

**Research Report No. 77
December, 1980**

Measured Crop Performance

TOBACCO

1980

JOHN C. RICE, Professor

ROGER BLACK, Research Assistant

GLENN TART, Tobacco Marketing Specialist

Department of Crop Science
N. C. State University
Raleigh

TABLE OF CONTENTS

INTRODUCTION	1
EXPERIMENTAL PROCEDURES	3
Official Variety Test	4
Regional Farm Test	8
RESULTS AND DISCUSSION	10
Official Variety Test	10
Commercially Available Varieties	11
Advanced Breeding Lines	12
Regional Farm Tests	13
1980 Entries, Pedigrees and Sponsors	15
SUMMARY TABLES	
Table 1. Percentage comparison with the mean of NC 2326	17
Table 2. Comparison of certain varieties over three years	18
Table 3. Rate of harvest of commercially available varieties	19
Table 4. Comparison of varieties for certain characteristics combined for five locations	21
Table 5. Summary information on disease resistance	23
Tables 6 - 10. Individual locations data	24
Tables 11 - 15. Regional Farm Test Data	34
Tables 16 - 17. Cultural Practices: Regional Farm Tests and Official Variety Tests	39
Tables 18 - 22. Rainfall by stations	41

1980

PERFORMANCE OF TOBACCO VARIETIES IN NORTH CAROLINA

John C. Rice, Roger Black and Glenn Tart^{1/}

As of October 1, the 1980 flue-cured tobacco production in North Carolina was estimated to be 753 million pounds. This would be 23% more production than in 1979 when the estimate was 613 million pounds.

The 1980 total was produced on 373,000 acres with an average yield per acre of 2018 pounds. This was 144 pounds more per acre than last year's average yield. This 373,000 acreage was 33,000 acres or 14% more than the acreage in 1979.

Production of flue-cured tobacco in the United States was forecasted at 1100 million pounds or 17% more than the 1979 production of 1010 million pounds.

The 1980 season was characterized by a normal spring with good soil conditions helping in transplanting the crop. By the first week in May, 1980, farmers were making good progress with transplanting. Later, dry weather was a real problem for growers in type 12 area.

The year 1980 represents the seventeenth year in testing new tobacco varieties as required under the Minimum Standards Program. This program, started in 1964, has continued to make available flue-cured tobacco varieties with acceptable agronomic characteristics and well-balanced physical, chemical and smoke properties. Special attention has been given to maintaining those new varieties with acceptable flavor and aroma characteristics.

^{1/}Professor in Charge of Variety Testing, Research Assistant and Tobacco Marketing Specialist, Department of Crop Science, respectively.

The authors wish to acknowledge the assistance of personnel on the Research Stations, including Wallace Dickens, Kimble Brock, Jesse Sumner, Smith Lassiter, Sandy Barnes, Tommy Lassiter, Ray Campbell, Gene Britt, Howell Gentry and Darryl Dunagan.

The minimum standards serve as a guide to breeders in developing new varieties that will be acceptable to the trade. It is a voluntary program that has been enthusiastically endorsed by all segments of the tobacco industry. The program adopts the principle of testing new varieties against standard varieties. New varieties should be genetically stable and should not differ from the standards, NC 2326 and NC 95, by more than plus or minus specified percent for measurable chemical traits. The acceptable range for nicotine is plus 15 percent and minus 20 percent of the mean of NC 2326 and NC 95. New varieties should not contain more than nine percent of the total alkaloids as nonnicotine and limits are set on nitrogen and sugar contents. Variety candidates should compare favorably with the standard varieties for color, body, texture, equilibrium moisture, filling value, flavor and aroma. A minimum of two years evaluation throughout the flue-cured region of the United States on both experiment stations and farmer plots is required.

Such a program means much to our domestic and export trade and to growers because it assures the manufacturers that new varieties will have been thoroughly tested and evaluated for agronomic, pathologic, physical, chemical and smoke characteristics. Quality is the one factor the American farmer has to sell and the Minimum Standards Program should help to assure that quality is continuously improved. Varieties play a determining role in quality and should be carefully selected by the grower. The following varieties have been released under the Minimum Standards Program:

<u>Year</u>	<u>Varieties</u>
1964	Coker 298, NC 2326, Speight G-36, Va. 115
1965	NC 2512, Speight G-7
1966	Coker 258, PD 5
1967	Bell 93, Coker 254, McNair 14, Speight G-13
1968	Coker 213, Coker 411, McNair 133, Speight G-28
1969	Coker 347, Ga. 1469, McNair 135, Speight G-41

1970	Bell 110, Ga. 1470, SC 71, Speight G-33, Va. 770
1971	NC 88, SC 72, Speight G-140
1972	McNair 944, Speight G-15, Va. 080
1973	McNair 160, McNair 1040, NC 79
1974	Coker 86, NC 12, NC 98, Speight G-23, Va. 283
1975	NC 13
1976	Coker 48, NC 89
1977	Speight G-52
1978	McNair 373, NC 82, NC 628, Speight G-58, Speight G-70
1979	Clemson PD4, Coker 51, McNair 3199, Rogers 768

The Tobacco Variety Evaluation Program in North Carolina is a part of the Regional Test. Data are presented from the 1980 Official Variety Tests in North Carolina and the 1980 Regional Farm Tests. In addition, a summary table of variety performance over different years and locations is presented. Similar reports which record previous years' data have been issued. Testing over a period of years and under farm conditions is needed to fully evaluate the performance of any variety. Information of this nature serves as a guide to tobacco breeders in the development of varieties and to growers in choosing a variety.

Experimental Procedures

The Tobacco Variety Evaluation Program in North Carolina is divided into three phases. The first phase, the Official Variety Tests, consists of testing varieties and breeding lines in small replicated plots located on five research stations. In 1980 a total of 50 entries was included. The second phase is the Regional Small Plot Test, conducted in five states, and these data are presented in a separate bulletin--Flue-Cured Tobacco Variety Evaluation Committee Report. The third phase of the program involves a more extensive study of fewer varieties and advanced breeding lines grown under farm conditions in approximately one-fourth acre plots and is referred to as the Regional Farm Test. Eleven entries, including the two standard varieties, were tested in 1980

Official Variety Test

Included in this test are varieties and experimental lines developed by public and private agencies which are resistant and nonresistant to major tobacco diseases. One requirement for acceptance is quantitative data from experiments in which the proposed entry is compared with recognized varieties. Entries of seeds of lots offered for sale within the state or from seed lots furnished by testing agencies from other states may also be included. Performance data are collected on yield, value, agronomic characteristics, disease resistance^{2/}, chemical characteristics^{3/}, and physical quality traits. Tobacco company leaf and research personnel cooperate in the physical and chemical evaluation of this material.

Early in December of each year rules governing the test for the ensuing year are distributed to all previous participants and to those who make inquiry.

Agencies Sponsoring Entries in 1980

Coker's Pedigreed Seed Company, Hartsville, S. C.

Maidendown Seed Farm, Mullins, S. C.

McNair Seed Company, Inc., Laurinburg, N. C.

N. C. Agricultural Research Service and USDA, Raleigh, N. C.

Reams Seed Farm, Apex, N. C.

S. C. Agricultural Experiment Station and USDA, Florence, S. C.

Speight Seed Farms, Winterville, N. C.

United States Department of Agriculture, Oxford, N. C.

Virginia Agricultural Experiment Station, Blackstone, Virginia

^{2/}Dr. N. T. Powell and Professor Furney Todd of the Plant Pathology Department and Dr. G. R. Gwynn of the Department of Crop Science and USDA - CRS cooperated on the tests for disease reaction. Their assistance is gratefully acknowledged

^{3/}Chemical analyses were made under the supervision of Dr. W. W. Weeks and Mrs. Juliana M. Kwong of the Department of Crop Science. Their assistance is gratefully acknowledged.

Test Locations

Five locations were used to represent the various soil and climatic conditions of the state. The experiment numbers and locations were as follows:

- | | |
|--------|--|
| TV 292 | Border Belt Tobacco Research Station, Wallace Dickens, Superintendent, Whiteville, N. C., representing the Border Belt. |
| TV 293 | Lower Coastal Plain Tobacco Research Station, Sandy Barnes, Superintendent, Kinston, N. C., representing the Eastern Belt. |
| TV 294 | Upper Coastal Plain Research Station, Jesse Sumner, Superintendent, Rocky Mount, N. C., representing the Eastern Belt. |
| TV 295 | Oxford Tobacco Research Station, Ray Campbell, Superintendent, Oxford, N. C., representing the Middle Belt. |
| TV 296 | Upper Piedmont Tobacco Research Station, Howell Gentry, Superintendent, Reidsville, N. C., representing the Old Belt. |

The map in Figure 1 shows the locations of these stations and also the Regional Farm Tests.

Methods

The Official Variety Tests were conducted on disease-free soil, insofar as possible. All entries were coded in the plant bed and in the field and were included at each location.

Three replications of a randomized block design were used at each location.^{4/} There were twenty-two varieties and twenty-eight breeding lines included in the tests for a total of 50 entries. The plants were individually selected at transplanting for maximum uniformity within plots at all locations. Each one-row plot consisted of 20 competitive plants. The rows were four feet

^{4/} Statistical analyses were made in the Computing Center under the supervision of Dr. John Rawlings, Mrs. Sandra Donaghy and Mrs. Faye Childers. Their assistance is gratefully acknowledged.

(123 cm) apart at all locations except Reidsville which was 3.75 (115 cm) and hills were spaced 22 inches (56 cm) apart. Cultural practices are shown in Table 17.

After topping, all entries were treated with Off-Shoot-T 85 followed by Royal MH-30. Individual plots were harvested according to degree of maturity, tagged and kept separate throughout curing, sorting and grading. Data on agronomic characteristics were taken in the field, and chemical determinations were made on the cured leaf of the whole plant. Disease reactions were noted in separate tests under severe disease conditions.

The methods of recording data were the same as those used in previous years, except as noted, and may be found in Crop Science Research Reports Number 12 (1964), Number 16 (1965), Number 20 (1966), Number 24 (1967), Number 28 (1968), Number 32 (1969), Number 36 (1970), Number 41 (1971), Number 44 (1972), Number 48 (1973), Number 53 (1974), Number 56 (1975), Number 59 (1976), Number 63 (1977), Number 68 (1978), and Number 72 (1979).

Value per Acre: After the tobacco was sorted into lots, a Federal Tobacco Inspector graded the tobacco from each plot into appropriate government grades. The value per acre was calculated by multiplying the pounds of each grade by the average auction price paid for the grades during 1979 and through September 14, 1980 for types 11, 12, 13 and 14.

Grade Index: Beginning in 1974 each entry was rated with a grade index ranging from 1 to 99. This index resulted from placing a numerical value to each government grade for varying stalk positions of each entry. A weighted value was obtained for each entry which provided an overall index. Grades N2 and ALL represent the practical extremes with values of 1 and 99 assigned to these respective grades.

Value per Cwt: The dollar value per hundredweight for tobacco sold during 1980 was a record high with substantial variations between leaf grades. The market value of low stalk tobacco was considerably lower than cutter or upper stalk grades. The value per hundredweight listed shows little difference between entries.

Seasonal Conditions: Transplanting of the tobacco at the five locations of the 1980 Official Variety Test was conducted under favorable moisture conditions. Early growing conditions were, in general, favorable with good stands reported at all locations.

The Whiteville Test, TV 292, was transplanted on April 21 under good conditions and seasonal conditions yielded a good crop. Rainfall in April was 1.68, May - 4.89, June - 2.56, July - 5.39, August - 1.10 and September - 3.83. The fertilization program was 600 pounds per acre of 6-12-18 and 150 pounds of 15-0-14.

The Kinston Test, TV 293, was transplanted on April 24. Rainfall during the growing season was: April - 2.65, May - 4.12, June - 3.57, July - 4.86, August - 2.24 and September - 8.65. The fertilizer grade, 8-8-24, was used in amount of 470 pounds per acre with 190 pounds of 15-0-14 used as a topdressing.

The Rocky Mount Test, TV 294, was planted on May 2 under good moisture conditions. Tobacco from this location was of fair to poor quality due to the hot, dry weather. Fertilization consisted of 1200 pounds of 4-8-12 broadcast, plus 145 pounds of 16-0-0 used as a topdressing. Rainfall during the growing season was as follows: May - 4.32, June - 2.25, July - 3.14, August - 2.01, and September 2.74.

The Oxford Test, TV 295, was transplanted on May 9 and seasonal conditions were favorable for a good crop. Rainfall during the growing season was as follows: May - 5.13, June - 3.56, July - 3.46, August - 4.43, and September - 2.59. The crop was fertilized with 600 pounds of 8-8-24 and 113 pounds of 15-0-14.

