. Stoneville 213			610			375	37.3	76	34.7	

Verticillium Wilt Infested Loam Soils c/

1. Rex	854	849	888	661	613	504	35.3	68	34.7
2. Auburn 56	772	760	874	579	503	502	35.2	70	35.0
3. Fox 4	714	722	645	535	497	322	35.3	73	35.3
4. Deltapine-SL	708	708	791	513	467	352	35.6	73	35.0
5. Mo. 58-3249		891	965		667	627	35.8	67	34.7
6. Stoneville 7		838	765		513	354	35.9	76	35.0
7. Stoneville 213			848			423	36.5	73	34.7
8. Dixie King			726			267	35.3	66	34.7
9. Delta Queen			710			305	35.7	76	35.3
10. Mo. 58-321A			1003			633	36.5	70	34.7

			<u>"Gumbo" - Clay Soils d/</u>				
	1958-60	1960	1958-60	1960	1960	1960	1960
	<u>Avg.</u>		<u>Avg.</u>				
1. Rex	620	462		548	36.6	69	36.7
2. Fox 4	510	352		430	35.7	76	36.3
3. Auburn 56	504	321		416	35.9	74	36.7
4. Deltapine-SL	474	237		394	38.6	81	36.7
5. Delfos 9169	409	166		316	34.1	70	37.0
6. Stoneville 7		231			38.2	80	36.7

- a Sikeston, 1959; Portageville, 1960-61.
 b Diehlstadt and Malden, 1959; Diehlstadt, 1960-61.
 c Dorena and Cottonwood Point, 1959; Sikeston, 1960; Dry Bayou, 1961.
 d Bell City, 1958; Bragg City, 1959-60 (One picking, 1960).

- a Portageville, 1961: Date Planted: May 12. Fertilizer: 340 lbs. 15-15-15 sidedressed; May 18. Irrigation: none. Date First Picking: October 13.
 b Diehlstadt, 1961 : Date Planted: May 11. Fertilizer: 570 lbs. 15-15-15 sidedressed; 200 lbs. May 16, 200 lbs. June 16, and 170 lbs., July 22. Irrigations: 3
Date First Picking: October 4.
 c Dry Bayou : Date Planted: May 13. Fertilizer: 320 lbs. 10-20-20 sidedressed; May 19 and 50 lbs. ammonium nitrate, July 18. Irrigations: none. Date First Picking: October 13.