

Measured crop performance

COTTON
1960

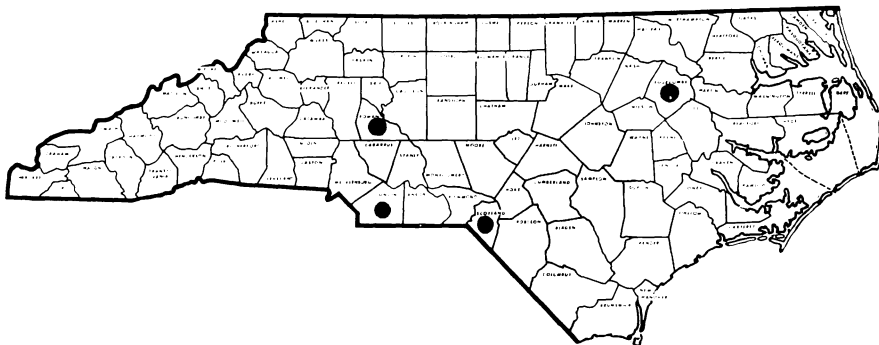
A. J. CROWLEY, Research Instructor
In Charge of Variety Testing

E. L. JONES, Agricultural Research Assistant

G. C. OLIVER, Agricultural Research Assistant

Department of Field Crops
N. C. State College
Raleigh, N. C.

Location of North Carolina Cotton Variety Trials 1960



Scotland County

Gilchrist Farms, A. F. McMillan, Manager, Route 1, Laurinburg, N. C.
and Scotland County Agricultural Agent J. B. Caudill.

Union County

R. W. Howey, Route 1, Waxhaw, N. C. and Union County Agricultural
Agent J. A. Marsh.

Edgecombe County

Clyde Z. McSwain, Superintendent, Upper Coastal Plain Research Station,
Rocky Mount, N. C.

Rowan County

Warren Bailey, Superintendent, Piedmont Research Station, Route 6,
Salisbury, N. C.

North Carolina Cotton Performance Trials 1960

This report presents the results of the North Carolina Official Cotton Variety Trials for the 1960 season, and a summary of the trials conducted during the past three years.

The objectives of these trials are to obtain performance information on commercially available varieties and to evaluate experimental varieties that may have possibilities of excelling those now in general production.

The Official Variety Testing program obtains such records and provides a source of unbiased and dependable information which can be used as a basis for determining which varieties are most likely to excel under generally prevailing conditions.

The 1960 Growing Season. The 1960 growing season was characterized by unfavorably cool wet weather following planting, an excellent summer growing period, and ideal conditions for harvest. Poor stands occurred in many sections of North Carolina causing many farmers to re-plant.

The predicted state average yield of 325 lbs. of lint per acre exemplifies the good growing conditions during the summer months. Wet conditions the latter part of the summer created difficulties in controlling boll weevil in many areas. Harvesting difficulties were minimized as excellent weather prevailed during this period.

Test Locations. Cotton tests were conducted at four locations in 1959, two being in the Coastal Plain Area and two in the Piedmont. The Rowan County test was not harvested because of severe drought damage.

The testing program recognizes the cooperative spirit and civic-minded service rendered by the farmers who provided land and the necessary cultural practices for these trials. The program also recognizes the cooperation of the county agents who assisted in locating test sites.

Agencies Sponsoring Entries.

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

Management of Test Fields. Cultural practices, such as seedbed 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. Planting, thinning, picking and yield measurements were directly supervised by personnel of the North Carolina Agricultural Experiment Station.

Samples for number of bolls per pound, lint percentage, and staple length were taken two weeks prior to harvest. Samples for these determinations were processed in the research laboratories of the North Carolina Agricultural Experiment Station, and the North Carolina Department of Agriculture.

Criteria For Evaluating Cotton Varieties. Yield of seed cotton per acre was obtained by picking four replications of each variety in Edgecombe County. The Union and Scotland County tests consisted of 6 replications each. Plot length in Edgecombe County was 50 feet. Plot length in Union and Scotland Counties was 100 feet.

Lint percentage was determined from two samples of 75 bolls for each variety at each location.

Pounds of lint per acre was calculated using the mean lint percentage of each entry and converting the pounds of seed cotton per plot to pounds of lint per plot.