The Reidsville Test, TV 296, was transplanted May 19 under good moisture conditions. Rainfall during the growing season was as follows: May - 3.18, June - 6.07, July - 5.02, August - 2.40 and September - 1.65. Overall, the quality of the entries was good in this test. The crop was fertilized with 700 pounds of 6-12-18 plus an additional 150 pounds of 15-0-14.

Regional Farm Test

The number of entries in this test is necessarily limited since the plots are rather large and there are many locations. This program includes advanced breeding lines that have met the minimum standards in the Regional Small Plot Test. It is desirable to gain information on these breeding lines and varieties under farm conditions. Also, this provides an opportunity for the tobacco companies to study the breeding lines and new varieties for their manufacturing characteristics.

This part of the evaluation program is a cooperative effort of the Research Service, Extension Service, USDA, tobacco companies and growers. The participating companies were: A. C. Monk Company, Inc., The American Tobacco Company, Brown and Williamson Tobacco Corporation, Imperial Tobacco Company, Philip Morris, Inc., P. Lorillard Company, R. J. Reynolds Tobacco Company, Export Leaf Tobacco Company, Universal Leaf Company and James I. Miller Tobacco Company.

Thirteen locations were planted--two in South Carolina, two in Georgia, three in Virginia and six in North Carolina. This is a cooperative program and permission was granted for the inclusion of all locations in this report.

Fertilization and other cultural practices, as shown in Table 16, were those used by the growers in North Carolina. A nematode assay was made on all fields and those with a nematode problem were fumigated. Blue mold proved to be a problem again this year in fields where no control practices were employed. The disease appeared in varying degrees over locations.

Representatives from both domestic and foreign buyers visited these plots in the field. The cured tobacco was displayed on a warehouse floor at Kinston and Roxboro, North Carolina; Georgia, South Carolina and Virginia, for the participating companies to examine and sample for laboratory analyses. Each company graded the tobacco according to the types they normally use in their manufacturing. In addition, they also rated each lot of tobacco for its physical quality characteristics according to color, body, texture and usability.

Most of the locations received adequate moisture in producing their crops. Generally, the growing conditions were favorable for the North Carolina crop except extreme dry weather in the Eastern Belt.

Edmund transplanted on April 7 under moist soil conditions and had adequate rainfall during the growing season. The months of April and May were cool with no premature buttoning. The quality of the crop was good.

Sutton and Hooten transplanted from April 22 through May 6 under good soil moisture. All entries transplanted grew off well. Rainfall was adequate and spaced properly for good crop growth. The crop was of good quality.

Harrell transplanted on April 29 and May 1 under good conditions. A good stand was obtained and grew well yielding a good crop.

Andrews transplanted from April 30 through May 10. Tobacco grew off good with adequate moisture. This crop was medium in body, lemon colored and had good quality. Good growing conditions resulted in high yields of all entries.

Burnette transplanted from April 30 through May 3. The quality of cured tobacco was acceptable and represented an average crop for the Middle Belt area.

Day transplanted on April 28 under good moisture conditions. This crop was of excellent quality and sold for top money.

All six cooperators used Off-Shoot-T 85 contact sucker control material followed by Royal MH-30 systemic sucker control agent with good results in controlling suckers. This procedure allowed proper testing of potential varieties with these growth regulator materials.

Results and Discussion

The data are discussed under the headings (1) Official Variety Test and (2) Regional Farm Test. Individual location data are presented but are discussed only to emphasize specific points.

Official Variety Test

The data presented in Tables 1 and 2 are summary data from various years and locations and indicate how several varieties have been performing over a period of years at various locations.

In Table 1, data are presented to show a comparison of the mean of NC 2326 and certain flue-cured tobacco varieties. Yield, acre value and grade index are based on a three-year average (1978-1980).

In Table 2, varieties that were common in the 1978, 1979 and 1980 tests are compared for a large number of characteristics. The same general trend was shown in these varieties during all years. Speight G-58, Speight G-70, Coker 48, Coker 347 and Clemson PD4 had the highest yields per acre. The five varieties that had the highest values per acre were: Clemson PD4, Speight G-58, Speight G-70, McNair 944 and Coker 347. NC 82, Coker 319 and McNair 373 had the highest grade index. NC 2326, Va. 115 and NC 82 were the earliest to flower. All varieties had about average percent nicotine, ranging from 2.71 for NC 82 to 3.54 for Coker 298. All varieties were in an average range for other chemical and agronomic traits.

Table 3 shows the percent of tobacco harvested at each priming. It also shows the accumulated total harvested through each priming. This information

can be used to get an idea of the relative rapidity that a variety comes off the stalk. Under the harvesting schedule most all varieties matured equal to NC 2326 and NC 95.

The average performance of varieties and lines compared at five locations in 1980 is shown in Table 4. There was some variety x location interaction for the characters studied, however, it probably was not sufficient to affect the choosing of a variety to plant. Varieties tended to perform the same relative to each other, that is, they did not make major shifts. The variety x location mean squares were used for computation of L.S.D values. The entries shown at the top of Table 4 are commercially available varieties, whereas, those in the lower portion are breeding lines.

Commercially Available Varieties

Table 4 presents data for twenty-two commercially available varieties. The dollars per hundredweight ranged from a low of \$147.34 for Coker 86 to a high of \$154.46 for NC 82. This highest value per acre was Speight G-58 at \$4678 per acre. The grade index ranged from a low of 33 for Coker 86 to a high of 49 for NC 82. A small variation in these data is significant. Considering all entries in the test, there is a high correlation between the value per hundredweight and the grade index, indicating that the two are giving a somewhat similar picture. If the tobaccos are normal in physical appearance that would be expected.

Most varieties were intermediate in their flowering habit, ranging from the same day to seven days later than NC 2326. All varieties were evaluated for the number of leaves per plant. Coker 86 and Coker 298 had the highest ground sucker count.

Quality is divided into visual or physical appearance, chemical characteristics and smoking characteristics. Data on several chemical constituents

that are associated with quality are presented in Table 4. Most of the varieties appear to have satisfactory chemical composition. Nicotine content ranged from 2.67 for NC 82 to 3.77 for Coker 298. Coker 298 also had a higher proportion of the alkaloid in the form of nornicotine than the other varieties. All of the varieties were in a range of 15.38 to 19.88 for percent soluble sugar

The ratio (reducing sugar/nicotine) was calculated as a measure of the relationship of the carbohydrates to the alkaloid fraction. To be of value, the constituents included in the ratio must be within the acceptable range. A higher ratio tends to indicate mildness and smoothness while a very low ratio may be indicative of a harsh irritating smoke. If the ratio is too high, it might indicate that the tobacco is too mild to be acceptable to the smoker. There was a range from 4.22 for Coker 298 to 7.50 for NC 82.

Information on disease resistance is presented in Table 5. Data were collected on black shank, bacterial wilt, root knot and mosaic. A relative rating of the level of resistance to each disease is given for each variety based on this and other disease tests. The disease tests were fairly critical at all locations. Much progress appears to have been made in developing disease resistant varieties released in the last few years. There are several varieties carrying a high level of resistance to black shank, bacterial wilt and root knot. Several other varieties carry a moderate to high level of resistance to bacterial wilt. One new variety, Coker 51, carries resistance to mosaic in addition to having high resistance to black shank, root knot and bacterial wilt.

Advanced Breeding Lines

Data on advanced breeding lines are shown in Table 4, however, since these lines are in early stages of testing, the data will not be discussed in detail at this time.

Since most of the breeding lines have only been in the Official Variety Test for one year, regional testing was not available. The lines are rated for resistance with an index or level of resistance shown. For black shank and bacterial wilt the disease index is shown. Root knot and mosaic resistance are recorded as resistant or segregating,

It has been difficult to obtain varieties or breeding lines with multiple resistance to all diseases, good physical and chemical characteristics and acceptable smoke ratings. Under the Acreage-Poundage Program, some pressure has been eliminated for the plant breeder to continue to develop each year higher and higher yielding lines. This situation has enabled the plant breeder to direct more attention to selection criteria for disease resistance.

Many of the entries carry resistance to root knot nematode species, Meloidogyne incognita, which is the most prevalent species of nematode in North Carolina soils. There are other species of root knot nematodes as well as meadow and stunt nematodes to which these lines may be susceptible.

Regional Farm Test

A summary of the results from the twelve locations of the Regional Farm Tests is presented in Table 11. Yields ranged from 2388 for Va. 82 to 2673 for McNair 3172. Value per acre ranged from \$3727 for NC 95 to 4196 for McNair 3172. NC 67 USDA had the highest dollars per hundred pounds of entries in this test with a value of \$159.90. This was \$12.00 per hundredweight more than the highest entry in 1979.

The tobacco from each of the locations was displayed on a warehouse floor and appraised for the physical quality factors: color, body and texture by leaf and research personnel of ten of the participating tobacco companies. The results of this quality appraisal are shown in Table 12. The ratings varied from company to company but tended to follow the same general pattern.

Table 13 presents data from the nine breeding lines in the Regional Small Plot that were common in the Regional Farm Test. It shows the percent cured leaf usable by the tobacco companies across six locations. Coker 78-209MM and McNair 3172 showed the largest percent usable by the participating companies.

In Table 14, an index of the amount graded is shown by growers in North Carolina for each variety. If all ten companies could grade all of a variety into their grades, then it received an index of 10. However, since companies have different requirements, all would not tend to grade each lot of new line tobacco. In the overall average for all companies, the variety, McNair 3172, received the highest rating.

The farmers were asked to rate the varieties for grower desirability with their highest preference shown as number one, the lower the number the more desirable the variety. These data from the North Carolina farms are shown in Table 15. The rating indicated that the growers preferred Va. 70 and McNair 3172 over the other varieties.

Both physical and chemical information should be considered along with yield and value data relative to a variety or line. Also the handling characteristics are important. A thorough evaluation of breeding material is important if quality is to be maintained and improved.

The various indices are not conclusive but show trends in preferences which are indicative of the acceptability and desirability of these tobaccos by manufacturers and growers. All information should be studied relative to varietal performance for all characteristics and not just a selected one or two.

Chemical growth regulators were used on the Regional Farm Test in 1980. Special acknowledgment is due The Buckeye Cellulose Corporation for furnishing Off-Shoot-T 85 and Uniroyal Chemical Company for furnishing Royal MH-30.

1980 Entries, Pedigrees and Sponsors

Trt. No.	Entries	Generation or Yr. of Release	Pedigree	Sponsor
1	NC 2326	Rel. 1965	(Hicks x 9102 x Hicks)Hicks)Hicks)	N. C.
2	NC 95	Rel. 1961	(C-139 x Bel. 4-30) x (C-139 x Hicks)	N. C.
3	Coker 78-209MM	F ₈	F-77 x [258 (61-10 x 319) x 258 (139 x 59-84-2F)]	Coker
4	McNair 3172	F ₁₀	(Coker 139 x Coker 319) McNair 039-4	McNair
5	NC 7556	F ₁₀	(2810 x 3660)	N. C.
6	NC 7567	F ₇	(3658 x 3611)	N. C.
7	NC 67 USDA	F ₇	G-28 x 3018	USDA
8	Rogers 78-23MR	F ₇	258 x 72-59-4MR	Maidowdown
9	Speight G-72	F ₁₀	G-28 x SC 66	Speight
10	Va. 70	F ₉	(Hicks x Va. Gold) x Coker 139MR	Virginia
11	Va. 82	F ₇	(Coker 319 x NC 95) S ₇	Virginia
12	Coker 48	Rel. 1976	(C 258 x C 319) x C 319	Coker
13	Coker 86	Rel. 1974	C 258 (65-16R x 319) x 175L	Coker
14	Coker 298	Rel. 1965	(C-139 x C-156)	Coker
15	Coker 319	Rel. 1963	(C-139 x Hicks)	Coker
16	Coker 347	Rel. 1969	(C-319 x C-258)	Coker
17	Coker 411	Rel. 1969	[C-139 (Hicks x C-139)]	Coker
18	Coker 51	Rel. 1979	(C-319 x Va. 45) 323 x C-86	Coker
19	McNair 373	Rel. 1978	(C-139 x C-319) McNair 039-4	McNair
20	McNair 944	Rel. 1972	Speight G-10 x McNair 30	McNair
21	McNair 3199	Rel. 1979	(Coker 139 x Coker 319) x NC 95	McNair
22	NC 82	Rel. 1978	6129 x C-319	N. C.
23	NC 89	Rel. 1976	(6855-2 x 6772)	N. C.
24	NC 628	Rel. 1978	(20038 x 20048)	N. C.
25	Clemson PD4	Rel. 1979	(Hicks x Burley 21) x NC 95	S. C.
26	Rogers 768	Rel. 1979	C-139 Mos. Res. x 72-59-6	Maidowdown
27	Speight G-28	Rel. 1969	(Ox. 1-181 x C-139 x NC 95)	Speight
28	Speight G-58	Rel. 1978	NC 2514 x G-10	Speight
29	Speight G-70	Rel. 1978	C-258 x Va. 115 x G-10	Speight
30	Speight G-140	Rel. 1971	Speight G-7 x Speight G-3	Speight
31	Va. 115	Rel. 1965	Hicks x C-139	Virginia
32	NC TG-23		(SC 58 x G-28) x G-28 BC ₂ S ₃	N. C.
33	NC TG-24		(SC 58 x NC 2326) x NC 2326 ³ BC ₄ S ₃	N. C.
34	NC TG-25	F ₇	Hicks x Coker 139	N. C.
35	NC 9451	F ₈	(20038 x NC 95)	N. C.
36	NC 9477	F ₈	(1824-2 x 20048)	N. C.
37	NC 9538	F ₈	(3669 x 3617)	N. C.
38	NC 9564	F ₈	(Coker 254 x 3574)	N. C.
39	NC 69 USDA	F ₇	G-28 x C-347	USDA
40	NC 86 USDA	F ₉	G-28 x C-347	USDA
41	NC 9120 USDA	F ₉	Va. 115 x G-28	USDA
42	NC 9122 USDA	F ₅	Va. 115 x McNair 135	USDA
43	NC 9140 USDA	F ₅	5075 x 5077	USDA
44	NC 9150 USDA	F ₅	5140 x 5116	USDA
45	Speight G-83	F ₅	G-45 x G-27	Speight
46	Speight G-84	F ₁₀	G-15 x G-33	Speight
47	Speight G-84	F ₈	G-35 x C-319	Speight
48	Speight G-86M	F ₇	G-50 x SC 72	Speight
49	Speight G-87M	F ₅	G-33 x SC 72	Speight
50	Speight G-88M	F ₅	G-38 x MR S ₃	Speight

