

Measured Crop Performance

TOBACCO

1965

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TABLE OF CONTENTS

INTRODUCTION	3
EXPERIMENTAL PROCEDURE	4
Official Variety Test	5
Regional Farm Tests	9
RESULTS AND DISCUSSION	12
Official Variety Test	12
Commercially Available Varieties	13
Advanced Breeding Lines	16
Regional Farm Tests	18
Description of New Varieties	19
SUMMARY TABLES	
Table 1. Percentage comparison with the mean of Hicks	23
Table 2. Comparison of certain varieties over three years	24
Table 3. Comparison of varieties for certain characteristics combined for five locations	25
Table 4. Summary information on disease resistance	28
Table 5-9 Individual location data	29
Table 10- 14 Results of Regional Farm Test	44
Table 15- 16 Cultural Practices: Official Variety Test and Regional Farm Tests	49
Table 17 Rainfall, by stations	51

PERFORMANCE OF TOBACCO VARIETIES IN NORTH CAROLINA

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Two new flue-cured tobacco varieties will be available for farmer planting in 1966. These varieties have been extensively evaluated in the Regional Minimum Standards Program and meet the standards as outlined by the Quality Evaluation Committee of the Tobacco Worker's Conference. The new varieties are NC 2512 and Speight G-7.

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, Hicks Broadleaf and NC 95, by more than plus or minus 15 percent for measurable chemical traits which are considered important to quality, and should not contain more than 8 percent of the total alkaloids as nornicotine. Variety candidates should compare favorably with the standard varieties for color, body, texture, moisture equilibrium, filling value, flavor and aroma. A minimum of two years evaluation throughout the flue-cured

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region of the United States on both experiment stations and farmer plots is required.

Such a program should mean much to our domestic and export trade and to our 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 this 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 tobacco variety evaluation program in North Carolina is a part of the regional test. Data are presented from the 1965 Official Variety Tests in North Carolina and the Regional Farm Tests. In addition, summary tables of variety performance over different years and locations are 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 PROCEDURE

The Tobacco Variety Evaluation Program in North Carolina is divided into three phases. The first phase, the Official Variety Test, consists of testing varieties and breeding lines in small replicated plots located on five research stations. The second phase of the

program involves a more extensive study of fewer varieties and advanced breeding lines grown under farm conditions in approximately one-half acre plots and is referred to as the Regional Farm Test. The third phase is the Regional Small Plot Test, conducted in five states, and this data is presented in a separate publication.

Official Variety Test

Disease resistant and non-resistant experimental lines and varieties developed by public and private agencies are included. 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 co-operate 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.

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

^{3/} Chemical analyses were made under the supervision of J. A. Weybrew and John L. Hall of the Department of Crop Science. Their assistance is gratefully acknowledged.

Agencies Sponsoring Entries in 1964

Bell's Seed Farm, Rocky Mount, N. C.

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

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

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

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

Speight Seed Farms, Winterville, N. C.

Virginia Agricultural Experiment Station, Chatham, Va.

Test Locations

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

- TV 158 Border Belt Tobacco Research Station, Wallace Dickens, Superintendent, Whiteville, N. C., representing the Border Belt.
- TV 159 Upper Coastal Plain Research Station, Horace Cox, Superintendent, Rocky Mount, N. C., representing the Eastern Belt.
- TV 160 Central Crops Research Station, W. C. Allsbrook, Superintendent, Clayton, N. C., representing the Eastern Belt.
- TV 161 Oxford Tobacco Research Station, J. M. Carr, Superintendent, Oxford, N. C., representing the Middle Belt.
- TV 162 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 locations of 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 7 x 7 triple lattice design were used at each location.^{4/} The plants were banded approximately two weeks prior to transplanting and individually selected at transplanting for maximum uniformity within plots at all locations. Each one row plot consisted of 20 competitive plants, except at the Rocky Mount Location where 16 plant plots were used to facilitate irrigation. The rows were 3.75 feet apart at all locations, and hills were spaced 22 inches apart. Cultural practices are shown in Table 15.

All entries were topped and hand suckered. 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 Field Crops Research Report Number 23 and Crop Science Research Report Number 9.

^{4/} Statistical analyses were made in the Computing Center under the supervision of John O. Rawlings, F. J. Verlinden, R. D. Weems, and Joe Snavelly. Their assistance is gratefully acknowledged.

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 that grade during the 1964 and 1965 season through October 7, 1965.

Quality Index: Each Grade was evaluated for physical traits by rating the leaf for color, body and texture on a scale of 10 to 50. The categories were: 10 = very good, 20 = good, 30 = fair, 40 = poor, and 50 = very poor. A quality index was then calculated for each plot. This rating was made by experiment station personnel.

Seasonal Conditions: In general, all tobacco in the Official Variety Test was planted under favorable moisture conditions. The growing season was generally good although rains during June, July, and August were excessive at some locations. The season was conducive to the development of light to medium bodied tobacco with a moderate nicotine content. Rainfall data are shown in Table 17.

The Whiteville test, TV 158 was transplanted under good moisture conditions. There was fairly adequate rain throughout the season without any dry periods; there was an excess of moisture in June and July. The tobacco in this test tended to be fair to good in color and had medium body and fair texture. Brown Spot caused some damage in the more susceptible entries. The tobacco in this test was of reasonably good quality and one of the best of the five locations. The Rocky Mount test, TV 159 was transplanted under adequate moisture conditions. There was an excess of rainfall during June and July.

The Clayton test, TV 160 was transplanted under heavy moisture conditions. Rainfall was heavy, but fairly well distributed during the season. The tobacco suffered from excess moisture on two replications.

The Oxford test, TV 161 was transplanted under dry conditions. Irrigation in May helped to get the crop started. The cured leaf was medium in body and the season produced one of the best overall tests ever to be planted at Oxford. Yields at this location on all entries were somewhat low because of late topping.

The Reidsville test, TV 162 was transplanted under fairly dry moisture conditions, but it rained two days after transplanting. The soil was medium heavy in type and was fairly fertile. The overall quality of all entries was better than in the previous season.

Regional Farm Tests

The number of entries in this test is necessarily limited since the plots are rather large and there are many locations. In this program are included 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 co-operative effort of the experiment station, extension service, USDA, tobacco companies and growers. The participating companies were: The American Tobacco Company, Brown and Williamson Tobacco Corporation, Imperial Tobacco Company, Liggett and Myers Tobacco Company, Philip Morris, Inc., P. Lorillard Company and R. J. Reynolds Tobacco Company.

Twelve locations were utilized -- two each in Georgia, South Carolina and 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 generally used by the growers and were considered moderate. A nematode assay was made on all fields and those with a nematode problem were fumigated. Only information on the North Carolina test is shown here.

Representatives from both domestic and foreign buyers visited these plots in the field. The cured tobacco was displayed on a warehouse floor 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 the previously described quality index.

In general, the 1965 season was wet throughout the growing period which tended to produce light to medium body.

Edmund transplanted during a dry period but had ample rain for a fair growing season. A wet season during part of the growing period caused leaf diseases to show up in the tobacco. The latter part of the growing season was generally favorable and the quality was good. Some mosaic and black shank appeared at this location.

The test at Harrell's was transplanted in a normal growing period and following this had excess rainfall in June and July. The season was such that a medium to medium-light crop of tobacco was produced with the weight above the average for the coastal plain tests. The general characteristics of the tobacco in the field were good, and the cured leaf was satisfactory. Some varieties had very good quality.

Harper had good moisture and soil conditions on the transplanting date. The crop grew well during the growing season, but heavy rains occurred at harvest time. Excess water caused some problems with sweating and breaking during curing. Over 40% of Hicks was lost because of black shank.

King transplanted during a fairly good season, but this was followed by a wet period. Heavy rains in June and July resulted in some damage to all varieties. About 10% of Hicks was lost to black shank.

Goss had an extremely wet season soon after transplanting. Over 12 inches of rainfall were recorded for June. In spite of this wet season the tobacco grew off well and had good appearance at curing. Brown spot was seen on some varieties. There was about 35% damage on Hicks from Granville Wilt.

Busick transplanted on May 15 and all entries grew off very well with about the same degree of growth. Excess nitrogen in the soil caused late maturity of all varieties and some brown spot late in the season. Excessive rains in June and July combined with high nitrogen resulted in large plants and heavy weights on all plots.

RESULTS AND DISCUSSION

The data are discussed under the headings (1) Official Variety Test and (2) Regional Farm Tests. 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 for various years and locations and indicate how varieties have been performing over a period of years at various locations.

In Table 1 the data are percentage comparisons with the average performance of Hicks Broadleaf for the period 1953 to 1965. The varieties with the higher number of comparisons have been included in the tests from two to thirteen years and give a more accurate estimate of their general performance, while the varieties with four or five comparisons have been in the test only one year. Most varieties in Table 1 maintain their same relative position for value per acre as they do for yield. However, there were exceptions, Hicks Broadleaf, NC 2326, NC 95, Coker 319, McNair 12 and Speight G-7 improved their relative ranking in value per acre because of their high value per one hundred pounds.

In Table 2, fourteen varieties that were common in the 1963, 1964, and 1965 tests are compared for a large number of characteristics. The same general trend was shown in these varieties during all years. Speight G-5, NC 2512 and Va. 115 had the highest acre value. Hicks Broadleaf was the earliest to flower. All varieties had about average percent nicotine, except Speight G-35, McNair 12 and Coker 319 which were low. All varieties were in an average range for other chemical and agronomic traits.

The average performance of varieties and lines compared at five locations in 1965 is shown in Table 3. 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 3 are commercially available varieties, whereas those in the lower portion are breeding lines.

Commercially Available Varieties

Of the 16 commercially available varieties tested in 1965, most yielded equal to or greater than Hicks. There was a fairly wide spread for dollars per hundredweight, ranging from a low of \$60.91 to a high of \$67.02 for Coker 298 and NC 2326, respectively. The quality rating followed the same general pattern as did the dollars per hundredweight. Due to the range used in assigning the quality index (10 to 50, with 10 being best), varieties seemed to be quite similar, however, small

differences are important in this index and are significant. Considering all entries in the test, there has been a high correlation between the value per hundredweight and the quality index, indicating that the two are giving a somewhat similar picture. If the tobaccos are normal in physical appearance this would be expected. It appears that the grades as changed in 1963 and 1964 reflect quality according to price to a rather large extent. This is a change for the better in evaluating tobaccos, since it does separate the more desirable from the less desirable types. Varieties differ for quality characteristics as shown by these data.

Most varieties were intermediate in their flowering habit, ranging from 0 to 8 days later than Hicks Broadleaf. All varieties had more leaves per plant than Hicks, although the maximum difference was only 3.5 leaves. Data were collected on internode length on the basal, middle and upper part of the plant. Information of this nature would be useful to the engineer in developing mechanical harvesting equipment. The range was small in the lower two stalk positions, but wide in the upper position. Speight G-7 and Coker 187-Hicks had a high ground sucker count. Speight G-36 and Bell 29 had the lowest axillary sucker count per plant. Measurements on leaf size indicated that most varieties were quite similar, although Speight G-7 and Bell 29 might be considered a broadleaf type. Most are of the old line type with medium width leaves. This has been the direction of selection by breeders in recent years and has produced varieties that tend to more nearly resemble those of the old line type.

Quality is divided into visual or physical appearance, chemical characteristics and smoking characteristics. The visual characteristics can be readily seen by the eye, whereas the chemical and smoke characteristics must be determined in the laboratory. Data on several chemical constituents that are associated with quality are presented in Table 3. Most of the varieties appear to have satisfactory chemical compositions, however, Coker 187-Hicks is low in nicotine content as compared with the other varieties. In general, a nicotine content of about 1.75-2.75 percent in a normal year is satisfactory to the trade. Within limits, it is generally assumed that the higher the ratio of nitrogen-to-nicotine, the less desirable the tobacco since it does not age satisfactorily. This ratio is also used as an indication of chemical balance within the plant. All of the varieties had a ratio below 1.00 this season, except Coker 319, Coker 187-Hicks, and McNair 12. The total nitrogen content was about normal.

Watson 412 and McNair 12 had a higher proportion of their alkaloid in the form of nornicotine than the other varieties. Several varieties showed some cherry red in the cured leaf. They were Bell 29, McNair 12, and NC 95. All of the varieties appeared to be in the acceptable range for reducing sugars, although the sugars in general were consistently lower than in 1964.

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 5.04 for NC 95 to 8.96 for McNair 12.

Information on disease resistance is presented in Table 4. Data were collected on Black Shank, Granville Wilt, Fusarium Wilt, and Root Knot. 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. It will be noted that several varieties are classed as being less resistant to Black Shank than in 1964 due to additional data and more regional testing. 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. NC 95 carries a high level of resistance to Granville Wilt, Fusarium Wilt, and Root Knot. Several other varieties carry a moderate to high level of resistance to Granville Wilt and Fusarium Wilt. The Choice of varieties carrying Granville Wilt resistance is somewhat higher than in recent years. Brown Spot developed rather severely at several locations. The varieties were rated for tolerance or sensitivity to brown spot.

Advanced Breeding Lines

Data on advanced breeding lines are also shown in Table 3, however since these lines are in early stages of testing, the data will not be discussed in detail at this time.

Most of the breeding lines are showing moderate to high levels of resistance to black shank. Ten lines had high resistance to Root Knot. However, only three lines had high and eight moderate resistance to Granville Wilt. There has been some increase in lines with sufficient resistance to Granville Wilt. With the current breeding stocks and genetic material developed over a 20 year period, disease resistance and yield should no longer be a problem to incorporate into a variety, but when physical and chemical characteristics along with good handling qualities are included, desirable levels of all these characteristics are difficult to obtain. In other words, the more selection criteria imposed on the breeding program the more difficult it is to include all at a desirable level in a single variety. This remains a challenge to the tobacco breeder.

Several of the entries are carrying resistance to the Root Knot nematode species Meloidogyne incognita, which is the most prevalent species in North Carolina Soils. There are other species of Root Knot nematodes, as well as the meadow and stunt nematodes, to which these lines are susceptible. Some of the entries carrying this source of resistance are also showing good quality characteristics.

Regional Farm Tests

A summary of the results from the Regional Farm Tests is presented in Table 10. Yields ranged from 1917 to 2410 pounds per acre for Hicks and NC 2514 respectively. Value per acre followed the same trend as yield. Hicks had the highest dollars per hundred pounds which was indicative of its good quality.

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 each of the seven participating tobacco companies. The results of this quality appraisal are shown in Table 11. The ratings varied from company to company but tended to follow the same general pattern.

In Table 14, an index of the amount graded is shown by grower for each variety. If all seven companies could grade all of a variety into their grades, then it received an index of 7. However, since companies have different requirements, all would not tend to grade each lot of tobacco. There was more tobacco graded in the varieties Watson 412 and Speight G-7 than in the other varieties. This was indicative of their acceptability by the manufacturers.

The farmers were asked to rate the varieties for grower desirability with their preference as 1. The data are shown in Table 14, The rating indicated that the growers preferred Speight G-7, NC 95, and NC 2514 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.

These 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.

Description of New Varieties

NC 2512 (developed by North Carolina Agricultural Experiment Station from a cross of (8037 x Hicks x NC 75). The variety produced a high yield (331 pounds higher than Hicks) with a quality index and price per pound a little lower than Hicks.

The leaf cured to a rich orange color, fair to smooth texture and medium to medium heavy body. The percent nicotine, sugar, and ratio nitrogen to nicotine were in line with Hicks. The variety meets minimum standards for chemical, physical, and smoke properties.

In field appearance the plants were medium low, dark green, with long, narrow, pointed leaves toward the top, but about the same width as Hicks at the bottom of the plant. The leaves were slightly wrinkled-not as smooth as Hicks. They were spaced close on the stalk and the spacing of the leaves in the upper part of the plant was closer than Hicks. The variety needs to become well ripened before harvest. No tendency for excessive brittleness in the field or in handling at the barn has been observed.

The plant had a medium low number of leaves (about the same as Hicks), flowered medium late and produced a low number of ground suckers. A high number of leaf axil suckers were produced.

The variety was rated as having a low level of resistance to black shank, susceptible to Granville Wilt, moderate resistance to Fusarium Wilt, resistant to the most common root knot nematodes, and tolerant to brown spot. It appeared to have a wide adaptation, but seemed to be at its best on medium sandy loom to sandy soils and about the same fertility level as Hicks.

Speight G-7 (developed by Speight Seed Farms, Winterville, N. C. from a cross of (Coker 139 x Hicks) x (Coker 139 x Vesta 30) produced a high yield of tobacco with a bright orange to lemon color. The cured leaf was fairly grainy to smooth texture and thin body.

