Research Report No. 25
December, 1967

Measured crop performance

Part I Corn Hybrids
Part II Grain Sorghum
Part III Corn and Sorghum Silage
Part IV Soybeans
Part V Cotton

1967

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PERFORMANCE OF CORN HYBRIDS, GRAIN SORGHUM, CORN AND SORGHUM SILAGE, SOYBEANS AND COTTON IN NORTH CAROLINA[1/]

John C. Rice, R. W. Mozingo, E. L. Jones, G. C. Oliver and A. R. Adams

Corn, grain sorghum, silage, soybeans and cotton are produced in the same general areas of North Carolina. To make the data on each of these crops easily accessible, the tests results are compiled in one bulletin.

Part I is concerned with corn hybrids in all production areas of the state. Part II deals with grain sorghums, primarily in the Piedmont. Data from these tests would be applicable to most areas of production in North Carolina. Part III covers data on corn and sorghum silage. Interest in these crops for silage is increasing each year. Both crops are used for silage and the choice is dependent on which fits best in the farm operation. Part IV has the data on soybeans, a crop which has been increasing in acreage each year. Part V contains the data on cotton performance and lint characteristics.

Each part is complete in that it contains information on experimental procedure, locations of the tests, a discussion of the data and the data for 1967[2/], as well as summary tables for the past two and three years.

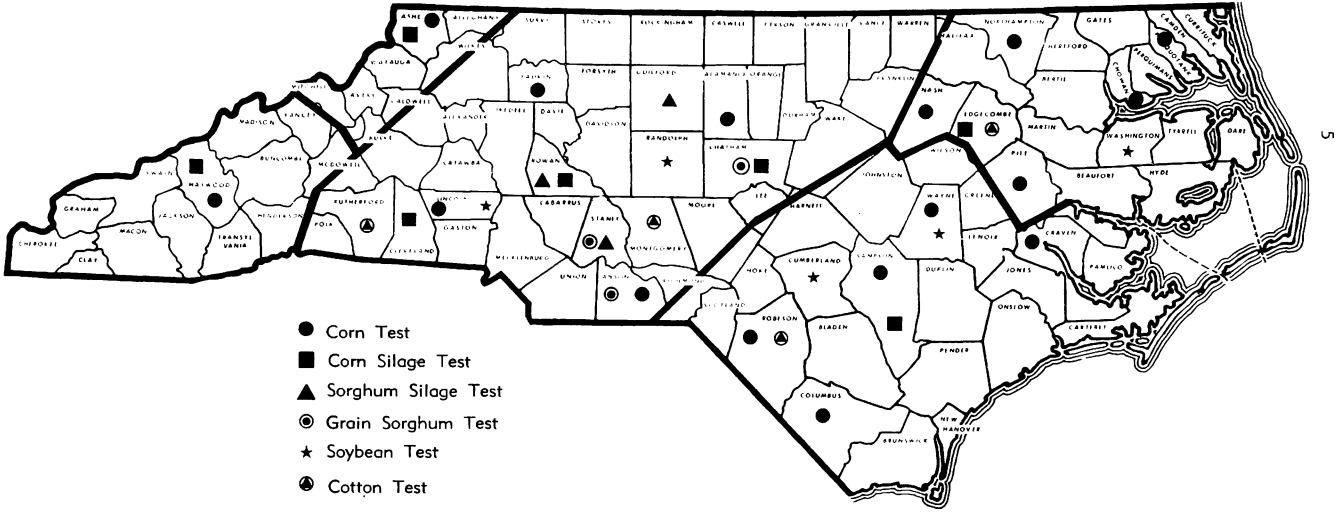
It is hoped that the organization of this bulletin will provide data to those interested in the various crops in a complete form which is readily available. The large number of hybrids and varieties available for planting within this state makes it mandatory that information be available to seedsmen, growers and agricultural workers so that easy comparisons can be made.

[1/] The Official Variety Testing Program recognizes the co-operative spirit and civic-minded service rendered by the farmers who have furnished, prepared and cultivated the land for these trials.

The Agricultural workers in their respective areas contribute much to the success of these tests by aiding in the location of test sites, by holding field meetings, and also by their utilization of the information obtained.

[2/] Statistical analyses were made in the Statistical Laboratory and Computing Center under the supervision of John O. Rawlings, Frank Verlinden, Joyce Villena and Bill Hawley. This assistance is gratefully acknowledged.

FIGURE 1.—LOCATION OF OFFICIAL VARIETY TEST 1967



CO-OPERATORS 1967

Corn

Area I - Northern Mountains
Ashe County, Upper Mountain Research Station, Dana G. Tugman, Superintendent, Laurel Spring, N. C. Extension Chairman C. E. Gardner and assistants, co-operating

Area II - Southern Mountains
Haywood County, Mountain Research Station, J. R. Edwards, Superintendent, Waynesville, N. C. Extension Chairman V. L. Holloway and assistants, co-operating

Area III - Piedmont
Alamance County, Raymond Braxton, Graham, N. C. Extension Chairman G. R. Coble and assistants, co-operating
Anson County, Jerry Ingram, Lilesville, N. C. Extension Chairman J. R. Potter, Jr. and assistants, co-operating
Lincoln County, Lester Elmore, Lincolnton, N. C. Extension Chairman George A. Stoudemire and assistants co-operating
Yadkin County, Roy Daub, East Bend, N. C. Extension Chairman R. D. Smith and assistants co-operating

Area IV - Southern Coastal Plain
Columbus County, Border Belt Research Station, Wallace Dickens, Superintendent, Whiteville, N. C. Extension Chairman Charlie Raper and assistants, co-operating
Craven County, Rodney Russell, Dover, N. C. Extension Chairman A. T. Jackson and assistants, co-operating
Sampson County, James Wright Jackson, Dunn, N. C. Extension Chairman Worth Gurkin and assistants, co-operating
Robeson County, Klyne Lowery, Rowland, N. C. Extension Chairman W. C. Williford and assistants, co-operating

Area V - Northern Coastal Plain - Full Season
Northampton County, J. C. Long, Margarettsville, N. C. Extension Chairman B. H. Harrell and assistants, co-operating
Pitt County, C. X. James, Bethel, N. C. Extension Chairman S. C. Winchester and assistants, co-operating
Nash County, Cooper Smith, Nashville, N. C. Extension Chairman J. P. Woodard and assistants, co-operating

Area VI - Northern Coastal Plain - Short Season
Chowan County, R. L. Bunch, Edenton, N. C. Extension Chairman C. W. Overman and assistants, co-operating
Pasquotank County, Charles Moore, Elizabeth City, N. C. Extension Chairman S.L. Lowery and assistants, co-operating
Wayne County, Kermit Price, Mt. Olive, N. C. Extension Chairman G. Mark Goforth, Jr. and assistants, co-operating

Corn Silage

Area I - Northern Mountains
Ashe County, Upper Mountain Research Station, Dana G. Tugman, Superintendent, Laurel Springs, N. C. Extension Chairman C. E. Gardner and assistants, co-operating.

Area II - Southern Mountains
Haywood County, Mountain Research Station, J. R. Edwards, Superintendent Waynesville, N. C. Extension Chairman V. L. Holloway and assistants, co-operating

Area III - Piedmont
Rowan County, Piedmont Research Station, Clyde McSwain, Superintendent Salisbury, N. C. Extension Chairman R. R. McNeely and assistants, co-operating
Cleveland County, C. W. Goforth, Shelby, N. C. Extension Chairman H. R. Clapp and assistants, co-operating
Chatham County, Horace Mann, Pittsboro, N. C., Extension Chairman John Cooper and assistants, co-operating.

Area IV - Coastal Plain
Edgecombe County, E. G. Davenport, Tarboro, N. C. Extension Chairman C. H. Lockhart and assistants, co-operating
Sampson County, M. F. Jackson, Dunn, N. C. Extension Chairman Worth Gurkin and assistants, co-operating.

Sorghum Silage

Rowan County
Piedmont Research Station, Clyde McSwain, Superintendent, Salisbury N. C. Extension Chairman R. R. McNealy and assistants, co-operating

Stanly County
Spurgeon Brooks, Richfield, N. C. Extension Chairman V. A. Huneycutt and assistants, co-operating

Alamance County
W. N. Reid, Gibsonville, N. C. Extension Chairman G. R. Coble and assistants, co-operating

Grain Sorghum

Chatham County
Russell and Eugene Johnson, Siler City, N. C. Extension Chairman John Cooper and assistants, co-operating

Stanly County
Hal Rogers, Richfield, N. C. Extension Chairman V. A. Huneycutt and assistants, co-operating

Anson County
Jack Burr, Wadesboro, N. C. Extension Chairman J. R. Potter, Jr. and assistants, co-operating

Soybeans

Cumberland County
Roland Williams, Wade, N. C. Extension Chairman Paul Dew and Assistants, co-operating

Washington County
Tidewater Research Station, J. W. Smith, Superintendent, Plymouth N. C. Extension Chairman Guy M. Whitford and assistant, co-operating

Wayne County
George W. Aycock, Jr. Pikeville, N. C. Extension Chairman G. Mark Goforth, Jr. and assistants, co-operating

Randolph County
Marshall Joyce, Ramseur, N. C. Extension Chairman B. P. Jenkins, Jr. and assistants, co-operating

Lincoln County
Kenneth Howell, Cherryville, N. C. Extension Chairman George A. Stoudemire and assistants, co-operating

Cotton

Edgecombe County
Melvin Smiley, Whitakers, N. C. Extension Chairman Charles H. Lockhart and assistants, co-operating

Robeson County
Varsar Bullard, Maxton, N. C. Extension Chairman W. C. Williford and assistants, co-operating

Rutherford County
Van McDaniels, Ellenboro, N. C. Extension Chairman J. A. Crawford and assistants, co-operating

Montgomery County
Francis M. McCallum, Candor, N. C. Extension Chairman A. M. Garris and assistants, co-operating

Part I

CORN HYBRIDS

The performance of different corn hybrids in different areas of the state depends on their adaptation to the environmental conditions within the area in which they are to be grown. The performance of varieties in five different areas of North Carolina is reported in this bulletin.

The data provides information on the performance of commercial and experimental hybrids grown in various geographic areas of the state. Information of this nature serves as a guide to corn breeders in the development of hybrids and also provides a guide to agricultural workers and growers in choosing hybrids to plant that will perform well in their respective area.

A top performing hybrid is one that will consistently give high returns to the grower. It must have a good yield and standability as well as other desirable characteristics including adaption to mechanical harvesting. In order to properly evaluate a hybrid for a particular area, data from several locations over a period of years is desirable. However, it is only after a hybrid has been planted under farm conditions that it really received its most thorough evaluation.

Results of the North Carolina Official Corn Trials for the 1967 season are presented in this report. Two and three year summaries are also presented.

EXPERIMENTAL PROCEDURE

Commercial and experimental hybrids developed by public and private agencies are included in this program. One requirement for inclusion is quantitative data from experiments in which the proposed entry is compared with recognized hybrids. These data must reveal meritorious performance in order for a hybrid to qualify for the test.

Entering Hybrids

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

Early in February each year, rules governing the tests for the ensuing year are distributed to all previous participants and to those who make inquiry.

Agencies sponsoring entries in the 1967 tests are shown in Table 1.

Table 1. Name and address of sponsoring agencies in the 1967 North Carolina Corn Performance Trials along with designation used to identify the hybrids in the trials.

Name	Address	Hybrid Designation
Ag. Alumni - Purdue Univ.	Lafayette, Ind.	AA
Asgrow Seed Company	Atlanta 2, Georgia	Asgrow
Coker Pedigreed Seed Co.	Hartsville, S. C.	Coker
Cotton Hybrid Research, Inc.	Athens, Georgia	CHR, Pennington
Edmund and Son Seed Co.	Chadbourn, N. C.	Edmund
Frontier Hybrids, Inc.	Scott City, Kansas	Frontier
McCurdy Seed Co, Inc.	Fremont, Iowa	McCurdy
McNair Seed Co., Inc.	Laurinburg, N. C.	McNair
N. C. Agric. Expt. Sta.	Raleigh, N. C.	N. C.
Pfister Assoc. Growers, Inc.	Aurora, Illinois	P.A.G.
Pioneer Corn Company, Inc.	Tipton, Indiana	Pioneer
S. C. Agric. Expt. Sta.	Clemson, S. C.	S. C.
Speight Seed Farms	Winterville, N. C.	Speight
Taylor-Evans Seed Co.	Tulia, Texas	T-E
Todd Hybrid Corn Co.	Mt. Airy, Maryland	Todd
Tomahund Plantation	Williamsburg, Virginia	Hofmeyer's

Table 1. Continued.

Name	Address	Hybrid Designation
Virginia Agric. Expt. Sta.	Blacksburg, Virginia	V.P.I.
Wagwood Farms, Inc.	Gibsonville, N. C.	Wagwood
Watson Seed Farms	Rocky Mount, N. C.	Watson

Field-Plot Technique

The state is divided into five geographical areas according to soil type, maturity zone and climatic conditions. The various areas and co-operators are shown in Figure 1. Where feasible, three or more locations with four replications were used in each area. In each of the mountain areas, (Areas I and II) where the acreage of corn is less, one location with six replications was used. Four locations, with four replications each, were used in Area III and Area IV. Area V had three locations with four replications each for full season entries and three locations with four replications each for short season entries.

The practice in the Northern Coastal Plain Area, where short season corns are grown on many farms, is toward planting high populations and fertilizing heavy. The 1967 tests were planted 7 inches in the drill. Soil tests were made and fertilization was applied in accordance with recommendations. At topdressing time 225 pounds of liquid nitrogen was applied on all of the short season tests in Area V.

Depending upon the number of entries, the following experimental designs were used: A 4 x 5 and 4 x 4 triple rectangular lattice and a 6 x 6, 6 x 7 and 5 x 5 simple rectangular lattice. Data were analysed by locations and combined over locations within an area.

A cone hopper was mounted on a John Deere Planter and the tests were mechanically planted. Fifty percent extra kernels were planted and the plots were thinned to plants 12 inches apart in the row for the Piedmont, 10 inches

for all other full season and 7 inches for the short season tests. Row width of the various tests was 38 inches. The plots were two rows wide and 15 feet long with 19 kernels planted per row, except for the short season tests, which had 27 kernels per row and the Piedmont with 16 kernels per row. The alley width was 6 feet which was required for mechanical planting and harvesting.

A mixed fertilizer was applied at planting with a fertilizer attachment on the planter and the plots were topdressed with adequate nitrogen to give a medium to high fertility level. Atrazine was used as a herbicide on most tests at planting. At layby, herbicides were applied in the form of liquid nitrogen, 2, 4-D and Lorox or Atrazine to control late grass and weeds. Excellent weed control was obtained in most tests. Cultural practices for each of the tests are shown in Table 2. Planting, collecting data and harvesting were directly supervised by personnel of the North Carolina Agricultural Experiment Station.

A two row picker-sheller was slightly modified for harvesting individual plots. Grain from individual plots was caught as it came from the elevator and weighed. The combine was stopped at the end of each plot for a short interval of time in order for the machine to clean out between plots prior to weighing the corn from the plot. The machine appeared to give very satisfactory results. A sample of corn was taken from each plot for moisture determination. A picker-sheller was used to more nearly simulate the conditions under which these corns would be harvested on farms. The only corn harvested was that which came through the picker-sheller. If the machine failed to pick up a stalk due to lodging, this corn was not harvested. The tests in Areas I and II were harvested by hand.

