

Research Report No. 111  
December, 1987



**Measured Crop Performance**

# TOBACCO

## 1987

**DARYL BOWMAN, Associate Professor**  
**WILLIAM TERRY KELLEY, Research Assistant**  
**GLENN TART, Tobacco Marketing Specialist**

DEPARTMENT OF CROP SCIENCE



**Measured Crop Performance**

# TOBACCO

1987

This information is presented under authority granted the North Carolina Agricultural Research Service to conduct performance tests, including interpretation of data to the public, and does not imply endorsement or recommendation by North Carolina State University. Any use of data or information presented in this bulletin must be accompanied by conspicuous disclaimer which states, "endorsement or recommendation by North Carolina State University is not implied."

## TABLE OF CONTENTS

INTRODUCTION .....	1
EXPERIMENTAL PROCEDURES .....	2
RESULTS AND DISCUSSION .....	7
VARIETY DESCRIPTION .....	9
TABLES	
Table 1. Cultural practices for the Official Variety Test, 1987 .....	17
Table 2. Percentage comparison between NC 2326 and other flue-cured tobacco varieties in the Official Variety Test over three years (1985-87) .....	18
Table 3. Comparison of certain varieties in Official Variety Trials across three years (1985-87) .....	19
Table 4. Comparison of certain varieties in Official Variety Trials across two years (1986-87) .....	20
Table 5. Harvest rate of commercially available varieties, 1987 .....	21
Table 6. Summary information on disease resistance, 1987 .....	23
Table 7. Comparison of varieties for certain characteristics for five locations, 1987 .....	25
Tables 8-12. Individual location data, 1987.....	27
Table 13. Pedigrees of entries in the 1987 Official Variety Tests .....	37

## INTRODUCTION

American flue-cured tobacco is known worldwide for its unique smoking qualities. The Flue-Cured Tobacco Minimum Standards Program was initiated in 1964 to insure that released varieties have acceptable agronomic, physical, chemical and smoke characteristics. The North Carolina Official Variety Trials for flue-cured tobacco are conducted annually to provide information to growers and the tobacco industry on performance of varieties that have passed the Minimum Standards Program and may be available to the growers in North Carolina. Breeding lines are also included as a first step in advancing these potential varieties through the Minimum Standards Program.

The Acreage-Poundage Program tends to encourage quality of flue-cured tobacco by limiting the production in terms of pounds per acre. Varieties contribute substantially to leaf quality and should be carefully selected by the grower. Therefore, this bulletin has been written with emphasis on the quality of various varieties that are available to tobacco growers.

Data are presented for three, two years and one year over all locations and by location in this bulletin. Growers are cautioned to examine data from two and three-year tables prior to selection of a variety to grow on their farms. They are also encouraged to grow a small acreage of the new variety rather than the whole crop at once.

The Official Variety Trials consist of small replicated plots located on five research stations. The Regional Minimum Standards Program evaluates potential new varieties by the Regional Small Plot Test and Regional Farm Test. Results of these tests are reported separately in the Flue-Cured Variety Evaluation Committee Report.

#### EXPERIMENTAL PROCEDURES

##### Official Variety Test

Twenty-four released varieties and twenty experimental lines were tested at five locations (Figure 1) in 1987. The Official Variety Tests were conducted on disease-free soil, insofar as possible. The experimental locations are as follows:

Border Belt Tobacco Research Station, Whiteville, N.C., representing the Border Belt.

Lower Coastal Plain Tobacco Research Station, Kinston, N.C., representing the Eastern Belt.

Upper Coastal Plain Research Station, Rocky Mount, N.C., representing the Eastern Belt.

Oxford Tobacco Research Station, Oxford, N.C., representing the Middle Belt.

Upper Piedmont Research Station, Reidsville, N.C., representing the Old Belt.

#### Agencies, Contact Person, and Addresses of 1987 Sponsors

<u>Agency and Contact Person</u>	<u>Address</u>	<u>Varieties</u>
Coker's Pedigreed Seed Company Wayne Harrell	P. O. Box 340 Hartsville, S.C. 29550	Coker
Northrup King Seed Company Bill Earley	P. O. Box 1127 Laurinburg, N.C. 28352	NK, NK's McNair, K

---

Agencies, Contact Person, and Addresses of 1987 Sponsors


---

N. C. Agric. Res. Service Daryl Bowman	3709 Hillsborough St. Raleigh, N.C. 27607	NC
Reams Seed Company Robert Reams	Route 2 Apex, N.C. 27502	Reams
Speight Seed Farms Mark Grimsley	Box 507 Winterville, N.C. 28590	Speight
USDA Richard Gwynn	Rt. 2, Box 16G Oxford, N.C. 27565	NC-USDA

---

The entries were coded and seeded in plant beds which received normal cultural practices. At transplanting, the plants were individually selected for uniformity and planted into one-row plots, each of which consisted of twenty competitive plants spaced 22 or 24 inches apart, depending upon location. The row spacing was four feet at all locations except Reidsville which was 3.75 feet. Additional cultural practices are shown in Table 1. Each entry was replicated three times in a randomized, complete block design at each location. <sup>1/</sup>

After topping, all entries were treated with commercial contact and systemic sucker control chemicals. Individual plots were harvested according to degree of maturity and

---

<sup>1/</sup> Statistical analyses were made in the Computing Center under the supervision of Dr. John Rawlings, Mrs. Sandra Donaghy, and Mrs. Faye Childers. Their assistance is gratefully acknowledged.

primings were tagged and kept separate throughout curing, sorting, and grading. Performance data were collected on yield, quality, agronomic characteristics, disease resistance, <sup>2/</sup> chemical characteristics, <sup>3/</sup> and physical quality traits. Data on agronomic characteristics were collected in the field and chemical determinations were made on cured leaf samples weighted over all stalk positions.

Dollar value per hundredweight and grade indices are shown to emphasize quality differences among the varieties. Dollar value per hundredweight was calculated from a two-year average price paid per pound on the flue-cured market for a particular government grade. After the tobacco was sorted into lots, a Federal Tobacco Inspector assigned an appropriate government grade to each lot from each plot. The average dollar value per hundredweight was then computed based on a weighted average by stalk position.

Each entry was rated also with a grade index ranging from 1 to 99. This index was calculated by assigning a numerical value to each government grade of each entry. An

---

1/

Drs. David Shew and Margo Daub of the Plant Pathology Department and Dr. G. R. Gwynn of the Department of Crop Science and USDA-CRS cooperated on the tests for disease reaction. Their assistance is gratefully acknowledged.

2/

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

average grade index value was then obtained for each entry in the same manner as dollar value per hundredweight. Grades N2 and ALL represent the practical extremes with values of 1 and 99 assigned to these respective grades. The 1987 data utilized a revised version of the grade index as originally developed by E. Wernsman and E. Price (1975). Seasonal Conditions: Transplanting was later than normal. Rainfall was below normal throughout the summer at most locations.

Monthly Rainfall Totals (Inches)

<u>Station</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>Sep- tember</u>
Whiteville	2.56	0.53	6.26	5.22	6.49	7.68
Kinston	4.45	0.50	3.10	5.25	5.25	
Rocky Mount	5.57	2.48	3.02	1.54	2.28	5.78
Oxford	6.25	2.75	3.67	4.55	1.89	4.45
Reidsville	10.92	3.32	2.82	1.50	2.80	

Rocky Mount irrigated 1 1/2" on June 23, 1.35" on July 1, 2" on July 13, 2" on July 16, 2" on July 23, 1 1/2" on July 29, 1" on July 31, and 1 1/2" on August 18. Oxford irrigated 1" on July 10, 1" on July 13, 1/2" July 21, and 1/2" on July 22. Reidsville irrigated 1 1/2" in July and 2.8" in August.

RESULTS AND DISCUSSION

The data presented in Tables 2, 3, and 4 summarize how varieties performed over a period of years at various locations. These tables give a general indication of the



stability of the varieties since they include performance data over many locations and years.

In Table 2, the relative comparison between NC 2326 and other flue-cured tobacco varieties for yield, price per pound and grade index are presented to indicate yield and quality differences. In Table 3, varieties that were common in 1985, 1986, and 1987 are compared for a number of agronomic and chemical characteristics.

Two-year data are presented in Table 4 for 1986 and 1987. Table 5 shows the percent of tobacco harvested at each priming and the accumulated total harvested through each priming. This information can be used to ascertain the relative rate of ripening among varieties.