The quality index and price per cwt. were slightly lower than Hicks but a little higher than NC 95. Nicotine and sugar percentages and ratio of nitrogen to nicotine were in line with the average of Hicks and NC 95. The variety meets the minimum standards for chemical, physical, and smoke properties.

Field appearance - plants were medium high, light green, with medium long, broad leaves, width carries well to the top of the plant. The leaves were smooth and spaced close on the stalk (closer than Hicks in the upper part of the plant). No tendency to brittleness in the field or in handling at the barn has been observed. Plants had a medium high number of leaves (more than Hicks), flowered medium late, and produced a high number of ground suckers and a medium low number of leaf axil suckers.

Speight G-7 was rated as moderately resistant to black shank with low resistance to Granville Wilt, susceptible to Fusarium Wilt and tolerant to brown spot.

LOCATION OF TESTS

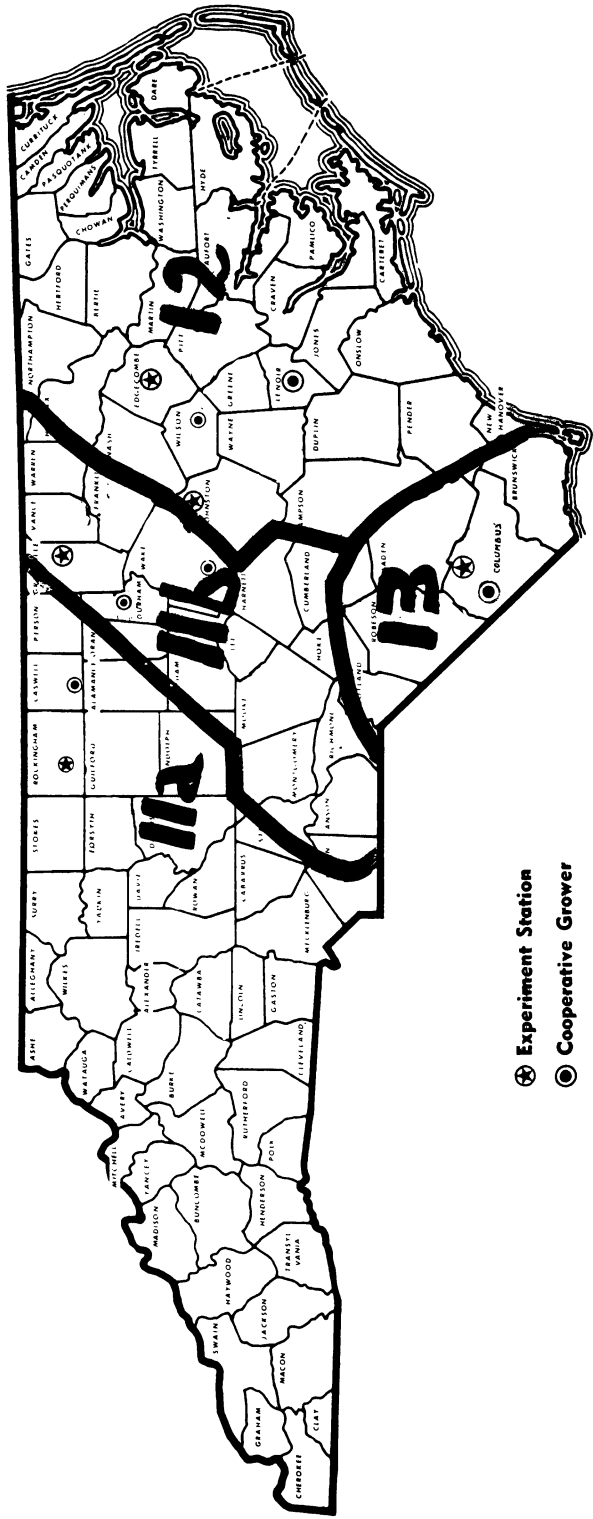


Figure 1

Table 1. Percentage comparison with the mean of Hicks Broadleaf of certain flue-cured tobacco varieties in the Official Tobacco Variety Test. 1953 - 1965.

Standard Hicks Broadleaf	Acre Yield 2003 lbs.		Acre Value \$ 1210		Value per 100 lbs. \$ 60.00
No. Comparisons*					
10	NC2512	(118)	NC 2512	(117)	NC 2326 (103)
19	Speight G-5	(116)	Speight G-5	(114)	<u>Hicks Broadleaf</u> (100)
15	Speight G-36	(113)	Va. 115	(111)	McNair 12 (100)
19	Va. 115	(113)	NC 95	(108)	NC 2512 (100)
28	NC 95	(111)	Speight G-7	(107)	White Gold (100)
19	Bell 29	(110)	NC 2326	(105)	Coker 319 (99)
35	Coker 187-Hicks	(110)	Coker 319	(104)	Speight G-7 (99)
15	Coker 298	(109)	McNair 12	(104)	Va. 115 (99)
5	Speight G-7	(109)	Speight G-36	(104)	Bell 15 (98)
19	Coker 319	(106)	McNair 30	(103)	McNair 30 (98)
19	McNair 30	(105)	Bell 29	(102)	NC 95 (98)
28	McNair 12	(104)	Coker 187-Hicks	(102)	Speight G-5 (98)
13	Coker 80-F	(103)	Coker 298	(101)	McNair 20 (97)
9	Coker 111	(103)	<u>Hicks Broadleaf</u>	(100)	Coker 80 F (96)
15	NC 2326	(102)	Coker 80 F	(99)	Coker 156 (96)
30	Bell 15	(100)	Bell 15	(98)	Bell 29 (93)
59	<u>Hicks Broadleaf</u>	(100)	White Gold	(98)	Coker 111 (93)
25	Coker 187	(98)	Coker 111	(96)	Coker 187-Hicks (93)
11	White Gold	(98)	McNair 20	(92)	Coker 298 (93)
19	McNair 20	(95)	Coker 156	(88)	Speight G-36 (93)
5	Coker 156	(92)	Coker 187	(88)	Coker 187 (90)

*Number of times appeared in test with Hicks Broadleaf

THREE YEAR AVERAGE 1963, 1964, and 1965

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

Varieties or lines	Yield LBs/A	Value Index		Days to Flower	Leaves per plant	Height of Plant
		Dol/A	Dol/Cwt.			
Hicks Broadleaf	2196	1361	61.95	51	16.9	41
NC 95	2422	1465	60.63	59	20.0	45
Bell 29	2440	1402	57.85	57	18.4	46
Coker 187 - Hicks	2383	1400	59.11	59	20.0	47
Coker 298	2394	1378	57.91	60	20.9	47
Coker 319	2335	1434	61.50	59	20.7	43
McNair 12	2240	1382	61.77	57	19.1	41
McNair 20	2091	1269	60.77	53	17.7	41
McNair 30	2321	1406	60.80	53	17.9	43
NC 2512	2577	1595	62.00	56	19.1	43
NC 2326	2239	1431	63.93	52	17.6	43
Speight G-5	2576	1558	60.70	59	20.2	45
Speight G-36	2473	1411	57.37	62	20.5	48
Virginia 115	2480	1521	61.58	55	18.9	41

Varieties or lines	Suckers per plant			Width of leaf (in.)			Length of leaf (in.)		
	Ground	Leaf	Axial	5th	10th	15th	5th	10th	15th
Hicks Broadleaf	1.4		24.9	9.6	11.9	12.6	23.6	24.8	22.8
NC 95	1.3		19.7	9.6	11.4	13.2	19.8	22.2	22.3
Bell 29	.5		17.2	9.2	12.3	14.4	20.5	23.6	23.3
Coker 187 - Hicks	2.8		20.7	9.8	12.0	14.1	19.9	22.4	22.4
Coker 298	.6		17.3	9.4	11.6	13.7	19.9	22.6	23.1
Coker 319	.9		22.1	8.4	10.5	12.4	20.7	23.2	23.3
McNair 12	.7		19.1	9.7	11.5	12.9	20.5	22.5	22.3
McNair 20	.7		21.6	8.4	11.0	12.2	21.9	23.9	22.7
McNair 30	1.0		22.1	9.2	11.7	13.2	22.5	24.2	23.1
NC 2512	.9		23.1	8.6	10.8	12.9	20.8	23.3	23.3
NC 2326	.3		21.4	9.4	11.6	12.7	22.6	24.2	22.7
Speight G-5	.5		20.1	9.5	11.9	13.9	21.2	24.0	23.9
Speight G-36	.7		16.9	8.6	10.9	13.1	20.0	22.9	23.0
Virginia 115	.5		17.9	8.6	10.7	12.4	21.0	23.0	22.9

Varieties or lines	Nic. %	Nornic %	Red. Sug. %	Tot. N. %	T. N. Nic.	Sug. Nic.
Hicks Broadleaf	3.30	.18	19.51	2.24	.70	6.52
NC 95	3.08	.18	19.11	2.25	.75	6.70
Bell 29	2.63	.20	18.70	2.19	.88	8.14
Coker 187 - Hicks	2.66	.19	19.58	2.16	.86	8.08
Coker 298	3.09	.17	17.59	2.25	.76	6.15
Coker 319	2.61	.18	18.97	2.25	.92	8.31
McNair 12	2.68	.25	19.88	2.23	.88	8.26
McNair 20	3.22	.19	18.96	2.23	.74	6.55
McNair 30	3.12	.16	19.25	2.26	.75	6.74
NC 2512	2.73	.17	20.13	2.14	.82	8.33
NC 2326	3.14	.17	19.80	2.21	.74	7.01
Speight G-5	2.68	.14	19.49	2.09	.81	7.85
Speight G-36	3.03	.15	18.22	2.30	.81	6.91
Virginia 115	2.91	.22	20.50	2.16	.77	7.56

WHITEVILLE, ROCKY MOUNT, CLAYTON, OXFORD and REIDSVILLE

Table 3. Comparison of varieties in 1965 for certain characteristics, combined for five locations.

Varieties or Lines	Yield Lbs/A	Value Index		Days to Flower	Leaves per Plant	Height of Plant	Internode Length			
		Dol/A	Dol/Cwt.				QT ^{1/}	0-10"	10-20"	20"-top
Commercially Available Varieties										
Hicks Broadleaf	2101	1398	66.22	31.3	53	16.8	44	1.8	2.3	3.4
NC 95	2288	1454	63.80	33.4	59	19.9	45	1.8	2.3	2.5
Bell 15	2088	1374	65.70	33.0	52	17.3	44	1.9	2.3	3.1
Bell 29	2242	1414	63.08	36.4	57	17.8	46	1.8	2.4	3.2
Coker 187-Hicks	2200	1397	63.46	33.2	60	19.9	49	1.9	2.3	2.8
Coker 298	2076	1270	60.91	38.4	60	19.9	46	1.8	2.2	2.6
Coker 319	2073	1358	65.01	33.5	59	20.3	42	1.7	2.1	2.3
McNair 12	2026	1325	64.97	32.3	58	18.8	41	1.8	2.1	2.5
McNair 20	1899	1211	63.56	35.0	54	17.5	43	1.9	2.4	3.0
McNair 30	2144	1358	63.56	34.8	54	18.1	45	1.8	2.3	3.0
NC 2512	2432	1587	65.20	34.1	56	18.6	44	1.8	2.1	2.9
NC 2326	2091	1405	67.02	32.6	53	17.6	45	1.9	2.3	3.2
Speight G-5	2417	1566	64.83	35.6	59	20.0	46	1.8	2.1	2.7
Speight G-7	2294	1501	65.35	33.2	56	19.9	46	1.8	2.2	2.7
Speight G-36	2215	1363	61.37	39.0	61	19.8	48	1.9	2.3	2.8
Va. 115	2214	1448	65.08	35.8	56	19.0	41	1.8	2.1	2.5
Advanced Breeding Lines										
Coker 62-323-24S	2148	1325	61.48	36.4	60	20.9	45	1.8	2.2	2.4
Coker 63-124S	2334	1470	62.81	36.9	61	21.6	51	1.8	2.2	2.7
Coker 64-167-M	2733	1734	63.15	36.8	63	20.2	44	1.8	2.2	2.5
Coker 64-173-M	1867	1073	57.35	40.7	61	21.4	49	1.8	2.2	2.6
Coker 64-192-M	2162	1336	61.68	35.8	60	20.7	46	1.8	2.3	2.5
Coker 64-254-M	2412	1443	59.67	39.0	67	23.0	50	1.8	2.2	2.4
McNair 4941	2075	1356	65.35	31.8	56	18.4	42	1.9	2.2	2.6
NC 1626-53C	2236	1429	63.88	35.4	59	18.8	47	1.9	2.3	3.0
NC 2514	2283	1514	65.98	34.8	58	19.4	44	1.7	2.2	2.7
NC 2543-5C	2419	1536	63.59	37.2	60	18.8	47	1.9	2.3	3.0
NC 3503-C	2291	1436	62.76	35.9	56	18.5	45	1.9	2.3	2.9
NC 4001	2261	1437	63.31	37.0	57	18.6	51	1.9	2.6	3.3
NC 4809	2119	1274	60.18	38.3	55	17.8	43	1.7	2.2	3.1
NC 4821	2374	1556	65.36	33.2	57	18.2	43	1.8	2.1	2.9
NC 4840	2220	1417	63.73	35.3	57	19.8	45	1.8	2.2	2.8
NC 4841	2270	1475	64.98	35.7	57	19.1	47	1.8	2.3	3.0
NC 4897	1884	1152	61.13	37.2	55	17.7	42	1.9	2.1	2.9
NC 5015	2252	1471	65.20	33.2	55	17.6	45	1.9	2.4	3.1
NC 5038	1937	1279	66.02	32.5	54	19.6	44	1.7	2.1	2.8
NC 5048	1929	1278	66.37	30.8	56	18.2	46	1.9	2.4	3.0
NC 5055	2214	1486	67.12	31.4	57	18.8	46	1.8	2.3	2.9
NC 5080	1992	1285	64.72	34.4	57	18.2	47	1.9	2.5	3.1
NC 5089	2241	1458	65.00	32.7	56	17.8	44	1.8	2.4	3.0
NC 5121	2447	1613	65.77	32.7	60	21.1	49	1.8	2.3	2.6
NC 5125	2274	1476	64.84	32.2	57	19.9	47	1.8	2.3	2.7
NC 5131	2310	1499	65.05	33.1	58	19.8	49	1.9	2.5	2.8
NC TG-7	2416	1501	61.98	38.2	60	20.2	40	1.7	1.9	2.2
NC TG-8	2398	1539	63.85	34.8	59	19.7	40	1.7	1.9	2.3
PD 16	2126	1314	61.85	36.7	58	19.8	43	1.8	2.1	2.5
Speight G-29	2155	1366	62.91	36.6	60	19.5	45	1.8	2.3	2.6
Speight G-40	1953	1186	60.82	37.7	57	19.4	42	1.8	2.1	2.4
Speight G-60	2332	1512	64.48	36.0	62	19.9	45	1.7	2.1	2.6
Watson 412	2166	1374	63.54	35.8	59	21.1	47	1.8	2.1	2.5
L.S.D. (.05)	150	112	1.92	2.5	1	.9	2	.1	.1	.2
(.01)	199	149	2.54	3.3	2	1.2	3	.1	.2	.2
C. V. (%)	9	11	4	10	4	6	6	7	9	9

^{1/} Rating of 10 to 50 with 10 being best.

