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Measured Crop Performance

TOBACCO

1983

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PERFORMANCE OF TOBACCO VARIETIES IN NORTH CAROLINA

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The Flue-Cured Tobacco Minimum Standards Program seeks to assure that released varieties have acceptable agronomic, physical, chemical, and smoke characteristics. Since its inception in 1964, the Minimum Standards Program has served as a guide to breeders in developing new varieties and helps to maintain high quality leaf on the United States flue-cured market. The program adopts the principle of testing new varieties against standard varieties. New varieties should be genetically stable and should not differ from the standards, NC 2326 and NC 95, by more than plus or minus a specified percent for measurable chemical constituents. Also, the varietal candidates should compare favorably with the standard varieties for color, body, texture, equilibrium moisture, filling value, flavor, and aroma. A minimum of two years' evaluation throughout the flue-cured region of the United States on both experiment stations and farmer plots is required.

Varieties contribute substantially to leaf quality and should be carefully selected by the grower. The following varieties have been released through the Minimum Standards Program:

<u>Year</u>	<u>Varieties</u>
1964	Coker 298, NC 2326, Speight G-36, Va. 115
1965	NC 2512, Speight G-7
1966	Coker 258, PD 5
1967	Bell 93, Coker 254, McNair 14, Speight G-13

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<u>Year</u>	<u>Varieties</u>
1968	Coker 213, Coker 411, McNair 133, Speight G-28
1969	Coker 347, Ga. 1469, McNair 135, Speight G-41
1970	Bell 110, Ga. 1470, SC 71, Speight G-33, Va. 770
1971	NC 88, NC 8090, PD 79, Speight G-140
1972	McNair 944, Speight G-15, Va. 080
1973	McNair 160, McNair 1040, NC 79
1974	Coker 86, NC 12, NC 98, Speight G-23, Va. 283
1975	NC 13
1976	Coker 48, NC 89
1977	Speight G-52
1978	McNair 373, NC 82, NC 628, Speight G-58, Speight G-70
1979	Clemson PD 4, Coker 51, McNair 3199, Rogers 768
1980	Coker 78-209MM, NC 67, NC 7556, Va. 182
1981	Clemson PD 11, Coker 79-176MM, McNair 926, McNair 9107, NC TG-22
1982	NC 50, NC 7567

The Tobacco Variety Evaluation Program in North Carolina is part of a Regional Test conducted in four flue-cured states and is divided into three phases. The first phase, the Official Variety Test, consists of evaluating varieties and breeding lines in small replicated plots located on five research stations. The second phase is the Regional Small Plot Test, conducted in four states, with three locations in North Carolina. Advanced breeding lines that have passed the Regional Small Plot Test enter the third phase of the program--the Regional Farm Test where they are evaluated under farm conditions in approximately one-fourth acre plots. Results of the Regional Small Plot Tests are reported in a separate bulletin--Flue-Cured Tobacco Variety Evaluation Committee Report.

EXPERIMENTAL PROCEDURES

Official Variety Test

Twenty-two released varieties and twenty-seven experimental lines were tested at five locations (Figure 1). The experiment numbers and locations are as follows:

- TV 321 Border Belt Tobacco Research Station, Whiteville, NC,
 representing the Border Belt.
- TV 322 Lower Coastal Plain Tobacco Research Station, Kinston, NC,
 representing the Eastern Belt.

- TV 323 Upper Coastal Plain Research Station, Rocky Mount, NC,
representing the Eastern Belt.
- TV 324 Oxford Tobacco Research Station, Oxford, NC,
representing the Middle Belt.
- TV 325 Upper Piedmont Tobacco Research Station, Reidsville, NC,
representing the Old Belt.

Agencies Sponsoring Entries in 1983

Coker's Pedigreed Seed Company, Hartsville, SC

Golden Tobacco Seed Company, Tifton, GA

Maidendown Seed Farm, Mullins, SC

Northrup King Seed Company, Inc., Laurinburg, NC

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

Reams Seed Farm, Apex, NC

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

Speight Seed Farms, Winterville, NC

United States Department of Agriculture, Oxford, NC

Virginia Agricultural Experiment Station, Blackstone, VA

The Official Variety Tests were conducted on disease-free soil, insofar as possible.

All entries were coded in the plant bed and in the field and were included at each location. Three replications of a randomized, complete block design were used at each location.^{2/} The plants were individually selected at transplanting for maximum uniformity within plots at all locations. Each one-row plot consisted of twenty competitive plants. The rows were four feet apart at all locations except Reidsville, which was 3.75, and hills were spaced either 22 inches or 24 inches apart. Cultural practices are shown in Table 1.

^{2/} 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.

A modified four-leaf program was followed to remove undesirable lower leaves. After topping, all entries were treated with commercial contact and systemic sucker control chemicals. Individual plots were harvested according to degree of maturity, tagged and kept separate throughout curing, sorting and grading.

Performance data were collected on yield, quality, agronomic characteristics, disease resistance^{3/}, chemical characteristics^{4/}, and physical quality traits. Data on agronomic characteristics were taken in the field and chemical determinations were made on the cured leaf weighted over all stalk positions.

After the tobacco was sorted into lots, a Federal Tobacco Inspector assigned an appropriate government grade to each lot from each plot. The value per acre was calculated by multiplying the pounds of each grade by the average for type 11, 12, 13 and 14. 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. A weighted index value was then obtained for each entry which provided an overall index. Grades N2 and ALL represent the practical extremes with values of 1 and 99 assigned to these respective grades. The 1983 data utilizes a revised version of the grade index.

Seasonal Conditions: Transplanting of the tobacco was near normal. The spring was characterized by above normal rainfall and below normal temperatures. Below normal rainfall was experienced at all locations except Whiteville in July and at all locations in August. Above normal temperatures were prevalent throughout the state in August and September.

^{3/}Dr. David Shew 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.

^{4/}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.

Monthly Rainfall Totals (Inches)

<u>Station</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>
Whiteville	5.88	2.98	6.01	3.95	1.30	2.77
Rocky Mount	5.40	3.60	2.53	1.94	3.46	2.-5
Oxford	3.80	5.53	3.37	1.85	0.70	1.39
Reidsville	6.92	3.20	1.91	0.40	1.69	1.25

Kinston data are not shown due to loss of the crop from disease. Rocky Mount irrigated one inch in July and one and one-half inches in August. Oxford irrigated twice in July and August, one inch each time. Reidsville irrigated five inches in July and two inches in August.

Regional Farm Test

The third phase of the Minimum Standards Program includes two test sites in Georgia, two in South Carolina, three in Virginia, and six in North Carolina. The test sites in North Carolina are shown in Figure 1.

This part of the program involves a cooperative effort among the Agricultural Research and Extension Services, the USDA, tobacco companies, and growers.^{5/}

Nine tobacco companies participated in this program in 1983 and included: American Tobacco Company, Brown and Williamson Tobacco Corporation, Export Leaf Tobacco Company, P. Lorillard Company, James I. Miller Tobacco Company, A. C. Monk Company, Inc., Philip Morris, Inc., R. J. Reynolds Tobacco Company, and Universal Leaf Company.

Cooperating growers and extension agents participating in the Regional Program in North Carolina are listed on the following page:

^{5/}The cooperative spirit of public and private agencies and cooperating growers is essential to this program and is deeply appreciated by the OVT staff.

<u>Belt</u>	<u>County</u>	<u>Grower(s)</u>	<u>Extension Agent(s)</u>
Border	Columbus	Joe and Weldon Edmund Chadbourn, NC	Robert Shaw
Eastern	Lenoir	Allen Sutton and Chester Hooten LaGrange, NC	Alan Harper
Eastern	Wilson	Preston and Bill Harrell Stantonsburg, NC	Doug Thornton
Middle	Harnett	Dan Andrews Fuquay-Varina, NC	Harold Lloyd
Middle	Granville	Robert Burnette Oxford, NC	Derek Day
Old	Person	Atwill Day Roxboro, NC	Fred Rivers

Cultural practices used by the growers are shown in Table 12.

Representatives of 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 manufacturing. They also rated each lot of tobacco for color, body, texture, and usability.

Growth regulators and chemicals used by the growers were kindly furnished by the following companies:

Buckeye Cellulose Corporation - Off-Shoot-T 85

Uniroyal Chemical Company - Royal MH-30

RESULTS AND DISCUSSION

Official Variety Test

The data presented in Tables 2 and 3 are summary data indicating how varieties have been performing over a period of years at various locations.

In Table 2, data are presented to show the relative comparison of NC 2326 with some other flue-cured tobacco varieties. Yield and grade index are based on a three-year average (1981-83) while acre value is based on a two-year average (1982-83).

