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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 years, two years over all locations 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 in a separate report Flue-Cured Variety Evaluation Committee Report.

EXPERIMENTAL PROCEDURES

Official Variety Test

Twenty-six released varieties and twenty-six experimental lines were tested at five locations (Figure 1) in 1985. 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, NC, representing the Border Belt.

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

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

Oxford Tobacco Research Station, Oxford, NC representing the Middle Belt.

Upper Piedmont Tobacco Research Station, Reidsville, NC representing the Old Belt.

Agencies, Contact Person, and Addresses of 1985 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, SC 29550	Coker
Golden Seed Company Bobby Golden	102 Donaldson Street Tifton, GA 31794	Golden

Agencies, Contact Person, and Addresses of 1985 Sponsors

Northrup King Seed Company Bill Earley	P. O. Box 1127 Laurinburg, NC 28352	NK, NK's McNair, K
N. C. Agric. Res. Service Daryl Bowman	3709 Hillsborough St. Raleigh, NC 27607	NC
S. C. Agric. Exp. Station Bob Currin	Box 5809 Florence, SC 29502	PD
Speight Seed Farms Mark Grimsley	Box 507 Winterville, NC 28590	Speight
USDA Richard Gwynn	Rt. 2, Box 16G Oxford, NC 27565	NC-USDA
Virginia Agric. Exp. Station Bob Terrill	Box 148 Blackstone, VA 23824	VA

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.^{1/}

^{1/}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 acknowledge.

After topping, all entries were treated with commercial contact and systemic sucker control chemicals. Individual plots were harvested according to degree of maturity and primings were tagged and kept separate throughout curing, sorting, and grading. Performance data were collected on yield, quality, agronomic characteristics, disease resistance,^{2/} chemical characteristics,^{3/} 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.

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

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

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 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 1985 data utilized a revised version of the grade index as originally developed by E. Wernsman and E. Price (1975).

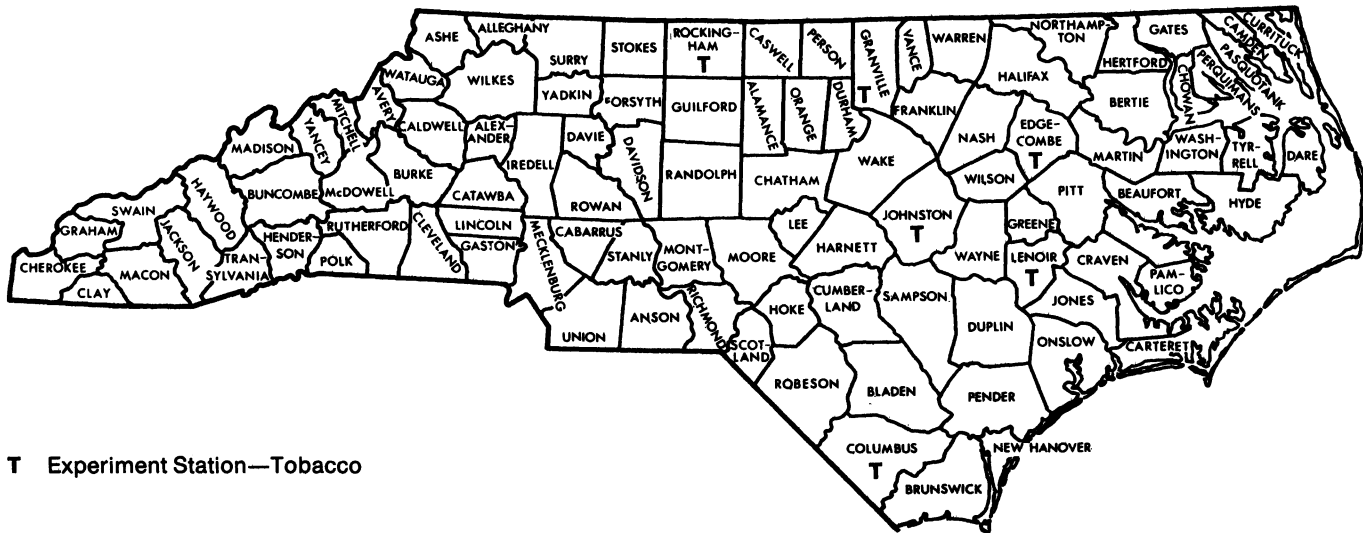
Seasonal Conditions: Transplanting proceeded ahead of normal due to the relatively warm, dry spring experienced at most locations (Table 1). Rainfall was below normal up until July (see table below); Rocky Mount irrigated the day of transplanting.

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	1.24	1.89	3.41	5.86	3.57	0.00
Rocky Mount	0.29	1.38	4.43	11.41	5.08	0.00
Oxford	0.64	4.13	3.34	4.36	4.52	2.26
Reidsville	0.69	3.75	2.04	5.82	8.55	0.05

Rocky Mount also irrigated one inch on 5/23, 6/5, and 6/27. Oxford irrigated one inch on 6/24, 7/11, and 7/15. Reidsville irrigated 1.5 inches in June and one inch in July. Kinston data are not reported due to loss of plots caused by Granville wilt. The extremely dry weather in the Central Coastal Plain area resulted in extremely short plants while July rains tended to green up the plants and delay harvest.

1985
FIGURE 1— LOCATION OF OFFICIAL VARIETY TEST
NORTH CAROLINA AGRICULTURAL
RESEARCH SERVICE



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 price per pound and grade index are presented to indicate quality differences. In Table 3, varieties that were common in 1983, 1984, and 1985 are compared for a number of agronomic and chemical characteristics.