Table 3. Continued. Combined analyses for five locations - 1965

Varieties	Suckers per plant			Width of leaf (in.)			Length of leaf (in.)		
	Ground	Leaf	Axil	5th	10th	15th	5th	10th	15th
Commercially Available Varieties									
Hicks Broadleaf	.4	21.1		9.0	11.8	13.0	23.1	24.6	22.5
NC 95	.6	19.2		9.6	11.2	13.5	19.7	22.2	22.1
Bell 15	.7	21.2		8.7	11.7	13.6	22.1	24.7	23.4
Bell 29	.1	15.0		9.4	12.6	14.5	20.7	23.4	22.9
Coker 187-Hicks	1.8	18.1		9.4	11.8	14.6	19.6	22.6	23.0
Coker 298	.2	15.2		9.4	11.6	13.6	19.8	22.4	22.7
Coker 319	.3	20.2		7.8	10.2	12.5	20.4	22.8	23.1
McNair 12	.2	16.7		8.8	11.2	12.8	19.8	22.3	22.1
McNair 20	.2	18.8		7.7	10.8	12.8	21.8	23.5	22.8
McNair 30	.6	19.9		8.4	11.3	13.3	21.7	23.6	22.6
NC 2512	.3	22.0		8.4	10.7	13.0	21.0	23.3	22.9
NC 2326	.0	19.0		8.6	11.4	13.0	22.1	23.9	22.7
Speight G-5	.1	18.1		9.1	11.8	13.8	21.8	24.1	23.6
Speight G-7	1.5	16.6		10.1	12.2	14.1	20.8	22.8	22.6
Speight G-36	.1	15.0		8.2	10.8	13.2	20.2	23.4	23.1
Va. 115	.1	16.7		7.8	10.3	13.0	20.8	22.8	22.8
Advanced Breeding									
Coker 62-323-24S	.0	15.8		7.5	9.4	11.7	18.0	20.3	20.9
Coker 63-124S	2.5	20.8		9.8	12.1	13.9	20.2	22.8	23.3
Coker 64-167M	.2	12.0		9.4	11.6	14.1	20.4	23.6	24.3
Coker 64-173M	.2	18.2		8.5	11.0	13.2	19.3	21.9	22.0
Coker 64-192-93M	2.8	18.6		9.2	11.8	13.9	20.3	23.0	23.3
Coker 64-254M	1.0	14.8		10.0	11.9	13.8	20.2	23.2	23.3
McNair 4941	.2	17.6		9.9	11.8	12.8	21.5	22.6	22.4
NC 1626-53C	.1	17.7		9.3	12.4	14.6	19.8	22.7	22.7
NC 2514	.6	20.4		7.5	10.1	12.3	21.0	23.8	23.7
NC 2543-5C	.3	14.9		9.2	12.3	15.1	20.5	23.9	23.7
NC 3503C	2.9	20.6		9.6	12.5	14.4	22.0	24.5	23.8
NC 4001	2.6	17.8		9.1	11.8	14.1	20.6	23.0	23.0
NC 4809	1.8	22.3		8.6	11.4	13.2	21.1	23.4	22.5
NC 4821	.6	20.6		7.0	10.2	12.8	20.9	23.1	22.9
NC 4840	.9	17.1		8.8	12.1	13.9	21.2	25.0	23.5
NC 4841	2.0	17.2		8.7	12.0	14.0	20.7	23.5	23.0
NC 4897	.2	23.0		7.6	10.7	13.0	21.8	23.9	23.4
NC 5015	2.0	19.0		10.0	12.6	14.0	22.4	24.4	23.0
NC 5038	4.2	22.6		9.0	11.5	12.9	22.0	24.0	23.0
NC 5048	2.1	18.8		9.2	11.6	13.1	21.2	23.1	21.7
NC 5055	3.2	20.5		9.4	12.0	13.4	21.6	24.0	23.1
NC 5080	1.8	19.1		9.2	11.8	13.2	21.6	23.6	22.6
NC 5089	1.7	18.0		9.3	12.3	14.0	22.4	24.5	23.2
NC 5121	1.5	21.7		9.3	11.4	14.1	20.6	22.9	23.5
NC 5125	2.3	22.8		9.2	11.4	13.3	20.8	23.0	23.0
NC 5131	1.2	22.4		9.6	12.0	14.4	21.2	23.5	23.5
NC TG-7	.2	19.7		7.0	8.8	11.5	22.0	24.2	24.4
NC TG-8	.2	18.4		7.0	9.2	12.0	22.0	25.1	24.8
PD 16	1.4	18.8		10.3	12.6	14.2	21.2	23.5	23.0
Speight G-29	1.1	21.1		9.1	11.8	13.5	20.6	24.0	23.3
Speight G-40	2.2	21.0		7.5	9.8	11.9	20.4	22.7	22.9
Speight G-60	.0	13.1		8.7	11.7	13.8	20.2	23.7	23.0
Watson 412	.4	19.6		10.1	12.2	14.2	19.1	22.1	22.4
L.S.D. (.05)	.4	2.8		.8	.7	1.8	1.1	1.1	.9
(.01)	.6	3.7		1.0	1.0	2.4	1.4	1.4	1.2
C.V. (%)	55	20		11	9	18	7	6	5

Table 3. Continued. Combined analyses of five locations - 1965

Varieties or lines	Analysis of Cured Leaf				Ratios	
	Nic. %	Sol. Sug. %	Tot. N. %	NorNic. %	T.N. Nic.	Sug. Nic.
		Commercially Available	Varieties			
Hicks Broadleaf	2.77	15.95	2.10	.19	.79	6.24
NC 95	2.94	14.37	2.30	.20	.80	5.04
Bell 15	2.72	15.66	2.11	.18	.82	6.44
Bell 29	2.31	14.93	2.12	.20	.97	7.38
Coker 187-Hicks	2.03	16.73	2.07	.15	1.06	8.84
Coker 298	2.73	14.14	2.20	.17	.84	5.73
Coker 319	2.20	15.60	2.17	.20	1.04	7.84
McNair 12	2.20	17.45	2.10	.25	1.00	8.96
McNair 20	2.75	15.12	2.20	.17	.83	5.96
McNair 30	2.77	15.11	2.27	.18	.83	5.69
NC 2512	2.55	16.07	2.15	.17	.87	7.04
NC 2326	2.71	16.43	2.12	.15	.81	6.42
Speight G-5	2.39	16.71	2.05	.12	.88	7.32
Speight G-7	2.67	15.38	2.14	.18	.82	6.10
Speight G-36	2.76	14.18	2.24	.18	.91	6.47
Va. 115	2.60	17.15	2.12	.21	.83	6.74
		Advanced Breeding Lines				
Coker 62-323-24S	3.20	15.01	2.24	.18	.73	4.93
Coker 63-124S	2.63	15.36	2.12	.16	.82	6.09
Coker 64-167M	2.20	17.67	1.88	.14	.91	8.92
Coker 64-173M	2.98	10.17	2.42	.19	.87	3.85
Coker 64-192-93M	2.53	15.48	2.07	.17	.85	6.52
Coker 64-254M	2.61	13.73	2.10	.28	.84	5.43
McNair 4941	2.54	16.10	2.30	.20	.91	6.77
NC 1626-53C	2.70	14.44	2.27	.20	.86	5.70
NC 2514	2.50	16.73	2.14	.18	.89	7.36
NC 2543-5C	2.30	14.13	2.13	.16	.96	6.67
NC 3503C	2.72	12.97	2.31	.20	.86	4.91
NC 4001	2.80	18.32	2.23	.18	.82	6.93
NC 4809	2.70	12.71	2.25	.24	.85	4.89
NC 4821	2.24	18.19	1.93	.18	.88	8.34
NC 4840	2.45	14.42	2.18	.18	.93	6.16
NC 4841	2.22	16.89	2.16	.20	.99	7.91
NC 4897	2.62	13.58	2.34	.15	.90	5.25
NC 5015	2.12	16.56	2.20	.11	1.08	8.88
NC 5038	2.19	15.53	2.24	.11	1.05	7.56
NC 5048	2.09	14.77	2.31	.09	1.14	7.58
NC 5055	2.82	16.94	2.35	.15	.84	6.17
NC 5080	2.70	15.69	2.34	.18	.87	5.91
NC 5089	1.92	14.81	2.12	.25	1.15	8.56
NC 5121	1.96	16.17	2.00	.11	1.08	9.61
NC 5125	2.33	15.50	2.20	.15	.97	7.05
NC 5131	2.13	15.76	2.22	.28	1.07	7.67
NC TG-7	2.38	18.05	1.96	.17	.86	8.06
NC TG-8	2.12	17.22	1.90	.18	.95	8.80
PD 16	2.44	14.58	2.28	.14	.98	6.20
Speight G-29	2.88	15.67	2.15	.22	.78	6.00
Speight G-40	3.37	14.93	2.24	.23	.69	4.77
Speight G-60	2.14	17.66	1.92	.12	.93	8.74
Watson 412	3.02	12.77	2.34	.24	.80	4.49
L.S.D. (.05)	.28	2.27	.17			
(.01)	.38	3.01	.23			
C.V. (%)	16	20	11			

Table 4. Summary Information on disease resistance. ^{1/}

Varieties or lines	Level of Resistance			
	Black Shank	Granville Wilt	Fusarium Wilt	Brown Spot ^{2/} / Root Knot ^{3/}
Commercially Available Varieties				
Hicks Broadleaf	Susc.	Susc.	Low	Tolerant
Nc 95	High	High	High	Tolerant
Bell 15	Susc.	Susc.	Low	Tolerant
Bell 29	Mod.	Susc.	High	Tolerant
Coker 187-Hicks	High	Mod.	Low	Sensitive
Coker 298	High	Low	Susc.	Sensitive
Coker 319	Low	Susc.	High	Tolerant
McNair 12	Mod.	High	Low	Sensitive
McNair 20	High	Susc.	Mod.	Tolerant
McNair 30	Mod.	Susc.	Mod.	Tolerant
NC 2512	Low	Susc.	Mod.	Tolerant
NC 2326	Mod.	Susc.	High	Tolerant
Speight G-5	Low	Susc.	Mod.	Tolerant
Speight G-7	Mod.	Low	Susc.	Tolerant
Speight G-36	High	Mod.	Low	Sensitive
Virginia 115	Mod.	Low	Susc.	Tolerant
Advanced Breeding Lines				
Coker 62-323-24S	High	Mod.	Mod.	High
Coker 63-124S	Mod.	Low	Mod.	
Coker 64-167M	Mod.	Low	Susc.	
Coker 64-173M	High	High	High	
Coker 64-192-93M	Mod.	Mod.	High	
Coker 64-254M	Mod.	Mod.	High	
McNair 4941	High	High	Susc.	
NC 1626-53C	Mod.	Susc.	Mod.	High
NC 2514	High	Mod.	High	High
NC 2543-5C	High	Mod.	Mod.	High
NC 3503 C	Mod.	Low	Mod.	High
NC 4001	Mod.	Low	Mod.	
NC 4809	High	Susc.	High	High
NC 4821	Mod.	Low	Low	High
NC 4840	High	Low	High	High
NC 4841	High	Low	High	High
NC 4897	Mod.	Susc.	Mod.	High
NC 5015	High	Mod.	High	
NC 5038	Low	Susc.	Mod.	
NC 5048	Low	Mod.	Low	
NC 5055	High	Susc.	Susc.	
NC 5080	Mod.	Low	Low	
NC 5089	Mod.	Susc.	Low	
NC 5121	Mod.	Susc.	Low	
NC 5125	Mod.	Low	Low	
NC 5131	High	Low	Low	
NC TG-7	Mod.	Susc.	Mod.	
NC TG-8	Mod.	Susc.	Susc.	
PD 16	High	Mod.	Susc.	
Speight G-29	Mod.	Susc.	Low	
Speight G-40	Mod.	Low	High	
Speight G-60	High	Susc.	High	
Watson 412	High	High	Mod.	

^{1/} Ratings for level of resistance based on regional data for 1 or more years and assigned by a sub-committee of the Regional Flue-Cured Variety Evaluation Committee.

^{2/} Tolerance does not mean resistance. For example: brown spot may cause damage on all varieties under conditions favorable for disease development. Breeding lines are not rated.

^{3/} Resistant to *Meloidogyne incognita*, most prevalent species of root knot nematode occurring on flue-cured tobacco.

TV 158 WHITEVILLE 1965

Table 5. Comparison of varieties for certain characteristics.

Varieties or Lines	Yield Lbs/A	Value Dol/A	Index Dol/Cwt.	Days to Flower	Leaves per Plant	Height of Plant	Internode Length			
							0-10"	10-20"	20"-top	
Commercially Available Varieties										
Hicks Broadleaf	2596	1754	67.67	36.2	53	16.8	46	1.7	2.3	3.9
NC 95	2472	1610	64.62	37.1	59	19.5	50	1.8	2.3	3.1
Bell 15	2414	1676	69.60	37.6	53	16.9	44	1.8	2.2	3.5
Bell 29	2556	1645	64.66	38.3	59	17.5	49	1.7	2.7	3.6
Coker 187-Hicks	2331	1459	62.22	39.9	62	21.5	54	1.8	2.3	3.0
Coker 298	2245	1352	59.99	42.0	62	20.7	50	1.7	2.2	2.9
Coker 319	2396	1523	63.82	36.6	60	21.3	47	1.6	2.1	2.7
McNair 12	2367	1548	66.21	38.9	59	18.9	46	1.8	2.2	3.0
McNair 20	2366	1597	67.47	37.3	55	17.7	45	1.9	2.3	3.2
McNair 30	2925	1657	66.05	38.1	57	19.3	50	1.7	2.2	3.3
NC 2512	2514	1965	67.65	38.3	56	19.5	46	1.7	1.9	3.2
NC 2326	2565	1774	68.51	33.9	56	18.0	48	1.8	2.2	3.6
Speight G-5	2679	1699	63.36	42.0	60	21.4	50	1.6	2.0	3.0
Speight G-7	2464	1530	62.63	41.6	56	20.7	47	1.7	2.1	2.8
Speight G-36	2624	1701	65.09	40.9	61	21.3	55	1.9	2.5	2.9
Va. 115	2498	1642	65.50	40.1	57	19.3	45	1.7	2.2	2.8
Advanced Breeding Lines										
Coker 62-323-24S	2440	1549	63.55	39.2	60	19.8	49	1.8	2.2	2.9
Coker 63-124S	2590	1684	65.12	41.8	59	21.9	54	1.7	2.3	2.9
Coker 64-167M	3125	2004	64.39	43.5	62	20.1	47	1.9	2.1	2.7
Coker 64-173M	2195	1345	60.74	44.0	62	22.1	52	1.6	2.3	2.8
Coker 64-192-93M	2416	1530	63.12	40.8	61	20.9	50	1.7	2.3	2.7
Coker 64-254M	2610	1545	58.51	41.5	64	21.7	53	1.7	2.2	2.9
McNair 4941	2320	1550	67.19	37.6	58	18.0	45	1.8	2.2	3.1
NC 1626-53C	2704	1791	65.99	38.9	57	19.3	50	1.7	2.3	3.2
NC 2514	2783	1868	67.54	39.1	58	20.0	47	1.6	2.2	3.0
NC 2543-5C	2795	1794	64.14	41.2	61	18.9	50	1.8	2.3	3.4
NC 3503C	2643	1671	63.26	39.9	57	18.3	47	1.8	2.5	3.1
NC 4001	2693	1790	66.04	37.9	59	19.7	58	1.8	2.6	3.6
NC 4809	2608	1596	60.82	42.5	56	19.1	47	1.7	2.2	3.1
NC 4821	2839	1902	66.98	38.3	58	18.4	47	1.7	2.4	3.2
NC 4840	2575	1671	64.89	39.3	58	18.3	47	1.8	2.4	3.2
NC 4841	2702	1767	65.64	39.4	58	19.3	51	1.7	2.3	3.4
NC 4897	2356	1462	61.28	41.5	57	18.0	46	1.9	2.2	3.1
NC 5015	2624	1741	66.50	39.5	58	18.1	48	1.8	2.4	3.4
NC 5038	2300	1467	64.23	40.0	56	21.0	47	1.5	1.9	3.1
NC 5048	2222	1486	66.27	34.4	60	18.9	49	1.7	2.5	3.2
NC 5055	2570	1741	67.72	37.4	59	19.4	50	1.7	2.5	3.2
NC 5080	2467	1590	63.97	38.5	59	18.3	50	1.8	2.6	3.3
NC 5089	2522	1587	62.67	39.3	59	18.6	48	1.8	2.4	3.2
NC 5121	2835	1866	65.87	40.0	61	22.2	57	1.8	2.4	3.0
NC 5125	2663	1712	63.93	38.0	58	20.3	51	1.7	2.2	3.1
NC 5131	2628	1657	62.61	40.9	60	19.9	54	1.8	2.6	3.2
NC TG-7	2846	1763	61.98	42.2	60	21.7	45	1.6	2.1	2.4
NC TG-8	2912	1889	65.06	41.4	59	20.8	45	1.6	1.9	2.7
PD 16	2427	1532	63.46	43.2	59	19.9	46	1.6	2.2	2.8
Speight G-29	2491	1596	64.51	39.5	60	19.4	50	1.7	2.4	3.1
Speight G-40	2423	1505	61.59	41.9	59	19.5	47	1.7	2.3	2.9
Speight G-60	2604	1694	65.37	41.3	63	20.1	49	1.7	2.1	3.1
Watson 412	2226	1411	63.32	39.7	60	21.5	49	1.7	2.1	2.7
L.S.D. (.05)	213	192	3.50	4.0	2	1.2	3	.2	.3	.3
(.01)	282	255	4.65	5.3	3	1.6	4	.2	.4	.4
C.V. (%)	5	7	3	6	2	4	4	6	8	6

¹/₁₀ Rating of 10 to 50 with 10 being best.