In Table 3, varieties that were common in 1981, 1982, and 1983 tests are compared for a large number of agronomic and chemical characteristics.

Table 4 shows the percent of tobacco harvested at each priming in 1983; it also shows 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 5. 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.

Table 6 lists the pedigrees of all entries in the 1983 Official Tobacco Variety Tests.

The average performance of varieties and lines compared at four locations in 1983 is shown in Table 7. Of the varieties, Coker 48 was the highest yielder with 3258 pounds per acre, and it also had the highest dollar value per acre (\$5853/acre). K 326 had the highest dollar value per hundredweight while Va. 182 had the highest grade index with a value of 61.

Since the advanced breeding lines are in early stages of testing and may be released with a different designation, if they met the standards, these data will not be discussed.

Regional Farm Test

A summary of the results from the thirteen locations of the Regional Farm Tests is presented in Table 13.

The tobacco from each of the locations was displayed on a warehouse floor and appraised for usability and the physical quality factors: color, body, and texture. Research and leaf personnel of the participating companies performed the evaluations. The results of this quality appraisal are shown in Table 14.

Table 15 lists the grower ratings of the Regional Farm entries. NK 94 appeared to be the most preferred while PD 88 was the least preferred among the growers in North Carolina.

Growers are cautioned about examining the data from the Regional Farm Test. NC 2326 and NC 95 are the only two entries which are commercially available; all other entries may or may not be available in 1985 and may be sold under a different designation.

1983
FIGURE 1— LOCATION OF OFFICIAL VARIETY TEST
NORTH CAROLINA AGRICULTURAL
RESEARCH SERVICE

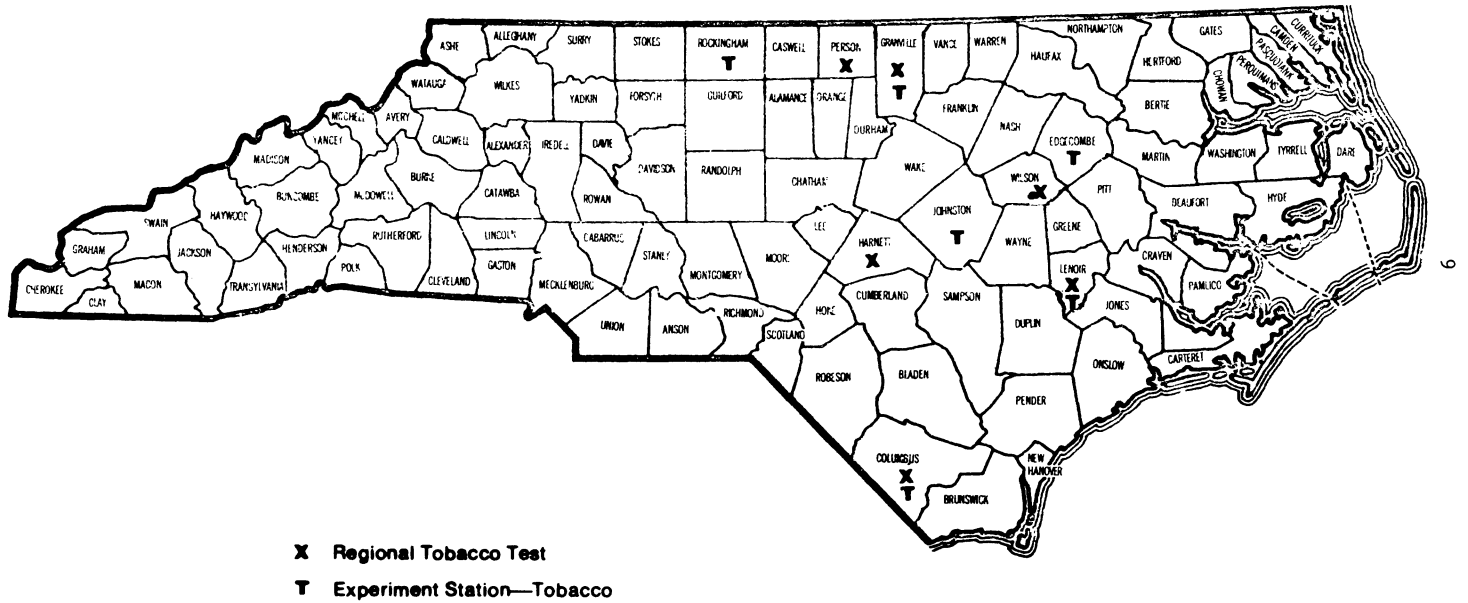


Table 1. Cultural practices for the Official Variety Test - 1983.

Station	Fertilization	Top-Dressing	Soil Type	Chemical Soil Treatment	Irrigation	Date of Transplanting	Date First Harvest
Border Belt Tobacco Research Station Whiteville, NC	660#/A 6-6-18	150#/A 15-0-14	Norfolk Fine Sandy Loam	Telone C-17 10½ gal/A Ridomil 1 qt/A	None	May 2	July 3
Upper Coastal Plain Research Station Rocky Mount, NC	400#/A 8-8-24	170#/A 16% N	Norfolk Loamy Sand	Nemacur-Dasanit 1½ gal/A Ridomil 1 qt/A	1 inch June 21 1½ inches July 20	May 6	July 27
Oxford Tobacco Research Station Oxford, NC	500#/A 8-8-24	167#/A 15-0-14	Durham Loamy Sand	Ridomil 1 qt/A	2 inches July 2 inches August	May 11	July 25
Upper Piedmont Research Station Reidsville, NC	700#/A 6-12-18	120#/A 15-0-14	Appling Sandy Loam	Terr-0-Cide 30 6 gal/A Ridomil 1 qt/A Dyfonate-Tillam 1 gal/A	5 inches July 2 inches August	May 20	August 10

Table 2. Percentage comparison between NC 2326 and other flue-cured tobacco varieties in the Official Variety Test. Three years for yield and grade index and two years for acre value.

Acre Yield 2877 Lbs/A	% of NC 2326	Acre Value \$4933	% of NC 2326	Grade Index 38	% of NC 2326
Coker 48	116	Coker 48	118	Coker 319	121
Coker 347	115	K 326	118	K 326	118
K 326	115	Coker 347	116	VA 182	118
Clemson PD4	113	McNair 944	115	McNair 373	116
Speight G-58	112	Speight G-70	115	NC 82	116
Speight G-70	112	Clemson PD4	114	Speight G-28	116
McNair 944	111	Speight G-58	111	K 399	113
NC 628	110	NC 628	110	Coker 209	111
K 399	106	McNair 373	109	Coker 176	108
Coker 176	105	Coker 176	106	McNair 944	108
McNair 373	105	Coker 319	106	Clemson PD4	103
Coker 298	104	K 399	106	Speight G-70	103
NC 82	103	NC 82	106	Coker 298	100
Coker 319	102	Coker 298	105	NC 2326	100
Speight G-28	102	VA 182	105	Coker 347	97
VA 182	102	Speight G-28	102	Speight G-58	97
NC 95	101	Coker 209	101	Coker 48	95
Coker 209	100	NC 95	101	NC 95	95
NC 2326	100	NC 2326	100	NC 628	95

Table 3. Comparison of certain varieties in Official Tobacco Variety Test across three years (1981-83).

Variety	Yield Lbs/A	Value Dol/A	Value Cwt.	Grade Index	Days to Flower	Leaf Number	Plant Height	Ground Suckers	Nic. %	Sol. Sug. %	Nor Nic. %	Ratio Sug. Nic.
NC 2326	2877	5405	172.49	38	58	17.4	46	0.2	3.48	13.28	0.25	4.11
NC 95	2910	4962	170.67	36	62	18.9	44	1.0	3.38	14.53	0.25	4.45
Clemson PD4	3246	5626	173.75	39	63	19.8	47	0.2	2.99	15.86	0.20	5.75
Coker 48	3331	5747	172.75	36	65	20.2	48	0.9	3.19	15.40	0.18	5.07
Coker 176	3015	5230	171.55	41	64	19.8	44	0.5	3.41	13.22	0.37	3.98
Coker 209	2888	5016	173.32	42	67	21.3	45	0.1	3.47	13.77	0.25	4.21
Coker 298	3006	5184	172.50	38	67	19.8	48	0.5	3.47	13.82	0.22	4.12
Coker 319	2935	5171	176.47	46	64	19.6	46	0.7	2.67	14.48	0.22	5.24
Coker 347	3305	5703	172.85	37	65	20.8	46	1.0	3.57	14.03	0.31	4.22
K 326	3308	5847	177.05	45	65	19.4	41	0.2	2.82	14.56	0.18	5.49
K 399	3039	5272	173.76	43	64	19.5	40	0.2	2.89	14.30	0.26	5.19
McNair 373	3025	5311	175.81	44	62	20.7	41	0.5	2.99	13.80	0.22	4.93
McNair 944	3194	5559	174.53	41	65	19.5	45	0.3	3.10	15.94	0.17	5.37
+NC 22 NF	2887	4984	172.98	39	68	18.8	42	0.1	3.11	15.11	0.24	5.08
+NC 50	3167	5609	177.32	42	68	20.1	45	0.1	2.98	11.98	0.21	4.36
NC 82	2969	5300	176.21	44	61	18.7	42	0.9	2.96	14.82	0.25	5.48
+NC 567	2989	5364	179.57	44	61	18.9	47	0.3	3.31	13.60	0.30	4.38
NC 628	3165	5407	171.10	36	64	18.6	47	0.2	2.98	14.46	0.25	5.16
Speight G-28	2921	5073	174.01	44	64	20.3	41	0.2	2.78	13.17	0.21	4.98
Speight G-58	3217	5535	172.30	37	65	19.9	43	0.3	3.25	14.52	0.24	4.72
Speight G-70	3234	5635	174.50	39	62	19.0	41	0.8	2.94	15.89	0.24	5.60
VA 182	2932	5148	175.70	45	64	18.8	47	0.6	2.79	14.68	0.22	5.57

+Two year data.