Information on disease resistance is presented in Table 6. Data were collected on black shank, bacterial wilt, root knot nematodes and mosaic. A relative rating of the level of resistance to black shank and bacterial wilt is given for each variety. Root knot and mosaic resistance are recorded as resistant or segregating. These data were furnished by Drs. Margo Daub, Richard Gwynn, and David Shew.

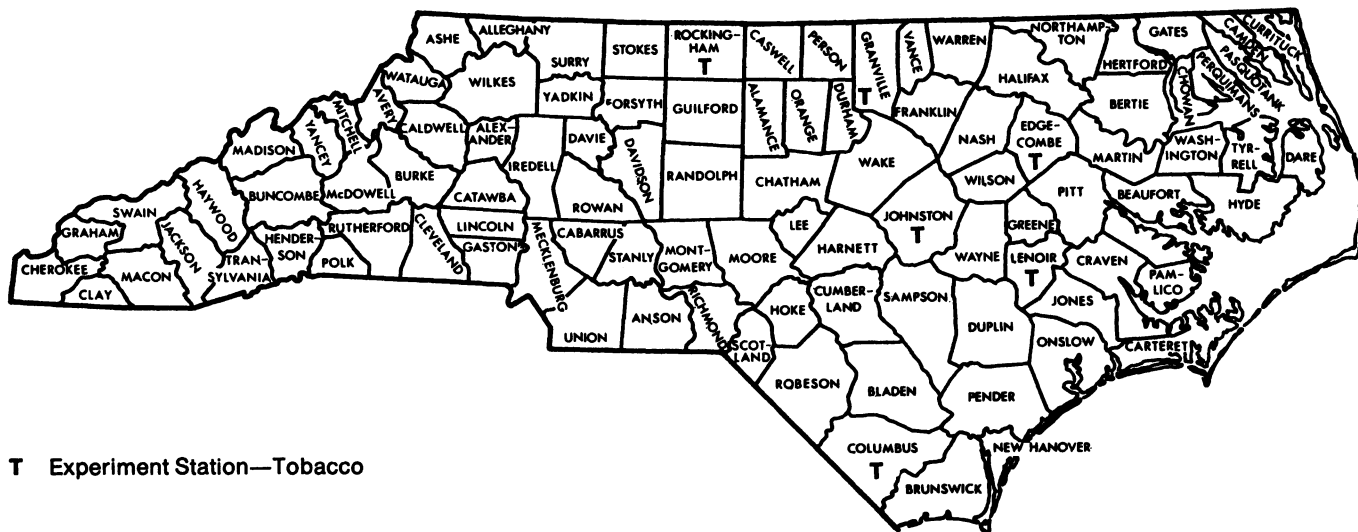
The average performance across five locations in 1987 is shown in Table 7. NC 27NF is a nonflowering genotype and should be topped at 18-20 harvestable leaves.

Individual location data are presented in Table 8-12. The advanced breeding lines are in early stages of testing and may be released with a different designation, if they meet the standards; these data will not be discussed.

Table 13 lists the pedigrees, generation or year of release, and the developer of all entries in the 1987 Official Tobacco Variety Tests.

NC 27NF, NC TG-43, NC TG-44, NC TG-45, and NC TG-46 are nonflowering genotypes and days from transplanting to topping are reported in the days to flower column.

**FIGURE 1— LOCATION OF OFFICIAL VARIETY TEST  
NORTH CAROLINA AGRICULTURAL  
RESEARCH SERVICE**



## VARIETY DESCRIPTION

Information regarding agronomic performance which may or may not be found in this and other publications for the commercially available varieties is listed for the grower's benefit.

Coker 48 - It has high resistance to black shank and Granville wilt. It yields better than the check varieties, NC 95 and NC 2326. Days to flower after transplanting is about average. Average leaf number is nearly 20 leaves per plant on a higher than average stalk. Ground suckers average less than one.

Coker 176 - This variety has moderate resistance to black shank, high resistance to Granville wilt, and resistance to Fusarium wilt, root knot nematodes and tobacco mosaic virus. This variety has a moderate number of leaves on a medium height stalk. It has tolerance to weather fleck.

Coker 206 - This variety has resistance to black shank, Granville wilt and Fusarium wilt. It averages nearly 19 leaves per plant. It has very few ground suckers and averages 66-67 days to flower.

Coker 298 - It has high resistance to black shank and Granville wilt and is very sensitive to brown spot. It yields similar to check varieties with a comparable leaf quality. It tends to be late flowering with an average leaf number around 20. A rather tall variety with a medium number of ground suckers.

Coker 319 - It has low resistance to black shank and Granville wilt. It yields comparable to the standard varieties and has a much higher quality as indicated by grade index. Days to flower averages 64-66 with about 20 leaves per plant.

Coker 347 - This variety has resistance to black shank, Granville wilt, Fusarium wilt and root-knot nematodes. It is also moderately tolerant to brown spot and averages around 67 days from transplanting to flowering.

Coker 371 Gold - It was developed by Coker's Pedigreed Seed Company from a complex cross involving Speight G-28 and NK 82. Coker 371 Gold has high resistance to black shank and moderate resistance to Granville wilt. It flowers on the average 67 days after transplanting with 19 harvestable leaves.

K 317 - It was developed by Northrup King Seed Company from a cross of McNair 225 x NC 1071. This variety carries high resistance to black shank, low resistance to Granville wilt, and is susceptible to root knot and mosaic. K 317 has about 18 leaves when topped at 41 inches and flowers about 66 days after transplanting. Yields are less than average but grade index is high.

K 326 - It has low resistance to black shank and moderate resistance to Granville wilt; it also has resistance to the common root-knot nematodes. It is known for its high quality. It has a moderate number of leaves on a low stalk. It is tolerant to brown spot and may prematurely flower.

K 340 - (tested as NK 3240) was developed by Northrup King Seed Company from a cross of McNair 944 and NC 82. K 340 has high resistance to black shank and Granville wilt. It has a low ground sucker count and flowers, on the average, 64-66 days after transplanting with nearly 19 harvestable leaves.

K 394 - It has resistance to black shank and Granville wilt. It averages nearly 20 leaves per plant on a short stalk. It has very few ground suckers and averages 66-68 days to flower. It is a high-yielding variety with average quality.

K 399 - This variety carries high resistance to black shank and Granville wilt. It is resistant to the most prevalent species of root-knot nematodes occurring in the flue-cured tobacco area. It is sensitive to weather fleck.

McNair 373 - This variety has a high number of leaves with a short stalk and produces a medium number of ground suckers. It has moderate resistance to black shank, high resistance to Granville wilt and resistance to root-knot nematodes. A short, compact plant of good storm resistance, it tends to mature quickly and flowers somewhat earlier than some other multi-disease resistant varieties. It has exceptional holding ability and produces adequate yields of high-quality leaf.

McNair 944 - It has high resistance to black shank and low resistance to Granville wilt. It is a high-yielding variety with average quality.

NC 22 NF - This variety has moderate resistance to black shank and is tolerant to brown spot. It is unique in its late-flowering trait. It will produce over 30 leaves of low-quality tobacco if left untopped. It should be topped at 18 to 20 harvestable leaves. It is essentially an NC 2326 type tobacco but has larger tip leaves than NC 2326. Approximately 63-65 days from transplanting will be required before topping at 18-20 leaves.

NC 27NF is a "non-flowering" variety that produces high yields with a high grade index. It was developed by breeders at North Carolina State University from a cross of Coker 319 and a non-flowering genotype. This variety will produce over 30 leaves but quality deteriorates as leaf number increases; therefore; growers are encouraged to top at 18-20 harvestable leaves. NC 27NF has low resistance to black shank and moderate resistance to Granville wilt.

NC 50 - This variety has a combination of moderate resistance to black shank and Granville wilt and has resistance to the most prevalent species of root-knot nematodes, Meloidogyne incognita. It yields well with excellent quality.

NC 60 produces good yields with a high grade index. It was developed at the Oxford Tobacco Research Station from a cross between McNair 944 and Speight G-28. This variety has high resistance to black shank and Granville wilt and is resistant to the common root knot nematode. NC 60 has

above-average number of ground suckers and produces slightly more than 19 leaves on the average.

NC 82 - An average yielding variety with high quality. It has an intermediate number of leaves on a medium to short stalk. Flowers fairly early and may prematurely flower and produces a medium number of ground suckers. It has high resistance to black shank and moderate resistance to Granville wilt, and brown spot. It is not subject to extensive damage from weather fleck.

NC 85 - It has resistance to black shank and Granville wilt. It produces 19 leaves on a medium height stalk with few ground suckers. It averages 66-67 days to flower.