1980 LOCATION OF OFFICIAL VARIETY TEST

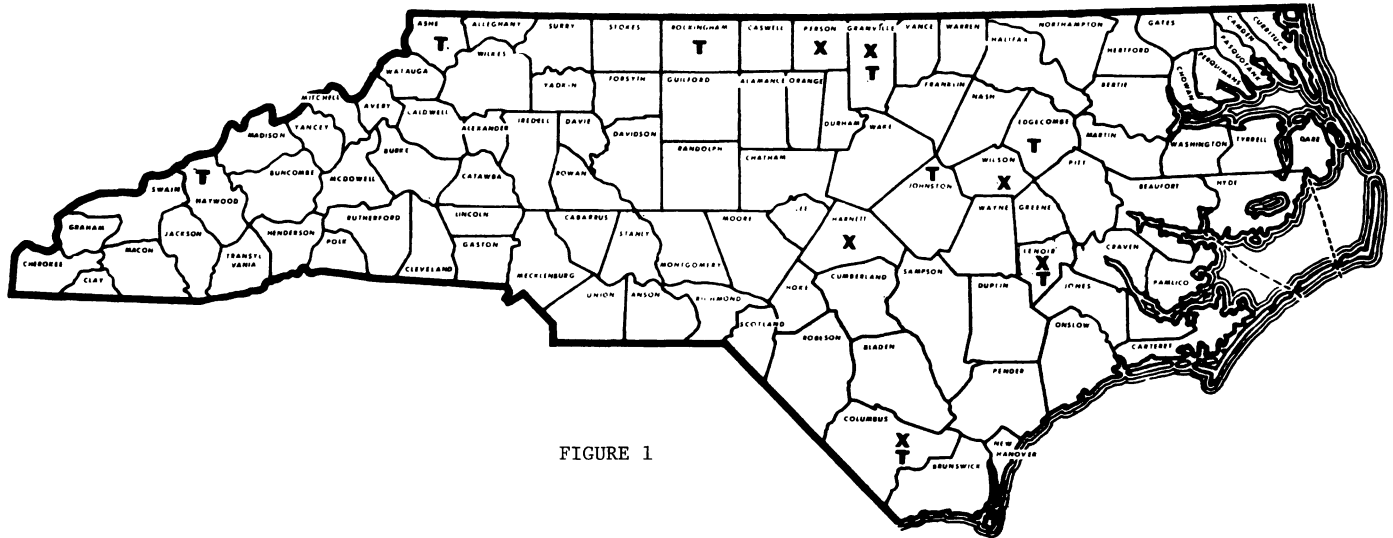


FIGURE 1

- X** Regional Tobacco Test
- T** Experiment Station—Tobacco

Table 1. Percentage comparison with the mean of NC 2326 and certain flue-cured tobacco varieties in the Official Variety Test. Total of fourteen comparisons over three years (1978-1980).

Acre Yield 2750*		Acre Value \$3886*		Grade Index 38*	
Speight G-58	113	Speight G-58	113	NC 82	118
Speight G-70	112	Clemson PD4	113	Coker 319	116
Coker 48	111	Speight G-70	112	McNair 373	113
Coker 347	111	McNair 944	111	McNair 3199	105
McNair 944	111	Coker 347	110	Speight G-28	103
Clemson PD4	111	NC 89	110	NC 89	100
Coker 86	109	Coker 48	109	NC 2326	100
Coker 411	109	Speight G-140	109	Coker 298	97
NC 89	109	Coker 411	108	Coker 411	97
Speight G-140	109	NC 628	107	Speight G-58	97
NC 628	109	McNair 373	105	Speight G-70	97
McNair 373	103	McNair 3199	105	McNair 944	95
NC 82	102	NC 82	105	NC 95	92
Speight G-28	102	Coker 86	104	Coker 347	92
Va. 115	102	Va. 115	102	Coker 51	92
McNair 3199	101	Speight G-28	102	Speight G-140	92
Coker 298	100	Coker 298	100	Va. 115	92
NC 2326	100	Coker 319	100	Coker 48	90
Coker 319	99	Coker 51	100	Clemson PD4	90
Coker 51	99	NC 2326	100	NC 628	87
NC 95	98	NC 95	97	Coker 86	76

*NC 2326 values used for standard comparisons.

THREE YEAR AVERAGE 1978, 1979, 1980

Table 2. Comparison of certain varieties and lines in Official Tobacco Variety Test.

Varieties or Lines	Yield Lbs/A	Value Index Dol/A	Value Cwt.	Grade Index	Days to Flower	Leaves per Leaves	Height of Plant	Ground Suckers	Nic. %	Sol. Sug. %	Nor. Nic. %	Ratio Sug. Nic.
NC 2326	2750	3886	141.75	38	60	19.2	46	.3	3.20	17.22	.20	5.71
NC 95	2707	3770	139.82	35	63	19.6	44	.8	3.40	15.97	.28	5.02
Coker 48	3053	4253	139.75	34	66	20.9	47	.6	3.06	17.52	.20	6.17
Coker 86	3006	4055	135.08	29	66	20.8	47	.8	3.04	16.22	.20	5.74
Coker 298	2758	3887	140.89	37	66	20.1	46	.6	3.54	15.19	.29	4.59
Coker 319	2721	3896	143.62	44	63	20.0	44	.7	3.11	15.72	.20	5.41
Coker 347	3051	4282	140.62	35	66	21.1	45	.7	3.30	15.28	.29	4.87
Coker 411	2982	4187	141.05	37	63	19.9	43	.3	3.48	15.87	.22	4.99
*Coker 51	2719	3901	143.80	35	68	20.5	42	.2	3.27	15.62	.18	5.06
McNair 373	2839	4067	143.53	43	62	20.9	40	.5	2.98	14.95	.22	5.29
McNair 944	3055	4305	141.31	36	64	19.7	44	.4	3.04	18.25	.22	6.53
*McNair 3199	2788	4080	146.54	40	64	19.8	39	.4	2.88	15.86	.21	5.99
NC 82	2817	4082	145.14	45	61	19.1	42	.7	2.71	17.80	.18	7.00
NC 89	3004	4256	142.04	38	62	18.3	44	.3	3.31	16.15	.27	5.24
NC 628	2981	4141	139.26	33	65	18.4	46	.1	2.91	17.35	.23	6.43
*Clemson PD4	3038	4390	144.76	34	62	19.8	46	.2	2.90	18.81	.18	7.02
Speight G-28	2796	3972	142.11	39	65	20.7	41	.2	2.80	15.13	.22	5.74
Speight G-58	3096	4377	141.64	37	64	19.7	43	.3	3.01	17.47	.23	6.10
Speight G-70	3075	4353	142.16	37	64	19.3	41	.7	2.83	18.39	.20	7.66
Speight G-140	2986	4230	142.01	35	66	21.2	46	.6	2.81	18.68	.22	7.17
Va. 115	2807	3952	141.07	35	61	18.7	41	.5	3.12	16.75	.26	5.84

*1979 and 1980 averages only.

Table 3. RATE OF HARVEST OF COMMERCIALY AVAILABLE VARIETIES - 1980

Percentage of Tobacco (Cured Weight) in Each Harvest Across Reps and Locations for the Varieties Listed in 1980 OVT - 5 Locations: Whiteville, Kinston, Rocky Mount, Oxford and Reidsville. Letters designate harvests.

<u>NC 2326</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
% At Each Harvest	15.7	19.5	20.1	36.4	8.4
Total % Harvested	15.7	35.1	55.2	91.6	100.0
<u>NC 95</u>					
% At Each Harvest	15.8	19.0	23.6	34.8	6.8
Total % Harvested	15.8	34.9	58.4	93.2	100.0
<u>Coker 48</u>					
% At Each Harvest	15.0	20.2	25.3	32.1	7.3
Total % Harvested	15.0	35.2	60.6	92.7	100.0
<u>Coker 86</u>					
% At Each Harvest	14.8	18.1	21.7	36.7	8.7
Total % Harvested	14.8	32.9	54.6	91.3	100.0
<u>Coker 298</u>					
% At Each Harvest	15.3	18.0	23.6	35.4	7.6
Total % Harvested	15.3	33.3	57.0	92.4	100.0
<u>Coker 319</u>					
% At Each Harvest	17.2	21.9	23.9	30.6	6.4
Total % Harvested	17.2	39.1	63.0	93.6	100.0
<u>Coker 347</u>					
% At Each Harvest	14.4	17.8	23.0	35.1	9.8
Total % Harvested	14.4	32.2	55.1	90.2	100.0
<u>Coker 411</u>					
% At Each Harvest	16.0	18.9	26.2	32.9	6.0
Total % Harvested	16.0	34.9	61.1	94.0	100.0
<u>Coker 51</u>					
% At Each Harvest	17.1	21.7	22.3	33.4	5.5
Total % Harvested	17.1	38.8	61.1	94.5	100.0

<u>McNair 373</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
% At Each Harvest	17.5	20.0	23.0	33.1	6.3
Total % Harvested	17.5	37.5	60.5	93.7	100.0
<u>McNair 944</u>					
% At Each Harvest	15.0	20.5	26.9	33.6	4.0
Total % Harvested	15.0	35.5	62.4	96.0	100.0
<u>NC 82</u>					
% At Each Harvest	16.9	21.2	25.7	30.3	5.9
Total % Harvested	16.9	38.1	63.8	94.1	100.0
<u>NC 89</u>					
% At Each Harvest	15.2	19.9	23.6	34.6	6.7
Total % Harvested	15.2	35.1	58.7	93.3	100.0
<u>NC 628</u>					
% At Each Harvest	13.7	20.1	24.4	34.2	7.6
Total % Harvested	13.7	33.8	58.2	92.4	100.0
<u>Clemson PD4</u>					
% At Each Harvest	14.1	19.4	23.1	35.6	7.8
Total % Harvested	14.1	33.5	56.6	92.2	100.0
<u>Speight G-28</u>					
% At Each Harvest	16.3	21.5	23.0	34.2	5.0
Total % Harvested	16.3	37.8	60.8	95.0	100.0
<u>Speight G-58</u>					
% At Each Harvest	16.7	21.6	25.9	31.2	4.6
Total % Harvested	16.7	38.3	64.2	95.4	100.0
<u>Speight G-70</u>					
% At Each Harvest	16.2	18.0	24.8	35.4	5.6
Total % Harvested	16.2	34.2	59.0	94.4	100.0
<u>Speight G-140</u>					
% At Each Harvest	15.4	18.8	25.6	34.6	5.5
Total % Harvested	15.4	34.3	59.9	94.5	100.0
<u>Va. 115</u>					
% At Each Harvest	16.8	21.1	24.6	32.2	5.3
Total % Harvested	16.8	37.9	62.5	94.7	100.0

WHITEVILLE, KINSTON, ROCKY MOUNT, OXFORD AND REIDSVILLE

Table 4. Comparison of varieties for certain characteristics for five locations - 1980.