TABLE 4. HARVEST RATE OF COMMERCIALY AVAILABLE VARIETIES - 1983
 PERCENTAGE OF TOBACCO (CURED WEIGHT) IN EACH HARVEST ACROSS REPS
 AND LOCATIONS FOR THE VARIETIES LISTED IN 1983 OVT - 4 LOCATIONS
 WHITEVILLE, ROCKY MOUNT, OXFORD AND REIDSVILLE.
 LETTERS DESIGNATE HARVESTS.

NAME	ID	A	B	C	D	E
NC 2326	% AT EACH HARVEST	12.2	14.7	22.8	33.0	17.3
	TOTAL % HARVESTED	12.2	26.9	49.7	82.7	100.0
NC 95	% AT EACH HARVEST	14.6	16.5	20.1	28.8	20.1
	TOTAL % HARVESTED	14.6	31.1	51.2	79.9	100.0
CLEMSON PD4	% AT EACH HARVEST	12.3	13.9	21.9	33.5	18.4
	TOTAL % HARVESTED	12.3	26.2	48.1	81.6	100.0
COKER 48	% AT EACH HARVEST	12.7	15.3	20.9	31.5	19.5
	TOTAL % HARVESTED	12.7	28.1	49.0	80.5	100.0
COKER 176	% AT EACH HARVEST	15.5	17.9	21.7	26.3	18.4
	TOTAL % HARVESTED	15.5	33.5	55.2	81.6	100.0
COKER 209	% AT EACH HARVEST	16.6	18.2	21.1	27.4	16.6
	TOTAL % HARVESTED	16.6	34.9	55.9	83.4	100.0
COKER 298	% AT EACH HARVEST	15.6	17.9	19.8	26.7	20.1
	TOTAL % HARVESTED	15.6	33.5	53.3	79.9	100.0
COKER 319	% AT EACH HARVEST	13.6	16.9	23.3	27.2	19.0
	TOTAL % HARVESTED	13.6	30.5	53.8	81.0	100.0
COKER 347	% AT EACH HARVEST	11.7	14.1	20.5	29.7	24.0
	TOTAL % HARVESTED	11.7	25.8	46.3	76.0	100.0
K 326	% AT EACH HARVEST	12.9	16.6	21.0	27.1	22.4
	TOTAL % HARVESTED	12.9	29.5	50.6	77.6	100.0
K 399	% AT EACH HARVEST	14.8	18.0	22.6	25.8	18.9
	TOTAL % HARVESTED	14.8	32.8	55.4	81.1	100.0
MCNAIR 373	% AT EACH HARVEST	14.4	14.7	22.6	28.8	19.6
	TOTAL % HARVESTED	14.4	29.0	51.6	80.4	100.0
MCNAIR 944	% AT EACH HARVEST	13.8	18.1	22.3	27.7	18.1
	TOTAL % HARVESTED	13.8	31.9	54.2	81.9	100.0
NC 22NF	% AT EACH HARVEST	14.0	16.2	23.8	26.8	19.2
	TOTAL % HARVESTED	14.0	30.2	54.0	80.8	100.0
NC 50	% AT EACH HARVEST	14.5	14.8	20.0	28.4	22.3
	TOTAL % HARVESTED	14.5	29.3	49.3	77.7	100.0
NC 82	% AT EACH HARVEST	14.6	17.2	22.4	29.3	16.4
	TOTAL % HARVESTED	14.6	31.9	54.3	83.6	100.0
NC 567	% AT EACH HARVEST	13.4	18.9	21.0	26.9	19.8
	TOTAL % HARVESTED	13.4	32.2	53.2	80.2	100.0
NC 628	% AT EACH HARVEST	11.0	18.1	22.0	31.1	17.8
	TOTAL % HARVESTED	11.0	29.1	51.1	82.2	100.0
SPEIGHT G-28	% AT EACH HARVEST	14.5	16.4	22.9	27.8	18.4
	TOTAL % HARVESTED	14.5	30.9	53.8	81.6	100.0
SPEIGHT G-58	% AT EACH HARVEST	17.2	18.9	22.2	26.5	15.2
	TOTAL % HARVESTED	17.2	36.1	58.3	84.8	100.0
SPEIGHT G-70	% AT EACH HARVEST	12.1	17.7	20.1	29.8	20.2
	TOTAL % HARVESTED	12.1	29.9	50.0	79.8	100.0
VA 182	% AT EACH HARVEST	15.2	19.1	20.7	27.4	17.6
	TOTAL % HARVESTED	15.2	34.3	55.0	82.4	100.0

Table 5. Summary information on disease resistance - 1983.

Varieties or Lines	Black ^{1/} Shank	Bacterial ^{2/} Wilt	Root ^{3/} Knot	Mosaic ^{3/}
Commercially Available Varieties				
NC 2326	Low	Low		
NC 95	Mod.	High	Res.	
Clemson PD4	Mod.	Low		
Coker 48	High	High		
Coker 176	Mod.	High	Res.	Res.
Coker 209	High	High	Res.	Res.
Coker 298	High	High		
Coker 319	Low	Low		
Coker 347	Mod.	High	Res.	
K 326	Mod.	Mod.	Res.	
K 399	High	High	Res.	
McNair 373	Mod.	High	Res.	
McNair 944	High	Low		
NC 22 NF	Mod.	Low		
NC 50	Mod.	Mod.	Res.	
NC 82	High	Mod.		
NC 567	Low	Mod.	Res.	Res.
NC 628	Mod.	High	Res.	Res.
Speight G-28	High	High	Res.	
Speight G-58	Mod.	Mod.	Res.	
Speight G-70	High	Mod.	Res.	
VA 182	High	Low		
Advanced Breeding Lines				
Clemson PD9	70.0	39	Res.	
Clemson PD88	75.0	45		
Coker 206Y	33.0	7		
Golden 131	77.5	52		
NC TG-24	78.0	38		
NC TG-26	95.0	45		
NC TG-27	85.0	45		
NC TG-28	90.0	49		
NC TG-29	85.0	32	Res.	
NC 2513	97.5	33		Res.
NC 2640	97.5	48	Res.	Res.
NC 48 USDA	40.0	23		
NC 1779 USDA	87.5	30	Res.	
NC 2004 USDA	72.5	52	Res.	
NC 2005 USDA	77.5	37		
NC 2048 USDA	82.5	32		
NC 2060 USDA	62.5	25	Res.	
NC 2070 USDA	95.0	35	Res.	
NK 94	40.0	11		
Speight G-80	65.0	34	Res.	
Speight G-84	75.0	35	Res.	
Speight G-98	92.5	32	Res.	
Speight G-100	100.0	42	Res.	
Speight G-101	65.0	26	Res.	
Speight G-102	85.0	54	Res.	
Speight G-103	100.0	18	Res.	
Speight G-96M	92.5	8	Res.	Res.

^{1/} Commercial released varieties are subjectively rated from low to high resistance. Advanced breeding lines are rated as percent diseased.

^{2/} Commercial released 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 the time during the growing season the symptoms appeared. The higher the number, the lower the resistance.

^{3/} Resistant or segregating for resistance.

Table 6. Pedigrees of entries in the 1983 Official Tobacco Variety Tests.

