

*Measured crop performance*

**COTTON**  
**1961**

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In Charge of Variety Testing

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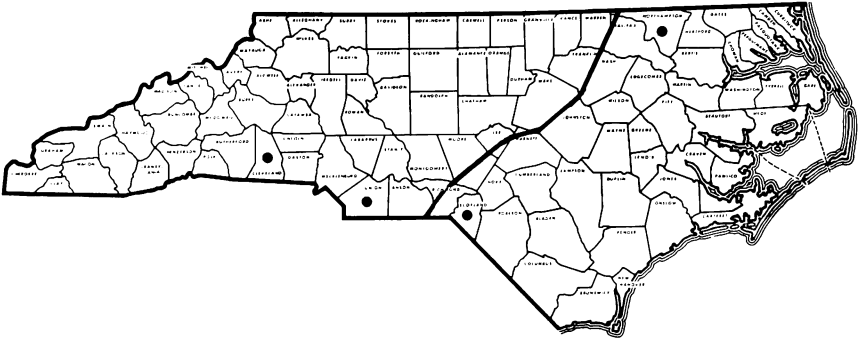
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# Location of North Carolina Cotton Variety Trials 1961



## Scotland County

Gilchrist Farms, A. F. McMillan, Manager, Laurinburg, N. C.  
Scotland County Agricultural Agent J. B. Caudill.

## Union County

R. W. Howey, Waxhaw, N. C.  
Union County Agricultural Agent J. A. Marsh.

## Cleveland County

Clifford Hamrick, Boiling Springs, N. C.  
Cleveland County Agricultural Agent H. R. Clapp

## Northampton County

M. C. Dunlowd, Gaston, N. C.  
Northampton County Agricultural Agent B. H. Harrell

# North Carolina Cotton Performance Trials 1961

## INTRODUCTION

Varieties are becoming increasingly more important to the grower in planning for maximum production of cotton. Breeders have made available several top performing cotton varieties from which growers may choose.

The data presented in this report provide information on the performance of commercial varieties and experimental lines grown in various geographical areas of the state. Information of this nature serves as a guide to cotton breeders in their development of varieties and to growers for use in choosing a variety to plant their next crop.

This report presents the results of the North Carolina Official Cotton Variety Trials for the 1961 season, and summarized the results of tests conducted during the past three years.

## EXPERIMENTAL PROCEDURE

In this program are included experimental lines and commercial varieties developed by public and private agencies. One requirement for acceptance is quantitative data from experiments in which the proposed entry is compared with recognized varieties. These data must reveal meritorious performance in order for a variety to qualify for the tests.

Any individual or firm may make application for having entries included. A fee is charged on an entry basis. Personnel of the testing program may include entries about which further information is desired.

### Agencies Sponsoring Entries

Bobshaw Pedigreed Seed Company, Indianola, Mississippi  
Coker Pedigreed Seed Company, Hartsville, South Carolina  
DeKalb Agricultural Association, Inc., DeKalb, Illinois  
North Carolina Agricultural Experiment Station, Raleigh, N. C.

### Test Locations

Four locations were used in 1961 with two in the Coastal Plain Area and two in the Piedmont as shown in Figure 1. All tests were

located on private farms<sup>1/</sup>. The Northampton County tests was harvested in error and therefore discarded. A randomized block design with four replications was used at each location. Plot size at Scotland and Cleveland Counties was 1 row 3 feet wide and 100 feet long. At the Union County location plot size was 2 rows 3 feet wide and 50 feet long.

#### Seasonal Conditions

The 1961 growing season was characterized by unfavorably cool wet weather following planting and excess rain during the growing season with ideal conditions for harvest. A good stand was obtained at each location early, but damping-off during the cool wet period seriously injured the stands. The Scotland and Cleveland County tests had very poor stands at harvest. As a result two replications of the Cleveland County test were discarded. The stand at the various locations appeared to be random as related to the entries. The Union County test had a good stand and was considered a very good cotton variety test.