Table 5. Continued.

Varieties	Suckers per plant		Width of leaf (in.)			Length of leaf (in.)		
	Ground	Leaf Axil	5th	10th	15th	5th	10th	15th
Commercially Available Varieties								
Hicks Broadleaf	.6	19.8	11.3	14.1	14.7	25.9	27.9	25.3
NC 95	.4	14.9	9.1	12.8	15.5	19.7	24.3	24.5
Bell 15	.5	19.5	11.1	13.8	14.2	24.3	27.3	24.9
Bell 29	.0	9.8	10.3	15.1	16.0	21.4	25.5	24.8
Coker 187-Hicks	1.6	12.5	10.3	14.1	16.9	21.0	25.1	26.8
Coker 298	.2	8.8	10.4	13.8	16.0	21.3	24.9	26.3
Coker 319	.3	17.4	8.7	12.5	14.7	21.8	26.1	25.9
McNair 12	.3	16.5	10.3	14.5	14.8	21.8	25.1	24.5
McNair 20	.5	17.0	9.9	13.8	15.5	24.8	27.5	26.7
McNair 30	.6	17.3	9.9	14.1	14.8	22.5	26.4	25.3
NC 2512	.1	17.7	9.7	13.5	14.9	22.6	26.3	25.4
NC 2326	.0	15.0	10.0	13.9	15.0	23.7	26.9	25.7
Speight G-5	.1	14.9	10.3	13.9	16.5	24.5	27.0	26.3
Speight G-7	2.6	11.7	10.3	14.2	15.2	22.3	25.1	25.0
Speight G-36	.1	10.8	8.7	12.4	15.5	20.0	23.8	26.7
Va. 115	.2	12.2	9.1	13.3	15.2	22.3	25.2	25.5
Advanced Breeding Lines								
Coker 62-323-24S	.1	12.8	7.8	11.3	13.4	18.3	22.4	24.0
Coker 63-124S	3.8	18.2	10.0	14.2	15.6	20.5	25.0	24.5
Coker 64-167M	.1	10.4	9.9	11.9	15.8	21.3	24.9	27.5
Coker 64-173M	.4	11.4	8.9	13.1	15.2	19.5	23.9	25.3
Coker 64-192-93M	3.7	17.4	9.6	13.9	16.0	21.1	25.9	26.7
Coker 64-254M	1.3	13.9	10.2	13.2	16.2	19.8	25.5	26.7
McNair 4941	.2	14.8	11.5	13.9	15.4	23.5	25.9	25.9
NC 1626-53C	.2	15.9	10.9	14.6	16.5	21.9	26.0	25.1
NC 2514	.4	17.3	8.5	12.9	14.1	22.4	27.1	25.5
NC 2543-5C	.4	11.7	9.0	14.7	17.8	21.5	26.3	27.1
NC 3503C	2.7	18.2	9.9	14.5	16.7	23.3	27.3	27.1
NC 4001	2.2	15.6	9.9	13.9	17.1	21.7	25.5	27.1
NC 4809	1.6	21.7	10.1	14.8	15.1	22.9	26.6	25.0
NC 4821	.2	17.5	8.4	12.5	15.5	22.5	26.5	26.8
NC 4840	.8	15.1	9.7	15.2	15.2	23.7	28.3	25.5
NC 4841	2.3	15.0	9.5	14.8	16.0	21.7	26.4	26.1
NC 4897	.1	20.4	8.9	12.9	13.7	22.7	26.3	25.3
NC 5015	2.5	14.5	11.7	14.4	15.8	23.9	26.7	25.7
NC 5038	5.4	19.6	9.9	13.8	15.5	24.1	27.4	26.8
NC 5048	1.8	17.3	10.8	14.5	15.3	23.1	26.5	24.3
NC 5055	3.0	18.8	10.3	14.4	15.9	22.3	26.9	27.4
NC 5080	2.2	16.4	11.6	15.0	15.9	24.9	27.5	25.7
NC 5089	1.9	14.5	10.0	14.9	16.3	23.3	27.7	26.3
NC 5121	2.0	16.7	10.1	12.1	15.6	21.5	24.9	27.1
NC 5125	2.8	20.4	10.4	14.5	16.2	23.0	26.9	26.4
NC 5131	1.0	22.2	11.1	14.5	16.3	23.2	26.7	26.8
NC TG-7	.3	16.1	7.8	10.1	13.7	22.6	26.1	27.5
NC TG-8	.2	15.8	7.6	10.1	14.4	22.9	27.1	29.0
PD 16	1.5	14.5	10.8	15.1	16.4	22.1	25.7	25.3
Speight G-29	1.5	22.7	9.1	13.0	15.1	21.8	26.3	26.3
Speight G-40	2.6	17.9	8.6	12.5	14.5	22.3	26.1	26.7
Speight G-60	.0	10.1	8.7	13.5	16.0	21.4	26.3	26.5
Watson 412	.5	16.2	11.0	14.2	15.2	19.7	24.5	24.3
L.S.D. (.05)	.9	4.1	1.2	1.5	1.4	1.6	1.4	1.6
(.01)	1.2	5.4	1.6	1.9	1.9	2.1	1.9	2.2
C.V. (%)	48	16	8	7	6	4	3	4

Table 5. Continued.

Varieties or lines	Analysis of Cured Leaf				Ratios	
	Nic. %	Sol. Sug. %	Tot. N. %	NorNic. %	T.N. Nic.	Sug. Nic.
Commercially Available Varieties						
Hicks Broadleaf	2.14	18.29	1.92	.17	.90	8.57
NC 95	2.29	15.88	2.05	.11	.89	6.93
Bell 15	1.96	19.03	1.85	.12	.94	9.74
Bell 29	1.44	17.06	1.87	.13	1.28	11.80
Coker 187-Hicks	1.50	15.19	1.97	.10	1.37	10.32
Coker 298	2.16	13.56	2.13	.14	.97	6.10
Coker 319	1.57	15.42	2.07	.23	1.31	10.08
McNair 12	1.76	14.78	2.14	.24	1.17	8.18
McNair 20	2.09	15.67	2.01	.07	.98	7.83
McNair 30	1.98	15.37	2.08	.18	1.05	7.92
NC 2512	1.77	18.61	1.90	.12	1.06	10.60
NC 2326	1.94	17.37	1.92	.14	1.00	9.17
Speight G-5	1.97	16.64	1.97	.10	1.01	9.02
Speight G-7	2.08	15.04	2.05	.06	.96	7.29
Speight G-36	1.70	14.48	2.08	.27	1.33	9.93
Virginia 115	2.01	16.55	1.96	.20	.99	8.34
Advanced Breeding Lines						
Coker 62-323-24S	2.77	15.68	2.23	.12	.79	5.60
Coker 63-124S	1.89	17.80	1.88	.12	1.00	9.67
Coker 64-167M	1.74	17.81	1.83	.11	1.01	10.11
Coker 64-173M	2.20	11.91	2.32	.16	1.06	5.49
Coker 64-192-93M	1.88	15.08	1.82	.13	.97	8.18
Coker 64-254M	2.28	16.53	2.04	.31	.91	7.34
McNair 4941	2.25	15.09	2.24	.16	1.00	6.92
NC 1626-53C	2.14	14.97	2.06	.26	1.00	7.26
NC 2514	1.79	19.80	1.96	.12	1.05	11.01
NC 2543-5C	1.94	14.80	2.07	.11	1.07	7.87
NC 3503C	2.16	13.44	2.13	.10	.96	6.22
NC 4001	2.00	19.30	1.94	.10	.98	9.91
NC 4809	2.22	14.18	2.11	.17	.94	6.32
NC 4821	1.88	18.47	1.85	.09	.98	9.99
NC 4840	1.99	15.80	2.06	.10	1.02	7.95
NC 4841	1.85	16.41	2.06	.16	1.10	8.73
NC 4897	2.27	12.93	2.26	.09	1.02	5.98
NC 5015	1.58	17.65	1.95	.09	1.21	11.38
NC 5038	1.80	12.99	2.24	.04	1.21	7.05
NC 5048	1.68	16.71	2.30	.00	1.42	10.11
NC 5055	2.25	17.76	2.18	.09	.97	7.93
NC 5080	2.41	14.96	2.39	.13	1.00	6.37
NC 5089	1.51	14.77	1.96	.13	1.34	10.52
NC 5121	1.19	16.02	1.83	.09	1.51	13.58
NC 5125	2.10	15.65	2.19	.08	1.06	7.76
NC 5131	1.73	15.71	2.20	.30	1.33	9.34
NCTG-7	1.82	16.88	1.89	.20	1.02	9.12
NCTG-8	1.59	15.73	1.86	.25	1.24	11.38
PD 16	1.80	11.44	2.25	.15	1.36	6.95
Speight G-29	2.41	15.64	2.09	.21	.87	6.70
Speight G-40	2.82	16.74	2.14	.17	.76	5.87
Speight G-60	1.70	16.60	1.83	.10	1.08	9.84
Watson 412	2.39	13.48	2.25	.18	.95	5.98
L.S.D. (.05)	.40	3.11	.21	.17	.24	3.50
(.01)	.53	4.14	.28	.23	.32	4.65
C. V. (%)	12	12	6	74	14	25

TV 159 ROCKY MOUNT 1965

Table 6. Comparison of varieties for certain characteristics.

Varieties or Lines	Yield Lbs/A	Value Index		QT ^{1/}	Days to Flower	Leaves per Plant	Height of Plant	Internode Length		
		Dol/A	Dol/Cwt.					0-10"	10-20"	20"-top
Commercially Available Varieties										
Hicks Broadleaf	2451	1587	64.72	38.2	51	18.3	49	1.8	2.5	3.4
NC 95	3041	1815	59.75	39.4	57	22.3	50	1.9	2.7	2.3
Bell 15	2573	1648	64.13	39.9	50	18.5	50	1.8	2.6	3.3
Bell 29	2558	1513	59.08	43.8	55	19.7	53	1.9	2.6	3.1
Coker 187-Hicks	2767	1742	62.81	36.1	57	21.3	55	2.0	2.6	2.8
Coker 298	2540	1602	62.91	39.4	58	22.3	54	1.9	2.7	2.7
Coker 319	2465	1688	68.36	34.5	56	22.2	49	1.8	2.6	2.3
McNair 12	2450	1582	64.61	37.1	54	20.6	49	1.9	2.4	2.6
McNair 20	2076	1254	60.50	39.6	53	18.9	49	1.9	2.9	3.0
McNair 30	2613	1572	60.19	42.0	51	19.4	52	1.8	2.6	3.2
NC 2512	2652	1602	59.97	41.9	53	20.4	51	1.9	2.3	3.0
NC 2326	2560	1667	65.29	38.9	50	18.1	51	1.9	2.6	3.4
Speight G-5	2644	1667	63.05	39.1	58	21.6	50	1.8	2.2	2.6
Speight G-7	2893	1887	65.02	43.1	54	21.3	53	1.8	2.4	2.8
Speight G-36	2517	1465	58.38	43.8	58	20.8	55	1.9	2.5	3.0
Va. 115	2555	1659	64.89	38.3	53	19.9	47	2.0	2.5	2.5
Advanced Breeding Lines										
Coker 62-323-24S	2561	1488	57.90	41.2	57	23.7	53	1.9	2.5	2.2
Coker 63-124S	2884	1814	62.87	38.7	58	24.1	58	1.8	2.6	2.6
Coker 64-167M	3386	2101	61.92	39.5	58	22.1	52	1.8	2.4	2.5
Coker 64-173M	2195	1082	48.99	48.1	58	23.3	54	1.9	2.4	2.5
Coker 64-192-93M	2782	1691	60.71	40.1	57	23.9	56	1.9	2.5	2.5
Coker 64-254M	2983	1754	58.51	44.1	62	26.7	57	1.8	2.5	2.2
McNair 4941	2441	1534	62.81	40.5	53	19.7	50	2.0	2.2	2.9
NC 1626-53C	2458	1503	61.01	43.0	57	20.1	53	1.9	2.5	3.1
NC 2514	2569	1669	64.96	37.9	54	20.7	51	1.7	2.3	3.0
NC 2543-5C	2894	1802	62.30	42.7	57	20.3	53	1.9	2.4	3.0
NC 3503C	2540	1573	61.95	39.7	54	18.9	50	1.8	2.7	3.0
NC 4001	2867	1777	61.98	41.8	54	20.1	56	1.9	2.6	3.3
NC 4809	2321	1290	55.37	44.8	54	19.5	50	1.7	2.3	3.1
NC 4821	2654	1703	64.15	39.1	55	19.8	51	2.0	2.2	3.0
NC 4840	2631	1652	62.91	40.4	54	20.4	52	1.9	2.4	3.0
NC 4841	2726	1727	63.30	44.0	55	20.7	53	2.0	2.3	2.9
NC 4897	1995	1164	58.14	43.6	53	19.2	47	1.8	2.3	2.8
NC 5015	2703	1675	61.75	40.7	52	18.1	51	1.9	2.8	3.5
NC 5038	2442	1575	64.74	38.5	53	21.2	50	1.8	2.2	2.7
NC 5048	2291	1408	61.52	42.1	53	18.5	51	2.0	2.8	3.2
NC 5055	2569	1663	64.57	39.3	54	19.7	51	1.9	2.4	3.0
NC 5080	2353	1422	60.53	41.8	55	19.5	54	1.9	2.7	3.3
NC 5089	2638	1679	63.54	37.8	54	19.1	47	1.7	2.6	2.9
NC 5121	2964	1956	65.79	35.9	58	22.8	56	1.8	2.6	2.6
NC 5125	2770	1748	62.90	38.7	56	22.5	54	1.9	2.4	2.6
NC 5131	2794	1803	64.35	37.5	55	21.7	53	1.8	2.7	2.7
NC TG-7	2873	1822	63.21	35.9	56	23.2	49	1.8	2.1	2.3
NC TG-8	2749	1764	64.06	34.5	54	21.5	48	1.9	2.2	2.4
PD 16	2440	1413	58.06	41.2	55	22.4	48	2.0	2.2	2.3
Speight G-29	2725	1771	65.05	39.3	57	21.4	52	1.9	2.8	2.6
Speight G-40	2567	1437	55.88	41.4	54	20.4	50	1.9	2.6	2.7
Speight G-60	2824	1842	65.15	40.3	58	21.4	52	1.9	2.4	2.6
Watson 412	2518	1535	61.01	41.7	58	23.1	53	1.9	2.2	2.5
L.S.D. (.05)	266	234	5.09	5.4	2	1.7	4	.2	.3	.3
(.01)	354	310	6.76	7.1	3	2.3	5	.3	.4	.4
C. V. (%)	6	9	5	8	2	5	5	7	8	7

^{1/} Rating of 10 to 50 with 10 being best.

TV 159 ROCKY MOUNT 1965

Table 6. Continued.