Seasonal Conditions

The 1967 growing season in North Carolina was generally favorable for the production of corn with the state average yield increasing from a high of

Table 2. Cultural practices used on the corn test.

Area and Co-operator	Fertilizer lbs/A			Herbicide[1/] Pre emerge	Top Dressing lbs/A	Row Spacing Inches	Date of Planting	Date of Harvest
Area I								
Upper Mt. Res. Sta.	250	10-20-20		Atrazine	400 Ammon. Nit.	38"	May 26	Nov. 27
Dana G. Tugman	100	10-20-20	In Row					
Area II								
Lower Mt. Res. Sta.	400	5-10-10		Atrazine	200 Ammon. Nit.	38"	May 18	Nov. 28
J. R. Edwards	400	5-10-10	In Row					
Area III								
Roy Daub	600	2-12-12		Atrazine	175 Liq. Nit.	38"	April 13	Oct. 2
Yadkin County								
Jerry Ingram	800	3-9-18		Atrazine	175 Liq. Nit.	38"	April 18	Sept. 22
Anson County								
Lester Elmore	600	10-10-10	Drill	Atrazine	175 Liq. Nit	38"	April 17	Sept. 11
Lincoln County	300	Superphosphate						
	100	5-10-10	In Row					
Raymond Braxton	500	5-10-10		Atrazine	175 Liq. Nit.	38"	April 20	Oct. 23
Alamance County								
Area IV								
Rodney Russell	500	5-10-10	Drill	Atrazine	175 liq. Nit.	38"	April 4	Sept. 19
Craven County	100	5-10-10	In Row					
James Wright Jackson	700	5-10-10	Drill	Atrazine	175 Liq. Nit.	38"	March 30	Sept. 1
Sampson County	100	5-10-10	In Row					
Klyne Lowery	600	5-10-10	Drill	Atrazine	175 Liq. Nit.	38"	April 3	Sept. 12
Robeson County	100	5-10-10	In Row					
Wallace Dickens	750	5-10-10	Drill	Atrazine	175 Liq. Nit.	38"	April 3	Sept. 13
Columbus County	100	5-10-10	In Row					
Area V								
J. C. Long	600	5-10-10	Drill	Atrazine	288 Liq. Nit.	38"	April 14	Oct. 4
Northampton County	100	5-10-10	In Row					
Cooper E. Smith	600	5-10-10		Atrazine	175 Liq. Nit.	38"	April 10	Sept. 20
Nash County								
C. X. James	500	8-24-24		Atrazine	175 Liq. Nit.	38"	April 6	Sept. 19
Pitt County								
Area VI								
Kermit Price	500	5-10-10	Drill	Atrazine	225 Liq. Nit.	38"	March 30	Aug. 29
Wayne County	100	5-10-10	In Row					
Robert L. Bunch	600	5-10-10		Atrazine	225 Liq. Nit.	38"	April 11	Aug. 30
Chowan County								
Charles Moore	450	5-15-30	Drill	Atrazine	225 Liq. Nit.	38"	April 12	Aug. 30
Pasquotank County	100	5-10-10	In Row					

1/ Topdressed with liquid nitrogen and 14 oz./A of 2,4-D. When needed 1 1/4 lbs. of lorox or 1 lb/A atrazine was used at layby to control grass.

71 bushels per acre in 1965 to 79 bushels per acre in 1967. Good moisture conditions existed at most locations at planting time and a good stand was obtained at all locations.

The Ashe County Test was planted in bottom land and a good stand was obtained. Good conditions existed until late July when a hail storm severely damaged the test. Additional nitrogen was applied after the hail and the test grew out of the damage. However, due to the hail injury to the stalks, there was considerable lodging late in the season. Also the lateness after the hail reduced yields considerably below any yields recorded at this locations for several years.

The Haywood County Test was also planted on bottom land and a good stand was obtained and good growing conditions existed throughout the season. Some reduction in yield was evident at certain spots in the test due to excess moisture. However, this test was considered to have good yields.

In the Piedmont Area only the Alamance County Test had good moisture throughout the growing season and excellent yields were recorded at this location. Good stands were obtained at all locations. However, the Anson, Yadkin and Lincoln County Tests suffered during the growing season from lack of moisture and the yields were reduced accordingly. It appeared that the later maturing hybrids were more seriously affected than the earlier varieties.

In the Southern Coastal Plain Area the Columbus, Craven and Sampson County locations had good stands and excellent growing conditions throughout the growing season with excellent yields recorded at each location. The Robeson County Test was not used due to a very poor stand on two replications resulting from a hard packing rain and water damage after planting.

Good growing conditions existed in the Northern Coastal Plain for both the full season and short season tests. Good stands were obtained at all locations and good yields were also reported.

Data

Data were collected on each plot location on yield, stand, moisture, lodging, ear height, ears per 100 stalks, exposed ear tips and quality. Statistical analyses were made on each of the above listed characters for individual locations and combined over locations within an area. The C.V. and L.S.D.'s are listed at the bottom of the various columns of the 1967 tables. Variety x locations mean squares were used to compute the L.S.D.'s. Comparisons of hybrids should be made only within areas and not between areas since soil and climatic conditions differ so greatly.

The percentage data presented in this report were not transformed and the L.S.D. and C.V. values listed are for the untransformed data. This resulted in the C.V.'s and L.S.D.'s being rather high for percent lodged and percent ear tips exposed.

Stand and Yield Adjustments

All plots having less than a 70 percent stand were adjusted to 70 percent of the maximum stand for statistical analysis. Any plot having a stand of 70 percent or above was not adjusted.

Yield adjustments were made by determining the average yield per plant of the particular variety in unadjusted plots and multiplying this value by the adjusted number of plants.

Yield

Weight of shelled corn was obtained by harvesting and weighing each plot and each entry at each location. Any location harvested by hand was weighed for ear corn and converted to shelled corn basis. All plot yields were adjusted to 15.5 percent moisture.

Stand

Stand percent was determined by counting the number of plants per plot and dividing by 32 for the normal population tests in the Piedmont, 38 for all other full season tests and 54 for the high population tests.

Moisture at Harvest

Moisture content of grain at harvest is an index of maturity. Moisture percentage was determined from samples obtained from each plot at each location even where the tests were harvested by hand. Samples were obtained by taking a sample from each plot immediately after the grain was weighed. The samples were placed in water-proof plastic-coated paper bags and analysed shortly thereafter on an official moisture meter.

Lodging

Lodging is a term used to describe stalks that are broken, leaning or fallen to the ground. All plants broken below the ear or leaning more than 45 degrees are considered lodged. Data were taken on each plot and a lodging percent calculated.

Ear Height

Ear height was determined by measuring the distance from the ground to the node where the ear is attached to the stalk.

Ears Per 100 Stalks

The number of ears per 100 stalks is a measure of prolificness and indicates whether a hybrid tends to be a single-ear or prolific type. Ears per plot were counted in each replication at every location prior to harvest. Ears per plot divided by plants per plot give the number of ears per plant. This figure multiplied by 100 gives the number of ears per 100 stalks. A fallacy in this method is that the count is made without shucking the corn out so some undeveloped ears may be counted.

Exposed Ear Tips

The number of exposed ear tips were counted in each plot. This number divided by the total number of ears per plot gives percent exposed tips.

Quality

Quality readings are based primarily on ear rot damage. The following scale was used to determine rating:

Rating	Damage per Plot
1	0 - 10
2	11 - 20
3	21 - 30
4	31 - 40
5	41 - 50

The data were taken on each plot on the shelled corn, except where the tests were hand harvested; then it was taken on the ears.

Diseases

The reaction of hybrids to the major corn diseases (including the common leaf blights) is evaluated yearly. It is difficult to make adequate comparisons of hybrids over a period of successive years due to the fact that all hybrids are severely damaged during years of severe disease development. Preliminary observations indicate little difference in reaction of hybrids to the common leaf blight present in the Coastal Plain Area.

Four locations in the Piedmont were planted in counties which reported corn stunt mosaic in previous years. These tests were evaluated and the data are being compiled and distributed by the extension service.

Insect Damage

Weevils and other stored grain insects often cause kernel damage to ears of corn before they are harvested. The tests included in this report were all harvested relatively early; therefore, stored insect damage was negligible. Where it occurred, quality was reduced.

RESULTS

Data are presented by areas for three year, two year and one year performance.

Hybrids are divided into four groups in the tables, commercial yellow and white, and experimental yellow and white hybrids.

There are numerous corn hybrids available to farmers for planting. These hybrids differ in yield, maturity, lodging, disease and insect resistance, grain quality and other factors. Hybrids that are outstanding in one or more characteristics may be inferior in others and should, therefore, be selected on the basis of overall performance.

Hybrids tested more than one year have a more accurate estimate of their general performance since they have been tested under more diverse environments. Growers should select a top performing hybrid for planting. A top performer is not necessarily the highest yielder, but it should have a high yield, mature within the desired time, stand upright at harvest, and also be reasonably good in other agronomic characteristics. All hybrids yielding above the mean of the test would be considered reasonably good performers.

The 1967 tests for all areas represented good growing conditions except for a moisture problem in the Piedmont Area. The performance should be representative of the hybrids under these conditions. Comparisons can be made directly in these summary tables. Hybrids with a low percent of lodging in these tests would be considered to have a good root system and strong stalk.

Short season corn is early maturing and is usually sufficiently dry to be harvested and marketed in late August and early September. This type supplies an early (August and September) market demand, and the production of it has been limited primarily to the northeastern counties. The short season corn is primarily grown for early market. The keeping quality of the short season hybrids is usually inferior, and unless the grower exercises extra precautions, the quality and feed value are likely to deteriorate rapidly from insect damage. Short season hybrids are usually less suitable for storing on the farm because of this rapid deterioration.

For general farm storing and feeding, full season corn is more likely to preserve its quality and usually is damaged less by insects. Full season corn requires from two to three weeks longer than short season hybrids to reach maturity and to become sufficiently dry to harvest and store. Usually, full season corn is dry enough to be harvested and stored in late September.

A preliminary test on Short Season Hybrids was conducted in 1967 at the Tidewater Experiment Station to determine corn hybrids response to close spacing, high nitrogen with flood irrigation. Two row plots were planted with a plant population of 23,581 plants per acre. Four replications are averaged for yield per acre and moisture percentage. Data is shown in Table No. 21. This test was conducted in cooperation with Dr. D. L. Thompson, Crop Science Department. Weather conditions were such that supplemental irrigation was not necessary during the 1967 growing season.

Table 3. Comparison of hybrids for certain characteristics

Northern Mountains - Area I

Three-Year Average - 1965, 1966, 1967

Average of 3 Locations

Hybrid	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
Pioneer 310	103	96	34.22	18	50	133	20	3.1
Pioneer 345A	102	97	29.98	25	48	118	23	3.4
McNair X202	96	96	31.60	12	52	110	5	2.6
McCurdy 7 x 11	92	95	29.51	17	50	106	15	2.5
Mean of Test	92	96	30.60	19	50	116	24	3.1
V.P.I. 648	81	90	31.68	18	51	107	44	3.2

Table 4. Comparison of hybrids for certain characteristics

Southern Mountains - Area II

Three Year Average - 1965, 1966, 1967

Hybrid	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
Pioneer 3306	107	93	24.49	4	46	123	19	2.5
Pioneer 310	103	94	26.83	8	50	118	16	2.8
McNair X202	100	96	24.86	7	50	103	7	2.2
Mean of Test	94	92	24.96	9	49	113	21	2.6
V.P.I. 648	90	87	25.07	9	48	112	41	2.5
McNair 340V	85	94	31.08	12	52	128	8	2.6

Table 5. Comparison of hybrids for certain characteristics

Piedmont - Area III

Three-Year Average - 1965, 1966, 1967

Average of 10 Locations

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
Pioneer 309B	78	93	22.93	5	44	129	4	1.7
Dixie 82	76	88	23.64	9	56	140	3	1.6
Coker 52	76	92	23.58	2	45	136	3	1.4
Pioneer 3048	76	91	25.04	3	48	127	3	1.9
S. C. 236	71	91	24.35	3	51	129	1	1.4
McCurdy M97	70	93	21.84	8	46	111	7	1.8
P-A-G 751	70	90	25.07	6	51	143	1	1.6
Mean of Test	69	91	22.92	5	46	121	10	1.9
N. C. 270	69	89	26.05	5	51	121	3	1.6
N. C. 27	68	88	23.04	9	52	132	3	1.5
Wagwood 200	63	89	23.68	4	45	123	3	1.8
			White Entries					
Dixie 29	72	87	23.56	8	50	136	4	1.2
Coker 911	71	92	23.92	8	51	143	2	1.4

Table 6. Comparison of hybrids for certain characteristics

Southern Coastal Plain - Area IV

Three Year Average - 1965, 1966, 1967

Average of 9 Locations

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
McNair 440V	116	98	20.90	4	44	151	3	1.8
Edmund 1	110	97	20.71	8	42	133	2	2.0
Pennington 7-C-11A	105	95	21.97	3	54	147	1	1.5
P-A-G 751	104	94	20.95	7	48	152	2	1.9
McCurdy M306	101	93	21.63	8	53	149	1	2.0
Pioneer 3048	100	95	20.54	11	44	125	5	2.1
Dixie 18	100	94	22.14	8	58	138	1	1.6
Coker 71	99	96	21.29	3	49	146	3	1.8
S. C. 236	98	94	21.41	3	49	134	1	1.7
N. C. 270	98	97	22.96	8	51	118	2	2.0
Coker 52	97	98	20.59	4	40	136	2	1.6
Coker 74	97	97	22.71	3	44	140	5	1.8
Pioneer 309B	96	96	20.37	16	40	134	5	2.2
Mean of Test	96	95	21.09	9	45	130	6	2.0
Dixie 82	95	95	21.10	14	53	130	3	2.1
Speight D-14	91	95	21.08	8	42	120	3	1.9
			White Entries					
Coker 911	103	96	20.78	6	49	134	4	1.7
Pioneer 511A	98	95	19.63	17	43	136	4	1.8
Dixie 29	92	91	20.24	13	44	133	4	1.9

Table 7. Comparison of hybrids for certain characteristics

Northern Coastal Plain - Area V

Three Year Average - Full Season - 1965, 1966, 1967

Average of 9 Locations

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
P-A-G 751	94	96	26.19	8	51	133	3	1.8
McCurdy M303	93	97	26.37	13	55	143	2	1.8
Pioneer 3048	93	95	25.60	8	48	118	5	1.8
Pioneer 309B	92	97	24.13	7	44	122	8	1.7
McCurdy M306	91	94	25.61	8	56	133	1	1.3
McNair 340V	90	96	24.67	5	45	113	17	1.7
Dixie 82	89	95	25.79	11	57	123	3	1.9
Coker 52	89	97	24.48	2	43	124	5	1.4
Mean of Test	88	95	24.92	7	48	120	7	1.8
N. C. 270	88	97	27.10	6	51	111	3	1.8
S. C. 236	84	94	26.21	4	52	122	1	1.7
			White Entries					
Coker 911	95	96	24.97	7	50	133	5	1.6
Dixie 29	82	92	23.81	11	49	124	4	1.8