Variety or Line	Generation or Yr. of Release	Pedigree
NC 2326	Rel. 1965	(Hicks x 9102) x Hicks Hicks)Hicks)
NC 95	Rel. 1961	(C-139 x Bel.4-30)x(C-139 x Hicks)
Speight G-84	F ₁₀	G-15 x G-33
NC 48 USDA	F ₁₁	C-319 x C-298
PD 9	F ₁₁	(68-514) x (McNair 30 x C-316)
Speight G-80	F ₁₀	C-254 x G-28
NC TG-24 ^{1/}	BC ₄ S ₃	(SC 58 x NC 2326) x NC 2326
NK 94	F ₁₁	Speight G-28 x McNair 944
PD 88	F ₁₁	(McNair 30 x C-316) x C-298
Coker 206Y	F ₁₁	(C-139 x 59-84-2F) x 74-472M
PD 4	Rel. 1979	(Hicks x Burley 21) x NC 95
Coker 48	Rel. 1976	(C 258 x C 319) x C 319
Coker 209	Rel. 1980	F-77 x [258(61-10 x 319) 258 (139 x 59-84-2 F)]
Coker 176	Rel. 1981	[C 258(61-10x319)258x(139x59-84-2F)] x [C 258(61-10x319)258x(139x59-84-2 F)] Dwarf
Coker 298	Rel. 1965	(C-139 x C-156)
Coker 319	Rel. 1963	(C-139 x Hicks)
Coker 347	Rel. 1969	(C-319 x C-258)
K-326	Rel. 1981	McNair 225 (McNair 30 x NC 95)
K-399	Rel. 1979	(Coker 139 x Coker 319) x NC 95
McNair 373	Rel. 1978	(C-139 x C-319) McNair 039-4
McNair 944	Rel. 1972	Speight G-10 x McNair 30
NC 22 NF	Rel. 1981	(SC 58 x NC 2326)xNC 2326 BC ₄ S ₃
NC 50	Rel. 1982	5140 x 5116
NC 82	Rel. 1978	6129 x C-319
NC 567	Rel. 1982	(3658 x 3611)
NC 628	Rel. 1978	(20038 x 20048)
Speight G-28	Rel. 1969	(Ox. 1-181 x C-139 x NC 95)
Speight G-58	Rel. 1978	NC 2514 x G-10
Speight G-70	Rel. 1978	C-258 x Va. 115 x G-10
Va. 182	Rel. 1980	(Coker 319 x NC 95) S ₇
Golden 131	F ₅	(C-80F x Hicks x NC 2326)
NC TG-26	F ₈	Hicks x Coker 139
NC TG-27 ^{1/}	F ₆	(Coker 319 x NC TG-21) x Coker 319
NC TG-28 ^{1/}	F ₆	(Coker 319 x NC TG-21) x NC 82
NC TG-29	F ₈	Maternal Dihaploid NC 82
NC 2513	F ₉	5452 x 3667
NC 2640	F ₆	6520 x Coker 86
NC 1779 USDA	F ₆	5090 x 5118
NC 2004 USDA	F ₈	5075 x 5077
NC 2005 USDA	F ₈	5075 x 5115
NC 2048 USDA	F ₅	Coker 319 x 8085
NC 2060 USDA	F ₅	McNair 944 x Speight G-28
NC 2070 USDA	F ₅	6088 x Coker 347
Speight G-98	F ₈	G-59 x G-33
Speight G-100	F ₈	NC 89 x G-15
Speight G-101	F ₅	G-80 x G-33
Speight G-102	F ₁₀	G-15 x G-33
Speight G-103	F ₈	G-50 x NC 79
Speight G-96M	F ₈	G-25M x SC 72

^{1/}Nonflowering genotypes: Should be topped at 18 leaves.

TABLE 7. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS
 FOP FOUR LOCATIONS - 1983

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS			
									NIC. %	SOL. SUG. %	NOR. NIC. %	RATIO SUG. NIC.
COMMERCIALY AVAILABLE VARIETIES												
NC 2326	2591	4633	179.09	51	55	16.6	43	0.2	3.72	13.28	0.36	4.13
NC 95	2931	5191	177.16	51	62	18.2	43	1.5	3.57	15.28	0.33	4.55
CLEMSON PD4	2946	5278	179.74	54	63	18.9	44	0.2	3.35	14.98	0.23	4.85
COKER 48	3258	5853	179.68	49	65	19.6	45	0.7	3.60	16.98	0.17	5.09
COKER 176	2768	4975	179.91	54	66	19.3	41	0.4	3.63	13.20	0.43	3.79
COKER 209	2715	4870	179.29	56	67	20.5	44	0.2	3.87	13.40	0.23	3.68
COKER 298	2902	5206	179.40	53	67	18.6	45	0.4	3.87	14.89	0.29	4.04
COKER 319	2769	5032	182.16	60	62	18.8	43	0.9	3.17	13.94	0.32	4.73
COKER 347	3191	5631	176.58	47	64	19.8	44	0.9	3.89	14.07	0.37	3.89
K 326	3128	5767	184.28	59	66	18.5	39	0.2	3.13	14.06	0.18	4.98
K 399	3010	5373	178.51	54	62	18.9	38	0.2	3.10	14.86	0.31	5.05
MCNAIR 373	3016	5471	181.60	57	59	20.0	39	0.7	3.43	13.87	0.18	4.44
MCNAIR 944	3072	5547	180.84	55	63	18.5	42	0.3	3.50	16.92	0.17	5.01
NC 22NF	2734	4882	179.07	52		19.0	42	0.1	3.30	13.89	0.25	4.40
NC 50	3029	5376	177.63	50	68	19.1	41	0.1	3.42	13.15	0.22	4.25
NC 82	2918	5262	180.29	56	59	18.4	41	1.1	3.31	14.16	0.32	4.92
NC 567	2837	5163	182.01	57	60	17.9	43	0.5	3.55	15.82	0.33	4.83
NC 628	2860	4962	173.30	44	63	17.6	44	0.3	3.40	13.52	0.26	4.49
SPEIGHT G-28	2810	5069	180.16	60	63	19.9	39	0.1	2.98	13.98	0.21	5.09
SPEIGHT G-58	2942	5182	175.89	49	65	18.9	39	0.3	3.67	14.15	0.25	4.09
SPEIGHT G-70	3126	5695	181.98	52	62	18.3	40	0.7	3.25	15.40	0.24	5.11
VA 182	2828	5184	183.30	61	63	17.6	42	0.6	3.07	13.82	0.24	4.83

ADVANCED BREEDING LINES

CLEMSON PD9	2780	4924	177.72	51	59	17.5	43	1.1	3.43	16.03	0.26	5.29
CLEMSON PD38	3018	5343	177.86	50	65	19.0	46	2.4	3.59	16.59	0.28	4.86
COCKER 206Y	2905	5172	177.32	51	64	18.2	40	0.3	4.11	11.79	0.30	3.23
GOLDEN 131	2354	4163	176.96	46	56	16.8	39	0.3	4.14	12.15	0.36	3.08
NC TG-24	2689	4784	178.47	50		18.7	43	0.3	3.38	13.45	0.30	4.42
NC TG-26	3097	5686	183.37	59	60	18.3	40	0.5	3.01	16.40	0.24	6.03
NC TG-27	3070	5501	179.47	56		20.1	38	0.7	3.17	13.87	0.21	4.72
NC TG-28	3314	6068	183.20	60		19.5	37	0.3	3.20	14.13	0.15	4.80
NC TG-29	2780	5016	180.12	57	64	19.1	38	0.1	2.95	12.77	0.30	4.93
NC 2513	3214	5750	178.61	48	66	19.1	45	0.2	3.18	13.96	0.34	4.80
NC 2640	3434	5895	171.52	40	63	18.7	43	1.1	3.02	15.05	0.24	5.67
NC 48 USDA	2959	5328	180.14	56	64	19.3	43	0.4	3.77	14.71	0.31	4.28
NC 1779 USDA	2649	4582	172.45	44	65	18.0	41	0.6	4.25	11.63	0.39	3.19
NC 2004 USDA	2836	5181	182.43	59	57	17.7	40	0.1	3.41	13.51	0.23	4.64
NC 2005 USDA	2953	5263	178.48	53	64	18.1	37	0.3	3.78	14.87	0.21	4.32
NC 2048 USDA	2962	5300	178.92	56	64	19.1	41	0.8	2.90	14.51	0.24	5.38
NC 2060 USDA	3162	5656	179.00	56	67	19.3	43	1.1	3.36	14.17	0.25	4.45
NC 2070 USDA	3202	5723	179.06	51	64	19.2	42	1.5	4.26	14.16	0.29	3.47
NK 94	3336	5923	177.32	54	66	19.3	39	0.0	2.89	15.37	0.22	6.20
SPEIGHT G-80	2921	5265	180.14	55	63	18.5	39	0.7	3.32	12.42	0.17	4.05
SPEIGHT G-84	3095	5621	181.42	55	67	19.1	40	0.3	3.30	14.11	0.26	4.76
SPEIGHT G-98	3208	5749	179.31	51	66	17.7	41	0.4	3.42	15.17	0.25	4.81
SPEIGHT G-100	2823	5157	182.51	59	65	18.4	42	0.1	3.38	12.20	0.26	4.00
SPEIGHT G-101	3193	5687	177.97	48	61	17.9	41	0.6	3.24	15.07	0.40	5.08
SPEIGHT G-102	3005	5364	179.03	52	62	18.1	40	0.2	3.65	15.20	0.34	4.48
SPEIGHT G-103	2948	5324	180.56	60	63	18.8	41	0.9	3.10	13.98	0.22	5.06
SPEIGHT G-96M	3189	5516	173.13	44	65	19.8	42	1.1	3.24	15.17	0.36	5.17
<u>Mean of Test</u>	<u>2978</u>	<u>5341</u>	<u>179.37</u>	<u>54</u>	<u>63</u>	<u>18.8</u>	<u>41</u>	<u>0.6</u>	<u>3.35</u>	<u>14.45</u>	<u>0.26</u>	<u>4.83</u>
L.S.D. (.05)	240	474	5.00	6	3	1.2	3	0.5	0.37	2.22	0.16	1.11
C.V. (%)	9	10	3	13	5	7	6	73	12	17	77	25

