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University of Tennessee Agricultural Experiment Station

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Performance of Cotton Varieties in 1986

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Department of Plant
and Soil Science

Performance of Cotton Varieties in 1986

P. E. Hoskinson¹

Tennessee participates in the National-Regional Cotton Variety Testing Program. Tennessee's three variety tests contain a number of standard entries that are common to variety tests conducted in a number of states. Entries from across the cotton-belt are included, and not all of them are adapted to Tennessee conditions.

Twenty-four cotton varieties were evaluated at three locations in 1986. Lint yields of the three experiments averaged 872 pounds per acre and ranged from 731 pounds at Ames Plantation to 969 pounds at Jackson.

Lint yield of KC 380 was outstanding in 1986. Most Deltapine and Stoneville varieties also yielded well. Yields of McNair 220 and McNair 235 were less competitive than usual. Yields of most early determinant varieties were limited by moisture stress during August.

Three-year average lint yields are given in Table 5. Stoneville 825 and McNair 220 have yielded more than other varieties during this period. Wide maturity differences are evident in Table 5.

Grade², staple length and micronaire values for each variety are given for each location. Staple length and micronaire values are summarized in Tables 1 and 5.

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²The author is indebted to Mr. Marcus Talbott and associates at the Memphis Cotton Classing office for providing the classing data reported in this publication.

Table 1. Averaged lint yield, earliness, gin turnout, and lint quality of 24 cotton varieties grown in cotton variety tests at three Tennessee locations¹ in 1986.

Variety	Yield per Acre			Gin Turnout	Lint Quality	
	Total	First harvest	%		Staple	Micro-naire
	LBS	LBS	%	%	32's	
KC 380	1043	914	88	36.9	35.0	4.83
Deltapine 50	964	871	90	33.4	34.3	4.57
Stoneville 112	954	856	90	35.7	34.3	4.60
Deltapine 20	942	857	91	35.5	34.3	4.73
Stoneville 213	940	846	90	34.5	34.7	4.33
Stoneville 825	929	849	91	35.4	34.7	4.73
Deltapine 90	923	815	88	35.7	34.7	4.63
Stoneville 506	916	832	91	34.6	35.0	4.40
Coker 208	910	834	92	34.8	34.3	4.63
McNair 220	889	814	92	33.8	34.7	4.60
Coker 3131	889	788	89	35.9	35.0	4.70
McNair 235	885	799	90	34.4	35.0	4.27
Delcot 344	874	794	91	35.0	34.7	4.47
HAS 6001	867	799	92	33.0	35.0	4.17
DES 119	866	792	91	34.5	34.7	4.70
Coker 139	857	784	91	34.6	34.7	4.63
Tifcot 56 ²	848	766	90	34.6	35.3	4.13
Coker 315	831	717	86	35.4	35.3	4.40
PD 1 ³	829	727	88	34.9	34.7	4.43
DES 422	828	749	90	33.6	34.7	4.27
Delcot 390	802	739	92	34.7	35.0	4.70
Deltapine 41	781	686	88	35.7	35.0	4.20
Acala SJC-1	688	610	89	33.9	35.3	4.73
Paymaster 145	681	593	87	32.5	34.0	4.73
Average	872	784	90	34.7	34.8	4.52

¹Jackson, Milan, and Ames Plantation

²Tested as GaT 72-56 in 1984 and 1985.

³Tested as PD 4548 in 1984.

Table 3. Lint yield, earliness, gin turnout, and lint quality of 24 cotton varieties grown in the Cotton Variety Test at Milan, TN¹ in 1986.

Variety	Yield per Acre			Gin turnout	Lint Quality		
	Total	First harvest			Grade	Staple	Micro-naire
	LBS	LBS	%		%	32's	
KC 380	1128	961	85	36.0	41	36	4.9
Deltapine 20	1034	900	87	35.2	41	34	4.6
Stoneville 506	1022	877	86	34.7	50	35	4.4
Deltapine 50	1009	886	88	33.9	41	35	4.0
Stoneville 213	980	853	87	34.7	50	35	4.0
Deltapine 90	974	825	85	35.5	41	35	4.6
Stoneville 825	965	859	89	35.3	50	35	4.7
McNair 235	959	845	88	35.0	51	35	4.1
Stoneville 112	952	821	86	34.8	41	34	4.4
DES 119	948	834	88	34.8	41	35	4.6
Coker 208	944	847	90	36.1	41	35	4.6
PD 1 ²	940	781	83	35.8	41	35	4.6
McNair 220	917	799	87	34.3	50	34	4.3
Coker 315	907	754	83	36.3	41	35	4.4
HAS 6001	892	789	88	33.2	41	36	4.2
Deltapine 41	885	753	85	36.2	50	35	4.3
Coker 139	881	787	89	35.7	41	35.3	4.3
Delcot 390	865	772	89	34.9	50	35	4.9
Delcot 344	862	730	85	35.2	50	35	4.2
Coker 3131	847	728	86	35.9	50	35	5.0
DES 422	840	747	89	32.2	50	35	4.2
Tifcot 56 ³	833	736	88	35.7	50	35	3.6
Acala SJC-1	704	581	83	34.0	41	36	4.6
Paymaster 145	701	581	83	34.5	41	34	4.9
Average	916	794	87	35.0		35.0	4.43
Min. L.S.R. .05	87.6	73.4					
Max. L.S.R. .05	108.9	91.3					
CV %	8.5	8.2					