Varieties	Suckers per plant		Width of leaf (in.)			Length of leaf (in.)		
	Ground	Leaf Axil	5th	10th	15th	5th	10th	15th
Commercially Available Varieties								
Hicks Broadleaf	.3	36.8	8.5	12.7	14.4	21.6	25.0	22.3
NC 95	.2	33.8	8.3	10.5	14.5	16.6	20.8	22.6
Bell 15	.6	36.9	7.8	11.9	14.5	19.8	25.3	23.3
Bell 29	.1	28.3	8.8	11.5	14.7	18.5	22.9	23.1
Coker 187-Hicks	2.8	34.3	7.8	11.0	15.8	16.4	21.8	23.8
Coker 298	.2	31.9	8.2	10.8	14.9	17.4	21.4	23.0
Coker 319	.2	37.8	6.9	9.5	13.6	17.9	22.1	24.0
McNair 12	.0	31.7	8.9	10.8	14.3	19.3	22.2	23.6
McNair 20	.1	34.4	6.6	10.4	13.4	19.5	22.8	23.0
McNair 30	1.0	34.7	7.5	11.0	15.4	19.3	23.4	23.7
NC 2512	.0	41.6	7.3	9.6	14.1	18.2	22.3	24.0
NC 2326	.0	36.9	8.1	11.1	13.7	20.3	24.1	23.3
Speight G-5	.1	33.5	6.8	9.8	12.7	17.0	21.8	23.0
Speight G-7	1.4	31.2	9.1	12.3	15.2	18.3	23.3	23.6
Speight G-36	.0	28.4	7.5	10.7	15.1	18.0	22.8	23.7
Va. 115	.0	30.5	6.5	9.5	14.6	17.5	21.9	23.3
Advanced Breeding Lines								
Coker 62-323-24S	.0	31.8	6.7	8.6	12.0	16.5	18.5	20.9
Coker 63-124S	1.6	37.7	9.0	10.6	14.4	17.2	21.4	24.2
Coker 64-167M	.0	25.6	8.2	11.2	15.0	18.3	22.3	24.4
Coker 64-173M	.1	27.3	8.2	10.8	14.6	17.0	20.8	21.9
Coker 64-192-93M	3.7	33.1	7.7	10.2	15.0	17.4	21.5	24.9
Coker 64-254M	.6	31.7	9.1	10.6	13.9	18.1	20.7	23.0
McNair 4941	.1	32.1	8.9	11.5	13.2	19.6	22.5	22.5
NC 1626-53C	.0	32.7	8.7	11.7	16.3	17.8	22.2	23.3
NC 2514	.6	37.7	6.7	9.3	12.9	17.9	22.8	24.7
NC 2543-5C	.5	30.4	8.1	10.8	16.3	17.5	22.9	24.6
NC 3503C	3.5	34.6	8.8	11.0	15.7	18.9	24.0	23.5
NC 4001	3.9	31.4	9.1	11.3	16.1	18.9	23.3	24.6
NC 4809	1.3	37.5	7.7	10.1	14.2	18.2	22.5	23.3
NC 4821	.4	36.0	6.5	9.4	13.8	18.2	22.4	23.3
NC 4840	1.6	32.6	7.6	10.1	15.5	17.4	22.9	24.2
NC 4841	2.3	30.1	8.1	11.3	15.0	18.5	24.1	24.2
NC 4897	.0	43.4	6.9	9.1	13.6	18.9	21.8	23.7
NC 5015	3.6	33.0	10.1	12.7	15.9	21.0	25.0	23.7
NC 5038	4.9	38.2	8.0	10.9	13.9	19.4	23.6	23.8
NC 5048	3.4	33.8	8.5	10.5	14.6	18.4	22.3	22.3
NC 5055	4.4	32.8	8.9	11.0	14.3	19.1	22.9	23.4
NC 5080	2.5	33.2	8.5	11.0	14.7	18.5	23.2	23.8
NC 5089	2.0	31.3	9.0	11.8	15.2	20.0	24.4	23.8
NC 5121	1.0	40.4	8.7	11.7	16.5	19.2	22.9	25.0
NC 5125	2.6	36.0	8.2	10.7	13.6	18.0	21.9	24.3
NC 5131	1.5	37.9	8.4	10.9	15.1	18.3	22.5	24.4
NC TG-7	.2	35.7	6.3	7.8	11.8	19.0	22.1	25.8
NC TG-8	.3	36.0	5.1	7.8	11.3	18.0	22.5	25.2
PD 16	1.3	32.7	9.1	11.9	14.8	18.5	24.0	23.2
Speight G-29	1.2	38.9	8.7	11.0	15.0	17.8	22.9	24.6
Speight G-40	2.1	34.8	7.4	8.5	12.8	19.1	21.8	23.9
Speight G-60	.0	27.7	8.2	11.2	14.8	17.8	23.5	23.9
Watson 412	.1	34.0	8.6	10.8	14.7	15.9	20.6	22.5
L.S.D. (.05)	1.1	5.6	1.0	1.3	1.7	1.6	2.0	1.6
(.01)	1.4	7.5	1.3	1.7	2.2	2.1	2.6	2.1
C.V. (%)	55	10	8	7	7	5	5	4

TV 159 ROCKY MOUNT 1965

Table 6. Continued

Varieties or lines	Analysis of Cured Leaf				Ratios	
	Nic. %	Sol. Sug. %	Tot.N. %	NorNic %	T.N. Nic.	Sug. Nic.
Commercially Available Varieties						
Hicks Broadleaf	3.50	12.70	2.43	.29	.68	3.69
NC 95	3.77	7.93	2.71	.35	.72	2.17
Bell 15	3.29	14.45	2.35	.32	.68	4.46
Bell 29	3.25	7.59	2.58	.30	.79	2.42
Coker 187 - Hicks	2.68	14.88	2.23	.20	.85	5.93
Coker 298	3.32	12.06	2.41	.26	.72	3.69
Coker 319	2.91	12.45	2.46	.22	.84	4.36
McNair 12	2.99	12.01	2.58	.30	.85	4.02
McNair 20	3.35	13.52	2.37	.30	.69	4.12
McNair 30	3.37	12.60	2.35	.24	.70	3.91
NC 2512	3.47	8.12	2.52	.18	.73	2.34
NC 2326	3.57	11.88	2.44	.15	.71	3.45
Speight G-5	2.94	13.51	2.23	.12	.79	5.00
Speight G-7	3.59	13.10	2.44	.28	.68	3.80
Speight G-36	3.53	9.93	2.53	.15	.70	3.04
Virginia 115	3.14	11.69	2.37	.28	.78	3.63
Advanced Breeding Lines						
Coker 62-323-24S	3.67	12.52	2.45	.26	.66	3.47
Coker 63-124S	3.14	13.59	2.25	.17	.72	4.25
Coker 64-167M	2.85	12.93	2.28	.23	.81	5.15
Coker 64-173M	3.74	7.56	2.63	.24	.68	2.23
Coker 64-192-93M	2.96	12.08	2.39	.25	.82	4.07
Coker 64-254M	2.65	11.18	2.16	.31	.83	4.34
McNair 4941	3.21	9.74	2.62	.29	.83	3.03
NC 1626-53C	3.39	10.26	2.56	.29	.74	3.21
NC 2514	3.16	11.63	2.47	.25	.76	3.74
NC 2543-5C	2.81	10.67	2.27	.22	.80	3.93
NC 3503C	3.10	10.87	2.34	.23	.76	3.61
NC 4001	3.43	15.02	2.50	.37	.72	4.46
NC 4809	3.04	10.96	2.47	.32	.81	3.69
NC 4821	2.72	14.19	2.24	.28	.84	5.39
NC 4840	2.95	12.06	2.42	.25	.81	4.31
NC 4841	2.75	12.96	2.35	.34	.86	4.90
NC 4897	3.03	11.18	2.43	.24	.83	3.86
NC 5015	3.17	11.26	2.62	.15	.83	3.62
NC 5038	2.83	13.20	2.67	.17	.94	4.93
NC 5048	2.71	10.17	2.71	.18	1.00	3.65
NC 5055	2.99	13.74	2.60	.16	.87	4.93
NC 5080	3.16	12.11	2.64	.24	.85	4.02
NC 5089	2.40	11.84	2.44	.42	1.03	4.88
NC 5121	2.85	11.33	2.45	.15	.87	4.01
NC 5125	2.73	13.21	2.43	.16	.95	5.25
NC 5131	2.58	13.24	2.36	.21	.92	5.17
NCTG-7	2.92	15.62	2.10	.19	.73	5.74
NCTG-8	2.65	13.61	2.13	.19	.81	5.60
PD 16	2.97	13.66	2.46	.14	.83	4.85
Speight G-29	3.33	12.65	2.42	.35	.71	4.05
Speight G-40	4.32	11.01	2.56	.27	.60	2.76
Speight G-60	2.79	15.09	2.21	.16	.80	5.70
Watson 412	3.69	11.00	2.56	.24	.69	2.98
L.S.D. (.05)	.63	3.82	.37	.15	.13	2.14
(.01)	.84	5.07	.49	.20	.17	2.84
C.V. (%)	12	19	9	39	10	32

TV 160 CLAYTON 1965

Table 7. Comparison of varieties for certain characteristics.

Varieties or Lines	Yield Lbs/A	Value Index		QT ^{1/}	Days to Flower	Leaves per Plant	Height of Plant	Internode Length		
		Dol/A	Dol/Gwt.					0-10"	10-20"	20"-top
Commercially Available Varieties										
Hicks Broadleaf	1472	863	58.68	36.7	58	17.9	42	1.9	2.2	2.8
NC 95	1744	1096	62.65	38.3	65	19.8	39	1.7	2.0	2.1
Bell 15	1773	1116	63.23	33.1	58	18.2	44	1.9	2.2	2.9
Bell 29	1761	1039	59.12	42.0	61	18.3	44	1.9	2.2	2.8
Coker 187-Hicks	1822	1058	57.67	40.2	65	19.7	44	2.0	2.1	2.4
Coker 298	1707	981	57.16	41.9	63	19.2	42	2.0	2.0	2.4
Coker 319	1608	947	57.94	41.3	66	20.3	38	1.6	1.8	2.1
McNair 12	1687	1007	59.60	39.8	64	17.5	38	1.9	2.1	2.3
McNair 20	1599	926	57.99	41.3	60	17.8	41	1.9	2.2	2.7
McNair 30	1810	1099	60.17	39.5	60	18.9	42	1.9	2.1	2.5
NC 2512	2095	1345	63.98	35.0	61	18.6	43	1.9	2.2	2.6
NC 2326	1566	990	62.78	37.4	60	19.9	43	1.9	2.1	2.3
Speight G-5	2128	1360	63.20	42.3	63	19.6	43	1.9	2.1	2.4
Speight G-7	1714	1098	63.34	36.7	63	20.8	41	1.8	2.2	2.0
Speight G-36	1691	938	56.08	43.3	67	19.9	42	1.9	2.0	2.3
Va. 115	1689	1037	60.19	38.2	63	20.1	38	1.9	1.8	1.9
Advanced Breeding Lines										
Coker 62-323-24S	1812	1037	57.16	42.2	66	21.5	44	1.9	2.0	2.2
Coker 63-124S	1821	1088	59.28	42.1	68	22.2	47	1.8	1.9	2.3
Coker 64-167M	1833	1089	58.93	42.0	75	20.7	40	1.7	2.0	2.1
Coker 64-173M	1166	635	54.02	44.9	68	20.9	44	1.8	2.0	2.3
Coker 64-192-93M	1712	1020	58.64	39.8	66	20.4	44	2.0	2.1	2.3
Coker 64-254M	1902	1102	57.79	42.6	78	23.3	47	1.8	2.0	2.1
McNair 4941	1701	1035	60.54	39.8	60	18.7	39	1.9	2.2	2.2
NC 1626-53C	1852	1090	58.78	39.2	65	18.3	46	1.8	2.5	3.0
NC 2514	1638	977	59.71	37.9	64	19.0	40	1.8	2.2	2.3
NC 2543-5C	1918	1211	62.82	39.7	64	19.3	46	1.9	2.3	2.8
NC 3503C	2144	1313	60.94	39.0	61	20.2	46	2.0	1.9	2.6
NC 4001	1508	886	58.95	42.0	62	18.5	46	1.8	2.5	2.9
NC 4809	1693	972	57.57	39.7	61	17.3	39	1.9	2.0	2.8
NC 4821	2102	1328	62.03	35.6	63	18.2	40	1.8	2.1	2.5
NC 4840	1833	1115	60.80	38.2	61	18.6	42	1.9	2.1	2.6
NC 4841	1884	1202	64.21	38.4	60	19.6	44	1.8	2.4	2.4
NC 4897	1522	878	57.50	41.4	61	18.3	40	1.9	2.0	2.4
NC 5015	1681	1002	60.10	40.2	60	17.4	40	2.0	2.2	2.6
NC 5038	1426	877	62.06	36.5	59	20.6	42	1.8	1.9	2.2
NC 5048	1607	990	61.83	35.9	60	18.0	42	2.0	2.3	2.6
NC 5055	1762	1131	63.77	36.1	63	18.3	44	2.0	2.1	2.8
NC 5080	1497	911	61.31	41.2	64	18.0	44	2.0	2.3	2.8
NC 5089	1906	1184	62.21	37.5	63	18.0	41	1.9	2.0	2.7
NC 5121	2098	1263	60.68	39.3	63	19.9	45	2.0	2.2	2.4
NC 5125	1941	1225	62.93	35.7	61	20.2	44	1.8	2.2	2.4
NC 5131	1900	1221	63.58	38.5	61	19.8	45	2.0	2.2	2.5
NC TG-7	2038	1244	61.12	42.5	65	18.9	36	1.9	1.8	1.8
NC TG-8	2021	1228	60.70	41.8	68	20.9	38	1.7	1.8	1.9
PD 16	1810	1052	58.47	42.0	65	19.7	40	1.8	1.9	2.2
Speight G-29	1867	1092	57.97	41.6	64	18.5	40	1.9	2.1	2.3
Speight G-40	1619	931	57.11	43.9	64	19.9	39	1.9	1.8	2.0
Speight G-60	1842	1118	60.39	41.2	66	19.8	42	1.9	2.0	2.3
Watson 412	2082	1257	60.56	38.4	60	21.8	46	1.8	2.1	2.2
L.S.D. (.05)	332	251	4.83	4.6	5	1.5	4	.2	.3	.4
(.01)	441	333	6.41	6.1	6	2.0	5	.3	.4	.5
C. V. (%)	11	14	5	7	5	5	6	6	9	9

^{1/} Rating of 10 to 50 with 10 being best.

TV 160 CLAYTON 1965

Table 7. Continued.

Varieties	Suckers per plant		Width of leaf (in.)			Length of leaf (in.)		
	Ground	Leaf Axil	5th	10th	15th	5th	10th	15th
Commercially Available Varieties								
Hicks Broadleaf	.1	15.5	7.3	9.0	12.5	20.8	22.3	22.8
NC 95	.1	15.6	12.0	9.4	12.3	20.9	21.1	21.4
Bell 15	.2	18.9	7.5	10.3	14.0	21.7	23.7	24.7
Bell 29	.0	14.5	9.4	10.7	13.5	21.4	22.0	23.2
Coker 187-Hicks	.6	16.9	9.5	10.2	12.7	19.6	20.2	21.8
Coker 298	.0	13.0	9.1	10.1	11.7	19.9	21.1	21.7
Coker 319	.0	15.5	7.9	8.6	10.7	21.3	21.8	21.9
McNair 12	.0	12.9	8.2	9.7	10.2	19.3	20.8	21.1
McNair 20	.0	14.9	7.3	9.1	10.8	21.4	22.0	22.1
McNair 30	.1	17.9	8.0	9.4	12.9	22.3	22.3	22.4
NC 2512	.0	19.8	8.1	9.2	11.5	21.7	21.8	22.6
NC 2326	.0	15.3	7.3	9.3	12.8	20.7	22.2	21.9
Speight G-5	.0	13.6	8.8	9.6	13.1	21.8	22.6	23.2
Speight G-7	.5	12.4	10.1	10.2	13.8	20.5	20.7	21.4
Speight G-36	.0	10.1	8.0	8.9	11.5	20.4	24.4	21.3
Va. 115	.0	12.2	6.7	7.9	11.3	19.8	20.0	21.4
Advanced Breeding Lines								
Coker 62-323-24S	.0	13.0	8.1	8.9	10.1	19.7	20.2	20.3
Coker 63-124S	.5	13.8	10.9	11.1	12.9	20.9	22.1	22.8
Coker 64-167M	.0	7.2	8.3	9.7	11.9	18.9	22.0	22.3
Coker 64-173M	.0	10.1	6.8	8.8	10.5	17.7	18.0	20.0
Coker 64-192-93M	.9	14.2	9.1	10.8	11.1	21.3	21.2	22.1
Coker 64-254M	.1	6.5	10.0	11.3	11.1	21.2	22.6	21.5
McNair 4941	.0	16.8	9.5	10.6	12.1	21.1	21.0	21.4
NC 1626-53C	.0	15.1	9.0	10.5	13.5	19.7	20.6	21.5
NC 2514	.0	16.9	6.9	8.5	10.5	21.8	21.6	23.1
NC 2543-5C	.1	11.9	9.6	11.5	14.1	21.9	23.1	23.6
NC 3503C	2.6	20.0	9.2	11.8	14.2	22.2	23.6	24.5
NC 4001	1.7	13.9	8.6	9.6	12.4	20.1	20.8	21.5
NC 4809	.5	20.4	7.1	9.8	12.2	20.9	21.8	21.6
NC 4821	.1	19.3	5.4	9.3	10.6	20.9	21.9	22.3
NC 4840	.1	15.6	8.4	10.3	12.6	22.2	23.6	23.9
NC 4841	.5	18.1	7.7	9.2	12.8	20.1	21.1	21.6
NC 4897	.0	18.5	6.3	9.3	12.7	21.7	22.6	22.0
NC 5015	.7	18.7	9.1	11.5	12.9	23.2	23.2	22.7
NC 5038	2.8	18.2	9.0	10.3	12.9	21.5	22.9	22.6
NC 5048	.7	14.7	8.3	9.4	12.0	21.4	21.7	21.4
NC 5055	1.0	19.2	9.1	10.7	11.5	22.0	21.9	21.1
NC 5080	.3	14.3	8.1	9.8	11.6	20.9	21.5	20.6
NC 5089	.5	15.3	9.1	10.7	13.5	22.7	22.6	22.8
NC 5121	.2	20.4	10.1	10.1	11.3	22.7	22.2	22.7
NC 5125	.9	21.6	9.2	9.4	11.4	21.6	21.2	22.3
NC 5131	.5	19.9	8.3	10.2	13.8	20.6	20.9	22.0
NC TG-7	.1	16.9	6.8	7.5	8.5	23.0	23.0	22.9
NC TG-8	.0	13.4	7.6	8.8	9.9	24.1	25.0	23.8
PD 16	.4	16.0	10.5	10.9	13.3	20.9	21.3	22.3
Speight G-29	.3	16.8	8.3	10.0	10.9	21.0	22.3	22.4
Speight G-40	.2	19.9	6.7	8.9	9.9	20.9	21.6	22.5
Speight G-60	.0	9.4	8.2	9.2	11.7	19.6	20.8	21.8
Watson 412	.1	19.6	10.6	10.9	13.9	20.4	21.1	23.0
L.S.D. (.05)	.6	5.5	2.2	1.7	8.3	2.6	2.7	2.0
(.01)	.8	7.3	2.9	2.2	11.0	3.4	3.6	2.6
C.V. (%)	98	22	16	10	41	7	8	5