Two-year data are presented in Table 4 for 1984 and 1985. The two-year table includes Clemson PD279 and K 317, new varieties first available to the growers in 1986. Table 5 shows the percent of tobacco harvested at each priming in 1986 and the accumulated total harvested at each priming in 1985 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. N. T. Powell, Richard Gwynn, and David Shew.

The average performance of varieties compared at four locations in 1985 is shown in Table 7. McNair 373 had the highest grade index (68), however, 16 other varieties had grade indices not significantly different from McNair 373. This variety also had the highest quality as determined by \$/Cwt. with \$188.21. NC 22NF is a nonflowering genotype and should be topped at 18 harvestable leaves, which explains the lack of flowering data for this variety.

Individual location data are presented in Table 8-11. Of all four locations, Oxford had the highest quality crop as indicated by an average grade index of 65.

Average performance of the advanced breeding lines and NC 2326 and NC 95 over all four locations in 1985 is shown in Table 12. NC 2326 and NC 95 are included as the check varieties. Individual location data are shown in Tables 13-16. Since 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 17 lists the pedigrees, generation or year of release, and the developer of all entries in the 1985 Official Tobacco Variety Tests.

NC 22NF, NC TG-35, NC TG-36, and NC TG-37 are nonflowering genotypes and days from transplanting to topping are reported in the days to flower column.

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 with a high stalk of 48 inches. 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 on a short stalk. It has very few ground suckers and averages 66 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 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 67 days from transplanting to flowering.

K 317 - (tested as NK 2117) 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 moderate resistance to black shank and 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 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 68 days to flower.

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 above 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 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 82 - Yields are about the same as NC 2326 with higher 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 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 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.

Speight G-28 - It has resistance to black shank, Granville wilt, Fusarium wilt and root-knot nematodes. It averages 64 days from transplanting to flowering with slightly more than 20 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.

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 - 1985.

Station	Fertilization	Side-Dressing	Soil Type	Chemical Soil Treatment	Date of Transplanting	Date First Harvest
Border Belt Tobacco Research Station Whiteville, NC	500#/A 6-12-24	150#/A 15-0-14	Norfolk Fine Sandy Loam	Nemacur-Dasanit Ridomil	April 17	July 3
Upper Coastal Plain Research Station Rocky Mount, NC	320#/A 8-8-24	165#/A 15-0-14	Goldsboro Sandy Loam	Nemacur-Dasanit Ridomil	April 29	July 23
Oxford Tobacco Research Station Oxford, NC	500#/A 8-8-24	150#/A 15-0-14	Durham Loamy Sand	Ridomil Telone C-17	April 25	July 19
Upper Piedmont Research Station Reidsville, NC	700#/A 6-12-18	100#/A 15-0-14	Appling Sandy Loam	Telone C-17	May 6	July 29

Table 2. Percentage comparison between NC 2326 and other flue-cured tobacco varieties in the Official Variety Test over three years (1983-85).

Grade Index	% of NC 2326	%/Cwt.	% of NC 2326
McNair 373	115	K 326	102
K 326	113	Coker 319	101
VA 182	113	McNair 373	101
Coker 319	111	NC 82	101
NC 567	109	NC 567	101
K 399	107	Speight G-70	101
NC 82	107	VA 182	101
Speight G-28	107	NC 2326	100
Coker 176	106	Clemson PD 4	100
NC 85	106	Coker 176	100
McNair 944	104	K 399	100
Coker 298	102	McNair 944	100
K 394	102	NC 22 NF	100
NC 22NF	102	NC 50	100
NC 50	102	NC 85	100
NC 2326	100	NC 95	99
Clemson PD 4	100	Coker 48	99
Coker 206	100	Coker 206	99
Speight G-70	100	Coker 298	99
Speight G-80	100	K 394	99
NC 95	96	Speight G-28	99
Coker 48	93	Speight G-80	99
Coker 347	89	Coker 347	98

Table 3. Comparison of certain varieties in Official Variety Trials across three years (1983-85).

Variety	Grade Index	Value Index		Yield Lbs/A	Days to Flower	Leaves per Plant	Plant Height Inches	Ground Suckers	Cured Leaf Analysis		
		\$/Cwt.	\$/A						Red. Sug.	Tot. Alk.	Sug. Alk.
NC 2326	54	179.64	4879	2716	58	17.1	43	0.3	15.2	3.51	5.32
NC 95	52	177.91	5175	2906	63	18.4	42	1.4	16.3	3.46	5.52
Clemson PD4	54	180.15	5609	3114	65	19.1	43	0.3	16.5	3.58	4.55
Coker 48	50	178.28	5677	3183	66	19.4	44	1.0	16.9	3.77	4.84
Coker 176	57	180.44	5168	2864	66	19.5	41	0.7	14.8	4.06	3.39
Coker 206	54	177.80	5327	2991	66	18.4	40	0.5	13.5	4.42	3.01
Coker 298	55	177.72	4964	2792	68	19.1	45	0.7	15.1	4.16	3.75
Coker 319	60	181.66	5117	2817	65	18.9	42	1.2	15.4	3.48	4.35
Coker 347	48	176.29	5626	3193	66	19.7	42	1.2	15.0	4.26	3.59
K 326	61	183.52	5929	3233	66	19.1	39	0.4	15.4	3.31	4.76
K 394	55	178.40	6002	3359	66	19.2	39	0.3	16.6	3.11	5.61
K 399	58	179.81	5394	2999	63	19.3	38	0.4	14.9	3.41	4.59
McNair 373	62	182.18	5397	2964	61	19.9	38	0.9	15.4	3.61	4.24
McNair 944	56	179.99	5410	3005	65	18.3	40	0.5	16.8	3.66	4.80
NC 22NF	55	179.72	5152	2866	66	18.8	41	0.2	15.1	3.55	4.13
NC 50	55	179.88	5597	3111	68	19.2	41	0.3	15.1	3.64	4.05
NC 82	58	180.97	5150	2844	62	18.3	40	1.5	16.3	3.64	4.62
NC 85	57	179.11	5129	2863	65	19.2	43	0.6	15.4	4.08	4.08
NC 567	59	181.78	5221	2871	64	18.2	43	0.9	16.6	3.87	4.35
Speight G-28	58	178.73	5211	2911	64	19.0	38	0.5	15.4	3.19	4.87
Speight G-70	54	180.67	5527	3059	63	18.2	38	1.4	16.7	3.49	4.75
Speight G-80	54	178.04	5281	2962	64	18.5	39	0.8	14.6	3.49	3.85
VA 182	61	181.35	5186	2855	65	18.4	43	1.1	15.7	3.31	4.44