Varieties or Lines	Yield Lbs/A	Value Index ^{1/}		Grade Index	Days to Flower	Leaves per Plant	Height of Plant
		Dol/A	Dol/Cwt.				
Commercially Available Varieties							
NC 2326	2639	3995	151.36	39	57	19.1	43
NC 95	2623	3934	149.99	37	59	19.3	42
Coker 48	2947	4420	149.86	37	62	20.0	44
Coker 86	3016	4439	147.34	33	61	20.6	45
Coker 298	2734	4150	151.91	41	63	20.1	45
Coker 319	2563	3947	153.85	47	59	19.3	41
Coker 347	2966	4490	151.39	38	63	20.9	44
Coker 411	2820	4269	151.51	42	60	19.7	42
Coker 51	2718	4091	150.63	38	64	20.7	42
McNair 373	2774	4267	153.83	43	58	20.2	38
McNair 944	2941	4464	151.77	41	60	19.5	42
McNair 3199	2746	4198	152.79	44	60	19.8	38
NC 82	2752	4252	154.46	49	57	18.6	41
NC 89	2888	4413	152.91	42	58	17.8	41
NC 628	2849	4268	149.62	36	61	18.3	44
Clemson PD4	2987	4529	151.78	38	59	19.7	45
Rogers 768	2928	4349	148.40	37	64	21.3	43
Speight G-28	2765	4231	152.87	43	61	20.3	40
Speight G-58	3072	4678	152.20	41	60	19.7	41
Speight G-70	2911	4458	153.26	42	59	19.2	39
Speight G-140	2821	4321	153.10	42	61	20.7	44
Va. 115	2777	4184	150.69	35	57	18.5	40
Advanced Breeding Lines							
Coker 78-209MM	2738	4137	151.05	40	64	23.0	46
McNair 3172	2836	4366	153.68	45	61	22.6	43
NC TG-23	3065	4610	150.36	42	67	21.1	39
NC TG-24	2888	4414	152.73	43	67	19.2	42
NC TG-25	2796	4295	153.80	44	62	19.3	45
NC 7556	2620	3917	149.69	36	60	19.5	44
NC 7567	2758	4236	153.55	42	59	19.7	45
NC 9451	2884	4313	149.47	36	64	20.3	46
NC 9477	2969	4469	150.56	37	59	20.4	46
NC 9538	2816	4234	150.51	36	59	21.1	45
NC 9564	2708	4172	153.86	48	60	19.2	42
NC 67 USDA	2792	4283	153.42	45	57	19.0	39
NC 69 USDA	2631	3998	152.13	42	61	19.9	38
NC 86 USDA	2840	4389	154.39	46	59	20.0	40
NC 9120 USDA	2810	4278	152.18	41	58	19.3	38
NC 9122 USDA	2723	4105	150.64	39	60	19.8	41
NC 9140 USDA	2795	4273	152.98	46	60	19.4	42
NC 9150 USDA	2963	4532	152.84	43	62	19.8	42
Rogers 78-23MR	2675	3982	148.85	32	63	20.6	44
Speight G-72	2863	4361	152.26	41	61	20.5	41
Speight G-83	2715	4173	153.73	44	59	19.7	40
Speight G-84	2751	4195	152.84	41	60	19.5	39
Speight G-85	2812	4322	153.65	47	63	20.5	43
Speight G-86M	2928	4419	150.98	42	59	20.7	43
Speight G-87M	2909	4447	153.02	41	59	19.5	43
Speight G-88M	2628	3992	151.76	42	61	19.5	41
Va. 70	2829	4343	153.50	43	63	19.9	46
Va. 82	2806	4367	155.64	52	60	20.4	45
<u>Mean of Test</u>	<u>2816</u>	<u>4281</u>	<u>151.99</u>	<u>41</u>	<u>61</u>	<u>19.9</u>	<u>42</u>
L.S.D. (.05)	183	292	2.96	7	2	1	2
(.01)	242	385	3.90	9	3	2	3
C.V. (%)	8	9	2	16	4	7	6

^{1/} 1979 and 1980 price average per grade.

WHITEVILLE, KINSTON, ROCKY MOUNT, OXFORD AND REIDSVILLE

Table 4. Continued. Comparison of varieties for certain characteristics for five locations - 1980.

Varieties or Lines	Ground Suckers	Analysis of Cured Leaf			Ratio Sug. Nic.
		Nic. %	Sol. Sug. %	Nor. Nic. %	
Commercially Available Varieties					
NC 2326	0.2	3.26	17.60	.20	5.56
NC 95	0.6	3.58	16.11	.20	4.70
Coker 48	0.7	3.24	18.38	.17	5.86
Coker 86	0.8	3.19	17.38	.17	5.95
Coker 298	0.8	3.77	15.38	.33	4.22
Coker 319	0.7	3.13	17.01	.19	5.85
Coker 347	0.6	3.58	16.06	.28	4.60
Coker 411	0.3	3.58	15.93	.23	4.80
Coker 51	0.1	3.34	17.18	.20	5.41
McNair 373	0.4	2.96	15.96	.20	5.73
McNair 944	0.3	3.22	18.81	.22	6.42
McNair 3199	0.2	2.77	16.15	.16	6.52
NC 82	0.6	2.67	18.88	.14	7.50
NC 89	0.2	3.52	16.45	.23	5.12
NC 628	0.1	2.99	17.85	.21	6.23
Clemson PD4	0.1	2.90	18.64	.20	7.06
Rogers 768	0.5	3.19	15.59	.25	5.10
Speight G-28	0.2	2.97	16.49	.14	5.86
Speight G-58	0.2	3.09	19.08	.26	6.41
Speight G-70	0.7	2.99	18.82	.19	6.97
Speight G-140	0.6	2.93	19.88	.23	7.02
Va. 115	0.4	3.27	17.31	.25	5.67
Advanced Breeding Lines					
Coker 78-209MM	0.1	3.50	17.41	.23	5.12
McNair 3172	0.3	2.75	16.26	.16	6.40
NC TG-23	0.1	2.59	14.49	.17	6.07
NC TG-24	0.1	3.04	16.07	.26	5.63
NC TG-25	0.1	3.22	17.91	.20	5.85
NC 7556	0.7	3.20	17.54	.21	5.73
NC 7567	1.2	3.23	19.05	.26	6.33
NC 9451	0.1	2.83	15.85	.18	5.87
NC 9477	0.4	3.21	17.01	.27	5.70
NC 9538	0.2	2.86	18.43	.13	6.64
NC 9564	0.8	2.69	16.29	.19	6.30
NC 67 USDA	0.5	2.97	17.33	.15	6.35
NC 69 USDA	0.1	2.80	15.77	.16	6.00
NC 86 USDA	0.3	3.00	15.26	.18	5.79
NC 9120 USDA	0.7	3.33	15.86	.16	4.99
NC 9122 USDA	0.2	3.48	17.12	.21	5.12
NC 9140 USDA	0.3	3.01	15.25	.18	5.23
NC 9150 USDA	0.3	2.89	16.96	.17	6.18
Rogers 78-23MR	0.2	3.54	17.23	.24	5.14
Speight G-72	0.7	2.78	16.61	.21	6.17
Speight G-82	0.2	2.93	13.95	.23	4.98
Speight G-84	0.1	3.35	17.73	.16	5.57
Speight G-85	0.9	2.65	15.36	.19	6.11
Speight G-86M	0.4	2.91	16.30	.15	5.98
Speight G-87M	0.7	3.01	19.59	.16	7.07
Speight G-88M	0.9	2.86	14.14	.17	5.17
Va. 70	1.4	2.67	16.03	.16	6.72
Va. 82	0.5	2.99	16.27	.19	5.69
<u>Mean of Test</u>	<u>0.4</u>	<u>3.09</u>	<u>16.87</u>	<u>.20</u>	<u>5.84</u>
L.S.D. (.05)	0.5	.30	1.82	.10	1.07
(.01)	0.6	.39	2.40	N.S.	1.41
C.V. (%)	89	11	15	69	24

Table 5. Summary information on disease resistance - 1980.

Varieties or Lines	Black ^{1/} Shank	Bacterial ^{1/} Wilt	Root ^{2/} Knot	Mosaic ^{2/}
Commercially Available Varieties				
NC 2326	53	55		
NC 95	49	14	Res.	
Coker 48	29	16		
Coker 86	23	12	Res.	Res.
Coker 298	43	26		
Coker 319	41	67		
Coker 347	43	10	Res.	
Coker 411	32	32		
Coker 51	29	14	Res.	Res.
McNair 373	35	32	Res.	
McNair 944	29	44		
McNair 3199	17	8	Res.	
NC 82	22	21		
NC 89	44	35	Res.	
NC 628	35	17	Res.	Res.
Clemson PD4	44	64		
Rogers 768	24	8	Seg.	Res.
Speight G-28	24	24	Res.	
Speight G-58	36	29	Res.	
Speight G-70	14	46	Res.	
Speight G-140	40	22		
Va. 115	33	24		
Advanced Breeding Lines				
Coker 78-209MM	43	9	Res.	Res.
McNair 3172	45	32	Res.	
NC TG-23	29	8	Res.	
NC TG-24	54	31		
NC TG-25	59	42		
NC 7556	64	17	Res.	Res.
NC 7567	58	25	Res.	Seg.
NC 9451	56	12	Res.	Res.
NC 9477	54	24	Res.	Res.
NC 9538	44	17	Res.	Res.
NC 9564	48	16	Res.	
NC 67 USDA	31	26		
NC 69 USDA	60	14	Res.	
NC 86 USDA	60	16	Res.	
NC 9120 USDA	44	7	Seg.	
NC 9122 USDA	40	38		
NC 9140 USDA	65	21	Res.	
NC 9150 USDA	46	14	Res.	
Rogers 78-23MR	32	13	Res.	Res.
Speight G-72	46	16	Res.	
Speight G-83	53	7	Res.	
Speight G-84	48	14	Res.	
Speight G-85	34	26	Res.	
Speight G-86M	47	21	Res.	Res.
Speight G-87M	60	33	Res.	
Speight G-88M	46	22	Res.	Res.
Va. 70	37	30		
Va. 82	33	17		

^{1/}This is a disease index which reflects both the percentage of plants diseased and the time during the growing season the symptoms appeared. The higher the number, the lower the resistance. Example: Black Shank - McNair 944, high resistance; Coker 319, low resistance. Bacterial Wilt - Coker 48, high resistance; Clemson PD4, low resistance.

^{2/}Resistant or segregating for resistance.

TV 292 WHITEVILLE

Table 6. Comparison of varieties for certain characteristics - 1980.

Varieties or Lines	Yield Lbs/A	Value Index ^{1/}		Grade Index	Days to Flower	Leaves per Plant	Height of Plant
		Dol/A	Dol/Cwt.				
Commercially Available Varieties							
NC 2326	3318	5080	153.17	26	58	19.7	44
NC 95	3040	4616	151.85	25	59	20.9	42
Coker 48	3588	5431	151.34	35	62	20.9	44
Coker 86	3262	4709	144.39	22	64	23.7	47
Coker 298	3170	4932	155.55	39	65	21.7	50
Coker 319	3102	4881	157.32	49	63	20.8	45
Coker 347	3400	5154	151.34	31	65	22.5	45
Coker 411	3588	5537	154.26	42	62	20.5	43
Coker 51	2906	4316	148.70	27	68	23.7	42
McNair 373	3012	4660	154.73	39	62	22.7	37
McNair 944	3530	5435	154.04	37	62	21.1	42
McNair 3199	3064	4788	156.30	48	60	22.7	38
NC 82	3296	5180	157.15	53	59	19.9	43
NC 89	3490	5379	154.13	33	60	19.1	43
NC 628	3478	5231	150.22	30	65	20.0	46
Clemson PD4	3666	5529	150.72	27	61	21.8	48
Rogers 768	3550	5479	154.31	37	66	23.9	45
Speight G-28	3068	4840	157.70	52	65	21.7	42
Speight G-58	3522	5486	155.73	43	62	22.1	39
Speight G-70	3296	5058	153.38	34	60	20.7	39
Speight G-140	3474	5360	154.16	41	64	22.5	48
Va. 115	3284	4973	151.45	27	59	20.1	40
Advanced Breeding Lines							
Coker 78-209MM	3058	4676	152.90	36	64	26.3	49
McNair 3172	3410	5450	159.82	59	63	24.8	45
NC TG-23	3390	5359	158.09	51	67	21.0	37
NC TG-24	3488	5410	155.11	44	67	18.3	43
NC TG-25	3386	5182	152.98	32	63	21.4	47
NC 7556	3090	4604	148.83	31	63	21.1	46
NC 7567	3246	5022	154.69	39	59	21.0	49
NC 9451	3370	5148	152.68	37	67	20.3	46
NC 9477	3792	5788	152.58	26	61	22.3	53
NC 9538	3346	5046	150.86	25	62	23.3	48
NC 9564	3138	4959	158.02	53	61	20.7	43
NC 67 USDA	3402	5307	156.11	47	57	21.5	41
NC 69 USDA	2854	4438	155.44	42	62	21.2	37
NC 86 USDA	3240	5154	159.10	56	62	21.1	41
NC 9120 USDA	3200	4977	155.47	43	59	20.9	38
NC 9122 USDA	3242	5018	154.80	37	61	20.9	40
NC 9140 USDA	3208	5022	156.54	42	61	21.1	44
NC 9150 USDA	3306	5204	157.38	46	62	22.4	43
Rogers 78-23MR	3068	4590	149.58	29	63	21.5	47
Speight G-72	3286	5109	155.54	41	63	21.9	42
Speight G-83	3062	4764	155.60	38	62	21.8	42
Speight G-84	2990	4601	153.90	36	62	22.1	41
Speight G-85	3274	5176	158.16	51	62	22.5	45
Speight G-86M	3368	5235	155.47	44	61	23.8	46
Speight G-87M	3776	5767	152.70	33	60	20.7	45
Speight G-88M	2928	4579	156.37	46	63	21.2	42
Va. 70	3438	5382	156.53	43	65	21.7	49
Va. 82	3206	5083	158.54	53	62	20.9	49
<u>Mean of Test</u>	<u>3293</u>	<u>5082</u>	<u>154.32</u>	<u>39</u>	<u>62</u>	<u>21.6</u>	<u>44</u>
L.S.D. (.05)	276	457	4.24	12	3	2	4
(.01)	366	606	5.61	17	4	3	5
C.V. (%)	5	6	2	20	3	6	5

^{1/}1979 and 1980 price average per grade.