TABLE 8. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS TV 321.
WHITEVILLE NC - 1983

VARIETY	YIELD LBS/A	VALUE INDEX		GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS			RATIO SUG- NIC.
		\$/A	\$/CWT.						NIC. %	SOL- SUG- %	NOR- NIC. %	
COMMERCIALY AVAILABLE VARIETIES												
NC 2326	2362	4537	191.25	64	55	15.7	44	0.1	2.78	19.20	0.11	6.96
NC 95	2858	5508	192.21	66	60	17.2	43	1.7	3.32	16.53	0.41	5.19
CLEMON PD4	2598	5088	196.07	74	63	18.0	44	0.1	2.93	17.63	0.18	6.04
COKER 48	3342	6383	191.00	59	61	16.9	45	0.8	2.83	21.50	0.09	7.58
COKER 176	2636	5153	195.38	68	63	18.7	42	0.1	3.51	15.57	0.21	4.43
COKER 209	2622	5099	194.34	71	62	19.9	48	0.5	3.57	13.80	0.32	3.89
COKER 298	2814	5419	192.60	69	65	17.9	46	0.3	3.35	16.80	0.20	5.02
COKER 319	2454	4862	197.57	77	59	18.3	46	1.4	2.54	16.53	0.42	6.51
COKER 347	3144	6025	191.71	60	61	18.4	45	1.0	3.33	17.67	0.35	5.33
K 326	3054	6024	197.27	75	61	18.1	40	0.1	2.34	19.00	0.10	8.13
K 399	2986	5742	192.33	67	61	17.9	40	0.2	2.65	17.87	0.55	6.75
MCNAIR 373	2882	5660	196.40	74	58	19.1	40	0.4	2.73	16.83	0.09	6.23
MCNAIR 944	2724	5223	191.25	67	61	17.9	44	0.1	3.32	20.13	0.11	6.16
NC 22NF	2220	4227	189.89	64		18.0	40	0.0	3.01	16.27	0.20	5.42
NC 50	2864	5516	192.52	67	63	17.6	43	0.1	2.85	15.03	0.22	5.45
NC 82	2806	5553	197.84	77	57	16.9	42	0.8	2.71	17.53	0.09	6.56
NC 567	2846	5561	195.30	72	58	17.1	45	0.5	3.15	17.43	0.29	5.90
NC 628	2852	5404	188.62	59	61	17.1	46	0.1	2.95	16.70	0.16	5.87
SPEIGHT G-28	2694	5185	192.46	69	62	19.4	40	0.1	2.68	15.20	0.10	6.06
SPEIGHT G-58	2734	5132	187.21	59	58	18.1	42	0.3	3.16	16.83	0.23	5.41
SPEIGHT G-70	3278	6421	195.88	70	56	16.4	42	0.9	2.82	18.10	0.17	6.47
VA 192	2664	5137	192.90	70	61	16.4	44	1.2	2.51	15.80	0.39	6.29

ADVANCED BREEDING LINES

CLEMSON PD9	2488	4811	193.00	68	57	16.5	43	1.4	2.63	20.67	0.30	7.68
CLEMSON PD83	2612	5010	191.74	63	61	17.1	47	2.7	3.25	19.27	0.23	5.97
COCKER 206Y	2964	5614	189.42	61	60	17.1	42	2.2	3.47	16.43	0.30	5.30
GOLDEN 131	2338	4393	187.98	57	52	16.3	41	0.3	3.74	14.73	0.23	3.98
NC TG-24	2268	4342	191.15	60		18.0	43	0.1	2.68	16.20	0.19	6.05
NC TG-26	3112	6027	193.75	70	57	17.0	42	0.7	2.66	23.13	0.14	8.89
NC TG-27	2946	5858	198.80	80		19.0	34	0.5	2.69	18.03	0.13	6.71
NC TG-28	3110	6117	196.68	75		18.0	34	0.2	3.02	18.37	0.09	6.14
NC TG-29	2844	5617	197.46	77	58	18.2	42	0.1	2.60	18.17	0.19	7.00
NC 2513	3096	5978	192.84	65	61	17.2	44	0.0	2.57	18.13	0.30	7.11
NC 2640	3472	6471	186.40	53	59	17.4	44	0.7	2.49	18.40	0.23	7.51
NC 49 USDA	2786	5347	191.69	66	62	17.4	43	0.2	3.18	16.87	0.05	5.48
NC 1779 USDA	2580	4953	191.91	63	59	16.5	43	0.5	3.57	15.43	0.47	4.38
NC 2004 USDA	2816	5516	195.64	72	55	16.1	40	0.0	2.48	19.10	0.27	7.93
NC 2005 USDA	2740	5232	190.57	68	55	16.7	37	0.4	2.97	17.03	0.36	5.75
NC 2048 USDA	2838	5530	194.32	77	58	18.1	42	0.6	2.66	17.90	0.14	6.77
NC 2060 USDA	2914	5579	190.95	69	61	18.2	44	1.6	3.03	16.50	0.13	5.49
NC 2070 USDA	3044	5853	192.17	63	60	17.4	43	1.4	3.61	15.13	0.31	4.22
NK 94	3498	6674	190.83	64	63	18.5	42	0.0	2.00	18.37	0.30	9.23
SPEIGHT G-80	2686	5170	192.46	70	60	17.7	41	0.9	3.18	14.97	0.17	5.22
SPEIGHT G-84	3118	6128	196.39	75	61	18.3	43	0.3	2.68	18.60	0.53	7.08
SPEIGHT G-98	3226	6236	193.30	66	59	17.1	45	0.5	2.86	19.03	0.23	6.94
SPEIGHT G-100	2758	5491	199.18	81	63	17.6	44	0.0	2.71	15.17	0.15	5.82
SPEIGHT G-101	3078	5915	192.29	64	54	17.2	42	0.9	2.81	17.00	0.31	6.16
SPEIGHT G-102	2714	5167	190.34	63	60	16.3	44	0.2	3.13	18.90	0.38	6.07
SPEIGHT G-103	3026	5968	197.18	76	58	18.1	42	1.9	2.36	18.90	0.06	8.11
SPEIGHT G-96M	3026	5784	191.10	62	61	18.0	44	1.1	2.62	18.03	0.42	6.89
<u>Mean of Test</u>	<u>2870</u>	<u>5559</u>	<u>193.55</u>	<u>69</u>	<u>60</u>	<u>17.6</u>	<u>43</u>	<u>0.7</u>	<u>2.85</u>	<u>17.66</u>	<u>0.22</u>	<u>6.48</u>
L.S.D. (.05)	406	849	6.56	11	3	1.5	3	0.7	0.61	3.62	NS	2.20
C.V. (%)	9	9	2	10	4	5	5	65	13	13	85	21

TABLE 9. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS TV 323.
ROCKY MOUNT NC - 1983