NC 95 - One of the first varieties with high levels of disease resistance and high quality. It has moderate resistance to black shank and high resistance to Granville wilt and resistance to the most prevalent species of root knot nematodes found in North Carolina and to Fusarium wilt.

NC 567 - It has low resistance to black shank and moderate resistance to Granville wilt. It also has resistance to the most prevalent species of root knot nematodes, with resistance to tobacco mosaic virus and Fusarium wilt. It has resistance to tobacco cyst nematodes.

NC 2326 - This variety has low levels of resistance to black shank and Granville wilt. It is essentially a Hicks-type tobacco which is known for its unique quality in terms of flavor and aroma of the cured leaf. It is used as one of



the standard varieties. It has a tendency to flower prematurely.

PD 4 - This variety is resistant to black shank, Granville wilt and yields better than the standard varieties, NC 95 and NC 2326, with leaf quality equal to these two varieties. It produces about 21 leaves per plant that are fairly widely spaced with a strong stalk and a good root system. This variety flowers approximately two months after transplanting and has the same number of ground suckers as Coker 319 with a Hicks-type leaf shape.

PD 279 - This variety was developed by Clemson University, Pee Dee Experiment Station, Florence, South Carolina from a cross of PD 5 x Coker 347. This variety carries moderate resistance to black shank and Granville wilt, and is resistant to the most common species of root knot. PD 279 has about 18 leaves when topped at 41-42 inches and flowers about 64 days after transplanting and has a low ground sucker count. It produces average yields with an average grade index. Seed of this variety are available from the South Carolina Foundation Seed Association, Clemson, South Carolina.

Reams 158 produces moderately low yields with a high grade index. It was developed by Reams Seed Company from a cross between McNair 944 and Hicks. This variety has moderate resistance to black shank and high resistance to Granville wilt. It has a low ground sucker count and

produces 19-20 leaves on a slightly higher than average plant.

Speight G-28 - It has resistance to black shank, Granville wilt, Fusarium wilt and root-knot nematodes. It averages around 64 days from transplanting to flowering with more than 18 leaves on a short stalk. This variety has very few ground suckers.

Speight G-70 - This variety yields much higher than NC 2326 and quality is about the same. It has an intermediate number of leaves with a low stalk, flowers about average with a medium number of ground suckers. It has resistance to root knot nematodes. It is tolerant to brown spot. Its cured leaf is about the same color and texture as NC 2326 with a higher percentage of medium to heavy bodied tobacco, less chaffy leaf and lower nicotine content.

Speight G-80 - This variety has resistance to black shank, Granville wilt, Fusarium wilt, and the most prevalent species of root knot nematodes. It produces nearly 19 leaves on a short stalk and averages 65 days to flower.

Speight G-102 - This variety was developed by Speight Seed Farms from a cross involving Speight G-15 and Speight G-33. It has moderate resistance to black shank and is resistant to the common root-knot nematode. It has low ground sucker count and averages flowering 67 days after transplanting.

Speight G-108 - It has moderate resistance to black shank and high resistance to Granville wilt and is also resistant to the common root-knot nematode. It was developed by

Speight Seed Farms from a cross of Speight G-70 and Speight G-28. This variety flowers on the average 70 days after transplanting with 19 harvestable leaves.

VA 182 - It has high resistance to black shank. It yields comparable to the standard varieties, NC 95 and NC 2326, with substantially higher quality (excellent curability). The plants are slightly taller than Coker 319 with an upright growth tendency.

Table 1. Cultural practices for the Official Variety Test - 1987.

Station	Fertilization	Side-Dressing	Soil Type	Chemical ' Soil Treatment	Date of Transplanting	Date First Harvest
Border Belt Tobacco Research Station Whiteville, NC	475#/A 6-12-12	150#/A 15-0-14	Norfolk Fine Sandy Loam	Ridomil Telone C-17	April 22	July 2
Lower Coastal Plain Research Station Kinston, NC	600#/A 6-6-18	150#/A 15-0-14	Norfolk Sandy Loam	Ridomil Telone C-17	April 27	July 20
Upper Coastal Plain Research Station Rocky Mount, NC	100#/A 0-0-60 130#/A 8-24-24	266#/A 15-0-14	Norfolk Loamy Sand	Nemacur-Dasanit Ridomil	May 11	July 27
Oxford Tobacco Research Station Oxford, NC	500#/A 8-8-24	150#/A 15-0-14	Appling Sandy Loam	Ridomil Mocap	May 18	August 5
Upper Piedmont Research Station Reidsville, NC	700#/A 6-12-18	100#/A 15-0-14	Rion Sandy Loam	Ridomil Telone C-17	May 20	July 28

Table 2. Percentage comparison between NC 2326 and other flue-cured tobacco varieties in the Official Variety Test over three years (1985-87).

Grade Index	% of NC 2326	\$/Cwt.	% of NC 2326	Yield	% of NC 2326
Reams 158	115	K 326	102	K 394	126
Coker 319	113	McNair 373	102	K 326	125
McNair 373	113	NC 27NF	102	NC 27NF	123
NC 27NF	113	NC 82	102	Coker 48	120
NC 60	113	NC 567	102	Speight G-80	118
NC 82	113	Coker 176	101	K 340	117
K 317	111	Coker 319	101	K 399	117
K 326	111	K 399	101	Coker 347	116
NC 567	109	NC 60	101	McNair 373	114
K 399	108	NC 2326	100	NC 60	114
Coker 176	106	NC 95	100	Speight G-28	114
K 394	104	K 317	100	Speight G-80	113
Speight G-28	104	K 340	100	NC 95	111
McNair 944	102	K 394	100	Coker 176	111
Speight G-80	102	McNair 944	100	McNair 944	110
NC 2326	100	Reams 158	100	NC 567	110
NC 95	100	Speight G-28	100	NC 82	108
Speight G-70	100	Speight G-70	100	Coker 319	104
Coker 347	98	Speight G-80	100	Reams 158	101
K 340	96	Coker 48	99	NC 2326	100
Coker 48	94	Coker 347	99	K 317	97

Table 3. Comparison of certain varieties in Official Variety Trials across three years (1985-87).

VARIETY	GRADE INDEX	INDEX \$/CWT	VALUE \$/A	YIELD LBS/A	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG.	TOT. ALK.	SUG. ALK.
NC 2326	53	166.36	4136	2457	59	17.3	43	0.4	16.6	3.13	5.82
NC 95	53	166.57	4574	2733	64	18.4	42	1.0	18.1	3.13	6.16
COKER 48	50	165.24	4908	2954	67	19.3	44	0.9	18.8	2.98	6.78
COKER 176	56	167.57	4587	2723	65	19.6	43	0.7	17.2	3.15	5.80
COKER 319	60	168.59	4341	2558	65	19.3	43	1.0	17.0	2.92	6.50
COKER 347	52	165.31	4721	2841	66	19.9	44	1.0	17.1	3.12	5.97
K 317	59	166.58	3994	2386	65	18.5	42	0.6	14.6	3.13	5.11
K 326	59	170.53	5262	3075	65	19.4	41	0.5	18.1	2.69	7.45
K 340	51	165.82	4810	2881	66	18.5	42	0.3	17.6	2.64	7.07
K 394	55	166.81	5209	3105	66	19.3	41	0.3	19.3	2.48	8.63
K 399	57	167.44	4816	2865	63	19.6	39	0.4	16.4	2.75	6.47
MCNAIR 373	60	169.35	4758	2797	62	19.9	39	0.7	17.5	2.86	6.58
MCNAIR 944	54	165.84	4515	2699	65	18.9	42	0.6	18.6	2.93	6.89
NC 27NF	60	169.67	5144	3016	67	19.0	37	0.7	18.0	2.77	6.92
NC 60	60	168.70	4776	2810	67	19.3	43	1.0	16.8	2.83	5.89
NC 82	60	169.58	4531	2662	61	18.5	41	1.3	18.3	2.69	7.54
NC 567	58	168.94	4607	2714	64	18.7	45	0.9	17.8	3.24	6.10
REAMS 158	61	166.37	4179	2490	66	19.2	43	0.4	16.0	2.79	6.11
SPEIGHT G-28	55	166.58	4697	2805	63	19.2	39	0.5	17.6	2.60	7.28
SPEIGHT G-70	53	166.69	4831	2887	63	18.7	39	1.4	18.6	2.87	7.06
SPEIGHT G-80	54	166.72	4659	2782	64	18.7	40	0.8	17.7	2.70	7.14

Table 4. Comparison of certain varieties in Official Variety Trials across two years (1986-87).