TV 160 CLAYTON 1965

Table 7. Continued

Varieties or lines	Analysis of Cured Leaf				Ratios		
	Nic.	Sol. Sug.	Tot. N.	NorNic.	T.N.	Sug.	
	%	%	%	%	Nic.	Nic.	
Commercially Available Varieties							
Hicks Broadleaf	1.92	10.64	1.93	.15	1.02	6.55	
NC 95	2.20	8.93	2.24	.11	.99	4.23	
Bell 15	2.07	10.37	1.94	.16	.95	5.49	
Bell 29	1.87	10.85	2.08	.23	1.13	6.88	
Coker 187-Hicks	1.88	11.13	2.01	.09	1.11	7.45	
Coker 298	2.37	10.94	2.13	.08	.96	6.62	
Coker 319	1.88	9.98	2.15	.12	1.17	6.44	
McNair 12	1.90	12.57	2.06	.15	1.12	7.87	
McNair 20	2.35	10.21	2.11	.10	.89	4.61	
McNair 30	2.46	9.14	2.22	.09	.92	4.57	
NC 2512	2.33	10.51	2.16	.16	.94	5.21	
NC 2326	2.40	9.15	2.18	.06	.89	3.58	
Speight G-5	1.72	12.19	1.89	.12	1.05	7.35	
Speight G-7	2.01	12.60	1.94	.15	.96	6.62	
Speight G-36	1.83	11.15	2.03	.11	1.14	8.27	
Virginia 115	1.95	14.46	1.93	.13	1.01	7.97	
Advanced Breeding Lines							
Coker 62-323-24S	2.27	9.17	2.17	.11	.94	3.42	
Coker 63-124S	1.97	10.12	2.05	.17	1.03	5.50	
Coker 64-167M	1.33	12.77	1.61	.12	1.21	10.89	
Coker 64-173M	2.00	6.72	2.20	.15	1.11	3.47	
Coker 64-192-93M	2.11	11.88	2.09	.10	1.02	6.23	
Coker 64-254M	1.99	8.23	2.00	.12	1.02	4.29	
McNair 4941	2.18	12.02	2.26	.17	1.04	6.37	
NC 1626-53C	2.37	8.77	2.18	.09	.95	4.54	
NC 2415	1.99	10.67	2.15	.10	1.12	6.54	
NC 2543-5C	1.89	8.04	2.05	.11	1.11	4.84	
NC 3503C	2.37	9.59	2.26	.21	.98	4.95	
NC 4001	2.18	11.12	2.10	.12	.98	6.19	
NC4809	2.20	7.16	2.27	.17	1.02	3.58	
NC 4821	2.28	10.72	2.03	.20	.92	3.88	
NC 4840	2.05	9.27	2.14	.15	1.14	5.28	
NC 4841	2.02	11.16	2.24	.18	1.13	6.67	
NC 4897	2.21	9.08	2.37	.13	1.08	4.97	
NC 5015	2.06	9.05	2.59	.14	1.28	5.34	
NC 5038	1.83	11.75	2.05	.11	1.20	8.10	
NC 5048	1.80	10.29	2.20	.10	1.28	6.96	
NC 5055	2.45	12.52	2.36	.15	.99	5.83	
NC 5080	2.29	11.21	2.16	.14	.94	5.79	
NC 5089	1.59	10.81	2.00	.21	1.31	8.24	
NC 5121	1.92	13.31	2.09	.06	1.13	9.10	
NC 5125	1.82	12.35	2.04	.13	1.17	7.90	
NC 5131	1.67	11.45	2.06	.29	1.22	7.41	
NCTG-7	1.95	14.53	1.90	.18	.99	8.39	
NCTG-8	1.78	11.92	1.91	.09	1.11	7.44	
PD 16	1.92	12.06	2.14	.18	1.10	6.84	
Speight G-29	2.02	12.54	1.89	.15	.93	6.81	
Speight G-40	2.66	8.74	2.19	.09	.80	3.32	
Speight G-60	1.46	13.65	1.65	.08	1.15	10.26	
Wqtson 412	2.57	8.43	2.36	.23	.88	2.22	
L.S.D.	(.05)	.49	3.56	.37	.17	3.75	
	(.01)	.65	4.73	.49	.23	4.99	
C.V.	(%)	15	20	11	40	10	38

TV 161 OXFORD 1965

Table 8. Comparison of varieties for certain characteristics.

Varieties or Lines	Yield Lbs/A	Value Index		Q ₁ ^{1/}	Leaves per Plant	Height of Plant	Internode Length		
		Dol/A	Dol/Cwt.				0-10"	10-20"	20"-top
Commercially Available Varieties									
Hicks Broadleaf	1787	1220	68.44	23.2	16.1	38	1.8	2.1	3.0
NC 95	1839	1220	66.38	23.3	18.4	40	1.8	2.1	2.4
Bell 15	1664	1098	65.95	24.6	16.3	38	1.8	2.3	3.0
Bell 29	1986	1320	66.61	25.4	16.8	41	1.8	2.3	3.1
Coker 187-Hicks	1943	1322	68.20	23.8	17.6	43	1.9	2.1	2.9
Coker 298	1936	1201	61.76	27.0	18.9	41	1.8	2.0	2.6
Coker 319	1740	1163	66.96	25.9	18.4	37	1.7	1.9	2.2
McNair 12	1842	1266	68.55	24.1	18.7	37	1.7	2.0	2.3
McNair 20	1661	1109	66.37	23.8	17.1	40	1.8	2.1	2.8
McNair 30	1709	1137	66.70	24.1	16.3	40	1.9	2.2	3.1
NC 2512	1985	1360	68.23	24.7	17.1	38	1.6	2.1	2.9
NC 2326	1777	1229	69.51	22.9	16.4	40	1.8	2.3	3.1
Speight G-5	2045	1371	66.77	24.7	18.4	39	1.7	2.1	2.5
Speight G-7	1953	1296	66.13	23.5	18.3	41	1.9	2.0	2.7
Speight G-36	1974	1277	64.62	26.1	18.7	43	1.7	2.0	2.8
Va. 115	2001	1373	68.55	25.1	18.7	37	1.7	1.9	2.2
Advanced Breeding Lines									
Coker 62-323-24S	1941	1221	62.48	26.3	19.9	40	1.7	2.1	2.2
Coker 63-124S	1883	1198	63.86	28.8	18.9	44	1.8	2.1	2.6
Coker 64-167M	2391	1586	65.68	26.0	17.7	40	1.7	2.2	2.8
Coker 64-173M	1763	1144	64.74	26.4	19.3	42	1.8	2.1	2.6
Coker 64-192-93M	1866	1158	62.03	27.0	19.5	42	1.8	2.2	2.5
Coker 64-254M	2110	1298	61.02	31.0	19.9	44	1.8	2.1	2.5
McNair 4941	1787	1232	68.34	21.4	17.8	37	1.9	2.0	2.2
NC 1626-53C	1901	1261	66.61	24.6	17.6	41	1.9	2.1	2.9
NC 2514	2053	1398	68.50	25.5	18.1	40	1.7	2.1	2.8
NC 2543-5C	2024	1331	65.56	26.6	17.5	41	1.9	2.2	2.9
NC 3503C	1860	1227	65.60	26.0	18.0	40	1.8	2.1	2.7
NC 4001	1930	1207	62.67	30.7	18.3	46	1.9	2.5	2.9
NC 4809	1830	1162	63.25	29.2	17.0	38	1.6	2.1	3.1
NC 4821	2145	1461	67.96	26.6	17.7	39	1.6	2.0	2.9
NC 4840	1870	1212	64.80	26.5	17.7	40	1.7	2.2	2.8
NC 4841	1965	1301	66.27	23.7	17.9	43	1.8	2.1	3.1
NC 4897	1710	1131	65.96	24.9	16.7	38	1.9	2.1	2.8
NC 5015	1912	1303	68.01	23.6	16.5	40	1.8	2.4	3.2
NC 5038	1581	1073	67.68	24.3	17.9	40	1.7	2.3	2.6
NC 5048	1711	1215	71.23	22.3	17.1	40	1.8	2.3	2.8
NC 5055	1923	1325	69.20	23.9	18.2	41	1.8	2.2	2.7
NC 5080	1731	1182	68.67	23.2	17.0	42	1.9	2.3	2.9
NC 5089	1885	1284	67.63	23.9	16.9	41	1.7	2.3	3.1
NC 5121	2082	1394	66.69	25.6	19.3	44	1.8	2.2	2.6
NC 5125	1892	1260	66.55	25.3	18.3	41	1.8	2.2	2.5
NC 5131	1854	1209	65.02	25.1	18.7	45	1.8	2.6	2.7
NC TG-7	2045	1290	63.00	31.4	18.7	36	1.6	1.7	2.3
NC TG-8	2149	1427	66.84	27.4	17.9	36	1.7	1.8	2.3
PD 16	1683	1062	62.94	26.6	18.8	39	1.7	2.0	2.4
Speight G-29	1812	1149	63.88	29.9	18.6	40	1.6	2.1	2.6
Speight G-40	1603	1042	65.08	26.9	18.9	38	1.7	1.9	2.3
Speight G-60	2104	1342	63.77	27.5	18.3	39	1.6	2.1	2.7
Watson 412	1927	1294	67.43	25.4	19.5	40	1.7	2.0	2.4
L.S.D. (.05)	237	198	3.37	3.6	1.3	3	.2	.3	.3
(.01)	314	262	4.47	4.7	1.7	5	.3	.4	.4
C.V. (%)	8	10	3	9	4	5	7	8	8

^{1/} Rating of 10 to 50 with 10 being best.

Table 8. Continued.

Varieties	<u>Suckers per plant</u>		<u>Width of leaf (in.)</u>			<u>Length of leaf (in.)</u>		
	Ground	Leaf Axil	5th	10th	15th	5th	10th	15th
Commercially Available Varieties								
Hicks Broadleaf	.8	12.0	8.7	11.6	12.3	23.2	23.8	21.3
NC 95	1.3	12.1	8.3	10.7	12.7	20.1	21.6	21.3
Bell 15	1.1	10.9	8.1	11.3	13.1	21.9	23.8	22.9
Bell 29	.4	7.9	8.5	12.5	14.1	20.1	22.5	22.1
Coker 187-Hicks	1.8	9.6	9.1	11.1	13.5	20.2	22.3	21.1
Coker 298	.3	8.7	9.8	12.4	13.4	21.4	23.5	22.0
Coker 319	.6	11.5	8.1	9.2	11.6	20.8	21.2	22.3
McNair 12	.2	10.7	8.4	11.3	12.3	20.8	22.5	21.7
McNair 20	.2	10.5	7.1	10.5	12.1	21.9	22.6	22.2
McNair 30	.7	10.1	7.7	11.1	11.6	21.9	22.7	21.0
NC 2512	.5	10.8	7.8	10.8	12.1	20.9	22.9	21.5
NC 2326	.0	9.9	8.5	10.6	12.3	22.8	22.8	21.9
Speight G-5	.0	9.7	8.3	11.8	13.3	20.9	22.4	22.0
Speight G-7	1.6	9.6	9.4	10.9	13.2	19.8	21.0	20.9
Speight G-36	.3	10.5	7.5	10.9	13.0	21.1	22.3	22.2
Va. 115	.1	8.9	7.2	10.0	11.4	21.4	22.4	21.4
Advanced Breeding Lines								
Coker 62-323-24S	.0	7.9	7.8	9.0	11.8	18.4	20.0	20.3
Coker 63-124S	3.3	12.7	9.7	11.8	13.5	21.5	22.0	22.6
Coker 64-167M	.9	6.2	9.8	12.0	13.5	21.6	24.0	23.1
Coker 64-173M	.4	8.5	8.2	10.6	12.5	20.2	22.5	21.6
Coker 64-192-93M	3.1	11.9	9.2	11.0	13.7	20.0	22.2	21.9
Coker 64-254M	1.3	8.1	9.8	12.0	13.8	20.4	23.1	22.8
McNair 4941	.3	9.4	8.8	11.0	11.9	20.7	21.3	21.7
NC 1626-53C	.0	9.1	8.0	11.8	13.9	18.3	20.9	22.0
NC 2514	1.1	11.6	7.3	9.7	12.3	22.3	23.6	22.9
NC 2543-5C	.2	8.1	9.3	11.9	13.4	20.3	22.8	22.2
NC 3503C	3.6	10.6	8.6	11.9	12.7	20.8	22.3	21.3
NC 4001	2.4	9.2	8.6	12.2	13.5	21.1	22.8	22.3
NC 4809	3.1	11.5	8.0	11.1	12.7	21.1	22.8	21.5
NC 4821	1.1	13.5	7.1	10.4	12.5	22.7	23.2	22.8
NC 4840	.8	8.0	8.5	12.5	13.1	21.4	24.2	22.8
NC 4841	2.5	9.5	8.7	12.1	12.9	21.1	22.4	21.8
NC 4897	.3	12.2	6.8	11.0	12.9	22.0	23.9	23.1
NC 5015	1.1	10.6	8.7	12.2	12.9	21.4	23.2	22.3
NC 5038	3.5	13.5	7.8	10.3	11.7	20.5	22.5	21.6
NC 5048	1.4	11.2	8.7	11.5	12.1	21.7	22.4	20.4
NC 5055	4.0	10.9	8.5	11.1	12.7	21.7	23.0	21.7
NC 5080	1.6	10.8	8.3	11.2	12.5	21.1	22.6	21.2
NC 5089	1.3	9.3	8.3	11.5	12.7	21.5	23.7	22.3
NC 5121	1.9	11.9	8.3	10.5	13.7	19.2	21.6	22.2
NC 5125	2.0	12.5	8.6	10.7	12.7	19.7	21.6	20.9
NC 5131	1.3	12.4	8.5	11.4	13.5	20.4	22.4	22.2
NC TG-7	.1	12.5	6.3	8.3	11.4	22.6	24.4	23.9
NC TG-8	.1	12.5	7.2	9.7	11.9	23.4	25.0	23.5
PD 16	1.7	11.2	8.9	11.3	12.6	21.1	22.3	22.0
Speight G-29	1.6	10.3	9.7	12.3	12.9	21.9	24.8	22.9
Speight G-40	3.5	12.4	7.2	10.0	11.2	20.5	22.2	21.5
Speight G-60	.2	8.5	8.3	11.1	13.3	20.4	23.0	22.5
Watson 412	.6	10.9	9.6	11.7	13.1	19.7	21.5	20.8
L.S.D. (.05)	1.1	2.4	1.5	1.5	1.4	2.0	1.8	1.6
(.01)	1.5	3.1	1.9	2.0	1.9	2.6	2.4	2.1
C.V. (%)	56	14	11	8	7	6	5	4