Table 4. Comparison of certain varieties in Official Variety Trials across two years (1984-85).

Variety	Grade Index	Value Index		Yield Lbs/A	Days to Flower	Leaves per Plant	Plant Height Inches	Ground Suckers	Cured Leaf Analysis		
		\$/A	\$/Cwt.						Res. Sug.	Tot. Alk.	Sug. Alk.
NC 2326	55	5007	179.93	2781	60	17.3	43	0.5	18.5	2.70	7.47
NC 95	53	5166	178.30	2894	64	18.4	41	1.4	19.3	2.81	7.19
Clemson PD4	55	5781	180.37	3201	66	19.2	43	0.5	19.9	2.43	9.00
Clemson PD279	52	4858	177.44	2741	64	17.7	41	0.3	18.5	3.03	7.28
Coker 48	51	5586	177.55	3145	67	19.2	43	1.1	19.4	2.69	7.55
Coker 176	58	5269	180.71	2914	66	19.6	41	0.8	18.1	2.95	6.31
Coker 206	55	5408	178.04	3036	68	18.5	40	0.7	16.5	3.08	5.83
Coker 298	56	4837	176.84	2734	69	19.4	44	0.8	17.4	3.03	6.12
Coker 319	59	5161	181.40	2842	66	19.0	42	1.3	18.6	2.51	7.90
Coker 347	49	5624	176.13	3194	67	19.7	42	1.3	17.8	2.97	6.58
K 317	62	4669	180.61	2585	66	18.3	41	0.7	15.4	3.00	6.17
K 326	62	6013	183.12	3287	67	19.3	39	0.6	18.6	2.49	8.02
K 394	55	6043	178.97	3371	66	19.1	39	0.4	19.8	2.16	9.78
K 399	60	5405	180.49	2993	64	19.5	37	0.5	17.1	2.54	7.16
McNair 373	64	5358	182.48	2937	62	19.8	37	1.0	18.6	2.61	7.67
McNair 944	56	5339	179.54	2970	66	18.1	40	0.7	19.3	2.74	7.71
NC 22NF	57	5293	180.06	2935	66 ^{1/}	18.7	41	0.2	18.0	2.65	7.39
NC 50	57	5712	181.05	3154	68	19.2	41	0.5	18.6	2.36	8.80
NC 82	59	5092	181.32	2805	63	18.3	40	1.7	20.1	2.26	9.88
NC 85	57	5025	178.58	2813	67	19.1	42	0.7	18.1	3.02	6.40
NC 567	60	5252	181.66	2889	66	18.3	44	1.1	19.6	2.80	7.57
Speight G-28	57	5285	177.98	2963	64	18.5	38	0.7	18.5	2.29	8.40
Speight G-70	55	5440	179.99	3023	64	18.2	37	1.8	20.1	2.63	8.06
Speight G-80	53	5290	176.94	2984	65	18.5	38	0.9	18.1	2.40	8.20
VA 182	61	5187	180.33	2869	66	18.7	44	1.4	19.2	2.60	8.13

^{1/}Number of days from transplanting to topping.

TABLE 5. HARVEST RATE OF COMMERCIALY AVAILABLE VARIETIES - 1985

PERCENTAGE OF TOBACCO (CURED WEIGHT) IN EACH HARVEST ACROSS REPS AND LOCATIONS FOR THE VARIETIES LISTED IN 1985 OVT - 4 LOCATIONS WHITEVILLE, ROCKY MOUNT, OXFORD AND REIDSVILLE. LETTERS DESIGNATE HARVESTS.