TV 292 WHITEVILLE

Table 6. Continued. Comparison of varieties for certain characteristics - 1980.

Varieties or Lines	Ground Suckers	Analysis of Cured Leaf			Ratio
		Nic. %	Sol. Sug. %	Nor. Nic. %	Sug. Nic.
Commercially Available Varieties					
NC 2326	0.1	3.37	16.60	.18	4.95
NC 95	1.3	4.16	15.83	.23	3.83
Coker 48	0.8	3.58	18.30	.26	5.21
Coker 86	1.3	3.56	17.30	.15	4.86
Coker 298	1.1	4.06	15.03	.32	3.76
Coker 319	1.4	2.99	17.03	.20	5.75
Coker 347	1.2	3.91	14.93	.24	3.86
Coker 411	0.6	3.69	15.07	.36	4.19
Coker 51	0.1	4.21	13.97	.19	3.34
McNair 373	0.4	3.09	14.90	.22	4.83
McNair 944	0.8	3.80	16.77	.26	4.43
McNair 3199	0.3	3.34	13.53	.38	4.08
NC 82	0.9	3.06	17.50	.24	5.82
NC 89	0	3.67	14.80	.22	4.13
NC 628	0	3.33	15.40	.24	4.69
Clemson PD4	0.2	3.40	16.77	.30	5.09
Rogers 768	1.2	3.48	15.17	.30	4.40
Speight G-28	0	3.42	16.17	.26	4.82
Speight G-58	0.2	3.50	18.27	.38	5.43
Speight G-70	1.5	3.73	17.53	.12	4.77
Speight G-140	1.1	3.68	17.93	.20	4.88
Va. 115	0.3	3.45	16.70	.21	4.92
Advanced Breeding Lines					
Coker 78-209MM	0	4.00	15.93	.25	4.08
McNair 3172	0.1	3.15	16.40	.17	5.25
NC TG-23	0.1	2.89	15.57	.21	5.50
NC TG-24	0	3.12	17.47	.26	5.65
NC TG-25	0.2	3.70	15.63	.14	4.28
NC 7556	0.6	3.74	16.13	.26	4.39
NC 7567	1.6	3.84	16.37	.40	4.47
NC 9451	0	3.06	14.93	.27	4.90
NC 9477	0.9	3.68	18.00	.13	5.05
NC 9538	0.1	3.35	17.03	.14	5.10
NC 9564	1.0	3.14	16.30	.22	5.19
NC 67 USDA	0.5	3.28	17.20	.08	5.25
NC 69 USDA	0.1	3.45	12.67	.22	3.67
NC 86 USDA	0.3	3.25	15.00	.29	4.65
NC 9120 USDA	1.1	3.63	15.67	.13	4.31
NC 9122 USDA	0.1	4.07	16.27	.27	4.09
NC 9140 USDA	0.6	3.15	14.20	.21	4.51
NC 9150 USDA	0.2	3.03	17.13	.13	5.70
Rogers 78-23MR	0.3	4.30	14.67	.18	3.43
Speight G-72	1.0	3.13	16.60	.36	5.33
Speight G-83	0.2	3.49	12.00	.23	3.45
Speight G-84	0	3.87	15.53	.19	4.03
Speight G-85	1.7	3.07	14.10	.21	4.60
Speight G-86M	0.4	3.29	14.53	.16	4.54
Speight G-87M	1.4	3.51	18.07	.14	5.24
Speight G-88M	1.0	3.12	14.17	.31	4.61
Va. 70	2.3	2.47	16.73	.10	6.86
Va. 82	0.7	3.23	17.23	.24	5.40
<u>Mean of Test</u>	<u>0.6</u>	<u>3.47</u>	<u>15.94</u>	<u>.23</u>	<u>4.71</u>
L.S.D. (.05)	0.6	.48	2.99	N.S.	1.33
(.01)	0.8	.63	3.96	N.S.	1.76
C.V. (%)	59	9	12	63	17

TV 293 KINSTON

Table 7. Comparison of varieties for certain characteristics - 1980.

Varieties or Lines	Yield Lbs/A	Value Index ^{1/}		Grade Index	Days to Flower	Leaves per Plant	Height of Plant
		Dol/A	Dol/Cwt.				
Commercially Available Varieties							
NC 2326	2030	3156	155.51	49	58	19.1	38
NC 95	2414	3769	155.95	51	59	17.5	38
Coker 48	2702	4182	154.74	46	61	18.7	40
Coker 86	2830	4488	158.55	57	64	18.9	41
Coker 298	2388	3720	155.88	47	64	19.3	40
Coker 319	2200	3436	156.08	54	58	18.7	37
Coker 347	2738	4312	157.46	54	65	20.9	41
Coker 411	2176	3416	156.62	51	60	18.3	39
Coker 51	2756	4301	155.97	47	61	19.5	41
McNair 373	2596	4062	156.48	49	59	19.9	35
McNair 944	2730	4330	158.60	56	61	18.9	39
McNair 3199	2590	4094	158.13	55	61	18.6	35
NC 82	2450	3911	159.54	60	60	18.5	38
NC 89	2558	4027	157.40	53	58	17.0	35
NC 628	2444	3841	157.14	52	63	18.2	40
Clemson PD4	2560	4026	157.30	52	59	18.9	38
Rogers 768	2700	4294	159.02	58	65	20.4	41
Speight G-28	2836	4445	156.76	52	63	20.7	37
Speight G-58	2974	4681	157.40	53	63	17.7	38
Speight G-70	2696	4291	159.03	58	64	19.3	39
Speight G-140	2602	4123	158.40	55	61	20.1	41
Va. 115	2470	3837	155.24	44	59	18.9	38
Advanced Breeding Lines							
Coker 78-209MM	2536	3916	154.38	43	64	22.1	43
McNair 3172	2480	3896	157.10	50	62	21.3	38
NC TG-23	2774	4351	156.84	52	66	20.6	37
NC TG-24	2860	4486	156.64	51	67	18.4	33
NC TG-25	2664	4196	157.48	52	63	19.8	42
NC 7556	2394	3737	155.93	49	60	18.1	37
NC 7567	2534	3919	154.62	44	58	18.7	38
NC 9451	2584	4043	156.42	49	63	20.5	43
NC 9477	2766	4291	155.26	47	60	18.7	39
NC 9538	2496	3909	156.56	50	59	19.5	39
NC 9564	2436	3807	156.14	50	58	18.1	37
NC 67 USDA	2370	3745	158.09	55	58	18.8	35
NC 69 USDA	2256	3566	157.99	55	60	19.3	36
NC 86 USDA	2712	4293	158.30	55	61	19.6	37
NC 9120 USDA	2554	4044	158.33	55	60	18.2	35
NC 9122 USDA	2552	4049	158.66	57	62	19.5	39
NC 9140 USDA	2512	3946	157.05	53	62	18.8	38
NC 9150 USDA	2774	4325	155.99	48	61	18.7	37
Rogers 78-23MR	2532	3911	154.37	42	61	20.1	41
Speight G-72	2582	4014	155.30	48	62	20.2	38
Speight G-83	2432	3819	157.11	51	59	18.2	37
Speight G-84	2470	3864	156.51	47	60	19.5	37
Speight G-85	2586	4081	157.80	55	65	18.3	39
Speight G-86M	2514	3891	155.28	48	61	19.9	40
Speight G-87M	2546	4013	157.61	54	59	17.5	37
Speight G-88M	2468	3871	156.87	52	62	17.2	37
Va. 70	2708	4235	156.51	51	64	18.1	41
Va. 82	2702	4298	159.05	58	64	20.6	43
<u>Mean of Test</u>	<u>2564</u>	<u>4025</u>	<u>156.91</u>	<u>52</u>	<u>61</u>	<u>19.1</u>	<u>38</u>
L.S.D. (.05)	419	674	N.S.	N.S.	4	2	4
(.01)	N.S.	N.S.	N.S.	N.S.	5	3	5
C.V. (%)	10	10	1	12	4	7	7

^{1/} 1979 and 180 price average per grade.

TV 293 KINSTON

Table 7. Continued. Comparison of varieties for certain characteristics - 1980.

Varieties or Lines	Ground Suckers	Analysis of Cured Leaf			Ratio Sug. Nic.
		Nic. %	Sol. Sug. %	Nor. Nic. %	
Commercially Available Varieties					
NC 2326		3.47	14.97	.33	4.32
NC 95		3.81	14.73	.27	3.86
Coker 48		3.22	17.23	.07	5.34
Coker 86		3.31	16.20	.32	5.01
Coker 298		4.18	12.27	.43	2.95
Coker 319		3.30	16.07	.17	4.90
Coker 347		3.90	14.47	.43	3.73
Coker 411		3.82	16.70	.26	4.38
Coker 51		3.44	16.00	.34	4.80
McNair 373		3.18	15.07	.28	4.81
McNair 944		3.83	17.10	.17	4.48
McNair 3199		3.12	15.00	.20	5.00
NC 82		2.80	18.00	.24	6.82
NC 89		3.89	15.77	.30	4.05
NC 628		3.22	18.13	.25	5.86
Clemson PD4		3.27	17.20	.17	5.35
Rogers 768		3.32	17.30	.27	5.21
Speight G-28		3.27	12.37	.25	3.80
Speight G-58		3.16	18.90	.19	6.06
Speight G-70		3.05	18.87	.24	6.17
Speight G-140		3.08	19.40	.43	6.33
Va. 115		3.64	16.00	.16	4.42
Advanced Breeding Lines					
Coker 78-209MM		3.62	14.80	.32	4.08
McNair 3172		3.32	13.00	.19	4.07
NC TG-23		2.89	12.07	.35	4.20
NC TG-24		3.71	12.93	.29	3.66
NC TG-25		3.74	15.83	.18	4.23
NC 7556		3.48	17.13	.26	4.98
NC 7567		3.63	17.70	.27	4.89
NC 9451		3.20	16.87	.12	5.41
NC 9477		3.30	15.40	.36	4.96
NC 9538		3.00	19.43	.17	6.64
NC 9564		2.83	12.43	.20	4.41
NC 67 USDA		3.28	16.53	.27	5.13
NC 69 USDA		3.14	14.13	.11	4.53
NC 86 USDA		3.46	13.60	.25	4.00
NC 9120 USDA		3.62	14.63	.33	4.10
NC 9122 USDA		3.79	15.63	.28	4.12
NC 9140 USDA		3.47	13.90	.18	4.01
NC 9150 USDA		3.18	14.90	.10	5.10
Rogers 78-23MR		4.06	14.00	.24	3.50
Speight G-72		3.21	16.13	.15	5.02
Speight G-83		2.84	11.97	.36	4.25
Speight G-84		3.18	15.73	.18	5.14
Speight G-85		2.88	15.00	.23	5.35
Speight G-86M		3.09	15.47	.18	5.17
Speight G-87M		3.28	18.83	.29	5.82
Speight G-88M		3.15	12.47	.27	3.98
Va. 70		3.47	12.63	.26	4.29
Va. 82		3.07	15.63	.27	5.26
<u>Mean of Test</u>		<u>3.36</u>	<u>15.53</u>	<u>.25</u>	<u>4.76</u>
L.S.D. (.05)		.58	4.20	N.S.	N.S.
(.01)		.77	5.55	N.S.	N.S.
C.V. (%)		11	17	70	25

TV 294 ROCKY MOUNT

Table 8. Comparison of varieties for certain characteristics - 1980.