VARIETY	GRADE INDEX	INDEX \$/CWT	VALUE \$/A	YIELD LBS/A	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG.	TOT. ALK.	SUG. ALK.
NC 2326	51	159.09	3677	2294	61	17.4	44	0.3	15.7	3.21	5.48
NC 95	51	160.21	4220	2630	65	18.6	43	0.6	17.3	3.20	5.78
COKER 48	50	159.12	4537	2842	68	19.5	45	0.6	18.2	3.07	6.46
COKER 176	54	160.53	4195	2609	67	19.9	44	0.4	16.7	3.21	5.61
COKER 319	58	161.72	3903	2411	66	19.7	44	0.6	16.2	3.05	6.00
COKER 347	53	159.92	4236	2648	68	20.2	45	0.6	16.3	3.14	5.68
K 317	56	159.56	3636	2277	66	18.9	43	0.4	13.9	3.22	4.79
K 326	56	163.72	4869	2971	66	19.6	42	0.3	17.5	2.72	7.15
K 340	49	158.95	4369	2741	69	18.6	43	0.3	17.0	2.64	7.07
K 394	53	160.33	4741	2954	69	19.8	42	0.1	18.4	2.57	8.12
K 399	54	160.88	4457	2768	65	19.9	40	0.3	15.7	2.81	6.11
MCNAIR 373	57	161.80	4381	2702	65	20.3	40	0.4	16.8	2.84	6.45
MCNAIR 944	52	158.65	4084	2560	66	19.4	43	0.5	17.8	2.99	6.55
NC 27NF	60	163.48	4685	2862	69	19.0	38	0.4	17.2	2.77	6.92
NC 60	56	161.15	4328	2677	69	19.7	44	0.6	15.7	2.83	5.89
NC 82	59	163.22	4211	2578	61	18.8	42	0.8	17.3	2.81	6.81
NC 567	55	162.14	4260	2622	65	18.8	46	0.6	16.8	3.34	5.58
REAMS 158	59	159.31	3780	2364	69	19.5	44	0.2	15.5	2.79	6.11
SPEIGHT G-28	52	160.04	4307	2687	65	19.6	40	0.3	16.8	2.67	6.80
SPEIGHT G-70	50	159.85	4516	2817	65	19.2	41	0.8	17.8	2.94	6.61
SPEIGHT G-80	53	161.56	4361	2694	66	19.0	41	0.5	17.4	2.76	6.95

TABLE 5. HARVEST RATE OF COMMERCIALY AVAILABLE VARIETIES - 1987

PERCENTAGE OF TOBACCO (CURED WEIGHT) IN EACH HARVEST ACROSS REPS AND LOCATIONS FOR THE VARIETIES LISTED IN 1987 OVT - 5 LOCATIONS WHITEVILLE, KINSTON, ROCKY MOUNT, OXFORD AND REIDSVILLE. LETTERS DESIGNATE HARVESTS.

NAME	ID	A	B	C	D	E	F
NC 2326	% AT EACH HARVEST	13.3	16.4	21.0	23.9	20.2	5.2
	TOTAL % HARVESTED	13.3	29.7	50.7	74.6	94.8	100.0
NC 95	% AT EACH HARVEST	13.3	16.6	17.1	23.6	20.2	9.2
	TOTAL % HARVESTED	13.3	29.9	47.0	70.6	90.8	100.0
COKER 48	% AT EACH HARVEST	13.5	16.8	20.8	23.3	18.6	6.9
	TOTAL % HARVESTED	13.5	30.3	51.1	74.4	93.1	100.0
COKER 176	% AT EACH HARVEST	15.9	18.0	20.7	26.5	15.8	3.1
	TOTAL % HARVESTED	15.9	33.8	54.6	81.0	96.9	100.0
COKER 319	% AT EACH HARVEST	16.5	20.4	18.6	20.1	18.0	6.4
	TOTAL % HARVESTED	16.5	36.9	55.5	75.6	93.6	100.0
COKER 347	% AT EACH HARVEST	15.5	18.8	20.6	23.6	18.4	3.2
	TOTAL % HARVESTED	15.5	34.3	54.9	78.4	96.8	100.0
COKER 371	% AT EACH HARVEST	16.8	21.1	19.1	26.0	15.3	1.7
	TOTAL % HARVESTED	16.8	37.9	57.0	83.0	98.3	100.0
K 317	% AT EACH HARVEST	15.8	20.2	21.7	26.0	15.0	1.2
	TOTAL % HARVESTED	15.8	36.1	57.8	83.8	98.8	100.0
K 326	% AT EACH HARVEST	14.2	17.4	17.9	22.5	20.3	7.7
	TOTAL % HARVESTED	14.2	31.6	49.5	72.0	92.3	100.0
K 340	% AT EACH HARVEST	14.8	17.5	19.9	23.5	17.6	6.8
	TOTAL % HARVESTED	14.8	32.2	52.1	75.6	93.2	100.0
K 394	% AT EACH HARVEST	14.0	19.9	18.9	23.9	16.6	6.7
	TOTAL % HARVESTED	14.0	33.9	52.8	76.7	93.3	100.0



TABLE 5. (CONTINUED)

NAME	ID	A	B	C	D	E	F
K 399	% AT EACH HARVEST	13.8	16.7	17.8	24.0	20.8	6.9
	TOTAL % HARVESTED	13.8	30.5	48.3	72.3	93.1	100.0
MCNAIR 373	% AT EACH HARVEST	13.8	16.1	18.5	22.3	19.9	9.4
	TOTAL % HARVESTED	13.8	29.9	48.4	70.7	90.6	100.0
MCNAIR 944	% AT EACH HARVEST	14.3	19.1	19.6	24.9	19.9	2.2
	TOTAL % HARVESTED	14.3	33.3	52.9	77.9	97.8	100.0
NC 27NF	% AT EACH HARVEST	15.1	17.3	20.9	24.0	14.5	8.3
	TOTAL % HARVESTED	15.1	32.3	53.2	77.2	91.7	100.0
NC 60	% AT EACH HARVEST	14.9	18.4	20.4	25.9	16.1	4.3
	TOTAL % HARVESTED	14.9	33.3	53.6	79.6	95.7	100.0
NC 82	% AT EACH HARVEST	13.9	20.4	20.2	26.1	15.3	4.0
	TOTAL % HARVESTED	13.9	34.3	54.5	80.6	96.0	100.0
NC 567	% AT EACH HARVEST	14.5	18.4	19.6	24.5	19.0	4.0
	TOTAL % HARVESTED	14.5	32.9	52.5	77.0	96.0	100.0
REAMS 158	% AT EACH HARVEST	18.9	21.0	22.7	23.8	10.9	2.6
	TOTAL % HARVESTED	18.9	39.9	62.7	86.5	97.4	100.0
SPEIGHT G-28	% AT EACH HARVEST	15.2	17.6	18.0	22.1	17.4	9.7
	TOTAL % HARVESTED	15.2	32.8	50.8	72.9	90.3	100.0
SPEIGHT G-70	% AT EACH HARVEST	12.7	16.1	19.7	25.4	18.6	7.5
	TOTAL % HARVESTED	12.7	28.8	48.5	73.9	92.5	100.0
SPEIGHT G-80	% AT EACH HARVEST	15.8	17.8	18.9	21.1	17.7	8.6
	TOTAL % HARVESTED	15.8	33.6	52.5	73.6	91.4	100.0
SPEIGHT G-102	% AT EACH HARVEST	12.7	18.8	21.4	24.7	18.9	3.5
	TOTAL % HARVESTED	12.7	31.5	52.9	77.6	96.5	100.0
SPEIGHT G-108	% AT EACH HARVEST	14.6	18.0	18.7	24.7	17.4	6.6
	TOTAL % HARVESTED	14.6	32.6	51.3	76.1	93.4	100.0

Table 6. Summary information on disease resistance - 1987.

Varieties or Lines	Black <sup>1/</sup> Shank	Bacterial <sup>1/</sup> Wilt	Root <sup>2/</sup> Knot	Mosaic <sup>2/</sup>
Commercially Available Varieties				
NC 2326	Low	Low		
NC 95	Mod.	High	Res.	
Coker 48	High	High		
Coker 176	Mod.	High	Res.	Res.
Coker 319	Low	Low		
Coker 347	Mod.	High	Res.	
Coker 371 Gold	High	Mod.		
-----				
K 317	High	Low		
K 326	Low	Mod.	Res.	
K 340	High	Mod.		
K 394	High	Mod.		
K 399	High	High	Res.	
-----				
McNair 373	Mod.	High	Res.	
McNair 944	High	Low		
NC 27 NF	Low	Mod.		
NC 60	High	Mod.	Res.	
NC 82	High	Mod.		
NC 567	Low	Mod.	Res.	Res.
Reams 158	Mod.	Mod.		
-----				
Speight G-28	High	High	Res.	
Speight G-70	High	Mod.	Res.	
Speight G-80	High	High	Res.	
Speight G-102	Mod.	Low	Res.	
Speight G-108	Mod.	High	Res.	