NAME	ID	A	B	C	D	E
NC 2326	% AT EACH HARVEST	8.8	18.0	23.0	26.5	23.8
	TOTAL % HARVESTED	8.8	26.8	49.7	76.2	100.0
NC 95	% AT EACH HARVEST	13.3	18.8	22.7	21.0	24.2
	TOTAL % HARVESTED	13.3	32.1	54.8	75.8	100.0
CLEMSON PD4	% AT EACH HARVEST	9.0	16.1	23.4	27.2	24.4
	TOTAL % HARVESTED	9.0	25.0	48.4	75.6	100.0
CLEMSON PD279	% AT EACH HARVEST	13.0	18.0	24.9	30.9	13.2
	TOTAL % HARVESTED	13.0	31.0	55.9	86.8	100.0
COKER 48	% AT EACH HARVEST	11.7	18.0	25.5	25.4	19.4
	TOTAL % HARVESTED	11.7	29.8	55.2	80.6	100.0
COKER 176	% AT EACH HARVEST	13.5	21.8	23.8	27.8	13.1
	TOTAL % HARVESTED	13.5	35.3	59.1	86.9	100.0
COKER 206	% AT EACH HARVEST	12.3	17.2	25.2	27.4	17.9
	TOTAL % HARVESTED	12.3	29.5	54.7	82.1	100.0
COKER 298	% AT EACH HARVEST	12.4	21.1	26.0	39.0	1.5
	TOTAL % HARVESTED	12.4	33.5	59.6	98.5	100.0
COKER 319	% AT EACH HARVEST	13.1	20.2	25.6	26.5	14.5
	TOTAL % HARVESTED	13.1	33.4	58.9	85.5	100.0
COKER 347	% AT EACH HARVEST	11.5	20.3	21.7	19.4	27.2
	TOTAL % HARVESTED	11.5	31.8	53.5	72.8	100.0
K 317	% AT EACH HARVEST	16.1	23.5	25.9	27.5	7.0
	TOTAL % HARVESTED	16.1	39.6	65.6	93.0	100.0
K 326	% AT EACH HARVEST	15.6	18.7	21.6	19.4	24.8
	TOTAL % HARVESTED	15.6	34.3	55.8	75.2	100.0
K 394	% AT EACH HARVEST	14.5	19.3	22.0	25.7	18.5
	TOTAL % HARVESTED	14.5	33.8	55.8	81.5	100.0
K 399	% AT EACH HARVEST	14.9	17.5	22.3	25.2	20.1
	TOTAL % HARVESTED	14.9	32.4	54.7	79.9	100.0
MCNAIR 373	% AT EACH HARVEST	14.1	19.1	21.1	21.0	24.8
	TOTAL % HARVESTED	14.1	33.2	54.3	75.2	100.0
MCNAIR 944	% AT EACH HARVEST	12.9	17.4	28.1	27.1	14.5
	TOTAL % HARVESTED	12.9	30.4	58.4	85.5	100.0

TABLE 5. (CONTINUED)

NAME	ID	A	B	C	D	E
NC 22NF	% AT EACH HARVEST	12.2	17.6	20.5	24.0	25.7
	TOTAL % HARVESTED	12.2	29.8	50.3	74.3	100.0
NC 50	% AT EACH HARVEST	12.0	17.9	23.2	21.5	25.5
	TOTAL % HARVESTED	12.0	29.8	53.0	74.5	100.0
NC 82	% AT EACH HARVEST	13.9	23.6	24.3	24.3	13.8
	TOTAL % HARVESTED	13.9	37.5	61.9	86.2	100.0
NC 85	% AT EACH HARVEST	13.4	20.3	24.8	30.7	10.8
	TOTAL % HARVESTED	13.4	33.8	58.5	89.2	100.0
NC 567	% AT EACH HARVEST	14.0	17.6	25.4	25.6	17.5
	TOTAL % HARVESTED	14.0	31.5	56.9	82.5	100.0
SPEIGHT G-28	% AT EACH HARVEST	16.5	18.9	22.4	22.9	19.4
	TOTAL % HARVESTED	16.5	35.3	57.7	80.6	100.0
SPEIGHT G-70	% AT EACH HARVEST	13.4	18.8	21.8	22.6	23.4
	TOTAL % HARVESTED	13.4	32.2	54.0	76.6	100.0
SPEIGHT G-80	% AT EACH HARVEST	14.6	18.0	24.1	21.4	21.9
	TOTAL % HARVESTED	14.6	32.6	56.7	78.1	100.0
VA 182	% AT EACH HARVEST	15.9	19.9	22.5	29.7	12.0
	TOTAL % HARVESTED	15.9	35.8	58.3	88.0	100.0

Table 6. Summary information on disease resistance - 1985.

Varieties or Lines	Black ^{1/} Shank	Bacterial ^{2/} Wilt	Root ^{3/} Knot	Mosaic ^{4/}
Commercially Available Varieties				
NC 2326	Low	Low		
NC 95	Mod.	High	Res.	
Clempson PD4	Mod.	Low		
Clemson PD279	Mod.	Mod.	Res.	
Coker 48	High	High		

Coker 176	Mod.	High	Res.	Res.
Coker 206	High	High		
Coker 298	High	High		
Coker 319	Low	Low		
Coker 347	Mod.	High	Res.	

K 317	High	Low		
K 326	Mod.	Mod.	Res.	
K 394	High	Mod.		
K 399	High	High	Res.	
McNair 373	Mod.	High	Res.	

McNair 944	High	Low		
NC 22NF	Mod.	Low		
NC 50	Mod.	Mod.	Res.	
NC 82	High	Mod.		
NC 85	High	High		

NC 567	Low	Mod.	Res.	Res.
Speight G-28	High	High	Res.	
Speight G-70	High	Mod.	Res.	
Speight G-80	High	High	Res.	
VA 182	High	Low		

Table 6. (Continued)

Advanced Breeding Lines				
Coker 83-379Y	31	42	Res.	
Coker 84-108C	0	52		Res.
Golden 141	52	61		
NC Tg-27	46	44		
NC TG-28	45	47		
NC TG-34	24	36	Res.	Res.
NC TG-35	60	38	Res.	
NC TG-36	40	65		

NC TG-37	22	38	Res.	
NC 4409	10	47	Res.	Res.
NC 4410	39	49	Res.	Res.
NC 4413	42	50	Res.	Seg.
NC 2005 USDA	30	59		
Nc 2060 USDA	23	39	Res.	
NC 4001 USDA	50	52	Res.	
NC 4012 USDA	43	42	Res.	