Table 8. Comparison of hybrids for certain characteristics

Northern Coastal Plain - Area V

Three Year Average - Short Season - 1965, 1966, 1967

Average of 8 Locations

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
Pioneer 3306	115	96	24.30	7	42	104	19	1.6
McCurdy M97	109	93	25.72	16	45	104	12	1.5
P-A-G SX29	105	92	24.22	7	40	101	30	2.0
Pioneer 310	104	92	25.49	11	41	104	18	2.0
P-A-G SX59	101	93	25.70	12	41	99	16	2.1
Watson 430	101	93	26.34	4	41	100	14	2.1
Speight D-20	99	93	26.10	21	41	111	13	1.6
Mean of Test	99	93	24.70	12	40	102	20	2.0
Watson 401A	99	91	27.05	9	41	97	15	2.0
McNair X202	98	94	24.95	11	40	99	15	2.0
Hofmeyer H-55	98	93	24.21	11	40	98	21	2.3
V.P.I. 648	90	93	25.58	15	42	97	33	2.0
McNair 198	89	89	23.47	7	38	100	18	2.4

Table 9. Comparison of hybrids for certain characteristics

Northern Mountains - Area I

Two-Year Average - 1966, 1967

Average of 2 Locations

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
Pioneer 3306	94	98	35.20	18	47	126	20	3.3
Pioneer 345A	88	96	32.33	34	46	106	26	3.6
Pioneer 310	86	96	35.78	16	48	111	23	3.6
McCurdy 3 x 6	82	96	30.60	41	43	104	38	3.4
McNair X202	80	94	32.71	18	48	104	4	2.8
McCurdy 7 x 11	78	94	31.20	25	46	106	13	3.0
T-E E20YA	78	92	30.99	30	46	108	26	3.5
Mean of Test	78	94	32.57	26	46	110	24	3.4
T-E Cropmaster	72	92	32.48	24	48	110	18	3.4
T-E SX20Y	72	92	33.85	24	48	102	16	3.4
V.P.I. 648	64	86	33.70	25	48	102	43	3.6
			Experimental Hybrids Yellow Entries					
AA 1243	82	96	32.32	16	46	118	36	3.4

Table 10. Comparison of hybrids for certain characteristics

Southern Mountains - Area II

Two Year Average - 1966, 1967

Average of 2 Locations

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
Pioneer 3306	115	94	26.86	4	48	132	24	2.6
Pioneer 310	114	95	29.34	12	54	132	20	2.8
McCurdy 49 x 3	113	94	22.02	19	48	138	21	2.8
Pioneer 3369	112	96	22.06	10	44	106	21	1.9
McNair X202	110	94	27.12	6	52	112	4	2.0
V.P.I. 648	108	95	27.06	12	52	126	41	2.4
T-E Cropmaster	106	96	26.68	10	52	114	23	2.5
T-E SX20Y	106	94	25.90	5	52	104	30	2.4
Mean of Test	106	95	26.58	12	52	124	22	2.5
T-E E20YA	98	96	26.98	13	46	106	24	2.4
McNair 340V	92	91	32.60	17	53	144	9	2.8
			Experimental Hybrids Yellow Entries					
AA 1243	117	96	25.07	8	54	126	44	2.6

Table 11. Comparison of hybrids for certain characteristics

Piedmont - Area III

Two-Year Average - 1966, 1967

Average of 6 Locations

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
Pioneer 309B	71	95	25.02	4	47	122	3	1.8
McNair 440V	71	94	26.24	2	48	132	4	1.4
McNair 340V	68	96	26.03	4	48	116	8	1.5
McCurdy M306	68	92	25.82	6	58	150	0	1.6
Coker 52	67	93	25.48	2	48	129	2	1.5
Pioneer 3048	67	93	27.20	4	50	120	2	2.0
Dixie 82	66	90	25.10	8	60	132	4	1.5
McCurdy M97	66	94	24.21	8	50	110	8	1.8
Pennington 9-P-3A	66	88	25.80	10	60	129	4	1.7
Mean of Test	62	92	24.90	6	50	117	10	2.0
S. C. 236	61	92	26.44	4	56	118	1	1.4
N. C. 27	61	91	24.88	9	55	122	3	1.5
P-A-G 751	58	90	27.28	6	54	130	1	1.6
N. C. 270	56	91	28.10	6	54	113	2	1.6
T-E E20YA	56	90	22.52	6	42	97	30	2.4
T-E SX20Y	54	92	22.23	18	46	99	30	2.8
T-E Cropmaster	54	92	22.66	8	48	96	29	3.0
McNair X202	54	98	22.91	11	44	94	20	2.8
Wagwood 200	48	90	25.60	5	47	105	4	1.7
			White Entries					
Dixie 29	65	88	25.72	7	54	128	4	1.2
CHR-W	63	92	26.88	4	54	118	3	1.4
Coker 911	62	94	26.00	8	54	134	1	1.5
			Experimental Hybrids Yellow Entries					
NC 6019	71	96	25.71	4	52	114	2	1.4
NC 5027	65	94	24.76	3	44	110	3	1.6

Table 12. Comparison of hybrids for certain characteristics

Southern Coastal Plain - Area IV

Two Year Average - 1966, 1967

Average of 6 Locations

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
McNair 440V	124	98	21.08	6	46	152	2	1.6
Edmund 1	110	96	20.88	12	43	126	1	1.9
Pennington 7-C-11A	110	94	22.30	5	55	144	1	1.5
Florida 200A	107	97	22.14	5	55	136	1	1.6
Dixie 18	106	94	22.62	12	60	136	0	1.6
P-A-G 751	105	94	21.24	9	48	144	1	1.8
McCurdy M307	103	94	22.22	8	54	130	1	1.8
S. C. 236	103	92	22.05	4	50	130	1	1.8
Coker 71	102	96	21.84	4	49	144	2	1.8
N. C. 270	102	96	22.96	12	52	112	2	1.8
Coker 52	102	98	21.36	6	41	134	2	1.6
McCurdy M306	100	92	22.06	11	54	140	1	2.0
Pioneer 3048	100	95	20.79	16	44	122	3	2.2
Coker 74	100	97	23.16	4	45	136	3	1.7
Pioneer 309B	98	96	20.94	22	41	134	4	2.2
Mean of Test	98	95	21.46	12	46	126	5	2.0
Speight D-20	96	96	20.34	15	41	128	6	2.0
Dixie 82	96	94	21.48	19	54	129	2	2.2
McNair 340V	96	96	21.34	8	42	118	14	1.8
Speight D-14	93	95	21.38	11	42	116	2	1.8
			White Entries					
Coker 911	106	96	21.54	8	48	128	4	1.7
Pioneer 511A	99	94	20.22	24	43	132	3	1.8
Dixie 29	91	90	20.80	17	44	131	2	1.9
			Experimental Hybrids Yellow Entries					
NC 4003	112	94	24.04	18	46	126	3	1.8
NC 1057	110	97	22.51	4	48	132	6	2.0

Table 13. Comparison of hybrids for certain characteristics

Northern Coastal Plain - Area V

Two Year Average - Full Season - 1966, 1967

Average of 6 Locations

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
McNair 440V	92	98	26.38	6	49	127	5	1.4
Pioneer 309B	88	97	25.62	9	46	120	6	1.8
McNair 340V	88	98	25.67	6	45	108	10	1.6
P-A-G 751	88	96	27.56	10	52	125	2	1.7
Pioneer 3048	87	95	26.96	12	48	116	3	1.8
McCurdy M303	86	96	27.54	18	56	138	2	1.8
Coker 52	86	98	25.48	3	44	116	4	1.5
N. C. 270	86	98	28.08	8	52	108	2	1.8
McCurdy M306	84	94	26.60	11	58	123	2	2.1
Mean of Test	84	96	25.98	10	49	116	6	1.8
Dixie 82	82	94	26.72	16	58	117	2	1.8
S. C. 236	80	94	27.10	6	53	114	0	1.7
			White Entries					
Coker 911	90	98	26.06	9	52	128	2	1.6
Dixie 29	75	90	25.00	13	50	116	4	1.8

Table 14. Comparison of hybrids for certain characteristics

Northern Coastal Plain - Area V

Two Year Average - Short Season - 1966, 1967

Average of 5 Locations

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
Pioneer 3306	108	96	25.71	10	40	99	9	1.8
McCurdy M97	104	95	26.52	21	44	98	6	1.6
P-A-G SX29	98	94	25.43	8	38	96	24	2.0
Pioneer 310	96	92	26.64	14	40	98	14	2.1
Watson 430	96	94	26.70	5	39	97	6	2.2
P-A-G SX59	96	94	26.20	16	38	98	8	2.2
Mean of Test	93	94	25.92	14	38	98	12	2.2
Hofmeyer H-55	92	94	25.35	13	38	96	14	2.6
Watson 401A	90	92	27.87	12	39	93	8	2.2
Speight D-20	89	94	26.77	27	40	100	6	1.7
McNair X202	88	94	25.90	14	38	94	10	2.2
McNair 198	84	90	24.84	8	36	96	10	2.6
V.P.I. 648	82	93	26.70	18	40	92	24	2.2
Todd M-55	77	93	24.93	13	36	100	8	2.3

Table 15. Comparison of hybrids for certain characteristics

Northern Mountains - Area I

Ashe County - 1967

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
Pioneer 3306	63	95	37.23	37	39	100	0	4.7
Pioneer 345A	62	93	35.37	68	38	98	4	5.0
Pioneer 310	59	93	36.68	31	38	99	3	5.0
McNair X202	58	92	35.75	35	38	100	1	4.0
McCurdy 3X6	57	92	32.40	80	32	100	6	5.0
Pioneer 3280	56	92	33.15	62	30	98	7	4.7
McCurdy 7X11	54	90	33.00	50	37	95	3	4.7
Mean of Test	53	89	34.99	50	37	99	5	4.9
McCurdy HP 5	50	88	32.70	62	37	100	3	5.0
T-E E20YA	49	84	32.37	58	36	99	4	5.0
T-E SX20Y	48	87	36.73	46	39	97	2	5.0
T-E Cropmaster	45	84	35.25	45	38	97	6	5.0
McCurdy 66X20	43	86	36.18	41	36	95	3	5.0
V.P.I. 648	40	73	36.67	49	38	102	13	5.0
			Experimental Hybrids Yellow Entries					
AA 1243	54	93	34.82	30	37	100	11	5.0
AA 1267	54	94	36.15	64	42	100	7	5.0
Indiana 6834	50	88	35.42	46	34	96	5	5.0
L.S.D. (.05)	8	8	2.62	26	4	6	6	.2
(.01)	10	10	3.44	34	5	8	8	.3
C.V. (%)	13	8	7	46	9	5	103	

Table 16. Comparison of hybrids for certain characteristics

Southern Mountains - Area II

Haywood County - 1967

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
Pioneer 3369	103	97	19.75	2	41	98	11	2.0
Pioneer 310	96	97	29.43	2	50	126	11	3.7
McCurdy 49X3	93	98	19.91	7	43	139	9	3.3
Pioneer 3306	91	97	27.82	3	45	137	10	3.3
T-E Bonusmaker S	90	95	23.75	6	38	128	11	3.0
V.P.I. 648	88	94	26.87	6	50	128	20	2.7
McCurdy 66 x 18	87	96	23.60	5	52	167	3	3.3
Mean of Test	87	96	25.97	4	49	121	9	2.9
T-E SX20Y	86	97	25.32	2	47	100	9	2.7
McCurdy 92 x 11	84	96	26.60	11	49	134	10	2.7
McNair X202	84	97	26.87	3	50	102	1	2.3
T-E Cropmaster	82	95	26.83	3	53	110	15	3.0
Pioneer 2425	82	97	31.75	2	52	107	2	3.3
McCurdy 66 x 19	78	97	25.64	6	55	124	3	2.7
T-E E20YA	78	97	27.25	5	42	105	12	2.7
Pioneer 309A	76	96	29.92	6	61	127	5	3.3
McNair 340V	65	94	33.77	4	51	135	4	3.3
			Experimental Hybrids Yellow Entries					
AA 1243	101	98	24.03	5	52	123	26	3.0
AA 1580	99	96	22.90	2	50	99	14	3.0
Indiana 6833	93	94	26.52	4	46	123	5	2.3
AA 1966	86	97	20.93	0	45	110	4	3.0
L.S.D. (.05)	15	3	1.85	5	2	4	9	.9
(.01)	19	4	2.44	6	2	6	12	1.2
C.V. (%)	15	3	6	103	3	3	88	27

Table 17. Comparison of hybrids for certain characteristics

Piedmont - Area III

Alamance, Anson, Lincoln and Yadkin Counties - 1967

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids					
			Yellow Entries					
Pioneer 2425	82	98	26.55	3	47	104	1	1.8
Pioneer 309B	78	98	25.54	7	45	126	4	1.7
McNair 440V	77	97	26.94	3	47	139	3	1.4
Coker 52	76	97	26.48	4	47	132	1	1.2
Pioneer 3048	73	95	27.21	5	50	119	1	1.8
McNair 340V	73	99	25.85	6	45	119	6	1.4
Pioneer 3196	70	97	23.83	6	44	129	38	2.9
N. C. 27	69	97	24.97	7	53	120	1	1.2
Pioneer 3369	68	98	21.28	6	39	104	20	2.6
Pioneer 3306	68	99	23.60	7	43	111	15	1.7
McCurdy M97	68	99	24.50	11	46	107	5	1.6
Mean of Test	67	96	25.46	7	47	116	7	1.8
Dixie 82	66	95	26.67	5	58	119	2	1.4
Frontier 520A	64	99	25.00	7	46	110	17	2.4
T-E Cropmaster	63	95	23.34	11	46	103	18	2.9
T-E E20YA	63	92	23.58	10	41	105	20	2.6
Pennington 9-P-3A	63	87	26.84	11	57	123	1	1.4
N. C. 270	62	94	28.72	7	53	108	1	1.5
Hofmeyer H-55	62	96	22.95	14	43	103	20	2.7
P-A-G 751	61	92	27.25	5	54	131	0	1.6
Todd 92-A	60	97	21.56	8	39	100	7	2.4
McNair X202	60	97	22.85	15	41	100	7	2.4
McCurdy M306	60	97	26.98	8	55	129	0	1.9
Frontier 550	60	98	23.43	9	46	108	16	2.8
Wagwood 306	59	90	25.54	5	43	113	2	1.6
Wagwood 200	58	98	26.49	8	45	109	2	1.5
T-E SX20Y	57	94	22.80	19	42	101	21	2.8
S. C. 236	57	93	26.58	4	53	110	1	1.4
Wagwood 400	57	95	22.70	13	45	98	33	2.8
			White Entries					
Dixie 29	69	92	26.08	7	50	126	3	1.2
Frontier SXW	66	95	24.70	2	42	105	7	1.3
Coker 911	63	96	27.20	10	51	125	1	1.4
CHR-W	62	92	28.65	5	51	109	2	1.2
			Experimental Hybrids					
			Yellow Entries					
Coker 6031	80	97	24.53	3	45	138	7	1.4
NC 6019	78	98	26.51	2	49	109	2	1.2
NC 3392B	77	97	26.25	5	47	118	1	1.2
NC 4003	76	89	28.76	10	48	128	2	1.2
NC 5027	73	97	25.07	4	40	108	2	1.5
Coker 6023	72	92	25.95	2	46	133	4	1.5
NC 3220A	70	96	26.46	3	50	113	2	1.4
NC 6031	70	96	26.60	5	48	117	2	1.4
NC 1057	69	96	27.30	1	48	116	3	1.4
			White Entry					
Coker 912	75	98	25.35	6	49	139	3	1.3
L.S.D. (.05)	12	4	1.63	6	2	13	8	.6
(.01)	16	6	2.14	8	3	16	11	.8
C.V. (%)	13	3	5	67	3	8	80	25