Table 6. (Continued)

Advanced Breeding Lines					
NC TG-43	20	13			
NC TG-44	47	61			
NC TG-45	50	87			
NC TG-46	18	35			
NC 5404	30	38	Res.		Res.
-----					
NC 6406	23	46	Seg.		
NC 3003 USDA	42	64			
NC 3027 USDA	10	51			
NC 6032 USDA	29	28			
NC 6037 USDA	44	19			
-----					
NC 6079 USDA	36	30			
NC 6082 USDA	51	29			
NC 6085 USDA	42	24			
NC 6111 USDA	18	24			
-----					
Speight G-50	57	59	Res.		
Speight G-82M	32	36	Res.		
Speight G-83M	47	10	Res.		Seg.
Speight G-94	41	46	Res.		
Speight G-113	9	44	Seg.		
Speight G-114	15	34	Seg.		

1/ Commercial varieties are subjectively rated from low to high resistance. Advanced breeding lines are rated with a disease index which reflects both the percentage of plant disease and time during the growing season the symptoms appeared. The higher the number, the lower the resistance.

2/ Resistant or segregating for resistance.

TABLE 7. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS FOR FIVE LOCATIONS - 1987

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	2392	3836	160.00	53	62	17.5	44	0.2	17.13	2.84	6.56
NC 95	2608	4119	158.04	50	67	18.6	42	0.4	18.41	2.85	6.85
COKER 48	2792	4401	157.63	49	70	19.5	45	0.6	19.63	2.80	7.57
COKER 176	2521	4033	160.07	56	69	19.7	44	0.3	17.48	3.00	6.20
COKER 319	2398	3838	159.86	58	68	19.7	44	0.7	17.47	2.61	7.47
COKER 347	2388	3821	159.82	58	70	19.5	45	0.5	16.87	2.77	6.76
COKER 371	2620	4233	161.58	58	67	19.2	42	0.5	17.05	2.92	6.46
K 317	2283	3647	159.73	60	66	18.9	43	0.6	15.11	2.94	5.62
K 326	2961	4799	162.06	57	68	18.9	42	0.4	19.48	2.53	8.62
K 340	2776	4398	158.40	50	72	18.3	42	0.5	18.45	2.48	8.31
K 394	2930	4638	158.42	54	70	19.6	42	0.3	19.37	2.46	9.01
K 399	2804	4486	160.01	57	66	19.7	40	0.2	16.77	2.53	7.12
MCNAIR 373	2700	4360	161.28	59	65	20.1	41	0.5	18.06	2.58	7.68
MCNAIR 944	2711	4323	159.10	54	69	19.4	44	0.5	19.25	2.75	7.73
NC 27NF	2867	4630	161.53	61	70	19.4	39	0.5	18.48	2.48	8.40
NC 60	2578	4127	159.94	57	70	19.5	42	0.7	16.85	2.72	6.65
NC 82	2698	4357	161.42	60	61	18.8	42	0.9	18.37	2.56	7.88
NC 567	2608	4192	160.87	56	66	18.6	46	0.6	18.79	2.95	6.98
REAMS 158	2263	3610	159.55	63	69	18.7	42	0.2	16.97	2.51	7.40
SPEIGHT G-28	2652	4221	159.20	55	68	19.7	40	0.3	18.35	2.46	8.07
SPEIGHT G-70	2806	4462	159.03	52	68	18.9	41	0.8	18.86	2.67	7.61
SPEIGHT G-80	2736	4373	159.82	51	67	19.0	41	0.8	18.86	2.57	8.15
SPEIGHT G-102	2567	4093	159.31	53	67	18.5	41	0.3	18.55	2.89	6.80
SPEIGHT G-108	2799	4465	159.48	53	70	18.9	42	0.5	18.37	2.70	7.30

ADVANCED BREEDING LINES

NC TG-43	2705	4342	160.67	57	70	18.8	41	0.5	17.58	2.71	7.50
NC TG-44	2783	4479	161.20	59	70	18.8	38	0.3	16.05	2.58	6.98
NC TG-45	2736	4392	160.41	59	70	18.3	38	0.3	18.82	2.48	8.85
NC TG-46	2717	4408	162.28	60	70	19.0	42	1.0	18.33	2.51	8.27
NC 5404	2430	3886	159.73	53	64	18.7	46	0.4	17.75	3.04	6.37
NC 6406	2643	4182	158.34	52	69	19.9	44	0.3	16.49	2.99	5.88
NC 3003 USDA	2545	4074	160.05	57	67	18.9	42	0.5	19.58	2.52	8.65
NC 3027 USDA	2831	4520	159.60	58	70	21.0	44	0.7	17.52	2.56	7.49
NC 6032 USDA	2816	4523	160.66	58	70	19.9	42	0.2	19.68	2.47	9.16
NC 6037 USDA	2812	4518	160.60	58	66	19.8	43	0.2	18.04	2.65	7.58
NC 6079 USDA	2958	4750	160.60	55	69	19.6	43	0.9	18.58	2.33	8.64
NC 6082 USDA	2935	4719	160.77	57	69	19.2	39	0.4	18.76	2.67	7.86
NC 6085 USDA	2811	4544	161.60	57	69	20.1	42	0.4	16.59	2.60	6.96
NC 6111 USDA	2350	3717	158.08	54	69	19.2	45	1.1	16.71	3.17	5.67
SPEIGHT G-50	2696	4400	163.33	63	65	19.6	43	0.9	17.43	2.58	7.24
SPEIGHT G-82M	2321	3759	161.75	63	67	18.4	45	0.6	19.01	2.36	8.88
SPEIGHT G-83M	2369	3826	161.38	63	64	18.4	42	0.4	17.96	2.66	7.16
SPEIGHT G-94	2697	4256	158.00	51	66	19.2	41	0.5	16.94	3.22	5.67
SPEIGHT G-113	2561	4079	159.36	56	64	18.8	43	0.7	18.74	2.38	9.03
SPEIGHT G-114	2695	4262	158.03	49	67	18.3	42	0.4	17.55	2.78	6.82
MEAN OF TEST	2656	4252	160.06	56	68	19.1	42	0.5	17.98	2.68	7.45
L.S.D. (.05)	199	337	2.57	5	4	1.2	2	NS	2.58	0.21	1.60
C.V. ( % )	8	8	2	12	3	7	5	79	14	9	19

TABLE 8. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS AT WHITEVILLE NC - 1987

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	2744	4553	165.84	67	64	18.2	47	0.0	18.90	2.02	9.38
NC 95	2751	4479	162.81	60	69	19.7	49	0.3	19.53	2.03	9.62
COKER 48	2890	4690	162.31	63	72	20.7	52	1.0	18.63	2.13	8.76
COKER 176	2513	4074	162.08	67	71	20.3	51	0.2	17.03	2.10	8.20
COKER 319	2548	4145	162.65	68	71	20.5	50	1.0	19.10	1.81	10.61
COKER 347	2475	4010	161.87	66	73	19.3	52	0.7	16.77	1.60	10.47
COKER 371	2834	4654	164.32	70	69	19.5	47	0.4	17.67	2.15	8.20
K 317	2242	3581	159.64	72	69	18.8	49	0.7	14.27	1.88	7.57
K 326	3058	5079	166.00	68	70	20.7	47	0.4	20.57	1.67	12.43
K 340	2832	4597	162.27	65	74	19.8	50	1.0	18.50	1.59	11.65
K 394	3017	4826	159.90	64	74	19.7	47	0.1	20.47	1.54	13.40
K 399	2863	4727	165.00	67	69	20.8	45	0.2	19.37	1.94	9.98
MCNAIR 373	3022	5111	169.09	78	68	21.4	45	0.3	19.63	1.73	11.53
MCNAIR 944	2777	4470	160.96	66	72	20.2	47	0.3	18.30	2.00	9.15
NC 27NF	2599	4192	161.29	73	70	18.0	38	0.9	15.93	1.80	9.02
NC 60	2657	4410	166.02	74	74	21.7	50	0.9	17.40	1.95	8.94
NC 82	2882	4801	166.49	75	63	18.3	48	1.4	19.03	1.73	11.09
NC 567	2402	3910	162.89	66	68	18.7	49	0.6	19.70	2.05	9.63
REAMS 158	2413	3871	160.46	71	72	21.0	49	0.2	17.10	1.73	9.87
SPEIGHT G-28	2796	4586	164.02	70	71	21.1	45	0.4	17.47	1.88	9.30
SPEIGHT G-70	2799	4590	163.95	63	73	20.0	46	0.7	20.93	1.97	10.76
SPEIGHT G-80	2944	4834	164.12	64	69	20.9	47	0.9	21.33	1.71	12.49
SPEIGHT G-102	2691	4384	162.94	67	69	20.5	46	0.3	20.87	2.27	9.32
SPEIGHT G-108	3027	4935	162.96	62	73	19.0	47	0.1	18.83	1.93	9.78