¹Collins silt loam (0% to 2% slopes)

²Tested as PD 4548 in 1984.

³Tested as GaT 72-56 in 1984 and 1985.

Planted April 28; harvested September 25 and October 17.

Table 4. Lint yield, earliness, gin turnout, and lint quality of 24 cotton varieties grown in the cotton variety test at Ames Plantation, TN¹ in 1986.

Variety	Yield per Acre			Gin turnout %	Lint Quality		
	Total LBS	First harvest LBS	%		Grade	Staple 32's	Micro-naire
KC 380	890	797	90	38.8	41	33	5.5
Stoneville 112	858	752	88	38.0	50	34	5.2
Stoneville 825	835	765	92	36.5	51	34	5.3
Stoneville 213	805	731	91	34.3	50	34	5.3
Deltapine 20	798	723	91	36.1	41	34	5.3
Delcot 344	789	730	93	35.9	51	34	5.2
Deltapine 90	785	717	91	38.1	41	34	5.2
Tifcot 56 ²	784	723	92	34.7	51	34	5.1
McNair 235	780	706	91	34.5	50	34	4.9
Coker 3131	774	680	88	36.0	51	34	5.2
DES 422	771	701	91	35.2	51	34	5.1
Stoneville 506	749	672	90	35.4	50	35	5.3
Deltapine 50	744	672	90	32.7	41	34	5.3
Coker 208	736	679	92	33.3	42	33	5.2
Coker 139	726	665	92	34.4	50	34	5.2
McNair 220	725	663	91	33.2	50	35	5.2
HAS 6001	693	636	92	32.4	50	34	4.9
DES 119	688	612	89	34.6	42	34	5.3
Deltapine 41	673	595	88	36.8	42	34	5.2
Coker 315	658	579	88	34.8	50	35	5.0
PD 1 ³	650	568	86	34.5	50	34	4.9
Delcot 390	631	577	91	34.5	50	35	5.2
Acala SJC-1	520	460	88	33.6	41	34	5.2
Paymaster 145	493	415	84	30.5	50	33	5.2
Average	731	659	90	34.95		34.0	5.18
Min. L.S.R. .05	71.2	71.6					
Max. L.S.R. .05	88.5	89.0					
CV %	8.7	9.7					

¹Memphis silt loam (2% to 5% slopes)

²Tested as GaT 72-56 in 1984 and 1985.

³Tested as PD 4548 in 1984.

Planted April 25; harvested October 3 and 29.

Table 5. Averaged lint yield, earliness, gin turnout, and lint quality of 16 cotton varieties grown in nine cotton variety tests in Tennessee during the three-year period 1984-1986.

Variety	Yield per Acre			Gin Turnout	Lint Quality	
	Total	First harvest	%		Staple	Micro- naire
	LBS	LBS	%	%	32's	
Stoneville 825	975	796	80	35.9	35.1	4.38
McNair 220	972	817	84	35.0	35.2	4.23
Deltapine 50	966	786	81	34.3	34.8	4.31
McNair 235	963	787	81	35.4	35.4	4.15
Tifcot 56 ¹	962	812	84	34.8	35.1	3.99
Stoneville 506	949	787	82	35.4	35.3	3.98
Coker 3131	948	764	81	35.7	35.3	4.17
Coker 208	946	797	83	35.2	34.9	4.33
Deltapine 90	933	712	75	35.5	35.0	4.37
DES 422	919	760	82	35.1	35.1	4.07
Coker 315	915	722	79	36.1	35.6	4.03
Stoneville 213	911	700	75	34.7	34.9	4.31
Deltapine 41	903	723	79	36.4	35.3	4.07
PD 1 ²	842	669	79	35.8	35.6	4.08
Paymaster 145	816	699	85	34.4	34.7	4.14
Acala SJC-1	729	583	80	34.9	35.8	4.30
Average	916	745	81	35.3	35.2	4.18

¹Tested as GaT 72-56 in 1984 and 1985.

²Tested as PD 4548 in 1984.

Table 6. Lint yield, gin turnout, and lint quality of eight cotton varieties no-tilled into standing wheat residue and compared with McNair 235 conventionally planted and cultivated at Milan, TN¹ in 1986.