Table 18. Comparison of hybrids for certain characteristics

Southern Coastal Plain - Area IV

Craven, Columbus and Sampson Counties - 1967

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
McNair 440V	144	98	24.17	9	46	158	2	1.3
Edmund 1	141	98	23.45	9	44	133	1	1.6
Pennington 7-C-11A	135	95	25.57	7	57	149	0	1.2
N. C. 270	131	96	26.00	13	53	119	2	1.6
P-A-G 751	131	96	23.64	10	50	148	1	1.5
Florida 200A	130	97	25.48	5	57	146	1	1.2
Dixie 18	129	94	25.24	13	62	148	0	1.4
S. C. 236	127	93	24.67	4	52	136	0	1.4
Coker 71	126	98	24.90	3	51	154	1	1.6
Coker 52	122	98	24.74	3	42	137	1	1.3
McCurdy M307	121	94	25.22	8	56	131	1	1.7
Mean of Test	121	95	24.35	10	48	132	5	1.6
Pioneer 3048	120	95	23.11	17	45	128	2	1.8
Coker 74	119	99	26.39	4	46	142	3	1.5
Dixie 82	118	94	24.12	18	56	136	2	1.8
Pioneer 3009	118	96	24.79	5	44	113	0	2.0
McCurdy M306	118	90	24.83	13	56	143	0	1.8
Pioneer 309B	116	97	23.31	20	40	136	2	1.8
Speight D-20	114	96	23.78	12	42	128	3	1.5
Speight D-14	108	96	24.49	18	43	119	2	1.4
McNair 340V	108	97	23.84	7	41	122	13	1.4
Asgrow A-204	105	95	21.80	11	43	118	3	1.9
Asgrow A-300B	105	94	23.18	17	45	116	3	1.8
			White Entries					
Coker 911	132	95	24.54	8	50	136	4	1.4
Pioneer 511A	120	95	22.98	17	45	133	2	1.2
Dixie 29	110	89	23.65	13	46	133	3	1.4
			Experimental Hybrids Yellow Entries					
T-E 6704	138	95	24.70	7	59	143	0	1.2
NC 1057	134	97	25.83	5	50	136	7	1.8
NC 6019	131	98	24.62	7	47	130	1	1.4
Coker 6023	127	96	24.98	5	43	141	3	1.6
NC 4003	126	90	27.28	18	47	130	4	1.6
T-E 6703	122	94	24.12	5	58	127	2	1.5
Speight D-23	112	99	24.28	7	41	119	0	1.8
McNair 6702	112	96	23.96	15	38	130	0	2.0
McNair 4-5	108	94	23.34	10	43	122	1	1.7
McNair 7-76	98	96	22.72	10	40	111	34	2.8
McNair 60-7	91	90	23.02	6	44	108	60	2.0
L.S.D. (.05)	13	5	1.15	9	3	12	5	.4
(.01)	17	7	1.51	11	3	16	6	.5
C.V. (%)	7	3	3	54	3	6	64	16

Table 19. Comparison of hybrids for certain characteristics

Northern Coastal Plain - Area V

Nash, Pitt and Northampton Counties - Full Season Test - 1967

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
P-A-G 751	116	98	28.42	19	55	143	2	1.4
McNair 440V	115	97	28.49	12	49	143	3	1.0
Pioneer 309B	110	96	26.59	18	46	136	4	1.2
N. C. 270	110	97	29.87	12	52	120	2	1.1
Coker 52	107	96	27.22	5	45	130	2	1.0
Pioneer 3048	106	96	27.71	23	51	123	2	1.4
Mean of Test	105	95	27.58	17	51	129	4	1.2
McCurdy M303	104	97	28.87	34	59	156	2	1.3
McNair 340V	103	97	26.15	11	45	116	6	1.1
Dixie 82	103	94	28.08	30	59	136	1	1.2
McCurdy M306	102	91	27.76	21	60	138	3	1.6
S. C. 236	102	91	28.65	12	55	129	0	1.2
Asgrow A-204	102	95	23.79	11	46	114	3	1.2
Asgrow A-300B	98	95	25.88	16	49	120	2	1.2
Pioneer 309A	98	96	25.78	15	44	113	4	1.2
Speight D-14	95	95	28.26	20	46	120	1	1.2
Pioneer 3196	94	100	24.11	21	44	118	26	1.8
			White Entries					
Coker 911	111	98	28.07	17	53	139	2	1.1
Dixie 29	95	92	25.86	23	52	127	3	1.3
			Experimental Hybrids Yellow Entries					
NC 6019	117	99	28.17	10	50	119	2	1.1
Coker 6031	114	95	27.12	13	45	132	9	1.1
Coker 6023	112	95	27.82	9	47	141	4	1.2
NC 1057	110	95	29.19	20	52	125	5	1.2
NC 4003	105	88	30.99	29	50	127	1	1.2
T-E 6703	101	94	27.80	23	60	128	3	1.2
T-E 6704	99	85	28.95	15	61	134	2	1.2
L.S.D. (.05)	11	4	1.82	16	3	15	4	.4
(.01)	14	5	2.40	21	4	19	5	.5
C.V (%)	6	3	4	58	4	7	68	20

Table 20. Comparison of hybrids for certain characteristics

Northern Coastal Plain - Area V - Short Season

Chowan, Pasquotank and Wayne Counties - 1967

Hybrid Designation	Yield Bus/A	Stand %	Moisture %	Lodging %	Ear Height Inches	Ears/100 Stalks	Ear Tips Exposed %	Quality
			Commercial Hybrids Yellow Entries					
Pioneer 3306	126	96	29.40	7	38	103	6	1.4
Watson 199	120	93	31.45	11	39	100	6	1.8
Watson 401A	120	96	31.06	14	38	98	6	2.0
Asgrow ASC-112	119	96	29.64	8	38	97	4	1.9
P-A-G SX99	116	93	31.60	15	38	98	5	1.7
McCurdy M97	115	95	30.11	16	41	99	4	1.4
Pioneer 3369	114	96	28.35	3	33	104	11	2.1
Pioneer 310	114	95	30.30	20	37	101	4	1.7
P-A-G SX95	114	91	29.88	23	35	105	4	1.3
Watson 430	113	94	30.13	6	37	101	2	1.8
P-A-G SX29	113	92	28.82	10	36	98	7	1.8
Hofmeyer H-55	112	93	28.88	13	37	101	6	2.3
Mean of Test	111	93	29.46	14	36	101	6	1.9
Speight D-20	110	92	29.91	33	38	104	4	1.5
Asgrow A-150	109	94	29.90	8	38	100	4	2.1
Todd 92-B	109	90	29.78	4	31	103	5	1.8
Asgrow A-120	106	86	28.58	10	36	102	8	2.1
McNair X202	105	95	29.40	20	35	99	2	2.0
Asgrow A-200B	105	92	30.05	16	35	100	6	1.8
Hofmeyer SX-40	104	96	27.41	9	29	100	12	2.0
McNair 198	104	89	28.17	7	35	103	8	2.1
P-A-G SX59	103	91	30.02	21	36	101	5	1.9
V.P.I. 648	103	92	30.12	25	39	98	12	2.0
Pioneer 3466	102	97	27.32	20	32	98	11	2.2
Todd M-55	87	95	27.65	9	34	98	5	2.1
			Experimental Hybrids Yellow Entries					
AA 1267	124	96	29.41	27	39	103	10	1.8
AA 1580	120	96	28.85	5	36	103	6	2.2
McNair 6703	119	93	29.73	34	37	101	10	2.0
AA 1679	114	94	29.46	18	37	100	7	2.1
AA 2052	113	93	29.49	8	35	101	3	1.5
AA 2038	106	94	29.00	5	34	106	6	2.2
L.S.D. (.05)	17	5	1.40	15	2	6	6	.5
(.01)	23	6	1.85	20	3	8	8	.7
C.V. (%)	10	3	3	68	4	4	59	17

Table 21. Comparison of hybrids for certain characteristics

Tidewater Research Station - 1967

Plymouth, N. C.

Entry	Yield Bu/A	Moisture %
	Commercial Hybrids Yellow Entries	
P-A-G SX29	145	29.52
Pioneer 3306	134	33.21
P-A-G SX59	132	32.80
Watson 401A	131	31.29
Watson 199	129	33.82
Todd 92-B	128	30.31
McCurdy M97	127	32.18
P-A-G SX95	127	30.96
Pioneer 310	126	32.18
Speight D-20	125	30.92
Asgrow A-120	125	29.78
Asgrow ASC-112	124	30.91
Watson 430	123	32.79
Mean of Test	123	31.07
P-A-G SX99	120	31.78
Hofmeyer H-55	120	29.89
V.P.I. 648	120	31.24
Pioneer 3466	119	28.48
McNair 198	119	30.21
Asgrow A-150	119	30.92
McNair X202	119	30.85
Pioneer 3369	116	29.99
Asgrow A-200B	112	33.08
Hofmeyer SX-40	105	28.75
Todd M-55	96	28.47
	Experimental Hybrids Yellow Entries	
AA 1580	136	29.52
AA 1267	135	31.10
AA 2052	132	30.92
McNair 6703	125	31.54
AA 1679	117	33.08
AA 2038	111	31.68
L.S.D. (.05)	15	2.09
(.01)	19	2.75
C.V. (%)	9	5

Part II

GRAIN SORGHUM

Most of the grain sorghum in North Carolina is grown in the Piedmont where it is used primarily for feed purposes. In the Piedmont area it is generally produced as a single crop for the season, while in the Coastal Plain area it is frequently grown as a second crop following small grains. In 1967 all tests were conducted in the Piedmont area.

The data presented in this report provide information on the performance of commercial varieties, hybrids, and experimental lines grown in various geographical areas of the state and under different cropping systems. Information of this nature serves as a guide to sorghum breeders in their development of varieties and to growers in choosing a variety to plant.

This report presents the results of the North Carolina Official Sorghum Variety Trials for the 1967 season and summarizes the results of tests conducted during the past two and three years.

EXPERIMENTAL PROCEDURE

In this program are included experimental lines, hybrids and varieties developed by public and private agencies. Any individual or firm may make application for having entries included. Quantitative data from experiments in which the proposed entry is compared with recognized hybrids and varieties must show merit for the entry and must accompany the application. 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		Designation
Arkansas Agricultural Experiment Station	Fayetteville, Arkansas	AKS
Asgrow Seed Company	Atlanta, Georgia	Jumbo L, Asgrow
DeKalb Agricultural Association, Inc.	Lubbock, Texas	DeKalb
Excel Sorghum Company	Plainview, Texas	Excel, Bird-Go
Frontier Hybrids, Inc.	Scott City, Kansas	Frontier
Georgia Agricultural Experiment Station	Experiment, Georgia	Georgia
McNair Seed Company	Plainview, Texas	McNair
Northrup, King and Company	Atmore, Alabama	NK, Savanna
N. C. Agricultural Experiment Station	Raleigh, N. C.	RS
Pioneer Corn Company, Inc.	Tipton, Indiana	Pioneer
Taylor-Evans Seed Company	Tulia, Texas	T-E
Todd Hybrid Sales, Inc.	Abbottstown, Pa.	Grain Harvest
Warner Seed Company	Hereford, Texas	Warner

Test Locations

Three locations were used in 1967 in the Piedmont as shown in Figure 1. All tests were located on private farms and two locations were considered to be good grain sorghum tests for the 1967 season.

Seasonal Conditions

The 1967 growing season was generally favorable for the production of grain sorghum. Good stands were obtained at the Anson and Stanly County locations. However, at the Chatham County location a heavy rain shortly after planting time caused a hard crust to form on the soil surface resulting in inadequate stands, therefore, this location was discarded early in the growing season.

Dry weather during the month of July caused some blasting of the heads

on the varieties T-E Grainmaster A and NK 125A at the Stanly County location. These two varieties were the first varieties to bloom and resulted in heavier blasting damage than the later varieties. However, good moisture the last of July and early August resulted in good yields at this location.

The Anson County location had good moisture conditions throughout the growing season and during blooming time and good yields were recorded. Favorable weather conditions existed at harvesting time and no lodging was recorded at either location.

Cultural Practices

Cultural practices, such as soil preparation, date of planting, fertilization and topdressing were in accord with good management and were the same for all entries at a location, Table 22. Planting and harvesting were directly supervised by personnel of the North Carolina Agricultural Experiment Station.

Experiments were harvested with a modified combine. The grain was caught as it came from the elevator of the combine and was weighed at the end of each plot on scales mounted on the combine. Moisture samples were taken in waterproof plastic paper bags and the percent moisture determined by an official moisture meter.

Data

A randomized block design was used with four replications at each location. Plot size was two rows 27 feet long. The row width was 38 inches in each test.

Yield. The plots were harvested individually and the average grain yield was calculated in pounds per acre.

Moisture. A moisture percentage was taken and yields were adjusted to 14 percent moisture.

Table 22. Cultural practices on grain sorghum performance trials. Piedmont - 1967.

Area and Co-operator	Fertilizer lbs/A	Herbicide[1/] Pre emerge	Top Dressing lbs/A	Row Spacing Inches	Date of Planting	Date of Harvest
Anson County Jack Burr	800 10-10-10 100 5-10-10	Propozine	175 liq. nit.	38"	May 3	Sept. 18
Chatham County Russell & Eugene Johnston	900 10-10-10	Propozine	175 liq. nit.	38"	May 1	Test Discarded
Stanly County Hal Rogers	600 5-10-10 400 Superphosphate	Propozine	175 liq. nit.	38"	May 1	Sept. 18

1/ All tests were top-dressed with liquid nitrogen and 1 quart/A of 2, 4-D at layby for late weed control.

Plant Height. The average height of plants in each plot was taken and an average for each entry was calculated.

Head Exsertion. The distance in inches from the top leaf to the base of the head was measured and referred to as head exsertion. This distance gives an indication of the ease with which grain sorghum may be harvested without leaves and plant material hindering the operation.

Days to Flower. The average number of days from planting to flowering was determined.

Head Compactness. A description of head type was determined according to the following scale:

1. Compact type head
3. Average between compact and loose type
5. Loose type head

Results

The data presented in Tables 23, 24 and 25 are summaries for various years and locations and indicate how varieties have been performing in different environments. A three-year average performance for the Piedmont is shown in Table 23. Entries ranged in yield from 5373 for DeKalb F-61 to 3244 pounds per acre for Martin.

The performance of entries during the last two years in the Piedmont is shown in Table 24. Yields ranged from a high of 5462 pounds per acre for Ga. 615 to 3666 for Martin.