ADVANCED BREEDING LINES

NC TG-43	2345	3827	163.19	73	70	18.0	39	0.4	17.63	1.86	9.70
NC TG-44	2413	3939	163.22	74	70	18.0	38	0.0	16.13	1.85	8.82
NC TG-45	2695	4431	164.39	73	70	18.0	38	0.4	18.10	1.87	9.74
NC TG-46	2519	4173	165.73	74	70	16.1	40	0.5	19.30	1.56	12.47
NC 5404	2714	4425	163.05	62	65	20.5	51	0.3	17.63	2.21	8.03
NC 6406	2641	4266	161.54	64	71	21.7	49	0.4	15.80	2.26	7.17
NC 3003 USDA	2609	4247	162.75	68	71	19.3	47	0.6	17.97	1.68	10.70
NC 3027 USDA	2939	4781	162.80	68	73	21.1	50	0.7	20.40	1.74	11.87
NC 6032 USDA	2939	4814	163.58	72	74	20.1	47	0.0	19.17	1.50	12.80
NC 6037 USDA	2850	4668	163.77	71	68	21.3	49	0.2	19.23	1.77	10.88
NC 6079 USDA	2951	4824	163.37	67	71	20.7	48	1.8	19.07	1.61	11.84
NC 6082 USDA	3092	5088	164.59	69	71	19.5	45	0.4	19.20	1.90	10.23
NC 6085 USDA	2972	4896	164.76	67	73	21.5	44	0.5	19.00	1.65	11.55
NC 6111 USDA	2440	3930	161.10	69	71	20.1	51	1.6	17.50	2.17	8.13
SPEIGHT G-50	2907	4817	165.74	70	67	20.7	49	1.5	19.10	1.92	9.96
SPEIGHT G-82M	2518	4210	167.19	76	67	18.7	51	0.3	20.37	1.68	12.22
SPEIGHT G-83M	2643	4350	164.50	75	64	19.6	49	0.6	20.00	2.05	9.83
SPEIGHT G-94	2881	4704	163.30	65	66	20.3	46	0.9	19.07	2.21	8.68
SPEIGHT G-113	2597	4233	162.93	64	65	18.3	47	0.9	18.07	1.72	10.55
SPEIGHT G-114	2874	4613	160.45	58	68	20.0	47	0.7	19.63	2.08	9.51
MEAN OF TEST	2734	4471	163.45	68	70	19.8	47	0.6	18.63	1.88	10.13
L.S.D. (.05)	229	392	3.87	8	3	3.0	4	1.0	2.33	0.30	1.95
C.V. ( % )	5	6	1	7	3	7	5	87	7	10	12

TABLE 9. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS AT KINSTON NC - 1987

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	2502	4034	161.18	48		16.0	46		16.20	3.00	5.49
NC 95	2276	3634	159.53	53		17.6	45		17.77	2.88	6.18
COKER 48	2468	3907	158.33	47		19.3	44		18.00	3.06	5.90
COKER 176	2059	3306	160.50	58		19.9	47		16.90	3.16	5.45
COKER 319	2424	3977	164.06	60		18.0	48		17.77	2.73	6.68
COKER 347	2329	3766	161.77	59		19.4	48		16.47	2.95	5.58
COKER 371	2483	4103	165.17	62		18.5	44		17.73	2.97	6.03
K 317	2214	3582	161.83	59		19.3	47		15.77	3.12	5.07
K 326	2647	4324	163.35	61		17.7	47		17.90	2.74	6.54
K 340	2767	4401	159.07	52		18.2	44		16.63	2.82	5.91
K 394	2671	4348	162.72	62		18.7	43		18.90	2.78	6.80
K 399	2564	4153	161.90	60		19.6	43		15.67	2.73	5.77
MCNAIR 373	2454	3967	161.75	59		18.5	43		16.73	2.61	6.46
MCNAIR 944	2713	4406	162.32	51		19.3	45		17.97	2.95	6.10
NC 27NF	2772	4465	161.07	52		18.8	41		17.83	2.83	6.45
NC 60	2625	4192	159.54	52		18.2	46		16.53	2.86	5.78
NC 82	2640	4260	161.33	58		18.9	46		18.07	2.70	6.71
NC 567	2467	4017	162.92	51		18.1	47		18.03	3.12	5.80
REAMS 158	1977	3193	161.56	64		17.5	44		16.07	2.92	5.51
SPEIGHT G-28	2383	3863	162.01	59		20.3	42		16.67	2.69	6.20
SPEIGHT G-70	2720	4424	162.55	57		18.6	45		16.33	2.93	5.68
SPEIGHT G-80	2436	3913	160.60	56		18.3	42		14.30	2.90	4.96
SPEIGHT G-102	2368	3780	159.71	50		18.1	44		16.47	2.65	6.22
SPEIGHT G-108	2562	4134	161.39	55		18.9	45		17.70	3.06	5.79



ADVANCED BREEDING LINES

NC TG-43	2498	4003	160.22	52	16.7	44	16.20	3.07	5.34
NC TG-44	2616	4309	164.69	59	17.3	40	18.00	2.85	6.36
NC TG-45	2605	4261	163.33	61	18.3	42	18.80	2.57	7.32
NC TG-46	2384	3855	161.69	54	18.3	44	17.77	2.62	6.82
NC 5404	2289	3712	162.06	57	17.2	47	16.67	3.18	5.25
NC 6406	2336	3748	160.57	54	19.7	47	13.80	3.26	4.30
NC 3003 USDA	2381	3894	163.53	57	18.5	42	18.30	2.69	6.88
NC 3027 USDA	2465	3994	162.04	60	19.7	45	18.23	2.72	6.70
NC 6032 USDA	2545	4177	164.19	59	19.5	45	18.83	2.59	7.27
NC 6037 USDA	2942	4774	162.28	57	19.6	45	17.97	2.62	6.88
NC 6079 USDA	2667	4328	162.23	54	19.6	45	18.83	2.35	8.08
NC 6082 USDA	2507	4083	162.75	60	19.0	42	17.20	2.86	6.03
NC 6085 USDA	2770	4513	162.92	58	19.9	45	16.33	2.90	5.64
NC 6111 USDA	2331	3717	159.35	50	17.5	47	16.73	3.37	4.98
SPEIGHT G-50	2424	3988	164.53	67	19.2	46	14.77	2.62	5.70
SPEIGHT G-82M	2079	3381	162.55	66	18.5	47	17.87	2.46	7.27
SPEIGHT G-83M	2156	3517	162.80	63	17.6	45	16.50	2.66	6.25
SPEIGHT G-94	2189	3539	161.55	52	18.7	44	14.97	3.51	4.35
SPEIGHT G-113	2378	3801	159.92	55	17.6	44	17.23	2.69	6.42
SPEIGHT G-114	2492	3951	158.58	48	17.0	42	17.23	2.96	5.83
MEAN OF TEST	2468	3993	161.77	56	18.5	44	17.06	2.86	6.06
L.S.D. (.05)	287	503	4.11	10	2	4	NS	0.37	1.84
C.V. (%)	7	8	1	9	6	4	10	8	15

TABLE 10. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS AT ROCKY MOUNT NC - 1987