VARIETY	YIELD LBS/A	VALUE INDEX		GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS			RATIO SUG: NIC.
		\$7A	\$7CWT.						NIC. %	SOL- SUG. %	NOR- NIC. %	
COMMERCIALY AVAILABLE VARIETIES												
NC 2326	2737	4668	171.03	41	55	15.5	44	0.1	4.88	8.70	0.40	2.01
NC 95	2914	4924	169.05	43	60	17.3	45	0.5	3.95	14.57	0.52	3.76
CLEMSON PD4	3300	5708	172.92	38	59	17.9	48	0.0	4.10	12.07	0.36	3.06
COKER 48	3558	6172	173.42	40	63	19.3	50	0.2	4.41	13.47	0.18	3.06
COKER 176	2992	5164	172.50	46	64	18.9	44	0.0	3.75	12.93	0.58	3.49
COKER 209	3069	5546	180.70	60	64	20.7	50	0.0	4.30	13.83	0.16	3.30
COKER 298	3074	5490	178.54	50	63	17.0	49	0.0	4.20	14.20	0.43	3.43
COKER 319	3039	5458	179.83	55	59	17.4	47	0.1	3.82	12.00	0.30	3.26
COKER 347	3283	5703	173.84	43	63	19.2	49	0.6	4.50	12.47	0.52	2.78
K 326	3270	5893	180.09	53	63	16.6	40	0.0	3.53	11.77	0.18	3.35
K 399	3242	5667	174.75	50	59	17.3	41	0.0	3.43	13.10	0.19	3.83
MCNAIR 373	3168	5576	176.07	53	59	18.7	42	0.1	3.71	12.93	0.31	3.72
MCNAIR 944	3325	5843	175.79	53	61	16.1	45	0.1	3.79	14.40	0.17	3.79
NC 22NF	3059	5385	175.89	46	58	17.7	43	0.0	3.88	13.87	0.19	3.60
NC 50	3308	5788	175.09	41	65	17.9	45	0.0	3.93	12.43	0.25	3.18
NC 82	3003	5326	177.45	49	58	17.6	42	0.9	3.90	10.80	0.45	2.75
NC 567	3050	5388	176.83	50	56	15.7	44	0.3	4.06	16.33	0.28	4.19
NC 628	3211	5404	168.28	37	58	16.3	50	0.1	3.86	12.53	0.39	3.23
SPEIGHT G-28	2817	4936	174.83	54	58	18.9	39	0.1	3.38	12.87	0.33	3.93
SPEIGHT G-58	3369	5841	173.36	47	60	18.4	42	0.0	4.05	15.13	0.18	3.83
SPEIGHT G-70	3043	5314	174.74	41	58	16.9	39	0.2	3.90	10.77	0.34	2.86
VA 182	3076	5582	181.42	65	58	15.5	44	0.0	3.42	14.13	0.36	4.20

ADVANCED BREEDING LINES

CLEMSON PD9	3087	5330	172.69	41	56	16.4	49	0.3	3.99	16.67	0.22	4.23
CLEMSON PD88	3407	5873	172.42	47	65	20.3	51	1.7	4.06	14.77	0.29	3.69
COKER 206Y	3020	5304	175.62	49	64	16.3	43	0.0	4.39	8.83	0.51	2.01
GOLDEN 131	2470	4320	175.12	39	56	15.5	39	0.4	5.13	10.77	0.39	2.11
NC TG-24	3086	5438	176.41	45		16.1	43	0.0	3.74	13.13	0.30	3.60
NC TG-26	3093	5760	186.21	61	56	16.5	40	0.2	3.34	12.83	0.31	3.85
NC TG-27	3272	5889	180.11	57		16.2	39	0.1	3.53	14.40	0.07	4.17
NC TG-28	3649	6633	181.69	54		18.4	41	0.1	3.62	11.17	0.18	3.13
NC TG-29	2710	4734	174.42	51	61	16.0	38	0.0	3.66	9.97	0.42	2.83
NC 2513	3631	6413	176.44	42	64	18.4	53	0.0	3.89	13.77	0.24	3.85
NC 2640	3515	5882	167.48	40	59	16.9	46	0.2	3.40	14.53	0.32	4.30
NC 48 USDA	3261	5765	176.69	55	60	19.1	47	0.0	4.18	12.87	0.58	3.18
NC 1779 USDA	2537	4234	167.39	38	63	16.1	42	0.2	4.58	11.27	0.50	2.57
NC 2004 USDA	3003	5276	175.68	55	55	17.0	44	0.0	4.08	11.60	0.24	2.98
NC 2005 USDA	3129	5275	168.63	40	61	15.9	37	0.1	4.64	10.57	0.34	2.31
NC 2048 USDA	2990	5281	176.65	53	62	17.4	43	0.0	3.20	13.37	0.33	4.19
NC 2060 USDA	3213	5635	175.82	51	64	18.7	47	0.1	3.83	14.00	0.34	3.81
NC 2070 USDA	3233	5670	175.46	45	60	18.5	45	0.8	4.47	14.13	0.34	3.18
NK 94	3634	6375	175.45	49	61	17.3	39	0.0	3.36	14.10	0.40	4.23
SPEIGHT G-80	3078	5524	179.17	53	61	16.7	43	0.0	3.43	10.27	0.22	3.14
SPEIGHT G-84	3248	5724	176.26	44	64	17.5	42	0.2	4.12	10.47	0.16	2.53
SPEIGHT G-98	3239	5609	173.52	41	63	15.1	40	0.2	3.73	13.53	0.38	3.86
SPEIGHT G-100	2809	5025	178.90	52	64	16.7	43	0.1	3.77	9.20	0.38	2.43
SPEIGHT G-101	3366	5853	173.88	45	59	16.7	42	0.1	3.84	15.07	0.44	3.96
SPEIGHT G-102	3265	5522	169.32	40	56	16.3	38	0.1	4.39	11.40	0.41	2.61
SPEIGHT G-103	3134	5620	179.64	57	59	17.4	45	0.2	3.54	13.97	0.47	4.02
SPEIGHT G-96M	3313	5421	163.01	35	62	19.3	46	0.2	3.96	12.60	0.36	3.34
<u>Mean of Test</u>	<u>3164</u>	<u>5549</u>	<u>175.38</u>	<u>48</u>	<u>61</u>	<u>17.3</u>	<u>44</u>	<u>0.2</u>	<u>3.83</u>	<u>12.90</u>	<u>0.32</u>	<u>3.54</u>
L.S.D. (.05)	403	718	7.81	10	5	2.8	5	0.5	0.65	NS	NS	1.72
C.V. (%)	8	8	3	13	5	10	7	144	10	22	69	30

TABLE 10. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS TV 324.
 OXFORD NC - 1983

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS			
									NIC. %	SOL. SUG. %	NOR. NIC. %	RATIO SUG. NIC.
COMMERCIALY AVAILABLE VARIETIES												
NC 2326	2515	4360	173.57	44	58	16.3	42	0.3	4.03	9.20	0.56	2.29
NC 95	2590	4519	174.63	49	66	17.7	41	2.0	4.18	12.60	0.32	3.01
CLEMSON PD4	2818	5019	178.01	53	64	18.1	41	0.3	3.90	14.33	0.18	3.87
COKER 48	2677	4766	177.95	52	69	18.8	41	0.7	4.33	15.43	0.16	3.54
COKER 176	2483	4386	176.65	54	69	18.8	37	0.5	4.14	10.03	0.46	2.43
COKER 209	2538	4315	170.09	49	70	20.0	39	0.0	4.40	8.33	0.33	1.92
COKER 298	2705	4666	172.33	51	70	18.1	42	0.3	4.53	11.20	0.29	2.47
COKER 319	2414	4275	177.12	56	64	17.5	37	1.4	3.63	11.40	0.50	3.19
COKER 347	2911	5057	173.08	48	67	19.7	40	0.9	4.49	9.30	0.48	2.16
K 326	2974	5320	178.59	55	67	18.7	36	0.1	3.93	8.90	0.28	2.26
K 399	2748	4799	174.51	54	64	18.5	34	0.3	3.53	11.23	0.30	3.20
MCNAIR 373	2847	4967	174.14	48	61	20.5	35	1.5	4.09	9.07	0.21	2.29
MCNAIR 944	2788	4965	177.95	57	66	17.4	38	0.2	3.93	14.47	0.28	3.74
NC 22NF	2849	4866	170.52	48		20.1	41	0.2	3.57	9.40	0.45	2.66
NC 50	2768	4712	170.28	48	73	18.5	38	0.1	4.23	7.93	0.35	1.87
NC 82	2637	4449	168.49	49	60	17.5	36	1.3	4.26	9.97	0.63	2.47
NC 567	2590	4480	173.04	54	64	18.1	41	0.7	4.18	11.73	0.31	2.82
NC 628	2570	4319	167.87	40	66	17.6	41	0.9	4.30	6.83	0.34	1.62
SPEIGHT G-28	2752	4821	174.30	58	69	18.8	37	0.1	3.44	9.60	0.38	2.79
SPEIGHT G-58	2600	4292	165.00	41	69	18.1	36	0.8	4.44	10.63	0.32	2.46
SPEIGHT G-70	2774	4968	179.12	52	67	18.3	37	0.8	3.51	14.60	0.31	4.21
VA 182	2564	4568	177.99	61	64	17.4	38	0.8	3.80	9.73	0.10	2.58

