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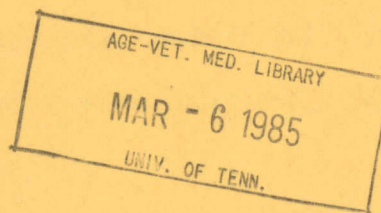
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Performance of Cotton Varieties in 1984

P. E. Hoskinson



Plant and Soil Science
Department

Performance of Cotton Varieties in 1984

P. E. Hoskinson^{1/}

Twenty-four cotton varieties were evaluated at three locations in 1984. Three-location average yields were 917 pounds of lint per acre. Three distinct weather patterns influenced the value of Tennessee cotton in 1984. Excessive rainfall coupled with cool weather prevailed during late April and early May. Much of the cotton crop was planted after May 10. Highly favorable temperature and moisture conditions prevailed during the summer. Continuous rainfall during October and November seriously reduced harvested yield and greatly damaged fiber and seed quality. Date of harvest strongly influenced lint grades as shown in Tables 2-4.

The Milan test was harvested on October 5. The test at Jackson was picked on October 15, while first harvest at Ames Plantation did not occur until October 27. The experiments at Jackson and Ames Plantation were chemically defoliated. Leafspot diseases prematurely defoliated the Milan experiment and low micronaire values resulted from early leaf removal.

Deltapine 69 was a yield leader at all three locations. McNair 220, Stoneville 825, and Deltapine 90 were yield leaders at one or more locations. Stoneville 213 and DES 422 were not yield leaders in 1984.

Three-year average lint yields and lint quality data are given in Table 5. McNair 235, McNair 220, DES 422, and three Stoneville varieties have yielded more than other varieties. Stoneville 213 is the only yield leader that is not among the earliest maturing varieties.

Grade, staple length, and micronaire values are given for each location and the data are summarized in Table 1. In general, staple length was excellent, micronaire values were low, and grades were disappointing. Varietal differences over the three-year (1982-1984) period (Table 5) are obvious and may influence economic value of each entry.

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Table 1. Average lint yield and other characteristics of 24 cotton varieties grown in Cotton Variety Tests at three Tennessee locations¹ in 1984.

Variety	Yield Per Acre			Gin Turnout	Lint Quality ²		
	Total	First Harvest			Grade Index	Staple	Micro-naire
	Lbs.	Lbs.	%	%		32's	
Deltapine 69	998	773	78	36.3	88	36.0	4.20
Stoneville 825	994	786	79	36.5	85	35.0	4.00
McNair 220	992	817	83	35.5	82	35.3	3.73
Deltapine 90	981	737	76	35.5	88	35.0	4.07
Deltapine 50	973	786	81	34.4	89	35.0	3.90
GaT 72-56	968	813	84	34.8	86	35.0	3.60
McNair 235	966	782	81	35.8	83	35.3	3.90
Stoneville 506	964	787	82	35.5	86	35.0	3.60
Coker 3131	951	759	80	35.9	83	35.7	3.67
Coker 315	940	741	79	37.2	83	35.7	3.60
KNX 8136	936	729	78	35.0	86	35.0	3.97
Deltapine 41	934	732	79	37.9	83	35.3	3.87
Paymaster 145	921	807	88	35.8	87	35.0	3.70
Deltapine 62	921	677	74	35.1	88	35.7	4.07
Coker 304	919	725	79	35.1	85	35.0	3.87
DES 422	918	753	82	35.9	83	35.0	3.73
Stoneville 213	914	649	72	34.3	86	34.7	4.10
QS 129	886	643	74	33.9	86	34.7	4.10
Coker 208	878	686	78	35.5	91	35.0	4.10
QS 137	853	648	77	35.0	86	34.7	3.80
Deltapine NSL	846	627	75	36.1	89	34.7	4.03
Delcot 311	823	631	76	34.4	83	35.7	3.73
PD 4548	772	592	77	36.3	86	35.7	3.60
Acala SJC-1	754	563	74	34.2	86	35.3	4.03
Average	916.7	707.3	78.3	35.50	85.7	35.2	3.89

¹ Jackson, Milan and Ames Plantation.