Varieties or Lines	Yield Lbs/A	Value Index ^{1/}		Grade Index	Days to Flower	Leaves per Plant	Height of Plant
		Dol/A	Dol/Cwt.				
Commercially Available Varieties							
NC 2326	2711	3987	146.51	28	51	19.9	51
NC 95	2833	4073	143.74	29	55	21.3	50
Coker 48	2907	4193	144.05	29	60	22.2	53
Coker 86	3158	4510	142.81	17	52	22.0	53
Coker 298	3051	4395	144.01	29	60	22.0	54
Coker 319	2662	3915	147.03	32	51	20.3	48
Coker 347	3245	4846	149.33	34	58	21.7	53
Coker 411	2964	4213	142.11	27	58	21.1	49
Coker 51	3076	4491	146.02	34	58	21.9	52
McNair 373	2888	4375	151.42	38	52	19.2	44
McNair 944	3141	4608	146.75	30	54	18.1	49
McNair 3199	2867	4235	147.74	33	57	19.3	46
NC 82	2953	4467	151.38	40	51	18.9	47
NC 89	2981	4427	148.48	31	52	17.3	48
NC 628	3017	4481	148.50	32	54	18.9	54
Clemson PD4	3213	4736	147.35	29	54	19.9	53
Rogers 768	2994	4027	134.31	17	63	24.3	52
Speight G-28	2840	4171	146.80	31	58	20.4	48
Speight G-58	3067	4516	147.49	33	55	19.7	48
Speight G-70	3038	4512	148.58	35	53	19.0	45
Speight G-140	3038	4554	149.91	34	55	20.7	51
Va. 115	2793	4093	146.59	27	50	18.0	46
Advanced Breeding Lines							
Coker 78-209MM	2833	4171	147.18	31	62	23.7	56
McNair 3172	2930	4377	149.20	34	57	23.3	51
NC TG-23	3462	4873	141.01	29	63	22.7	46
NC TG-24	2941	4285	145.82	31	63	19.8	49
NC TG-25	2998	4461	148.81	35	60	21.7	59
NC 7556	2835	4057	143.15	25	55	20.8	55
NC 7567	2630	3967	150.97	34	54	20.4	52
NC 9451	3125	4499	143.79	31	62	21.6	55
NC 9477	3002	4281	142.86	28	54	21.7	55
NC 9538	2987	4298	143.78	29	57	22.7	56
NC 9564	2778	4111	147.93	37	58	19.7	48
NC 67 USDA	2863	4264	148.89	35	52	18.7	46
NC 69 USDA	2975	4348	146.25	34	56	19.6	46
NC 86 USDA	3061	4602	150.24	38	55	19.6	47
NC 9120 USDA	2975	4432	149.02	35	53	19.3	44
NC 9122 USDA	2673	3874	145.21	31	58	21.7	50
NC 9140 USDA	3017	4456	147.99	39	53	19.0	49
NC 9150 USDA	3000	4377	145.68	35	60	21.1	52
Rogers 78-23MR	2624	3880	147.89	29	56	21.5	53
Speight G-72	3015	4470	148.22	35	58	20.5	49
Speight G-83	2776	4098	147.20	33	57	21.3	48
Speight G-84	3025	4444	146.99	29	55	19.9	46
Speight G-85	2844	4125	145.08	32	59	22.7	52
Speight G-86M	3006	4311	143.30	26	56	21.7	51
Speight G-87M	3023	4513	149.29	30	55	20.1	52
Speight G-88M	2586	3781	146.03	35	61	21.3	49
Va. 70	3068	4552	148.28	35	59	21.3	53
Va. 82	2968	4432	149.28	36	55	22.5	53
<u>Mean of Test</u>	<u>2949</u>	<u>4323</u>	<u>146.61</u>	<u>31</u>	<u>56</u>	<u>20.7</u>	<u>50</u>
L.S.D. (.05)	363	570	6.54	10	4	3	5
(.01)	481	N.S.	8.65	N.S.	5	4	6
C.V. (%)	8	8	3	20	4	8	6

^{1/} 1979 and 1980 price average per grade.

TV 294 ROCKY MOUNT

Table 8. Continued. Comparison of varieties for certain characteristics - 1980.

Varieties or Lines	Ground Suckers	Analysis of Cured Leaf			Ratio Sug. Nic.
		Nic. %	Sol. Sug. %	Nor. Nic. %	
Commercially Available Varieties					
NC 2326	0.4	3.42	15.40	.22	4.79
NC 95	0.3	3.72	14.63	.19	4.08
Coker 48	0.8	3.61	13.77	.29	3.86
Coker 86	0.7	3.98	13.70	.15	3.86
Coker 298	0.4	3.83	9.43	.48	2.55
Coker 319	0.5	3.85	12.37	.23	3.73
Coker 347	0.5	3.52	12.03	.43	3.43
Coker 411	0.3	4.56	10.43	.17	2.29
Coker 51	0.2	3.26	14.17	.20	4.36
McNair 373	0.3	3.39	10.17	.21	3.09
McNair 944	0.1	3.40	15.60	.47	4.69
McNair 3199	0.3	3.07	12.53	.07	4.49
NC 82	0.7	2.92	17.27	.11	6.12
NC 89	0.4	4.18	10.80	.41	2.70
NC 628	0.4	3.31	15.50	.20	4.75
Clemson PD4	0.2	3.27	13.60	.22	4.53
Rogers 768	0.3	3.59	9.67	.30	2.88
Speight G-28	0.5	2.92	12.63	.05	4.39
Speight G-58	0.3	3.42	16.13	.21	4.83
Speight G-70	0.5	3.60	13.50	.22	3.92
Speight G-140	0.3	2.83	19.07	.24	6.77
Va. 115	0.6	4.06	13.73	.42	3.41
Advanced Breeding Lines					
Coker 78-209MM	0.3	3.56	15.57	.31	4.43
McNair 3172	0.3	2.74	14.20	.16	5.30
NC TG-23	0.2	2.94	9.60	.22	3.34
NC TG-24	0.2	3.10	11.93	.36	3.87
NC TG-25	0.1	3.23	14.87	.25	4.66
NC 7556	0.2	3.30	12.30	.23	3.81
NC 7567	0.7	3.46	16.77	.28	4.86
NC 9451	0.2	2.89	12.43	.14	4.44
NC 9477	0.3	3.63	13.03	.33	3.97
NC 9538	0.1	2.95	13.07	.12	4.45
NC 9564	0.9	2.84	13.23	.25	4.70
NC 67 USDA	0.6	3.55	12.77	.15	3.73
NC 69 USDA	0.1	2.69	12.50	.21	4.69
NC 86 USDA	0.3	3.51	8.90	.15	2.53
NC 9120 USDA	0.8	3.67	13.67	.09	3.74
NC 9122 USDA	0.4	3.72	15.67	.31	4.22
NC 9140 USDA	0.3	2.81	13.80	.23	4.96
NC 9150 USDA	0.3	2.90	14.70	.28	5.04
Rogers 78-23MR	0.2	3.35	17.53	.27	5.24
Speight G-72	0.4	2.85	13.57	.21	4.78
Speight G-83	0.1	2.87	9.63	.33	3.52
Speight G-84	0.1	3.86	14.37	.03	3.79
Speight G-85	0.8	2.71	10.67	.17	3.88
Speight G-86M	0.2	3.13	13.30	.12	4.76
Speight G-87M	0.7	3.37	17.60	.11	5.33
Speight G-88M	0.4	2.94	11.73	.06	3.99
Va. 70	0.9	2.96	11.57	.25	3.94
Va. 82	0.2	3.47	10.80	.22	3.16
<u>Mean of Test</u>	<u>0.4</u>	<u>3.33</u>	<u>13.32</u>	<u>.23</u>	<u>4.17</u>
L.S.D. (.05)	0.4	.68	N.S.	N.S.	N.S.
(.01)	0.5	.90	N.S.	N.S.	N.S.
C.V. (%)	67	13	26	69	35

TV 295 OXFORD

Table 9. Comparison of varieties for certain characteristics - 1980.

Varieties or Lines	Yield Lbs/A	Value Index ^{1/}		Grade Index	Days to Flower	Leaves per Plant	Height of Plant
		Dol/A	Dol/Cwt.				
Commercially Available Varieties							
NC 2326	2626	4034	153.62	52	60	18.5	40
NC 95	2498	3780	151.32	47	62	17.5	39
Coker 48	2788	4182	150.02	43	64	18.3	39
Coker 86	2984	4448	149.10	43	63	17.7	40
Coker 298	2666	4068	152.55	48	65	18.2	41
Coker 319	2370	3558	150.16	47	61	17.2	36
Coker 347	2714	4106	151.34	42	64	18.5	38
Coker 411	2866	4345	151.73	51	61	18.4	38
Coker 51	2484	3755	151.05	47	65	18.3	38
McNair 373	2738	4204	153.52	51	60	18.7	37
McNair 944	2542	3796	149.22	45	63	18.5	39
McNair 3199	2612	3883	148.53	40	61	17.9	34
NC 82	2632	3991	151.66	43	61	18.1	39
NC 89	2646	4011	151.41	52	61	17.7	39
NC 628	2768	4162	150.39	38	62	16.7	40
Clemson PD4	2848	4340	152.18	48	61	18.9	42
Rogers 768	2730	4009	146.89	37	65	19.0	40
Speight G-28	2554	3836	150.11	45	63	18.4	38
Speight G-58	2884	4366	151.39	47	62	17.7	37
Speight G-70	2972	4531	152.51	45	62	17.3	37
Speight G-140	2770	4242	153.16	47	63	18.9	40
Va. 115	2644	3978	150.51	41	60	17.3	38
Advanced Breeding Lines							
Coker 78-209MM	2652	3968	149.64	46	65	19.6	39
McNair 3172	2674	3996	149.32	43	62	19.5	38
NC TG-23	2626	3831	145.03	40	70	19.7	35
NC TG-24	2508	3743	149.22	41	70	19.8	41
NC TG-25	2770	4252	153.52	54	63	17.2	39
NC 7556	2340	3522	150.59	46	62	20.0	41
NC 7567	2700	4122	152.66	51	61	18.0	42
NC 9451	2700	3988	147.73	34	65	18.0	40
NC 9477	2762	4112	148.86	44	61	19.3	43
NC 9538	2714	4076	150.20	43	61	19.8	42
NC 9564	2674	4110	153.73	55	63	17.8	40
NC 67 USDA	2584	3930	151.98	50	61	18.7	40
NC 69 USDA	2568	3841	149.40	45	65	18.5	36
NC 86 USDA	2638	3986	151.09	44	62	18.1	36
NC 9120 USDA	2800	4154	148.31	37	62	18.8	38
NC 9122 USDA	2690	3986	148.12	40	63	19.0	38
NC 9140 USDA	2696	3984	147.73	44	62	18.8	41
NC 9150 USDA	2778	4198	151.08	44	65	16.9	39
Rogers 78-23MR	2732	4018	147.07	30	67	18.9	39
Speight G-72	2784	4187	150.31	43	63	19.1	40
Speight G-83	2666	4046	151.75	51	61	18.2	38
Speight G-84	2850	4292	150.60	45	62	16.9	36
Speight G-85	2628	3993	151.88	50	65	18.1	39
Speight G-86M	2912	4439	152.40	54	62	19.6	40
Speight G-87M	2510	3852	153.66	54	61	18.0	38
Speight G-88M	2614	3853	147.08	38	62	17.6	37
Va. 70	2452	3734	152.28	50	64	18.2	41
Va. 82	2602	3997	153.73	55	62	18.4	40
<u>Mean of Test</u>	<u>2679</u>	<u>4037</u>	<u>150.63</u>	<u>45</u>	<u>62</u>	<u>18.4</u>	<u>39</u>
L.S.D. (.05)	N.S.	N.S.	4.35	11	2	N.S.	3
(.01)	N.S.	N.S.	5.75	14	3	N.S.	4
C.V. (%)	8	9	2	15	2	6	5

^{1/}1979 and 1980 price average per grade.

TV 295 OXFORD

Table 9. Continued. Comparison of varieties for certain characteristics - 1980.