A summary of the 1967 results for the Piedmont is shown in Table 25. Yields ranged from 5214 pounds per acre for DeKalb F-61 to 1405 for NK 125A. Nineteen of the thirty entries yielded above the mean of the test which is indicative of their good performance. All data should be studied in evaluating

varieties and hybrids. The data from these tests are probably representative of the performance of these hybrids since the tests were generally good and the season was generally favorable for the production of grain sorghum. However, data for more than one year should be utilized in determining the performance of hybrids.

Table 23. Performance of grain sorghum - Piedmont. Three year average 1965 - 1967. Average of 7 locations.

Entry	Yield lbs/A	Moisture %	Days to flower	Plant height inches	Head exsertion inches
DeKalb F-61	5373	20.17	77	48	6
Ga. 615	5093	20.39	75	51	5
NK 275	4733	20.27	77	45	5
DeKalb E-57	4727	19.29	74	46	7
AKS 614	4719	19.64	73	46	5
Redhead	4529	20.13	81	48	6
Mean of Test	4427	19.99	76	46	5
T-E 66	4113	18.94	76	39	5
RS 610	4086	19.78	72	49	8
Martin	3244	19.68	76	42	6

Table 24. Performance of grain sorghum - Piedmont. Two year average 1966 - 1967. Average of 4 locations.

Entry	Yield lbs/A	Moisture %	Days to flower	Plant height inches	Head exsertion inches	Head Compactness
Ga. 615	5462	20.48	78	46	4	5.0
DeKalb F-61	5246	20.06	82	44	4	2.5
Jumbo L	5226	21.22	81	44	4	3.2
AKS 614	4876	20.02	77	42	4	4.9
DeKalb BR-60	4862	20.31	82	44	6	4.2
Savanna	4770	19.48	74	42	4	5.0
NK 275	4726	20.76	80	40	4	2.1
DeKalb E-57	4687	19.04	78	42	6	5.0
Mean of Test	4590	20.26	80	42	4	3.0
Redhead	4578	20.20	84	42	4	2.0
Frontier 409	4578	20.23	80	41	4	4.1
T-E 66	4150	19.32	80	36	4	1.8
RS 610	4100	20.02	75	44	6	1.5
Martin	3666	19.82	79	38	4	1.6

Table 25. Performance of grain sorghum for certain characteristics - Piedmont. Stanly and Anson Counties - 1967.

Entry	Yield lbs/A	Moisture %	Days to flower	Plant height inches	Head exsertion inches	Head Compactness
DeKalb F-61	5214	21.14	87	44	4	2.5
*Asgrow H6521	5121	20.49	87	45	4	1.0
Ga. 615	4980	19.92	84	48	4	5.0
Grain Harvest 42	4950	19.79	83	50	4	5.0
Jumbo L	4788	21.46	87	44	4	2.5
Bird-Go	4757	20.80	84	53	5	5.0
*NK 280	4756	20.46	86	44	5	3.0
T-E 77	4691	21.73	92	41	4	1.5
AKS 614	4664	19.34	80	42	4	4.8
Redhead	4614	20.09	89	41	4	1.2
Pioneer 828	4605	21.91	92	46	4	3.0
NK 222A	4549	20.24	85	41	5	3.0
NK 222G	4537	19.91	89	40	4	3.0
Arkansas 62004	4524	19.00	85	47	5	5.0
DeKalb E-57	4508	19.16	81	43	6	5.0
Pioneer 820	4500	21.06	89	40	4	2.8
NK 275	4420	20.78	87	40	3	1.2
Excel 707-A	4351	20.97	87	38	4	1.2
Savanna	4345	18.54	78	43	5	5.0
Mean of Test	4277	20.02	85	43	4	2.9
*DeKalb X-1662	4235	21.00	90	46	4	2.8
Warner W-85	4216	19.96	87	39	3	1.0
Frontier 409	4122	19.62	84	42	3	4.0
McNair 546	4061	19.52	84	42	4	5.0
T-E 66	3846	18.58	85	35	4	1.0
*NK 265	3831	19.17	80	44	7	2.2
DeKalb BR-60	3760	19.94	89	42	5	4.0
Martin	3413	18.73	84	38	5	2.0
T-E Grainmaster A	3313	18.84	76	40	5	1.5
RS 610	3227	18.74	78	43	7	1.0
NK 125A	1405	19.61	73	32	4	3.0
L.S.D. (.05)	531	.86	2	3	1	.5
(.01)	700	1.13	2	4	1	.6
C.V. (%)	13	4	2	6	25	17

*Experimental

Part III

CORN AND SORGHUM SILAGE

Silage is an important part of the beef and dairy cattle industry in North Carolina. The trend is toward greater utilization of silage in feed programs. It is desirable to know the performance and feed value of different corn and sorghum hybrids so as to ascertain their general use in the various areas of the state.

The data presented in this report provide information on the performance of commercial hybrids and experimentals grown in various Coastal, Piedmont and Mountain Areas of the state. Information of this nature serves as a guide to breeders in their development of hybrids for silage and to growers in choosing a hybrid to plant for silage production.

This report presents the results of the North Carolina Official Corn and Sorghum Silage Trials for the 1967 season.

EXPERIMENTAL PROCEDURE

In this program are included corn and sorghum hybrids and experimentals developed by public and private agencies. 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		Designation
Arkansas Agricultural Expt. Sta.	Fayetteville, Arkansas	Leafmaster 43 (Sorghum)
Asgrow Seed Company	San Antonio, Texas	Asgrow (Corn) Beefbuilder T (Sorghum)
Coker Pedigreed Seed Company	Hartsville, S. C.	Coker (Corn)
Cotton Hybrid Research, Inc.	Athens, Georgia	Southern Cross (Sorghum)
DeKalb Agricultural Assoc., Inc.	DeKalb, Illinois	DeKalb (Sorghum)
Frontier Hybrids, Inc.	Scott City, Kansas	Frontier (Sorghum)

McNair Seed Company	Laurinburg, N. C.	McNair (Corn)
N. C. Agricultural Expt. Sta.	Raleigh, N. C.	N. C. (Sart, Sugar Drip (Corn & Sorghum)
Northrup, King and Company	Lubbock, Texas	NK (Sorghum)
Pioneer Corn Company, Inc.	Tipton, Indiana	Pioneer (Corn & Sorghum)
S. C. Agricultural Expt. Sta.	Clemson, S. C.	S. C. (Corn)
Taylor-Evans Seed Company	Tulia, Texas	T-E (Corn & Sorghum)
Todd Hybrid Sales, Inc.	Abbottstown, Pa.	Todd (Corn)
Virginia Polytechnic Institute	Blacksburg, Va.	V.P.I. (Corn)
Wagwood Farms, Inc.	Gibsonville, N. C.	Wagwood (Corn)
Warner Seed Company	Hereford, Texas	Warner (Sorghum)

Test Locations

Seven locations were used for corn silage--one in each of the Mountain areas, three in the Piedmont and two in the Coastal Plain. Three locations were used for sorghum silage in the Piedmont as shown in Figure 1. Two of the sorghum tests, two of the Piedmont tests and the two Coastal Plain tests of corn silage were on private farms, whereas the two Mountain tests and a Piedmont corn and sorghum silage test were on Research Station.

Cultural Practices

Cultural practices, such as seed bed preparation, date of planting, fertilization, cultivation and harvesting were in accord with good farming practices and were the same for all entries in a given test, Table 26. Planting, harvesting and sampling were directly supervised by personnel of the North Carolina Experiment Station. All tests were cut with an ensilage cutter modified for plot work. Moisture and chemical samples were taken at time of harvest by means of modified chute adapted on the rear of the ensilage cutter.

Table 26. Cultural practices on corn and sorghum silage performance trials. 1967.

Area and Co-operator	Fertilizer lbs/A			Herbicide[1/] Pre emerge	Top Dressing lbs/A	Row Spacing Inches	Date of Planting	Date of Harvest
				Corn Silage				
Ashe County Dana G. Tugman	250 100	10-20-20 10-20-20	Drilled In Row	Atrazine	400 Ammon. Nit. 100 Nit.	38"	May 26	Oct. 17
Haywood County J. R. Edwards	400 400	5-10-10 6-12-12	Drilled In Row	Atrazine	200 Ammon. Nit.	38"	May 18	Sept. 20
Rowan County Clyde McSwain	800	5-10-10		Atrazine	200 Liq. Nit.	38"	May 11	Aug. 31
Chatham County Horace Mann	500 100	5-10-10 5-10-10	Drilled In Row	Atrazine	200 Liq. Nit.	38"	May 2	Aug. 30
Cleveland County C. W. Goforth	1000 100	2-10-10 5-10-10	Drilled In Row	Atrazine	200 Liq. Nit	38"	April 17	Test Discarded
Edgecombe County Ernest Davenport	600 100	0-10-20 5-10-10	Drilled In Row	Atrazine	200 Liq. Nit. 50 30% Nit.	38"	April 10	Aug. 18
Sampson County M. F. Jackson	500 100	10-20-20 5-10-40	Drilled In Row	Atrazine	200 Liq. Nit.	38"	May 12	Sept. 4
				Sorghum Silage				
Rowan County Clyde McSwain	800	5-10-10		Atrazine	200 Liq. Nit.	38"	May 11	Aug. 31
Stanly County Spurgeon Brooks	600 400	5-10-10 Superphosphate		Atrazine	200 Liq. Nit.	38"	May 1	Sept. 1
Alamance County W. N. Reid	600 100	5-10-10 5-10-10	In Row	Atrazine	200 Liq. Nit.	38"	May 2	Sept. 1

1/ Topdressed with liquid nitrogen and 14 oz/A of 2,4-D in both corn and sorghum silage. When needed 1 1/4 lbs/A Lorox or 1 lb/A of Atrazine was used at layby to control grass in the corn test.

Seasonal Conditions

The growing season was generally favorable for the production of good yields of corn and sorghum silage at most locations. Good stands were obtained at all locations in both the corn and sorghum silage tests.

The sorghum test located in the Piedmont had good growing conditions during the growing season with good growth and yields recorded.

In the northern mountains test at Laurel Springs, a hail storm in July caused considerable damage to this test. The delayed growth caused the test to be late in maturing and frost also decreased the yields. For 1967 lower yields were recorded than in past years.

The Haywood County Test had a good stand and good growing conditions during the season with good yields at harvest. In the Piedmont, the Cleveland County Test was lost due to dry weather during pollination resulting in poor grain set and very few of the small ears matured. The other two locations at Rowan and Chatham Counties had fairly good growth. The Coastal Plain Test had a good stand and good moisture during the growing season with good yields at harvest.

Criteria for Evaluating Silage Entries

A randomized block design with four replications was used for each test. The plots consisted of one row 25 feet long. Spacing within the row was approximately 8 inches for corn and 2 inches for sorghum. Row widths are shown in Table 26.

Yield of Silage. The silage was cut, chopped and weighed by plots in the field and the data converted to an acre basis. Yield of green weight was adjusted to 65% moisture.

Moisture Percent. Approximately 10% of each plot was obtained for the moisture and chemical analysis sample. The sample was dried in a forced air oven to determine moisture. The dried samples were subsampled and ground through a hammer mill; subsampled again and ground in a Wiley Mill. The ground sample

was analyzed for crude protein and crude fiber.[3/]

Dry Weight Tons/A. The green weight of silage was multiplied by the percent dry matter (corrected).

Total Digestible Nutrients Percent. The formula TDN % = 79.40 - (0.69 x CF) was used to calculate the TDN on a dry basis.

Estimated Net Energy Percent. The formula ENE % = 75.97 - (0.96 x CF). ENE on a dry basis was used.

Crude Protein % and Crude Fiber %. These were determined from the chemical sample and reported on a dry basis.

Digestible Protein. The formula DP - (0.93 x CP) - 3.32 was used to calculate digestible protein on a dry basis.

Plant Height. Height of plants was measured in inches.

Days to Mid Bloom. When each sorghum hybrid was in mid bloom the data was recorded and the number of days to mid bloom was calculated.

Ear Height. Height of ears in the corn tests was measured in inches.

Stand Count. Plants were counted and a stand count % was calculated for the corn silage. A visual stand count was made on sorghum silage and reported as % stand.

Lodging %. Number of plants lodged was counted and a % lodged was calculated on the corn silage. An objective % lodged was taken on sorghum silage.

RESULTS

Corn Silage and Sorghum Silage.

The corn silage data are presented by areas in Table 35 through 38. The data in table 27 through 30 are summaries over a three-year period for the

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[3/] The chemical analyses were made under the direction of Drs. J. W. Gillam and Preston H. Reid of the Soils Department, N. C. State University.

corn silage. These data show the performance of hybrids under several environments and would be considered most useful in evaluating the performance of a hybrid. Some of the hybrids that were highest in tons of dry matter produced per acre were lowest in percent total digestible nutrients and estimated net energy. The data should be considered from the amount of feed value produced per acre.

The sorghum silage, conducted in the Piedmont for 1965, 1966, and 1967 shows yield and other characteristics for a three-year average. A comparison of the feeding value of sorghum silage versus corn silage can be obtained by observing the recorded data.

Table 27. Performance of corn silage - Northern Mountains - Area I. Ashe County - Three year average 1965-1966-1967. Average of 3 Locations.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %
Pioneer 310	20.8	75.0	7.3	9.4	5.4	24.2	62.7	52.8	55	120	96
Mean of Test	19.0	74.9	6.6	9.1	5.2	25.0	62.1	52.0	57	122	95
N. C. 27	17.6	78.7	6.2	9.2	5.2	27.4	60.5	49.6	65	129	91
V.P.I. 648	16.8	73.6	5.9	8.8	4.8	24.2	62.7	52.7	55	121	89

Table 28. Performance of corn silage - Southern Mountain - Area II. Haywood County - Three year average 1965-1966-1967. Average of 3 Locations.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %
N. C. 270	22.3	77.5	7.8	8.6	4.7	25.8	61.6	51.2	71	142	96
McNair 425	22.2	77.6	7.8	7.9	4.0	26.5	61.1	50.5	66	135	96
McNair 440V	20.5	78.1	7.2	8.9	5.0	26.4	61.2	50.7	63	130	94
Mean of Test	20.0	77.6	7.0	8.6	4.7	25.5	61.8	51.4	64	134	94
Pioneer 310	19.9	78.3	7.0	8.8	4.9	23.6	63.1	53.3	56	126	95
N. C. 27	16.4	79.8	5.7	9.0	5.0	28.0	60.1	49.1	71	141	85

1/ Corrected to a standard 65% moisture.