Number of bolls required to make one pound of seed cotton was determined by weighing two 75 boll samples from each location. This weight was then converted to the number of bolls per pound of seed cotton. Staple length was determined on ginned samples by licensed cotton classers of the Cotton Division, Agricultural Marketing Service, U. S. D. A.

Interpreting Yield Differences. The L. S. D. value may be used to test the significance of the difference between any two variety means as long as the comparison to be made is not chosen solely on the basis of rank differences.

For example, if varieties differing widely in rank are chosen for comparison because of their rank differences, the chance of calling a difference significant when in fact there is not a real variety difference is much greater than when comparing random mean differences.

Selection of a Variety. Cotton growers should be constantly on the alert for varieties that excel in yield and other characteristics that influence more profitable production. However, individuals and communities should consider carefully the performance records before changing or bringing in new and untried varieties.

In choosing a cotton variety that is most likely to produce superior yields and quality, a number of characteristics must be considered. For example, varieties that possess little or no wilt resistance are very undesirable if the soil is infested heavily with the wilt organism.

Wilt Resistance. Dr. W. E. Cooper, Assistant Professor, Plant Pathology Department, and Dr. J. C. Williams, Assistant Professor, Field Crops Department, evaluated the varieties contained in this report for rootknot and wilt resistance. This evaluation is found on the last page of the bulletin. Their assistance in evaluating these varieties is greatly appreciated.

SUMMARY OF NORTH CAROLINA COTTON TRIALS

Three Year Average

1958-1960

Varieties	Lint Lbs/A	Seed Cotton Lbs/A	Lint %	Staple Length 32nd. In.	Bolls/Lb. of Seed Cotton
Coker 100A (W. R.) BRS	640	1690	37.9	33.7	77
Dixie King	622	1616	38.5	33.7	66
Coker 124C BRS	591	1573	37.5	34	75
Tenn. 317	586	1572	37.1	34.2	69
Plains	585	1567	37.2	33.8	72
Empire	556	1469	36.6	33.7	64

SUMMARY OF PERFORMANCE

Edgecombe, Scotland, and Union Counties 1960

Varieties	Lint Lbs/A	Seed Cotton Lbs/A	Lint %	Staple Length 32nd. In.	Bolls/Lb. of Seed Cotton
Dixie King	738	1906	38.7	34.2	66
DeKalb 108	735	1948	37.7	34.3	72
Coker 100A 57-61	718	1856	38.7	34.3	86
DeKalb 108A	710	1875	37.7	34.0	68
Coker 100A 57-12	707	1766	40.0	34.3	78
Stardel	706	1791	39.4	34.2	89
Coker 100A (W. R.) 1960 BRS	706	1866	37.8	34.2	81
DeKalb 108B	688	1793	37.4	34.5	71
Rex	674	1741	38.7	34.2	74
Coker L. H. 57-137	668	1740	38.3	34.2	81
Coker 124C 1960 BRS	662	1734	38.2	34.7	76
Tenn. 317	642	1701	37.8	34.7	72
Coker L. H. 61M	638	1694	37.8	34.3	72
Coker 100A 57-5	636	1676	38.0	34.5	81
Coker L. H. 57-1224	614	1615	38.0	34.2	75
Plains	612	1650	37.1	34.3	74
DES-8948	587	1501	39.1	34.0	91
Empire	547	1451	37.8	34.0	65

PERFORMANCE OF COTTON VARIETIES

*Union County - 1960

Varieties	Lint Lbs/A	Seed Cotton Lbs/A	Lint %	Staple Length 32nd. In.	Bolls/Lb. of Seed Cotton
Coker 100A (W.R.) 1960 BRS	683	1789	38.2	34	82
DeKalb 108B	679	1768	38.4	34	65
Coker 100A 57-5	673	1700	39.6	34	78
Dixie King	663	1736	38.2	34	63
Tenn. 317	663	1674	39.6	34	67
Stardel	649	1639	39.6	33.5	90
DeKalb 108A	645	1663	38.8	33.5	67
DeKalb 108	634	1703	37.2	34	70
Coker 100A 57-61	559	1433	39.0	34	82
Plains	556	1520	36.6	34	72
Rex	551	1427	38.6	34	76
Coker 100A 57-12	546	1365	40.0	34	83
Coker L. H. 57-1224	541	1423	38.0	33.5	70
Coker L. H. 57-137	527	1383	38.1	34	78
Coker L. H. 61M	504	1306	38.6	34.5	78
Coker 124C 1960 BRS	466	1220	38.2	34	81
DES 8948	457	1173	39.0	33.5	83
Empire	441	1136	38.8	33.5	69
L. S. D. (.05)	110	286			