ADVANCED BREEDING LINES

CLEMSON PD9	2408	4191	174.15	49	63	17.4	38	1.8	4.55	9.87	0.21	2.24
CLEMSON PD88	2736	4803	176.05	52	68	18.1	45	3.4	3.94	14.33	0.40	3.80
COCKER 206Y	2558	4150	161.67	42	66	17.5	35	0.5	5.01	7.13	0.29	1.44
GOLDEN 131	2176	3725	171.17	47	60	15.9	38	0.4	4.21	9.10	0.61	2.19
NC TG-24	2544	4394	172.52	44		19.5	42	0.2	4.45	8.57	0.33	1.99
NC TG-26	2701	4722	174.83	59	64	18.1	39	0.4	3.86	11.17	0.23	2.94
NC TG-27	3099	5196	167.37	43		23.1	39	1.1	3.75	6.50	0.54	1.80
NC TG-28	3045	5468	179.32	64		19.7	35	0.3	3.83	11.03	0.22	3.01
NC TG-29	2620	4441	169.40	53	69	19.6	34	0.2	3.50	9.37	0.25	2.86
NC 2513	2808	4787	170.51	44	69	18.0	40	0.5	3.45	9.20	0.53	2.80
NC 2640	2865	4767	166.34	36	68	18.2	37	1.8	4.08	8.70	0.36	2.16
NC 48 USDA	2754	4788	173.83	53	68	18.1	39	0.2	4.65	10.23	0.46	2.21
NC 1779 USDA	2301	3603	156.54	30	72	17.2	37	0.3	5.78	4.50	0.20	0.76
NC 2004 USDA	2645	4543	171.46	49	63	16.5	36	0.0	4.45	7.77	0.42	1.79
NC 2005 USDA	2780	4906	176.34	54	68	18.7	36	0.6	4.65	13.97	0.00	3.00
NC 2048 USDA	2728	4658	170.55	48	64	19.3	39	1.7	3.46	9.17	0.31	2.64
NC 2060 USDA	2843	4914	172.69	50	71	19.3	38	1.1	3.69	8.07	0.46	2.22
NC 2070 USDA	2919	5102	174.99	50	67	18.7	38	1.9	5.19	10.47	0.25	2.02
NK 94	2821	4875	172.74	53	68	18.4	35	0.0	4.05	12.60	0.07	3.28
SPEIGHT G-80	2802	4779	169.87	49	65	17.9	35	1.3	3.63	9.17	0.22	2.55
SPEIGHT G-84	2738	4793	174.93	54	70	19.0	37	0.1	3.83	10.27	0.18	2.71
SPEIGHT G-98	3085	5468	177.27	55	70	18.7	41	0.6	4.02	11.70	0.16	2.94
SPEIGHT G-100	2598	4430	170.28	51	66	18.1	39	0.1	4.14	9.07	0.28	2.37
SPEIGHT G-101	2934	5033	171.00	42	65	16.9	37	0.6	3.92	10.90	0.56	2.92
SPEIGHT G-102	2730	4881	178.54	58	66	18.5	39	0.3	4.10	12.17	0.26	2.98
SPEIGHT G-103	2540	4398	173.32	57	68	18.9	36	1.1	3.92	9.00	0.29	2.28
SPEIGHT G-96M	2970	4994	168.47	40	66	19.4	38	2.1	3.58	12.87	0.46	4.05
<u>Mean of Test</u>	<u>2723</u>	<u>4720</u>	<u>173.10</u>	<u>51</u>	<u>66</u>	<u>18.4</u>	<u>38</u>	<u>0.8</u>	<u>4.00</u>	<u>10.43</u>	<u>0.32</u>	<u>2.74</u>
L.S.D. (.05)	341	723	10.13	13	5	1.9	5	0.9	0.80	3.98	NS	1.45
C.V (%)	8	9	4	16	5	6	7	67	12	24	67	33

TABLE 11. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS TV 325.
REIDSVILLE NC - 1983

VARIETY	YIELD LBS/A	VALUE-INDEX		GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CORED LEAF ANALYSIS			RATIO SUG. NIC.
		\$/A	\$/CWT.						NIC. %	SOL. SUG. %	NOR. NIC. %	
COMMERCIALY AVAILABLE VARIETIES												
NC 2326	2753	4 969	180.52	53	52	19.2	44	0.2	3.21	16.03	0.35	5.27
NC 95	3361	5814	172.76	45	61	20.7	41	1.9	2.82	17.43	0.07	6.23
CLEMSON PD4	3070	5298	171.95	49	68	21.7	42	0.2	2.48	15.90	0.18	6.43
COKER 48	3454	6090	176.35	44	67	23.3	44	1.3	2.85	17.53	0.25	6.20
COKER 176	2960	5197	175.11	51	66	20.8	41	1.1	3.12	14.27	0.46	4.83
COKER 209	2631	4518	172.02	45	71	21.4	40	0.3	3.20	17.63	0.12	5.62
COKER 298	3014	5250	174.12	43	71	21.3	43	0.9	3.40	17.37	0.24	5.22
COKER 319	3169	5534	174.12	53	66	22.1	43	0.9	2.68	15.83	0.05	5.95
COKER 347	3427	5739	167.70	38	67	21.8	42	1.3	3.25	16.83	0.12	5.27
K 326	3215	5829	181.15	52	73	20.8	39	0.4	2.74	16.57	0.16	6.19
K 399	3062	5284	172.46	46	64	21.9	37	0.3	2.77	17.23	0.20	6.41
MCNAIR 373	3165	5680	179.82	53	60	21.7	38	1.0	3.19	16.67	0.10	5.53
MCNAIR 944	3452	6155	178.39	45	64	22.7	42	0.9	2.94	18.67	0.12	6.34
NC 22NF	2807	5048	179.99	52	61	20.1	42	0.4	2.73	16.03	0.16	5.91
NC 50	3175	5486	172.63	45	73	22.5	40	0.2	2.67	17.20	0.05	6.50
NC 82	3225	5722	177.40	49	62	21.7	43	1.5	2.39	18.33	0.12	7.90
NC 567	2860	5220	182.89	50	61	20.7	41	0.8	2.79	17.77	0.42	6.42
NC 628	2803	4721	168.45	41	65	19.6	40	0.2	2.50	18.03	0.15	7.24
SPEIGHT G-28	2978	5333	179.07	59	64	23.7	40	0.1	2.42	18.27	0.03	7.57
SPEIGHT G-58	3066	5461	178.01	49	73	21.1	36	0.3	3.04	14.00	0.28	4.66
SPEIGHT G-70	3409	6077	178.18	46	65	21.5	40	1.1	2.75	18.13	0.14	6.89
VA 182	3008	5447	180.91	49	67	21.3	42	0.4	2.54	15.63	0.12	6.26