Table 29. Performance of corn silage - Piedmont - Area III. Three Year Average - 1965-1966-1967. Average of 7 Locations.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %
McNair 440V	15.4	74.6	5.4	9.2	5.3	23.6	63.1	53.4	50	108	88
Pioneer 3009	15.4	74.1	5.4	8.4	4.5	25.4	61.9	51.6	53	116	90
N. C. 270	15.2	75.6	5.3	9.2	5.3	24.6	62.4	52.3	55	121	90
Coker 52	14.8	73.7	5.2	9.5	5.5	23.2	63.4	53.7	49	104	93
Pioneer 3048	14.8	75.2	5.2	9.1	5.2	24.2	62.7	52.7	53	115	89
Dixie 82	14.5	74.7	5.1	9.3	5.3	25.2	62.0	51.8	59	121	87
Mean of Test	14.0	74.2	4.9	9.2	5.3	23.8	63.0	53.2	53	113	87
N. C. 27	14.0	75.1	4.9	8.9	5.0	23.8	63.0	53.2	56	117	88
Wagwood 200	13.2	74.1	4.6	9.4	5.4	23.2	63.4	53.7	48	111	85
McNair 425	13.1	76.1	4.6	9.6	5.7	23.2	63.4	53.7	53	110	88

Table 30. Performance of corn silage - Southern Coastal Plain - Area IV. Three Year Average - 1965-1966-1967. Average of 4 Locations.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %
Dixie 18	17.0	72.8	5.9	8.5	4.5	24.8	62.3	52.2	62	120	93
N. C. 270	15.3	74.4	5.4	8.8	4.9	26.7	61.0	50.3	56	118	97
Coker 911	15.2	73.4	5.4	9.1	5.2	25.7	61.6	51.3	51	108	96
McNair 440V	15.1	72.7	5.3	9.1	5.1	25.6	61.7	51.4	49	107	96
Pioneer 3009	14.9	72.4	5.2	8.1	4.2	25.0	62.2	52.0	51	113	95
Mean of Test	14.5	72.9	5.1	8.7	4.8	25.7	61.7	51.4	55	114	93
S. C. 236	14.3	72.6	5.0	8.2	4.3	26.5	61.1	50.5	55	113	95
Dixie 82	14.3	73.6	5.0	8.7	4.8	25.8	61.6	51.2	57	119	92
McNair 425	14.1	73.4	4.9	8.7	4.8	24.4	62.6	52.6	54	112	95

1/ Corrected to a standard 65% moisture.

Table 31. Performance of corn silage - Northern Mountains - Area I. Ashe County - Two Year Average 1966-1967. Average of 2 Locations.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %
*NC 3207	18.6	74.8	6.6	9.0	5.1	24.8	62.2	52.2	54	124	96
Pioneer 310	18.4	74.5	6.4	9.1	5.1	22.8	63.6	54.0	52	116	96
McNair X202	17.0	72.2	6.0	8.1	4.2	24.2	62.8	52.8	48	114	98
Mean of Test	15.8	74.7	5.5	9.2	5.2	23.6	63.2	53.4	52	118	94
T-E E20YA	15.0	72.6	5.3	9.3	5.4	20.7	65.2	56.1	48	112	97
T-E SX20Y	14.2	72.6	5.0	8.2	4.4	21.7	64.4	55.2	50	115	94
Coker 52	13.8	77.7	4.8	11.0	7.0	24.9	62.2	52.0	52	118	92
N. C. 27	13.6	78.4	4.8	9.0	5.1	26.0	61.5	51.0	58	125	92
V.P.I. 648	13.4	73.6	4.7	9.1	5.0	22.4	64.0	54.5	51	117	86

Table 32. Performance of corn silage - Southern Mountains - Area II. Haywood County - Two Year Average 1966-1967. Average of 2 Locations.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %
McNair 425	23.2	76.8	8.1	7.5	3.7	25.9	61.6	51.1	64	132	97
N. C. 270	22.9	76.6	8.0	8.6	4.6	24.8	62.2	52.1	68	138	95
McNair 440V	21.1	77.4	7.4	9.2	5.2	25.0	62.2	52.0	62	128	95
Coker 52	21.1	77.9	7.4	9.3	5.4	24.0	62.8	52.9	61	130	92
Mean of Test	20.0	76.8	7.0	8.6	4.6	24.2	62.6	52.6	61	130	94
Pioneer 310	19.9	77.6	7.0	8.8	4.8	22.9	63.6	53.9	52	122	95
T-E Silagemaster	19.6	74.4	6.8	8.4	4.5	22.2	64.0	54.6	58	125	96
Pioneer 3048	19.4	77.9	6.8	8.1	4.3	25.2	62.0	51.7	58	132	96
T-E E20YA	16.6	75.6	5.8	8.2	4.4	21.5	64.6	55.3	53	124	93
N. C. 27	15.6	79.0	5.4	8.8	4.8	27.6	60.4	49.5	70	140	82

1/ Corrected to a standard 65% moisture.
* Experimental.

Table 33. Performance of corn silage - Piedmont - Area III. Two Year Average - 1966-1967. Average of 4 Locations.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %
McNair 440V	15.4	75.0	5.4	9.6	5.6	22.3	64.0	54.6	52	106	88
Pioneer 3048	15.0	75.8	5.2	9.3	5.4	23.8	63.0	53.2	56	114	90
N. C. 270	14.9	76.6	5.2	9.6	5.6	24.2	62.6	52.6	58	119	90
Pioneer 3009	14.9	75.5	5.2	8.6	4.7	25.6	61.8	51.4	55	114	88
Coker 52	14.5	74.4	5.1	9.8	5.8	22.5	63.8	54.4	50	102	94
Mean of Test	13.5	75.0	4.7	9.6	5.6	23.0	63.5	53.8	54	110	86
N. C. 27	13.4	76.1	4.6	9.4	5.4	23.0	63.5	53.8	59	114	90
Dixie 82	13.4	75.8	4.7	10.1	6.0	24.5	62.5	52.4	62	118	85
McNair 425	12.6	77.0	4.4	10.2	6.2	22.0	64.2	54.8	54	106	88
T-E Silagemaster	12.5	71.4	4.4	9.8	5.8	23.1	63.4	53.8	50	106	86
Wagwood 200	11.9	74.8	4.2	10.0	5.9	23.0	63.6	54.0	50	107	82
Dixie 29	11.2	73.2	4.0	9.2	5.2	22.0	64.2	54.8	54	110	72

Table 34. Performance of corn silage - Coastal Plain - Area IV. Two Year Average - 1966-1967. Average of 2 Locations.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %
Dixie 18	14.8	75.0	5.2	9.4	5.4	23.6	63.1	53.2	64	117	94
Florida 200A	14.6	75.8	5.1	9.4	5.4	26.2	61.3	50.8	62	118	96
N. C. 270	14.2	75.4	5.0	9.6	5.6	24.8	62.4	52.2	58	118	96
Pioneer 3009	13.8	73.2	4.8	8.8	4.8	24.2	62.8	52.8	52	114	93
Pioneer 3048	13.2	72.4	4.6	10.2	6.1	25.0	62.2	52.0	56	112	94
Mean of Test	13.0	73.9	4.6	9.6	5.6	24.6	62.5	52.4	54	112	92
McNair 440V	12.9	75.0	4.6	10.2	6.2	25.2	62.0	51.8	51	107	96
Coker 52	12.8	73.0	4.5	10.6	6.6	23.0	63.5	53.8	46	100	94
Coker 911	12.8	76.4	4.5	9.8	5.8	24.5	62.5	52.4	53	106	95
S. C. 236	12.8	74.9	4.5	9.3	5.4	25.9	61.5	51.1	57	112	94
Dixie 82	12.7	75.0	4.4	9.4	5.5	25.4	61.8	51.6	60	119	90
McNair 425	12.4	75.5	4.4	9.5	5.6	23.2	63.4	53.7	56	111	94
T-E Silagemaster	10.9	68.0	3.8	9.6	5.6	22.8	63.8	54.2	48	110	90

Table 35. Performance of corn silage - Northern Mountains - Area I. Ashe County - 1967.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %
Pioneer 3196	13.9	76.0	4.9	9.9	5.9	25.8	61.6	51.2	44	106	98
*NC 3207	13.4	77.6	4.7	10.4	6.4	27.1	60.7	50.0	47	116	95
Pioneer 310	13.1	78.0	4.6	10.4	6.4	24.5	62.5	52.4	44	109	94
McNair X202	13.1	74.7	4.6	9.6	5.6	26.8	61.0	50.3	39	106	96
Mean of Test	12.0	77.4	4.2	10.3	6.3	25.7	61.7	51.3	44	110	92
*Coker 912	11.9	78.7	4.2	10.0	6.0	29.0	59.4	48.2	48	110	91
N. C. 27	11.7	81.5	4.1	10.5	6.4	28.2	60.0	48.9	52	122	94
T-E E20YA	11.3	74.8	4.0	10.6	6.5	22.8	63.7	54.1	37	106	96
Coker 52	11.2	80.2	3.9	12.4	8.2	25.6	61.7	51.4	46	110	92
V. P. I. 648	10.3	75.5	3.6	10.6	6.4	23.3	63.4	53.6	43	108	79
T-E SX20Y	10.0	76.7	3.5	9.0	5.1	23.8	63.0	53.2	42	107	90
L.S.D. (.05)	2.0	2.5	.7	1.3	1.2	4.7	3.2	4.5	4	6	7
(.01)	2.7	3.3	1.0	1.8	1.7	6.7	4.6	6.4	6	8	10
C.V. (%)	11.5	2.2	11.5	5.5	8.1	8.0	2.3	3.8	7	4	6

*Experimental

[1/] Corrected to a standard 65% moisture.

Table 36. Performance of corn silage - Southern Mountains - Area II. Haywood County - 1967.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %
N. C. 270	21.5	77.3	7.5	9.2	5.2	27.4	60.5	49.6	72	136	90
*NC 3207	20.8	76.2	7.3	9.0	5.0	23.9	62.9	53.0	52	134	96
Coker 52	20.4	77.6	7.1	9.8	5.8	25.6	61.7	51.4	65	134	94
*Coker 912	20.3	75.6	7.1	8.6	4.6	27.0	60.8	50.0	72	134	89
McNair 440V	20.2	78.6	7.1	9.6	5.6	26.8	61.0	50.4	62	128	90
McNair 425	19.8	78.1	6.9	7.4	3.6	28.8	59.6	48.4	64	128	94
T-E Silagemaster	19.2	75.0	6.7	8.6	4.8	24.2	62.7	52.6	56	122	95
Pioneer 3048	18.6	77.7	6.5	8.2	4.4	29.0	59.4	48.1	54	128	95
Mean of Test	18.6	77.5	6.5	8.8	4.9	26.6	61.0	50.4	60	129	92
Pioneer 310	18.5	78.4	6.5	8.9	5.0	26.0	61.4	51.0	47	123	94
Pioneer 309A	15.6	79.1	5.5	8.6	4.6	25.0	62.2	52.0	60	119	92
N. C. 27	14.7	79.5	5.1	9.2	5.2	32.1	57.2	45.2	72	139	81
T-E E20YA	13.9	77.1	4.9	8.6	4.7	23.7	63.0	53.2	48	128	88
L.S.D. (.05)	2.1	1.6	.7	2.4	2.2	2.9	1.9	2.7	2	2	7
(.01)	2.7	2.1	1.0	3.3	3.1	4.1	2.7	3.9	2	3	9
C.V. (%)	8.0	1.5	8.0	12.2	20.4	4.9	1.4	2.5	2	1	5

*Experimental

[1/] Corrected to a standard 65% moisture.

Table 37. Performance of corn silage - Piedmont - Area III. Chatham and Rowan Counties - 1967.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %	Lodging %
N. C. 270	15.3	78.5	5.4	9.6	5.6	25.1	62.1	51.8	61	123	92	7
*NC 1057	14.8	77.9	5.2	9.5	5.5	24.2	62.8	52.8	56	110	92	9
Pioneer 3048	14.5	77.2	5.1	9.2	5.3	25.7	61.7	51.3	60	120	91	6
Dixie 82	14.5	76.0	5.1	11.2	7.1	24.1	62.8	52.8	64	125	88	7
McNair 440V	14.4	75.9	5.1	9.4	5.4	22.7	63.7	54.2	52	109	83	9
N. C. 27	14.1	76.6	4.9	9.4	5.4	21.6	64.5	55.3	60	119	92	16
*Coker 912	13.9	75.8	4.9	10.0	6.0	21.5	64.6	55.3	57	113	89	7
Coker 52	13.7	76.7	4.8	10.3	6.3	23.3	63.3	53.6	52	108	96	9
Todd 892	13.3	76.3	4.6	9.5	5.6	25.0	62.1	51.9	62	123	84	11
Mean of Test	13.2	76.4	4.6	9.8	5.8	23.3	63.3	53.6	56	115	86	12
*NC 4003	12.8	78.1	4.5	10.0	6.0	22.9	63.6	54.0	55	116	76	20
T-E Silagemaster	12.6	72.5	4.4	10.0	6.0	23.2	63.4	53.8	52	111	89	16
Pioneer 3009	12.4	78.3	4.3	9.1	5.1	27.4	60.5	49.7	55	115	84	5
McNair 425	12.1	78.6	4.2	10.2	6.2	20.7	65.2	56.1	53	109	88	10
*NC 3207	11.5	72.7	4.0	9.3	5.4	19.8	65.8	57.0	53	113	74	10
Wagwood 200	10.8	76.6	3.8	10.3	6.2	23.9	62.9	53.0	50	109	90	18
Dixie 29	10.2	74.0	3.6	9.3	5.3	21.6	64.5	55.2	58	114	70	24
L.S.D. (.05)	2.6	3.3	.9	1.7	1.6	3.4	2.4	3.3	5	8	15	15
(.01)	3.6	4.6	1.3	2.4	2.2	4.8	3.3	4.6	7	11	21	21
C.V. (%)	18.9	2.8	18.9	10.9	17.1	10.1	2.6	4.2	8	5	13	93

*Experimental

[1/] Corrected to a standard 65% moisture.

Table 38. Performance of corn silage - Southern Coastal Plain - Area IV. Edgecombe and Sampson Counties - 1967.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Ear Height Inches	Stalk Height Inches	Stand Count %	Lodging %
Dixie 18	19.3	73.9	6.7	9.0	5.0	23.5	63.2	53.4	70	128	95	22
Florida 200A	17.8	74.6	6.2	9.5	5.5	26.2	61.3	50.8	69	130	95	16
Pioneer 3009	17.1	72.4	6.0	8.8	4.8	24.5	62.5	52.4	57	122	94	4
N. C. 270	16.8	76.1	5.9	9.8	5.8	25.0	62.2	52.0	63	125	94	14
S. C. 236	16.5	74.0	5.8	8.8	4.9	25.8	61.6	51.2	64	126	92	9
Coker 911	16.4	75.0	5.8	9.3	5.3	23.4	63.2	53.5	60	115	94	8
Mean of Test	15.8	73.8	5.5	9.4	5.4	25.1	62.1	51.9	61	121	92	12
*NC 1057	15.7	75.5	5.5	9.2	5.2	27.4	60.5	49.7	61	118	91	12
McNair 440V	15.6	75.8	5.5	10.3	6.2	24.9	62.2	52.1	56	118	97	4
Pioneer 3048	15.5	71.7	5.4	10.5	6.4	25.6	61.7	51.4	61	121	93	11
Dixie 82	15.4	74.9	5.4	9.2	5.3	24.4	62.6	52.6	65	129	91	20
Coker 52	14.9	73.9	5.2	10.2	6.2	23.7	63.0	53.2	51	107	92	6
McNair 425	14.6	76.0	5.1	9.2	5.3	24.8	62.4	52.2	63	122	95	9
*NC 4003	13.7	74.5	4.8	8.8	4.8	28.3	59.8	48.8	61	118	81	24
T-E Silagemaster	12.4	65.6	4.3	9.5	5.5	23.5	63.2	53.4	54	115	88	8
L.S.D. (.05)	4.3	3.5	1.5	1.3	1.2	4.3	3.0	4.2	5	5	10	12
(.01)	6.0	4.9	2.1	1.8	1.7	6.0	4.2	5.8	7	7	13	16
C.V. (%)	15.6	3.7	15.6	8.5	13.5	7.3	2.0	3.4	7	4	7	71

*Experimentals

[1/] Corrected to a standard 65% moisture.