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	2237	3548	158.62	46		17.1	45	0.1	16.93	2.16	8.04
NC 95	2688	4170	155.41	42		18.1	42	0.4	18.53	2.53	7.28
COKER 48	3059	4813	157.46	44		19.2	46	0.2	23.30	2.21	10.54
COKER 176	2822	4435	157.10	46		20.2	44	0.1	19.33	2.60	7.52
COKER 319	2171	3384	155.85	49		20.5	44	0.0	16.37	1.91	8.56
COKER 347	2557	4128	161.44	54		20.5	44	0.0	18.30	2.29	8.03
COKER 371	2772	4426	159.70	47		18.5	40	0.1	16.90	2.21	8.15
K 317	2261	3600	159.48	53		18.3	40	0.1	14.63	2.32	6.30
K 326	2956	4752	160.77	52		18.5	42	0.0	23.07	2.05	11.42
K 340	2830	4457	157.57	48		18.5	39	0.0	22.47	2.03	11.10
K 394	3028	4711	155.61	48		20.3	42	0.4	20.43	1.92	10.88
K 399	2782	4390	157.78	53		19.5	39	0.0	12.00	2.02	6.04
MCNAIR 373	2374	3750	157.88	55		19.4	42	0.1	17.87	2.25	8.04
MCNAIR 944	2230	3413	152.65	51		19.6	46	0.1	22.03	1.95	11.32
NC 27NF	2986	4813	161.19	54		21.7	45	0.1	23.97	1.65	14.68
NC 60	2549	4022	157.48	52		19.3	40	0.2	16.50	2.25	7.38
NC 82	2552	4017	157.53	52		19.6	42	0.3	19.13	1.99	9.59
NC 567	2774	4349	156.85	45		18.3	48	0.1	20.47	2.27	9.08
REAMS 158	2352	3722	158.16	56		18.9	42	0.0	17.10	2.01	8.58
SPEIGHT G-28	2604	4134	158.69	48		18.6	39	0.1	21.50	2.02	10.66
SPEIGHT G-70	2980	4707	158.05	45		18.4	41	0.1	17.93	2.32	7.88
SPEIGHT G-80	2789	4435	159.07	46		18.5	40	0.1	20.93	2.08	10.15
SPEIGHT G-102	2612	4157	158.91	51		18.2	44	0.3	18.17	2.56	7.19
SPEIGHT G-108	2793	4446	159.08	50		17.7	43	0.1	19.37	2.26	8.71

ADVANCED BREEDING LINES

NC TG-43	2652	4254	160.58	54	21.0	45	0.1	22.80	1.89	12.26
NC TG-44	2945	4718	160.38	57	19.7	41	0.1	13.17	1.98	7.00
NC TG-45	2581	4029	155.68	52	18.3	43	0.2	22.27	1.53	14.79
NC TG-46	2817	4516	160.40	53	20.4	48	0.2	19.70	1.96	10.30
NC 5404	2394	3759	156.78	45	18.7	46	0.1	21.13	2.36	9.01
NC 6406	2644	4228	159.97	47	18.1	43	0.1	17.53	2.50	6.89
NC 3003 USDA	2434	3863	158.20	53	18.5	43	0.4	23.13	2.09	11.55
NC 3027 USDA	2881	4529	156.76	51	21.9	46	0.1	14.80	2.19	6.70
NC 6032 USDA	2866	4505	157.19	50	20.1	42	0.1	24.50	2.11	11.59
NC 6037 USDA	2865	4573	159.58	50	19.2	44	0.1	18.03	1.89	9.41
NC 6079 USDA	3203	5105	159.44	50	18.9	41	0.1	20.07	2.08	9.74
NC 6082 USDA	3105	4936	158.87	53	17.9	37	0.2	22.57	1.95	11.58
NC 6085 USDA	2716	4342	159.86	47	20.1	43	0.1	13.47	2.13	6.28
NC 6111 USDA	2342	3632	154.94	44	20.7	44	0.3	15.60	2.57	6.09
SPEIGHT G-50	2629	4255	162.21	60	18.7	42	0.3	18.50	2.16	8.62
SPEIGHT G-82M	2363	3756	157.86	52	17.8	42	0.1	19.23	1.96	9.88
SPEIGHT G-83M	2486	3992	160.77	59	19.0	40	0.1	18.20	2.36	7.68
SPEIGHT G-94	2993	4639	155.14	46	18.8	40	0.1	15.77	2.94	5.41
SPEIGHT G-113	2562	4075	159.11	54	20.2	43	0.2	23.53	1.62	14.79
SPEIGHT G-114	2660	4226	158.27	46	17.5	43	0.1	14.33	2.25	6.44
MEAN OF TEST	2679	4243	158.28	50	19.1	43	0.1	18.99	2.14	9.16
L.S.D (.05)	513	866	NS	13	NS	6	NS	NS	0.41	4.60
C.V. ( % )	10	11	2	11	9	7	124	24	11	27

TABLE 11. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS AT OXFORD NC - 1987

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	2393	3826	159.95	54	61	19.1	41		14.50	3.81	3.92
NC 95	2535	4011	158.39	48	64	20.1	39		15.60	3.92	3.97
COKER 48	2717	4210	155.06	42	67	20.5	41		16.07	4.01	4.01
COKER 176	2488	3917	157.44	50	67	19.3	38		14.17	3.95	3.59
COKER 319	2409	3806	158.06	55	66	20.2	40		13.97	4.11	3.46
COKER 347	2191	3461	157.78	56	66	20.4	42		13.93	3.95	3.53
COKER 371	2547	4045	158.81	54	64	20.6	38		13.20	4.31	3.07
K 317	2244	3513	156.54	50	63	20.0	39		11.80	4.35	2.75
K 326	2982	4743	159.00	48	66	20.7	38		13.53	3.71	3.66
K 340	2582	4033	156.26	43	69	18.5	39		13.73	3.60	3.83
K 394	3027	4764	157.59	51	67	21.0	38		14.77	3.83	3.90
K 399	2684	4214	157.12	52	63	19.6	35		14.30	3.67	3.89
MCNAIR 373	2556	4081	159.50	55	63	21.7	37		15.27	3.75	4.08
MCNAIR 944	2758	4389	159.10	54	65	20.0	41		16.43	4.12	4.04
NC 27NF	3099	4976	160.51	56	69	19.8	34		16.60	3.62	4.59
NC 60	2538	4010	157.92	55	65	20.1	38		13.20	3.89	3.39
NC 82	2758	4502	163.70	65	59	20.4	40		14.10	3.65	3.99
NC 567	2687	4368	162.52	61	63	19.6	44		14.40	4.26	3.41
REAMS 158	2333	3740	160.29	64	66	18.7	39		14.50	3.64	4.06
SPEIGHT G-28	2667	4155	155.77	46	65	20.5	37		13.93	3.54	3.95
SPEIGHT G-70	2487	3941	157.87	54	63	19.2	37		16.27	3.62	4.53
SPEIGHT G-80	2672	4242	158.76	51	65	18.9	37		15.40	3.63	4.24
SPEIGHT G-102	2436	3827	156.86	47	65	18.4	36		14.83	4.02	3.69
SPEIGHT G-108	2661	4208	158.14	51	67	19.5	38		15.17	3.52	4.34

ADVANCED BREEDING LINES

NC TG-43	2986	4751	159.16	52	69	18.7	36	12.70	4.09	3.14
NC TG-44	3043	4802	157.92	49	69	20.1	34	12.40	4.09	3.05
NC TG-45	2968	4719	158.88	50	69	18.6	33	14.70	4.07	3.62
NC TG-46	3053	4942	162.08	57	69	20.8	38	14.67	3.88	3.78
NC 5404	2380	3814	160.24	50	62	19.5	44	13.37	4.22	3.22
NC 6406	2760	4274	154.78	47	66	20.9	43	14.67	4.10	3.64
NC 3003 USDA	2690	4327	160.99	59	64	19.3	38	15.80	3.86	4.10
NC 3027 USDA	2786	4398	157.94	53	66	21.4	38	14.47	3.75	3.87
NC 6032 USDA	2796	4509	161.21	60	65	20.8	37	13.83	4.02	3.47
NC 6037 USDA	2754	4391	159.55	57	64	20.2	40	14.37	4.12	3.48
NC 6079 USDA	3045	4891	160.68	55	66	20.3	40	14.50	3.33	4.41
NC 6082 USDA	2900	4614	159.09	53	66	20.7	36	13.63	3.99	3.41
NC 6085 USDA	2837	4540	160.01	54	65	19.9	39	15.03	3.69	4.07
NC 6111 USDA	2188	3411	155.75	47	67	19.7	41	13.73	4.41	3.11
SPEIGHT G-50	2778	4493	161.77	58	63	20.3	41	13.67	3.58	3.82
SPEIGHT G-82M	2107	3457	163.85	64	67	19.7	43	14.27	3.55	4.08
SPEIGHT G-83M	2212	3533	159.74	56	64	19.3	38	14.30	3.71	3.87
SPEIGHT G-94	2671	4105	153.74	42	66	20.2	38	14.47	4.22	3.45
SPEIGHT G-113	2521	4022	159.64	58	63	19.7	39	13.53	3.60	3.81
SPEIGHT G-114	2591	4068	157.01	48	66	19.5	38	14.53	4.02	3.62
MEAN OF TEST	2648	4206	158.79	53	65	19.9	39	14.37	3.88	3.75
L.S.D (.05)	264	455	NS	NS	5	2.0	3	NS	0.41	NS
C.V. ( % )	6	7	2	15	4	5	5	12	6	15