Varieties or Lines	Ground Suckers	Analysis of Cured Leaf			Ratio Sug. Nic.
		Nic. %	Sol. Sug. %	Nor. Nic. %	
Commercially Available Varieties					
NC 2326	0.3	3.01	21.77	.21	7.29
NC 95	1.4	3.27	18.47	.23	5.67
Coker 48	1.7	2.81	22.90	.07	8.20
Coker 86	1.5	2.55	21.53	.03	8.62
Coker 298	1.9	3.41	19.73	.22	5.79
Coker 319	1.4	2.80	19.50	.22	7.14
Coker 347	0.9	3.44	19.97	.18	5.81
Coker 411	0.7	2.91	18.80	.18	6.61
Coker 51	0.1	2.81	22.60	.10	8.14
McNair 373	0.8	2.78	21.30	.11	7.79
McNair 944	0.4	2.45	24.57	.08	10.48
McNair 3199	0.4	2.13	22.53	.10	10.82
NC 82	1.0	2.35	21.47	.05	9.26
NC 89	0.6	2.84	22.90	.20	8.74
NC 628	0.3	2.76	21.33	.24	7.77
Clemson PD4	0.2	2.25	24.90	.11	11.24
Rogers 768	1.0	2.86	18.13	.23	6.40
Speight G-28	0.3	2.70	21.50	.06	8.09
Speight G-58	0.2	2.69	22.17	.33	8.27
Speight G-70	1.3	2.21	24.13	.19	11.45
Speight G-140	1.1	2.63	21.67	.22	8.28
Va. 115	1.1	2.55	21.57	.19	8.60
Advanced Breeding Lines					
Coker 78-209MM	0.2	3.29	20.77	.13	6.40
McNair 3172	0.9	2.46	18.77	.09	7.88
NC TG-23	0.3	2.43	17.70	.06	7.38
NC TG-24	0.2	2.96	17.57	.25	6.03
NC TG-25	0.1	2.76	23.30	.22	8.60
NC 7556	2.1	2.71	23.10	.14	8.54
NC 7567	3.5	2.68	24.10	.16	9.13
NC 9451	0.3	2.90	16.17	.13	5.58
NC 9477	0.7	3.02	19.00	.30	6.34
NC 9538	0.4	2.49	22.13	.08	8.91
NC 9564	2.2	2.47	20.57	.21	8.46
NC 67 USDA	1.0	2.46	21.00	.02	9.13
NC 69 USDA	0.3	2.38	20.90	.13	8.89
NC 86 USDA	0.5	2.48	19.63	.12	9.13
NC 9120 USDA	1.1	2.95	18.30	.23	6.23
NC 9122 USDA	0.3	3.03	19.57	.13	6.47
NC 9140 USDA	0.6	3.03	15.83	.05	5.49
NC 9150 USDA	0.7	2.76	19.37	.12	7.45
Rogers 78-23MR	0.5	3.19	20.00	.27	6.33
Speight G-72	2.0	2.54	19.17	.17	7.59
Speight G-83	0.5	2.75	18.47	.14	7.00
Speight G-84	0.3	2.84	22.13	.25	7.82
Speight G-85	1.6	2.47	17.50	.22	7.45
Speight G-86M	0.9	2.50	19.80	.13	7.99
Speight G-87M	1.4	2.69	23.90	.13	9.90
Speight G-88M	2.6	2.86	16.67	.16	5.85
Va. 70	3.4	2.64	19.53	.18	7.58
Va. 82	1.0	2.63	18.63	.04	7.08
<u>Mean of Test</u>	<u>1.0</u>	<u>2.73</u>	<u>20.54</u>	<u>.16</u>	<u>7.82</u>
L.S.D. (.05)	1.1	.56	4.22	.16	3.19
(.01)	1.5	.74	5.59	N.S.	4.23
C.V. (%)	71	13	13	65	25

TV 296 REIDSVILLE

Table 10. Comparison of varieties for certain characteristics - 1980.

Varieties or Lines	Yield Lbs/A	Value Index ^{1/}		Grade Index	Days to Flower	Leaves per Plant	Height of Plant
		Dol/A	Dol/Cwt.				
Commercially Available Varieties							
NC 2326	2508	3718	148.01	40	56	18.1	40
NC 95	2331	3432	147.10	35	59	19.2	38
Coker 48	2749	4110	149.16	33	62	19.7	44
Coker 86	2846	4039	141.84	27	61	20.6	45
Coker 298	2394	3636	151.57	43	63	19.3	41
Coker 319	2483	3945	158.66	54	61	19.4	40
Coker 347	2734	4031	147.50	32	63	20.7	42
Coker 411	2508	3836	152.81	36	58	20.2	39
Coker 51	2369	3590	151.43	37	67	20.0	37
McNair 373	2635	4033	153.02	38	55	20.4	35
McNair 944	2763	4153	150.22	37	61	20.7	42
McNair 3199	2595	3988	153.24	42	63	20.6	36
NC 82	2428	3714	152.54	49	53	17.5	38
NC 89	2764	4223	153.10	42	56	17.9	41
NC 628	2538	3625	141.86	29	63	17.7	42
Clemson PD4	2650	4014	151.37	35	59	18.9	41
Rogers 768	2668	3937	147.46	35	62	19.2	38
Speight G-28	2525	3864	152.96	35	57	20.2	36
Speight G-58	2913	4339	148.98	29	60	21.4	41
Speight G-70	2552	3897	152.80	37	58	19.6	35
Speight G-140	2220	3327	149.88	32	64	21.3	41
Va. 115	2696	4039	149.67	35	58	18.5	37
Advanced Breeding Lines							
Coker 78-209MM	2612	3956	151.14	43	64	23.2	42
McNair 3172	2688	4112	152.94	40	63	24.3	41
NC TG-23	3072	4637	150.85	37	68	21.5	38
NC TG-24	2643	4145	156.86	48	68	19.8	42
NC TG-25	2164	3382	156.19	46	61	16.3	36
NC 7556	2443	3665	149.94	32	59	17.7	40
NC 7567	2681	4150	154.81	40	60	20.3	44
NC 9451	2643	3886	146.75	30	65	21.1	44
NC 9477	2523	3872	153.22	40	60	19.8	41
NC 9538	2536	3841	151.13	35	58	20.1	42
NC 9564	2516	3872	153.49	44	61	19.5	39
NC 67 USDA	2742	4167	152.03	36	55	17.1	35
NC 69 USDA	2500	3797	151.59	35	61	20.7	36
NC 86 USDA	2550	3911	153.24	39	56	21.7	37
NC 9120 USDA	2521	3781	149.78	34	58	19.3	35
NC 9122 USDA	2457	3598	146.41	30	58	17.9	39
NC 9140 USDA	2542	3960	155.59	53	62	19.1	39
NC 9150 USDA	2956	4558	154.09	41	60	20.0	37
Rogers 78-23MR	2417	3512	145.34	30	66	20.9	40
Speight G-72	2647	4025	151.94	37	61	20.5	38
Speight G-83	2637	4138	156.98	48	57	18.9	37
Speight G-84	2419	3773	156.18	49	63	19.1	35
Speight G-85	2726	4235	155.31	45	61	21.2	41
Speight G-86M	2842	4219	148.46	38	57	18.3	40
Speight G-87M	2688	4089	151.84	36	60	20.9	42
Speight G-88M	2542	3874	152.45	42	58	20.0	40
Va. 70	2478	3812	153.89	38	64	19.9	44
Va. 82	2552	4025	157.59	56	57	19.5	42
<u>Mean of Test</u>	<u>2594</u>	<u>3934</u>	<u>151.51</u>	<u>38</u>	<u>60</u>	<u>19.8</u>	<u>39</u>
L.S.D. (.05)	408	N.S.	6.30	10	4	2	4
(.01)	N.S.	N.S.	8.35	13	6	3	6
C.V. (%)	10	11	3	16	4	6	7

^{1/}1979 and 1980 price average per grade.

TV 296 REIDSVILLE

Table 10. Continued. Comparison of varieties for certain characteristics - 1980.

Varieties or Lines	Ground Suckers	Analysis of Cured Leaf			Ratio
		Nic. %	Sol. Sug. %	Nor. Nic. %	Sug. Nic.
Commercially Available Varieties					
NC 2326	0	3.02	19.27	.03	6.46
NC 95	0.1	2.91	16.87	.06	6.08
Coker 48	0.2	2.97	19.70	.15	6.66
Coker 86	0.7	2.54	18.17	.21	7.40
Coker 298	0.4	3.39	20.43	.19	6.03
Coker 319	0.1	2.69	20.07	.14	7.72
Coker 347	0.4	3.14	18.90	.12	6.15
Coker 411	0	2.94	18.67	.17	6.52
Coker 51	0	3.00	19.17	.18	6.41
McNair 373	0.6	2.35	18.37	.17	8.15
McNair 944	0.1	2.63	20.00	.11	8.00
McNair 3199	0.2	2.19	17.13	.04	8.22
NC 82	0.3	2.25	20.17	.06	9.47
NC 89	0.1	3.03	18.00	.01	5.96
NC 628	0.1	2.35	18.90	.14	8.07
Clemson PD4	0	2.29	20.73	.21	9.09
Rogers 768	0.1	2.69	17.70	.16	6.59
Speight G-28	0.2	2.55	19.77	.10	8.19
Speight G-58	0.4	2.69	19.93	.18	7.43
Speight G-70	0.2	2.36	20.07	.18	8.53
Speight G-140	0.5	2.41	21.35	.08	8.85
Va. 115	0.1	2.66	18.57	.28	7.01
Advanced Breeding Lines					
Coker 78-209MM	0.1	3.05	19.97	.12	6.59
McNair 3172	0	2.06	18.93	.18	9.50
NC TG-23	0.1	1.78	17.50	.03	9.91
NC TG-24	0.1	2.31	20.43	.15	8.94
NC TG-25	0.1	2.69	19.93	.23	7.46
NC 7556	0.7	2.77	19.03	.16	6.94
NC 7567	0.2	2.52	20.33	.20	8.28
NC 9451	0	2.10	18.83	.21	9.04
NC 9477	0.1	2.41	19.60	.22	8.17
NC 9538	0.1	2.54	20.50	.13	8.11
NC 9564	0	2.16	18.90	.07	8.73
NC 67 USDA	0.5	2.30	19.13	.21	8.54
NC 69 USDA	0	2.34	18.63	.12	8.23
NC 86 USDA	0.5	2.27	19.17	.07	8.63
NC 9120	0.3	2.79	17.03	.04	6.56
NC 9122 USDA	0	2.79	18.47	.08	6.70
NC 9140 USDA	0.2	2.58	18.50	.22	7.20
NC 9150 USDA	0.3	2.56	18.70	.21	7.60
Rogers 78-23MR	0.1	2.78	19.97	.22	7.22
Speight G-72	0.2	2.17	17.60	.16	8.12
Speight G-83	0.2	2.70	17.67	.11	6.67
Speight G-84	0.1	3.01	20.87	.13	7.06
Speight G-85	0.7	2.12	19.53	.14	9.25
Speight G-86M	0.2	2.55	18.40	.17	7.46
Speight G-87M	0.2	2.18	19.57	.15	9.05
Speight G-88M	0.6	2.22	15.67	.03	7.41
Va. 70	0.6	1.82	19.70	.03	10.93
Va. 82	0.6	2.54	19.07	.16	7.55
<u>Mean of Test</u>	<u>0.2</u>	<u>2.54</u>	<u>19.05</u>	<u>.14</u>	<u>7.77</u>
L.S.D. (.05)	.5	.52	N.S.	.16	2.29
(.01)	N.S.	.69	N.S.	.21	3.03
C.V. (%)	126	13	9	70	18

REGIONAL FARM TEST - AVERAGE OF TWELVE LOCATIONS - 1980

Table 11.

Entry	Yield Lbs/A	Value \$/A	Index \$/Cwt.	Nic. %	Nor. Nic.	Tot. Alk.	Ratio Nit. Nic.	Ratio Sug. Nic.	Sol. Sug.	Tot. Nit.
NC 2326	2463	3800	155.06	4.49	.33	4.85	.57	2.17	9.3	2.52
NC 95	2507	3727	149.88	4.50	.36	4.89	.59	2.27	9.7	2.62
Coker 78-209MM	2613	3960	152.61	4.52	.36	4.92	.56	2.30	9.6	2.51
McNair 3172	2673	4196	157.53	3.59	.29	3.91	.70	2.84	9.7	2.49
NC 7556	2551	3741	146.69	4.14	.34	4.51	.63	2.45	9.6	2.58
NC 67 USDA	2549	4074	159.90	3.96	.29	4.28	.62	3.08	11.2	2.44
Rogers 78-23MR	2535	3790	150.10	4.38	.46	4.88	.59	2.51	9.9	2.55
Va. 70	2485	3954	159.59	3.19	.30	3.52	.79	3.78	10.8	2.47
Va. 82	2388	3804	159.86	3.83	.33	4.11	.68	2.94	9.8	2.54

Table 12

REGIONAL FARM TESTS - 1980

Combined Across 12 Farms and Seven Tobacco Companies
Percent Tobacco in Various Color, Body and Texture Classes, Percent Usable

Variety	Color							
	Lemon	Orange	Orange Red	Greenish Tinge	Vari- gated	Dead or Brown	Red	Green
NC 2326	6.2	26.1	12.3	9.8	37.5	2.6	3.1	2.4
NC 95	10.4	16.3	9.0	12.6	39.2	5.5	1.8	5.3
Coker 78 -209MM	10.8	26.0	10.1	5.4	38.8	5.2	2.4	1.3
McNair 3172	20.9	27.4	9.1	6.1	32.5	2.2	0.6	1.2
NC 7556	1.6	17.9	11.1	9.6	43.0	3.6	3.5	9.8
NC 67 USDA	11.7	27.7	10.6	6.5	40.0	1.1	1.9	0.5
Rogers 78-23MR	1.5	14.7	7.3	16.9	45.6	2.9	1.1	10.1
Va. 70	13.8	30.8	8.7	7.5	35.0	1.5	1.7	1.0
Va. 82	16.9	28.7	10.5	4.1	36.1	2.5	0.5	0.7