TV 161 OXFORD 1965

Table 8. Continued

Varieties or lines	Analysis of Cured Leaf				Ratios	
	Nic. %	Sol.Sug. %	Tot. N. %	NorNic. %	T.N. Nic.	Sug. Nic.
Commercially Available Varieties						
Hicks Broadleaf	3.10	17.48	2.06	.17	.64	5.43
NC 95	3.00	19.06	2.15	.24	.72	6.54
Bell 15	2.81	16.84	2.18	.15	.78	6.21
Bell 29	2.16	16.70	2.00	.19	.92	8.19
Coker 187-Hicks	2.03	18.05	2.05	.22	1.02	9.09
Coker 298	3.09	18.20	2.08	.14	.69	6.28
Coker 319	2.10	17.24	2.12	.19	1.04	8.58
McNair 12	2.67	19.69	2.27	.26	.85	7.20
McNair 20	3.03	14.07	2.41	.24	.82	4.53
McNair 30	3.05	16.61	2.34	.26	.77	5.17
NC 2512	2.33	20.65	2.03	.20	.86	8.74
NC 2326	2.86	20.03	2.03	.19	.75	7.49
Speight G-5	2.59	18.38	2.04	.17	.82	7.26
Speight G-7	2.71	19.60	1.96	.22	.74	7.53
Speight G-36	3.51	15.47	2.31	.17	.66	4.68
Virginia 115	2.44	21.16	1.90	.25	.77	8.72
Advanced Breeding Lines						
Coker 62-323-24S	3.67	17.17	2.24	.19	.61	4.68
Coker 63- 24S	3.01	17.44	2.14	.18	.71	5.89
Coker 64-167M	2.41	20.59	1.88	.15	.76	8.32
Coker 64-173M	3.37	13.28	2.38	.22	.72	4.36
Coker 64-192-93M	2.97	17.66	2.10	.21	.71	6.02
Coker 64-254M	3.11	15.70	2.10	.38	.70	5.53
McNair 4941	2.39	19.27	2.13	.21	.90	8.24
NC 1626-53C	2.63	19.21	2.11	.20	.82	7.99
NC 2514	2.59	19.65	2.15	.24	.84	7.97
NC 2543-5C	2.15	19.37	2.04	.22	1.00	9.72
NC 3503C	2.40	16.29	2.11	.20	.87	7.13
NC 4001	3.08	21.79	2.29	.19	.75	7.40
NC 4809	2.94	14.21	2.31	.32	.78	4.73
NC 4821	2.06	21.33	1.85	.19	.87	10.20
NC 4840	2.49	17.46	2.17	.22	.89	7.35
NC 4841	2.21	18.77	2.14	.19	.98	8.50
NC 4897	2.78	17.40	2.14	.17	.78	6.54
NC 5015	1.99	21.38	2.03	.08	1.09	11.53
NC 5038	2.05	18.61	2.17	.15	1.05	9.33
NC 5048	2.31	19.09	2.22	.08	1.02	8.76
NC 5055	2.98	17.88	2.33	.18	.78	6.30
NC 5080	2.73	18.81	2.16	.14	.81	7.00
NC 5089	1.81	19.61	1.94	.16	1.15	11.95
NC 5121	1.88	18.53	1.90	.13	1.01	10.13
NC 5125	2.38	17.36	2.16	.22	.90	7.33
NC 5131	2.09	17.43	2.08	.33	1.01	8.73
NCTG -7	2.63	19.19	2.14	.14	.81	7.35
NCTG -8	2.36	19.59	2.04	.24	.86	8.49
PD 16	2.44	16.30	2.38	.12	.97	6.86
Speight 6-29	3.41	15.35	2.28	.18	.67	4.18
Speight G-40	3.76	15.41	2.33	.20	.62	3.89
Speight G-60	2.47	18.24	2.03	.14	.83	7.62
Watson 412	3.60	14.71	2.34	.21	.65	4.27
L.S.D. (.05)	.53	3.67	.27	.11	.15	2.70
(.01)	.71	4.87	.36	.15	.20	3.58
C.V. (%)	12	13	8	35	11	23

TV 162 REIDSVILLE 1965

Table 9. Comparison of varieties for certain characteristics.

Varieties or Lines	Yield Lbs/A	Value Index		Days to Flower	Leaves per Plant	Height of Plant	Internode Length			
		Dol/A	Dol/Cwt.				QI ^{1/}	0-10"	10-20"	20"-top
Commercially Available Varieties										
Hicks Broadleaf	2027	1421	70.53	25.0	50	14.8	39	1.9	2.3	3.9
NC 95	2278	1475	65.26	29.9	59	19.3	43	1.8	2.2	2.6
Bell 15	1941	1317	67.21	29.6	50	16.4	38	1.9	2.2	3.1
Bell 29	2224	1430	64.26	35.7	56	16.9	45	1.9	2.2	3.4
Coker 187-Hicks	2166	1450	66.99	29.4	59	19.3	48	1.9	2.4	2.8
Coker 298	2072	1320	63.14	35.2	60	18.6	43	1.9	2.2	2.6
Coker 319	2150	1468	67.79	24.3	57	19.2	43	1.9	2.0	2.4
McNair 12	2103	1380	66.11	22.4	59	18.4	40	1.9	2.2	2.4
McNair 20	1866	1255	67.08	30.6	50	16.0	40	2.0	2.2	3.3
McNair 30	1919	1260	64.63	30.6	54	16.4	40	1.8	2.2	3.0
NC 2512	2379	1594	66.43	30.6	56	17.5	40	1.8	2.1	3.0
NC 2326	2120	1476	69.67	27.6	51	15.8	43	2.1	2.2	3.4
Speight G-5	2448	1645	67.41	30.8	58	18.9	44	1.9	2.1	2.7
Speight G-7	2298	1600	69.62	21.3	56	18.3	44	1.9	2.3	2.9
Speight G-36	2158	1378	63.22	34.2	59	18.5	45	2.1	2.2	2.9
Va. 115	2206	1475	66.38	31.7	52	17.3	38	1.8	2.0	2.7
Advanced Breeding Lines										
Coker 62-323-24S	2159	1434	67.17	32.2	59	19.6	43	1.8	2.2	2.4
Coker 63-124S	2334	1486	63.27	31.7	60	20.9	51	1.9	2.2	2.8
Coker 64-167M	2840	1845	65.17	32.5	62	20.2	44	1.8	2.2	2.4
Coker 64-173M	1899	1124	59.31	38.3	59	21.7	49	1.8	2.1	2.7
Coker 64-192-93M	2079	1372	65.42	33.1	62	19.3	41	1.7	2.3	2.3
Coker 64-254M	2482	1588	63.86	32.7	68	23.9	50	1.8	2.3	2.2
McNair 4941	2069	1396	68.05	20.6	56	17.5	40	1.8	2.2	2.6
NC 1626-53C	2123	1433	67.16	32.1	59	18.3	45	1.9	2.2	3.0
NC 2514	2240	1505	66.90	32.6	59	19.5	43	1.7	2.1	2.5
NC 2543-5C	2441	1578	64.21	35.9	61	17.9	44	2.0	2.1	2.9
NC 3503C	2160	1380	63.52	33.1	55	17.3	42	1.9	2.3	3.0
NC 4001	2221	1465	65.85	28.8	55	16.1	48	2.0	2.5	3.9
NC 4809	1987	1256	63.47	37.2	52	16.1	39	1.8	2.2	3.2
NC 4821	2361	1584	67.26	28.2	54	17.2	41	1.8	2.1	3.0
NC 4840	2269	1475	65.22	33.7	56	24.1	43	1.9	2.1	2.4
NC 4841	2217	1430	64.95	33.1	55	17.7	44	1.8	2.2	3.2
NC 4897	1744	1096	63.36	36.3	51	16.0	38	1.9	2.0	3.3
NC 5015	2322	1581	67.96	24.5	54	17.7	43	1.9	2.3	2.9
NC 5038	1836	1244	68.16	27.0	50	17.1	40	1.7	2.0	3.0
NC 5048	1939	1331	69.41	20.6	55	18.1	44	1.8	2.2	3.0
NC 5055	2012	1394	68.70	22.7	56	18.7	45	1.8	2.1	2.9
NC 5080	1873	1257	67.17	29.2	55	18.0	46	2.0	2.2	3.1
NC 5089	2201	1500	68.25	25.4	51	16.4	40	1.7	2.5	3.2
NC 5121	2375	1619	68.57	23.9	57	21.1	47	1.8	2.2	2.4
NC 5125	2274	1555	68.24	24.8	53	18.9	44	1.8	2.2	2.8
NC 5131	2131	1461	68.99	25.6	57	18.6	44	1.9	2.4	2.7
NC TG-7	2533	1549	61.36	36.8	59	19.0	38	1.8	1.9	2.3
NC TG-8	2532	1574	62.48	32.8	58	17.9	37	1.8	2.1	2.2
PD 16	2067	1320	64.51	34.8	58	18.5	40	1.7	2.3	2.3
Speight G-29	2077	1343	64.20	30.3	62	19.5	44	1.8	2.0	2.7
Speight G-40	1982	1270	65.06	33.3	53	18.3	38	1.8	2.0	2.3
Speight G-60	2481	1676	67.93	29.8	63	20.1	42	1.7	2.1	2.3
Watson 412	2156	1459	67.56	34.3	60	20.3	46	1.9	2.1	2.6
L.S.D. (.05)	255	181	3.03	4.9	4	3.4	4	.2	.3	.5
(.01)	338	241	4.03	6.5	6	4.5	6	.3	.4	.7
G. V. (%)	7	8	3	10	5	11	6	7	8	12

^{1/} Rating of 10 to 50 with 10 being best.

TV 162 REIDSVILLE 1965

Table 9. Continued.

Varieties	Suckers per plant		Width of leaf (in.)			Length of leaf (in.)		
	Ground	Leaf Axil	5th	10th	15th	5th	10th	15th
Commercially Available Varieties								
Hicks Broadleaf	.2	19.8	9.2	11.2	10.4	23.9	23.5	20.2
NC 95	.9	18.2	9.6	12.3	12.8	20.6	23.2	20.3
Bell 15	1.1	21.0	9.7	12.0	12.0	24.3	24.1	21.8
Bell 29	.1	13.0	9.9	13.1	14.5	21.5	23.8	21.9
Coker 187-Hicks	2.4	17.8	10.0	12.2	13.8	20.9	23.5	21.1
Coker 298	.2	12.5	10.5	11.7	12.5	20.4	22.7	21.0
Coker 319	.3	18.5	8.9	11.1	12.6	22.1	24.4	21.9
McNair 12	.5	16.0	9.6	10.9	12.0	20.5	23.1	21.9
McNair 20	.2	17.8	8.1	11.1	12.0	22.9	23.4	20.4
McNair 30	.3	15.8	9.3	11.1	12.3	23.3	23.6	20.8
NC 2512	.9	19.6	9.0	10.8	12.0	22.5	23.0	21.1
NC 2326	.1	18.5	9.2	11.9	11.9	23.7	23.5	20.1
Speight G-5	.1	17.3	10.0	12.7	13.7	23.3	23.3	22.4
Speight G-7	1.3	15.5	10.8	12.4	13.1	21.3	23.4	21.0
Speight G-36	.0	14.8	8.9	10.9	11.4	20.7	23.0	20.7
Va. 115	.2	18.0	9.1	10.7	12.3	21.6	23.2	21.6
Advanced Breeding Lines								
Coker 62-323-24S	.0	15.1	8.1	9.7	11.0	18.2	22.0	19.5
Coker 63-124S	3.4	18.3	9.8	12.8	12.9	20.5	23.1	21.9
Coker 64-167M	.1	12.8	9.7	12.5	14.0	20.5	24.0	23.2
Coker 64-173M	.1	15.3	10.2	11.9	12.6	21.2	23.3	21.0
Coker 64-192-93M	2.6	17.3	10.4	12.9	13.3	21.4	23.4	20.3
Coker 64-254M	1.6	15.0	10.7	12.9	13.1	20.9	23.4	22.0
McNair 4941	.3	15.0	10.3	11.8	11.4	22.3	22.5	20.6
NC 1626-53C	.2	13.7	10.3	13.1	13.4	21.4	24.1	21.5
NC 2514	1.1	16.9	8.3	10.4	11.9	21.3	24.2	22.5
NC 2543-5C	.2	11.5	10.3	13.1	14.1	21.9	25.2	22.0
NC 3503C	2.1	19.4	10.8	13.1	12.7	23.7	24.7	22.0
NC 4001	2.9	18.1	9.4	11.4	11.6	20.9	22.2	19.6
NC 4809	2.5	20.7	9.1	10.9	11.9	22.2	22.5	20.2
NC 4821	1.1	20.5	8.3	10.0	11.6	21.9	23.3	20.3
NC 4840	1.2	14.3	9.9	13.1	13.3	21.8	26.8	22.1
NC 4841	2.2	14.7	8.9	11.7	13.0	21.1	23.4	21.2
NC 4897	.7	19.3	8.5	10.7	12.1	22.6	24.3	22.3
NC 5015	2.2	17.3	10.8	13.0	12.8	23.3	24.3	21.1
NC 5038	4.4	22.4	9.3	11.2	10.8	22.1	22.1	19.6
NC 5048	3.1	17.7	9.8	11.9	11.3	21.6	22.9	19.5
NC 5055	4.0	18.5	9.9	12.2	12.8	21.7	23.9	21.0
NC 5080	2.3	18.8	9.2	12.1	11.9	22.6	23.2	21.6
NC 5089	2.7	19.5	9.7	12.4	12.1	23.2	23.1	20.1
NC 5121	2.5	21.3	9.8	12.6	13.5	20.6	23.7	21.3
NC 5125	3.2	25.3	9.9	12.1	12.4	21.5	23.1	20.9
NC 5131	1.6	18.8	9.7	11.9	12.5	20.9	22.5	20.4
NC TG-7	.5	19.1	8.4	10.8	12.0	23.5	26.1	23.9
NC TG-8	.2	16.9	7.8	10.1	12.0	22.6	26.7	24.3
PD 16	1.7	16.2	11.1	12.9	13.7	21.3	22.8	21.7
Speight G-29	1.0	18.0	10.8	13.2	13.5	22.3	25.3	21.6
Speight G-40	2.4	22.5	8.0	9.9	11.4	20.9	23.8	21.0
Speight G-60	.1	9.8	10.3	13.5	13.1	22.1	25.7	21.4
Watson 412	.6	18.8	10.9	13.8	13.5	20.3	22.7	21.0
L.S.D. (.05)	.9	8.8	1.3	1.5	1.4	1.9	2.0	1.6
(.01)	1.1	11.7	1.7	2.0	1.8	2.5	2.7	2.1
C.V. (%)	41	30	8	8	7	5	5	5

TV 162 REIDSVILLE 1965

Table 9. Continued

Varieties or lines	Analysis of Cured Leaf				Ratios	
	Nic. %	Sol. Sug. %	Tot. N. %	NorNic. %	T.N. Nic.	Sug. Nic.
Commercially Available Varieties						
Hicks Broadleaf	3.09	22.97	2.07	.19	.67	7.78
NC 95	3.20	22.02	2.26	.19	.70	7.11
Bell 15	3.55	19.14	2.28	.14	.65	5.68
Bell 29	2.47	22.86	1.98	.16	.81	9.32
Coker 187 - Hicks	2.22	20.87	2.04	.15	.92	9.78
Coker 298	2.97	16.93	2.31	.18	.78	5.59
Coker 319	2.45	20.37	2.13	.23	.86	8.51
McNair 12	2.35	22.66	2.13	.35	.98	11.81
McNair 20	3.26	22.67	2.09	.11	.67	7.13
McNair 30	2.91	20.30	2.16	.13	.74	6.69
NC 2512	2.77	21.37	2.09	.21	.77	8.04
NC 2326	2.91	19.03	2.21	.20	.73	6.70
Speight G-5	2.67	20.01	2.02	.11	.75	8.02
Speight G-7	2.64	20.32	2.08	.17	.78	7.41
Speight G-36	2.97	20.18	2.08	.16	.71	7.03
Virginia 115	3.07	22.44	2.13	.18	.70	7.37
Advanced Breeding Lines						
Coker 62-323-24S	3.93	23.47	2.31	.23	.60	6.35
Coker 63-124S	2.62	21.54	1.89	.11	.73	8.13
Coker 64-167M	2.48	23.86	1.89	.12	.75	9.72
Coker 64-173M	3.23	13.33	2.45	.16	.76	5.50
Coker 64-192-93M	2.79	19.50	2.01	.18	.70	6.87
Coker 64-254M	2.96	20.13	2.09	.26	.72	6.90
McNair 4941	2.80	21.65	2.24	.21	.80	7.76
NC 1626-53C	2.76	20.37	2.15	.17	.76	7.40
NC 2514	2.74	21.59	2.12	.17	.77	8.20
NC 2543-5C	2.51	20.56	2.07	.11	.81	8.58
NC 3503-C	3.13	17.92	2.38	.24	.76	5.70
NC 4001	3.01	24.49	2.13	.13	.69	8.26
NC 4809	3.14	15.11	2.26	.23	.70	5.33
NC 4821	2.58	24.34	2.00	.19	.76	9.61
NC 4840	2.86	21.75	2.18	.12	.77	7.72
NC 4841	2.40	22.26	2.08	.21	.85	9.35
NC 4897	2.81	17.33	2.38	.12	.82	6.32
NC 5015	2.16	23.89	1.98	.10	.93	11.62
NC 5038	2.25	23.43	2.00	.06	.90	10.93
NC 5048	2.44	19.87	2.18	.08	.91	8.63
NC 5055	2.93	24.13	2.14	.17	.72	8.27
NC 5080	3.09	19.98	2.34	.24	.74	6.64
NC 5089	2.46	18.53	2.13	.32	.89	7.71
NC 5121	2.18	21.83	1.95	.12	.89	10.33
NC 5125	2.82	18.66	2.20	.15	.79	6.81
NC 5131	2.30	21.81	2.08	.26	.88	9.61
NC TG -7	2.52	22.51	1.91	.17	.75	8.87
NC TG -8	2.54	20.83	1.98	.18	.77	8.07
PD 16	2.63	23.71	1.93	.11	.74	9.06
Speight G-29	3.41	18.98	2.23	.26	.65	5.33
Speight G-40	4.08	18.94	2.47	.43	.60	4.31
Speight G-60	2.61	21.82	2.04	.12	.77	8.20
Watson 412	2.85	17.64	2.15	.35	.78	6.09
L.S.D. (.05)	.50	4.98	.23	.17	.12	3.23
(.01)	.66	6.61	.30	.22	.16	4.30
C.V. (%)	11	15	7	56	10	26

