

PERFORMANCE OF COTTON VARIETIES IN THE WICHITA VALLEY, 1957-60

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SUMMARY

Paymaster 54B and Lankart Sel. 57 produced the highest yields in the cotton variety test at the Wichita Valley Experiment Station during 1957-60.

Stormking TP5A No. 1 and Austin, tested for the first time in 1960, were among the top five in yield.

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Introduction

The decline of cotton acreage in Wichita county leveled off a few years ago. There is now an upward trend as a result of allotments being released in other areas.

Farmers are more careful than they formerly were in selecting varieties best suited to local conditions. More attention is being given to soil improvement for cotton, including proper fertilization.

Cotton variety tests help to evaluate new strains and serve as a guide to farmers in selecting varieties best suited to known conditions. Results of the cotton variety studies in the Wichita irrigated valley are becoming more widely applicable because of an increase in irrigation through the use of wells or other sources of water in this general area.

Procedure

Cotton variety tests at the Wichita Valley Experiment Station are part of the statewide cotton testing program. Sixteen varieties were grown in one-row plots in a field design of six replications. Some entries were standard varieties grown each year as checks with which to compare new varieties and strains. The varieties tested change from year to year. Some are eliminated after sufficient performance data are acquired to determine their potential. Such entries are replaced by new varieties which may be adapted to the area.

The soil type on the station is Yohola very fine sandy loam or Miller loam, depending on the site. Soil fertility is maintained and improved largely through a rotation system which includes small grains and legumes. No commercial fertilizer has been used in this test.

Supplementary irrigation has been practiced as needed. Two to five applications are required each season. These have averaged approximately 3 acre-inches.

Some insect damage has occurred each year. Cotton root rot is present to a small degree, but losses in cotton production have not been measurable. This disease is not as serious a problem as it was 15 or 20 years ago. Better cropping systems and soil improvement practices have helped to minimize its presence.

Cotton has been harvested each year by hand-snapping. Samples were ginned and analyzed by the Cotton Section of the Department of Agronomy at College Station.

### Results

Table 1 shows yields and other pertinent data on the varieties of cotton tested in 1960. Lankart Sel. 57 produced the highest yield, followed by Paymaster 54B, Stormking TPFA No. 1, Blightmaster and Austin, in that order. This was the first year Stormking TPFA No. 1 and Austin were in the test. They will be given further study.

Paymaster 54B also is the earliest in maturity. It has a medium-size boll and acceptable lint percentage, but is somewhat lacking in storm resistance.

Table 2 shows Paymaster 54B and Lankart Sel. 57, in that order, are the highest yielding varieties in the test for the 4 years. Considerable variation in varietal performance which occurs from year to year emphasizes the value of period-of-year averages in rating or comparing varietal performance.

Root rot was more prevalent in 1959 and 1960 than in some previous years, but cotton yields were not noticeably affected.

Table 1. Performance of cotton varieties, Iowa Park, 1960

Variety	Pounds lint per acre	Lint %		Boll size <sup>1</sup> /	Staple length <sup>2</sup> /	Grade	Micro-Earli- ness <sup>3</sup> /	
		Picked	Pulled				naire	
Lankart Sel. 57	897	38.2	29.8	53	32	M	5.4	64
Paymaster 54B	892	37.2	28.6	64	31	M	4.8	84
Stormking TPFA No. 1	884	36.6	27.9	57	34	M	4.6	68
Blightmaster	846	35.2	27.8	67	32	M	4.1	68
Austin	836	35.5	27.8	59	33	M	4.6	51
Paymaster 101	815	36.2	28.1	63	32	M <sup>1</sup>	4.9	77
Acala 1517BR-1	787	35.5	26.5	62	35	M	4.2	63
Deltapine Smooth Leaf	774	36.1	27.8	78	33	M	4.8	56
Gregg	772	32.3	25.3	67	32	SIM <sup>1</sup>	4.0	77
Dunn 24BR	768	36.6	29.1	62	33	M	4.8	46
Deltapine TPFA	756	35.2	27.2	73	33	M	4.6	50
Watson's Stormproof	745	36.8	27.0	54	34	M	4.6	48
Western Stormproof	738	38.2	30.9	59	31	M <sup>1</sup>	4.7	55
Lockett 88A	693	35.8	27.8	66	30	M	5.2	58
Northern Star 4-11	678	33.3	25.9	56	34	M	4.4	56

L.S.D. (.05 level) 74

<sup>1</sup>/ Number of bolls per pound of seed cotton.

<sup>2</sup>/ Thirty-seconds inch.

<sup>3</sup>/ Percent first picking.

Table 2. Summary of cotton yields at Iowa Park, 1957-60

Variety	Pounds of lint per acre				Comparable average <sup>1/</sup>
	1957	1958	1959	1960	
Paymaster 54B	716	910	746	892	816
Stormking TPFA No. 1				884	809
Lankart Sel. 57	704	891	719	897	803
Austin				836	761
Western Stormproof	788	892	495	738	728
Paymaster 101	562	843	677	815	724
Deltapine Smooth Leaf			606	774	723
Empire WR	663	847	581		722
Kasch LL No. 7	642				717
Gregg	485	918	665	772	710
Blightmaster	575	822	563	846	702
Deltapine TPFA	716	819	508	756	700
Watson's Stormproof		879	534	745	694
Dunn 24BR <sup>2/</sup>		835	502	768	677
Lockett 88	647	895	456	693	673
Lockett Stormproof No. 1	586	802	533		665
Northern Star 4-11 <sup>3/</sup>	570	846	542	678	659
Acala 1517C <sup>4/</sup>	677	759	399	787	656
Floyd 8G	561				636
Malone's Rowden	540				615
Anton Stormproof 99		742			602
L.S.D. (.05 level)	55	68	61	74	

1/ Comparable averages were calculated to eliminate seasonal differences in yields.

2/ Dunn 7 in 1958.

3/ Northern Star 11 before 1960.

4/ Acala 1517BR-1 in 1960.

#### Acknowledgments

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