² The author is indebted to Marcus Talbot and associates at the Memphis Classing Office for all lint quality data.

Table 2. Lint yield and other characteristics of 24 cotton varieties grown in the Cotton Variety Test at Jackson, TN¹ in 1984.

Variety	Yield Per Acre			Gin Turnout	Lint Quality		
	Total	First Harvest			Grade	Staple	Micro-naire
	Lbs.	Lbs.	%	%		32's	
Deltapine 90	1090	826	76	35.7	42	35	4.2
Stoneville 825	1060	810	76	34.8	51	36	4.6
Deltapine 69	1041	861	83	35.2	50	37	4.2
McNair 235	1016	816	80	34.3	51	36	4.2
Coker 3131	995	777	78	33.5	52	36	3.8
McNair 220	994	826	83	32.6	52	36	4.0
Deltapine 50	991	802	81	31.2	42	35	3.9
GaT 72-56	981	815	83	32.6	42	35	3.5
Stoneville 506	980	799	82	33.2	52	36	4.2
DES '422	979	796	81	33.6	52	35	3.9
Coker 315	966	766	79	35.8	52	36	3.6
Stoneville 213	959	710	74	34.4	42	34	4.3
Deltapine 41	955	742	78	36.0	52	35	4.2
Deltapine 62	953	747	78	34.7	42	37	4.3
Coker 304	940	746	79	33.3	52	36	4.0
Paymaster 145	933	797	85	32.9	50	35	3.7
KNX 8136	932	734	79	33.2	42	35	4.1
QS 129	871	640	74	32.8	42	35	4.3
Coker 208	840	679	81	33.2	42	35	4.1
Deltapine NSL	810	640	79	32.1	42	35	4.2
PD 4548	807	645	80	34.6	42	36	3.6
QS 137	789	625	79	32.3	42	35	3.8
Acala SJC-1	782	654	84	32.4	42	36	4.2
Delcot 311	730	521	71	32.8	52	36	4.0
Average	933	741	79	33.6		35.5	4.04
Min. L.S.R. .05	91.7	108.9					
Max. L.S.R. .05	114.0	135.4					
C.V. %	8.6	12.9					

¹Dexter silt loam (2% to 5% slopes).

Planted May 14; harvested October 15 and November 9.

Table 3. Lint yield and other characteristics of 24 cotton varieties grown in the Cotton Variety Test at Milan, TN¹ in 1984.

Variety	Yield Per Acre			Gin Turnout	Lint Quality		
	Total	First Harvest			Grade	Staple	Micro-naire
	Lbs.	Lbs.	%	%		32's	
Stoneville 825	1054	762	72	37.8	50	35	3.4
McNair 220	1038	770	74	36.0	51	36	3.2
Deltapine 69	1017	622	61	36.7	41	35	4.2
Coker 315	1012	729	72	39.3	50	35	3.4
GaT 72-56	1010	798	79	37.0	50	35	3.3
Coker 3131	1004	760	76	39.2	50	36	3.3
McNair 235	991	751	76	36.5	51	35	3.6
Stoneville 213	990	534	54	35.3	42	36	3.9
Stoneville 506	990	705	71	37.4	50	35	3.3
KNX 8136	982	654	67	36.1	50	35	3.8
Deltapine 41	976	682	70	38.3	50	36	3.6
Deltapine 50	975	720	74	35.6	40	36	3.8
QS 129	973	559	57	34.6	42	35	3.9
DES 422	973	747	77	37.4	50	35	3.3
Deltapine 62	972	541	56	36.8	41	35	4.0
Deltapine NSL	972	611	63	39.2	40	35	3.9
Deltapine 90	962	592	62	34.8	41	35	4.0
QS 137	948	607	64	37.0	50	35	3.7
Coker 304	948	647	68	37.2	41	36	3.5
Coker 208	922	648	70	37.4	41	35	3.9
Paymaster 145	909	777	86	36.3	50	36	3.2
Delcot 311	890	599	67	34.7	50	36	3.3
PD 4548	859	611	71	37.0	50	36	3.4
Acala SJC-1	706	405	57	35.0	42	35	3.8
Average	961	660	68	36.8		35.4	3.63
Min. L.S.R. .05	94.6	63.8					
Max. L.S.R. .05	117.6	79.3					
C.V. %	8.6	8.5					

¹ Collins silt loam (0% to 2% slope).