#### Cultural Practices

Cultural practices, such as seed bed preparation, date of planting, fertilization, cultivation and boll weevil control measures were in accord with good farming practices and were the same for all entries in a given test - Table 1. Planting, thinning, harvesting and yield measurements were directly supervised by personnel of the North Carolina Agricultural Experiment Station. All experiments were mechanically harvested.

#### Criteria for Evaluating Cotton Varieties

Yield of Seed Cotton. The plots were harvested individually and average pounds of seed cotton per acre were calculated. The data were statistically analysed<sup>2/</sup>.

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<sup>1/</sup> The cooperative spirit and civic-minded service rendered by the farmers who provided land and the necessary cultural practices for these trials and the cooperation of the county agents are gratefully acknowledged.

<sup>2/</sup> Statistical analysis were made in the Statistical Laboratory under the supervision of John O. Rawlins. This assistance is gratefully acknowledged.

Yield of Lint. This was calculated using the mean lint percentage of each entry from two replications and converting the pounds of seed cotton per plot to pounds of lint per acre. The data were statistically analysed.

Lint Percentage. A 75 boll sample was taken from each of two replications at each location. These samples were ginned and the lint percentage calculated.

Staple Length. A Federal Cotton Inspector determined the staple length on the ginned samples.

Bolls per Pound of Seed Cotton. The number of bolls required to make one pound of seed cotton was determined by weighing the two 75 boll samples from each location and converting it to a pound basis.

Table 1. Cultural practices for cotton performance trials.

Area and Cooperator	Fertilizer Lbs/A	Weed Control	Top Dressing Lbs/A	Row Spacing Inches	Date of Planting	Date of Harvest
Coastal Plain						
A. F. McMillan	400					
Scotland County	5-10-10			36	April 26	Nov. 2
Piedmont						
Clifford Hamrick	700					
Cleveland County	10-10-10	Karmex		36	May 4	Oct. 30
R. W. Howey	600					
Union County	5-10-10	Karmex		36	May 4	Oct. 19

### RESULTS

The data presented in Tables 2 and 3 are summary data for various years and locations and indicate how varieties have been performing over a period of years at various locations. A three year average performance is shown for lines and varieties in Table 2. Four of the six varieties tested over a three year period averaged over 600 pounds of lint per acre. These were: Coker 100A, Rex, Dixie King and Stardel.

In Table 3 entries are compared which have been in the tests for the past two years. Six of the eight varieties tested yielded over

600 pounds of lint per acre. DeKalb 108 and 108A had the highest yield followed very closely by Coker 100A. There was little difference in lint percent and staple length for the varieties tested. Bolls per pound of seed cotton ranged from 58 to 83.

The data in Table 4 are a summary of the three locations tested in 1961. DeKalb 108A and 108 had the highest yields, although there were no statistical difference in the top ten entries. The other varieties DeKalb 108D, Coker 100A, Coker L.H. 57-124, Rex, DeKalb 108-6 and Auburn 56 had yields of lint in excess of 600 pounds. There was very little difference in lint percent and staple length. Bolls per pound of seed cotton ranged from 53 to 76.

Individual location data are presented in Tables 5, 6, and 7. The Union County test, in Table 6, had the most uniform stand and was considered the better test.

In selecting a variety for planting characteristics that influence a profitable production should be studied. Amount of lint produced per acre is an important criterion, yet the variety should be resistant to prevalent diseases. If the cotton is to be mechanically harvested then it should mature uniformly and be compact.

Seed quality is most important to the successful production of cotton. Weak seed do not perform well under adverse weather conditions at planting time.

Table 2. Summary of cotton performance trials. Three-year average\* 1959-1961.