NC 4027 USDA	48	54	Res.	
NC 4065 USDA	39	46	Res.	
NC 4073 USDA	26	47		
NC 4080 USDA	43	35		
NK 336	7	52		
NK 3240	29	51		
Reams 158	24	68		
Speight G-82M	33	35	Seg.	Seg.

Speight G-92M	38	33	Res.	Seg.
Speight G-96M	47	33	Res.	Res.
Speight G-97	38	26	Res.	Res.
Speight G-98	52	34	Res.	
Speight G-101	25	47	Res.	
Speight G-103	54	46	Res.	
Speight G-107	24	57	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 7. Comparison of varieties for certain characteristics for four locations - 1985.

Variety	Grade Index	Value Index		Yield Lbs/A	Days to Flower	Leaves per Plant	Plant Height Inches	Ground Suckers	Cured Leaf Analysis		
		\$/Cwt.	\$/A						Red. Sug.	Tot. Alk.	Sug. Alk.
NC 2326	58	184.53	5283	2865	58	17.0	42	0.7	19.49	2.89	6.96
NC 95	57	182.48	5460	2990	62	18.0	41	1.8	20.54	2.88	7.46
Clemson PD4	59	185.17	6240	3369	63	19.1	43	0.7	20.99	2.46	8.92
Clemson PD279	56	180.34	5085	2824	62	17.0	40	0.4	19.00	2.78	7.28
Coker 48	53	180.54	5837	3232	65	18.8	42	1.4	20.89	2.69	7.87
Coker 176	62	185.16	5567	3009	63	19.0	41	1.2	18.60	2.94	6.43
Coker 206	55	179.88	5584	3107	66	18.2	39	1.0	18.17	3.05	6.18
Coker 298	59	179.19	5053	2820	67	19.0	43	1.1	18.39	3.03	6.11
Coker 319	64	185.77	5437	2926	64	18.4	41	1.5	19.64	2.51	8.18
Coker 347	48	178.79	5934	3323	64	19.3	41	1.8	19.51	3.06	6.94
K 317	67	184.11	4888	2660	64	17.6	40	1.0	16.83	2.82	6.17
K 326	67	187.55	6244	3337	65	19.0	39	0.8	19.99	2.57	8.44
K 394	58	183.01	6378	3483	63	18.1	38	0.7	22.11	2.20	10.33
K 399	63	183.86	5713	3107	61	18.8	37	0.7	18.54	2.56	7.66
McNair 373	68	188.21	5701	3035	59	19.1	37	1.3	20.12	2.93	7.04
McNair 944	60	183.81	5592	3047	63	17.8	38	0.9	21.14	2.74	8.02
NC 22NF	61	185.42	5757	3104	66	19.1	41	0.4	19.64	2.61	7.97
NC 50	61	185.54	6021	3249	66	19.0	41	0.7	20.49	2.35	9.41
NC 82	64	185.48	5329	2873	61	17.9	39	2.1	21.58	2.27	9.96
NC 85	60	181.74	5191	2860	65	19.1	42	1.0	19.58	3.05	6.54
NC 567	65	185.94	5473	2946	63	18.4	43	1.4	21.09	2.91	7.82
Speight G-28	63	182.92	5670	3099	61	18.1	38	1.0	20.29	2.35	8.91
Speight G-70	60	183.78	5618	3062	62	17.7	36	2.4	21.34	2.63	8.55
Speight G-80	55	179.62	5403	3003	62	17.9	38	1.2	18.97	2.49	7.79
VA 182	65	184.94	5584	3016	63	18.8	42	1.8	19.91	2.69	7.41
Mean	60	183.51	5602	3054	63	18.4	40	1.1	19.87	2.70	7.77
BLSD (K-100)	9	5.28	441	220	4	1.6	3	0.6	3.75	0.41	1.78
C.V. (%)	13	3	7	7	5	7	6	44	13	12	21

Table 8. Comparison of varieties for certain characteristics at Whiteville - 1985.