TABLE 12. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS AT REIDSVILLE NC - 1987

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	2085	3221	154.41	51		16.9	38	0.6	19.10	3.21	5.95
NC 95	2789	4301	154.05	50		17.4	37	0.4	20.60	2.86	7.21
COKER 48	2828	4384	154.99	49		17.7	39	0.8	22.17	2.59	8.63
COKER 176	2724	4435	163.23	59		18.6	38	0.5	19.97	3.18	6.27
COKER 319	2438	3877	158.69	57		19.3	39	1.1	20.13	2.52	8.06
COKER 347	2389	3740	156.22	56		18.1	39	0.9	18.87	3.05	6.19
COKER 371	2464	3939	159.89	57		18.7	39	1.0	19.73	2.98	6.83
K 317	2455	3959	161.15	65		18.1	39	1.1	19.10	3.03	6.39
K 326	3162	5096	161.18	54		17.1	37	0.8	22.33	2.47	9.06
K 340	2869	4500	156.82	44		16.5	39	0.5	20.90	2.33	9.05
K 394	2905	4541	156.29	46		18.4	37	0.4	22.30	2.24	10.08
K 399	3124	4944	158.23	54		19.1	37	0.4	22.53	2.28	9.90
MCNAIR 373	3094	4891	158.19	51		19.3	37	1.1	20.80	2.54	8.30
MCNAIR 944	3078	4937	160.45	49		17.9	39	1.1	21.53	2.73	8.03
NC 27NF	2877	4706	163.59	71		18.7	36	0.6	18.07	2.50	7.24
NC 60	2521	4000	158.74	55		18.0	38	0.9	20.60	2.67	7.77
NC 82	2658	4204	158.06	53		16.7	36	1.0	21.53	2.71	7.99
NC 567	2711	4317	159.18	56		18.2	41	1.0	21.33	3.07	6.97
REAMS 158	2238	3524	157.30	61		17.6	38	0.4	20.07	2.24	9.00
SPEIGHT G-28	2810	4368	155.51	49		17.7	36	0.3	22.20	2.17	10.26
SPEIGHT G-70	3041	4650	152.74	43		18.1	37	1.5	22.83	2.49	9.22
SPEIGHT G-80	2836	4440	156.54	41		18.3	38	1.4	22.33	2.51	8.90
SPEIGHT G-102	2730	4317	158.12	52		17.4	36	0.4	22.40	2.97	7.56
SPEIGHT G-108	2955	4600	155.83	46		19.2	39	1.1	20.77	2.72	7.86

ADVANCED BREEDING LINES

NC TG-43	3043	4872	160.19	53	19.7	39	1.0	18.57	2.63	7.07
NC TG-44	2900	4631	159.79	56	19.1	36	0.8	20.53	2.15	9.69
NC TG-45	2831	4521	159.78	61	18.0	35	0.4	20.23	2.37	8.80
NC TG-46	2814	4553	161.51	62	19.4	39	2.2	20.23	2.56	7.96
NC 5404	2374	3720	156.52	49	17.5	42	0.8	19.97	3.21	6.35
NC 6406	2831	4393	154.82	49	19.0	40	0.4	20.67	2.80	7.41
NC 3003 USDA	2611	4041	154.78	48	18.7	39	0.6	22.70	2.28	10.01
NC 3027 USDA	3086	4899	158.44	57	20.8	39	1.4	19.70	2.39	8.33
NC 6032 USDA	2934	4611	157.15	52	18.7	38	0.4	22.07	2.11	10.65
NC 6037 USDA	2649	4184	157.81	53	18.7	38	0.4	20.60	2.85	7.25
NC 6079 USDA	2926	4601	157.31	51	18.5	38	0.9	20.43	2.30	9.11
NC 6082 USDA	3072	4873	158.56	50	18.9	37	0.6	21.20	2.64	8.05
NC 6085 USDA	2759	4426	160.47	57	19.3	37	0.6	19.13	2.64	7.25
NC 6111 USDA	2449	3897	159.24	59	18.0	39	1.3	20.00	3.35	6.01
SPEIGHT G-50	2744	4447	162.41	60	18.9	39	0.9	21.10	2.61	8.08
SPEIGHT G-82M	2539	3992	157.29	57	17.1	43	1.5	23.33	2.13	10.96
SPEIGHT G-83M	2350	3737	159.07	61	16.6	38	0.6	20.80	2.54	8.19
SPEIGHT G-94	2752	4295	156.25	50	17.7	36	0.5	20.43	3.20	6.46
SPEIGHT G-113	2747	4265	155.21	49	18.1	40	1.0	21.33	2.27	9.61
SPEIGHT G-114	2856	4451	155.85	46	17.3	40	0.4	22.03	2.57	8.70
MEAN OF TEST	2751	4348	158.00	53	18.2	38	0.8	20.85	2.63	8.15
L.S.D. (.05)	406	684	NS	NS	1.7	3	0.9	3.04	0.42	2.17
C.V. ( % )	9	9	2	18	5	5	56	7	10	15

Table 13. Pedigrees of entries in the 1987 Official Variety Tests.

Variety or Line	Generation or Yr. of Release	Pedigree	Sponsor
NC 2326	1965	(Hicks x 9102)Hicks)Hicks)Hicks)	NC
NC 95	1961	(C-139 x Bel. 4-30)x(C-139 x Hicks)	NC
Coker 48	1976	(C 258 x C 319) x C 319	Coker
Coker 176	1981	(C258(61-10 x 319)258x(139x59-84-2F)) x (C 258(61-10x319)258 x (139x59-84-2F)) Dwarf	Coker
Coker 319	1963	(C-139 x Hicks)	Coker
Coker 347	1969	(C-319 x C-258)	Coker
Coker 371 Gold	1986	(G-28 x 354) x (CB 139 x F-105) (G-28 x 34) x NC 82	Coker
K 317	1984	McNair 225 x NC 1071	NK
K 326	1981	McNair 225 (McNair 30 x NC 95)	NK
K 340	1985	McNair 944 x NC 82	NK
K 394	1983	Speight G-28 x McNair 944	NK
K 399	1979	(Coker 139 x Coker 319) x NC 95	NK
McNair 373	1978	(C-139 x C-319) McNair 039-4	NK
McNair 944	1972	Speight G-10 x McNair 30	NK
NC 27NF	1985	(Coker 319 x NC TG-21) x Coker 319	NC
NC 60	1985	McNair 944 x Speight G-28	NC
NC 82	1978	6129 x C-319	NC
NC 567	1982	(3658 x 3611)	NC
Reams 158	1985	McNair 944 x Hicks	Reams
Speight G-28	1969	(Ox. 1-181 x C-139 x NC 95)	Speight
Speight G-70	1978	C-258 x Va. 115 x G-10	Speight
Speight G-80	1983	(G 28 x G 45)	Speight
Speight G-102	1986	G-15 x G-33	Speight
Speight G-108	1986	G-70 x G-28	Speight
NC TG-43	F <sub>∞</sub>	NC 27NF x NC 82	NC
NC TG-44	F7	(C 319 x NC TG-21) x NC 82	NC
NC TG-45	F7	(C 319 x NC TG-21) x NC 82	NC
NC TG-46	F <sub>∞</sub>	NC 27NF x NC 82	NC
NC 5404	F16	1824-2 x 20048	NC
NC 6406	F7	NC 8473 x 7567-22	NC
NC 3003 USDA	1986	Coker 319 x Coker 411	USDA
NC 3027 USDA	1986	6089 x 6128	USDA
NC 6032 USDA	F8	5017 x 9166	USDA
NC 6037 USDA	F8	5017 x 9166	USDA
NC 6079 USDA	F5	K 326 x C 347	USDA
NC 6082 USDA	F5	K 326 x K 399	USDA
NC 6085 USDA	F5	K 326 x NC 0092	USDA
NC 6111 USDA	F5	3247 x 3254	USDA
Speight G-50	F13	G-28 x G-45	Speight
Speight G-82-M	F12	G-18 x WM-24	Speight
Speight G-83-M	F11	G-47 x KM-12	Speight
Speight G-94	F12	G-49 x SC-72	Speight
Speight G-113	F5	NC 82 x G-65	Speight
Speight G-114	F5	NC 82 x G-70	Speight