ADVANCED BREEDING LINES

CLEMSON PD9	3136	5365	171.05	46	59	19.6	43	1.0	2.57	16.93	0.31	6.79
CLEMSON PD88	3317	5687	171.23	39	67	20.4	42	1.9	3.12	18.00	0.20	5.98
COKER 206Y	3076	5618	182.58	51	67	22.0	39	0.4	3.59	14.77	0.11	4.18
GOLDEN 131	2432	4214	173.67	42	55	19.5	38	0.3	3.48	14.00	0.20	4.02
NC TG-24	2856	4962	173.79	49		21.4	43	0.7	2.66	15.90	0.35	6.02
NC TG-26	3482	6233	178.70	47	62	21.6	41	0.6	2.20	18.47	0.28	8.44
NC TG-27	2962	5061	171.59	46		23.2	39	1.0	2.71	16.57	0.09	6.21
NC TG-28	3452	6055	175.13	48		22.1	40	0.6	2.34	15.97	0.14	6.92
NC TG-29	2946	5271	179.22	49	67	22.8	40	0.1	2.03	13.57	0.35	7.04
NC 2513	3323	5822	174.66	42	69	22.7	43	0.2	2.81	14.73	0.28	5.43
NC 2640	3883	6461	165.87	32	64	22.3	44	1.4	2.13	18.57	0.03	8.72
NC 48 USDA	3034	5411	178.34	52	65	22.8	43	1.3	3.07	18.87	0.15	6.23
NC 1779 USDA	3179	5537	173.94	42	67	22.4	44	1.7	3.08	15.33	0.40	5.06
NC 2004 USDA	2880	5389	186.94	61	56	21.0	42	0.5	2.61	15.57	0.01	5.87
NC 2005 USDA	3165	5641	178.38	51	71	21.4	38	0.3	2.87	17.93	0.14	6.22
NC 2048 USDA	3293	5732	173.65	45	72	21.7	40	1.0	2.26	17.60	0.17	7.92
NC 2060 USDA	3680	6498	176.54	53	70	21.0	43	1.5	2.91	18.13	0.08	6.27
NC 2070 USDA	3612	6267	173.61	45	67	22.5	42	2.0	3.77	16.90	0.27	4.48
NK 94	3391	5767	170.25	47	72	23.0	40	0.1	2.15	16.43	0.12	8.06
SPEIGHT G-80	3118	5586	179.06	49	68	22.0	38	0.6	3.05	15.30	0.07	5.30
SPEIGHT G-84	3277	5839	178.12	48	73	21.5	39	0.5	2.58	17.10	0.17	6.73
SPEIGHT G-98	3281	5683	173.17	42	71	20.1	39	0.5	3.06	16.40	0.25	5.48
SPEIGHT G-100	3128	5683	181.68	53	65	21.2	41	0.1	2.89	15.37	0.23	5.36
SPEIGHT G-101	3395	5947	174.73	42	67	20.8	41	0.9	2.40	17.33	0.28	7.27
SPEIGHT G-102	3311	5886	177.92	48	66	21.4	40	0.2	2.98	18.33	0.32	6.25
SPEIGHT G-103	3092	5311	172.10	48	66	20.9	40	0.6	2.58	14.07	0.08	5.85
SPEIGHT G-96M	3448	5865	169.94	40	70	22.5	42	1.1	2.78	17.20	0.21	6.40
<u>Mean of Test</u>	<u>3155</u>	<u>5535</u>	<u>175.45</u>	<u>47</u>	<u>66</u>	<u>21.6</u>	<u>41</u>	<u>0.8</u>	<u>2.71</u>	<u>16.83</u>	<u>0.18</u>	<u>6.55</u>
L.S.D. (.05)	513	1023	9.34	9	6	NS	4	0.8	0.63	NS	NS	2.40
C.V. (%)	10	11	3	12	6	8	5	62	14	14	96	23

Table 12. Grower practices by individual farms, Regional Farm Test in North Carolina - 1983.

Belt and County	Farm	Chemical Soil Treatment	Row Width and Hill Spacing	Date of Planting	Date of first Harvest	Fertilizer	Top-dressing	Insecticide	Priming and Curing Methods	Number Times Irrigated
<u>Border</u> Columbus	Edmund	Nemacur-Dasanit 1½ gal/A Ridomil 2 qt/A	48" 20"	April 26	June 28	200 lbs. 16-0-0	700 lbs. 6-6-18	Orthene	Hand Primed Conventional Cured	None
<u>Eastern</u> Lenoir	Sutton Hooten	Telone C-17 10 gal/A Row Ridomil 1 qt/A	45" 22"	May 7	July 11	900 lbs. 6-6-18	50 lbs. 16-0-0	Lannate	Hand Primed Bulk Cured Box Barn	None
Wilson	Harrell	Mocap 1 gal/A	42" 24"	May 9 May 11	July 13	725 lbs. 6-12-18	125 lbs. 15-0-14	None	Hand Primed Small Rack Bulk Cured	None
<u>Middle</u> Harnett	Andrews	Telone C-17 7 gal/A Ridomil 1 qt/A	48" 22"	May 4 through May 16	July 20	700 lbs. 6-12-18	150 lbs. 15-0-14	Orthene	Hand Primed Small Rack Bulk Cured	Three
Granville	Burnette		44" 22"	May 5 through May 7	July 7	200 lbs. 8-16-24	400 lbs. 8-16-24 200 lbs. 8-0-24	Azodrin	Hand Primed Conventional Cured	None
<u>Old</u> Person	Day	Ridomil 1 qt/A Mocap 1½ gal/A	48" 22"	May 9 through May 13	July 22	100 lbs. 16-0-0	600 lbs. 8-8-24		Hand Primed Conventional Cured	Five

TABLE 13. COMPARISON OF ENTRIES IN REGIONAL FARM TESTS - VARIETIES COMBINED
OVER GEORGIA, SOUTH CAROLINA, NORTH CAROLINA AND VIRGINIA - 1983

ENTRY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	NIC. %	TOT. SEC. ALK.	TOT. ALK. %	TSA /TA %	NIT. NIC.	SOL. SUG. NIC.	SOL. SUG. %	TOT. NIT. %
NC 2326	2344	4184	177.91	2.77	0.10	2.87	3.4	0.81	6.77	16.9	2.18
NC 95	2571	4467	174.11	3.00	0.13	3.13	3.9	0.74	6.28	18.0	2.18
NC 48 USDA	2551	4579	179.87	3.32	0.14	3.46	3.9	0.70	5.60	17.4	2.28
PD 88	2877	5123	178.10	2.76	0.11	2.87	3.7	0.75	7.83	19.8	2.01
NC TG-24	2580	4599	179.06	2.85	0.09	2.86	3.0	0.78	6.80	17.2	2.13
NK 94	2918	5312	182.43	2.34	0.08	2.42	3.3	0.89	9.58	19.8	1.98
COKER 206Y	2786	4917	177.25	3.13	0.14	3.26	4.1	0.72	5.20	15.2	2.20
SPEIGHT G-80	2707	4876	180.39	2.55	0.10	2.65	3.5	0.88	7.37	17.1	2.19

TABLE 14. REGIONAL FARM TESTS 1983 COMBINED ACROSS THIRTEEN FARMS AND RATED BY TOBACCO COMPANIES. PERCENT TOBACCO IN VARIOUS COLOR, BODY AND TEXTURE CLASSES, PERCENT USABLE.

COLOR								
VARIETY	LEMON	ORANGE	ORANGE RED	GREENISH TINGE	VARI- GATED	DEAD/ BROWN	RED	GREEN
NC2326	6.1	21.3	14.8	13.7	35.4	1.6	1.8	5.2
NC95	8.9	22.4	10.0	16.2	36.9	0.7	1.5	3.4
NC48 USDA	9.6	27.1	16.9	6.9	35.6	1.2	1.8	1.0
PD 88	12.3	17.5	10.2	16.3	36.6	1.8	2.0	3.2
NC TG-24	13.4	27.9	8.4	12.5	32.0	1.0	1.0	4.0
NK 94	19.5	31.9	11.9	4.8	27.8	1.3	1.9	0.9
Coker 206Y	13.7	27.3	9.8	14.8	29.8	1.7	1.4	1.5
Spt. G-80	14.9	30.2	14.0	4.0	33.2	0.8	2.5	0.4

BODY					
VARIETY	CHAFFY	THIN	MEDIUM	MEDIUM HEAVY	HEAVY
NC2326	4.2	18.8	40.2	27.5	9.1
NC95	2.9	18.4	43.5	27.0	8.2
NC48 USDA	3.0	18.0	41.6	27.7	9.8
PD 88	4.6	18.9	38.4	30.1	8.0
NC TG-24	4.6	23.9	37.6	24.8	9.1
NK 94	3.0	19.8	40.9	25.2	11.1
Coker 206Y	5.3	19.9	39.2	26.9	8.7
Spt. G-80	3.7	20.8	38.2	28.3	9.1

TEXTURE							
VARIETY	OPEN GRAIN	MEDIUM	SMOOTH	SLICK	PAPERY	OTHER	USABLE
NC2326	4.8	23.2	42.1	18.2	4.0	7.8	25.8
NC95	6.3	20.6	49.5	12.8	4.0	6.8	26.3
NC48 USDA	7.1	34.2	41.8	7.3	3.7	6.0	41.7
PD 88	3.9	18.0	50.9	17.0	3.8	6.4	20.1
NC TG-24	5.1	26.0	47.3	9.1	6.5	6.0	28.2
NK 94	6.2	30.2	43.3	11.4	3.1	5.8	37.7
Coker 206Y	4.5	24.4	49.7	10.7	4.4	6.3	28.4
Spt. G-80	5.7	26.5	44.9	13.7	3.4	5.9	33.0

Table 15. Grower ratings^{1/} for preference for each entry in Regional Farm Test in North Carolina - 1983.

Belt and Grower	Variety or Line							
	NC 2326	NC 95	Coker 206	NC 48	NC TG-24	NK 94	PD 88	Speight G-80
<u>Border</u>								
Edmund	4	4	2	3	6	1	7	2
<u>Eastern</u>								
Sutton-Hooten	8	7	2	4	1	3	10	6
Harrell	2	7	6	5	3	1	10	4
<u>Middle</u>								
Andrews	6	5	3	4	7	2	8	1
Burnette	6	4	3	2	9	1	8	7
<u>Old</u>								
Day	2	5	4	1	4	3	10	3
Average	5	5	3	3	5	2	9	4

^{1/}1 - Most desirable; 10 - Least desirable.