Variety	Grade Index	Value Index		Yield Lbs/A	Days to Flower	Leaves per Plant	Plant Height Inches	Ground Suckers	Cured Leaf Analysis		
		\$/Cwt.	\$/A						Red. Sug.	Tot. Alk.	Sug. Alk.
NC 2326	58	186.63	5730	3071	56	16.1	41	0.5	15.20	3.18	4.79
NC 95	58	183.97	5787	3138	61	17.7	40	3.0	16.30	3.38	4.84
Clemson PD4	58	186.47	6407	3435	61	18.9	45	1.0	20.77	2.61	8.14
Clemson PD279	52	176.42	5256	2980	58	16.1	39	0.6	16.60	3.22	5.17
Coker 48	56	183.07	6632	3621	67	18.9	44	1.6	19.73	2.80	7.04
Coker 176	58	184.04	6123	3320	63	19.3	43	1.6	17.10	3.13	5.49
Coker 206	62	180.03	5810	3227	67	18.8	40	0.7	14.70	3.48	4.26
Coker 298	65	174.95	4961	2833	70	18.8	47	1.5	16.43	3.19	5.22
Coker 319	65	187.67	5847	3115	69	19.5	42	0.9	16.77	2.58	6.59
Coker 347	51	179.67	6172	3435	66	18.6	40	2.4	16.63	3.63	4.64
K 317	69	181.74	5026	2762	65	18.5	43	0.7	12.57	2.84	4.47
K 326	65	189.95	7014	3693	67	20.0	39	0.7	16.63	2.73	6.15
K 394	69	189.57	7073	3730	65	19.0	39	0.6	19.37	2.42	8.11
K 399	67	189.45	6453	3406	64	19.8	37	0.4	13.93	2.67	5.32
McNair 370	72	193.33	6393	3307	59	20.7	39	1.3	16.40	2.74	6.03
McNair 944	63	187.46	6036	3217	63	18.8	40	0.9	17.70	2.89	6.21
NC 22NF	60	187.14	5927	3166	65	18.0	35	0.1	17.50	3.04	5.85
NC 50	60	185.69	6640	3578	70	19.2	43	0.6	17.53	2.85	6.41
NC 82	67	190.08	6362	3346	61	18.1	40	1.9	18.27	2.60	7.05
NC 85	66	183.48	5547	3023	66	18.7	43	0.7	16.20	3.35	4.98
NC 567	65	186.73	5943	3182	65	20.0	45	1.5	16.60	3.47	4.81
Speight G-28	63	184.66	6265	3392	64	19.3	40	0.6	16.27	2.67	6.27
Speight G-70	60	185.04	6399	3455	61	18.0	37	2.6	18.50	2.83	6.61
Speight G-80	61	184.18	5997	3261	64	18.2	39	1.6	18.13	2.62	6.93
VA 182	72	186.78	6479	3467	67	19.0	45	1.7	18.60	2.72	6.82
Mean	62	185.13	6091	3286	64	18.7	41	1.2	16.98	2.95	5.93
BLSD (K-100)	12	7.78	705	343	5	1.6	3	0.9	4.81	0.51	2.51
C.V. (%)	10	2	7	6	4	5	6	41	14	10	21

Table 9. Comparison of varieties for certain characteristics at Rocky Mount - 1985.

Variety	Grade Index	Value Index		Yield Lbs/A	Days to Flower	Leaves per Plant	Plant Height Inches	Ground Suckers	Cured Leaf Analysis		
		\$/Cwt.	\$/A						Red. Sug.	Tot. Alk.	Sug. Alk.
NC 2326	43	175.36	5325	3029	61	16.5	48	0.0	22.20	2.39	9.30
NC 95	53	179.10	5723	3196	61	17.3	47	0.2	24.50	2.47	10.03
Clemson PD4	52	179.96	6255	3471	66	19.7	50	0.0	22.93	2.14	11.23
Clemson PD279	54	177.44	5923	3334	63	17.9	48	0.0	22.97	2.36	10.25
Coker 48	46	174.15	5453	3135	67	18.1	45	0.0	23.40	2.47	9.58
Coker 176	55	181.53	5985	3296	66	17.3	46	0.0	21.87	2.78	7.93
Coker 206	40	171.37	5621	3281	68	17.3	44	0.2	22.13	2.65	8.37
Coker 298	53	179.33	5380	3002	67	19.2	46	0.2	21.27	2.90	7.33
Coker 319	56	181.45	5420	2987	64	17.9	47	0.1	22.80	2.18	10.94
Coker 347	45	176.79	6478	3664	64	19.2	48	0.5	23.17	2.33	10.37
K 317	56	174.84	5018	2870	64	16.7	48	0.0	21.03	2.40	8.80
K 326	56	178.93	6650	3717	65	18.1	48	0.1	23.77	1.96	12.52
K 394	52	178.71	6612	3698	66	17.7	44	0.0	25.23	2.02	12.88
K 399	63	179.42	5754	3205	61	17.1	43	0.0	24.60	2.19	11.52
McNair 373	57	177.43	5731	3236	56	16.7	41	0.4	24.37	3.03	8.59
McNair 944	47	173.95	5776	3321	62	17.8	46	0.2	25.23	2.37	10.71
NC 22NF	56	182.15	6272	3442	63	20.2	50	0.1	22.50	2.08	10.89
NC 50	56	181.30	6389	3526	64	19.1	51	0.1	23.77	1.81	13.43
NC 82	53	178.03	5393	3029	60	17.4	44	1.0	25.03	1.90	13.50
NC 85	49	177.50	5508	3103	65	19.2	48	0.3	21.33	2.99	7.15
NC 567	53	178.32	5713	3203	63	17.9	51	0.5	26.40	2.25	11.89
Speight G-28	51	173.82	5532	3181	61	16.1	41	0.1	24.37	2.18	11.20
Speight G-70	52	175.19	5707	3257	56	16.5	41	2.1	25.13	2.08	12.15
Speight G-80	51	175.92	5759	3274	59	16.3	41	0.5	23.47	2.26	10.49
VA 182	58	179.21	5395	3010	60	18.5	48	1.0	21.17	2.76	7.69
Mean	52	177.65	5790	3259	63	17.8	46	0.3	23.39	2.36	10.35
BLSD (D-100)	8	11.99	935	469	5	3.1	4	0.4	7.55	0.60	5.24
C.V. (%)	9	2	8	8	5	8	6	79	12	14	22

Table 10. Comparison of varieties for certain characteristics at Oxford - 1985.