Variety	Body				
	Chaffy	Thin	Medium	Medium Heavy	Heavy
NC 2326	3.9	20.2	39.9	25.1	10.9
NC 95	5.7	19.5	36.8	26.0	12.0
Coker 78 -209MM	4.4	23.5	40.4	23.1	8.6
McNair 3172	5.6	25.0	42.0	22.2	5.2
NC 7556	7.0	14.9	34.8	30.5	12.8
NC 67 USDA	3.8	20.1	34.5	29.3	12.3
Rogers 78-23MR	3.9	20.2	38.4	23.8	13.8
Va. 70	5.9	25.0	37.5	21.1	10.5
Va. 82	5.9	25.1	42.3	20.7	6.0

Variety	Texture						
	Open Grain	Medium	Smooth	Slick	Papery	Other	Usable
NC 2326	5.3	26.2	36.4	9.0	7.6	15.5	37.3
NC 95	4.8	22.0	40.6	8.7	6.7	17.1	35.7
Coker 78 -209MM	5.6	33.6	33.2	7.0	5.6	15.0	43.8
McNair 3172	4.4	26.7	40.4	9.1	7.0	12.3	48.3
NC 7556	4.4	25.0	34.1	8.5	7.5	20.6	30.7
NC 67 USDA	1.9	21.7	44.3	9.0	7.8	15.4	39.3
Rogers 78-23MR	2.0	15.3	42.1	10.7	7.7	22.2	21.7
Va. 70	3.4	20.8	44.3	8.0	8.6	14.9	37.7
Va. 82	5.4	23.3	40.4	7.6	11.3	12.0	41.8

Table 13
 REGIONAL FARM TEST ENTRIES^{1/}
 Percent Cured Leaf Usable by Tobacco Companies
 Average Across 6 Locations

Entry	Tobacco Companies						Average	
	A	B	E	F	G	H		I
NC 2326	11.0	6.0	16.2	32.2	21.3	69.3	58.0	30.6
NC 95	8.7	15.8	19.2	50.0	12.3	56.7	48.4	30.2
Coker 78-209MM	21.0	34.5	25.8	44.8	28.0	69.0	62.6	40.8
McNair 3172	14.8	16.7	27.6	41.5	47.8	68.3	67.8	40.6
NC 7556	8.5	14.0	8.2	27.8	22.5	45.2	40.6	23.8
NC 67 USDA	7.7	17.8	24.6	23.3	53.8	61.0	65.2	36.2
Rogers 78-23MR	10.0	13.5	7.4	14.3	26.2	57.5	40.4	24.2
Va. 70	4.7	17.0	22.4	42.2	36.5	62.3	74.8	37.1
Va. 82	16.7	25.0	23.4	32.0	31.2	61.0	81.0	38.6

^{1/}Data taken from Regional Small Plot Test.

Table 14. Index^{1/} on amount graded of each entry by seven participating companies from five farms in North Carolina Farm Tests - 1980.

Belt and Grower	Variety or Line								
	NC 2326	NC 95	Coker 78-209MM	McNair 3172	NC 7556	NC 67 USDA	Rogers 78-23MR	Va. 70	Va. 82
<u>Border</u>									
Edmund	.8	4.6	2.8	3.8	3.0	2.8	1.6	2.9	2.6
<u>Eastern</u>									
Sutton-Hooten	1.7	3.1	2.9	3.4	.9	3.0	.7	3.6	1.7
Harrell	3.3	2.3	3.6	3.2	3.3	3.1	2.3	3.3	2.9
<u>Middle</u>									
Burnette	1.1	.7	2.0	3.4	.4	2.9	1.1	3.1	2.2
<u>Old</u>									
Day	4.5	1.4	4.2	3.3	1.4	3.0	1.5	3.6	3.4
Overall Average	2.3	2.4	3.1	3.4	1.8	3.0	1.4	3.3	2.6

^{1/}0 - None graded, 7 - Graded by seven participating companies.

Table 15. Grower ratings^{1/} for preference for each entry in Regional Farm Test in North Carolina - 1980.

Belt and Grower	Variety or Line								
	NC 2326	NC 95	Coker 78-209MM	McNair 3172	NC 7556	NC 67 USDA	Rogers 78-23MR	Va. 70	Va. 82
<u>Border</u>									
Edmund	7	4	8	5	6	1	8	3	2
<u>Eastern</u>									
Sutton-Hooten	7	5	3	1	4	8	6	2	9
Harrell	1	7	8	5	9	2	6	3	4
<u>Middle</u>									
Andrews	7	6	5	1	8	4	8	2	3
Burnette	7	8	4	3	9	2	5	1	6
<u>Old</u>									
Day	3	4	3	2	3	3	4	2	1
Overall Average	5.3	5.7	5.2	2.8	6.5	3.3	6.2	2.2	4.2

^{1/} 1 - Most desirable; 9 - Least desirable

Table 16. Grower practices by individual farms, Regional Farm Test in North Carolina - 1980.

Belt and County	Farm	Chemical Soil Treatment	Row Width and Hill Spacing	Date of Planting	Date of first Harvest	Fertilizer	Top-dressing	Insecticide	Curing Unit	Number Times Irrigated
<u>Border</u> Columbus	Edmund	Furadan 1 gal/A Ridomil 1 qt/A	48" 20"	April 7	June 24	1,000 lbs. 3-9-9	500 lbs. 6-12-18	Lannate 1 qt/A	Jet Fuel Oil	None
<u>Eastern</u> Lenoir	Sutton Hooten	Telone C-17 10 gal/A Row Ridomil 1 qt/A	48" 22"	April 22 through May 6	July 21	900 lbs. 3-9-9	100 lbs. 15.5-0-0	None	Roanoke Bulk Fuel Oil	None
Wilson	Harrell	Mocap Broadcast 60 lbs/A Ridomil 1 qt/A	44" 24"	April 29 May 1	July 14	750 lbs. 6-12-18	150 lbs. 15-0-14	Lannate	Dixie Bulk Natural Gas	None
<u>Middle</u> Harnett	Andrews	Telone C-17 8 gals/A Row Ridomil 1 qt/A	48" 20"	April 30 through May 10	July 15	700 lbs. 6-12-18	200 lbs. 15-0-14	Orthene 1 lb/A	Powell Bulk Barn L. P. Gas	Three
Granville	Burnette	Soil Brom 85 2½ gals/A Row Ridomil 1 qt/A	44" 22"	April 30 through May 3	July 17	300 lbs. 6-12-18	500 lbs. 6-12-18 200 lbs. 15-0-14	Azodrin 5 7/8 pt/A Lannate 1 qt/A	Tar Heel L. P. Gas	None
<u>Old</u> Person	Day	Ridomil 1 qt/A	48" 22"	April 28	July 18	80 lbs. 16-0-0	500 lbs. 6-12-18 300 lbs. 8-0-24	Orthene 1 lb/A	Jet Fuel Oil	Four

Table 17. Cultural practices for the Official Variety Test - 1980.

Station	Fertilization	Top- Dressing	Soil Type	Chemical Soil Treatment	Irri- gation	Date of Transplanting	Date First Harvest
Border Belt Tobacco Research Station Whiteville, N. C.	600#/A 6-12-18	150#/A 15-0-14	Norfolk Fine Sandy Loam	Nemacur-Dasanit 1 gal/A Ridomil 1 qt/A	None	April 20	July 15
Lower Coastal Plain Tobacco Res. Station Kinston, N. C.	470#/A 8-8-24	190#/A 15-0-14	Norfolk	Telone C-17 10½ gal/A Ridomil 1 qt/A	None	April 24	July 9
Upper Coastal Plain Research Station Rocky Mount, N. C.	1200#/A 4-8-12 Broadcast	145#/A 16-0-0	Norfolk Sandy Loam	Nemacur-Dansanit 1 gal/A Ridomil 1 qt/A Dyfonate-Tillam 1 gal/A	1 inch June 16 1 inch July 7	May 2	July 22
Oxford Tobacco Research Station Oxford, N. C.	600#/A 8-8-24	113#/A 15-0-14	Vance Sandy Loam	Ridomil 1 qt/A Di-Syston 2/3 gal/A Mocap 1 gal/A	1 inch June 24 1 inch July 8 1 inch August 8	May 9	July 23
Upper Piedmont Research Station Reidsville, N. C.	700#/A 6-12-18	150#/A 15-0-14	Cecil Sandy Loam	Terr-0-Cide 30 6 gal/A Ridomil 1 qt/A	1.5 inches July 22 1 inch August 8 .5 inch August 10	May 19	July 29

Table 18. Border Belt Tobacco Research Station, Whiteville, N. C.

Date	April	May	June	July	August	September
1						
2					.05	
3						
4				.42		.05
5				2.38		.33
6				.21		.10
7					.56	
8	T	T				
9	.12	.43				
10					.10	
11				.03		
12						
13	.01			.30	.16	
14						.65
15	.90					
16						
17			.24		.13	.11
18		1.73	.49			.19
19		.05	.11			
20		.37			.10	1.20
21		1.80				
22						
23				.03		
24				1.10		
25		.27	.45			.04
26		.24	1.00			.11
27			.19	.35		
28	.40					
29				.12		.34
30	.25		.08	.45		.71
31						
TOTALS	1.68	4.89	2.56	5.39	1.10	3.83

T - Trace

() - Irrigation

Table 19. Lower Coastal Plain Tobacco Research Station, Kinston, N. C.

Date	April	May	June	July	August	September
1		.24				
2					.85	
3						
4						3.62
5				.85		
6						.77
7					.20	
8					.38	
9				.29		
10					.15	
11			.02	.28		
12						
13						
14	1.23				.06	.08
15						
16						
17			.20			
18		.33	.68			
19					.60	
20		.37				
21		1.70				
22						
23		.47		.21		
24		.12		1.26		
25		.72				2.73
26		.17	2.45			.11
27			.14	.03		
28	1.42			.01		
29				.65		.53
30			.08	1.28		.81
31						
TOTALS	2.65	4.12	3.57	4.86	2.24	8.65

T - Trace

() - Irrigation

Table 20. Upper Coastal Plain Research Station, Rocky Mount, N. C.

Date	April	May	June	July	August	September
1		.06				
2					1.59	
3						
4				T		.18
5	.50			T		
6				.03		1.50
7			.11	(1.00)		
8	.04	T				
9	.06		.09	T		
10				.09		
11				.40		
12						
13					.15	
14	.37					.05
15	.71	.07				
16			(1.00)			
17						
18		1.48	.21	.30		.34
19		1.42	.03		.16	
20		.10	.04	.17	.11	
21		.49				
22						
23		T				
24		.35		.65		T
25		.09	T			.17
26		.26	.53			.03
27			.05			
28	.80					
29				.50		T
30	.52		.19			.47
31						
TOTALS	3.00	4.32	2.25	3.14	2.01	2.74

T - Trace

() - Irrigation

Table 21. Oxford Tobacco Research Station, Oxford, N. C.

Date	April	May	June	July	August	September
1		.17				
2					.21	
3						
4	.04			.05		.90
5						
6			.76			
7	.18		.22			
8	.04		.01	(1.00)	(1.00)	
9	.29			.87		
10				.12		
11			.02	.06	.27	
12						
13	.22			.02		
14	1.22					
15		.38				
16						
17						
18		.65	.17	.98	.74	.30
19					.20	
20		1.45			2.96	T
21		2.35				
22					.02	
23		.02		1.36		
24		.07	(1.00)		.03	.07
25		.01	.83			.30
26	.35	.03	1.50			
27	.02		.02			
28	.14					
29						.01
30	.36		.03			1.01
31						
TOTALS	2.86	5.13	3.56	3.46	4.43	2.59

T - Trace

() - Irrigation

Table 22. Upper Piedmont Research Station, Reidsville, N. C.

Date	April	May	June	July	August	September
1			.07			
2	T				.68	
3						
4	.03			T		.08
5				.43		
6						T
7	T		.41			
8	.05	T			(1.00)	
9	1.57	.01		.14		
10				T	.37	
11			.03	1.64	(.50)	
12						
13	.38			.80		
14	.40					
15	.21					.10
16						
17						
18		.80	.05	1.02		.06
19			.17		.06	
20		.35			.44	
21		1.74			.60	.25
22				(1.50)	.22	
23				.79	T	
24		.03		.16	.03	
25	.03	.21	.10			1.00
26	.02	.04	4.27			T
27	.10		.90			
28						
29				.04		T
30	.13					.16
31						
TOTALS	2.92	3.18	6.07	5.02	2.40	1.65

T - Trace

() - Irrigation