Table 39. Performance of sorghum silage - Piedmont - Area III. Three-year average. 1965-1966-1967. Average of 9 Locations.

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Days to Mid-Bloom	Stalk Height Inches
Pioneer 931	19.4	68.1	6.8	8.0	4.1	31.6	57.6	45.6	95	116
Beefbuilder T	17.6	72.9	6.1	7.7	3.9	23.9	63.0	53.1	94	99
T-E Grazemaster	16.5	68.3	5.7	8.7	4.8	26.7	61.0	50.3	86	111
T-E Haygrazer	14.8	69.5	5.2	8.7	4.7	26.8	60.9	50.3	83	103
T-E Milkmaker	14.3	70.3	5.0	8.7	4.8	23.3	63.3	53.6	83	83
Frontier S-214	14.1	74.2	4.9	8.0	4.2	25.1	62.1	51.9	95	89
Southern Cross	14.0	67.5	4.9	8.5	4.6	26.9	60.8	50.1	81	104
Mean of Test	13.7	70.7	4.8	8.6	4.7	24.8	62.3	52.2	88	89
Sart	13.5	73.9	4.7	7.5	3.7	24.0	62.8	53.0	99	102
T-E Silomaker	12.8	70.0	4.5	9.1	5.2	23.1	63.4	53.8	82	73
T-E Yieldmaker	12.8	72.1	4.5	8.4	4.5	24.6	62.4	52.3	85	90
NK 300	12.1	66.6	4.2	9.7	5.7	22.2	64.1	54.7	80	64

1/ Corrected to a standard 65% moisture.

Table 40. Performance of sorghum silage - Piedmont - Area III. Two-year average. 1966-1967. Average of 6 Locations.

Entries	Green Wt. Tons/A 1/	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Days to Mid-Bloom	Stalk Height Inches	Stand %
Pioneer 931	18.9	69.2	6.6	8.4	4.4	29.6	59.0	47.6	100	110	92
Beefbuilder T	17.3	73.0	6.0	8.0	4.2	23.3	63.4	53.6	101	92	92
T-E Grazemaster	16.6	68.6	5.8	9.2	5.2	24.6	62.4	52.4	91	106	92
Southern Cross	14.8	71.2	5.2	8.8	4.8	24.8	62.2	52.1	88	98	92
DeKalb FS-26	14.0	75.2	5.0	8.8	5.0	23.5	63.2	53.4	104	90	90
DeKalb SX-12	13.8	71.0	4.8	8.8	4.9	27.5	60.4	49.6	96	104	90
T-E Haygrazer	13.4	70.4	4.7	8.9	4.9	25.4	61.9	51.6	88	97	94
T-E Milkmaker	13.2	70.2	4.6	9.2	5.2	21.4	64.6	55.4	88	74	92
Frontier S-214	13.0	74.0	4.6	8.2	4.2	23.8	63.0	53.2	101	82	89
Mean of Test	13.0	71.2	4.5	9.0	5.0	23.4	63.2	53.5	93	82	89
Leafmaster 43	11.9	74.3	4.2	9.8	5.8	25.0	62.2	52.0	100	66	94
T-E Silomaker	11.7	69.8	4.1	9.6	5.6	21.8	64.3	55.0	86	64	90
Sart	11.6	74.8	4.0	8.0	4.1	22.9	63.6	54.0	106	98	73
T-E Yieldmaker	11.1	72.5	3.9	8.8	4.9	23.3	63.3	53.6	90	79	84
NK 300	10.4	66.4	3.6	10.2	6.2	20.5	65.2	56.3	85	55	90

1/ Corrected to a standard 65% moisture.

able 41. Performance of sorghum silage - Piedmont - Area III. Rowan, Alamance and Stanly Counties - 1967

Entries	Green Wt. Tons/A[1/]	Moisture %	Dry Matter Tons/A	Crude Protein %	Digestible Protein %	Crude Fiber %	TDN %	ENE %	Days to Mid-Bloom	Stalk Height Inches	Stand %
Pioneer 931	21.7	73.8	7.6	8.2	4.3	31.7	57.5	45.6	101	126	95
Beefbuilder T	19.7	76.4	6.9	7.8	4.0	24.5	62.5	52.4	97	101	96
T-E Grazemaster	19.3	72.9	6.7	9.7	5.7	25.2	62.0	51.8	88	120	98
Southern Cross	16.7	77.3	5.8	9.4	5.4	26.0	61.5	51.0	87	111	97
T-E Haygrazer	15.2	75.5	5.3	9.0	5.0	26.2	61.4	50.9	88	109	97
DeKalb FS-26	14.5	78.9	5.1	9.2	5.3	24.0	62.8	52.9	98	102	93
T-E Milkmaker	14.4	76.6	5.0	9.3	5.3	22.5	63.8	54.3	84	87	96
Mean of Test	14.1	76.7	4.9	9.1	5.1	25.2	62.0	51.8	91	95	92
Frontier S-214	14.0	78.6	4.9	7.8	3.9	24.4	62.6	52.6	96	94	90
DeKalb SX-12	13.4	76.3	4.7	9.5	5.5	28.4	59.8	48.8	91	114	87
Sart	13.0	78.1	4.5	7.5	3.7	23.9	62.9	53.0	100	113	72
DeKalb FS-15	12.9	75.7	4.5	9.3	5.4	23.2	63.4	53.7	86	78	96
T-E Silomaker	12.5	76.7	4.4	9.7	5.7	24.3	62.6	52.6	84	73	98
T-E Yieldmaker	11.9	77.6	4.2	8.5	4.6	25.4	61.8	51.6	87	89	87
Leafmaster 43	11.7	80.0	4.1	10.4	6.3	25.8	61.6	51.2	94	77	99
Bale-R-Sile	11.4	76.8	4.0	10.3	6.2	24.8	62.3	52.2	85	71	95
*Warner 525	11.3	75.7	4.0	10.0	5.9	25.0	62.1	52.0	84	71	98
Sugar Drip	10.3	78.9	3.6	8.3	4.4	24.0	62.8	52.9	100	104	79
NK 300	9.5	74.8	3.3	10.2	6.1	23.6	63.1	53.3	84	64	89
L.S.D. (.05)	4.3	2.6	1.5	1.4	1.3	3.3	2.3	3.2	4	9	15
(.01)	5.7	3.5	2.0	1.9	1.7	4.4	3.0	4.2	5	11	20
C.V. (%)	24.5	3.4	24.5	12.4	20.3	12.5	3.5	5.8	3	7	13

*Experimentals

[1/] Corrected to a standard 65% moisture.

Part IV

SOYBEAN VARIETIES

The soybean is an important cash crop in North Carolina and is planted throughout the Coastal and Piedmont Areas. This is reflected by the increase in acreage planted the last few years. Since 1953, the acreage has increased from 258,000 acres harvested to over an estimated one million acres harvested in 1967. In 1962, around 91% of the soybeans produced in the United States went into edible use and 9% into industrial uses. This type of use would indicate continued demands for soybeans.

With the improvement in cultural practices and varieties, yields are at a high level. In 1953 the state average yield was 16 bushels per acre compared to an estimated 26 bushels per acre for 1967. The relatively high prices received by growers make it profitable for farmers to produce soybeans.

Four different maturity groups are grown in North Carolina - Groups V, VI, VII and VIII - with maturity dates ranging from September 16 to November 10, depending upon the group in which the variety is classified. Group V is the earliest and Group VIII the latest maturing.

There are several high yielding varieties available to the producer from which he may choose according to desired maturity date, lodging resistance, etc. Information on the performance of commercial varieties and experimental lines grown in different locations in the state is provided in this report. This information serves as a guide to growers and agricultural workers in choosing a variety and to soybean breeders in their development of varieties.

EXPERIMENTAL PROCEDURES

Experimental lines and commercial varieties developed by both public and private agencies are included in this program. In order to qualify for acceptance the proposed entry must reveal meritorious performance when compared with recognized varieties.

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

Coker's Pedigreed Company, Hartsville, South Carolina

N. C. Agricultural Experiment Station and USDA, Raleigh, N. C.

Test Locations

Five tests were conducted in 1967 with three in the Coastal Plain Area and two in the Piedmont Area, as shown in Figure 1. All were located on private farms except in the Washington County Test, which was conducted on an Experiment Station.

Seasonal Conditions

The growing season was generally favorable for the production of good yields of soybeans in the Coastal Plain and Piedmont Areas of North Carolina for 1967. All tests were planted in a good seed bed. However, a hard packing rain, after planting at Lincoln County caused irregular stands and then later hard rains caused considerable erosion across plots and this test had to be discarded. Also poor stands were obtained at the Cumberland County Location and this test was planted a second time on June 5 and good stands were obtained.

At all other locations good stands were obtained and good growing conditions existed during the growing season resulting in good yields. Yields were slightly reduced at the Wayne County Test due to some insect damage during the growing season. Farmers in many areas of the state harvested small size beans resulting from leaf-eating insect damage late in the growing season.

Cultural Practices

Seed bed preparation, date of planting, fertilization and other cultural practices were in accord with good farming practices and are listed in Table 42

Planting, harvesting and yield measurements were directly supervised by personnel of the North Carolina Agricultural Experiment Station.

Table 42. Cultural practices for soybean performance trials.

Area and Co-operator	Fertilizer lbs/A	Row Spacing Inches	Date of Planting	Date of Harvest
Coastal Plain				
Cumberland County	400	38"	June 5	October 31
Rowland Williams	5-10-10			November 8
Wayne County	400 3-9-18	38"	May 9	October 24
George W. Aycock, Jr.	100 5-10-10			November 6
WashingtonCounty	200 0-25-25	38"	May 5	October 24
J. W. Smith	100 5-10-10			November 7
Piedmont				
Randolph County	200	38"	May 4	November 1
Marshall Joyce	3-9-9			November 9
Lincoln County	800	38"	April 25	Test Discarded
Kemp Wehunt	5-10-10			

Criteria for Evaluating Soybean Varieties

Yield bu./acre. Each plot was harvested and weighed and converted to bushels per acre. All yields were adjusted to 14% moisture.

Moisture. A sample was taken from each plot immediately after the beans were weighed. The samples were placed in waterproof, plastic-coated paper bags and the moisture percent was determined on an official moisture meter.

Plant Height. Plant height was determined by measuring from the ground to top of the plant in inches.

Lodging. Lodging was rated according to the following scale:

1. All errect
2. Few plants leaning or down
3. All plants leaning at 45 degrees or more
4. All plants down

Maturity Group. Maturity groups ranged from Group V through Group VIII. The dates of maturity are as follows:

Group V	September 16-30
Group VI	October 1-16
Group VII	October 17-31
Group VIII	November 1-10

RESULTS

Performance data over a two and three year period are shown in Tables 43 and 44. Varietal performance varied between locations, depending upon the seasonal conditions. Tables 45 and 46 show data on yield from each location as well as the mean for the five locations. It would depend on maturity desired, plant characteristics and other factors as to what variety would be most suitable for a specific location.

The maturity group in which each entry belongs is listed in Tables 45 and 46. The approximate date of maturity for these groups has been presented earlier. Information on lodging, plant height and moisture are shown in Tables 47 and 48.

The data should be considered not only for yield but for maturity group and other characters which might influence the selection of a variety. All available data should be studied to aid in selecting a variety that best fits the management practices of the producer.

Table 43. Performance of Soybeans. Two Year Average - 1966-1967. Average of 9 locations.

Entries	Yield Bu/Ac	Lodging	Plant Height Inches	Moisture
	EARLY MATURING ENTRIES			
Hood	41.6	1.0	32	15.36
Dare	39.0	1.0	32	15.44
Mean of Test	38.1	1.0	32	15.44
Hill	35.4	1.1	31	15.69
	LATE MATURING ENTRIES			
Coker Hampton 266	43.0	1.2	38	15.82
Coker 3208	43.0	1.0	33	14.98
N63-1130	40.3	1.0	38	14.08
N63-858	40.0	1.0	38	14.14
N63-1131	39.8	1.0	36	14.24
Mean of Test	39.7	1.1	37	14.39
York (V61-20)	38.4	1.0	30	14.33
Lee	38.1	1.4	32	14.07
N63-1712	38.1	1.0	40	14.16
Bragg	37.7	1.1	42	13.94
N63-1926	36.8	1.0	38	14.35
Pickett	36.2	1.2	32	14.06

Table 44. Performance of Soybeans. Three Year Average - 1965-1966-1967. Average of 13 locations.

Entries	Yield Bu/Ac	Lodging	Plant Height Inches	Moisture
	EARLY MATURING ENTRIES			
Hood	42.0	1.4	34	13.93
Dare	39.8	1.3	33	13.84
Mean of Test	38.7	1.4	33	13.90
Hill	35.4	1.8	33	14.08
	LATE MATURING ENTRIES			
Coker Hampton 266	42.7	1.6	39	14.52
Coker 3208	42.5	1.1	34	13.63
N63-1130	41.8	1.3	38	12.77
N63-1131	41.1	1.3	37	12.92
N63-858	40.6	1.4	39	12.82
N63-1712	40.1	1.3	41	12.77
Mean of Test	39.9	1.4	38	13.05
N63-1926	39.5	1.4	39	13.09
Lee	38.7	1.4	32	12.80
Bragg	37.8	1.7	43	12.70

EARLY MATURING ENTRIES

Table 45. Performance of Soybeans by Locations and Combined (Bu/A) 1967.

Entries	Washington	Wayne	Cumberland	Randolph	Average	Maturity Group
			Commercial Varieties			
Dare	45.5	42.5	42.3	45.3	43.9	V
Hill	41.3	39.3	36.5	50.1	41.8	V
Hood	48.5	42.0	44.0	45.6	45.0	VI
Ogden	42.3	41.6	37.7	44.4	41.5	VI
			Experimentals			
Blend 1	45.1	39.7	37.6	45.8	42.0	
Mean of Test	44.5	41.0	39.6	46.2	42.8	
L.S.D. (.05)	4.3	3.1	4.0	6.9	3.7	
(.01)	6.0	4.4	5.6	9.7	5.1	
C.V. (%)	6.3	4.9	6.6	9.7	7.3	

LATE MATURING ENTRIES

Table 46. Performance of Soybeans by Locations and Combined (Bu/A) 1967.