Varieties or Lines	Lint Lbs/A	Seed Cotton Lbs/A	Lint %	Staple Length 32nd. In.	Bolls/Lbs. of Seed Cotton
Coker 100A (W.R.) 1961 BRS	665	1816	36.4	33.8	73
Rex	647	1739	37.1	34.1	66
Dixie King	645	1720	37.4	33.8	61
Stardel	637	1883	37.7	34.4	84
Plains	580	1621	35.4	34.4	68
M-8948	536	1424	36.0	34.3	82

\* Averages are based on ten locations.

Table 3. Summary of cotton performance trials. Two-year averages\* - 1960-1961.

Varieties or Lines	Lint lbs/A	Seed Cotton Lbs/A	Lint %	Staple Length 32nd. In.	Bolls/Lbs. of Seed Cotton
DeKalb 108	717	2012	35.6	34.2	65
DeKalb 108A	706	1967	35.9	34.1	64
Coker 100A (W.R.) 1961 BRS	673	1857	36.1	34.2	72
Dixie King	657	1758	37.3	34.2	58
Rex	656	1767	36.9	34.6	65
Stardel	648	1730	37.3	34.6	83
Plains	561	1587	35.1	34.7	68
M-8948	522	1401	37.1	34.5	82

\* Averages are based on six locations.

Table 4. Summary of cotton performance trials in 1961. Scotland, Cleveland and Union Counties.

Varieties or Lines	Lint Lbs/A	Seed Cotton Lbs/A	Lint %	Staple Length 32nd. In.	Bolls/Lb. of Seed Cotton
DeKalb 108A	702	2059	34.9	34.2	59
DeKalb 108	699	2075	33.4	34.2	58
DeKalb 108D	656	1800	36.6	34.2	55
Coker 100A (W.R.) 1961 BRS	640	1848	34.4	34.2	63
Coker L.H. 57-124	637	1798	35.4	34.5	<del>63</del> 61
Rex	637	1793	35.0	35.0	55
DeKalb 108-6	632	1857	33.8	34.2	57
Auburn 56	629	1876	33.1	34.7	65
Empire	590	1693	34.3	34.5	53
Stardel	590	1668	35.1	34.7	76
Coker 100A (W.R.) 57-512	586	1672	34.8	34.5	63
Dixie King	576	1610	35.9	34.2	55
Coker 100A (W.R.) 58-62	572	1683	33.5	34.5	66
Dixie King 5-167	569	1662	35.1	34.5	54
Coker 137-62	560	1615	34.2	34.5	69
DeKalb 220-SL	551	1569	34.8	33.7	61
Coker L.H. 58-139	528	1571	34.1	34.5	63
Plains	510	1523	33.1	35.0	61
Delta Queen (Coker 137-61)	491	1483	32.2	34.5	63
Coker L. H. 58-1312	479	1422	33.9	34.8	68
M-8948	456	1301	35.0	34.7	73
L.S.D. (.05)	119	319			
(.01)	159	426			
C. V. ( % )	14	13			



Table 5. Performance of cotton varieties. Scotland County - 1961.

Varieties or lines	Lint Lbs/A	Seed Cotton Lbs/A	Lint %	Staple Length 32nd. In.	Bolls/Lb. of Seed Cotton
DeKalb 108A	571	1790	31.9	34.2	53
DeKalb 108	527	1652	31.9	35.0	56
Coker L.H. 57-124	478	1456	32.8	34.2	65
Coker 100A (W.R.) 1961 BRS	455	1369	33.2	34.2	61
Coker 100A (W.R.) 57-512	415	1256	33.0	35.0	64
DeKalb 108D	406	1209	33.6	34.2	54
Auburn 56	397	1260	31.5	35.0	62
DeKalb 108-6	387	1198	32.3	35.0	53
Stardel	375	1140	32.9	35.0	80
Rex	343	1017	33.7	35.0	51
Coker 100A (W.R.) 58-62	335	1143	29.3	35.0	57
Empire	323	1006	32.1	35.0	53
Coker 137-62	323	980	32.9	34.2	71
Delta Queen (Coker 137-61)	320	998	32.1	33.4	63
Dixie King	318	933	34.1	34.2	55
Coker L.H. 58-139	316	944	33.5	35.0	63
Coker L.H. 58-1312	311	929	33.5	34.2	65
M-8948	308	907	33.9	35.0	73
DeKalb 220-SL	277	915	30.3	33.4	57
Plains	275	857	32.1	35.0	62
Dixie King 5-167	271	802	33.7	35.0	50
L.S.D. (.05)	114	353			
(.01)	152	469			
C. V. ( % )	22	22			