Line	Index	Value	Index	Yield	Days	Leaves	Plant	Ground	Cured Leaf Analysis					
		\$/Cwt.	\$/A						Lbs/A	to	per	Height	Suckers	Nic.
					Flower	Plant	Inches					Sug.	Nic.	Nic.
NC 2326	69	190.93	5005	2620	64	15.5	36	1.3						
NC 95	61	185.20	5526	2984	64	16.2	35	2.5						
Clemson PD4	73	194.19	6508	3352	61	17.5	37	1.2						
Clemson PD279	64	186.99	4575	2445	64	14.3	34	0.6						
Coker 48	54	182.09	5689	3122	62	16.6	36	2.0						
Coker 176	65	188.93	5497	2911	61	16.9	34	2.0						

Coker 206	61	189.20	5815	3075	65	17.0	35	2.3						
Coker 298	65	182.62	5051	2766	66	16.7	37	1.9						
Coker 319	74	190.82	5330	2792	59	15.7	34	2.7						
Coker 347	52	183.65	5700	3105	61	17.6	34	2.7						
K 317	74	193.08	4715	2443	63	14.2	28	2.1						
K 326	67	189.27	5925	3132	64	16.7	31	1.6						

K 394	56	184.66	5956	3227	60	16.1	31	1.0						
K 399	60	184.50	5638	3059	59	17.5	32	1.7						
McNair 375	72	192.54	5486	2849	60	17.8	32	2.4						
McNair 944	66	187.58	5303	2829	63	15.2	30	1.6						
NC 22NF	71	191.17	5773	3018	68	16.6	36	0.4						
NC 50	63	190.83	5867	3075	64	17.4	34	1.2						
NC 82	65	187.97	4995	2655	63	16.1	30	2.9						

NC 85	62	184.22	4808	2614	65	17.6	37	1.7						
NC 567	75	192.95	5805	3008	61	15.4	35	2.6						
Speight G-28	65	188.94	5842	3093	58	15.6	31	1.8						
Speight G-70	62	189.62	5216	2750	65	15.2	29	2.7						
Speight G-80	53	182.40	5633	3089	62	17.1	33	1.6						
VA 182	73	191.40	5450	2847	60	16.8	36	2.5						

Mean	65	188.23	5484	2914	63	16.4	33	1.9						
BLSD (K-100	15	7.54	612	293	NS	3.0	5	1.2						
C.V (%)	13	2	7	6	7	8	8	34						

Table 11. Comparison of varieties for certain characteristics at Reidsville - 1985.

Variety	Grade Index	Value Index		Yield Lbs/A	Days to Flower	Leaves per Plant	Plant Height Inches	Ground Suckers	Cured Leaf Analysis		
		\$/Cwt.	\$/A						Red. Sug.	Tot. Alk.	Sug. Alk.
NC 2326	61	185.22	5073	2741	53	20.0	44	0.8	21.07	3.10	6.80
NC 95	57	181.66	4802	2643	64	20.7	41	1.6	20.83	2.78	7.50
Clemson PD4	51	180.08	5788	3217	63	20.4	40	0.6	19.27	2.62	7.39
Clemson PD279	55	180.52	4585	2538	63	19.7	41	0.4	17.43	2.76	6.43
Coker 48	54	182.85	5573	3048	64	21.7	42	2.0	19.53	2.79	6.98
Coker 176	68	186.14	4663	2510	60	22.5	40	1.0	16.83	2.90	5.87
Coker 206	54	178.94	5092	2844	66	19.6	39	0.8	17.67	3.02	5.92
Coker 298	54	179.86	4818	2677	67	21.3	41	0.7	17.47	3.00	5.80
Coker 319	60	183.16	5151	2811	63	20.6	41	2.5	19.37	2.77	7.00
Coker 347	46	175.07	5387	3088	67	21.7	40	1.7	18.73	3.23	5.80
K 317	67	186.79	4793	2565	64	20.9	40	1.1	16.90	3.22	5.24
K 326	78	192.05	5386	2807	64	21.2	37	0.8	19.57	3.01	6.66
K 394	55	179.10	5870	3275	62	19.8	37	1.0	21.73	2.17	10.01
K 399	60	182.07	5007	2757	61	21.1	35	0.7	17.10	2.81	6.15
McNair 373	70	189.54	5194	2747	62	21.2	36	1.1	19.60	3.03	6.48
McNair 944	65	186.23	5254	2821	63	19.6	38	1.0	20.50	2.96	7.15
NC 22NF	57	181.22	5057	2789	67	21.7	43	0.9	18.93	2.69	7.16
NC 50	66	184.33	5186	2817	64	20.3	37	1.1	20.17	2.40	8.38
NC 82	69	185.84	4565	2460	59	20.1	40	2.7	21.43	2.32	9.32
NC 85	63	181.77	4902	2701	63	20.7	41	1.1	21.20	2.83	7.50
NC 567	69	185.76	4429	2390	65	20.3	39	1.1	20.27	3.01	6.76
Speight G-28	71	184.26	5041	2731	61	21.3	39	1.4	20.23	2.19	9.27
Speight G-70	66	185.28	5149	2785	64	21.3	35	2.1	20.40	2.97	6.90
Speight G-80	56	175.98	4225	2390	64	20.1	38	1.1	15.30	2.60	5.95
VA 182	59	182.37	5011	2739	64	20.9	42	1.9	19.97	2.60	7.72
Mean	61	183.04	5040	2755	63	20.8	89	1.3	19.26	2.79	7.05
BLSD (K-100)	NS	NS	639	346	5	NS	4	1.1	6.35	0.56	1.90
C.V. (%)	17	3	8	8	4	7	6	46	13	11	15

Table 12. Comparison of advanced breeding lines with NC 2326 and NC 95 for four locations - 1985.