Entries	Washington	Wayne	Cumberland	Randolph	Average	Maturity Group
			Commercial Varieties			
Lee	47.8	36.2	35.4	44.3	40.9	VI
Pickett	44.7	38.8	32.4	44.9	40.2	VI
York (V61-20)	45.1	43.1	39.5	51.4	44.8	VI
Bragg	44.0	32.7	31.3	48.8	39.2	VII
Coker Hampton 266	44.9	38.2	43.7	54.3	45.3	VIII
			Experimentals			
N62-2116	43.7	41.8	40.3	52.4	44.5	VI
N62-2140	45.1	39.5	45.3	53.9	45.9	VI
N62-2366	45.2	36.9	38.1	55.7	44.0	VI
N62-2249	49.0	37.8	49.3	49.0	46.3	VII
N62-2280	50.9	42.2	39.4	48.9	45.4	VII
N63-858	45.6	38.6	41.4	54.6	45.1	VII
N63-1130	49.0	40.4	36.2	57.0	45.6	VII
N63-1131	45.1	39.1	40.0	53.8	44.5	VII
N63-1712	43.7	39.1	28.4	49.7	40.2	VII
N63-1926	45.6	36.7	30.3	46.5	39.8	VII
N64-1681	47.9	43.4	36.8	43.6	42.9	VII
N64-2430	46.3	41.4	47.0	56.3	47.7	VII
N64-2451	45.2	36.6	46.7	55.2	45.9	VII
Coker 3208	43.9	34.7	39.4	58.8	44.2	VIII
Blend 2	47.1	33.8	32.5	43.6	39.2	
Mean of Test	46.0	38.5	38.7	51.1	43.6	
L.S.D. (.05)	4.7	7.9	3.5	5.5	5.2	
(.01)	6.1	10.4	4.7	7.3	6.8	
C.V. (%)	7.3	14.8	6.6	7.8	9.4	

EARLY MATURING ENTRIES

Table 47. Lodging, Plant Height and Moisture of Soybean Varieties Combined for Washington, Wayne, Cumberland and Randolph Counties. 1967

Entries	Lodging	Plant Height (inches)	Moisture %
		Commercial Varieties	
Dare	1.0	34	15.12
Hill	1.2	33	15.39
Hood	1.0	34	15.14
Ogden	1.0	35	15.12
		Experimentals	
Blend 1	1.0	35	15.12
Mean of Test	1.0	34	15.18
L.S.D. (.05)		2	.54
(.01)		3	.75
C.V. (%)		5	4.2

LATE MATURING ENTRIES

Table 48. Lodging, Plant Height and Moisture of Soybean Varieties Combined for Washington, Wayne, Cumberland and Randolph Counties. 1967

Entries	Lodging	Plant Height (inches)	Moisture %
		Commercial Varieties	
Lee	1.4	32	13.08
Pickett	1.3	33	12.88
York (V61-20)	1.1	33	12.84
Bragg	1.2	42	12.71
Coker Hampton 266	1.4	40	12.99
		Experimentals	
N62-2116	1.1	34	12.97
N62-2140	1.1	33	12.92
N62-2366	1.4	37	12.86
N62-2249	1.9	39	12.78
N62-2280	1.2	41	12.97
N63-858	1.1	40	12.69
N63-1130	1.1	39	12.84
N63-1131	1.1	38	12.88
N63-1712	1.0	42	12.77
N63-1926	1.1	39	13.02
N64-1681	1.0	38	12.85
N64-2430	1.1	40	12.80
N64-2451	1.1	38	12.66
Coker 3208	1.1	34	12.98
Blend 2	1.8	33	13.17
Mean of Test	1.2	37	12.88
L.S.D. (.05)	.1	3	.43
(.01)	.1	4	.56
C.V. (%)	22.8	4	3.5

Part V

COTTON

Cotton varieties with improved spinning characteristics and fiber qualities are creating much interest in the southeast. In addition more efficient production practices, better insect control and higher yielding varieties are factors which add up to more profitable cotton production.

With the shift to mechanization, there is a need for cotton varieties that are better adapted for mechanical harvesting. Some varieties are being bred for mechanical picking. Under certain conditions, specific characteristics such as smoothleaf give varieties a distinct grade advantage over other varieties when harvested mechanically. Breeders are constantly searching for genetic characters which will be advantageous to the cotton producer and acceptable to the end user.

Through the continued effort of plant breeders, more varieties are being developed to suit the various environmental conditions and production systems which are present in North Carolina. The variety picture has changed notably within recent years and indications are that this trend will continue. Today, several high yielding varieties are available for planting. Varieties with more disease resistance and better lint characteristics are being developed which will be beneficial to North Carolina cotton producers.

The cotton producer thus has a choice of varieties for planting, and his success in production may be influenced considerably by his selection. Choice of variety is influenced not only by production potential, but also by suitability for mechanical harvesting, earliness of maturity, quality of fiber, storm resistance, disease resistance and spinning characteristics.

This report attempts to provide information on the performance of commercial varieties and experimental lines grown in various geographical

areas of the state. This information serves as a guide to cotton breeders in their future development of varieties, to agricultural workers and to growers for use in choosing a variety to plant.

The results of the North Carolina Official Cotton Variety Trails for the 1967 season and summary of the tests conducted during the past three years are presented in this report.

EXPERIMENTAL PROCEDURE

Experimental lines and commercial varieties developed by public and private agencies are included in this report. 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

Coker's Pedigreed Seed Company, Hartsville, South Carolina

Cotton Hybrid Research, Inc., Athens, Georgia

Delta and Pine Land Company, Scott, Mississippi

McNair Seed Company, Laurinburg, North Carolina

North Carolina Agricultural Experiment Station, Raleigh, N. C.

University of Arkansas, Fayetteville, Arkansas

University of Georgia, Tifton, Georgia

Seasonal Conditions

The year 1967 was a difficult one for the production of cotton in many areas of North Carolina. A late spring with cold temperatures required many

fields to be replanted. This adverse weather resulted in three of the four North Carolina tests being replanted - Rutherford, Montgomery and Edgecombe Counties. (See Table 49). In addition to adverse weather conditions in the spring of 1967, the fall harvest season was cut short by a hard freeze on November 5. This resulted in frozen bolls on late varieties of cotton and damage to any late seeded cotton.

Excessive rains during the growing season caused the Rutherford County Test to have cotton plants four to five feet tall. This also caused a late maturing crop. At the Montgomery County Test, the November 5th freeze occurred when approximately one-half of the varieties were open. The bolls of the late varieties were frozen and damaged. This test had a good boll set in top of the plant.

At the Edgecombe County Test, the majority of the bolls were on the bottom part of the plants. Excessive water during the late part of the growing season caused the top crop of bolls to fall. A large plant caused some shading of lower bolls and thus delayed opening.

The Robeson County Test was on the average better than the 1966 tests. The season was not as short in this area and this test was not replanted. This was the only location out of four planted that was harvested for data.

Test Locations

Four locations were planted in 1967 with two in the Coastal Plain Area and two in the Piedmont as shown in Figure 1. All of the tests were located on private farms.

Cultural Practices

Cultural practices, such as seed bed preparation, date of planting, fertilization, cultivation and insect control measures were in accord with good farming practices. These are listed for each test in Table 49. Planting,

harvesting and yield measurements were directly supervised by personnel of the North Carolina Agricultural Experiment Station.

Criteria for Evaluating Cotton Varieties

A randomized block design with four replications was used at each location. Plot size at all locations was two rows 27 feet long. Row spacing was the same at each location as shown in Table 49.

Yield of Seed Cotton: The plots were harvested individually and average pounds of seed cotton per acre were calculated.

Yield of Lint: This was calculated using the lint percentage of each plot and converting the pounds of seed cotton per plot to pounds of lint per acre.

Lint Percentage: Boll samples were taken from each plot when harvested. The weight of lint ginned from this sample of seed cotton was expressed as a percentage of the weight of seed cotton.

Staple Length:[1/] A Federal Cotton Inspector determined the staple length on the ginned samples of each plot.

Bolls per Pound of Seed Cotton: The number of bolls required to make one pound of seed cotton was determined by weighing the 50 boll samples from each plot at each location and converting it to a pound basis.

Span Length: The length which a certain percentage of fibers from the original fiber population would span when caught at random along the length of the fiber

Uniformity Ratio: Ratio of 50% span length to 2.5% span length.

Micronaire: The micronaire test is a test for fineness of the fiber. The micronaire instrument is used to measure the resistance to the passage of air through a 50 grain sample of cotton compressed to a given volume.

Tensile Strength: This indicates the tensile strength of the fiber in pounds per square inch.

[1/] Acknowledgement is given to the Cotton Division, Emmett C. Hanson, In Charge, Agricultural Marketing Service, USDA, Raleigh, North Carolina, for making staple length determinations.

Table 49. Cultural practices for cotton performance trials.

Area and co-operator	Fertilizer lbs/A	Herbicide pre-emerge	Row Spacing in.	Date of Planting	Date of Harvest
Rutherford County Van McDaniels	800 5-10-10	Cotoran	38"	(April 17) May 15 - Second Planting	Test Discarded
Edgecombe County Melvin Smiley	600 5-10-10 B 100 5-10-10 R	Treflan	38"	(April 19) May 9 - Second Planting	Test Discarded
Robeson County Varsar Bullard	600 5-10-10 B 100 5-10-10 R	Treflan	38"	April 18	Nov. 10
Montgomery County Francis M. McCallum	400 0-9-28 400 5-10-10 150 15-0-14 (Topdressed)	Treflan	38"	(April 29) June 2 - Second Planting	Test Discarded

Key to Fiber Test Results

Fibrograph (Uniformity Ratio)

45 and above - Uniform

40 - 44.9 - Average

39.0 and below - Irregular

Micronaire (Fib. wt./in. - Micrograms)

2.9 and below - Very fine

2.0 - 3.9 - Fine

4.0 - 4.9 - Average

5.0 - 5.9 - Coarse

6.0 and above - Very coarse

Pressley (Tensile Strength, 100 psi)

96 and above - Very strong

86 - 95 - Strong

76 - 85 - Average

66 - 75 - Fair

65 and below - Weak

The operations and measurements required for the development of data on yield and such other agronomic characters as boll size and lint percentage were performed by personnel at the experiment station. Fiber samples from all replications at all locations were sent to the North Carolina Department of Agriculture, Market Division, Engineering Section for analyses.[2/]

RESULTS

Varietal performance may vary from year to year and annual results may seem inconsistent; therefore, performance data obtained over a period of years are more reliable than for any one year.

The data presented in Tables 50 and 51 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 50.

Individual location data are presented in Table 52. Although there were statistical differences for most characters in the individual location, the performance of a single location can be misleading.

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, particularly Fusarium Wilt. If the cotton is to be mechanically harvested, then it should mature uniformly and be compact. Seed quality is most important to successful production of cotton. Weak seed do not perform well under adverse weather conditions at planting time. Other plant characteristics considered in selecting a variety of cotton are storm resistance, plant type and boll size. Lint characteristics, such as staple strength and length, gin

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[2/] Fiber analysis was made in the Market Division, Engineering Section, N.C.D.A., under the supervision of Charles B. Elks. The assistance of Mr. Elks and his staff is gratefully acknowledged.

turnout and fiber quality affect prices, harvesting costs and market demand are becoming more important for cotton producers in the Southeast to meet competition from other cotton producing areas.

Table 50. Performance of cotton varieties - Three Year Average - 1965-1966-1967. Average of 6 Locations.

Variety or Line	Lint lbs/A	Seed cotton lbs/A	Lint %	Staple length in.	Bolls/lb. of seed Cotton	Fiber Properties: Span Length 66.7% (expressed in in.)	Span Length 50% (expressed in in.)	Span Length 2.5% (expressed in in.)	Uniformity Ratio	Micronaire Fib. wt./in. micrograms	Tensile Strength "Pressley"
Rex Smoothleaf	786	2180	36.0	1 3/32	75	.39	.50	1.09	45	4.4	79.4
McNair 1032	708	1957	36.1	1 3/32	89	.39	.49	1.05	47	4.7	82.4
Mean of Test	647	1768	36.6	1 1/8	83	.40	.51	1.09	46	4.6	82.6
TH-149	637	1812	35.0	1 1/8	72	.41	.52	1.11	47	4.6	87.3

Table 51. Performance of cotton varieties - Two Year Average - 1966-1967. Average of 2 locations.

Variety or Line	Lint lbs/A	Seed cotton lbs/A	Lint %	Staple length in.	Bolls/lb. of seed Cotton	Fiber Properties: Span Length 66.7% (expressed in in.)	Span Length 50% (expressed in in.)	Span Length 2.5% (expressed in in.)	Uniformity Ratio	Micronaire Fib. wt./in. micrograms	Tensile Strength "Pressley"
Rex Smoothleaf	820	2248	36.5	1 3/32	78	.38	.48	1.08	44	4.4	79.6
McNair 1032	710	1928	36.8	1 3/32	90	.38	.48	1.04	46	4.8	82.1
Hy-Bee 101	698	1818	38.4	1 1/16	84	.37	.48	1.05	45	4.6	83.5
Mean of Test	622	1684	36.9	1 1/8	85	.38	.50	1.08	46	4.6	83.2
Coker 201	590	1538	38.3	1 3/32	86	.38	.49	1.08	46	4.9	81.6
T-H 149	578	1630	35.4	1 1/8	75	.40	.50	1.10	46	4.7	87.0
Coker 413	546	1489	36.4	1 1/8	88	.39	.50	1.12	46	4.3	85.2

Table 52. Performance of cotton varieties. Average of Robeson County - 1967

Variety or Line	Lint Lbs/A	Seed cotton Lbs/A	Lint %	Staple length in.	Bolls/lb. of seed Cotton	Fiber Properties: Span Length 66.7% (expressed in in.)	Span Length 50% (expressed in in.)	Span Length 2.5% (expressed in in.)	Uniformity Ratio	Micronaire Fib. wt./in. micrograms	Tensile Strength "Pressley"
McNair 1032	803	2168	37.0	1 1/8	77	.41	.51	1.06	48	4.7	80.6
*McNair 7414	784	2212	35.5	1 1/8	71	.42	.52	1.10	47	4.1	88.7
*Coker 4104	764	2028	37.7	1 5/32	68	.44	.55	1.16	48	4.3	80.4
Rex Smoothleaf	724	2005	36.1	1 1/8	64	.41	.52	1.12	46	4.2	79.1
*Hy-Bee 101	663	1742	38.0	1 1/8	70	.42	.52	1.11	47	4.5	81.4
Deltapine 16	659	1716	38.3	1 5/32	76	.41	.52	1.12	46	4.4	74.6
Mean of Test	639	1724	37.1	1 5/32	72	.42	.53	1.12	47	4.5	84.2
Hy-Bee 100	637	1736	36.7	1 1/8	68	.42	.52	1.13	46	4.4	81.1
Coker 201	624	1594	39.0	1 1/8	71	.43	.53	1.11	48	4.8	81.2
Coker 413	620	1652	37.4	1 3/16	72	.44	.55	1.18	47	4.2	87.4
*Hy-Bee 401	602	1641	36.6	1 1/8	70	.42	.52	1.09	48	5.0	92.6
T-H 149	599	1683	35.5	1 5/32	64	.43	.54	1.12	48	4.6	87.5
Atlas 66	597	1607	37.0	1 1/8	72	.42	.52	1.09	48	4.8	91.0
*Coker 504	591	1553	38.1	1 5/32	72	.43	.54	1.16	46	4.3	81.4
*Coker 502	566	1536	36.7	1 5/32	77	.43	.54	1.15	47	4.3	86.7
*McNair 7717	514	1473	34.8	1 1/8	79	.42	.53	1.10	48	4.5	85.6
*Coker 5402	488	1277	38.1	1 5/32	83	.43	.53	1.13	47	4.5	88.2
L.S.D. (.05)	137	355	.8	.9/32	6	.02	.02	.02	1	.2	2.9
(.01)	180	467	1.1	1.2/32	7	.03	.03	.03	2	.3	3.8
C.V. (%)	15	15	1.6	1.8	6	3.6	3.1	1.5	2	3	2.5

* Experimentals