*Harvested by Mechanical Picker

Edgecombe County - 1960

Varieties	Lint Lbs/A	Seed Cotton Lbs/A	Lint %	Staple Length 32nd. In.	Bolls/Lb. of Seed Cotton
Dixie King	812	2031	40.0	34	71
DeKalb 108	780	1999	39.0	34	72
Coker 100A 57-12	737	1829	40.3	34	75
DeKalb 108A	734	1956	37.5	34	71
Coker 100A 57-5	731	1884	38.8	34.5	82
Rex	726	1829	39.7	33.5	74
Coker L. H. 61M	718	1894	37.9	34	64
Coker 124C 1960 BRS	708	1839	38.5	34.5	73
Stardel	682	1745	39.1	34	89
Coker 100A (W.R.) 1960 BRS	680	1800	37.8	34	83
DES 8948	669	1715	39.0	34	96
Coker 100A 57-61	667	1745	38.2	34	88
Coker L. H. 57-137	661	1740	38.0	33.5	81
DeKalb 108B	628	1645	38.2	34.5	73
Coker L. H. 57-1224	620	1635	37.9	34	74
Plains	619	1630	38.0	34	74
Empire	562	1496	37.6	34	69
Tenn. 317	535	1459	36.7	34.5	78
L. S. D. (.05)	105	274			

PERFORMANCE OF COTTON VARIETIES

*Scotland County - 1960

Varieties	Lint	Seed	Lint	Staple	Bolls/Lb.
	Lbs/A	Cotton Lbs/A	%	Length 32nd. In.	of Seed Cotton
Coker 100A 57-12	838	2105	39.8	35	76
Coker L. H. 57-137	816	2098	38.9	35	83
Coker 124C 1960 BRS	813	2144	37.9	35.5	74
DeKalb 108	790	2142	36.9	35	75
Stardel	788	1989	39.6	35	89
DeKalb 108B	757	1967	35.8	35	75
Coker 100A (W.R.) 1960 BRS	755	2008	37.6	34.5	79
DeKalb 108A	751	2036	36.9	34.5	66
Coker 100A 57-5	750	1983	37.8	34.5	82
Rex	744	1967	37.8	35	71
Dixie King	739	1950	37.9	34.5	65
Tenn. 317	729	1970	37.0	35.5	70
Coker L. H. 61M	693	1883	36.8	34.5	74
Coker 100A 57-61	683	1850	36.9	35.5	87
Coker L. H. 57-1224	682	1789	38.1	35	81
Plains	661	1801	36.7	35	76
Empire	638	1720	37.1	34.5	58
DES 8948	635	1616	39.3	34.5	94
L. S. D. (.05)	78	206			

* Harvested by Mechanical Picker

A SUMMARY OF THE REACTION OF COTTON VARIETIES TO
FUSARIUM WILT - 1960

Varieties	Disease Indices - Percent infection		
	Clayton		* Severn
	Rootknot	Wilt	Wilt
Coker 100A 57-61	37.00	8.67	36.30
Auburn 56	46.67	9.00	16.55
DeKalb 108	72.00	10.00	32.90
Plains	58.33	13.00	35.15
Rex	65.33	13.33	20.12
Coker 100A 1960 BRS	72.33	15.00	29.35
Coker 100A 57-5	68.00	15.67	22.72
Coker 100A 57-12	62.00	18.00	46.52
Coker LH 57-1224	80.67	19.67	22.85
DeKalb 108B	69.33	19.67	35.98
Dixie King	70.67	24.00	31.70
DeKalb 108A	76.33	25.33	29.20
Empire	71.33	28.67	28.68
Tenn. 317	73.67	29.33	30.15
Coker 124C 1960 BRS	71.00	29.33	36.40
Coker LH 57-137	65.00	32.00	32.80
Coker LH 61M	72.33	33.67	33.15
Stardel	76.67	75.33	78.75
DES 8948	77.67	89.67	81.72

*Sting nematode complex