Table 6. Performance of cotton varieties. Union County - 1961.

Varieties or Lines	Lint Lbs/A	Seed Cotton Lbs/A	Lint %	Staple Length 32nd. In.	Bolls/Lb. of Seed Cotton
Rex	856	2327	36.8	35.0	56
DeKalb 108	824	2334	35.3	34.3	57
DeKalb 108A	794	2236	35.5	34.3	60
Auburn 56	787	2254	34.9	35.0	67
DeKalb 108D	786	2178	36.1	35.0	55
Coker 100A (W.R.) 58-62	783	2182	35.9	35.0	72
Stardel	779	2138	36.4	35.0	70
Empire	772	2127	36.3	34.3	52
DeKalb 108-6	761	2182	34.9	34.2	58
Coker 100A (W.R.) 57-512	760	2095	36.3	34.2	62
Coker L.H. 58-139	758	2189	34.6	35.0	62
Dixie King 5-167	752	2240	35.8	34.3	56
Coker 100A (W.R.) 1961 BRS	751	2091	35.9	34.2	61
Coker 132-62	750	2087	35.9	34.3	65
Coker L.H. 57-124	743	2029	36.6	35.0	62
DeKalb 220 SL	714	2011	35.5	34.2	65
Dixie King	707	2015	35.1	35.0	53
Delta Queen (Coker 137-61)	705	2033	34.7	35.0	68
Plains	695	2033	34.2	35.0	58
M-8948	617	1739	35.5	35.0	70
Coker L.H. 58-1312	607	1830	33.2	34.3	67
L.S.D. (.05)	104	256			
(.01)	139	341			
C.V. (%)	10	9			

Table 7. Performance of cotton varieties. Cleveland County - 1961.

Varieties or Lines	Lint Lbs/A	Seed Cotton Lbs/A	Lint %	Staple Length 32nd. In.	Bolls/Lb. of Seed Cotton
DeKalb 108D	894	2229	40.1	33.4	55
DeKalb 108-6	862	2526	34.1	33.4	60
Dixie King	830	2156	38.5	33.4	56
Dixie King 5-167	800	2229	35.9	34.2	55
DeKalb 108	796	2403	33.1	33.4	60
Coker 100 (W.R.) 1961 BRS	790	2323	34.0	34.2	67
Rex	787	2280	34.5	35.0	59
DeKalb 108A	783	2243	34.9	34.2	63
Auburn 56	777	2352	33.0	34.2	67
DeKalb 220-SL	771	1997	38.6	33.4	61
Empire	759	2200	34.5	34.2	55
Coker L.H. 57-124	743	2018	36.8	34.2	57
Coker 137-62	654	1938	33.7	35.0	70
Stardel	643	1786	36.0	34.2	77
Coker 100A(W.R.) 58-62	623	1764	35.3	33.4	70
Plains	608	1837	33.1	35.0	62
Coker 100A (W.R.) 59-124	582	1663	35.0	34.2	64
Coker L.H. 58-1312	558	1590	35.1	36.0	73
Coker L.H. 58-139	494	1590	34.2	33.4	65
M-8948	431	1212	35.5	34.2	75
Delta Queen (Coker 137-61)	404	1350	29.9	35.9	59
L.S.D. (.05)	203	565			
(.01)	277	771			
C. V. ( % )	14	14			