Planted May 12; harvested October 5 and November 3.

Table 4. Lint yield and other characteristics of 24 cotton varieties grown in the Cotton Variety Test at Ames Plantation, TN¹ in 1984.

Variety	Yield Per Acre			Gin Turnout	Lint Quality		
	Total	First Harvest	%		Grade	Staple	Micro-naire
	Lbs.	Lbs.	%	%		32's	
Deltapine 50	953	837	88	36.5	52	34	4.0
McNair 220	945	856	91	37.8	52	34	4.0
Deltapine 69	936	835	89	37.1	52	36	4.2
Stoneville 506	921	856	93	35.8	52	35	3.8
Paymaster 145	921	847	92	38.1	52	34	4.2
GaT 72-56	912	825	91	34.7	52	35	4.0
KNX 8136	894	798	89	35.8	52	35	4.0
McNair 235	891	780	88	36.5	52	35	3.9
Deltapine 90	890	792	89	36.0	52	35	4.0
Coker 208	872	731	84	36.0	42	35	4.3
Deltapine 41	870	773	89	39.4	52	35	3.8
Coker 304	870	783	90	34.7	52	33	4.1
Stoneville 825	869	785	90	36.9	52	34	4.0
Coker 3131	853	740	87	35.1	52	35	3.9
Delcot 311	849	774	91	35.8	52	35	3.9
Coker 315	843	728	86	36.6	52	35	3.8
Deltapine 62	838	742	89	33.9	52	35	3.9
QS 137	822	713	87	35.8	52	34	3.9
QS 129	815	730	90	34.2	52	34	4.1
DES 422	802	717	89	36.7	52	35	4.0
Stoneville 213	792	703	89	33.1	52	34	4.1
Acala SJC-1	775	631	81	35.1	52	35	4.1
Deltapine NSL	755	630	83	37.1	52	34	4.0
PD 4548	649	520	80	37.4	52	35	3.8
Average	856	755	88	36.1		34.6	3.99
Min. L.S.R. .05	88.7	90.3					
Max. L.S.R. .05	110.3	112.3					
C.V. %	9.1	10.5					

¹Memphis silt loam (2% to 5% slopes).

Planted May 11; harvested October 27 and November 20.

Table 5. Three-year¹ average lint yield, maturity, and gin turnout for 18 cotton varieties grown in the Tennessee Cotton Variety Tests.

Variety	Yield Per Acre ²		Gin Turnout	Lint Quality		
	Total	First Harvest		Grade Index	Staple	Micro-naire
	Lbs.	%	%		32's	
McNair 235	952	78	35.6	86	34.8	4.24
McNair 220	946	81	35.0	84	35.0	4.08
Stoneville 506	945	82	34.8	89	35.5	4.19
Stoneville 825	939	80	36.7	88	34.9	4.27
DES 422	938	82	36.1	88	35.3	4.05
Stoneville 213	932	72	35.6	88	34.7	4.38
Deltapine 62	926	73	34.8	93	35.2	4.26
Coker 3131	919	75	36.3	85	35.0	4.12
Deltapine 90	900	74	35.4	93	35.2	4.25
QS 129	896	72	34.3	88	34.6	4.28
Deltapine 41	885	75	38.0	87	35.3	4.18
Coker 304	881	79	35.2	87	34.8	4.11
Coker 315	875	76	36.6	87	35.5	3.96
Deltapine NSL	872	75	35.9	93	34.5	4.28
Delcot 311	866	78	35.3	89	35.1	4.00
Coker 208	860	78	36.0	93	35.1	4.29
QS 137	860	77	34.7	90	34.8	4.09
PD 4548	786	73	35.7	89	35.6	4.09
Average	899	77	35.7	88.7	35.1	4.17

¹Averages for 8 experiments during the 3-year period 1982-1984.

²Only one harvest in 1983.