Table 10. REGIONAL FARM TEST - Average of Twelve Locations - 1965

Varieties	Yield Lbs/A	<u>Value Index</u>		%	%	%	%	%	%	Alk. No. W.S.A.	<u>Ratio</u>		
		Dol/A	Dol/Cwt.	Total Alkaloids	Red. Sugar	Total N.	Total Sol. N	Alpha Amino N.	W.S.A.		TVB	W.S.A.	N/Nic
Hicks Broadleaf	1917	1248	65.06	2.60	16.78	2.16	59.4	.183	3.73	.38	2.58	.90	7.91
NC 95	2242	1421	63.66	2.45	14.94	2.23	58.8	.180	4.11	.38	3.32	.96	7.03
Watson 412	2022	1270	62.86	2.86	12.65	2.38	60.8	.241	4.13	.46	3.12	.88	5.20
Speight G-7	2234	1427	64.22	2.45	16.28	2.17	57.7	.176	3.67	.36	3.43	.92	7.88
Coker 24S	2292	1421	62.39	2.99	14.24	2.32	60.1	.185	4.23	.45	2.65	.80	5.57
Coker 124S	2147	1318	61.34	2.36	16.63	2.05	58.2	.165	3.81	.36	2.84	.91	8.20
PD 16	2084	1258	60.58	2.40	14.30	2.36	57.5	.211	3.70	.38	3.02	1.03	7.02
NC 2514	2410	1516	62.86	2.36	18.26	2.16	58.7	.177	3.50	.36	2.15	.97	9.34
NC 4001	2094	1294	62.19	2.49	18.56	2.28	57.0	.155	3.63	.37	2.34	.94	8.31

Table 11. REGIONAL FARM TESTS - 1965

Quality of Color Index, % Usable, Desirability Index Across Farms
and Average Across Farms and Companies

Company	Hicks	NC 95	Watson 412	Speight G-7	Coker 24S	Coker 124S	PD 16	NC 2514	NC 4001
<u>Quality of Color Index</u>									
A	1.99	1.73	2.19	2.25	1.84	1.98	1.85	1.64	1.84
B	2.60	2.30	2.49	2.68	2.38	2.29	2.22	2.55	2.19
C	1.87	1.88	1.86	2.20	1.60	1.58	1.77	1.59	1.69
D	2.74	2.72	2.36	2.62	2.53	2.07	2.33	2.26	2.02
E	2.56	2.47	2.43	2.52	2.36	2.20	2.10	2.45	2.28
F	2.84	2.44	2.55	2.69	2.50	2.52	2.38	2.55	2.46
G	2.64	2.60	2.41	2.34	2.40	2.44	2.40	2.54	2.58
Average	2.48	2.28	2.32	2.40	2.21	2.15	2.14	2.25	2.17
<u>Percent Usable</u>									
A	11.93	23.47	24.45	20.40	9.81	16.86	15.46	4.09	9.86
B	22.02	25.55	38.99	35.16	20.10	21.80	24.73	16.03	26.52
C	11.99	11.96	9.88	17.35	6.47	2.72	7.16	2.56	9.50
D	11.23	12.20	3.67	9.76	11.19	4.69	3.33	8.67	7.76
E	40.08	37.21	44.08	30.63	26.93	24.43	30.80	32.07	24.11
F	43.20	25.65	23.88	30.27	20.03	14.71	19.05	23.21	22.68
G	17.93	29.93	21.64	26.48	16.64	23.18	14.47	15.73	27.42
Average	22.76	23.54	23.88	23.97	15.75	15.57	16.70	14.52	18.39
<u>Desirability Index</u>									
A	.23	.46	.51	.48	.17	.96	.28	.08	.18
B	.39	.36	1.13	.60	.28	.29	.34	.33	.32
C	.18	.17	.30	.26	.08	.03	.10	.04	.10
D	.31	.37	.18	.28	.26	.13	.10	.28	.16
E	.76	.73	.90	.66	.49	.56	.59	.56	.56
F	1.02	.66	.52	.62	.48	.35	.43	.40	.46
G	.31	.60	.78	.58	.39	.35	.33	.28	.30
Average	.50	.46	.59	.49	.29	.38	.31	.30	.33

Table 12. REGIONAL FARM TESTS - 1965

Percent Tobacco Usable by Tobacco Companies
Average Across 6 Locations in Four States

Variety	A	B	C	Tobacco Companies			G*	Average
				D	E	F		
Hicks	16	35	-	17	41	82	12	29.0
NC 95	28	33	-	6	37	33	22	22.7
Watson 412	30	47	-	-	46	33	29	26.4
Speight G-7	23	40	-	4	23	33	21	20.6
Coker 62-323-24S	14	29	-	4	32	24	24	18.1
Coker 63-124S	18	34	-	-	23	26	15	16.6
PD 16	15	38	-	2	24	32	14	17.9
NC 2514	4	29	-	9	30	34	10	16.6
NC 4001	10	34	-	-	16	23	10	13.3

*Average of 5 locations.

Table 13. REGIONAL FARM TESTS - 1965

% Usable Tobacco by at Least One Company
Individual North Carolina Farms
and a Mean for all Farms and Varieties

Variety	North Carolina						Average
	King	Goss	Busick	Edmund	Harper	Harrell	
Hicks	90	53	40	100	83	56	70
NC 95	87	57	36	62	86	66	66
Watson 412	66	76	80	75	70	78	74
Speight G-7	83	50	63	66	81	84	71
Coker 24S	91	58	14	61	12	52	48
Coker 124S	66	17	70	56	43	37	48
PD 16	54	61	28	78	39	52	52
NC 2514	57	100	22	60	57	30	54
NC 40C1	90	54	50	83	16	67	60
Average	76	59	45	61	54	58	59

Table 14. Index $\frac{1}{/}$ on amount graded of each entry by seven participating companies from the six farms in the North Carolina Regional Farm Tests.

Belt and Grower	Variety or Line									
	Hicks	NC 95	Watson 412	Spt. G-7	Coker 24S	Coker 124S	PD 16	NC 2514	NC 4001	
Border										
Edmund	1.89	1.61	2.13	1.82	2.13	1.59	2.57	1.43	2.10	
Eastern										
Harper	1.10	1.83	2.20	2.01	.12	.57	.49	.79	.79	
Harrell	1.29	1.91	1.77	2.12	1.03	1.00	1.04	.52	1.03	
Middle										
King	1.49	2.08	1.57	2.31	2.03	1.07	.66	.88	1.84	
Goss	.93	.67	1.64	.90	1.04	.17	1.18	1.71	.41	
Old										
Busick	1.82	1.43	1.55	.99	.43	1.74	.57	.44	1.48	
Overall Average	1.42	1.59	1.81	1.69	1.13	1.02	1.08	.96	1.28	

$\frac{1}{/}$ 0 = none graded; 7 = all graded by all seven participating companies.

Grower rating $\frac{1}{/}$ for preference for each entry in Regional Farm Tests in North Carolina, 1965

Belt and Grower	Variety or Line									
	*Hicks	NC 95	Watson 412	Spt. G-7	Coker 24S	Coker 124S	PD 16	NC 2514	NC 4001	
Border										
Edmund	9	1	8	5	2	3	7	4	6	
Eastern										
Harper	9	5	2	6	7	4	3	1	8	
Harrell	5	2	9	3	7	4	6	1	8	
Middle										
King	7	3	5	1	4	6	9	2	8	
Goss	5	2	7	1	6	4	9	3	8	
Old										
Busick	2	6	5	1	7	4	9	3	8	
Overall Average	6.2	3.2	6.0	2.8	5.5	4.2	7.2	2.3	7.7	

$\frac{1}{/}$ 1 = most desirable; 9 = least desirable

* The undesirable ratings placed on Hicks were due mainly to its low disease resistance.

Table 15. Cultural Practices for the Official Variety Test. 1965

Station	Fertilization	Top Dressing	Soil Type	Fumigation	Irrig.	Date of Transplanting	Date of 1st Harvest
Border Belt Tobacco Research Station Whiteville, N. C.	900# 4-8-12	300# 8-0-24	Norfolk fsk	None	None	May 4	June 29
Upper Coastal Plain Research Station Rocky Mt., N. C.	1000# 4-8-12	240# 15-0-14	Goldsboro s1	DD 18 gal/Ac	None	May 14	July 7
Central Crops Research Station Clayton, N. C.	1200# 4-8-12	90# 15-0-14 50# 16% Soda	Norfolk sk		None	May 12	July 13
Oxford Tobacco Research Station Oxford, N. C.	1200# 4-8-12	170# 9-4-25	Enon	None	1.00"	May 20	July 21
Upper Piedmont Tobacco Research Station Reidsville, N. C.	900# 4-8-12	None	Appling s1	None	None	May 27	July 23

Table 17. Grower Practices by individual farms, Regional Farm Tests in North Carolina - 1965

Belt and County	Farm	Soil Fumigation	Row Width and Hill Spacing	Date of Planting	Date of First Harvest	Fertilizer	Topdressing	Insecticide	Curing Unit	No. Times Irrigated
<u>Border</u> Columbus	Edmund	Shell DD 10 gal./Ac (Row)	44" Rows 20" Drill	April 23	July 3	1200# 3-9-9	100# 15-0-14 100# Sul-Po-Mag 25# Soda	DDT Parathion	Buckeye	None
<u>East</u> Lenoir	Harper	None	42" Rows 20" Drill	April 22 April 24	June 24	800# 3-9-9	100# K ₂ N ₂ O ₃ 100# Sul-Po-Mag 300# 3-9-9 475# 4-8-12	TDE	Gastobac	None
Wilson	Harrell	None	44" Rows 22" Drill	April 23 April 26	June 29	1150# 4-8-12	170# 15-0-14	None	Tharrington	None
<u>Middle</u> Wake	King	Shell DD 16 gal./Ac (Broadcast)	48" Rows 20" Drill	May 3	July 9	1000# 3-9-9	350# 3-9-9 75# Sulphate of Potash 300# 15-0-14	DDT Parathion	Gastobac	One
Durham	Goss	Penphene	48" Rows 26" Drill	May 18	Aug. 4	1100# 4-8-12	100# Soda 150# Soda	None	Tharrington	None
<u>Old</u> Caswell	Busick	None	47" Rows 24" Drill	May 15	Aug. 3	1080# 4-8-12	100# 13-0-44 50# Soda	None	Gastobac	None

Table 17. Rainfall record in inches - 1965
 Border Belt Tobacco Research Station - Whiteville, N. C.

Date	April	May	June	July	August	September
1	T			.45	.12	
2					.14	.34
3						.53
4	.04			.62		.24
5				.28		
6	T			.50	.27	
7	1.10				.07	
8		.14	.90	.78		
9			.38	.06		
10				.20	1.04	
11		T	.08	.76		
12		1.17	.38	.43	.09	.05
13			.04			
14			.65	.05		.95
15	.03		.20	.19	.06	.02
16	.40		1.20	.22		.40
17						2.00
18					.36	
19		.10	.04	.50		
20	1.20	.25		.05	.05	
21		T			1.00	
22		.07				
23						.06
24	.03				.11	.02
25			2.05		.85	.56
26	.50	.19	.56		.35	
27	.25	.17	.24			
28	.27	.31		1.08		
29	.07	.45		.28		
30		1.42		.49		
31		.03				
TOTAL	3.89	4.30	6.72	6.94	4.51	5.17

T = Trace

Table 17. Continued. 1965
Upper Coastal Plains Research Station - Rocky Mount, N. C.

Date	April	May	June	July	August	September
1	T			.10	1.64	
2	.01				.05	.12
3			.07			.02
4				.05		
5				.10		.01
6	.18			.35		
7	.05					
8		.34	.59	.27		
9			.05			
10	.02		.12		.05	
11		.23		.46		
12		.40	3.58	.81		.27
13		.15				.06
14		.04				
15	.03		.58	.08		
16	.15		1.85	.14		
17		.03				
18						
19	.05	.10		1.91		
20	.24			.12	.09	
21						
22					.22	
23	.13					
24		T	.01		.33	.50
25			.25		.03	.40
26	.17	.24	.10	.04	.45	
27	.31	.07		.62		
28	.47	.38		2.24		
29	.02	.02		.04		
30			.18	.05		
TOTAL	1.83	2.00	7.38	7.38	2.86	1.38

T = Trace

Table 17. Continued. 1965
 Central Crops Research Station - Clayton, N. C.

Date	April	May	June	July	August	September
1	.02		.02	.27	.50	
2	.01			.01		.89
3	.04					.08
4				.06		
5	.04			1.92		
6	.32			.97	1.10	
7	1.01	.02		.01		
8			.13	.48		
9			1.16	.01	.82	
10			.02			
11		.05		.30		
12		1.01	2.14	1.10		.54
13	.07	.45	.07	.61		.21
14	.13	.02	.01			.01
15			.58	.16		.02
16			1.90	.34		
17		.02	.01	.02	.82	
18					.02	
19				1.12		
20		.01		.33		.26
21				.02		
22						
23					.02	
24	.75		.07		.02	
25		.04	.81		.15	
26			.15	.84	.08	
27	.06	.76				.27
28	.02	.08		5.05		
29				.04		.02
30			.28	.03	.01	
31						
TOTAL	2.47	2.46	7.33	13.69	3.54	2.30

Table 17. Continued. 1965
Oxford Tobacco Research Station - Oxford, N. C.

Date	April	May	June	July	August	September
1				.05	.20	
2						
3						
4					.22	
5				.27		
6						
7	.20	.32				
8			.32		.03	
9	.15		.33		.19	
10				.16		
11			.80	.65		1.19
12			1.14	.54		.19
13						
14						
15			1.18			
16	.20		1.95	.06		
17					.60	
18				.12		
19						
20	.35			1.54	.74	
21						
22						
23	.05					
24			.17			
25			.40			
26	.34			.50		
27	1.15	.74(1.00)		.79		
28	.80	.07		.06		
29						
30			.16			
31						
TOTAL	3.24	1.13	6.45	4.74	1.98	1.38
		<u>+1.00</u>				
		2.13				

(1.00) = irrigation

Table 17. Continued. 1965
Upper Piedmont Tobacco Research Station - Reidsville, N. C.

Date	April	May	June	July	August	September
1				.18	.19	
2					.70	.15
3						
4			.03			
5				.67	.95	
6				.22		
7	.44	.33				
8		.20		.42	.05	
9	.09		.61		T	
10			.01			
11		.03		2.50		
12		.05	1.15	.20		.53
13		.28	.18			.15
14						.03
15	.08		.43	.03		
16	.37		1.45	.05		
17			.02	.20		
18						
19				.40	.03	
20	.16				.40	
21	.13					
22					.69	
23	T				.07	.02
24					.14	
25	.03		.32		.03	.75
26	.26			1.32	1.26	
27	.68	T	.02	.60		
28	1.70	.11		.28		
29		1.10				
30			.48	.02		
31						
TOTAL	3.94	2.10	4.70	7.09	4.51	1.63

T = Trace