Tillage	Variety	Yield per Acre	Gin turnout	Lint Quality		
				Grade	Staple	Micro- naire
		LBS	%		32's	
N.T.	Stoneville 112	928	38.9	41	35	4.9
N.T.	Deltapine 50	909	39.2	40	35	5.4
N.T.	Stoneville 506	866	37.3	41	36	4.9
N.T.	DES 119	854	38.0	50	35	5.0
N.T.	McNair 235	854	36.6	50	35	4.8
Conv.	McNair 235	853	38.2	51	35	4.6
N.T.	Coker 208	853	38.2	41	35	4.9
N.T.	Deltapine 20	824	37.8	41	34	4.9
N.T.	Stoneville 825	797	36.9	50	34	4.6
	Average	860	37.9		34.9	4.89
	Min. L.S.R. .05	60.5				
	Max. L.S.R. .05	69.9				
	CV %	4.8				

¹Memphis silt loam (2% to 5% slopes)

Planted May 5; one only harvest, September 25.

Table 7. Lint yield, earliness, and gin turnout of eight cotton varieties no-tilled into previous years' stubble and compared with McNair 235 conventionally planted and cultivated at Milan, TN¹ in 1986.

Tillage	Variety	Yield per Acre			Gin turnout
		Total	First harvest		
		LBS	LBS	%	%
N.T.	Stoneville 112	845	718	85	36.6
N.T.	Deltapine 50	845	739	87	36.0
N.T.	Coker 208	835	721	86	37.4
N.T.	DES 119	815	658	81	35.5
N.T.	Stoneville 506	803	689	82	35.8
N.T.	McNair 235	798	675	85	36.8
N.T.	Deltapine 20	797	708	89	37.6
Conv.	McNair 235	781	574	74	35.7
N.T.	Stoneville 825	746	622	83	35.9
	Average	807	678	84	36.4
	Min. L.S.R. .05	NS	81.9		
	Max. L.S.R. .05	NS	95.3		
	CV %	8.0	10.3		

¹Memphis silt loam (2% to 5% slopes)

Planted May 5; harvested September 25 and October 21.

Table 8. Lint quality data for 8 cotton varieties no-tilled into previous year's stubble and for McNair 235 conventionally-planted and cultivated at Milan, Tennessee¹ in 1986.

Tillage	Variety	First Harvest			Second Harvest		
		Grade	Staple	Micro- naire	Grade	Staple	Micro- naire
		32's			32's		
	N. T. Stoneville 112	41	35	4.7	52	34	3.4
	N. T. Deltapine 50	41	35	4.9	52 ²	35	3.4
	N. T. Coker 208	50	36	4.8	51	35	3.7
	N. T. DES 119	50	36	5.0	51	35	3.6
	N. T. Stoneville 506	50	35	4.7	52 ²	35	3.4
	N. T. McNair 235	51	36	4.6	51	34	3.5
	N. T. Deltapine 20	41	35	4.5	42	34	3.2
	Conv. McNair 235	50	35	4.7	42	35	3.9
	N. T. Stoneville 825	50	35	4.8	51	35	3.4
Average			35.3	4.74		34.7	3.50

¹Memphis silt loam (2% to 5% slopes).

²Reduced 2 full grades because of grass.

Planted May 5; harvested September 25 and October 21.

Table 9. Lint yield, earliness, gin turnout, and lint quality of nine cotton varieties no-tilled in previous crop stubble compared with conventionally planted McNair 235 at Ames Plantation, TN¹ in 1986.

Tillage	Variety	Yield per Acre			Gin Turnout	Lint Quality		
		Total	First harvest	%		Grade	Staple	Micro-naire
		LBS	LBS	%	%	32's		
N.T.	Deltapine 50	713	649	91	33.5	41	34	4.9
N.T.	Stoneville 112	686	618	90	35.2	50	35	4.8
N.T.	KC 380	686	609	89	35.1	50	35	5.0
N.T.	McNair 235	654	594	91	32.7	51	35	4.8
N.T.	Deltapine 20	652	588	90	34.4	41	35	4.8
N.T.	Stoneville 506	642	585	91	33.7	50	35	4.9
N.T.	DES 119	634	569	90	33.7	51	35	4.8
N.T.	Coker 208	623	569	91	33.7	41	36	4.9
N.T.	Stoneville 825	576	522	91	34.3	50	35	4.8
Conv.	McNair 235	560	486	87	32.9	51	35	4.8
	Average	643	579	90	33.9		35.0	4.85
	Min. L.S.R. .05	62.6	60.8					
	Max. L.S.R. .05	73.4	71.3					
	CV %	8.4	9.0					

¹Memphis silt loam (2% to 5% slopes)

Planted May 5; harvested October 4 and 29.