Line	Grade Index	Value \$Cwt.	Index \$/A	Yield Lbs/A	Days to Flower	Leaves per Plant	Plant Height Inches	Ground Suckers	Cured Leaf Analysis			
									Nic.	Sug.	Nic.	Sug.
NC 2326	58	184.53	5283	2865	58	17.0	42	0.7	2.93	19.49	0.25	6.94
NC 95	57	182.48	5460	2990	62	18.0	41	1.8	3.03	20.54	0.14	6.95
Coker 83-379Y	60	184.74	5523	2992	65	17.9	39	1.9	3.00	18.37	0.23	6.28
Coker 84-108C	66	185.21	5366	2894	63	17.9	35	1.4	2.91	17.32	0.27	6.07
Golden 141	60	183.97	4632	2521	58	17.2	38	2.5	3.04	18.29	0.19	6.24
NC TG-27	61	185.15	6290	3400	65	19.0	35	1.3	2.67	20.71	0.20	7.86
NC TG-28	58	183.09	5970	3263	65	19.2	35	1.4	2.88	18.44	0.29	6.54
NC TG-34	61	184.55	6058	3285	62	18.8	39	1.1	2.89	19.08	0.21	6.94
NC TG-35	63	185.33	5676	3065	66	17.9	33	2.4	2.93	18.28	0.28	6.36
NC TG-36	67	187.60	5765	3076	65	18.8	36	1.7	2.71	17.84	0.19	6.99
NC TG-37	69	187.87	5922	3155	65	19.3	38	1.7	2.86	19.51	0.18	7.05
NC 4409	57	181.35	5642	3113	65	18.0	47	0.2	2.53	19.57	0.20	8.23
NC 4410	61	184.70	5245	2840	61	17.8	42	0.9	3.53	17.21	0.22	5.24
NC 4413	66	187.71	5337	2849	62	18.6	44	1.0	3.13	17.88	0.26	5.95
NC 2005 USDA	60	183.60	5815	3170	62	17.2	37	1.4	3.04	20.36	0.38	7.22
NC 2060 USDA	69	187.57	5896	3142	66	18.5	41	1.6	2.53	20.48	0.25	8.20
NC 4001 USDA	66	187.67	6248	3333	64	19.0	39	1.9	2.58	19.62	0.18	7.74
NC 4012 USDA	57	182.86	6116	3331	65	19.7	40	1.5	2.46	21.14	0.12	9.00
NC 4027 USDA	64	186.07	5990	3218	61	18.8	41	2.8	3.05	19.85	0.19	6.62
NC 4065 USDA	62	183.43	5705	3112	63	18.7	39	0.7	2.77	18.28	0.15	6.85
NC 4073 USDA	64	184.53	6003	3255	66	18.5	40	1.5	2.44	20.03	0.09	8.43
NC 4080 USDA	67	187.31	5517	2943	65	19.1	41	2.2	2.72	18.81	0.16	7.07
NK 336	59	182.10	5967	3276	65	18.1	37	0.4	2.46	20.25	0.10	8.53
NK 3240	57	182.98	5914	3232	63	18.1	40	0.4	2.46	19.50	0.14	8.07
Reams 158	66	184.02	5177	2806	64	18.6	42	0.7	2.68	17.31	0.09	6.55
Speight G-82M	61	184.22	5473	2978	63	19.0	40	1.5	2.77	19.91	0.23	7.65
Speight G-92M	58	181.60	5317	2937	65	18.9	38	0.5	3.16	18.74	0.35	6.46
Speight G-96M	56	183.12	5865	3212	64	18.9	39	2.9	2.96	19.17	0.20	6.66
Speight G-97	55	182.44	5941	3253	64	18.6	42	1.7	2.42	21.32	0.17	9.15
Speight G-98	58	184.17	6125	3324	65	18.4	41	1.2	2.75	20.43	0.31	7.82
Speight G-101	57	183.47	6012	3278	63	19.0	41	1.3	2.63	20.19	0.26	7.92
Speight G-103	60	182.65	5379	2947	62	18.5	39	1.6	2.50	19.44	0.27	8.18
Speight G-107	65	186.32	5784	3109	65	19.2	45	1.8	2.85	19.47	0.11	7.14
Mean	61	184.50	5709	3096	63	18.5	39	1.4	2.80	19.30	0.21	7.24
BLSD (K-100)	9	5.28	441	220	4	1.6	3	0.6	0.37	3.75	0.16	1.89
C.V. (%)	13	3	7	7	5	7	6	44	11	13	81	20

Table 13. Comparison of advanced breeding lines with NC 2326 and NC 95 at Whiteville - 1985.

Line	Grade Index	Value \$/Cwt.	Index \$/A	Yield Lbs/A	Days to Flower	Leaves per Plant	Plant Height Inches	Ground Suckers	Cured Leaf Analysis			
									Nic.	Red. Sug.	Nor. Nic.	Sug. Nic.
NC 2326	58	186.63	5730	3071	56	16.1	41	0.5	3.23	15.20	0.21	4.74
NC 95	58	183.97	5787	3138	61	17.7	40	3.0	3.31	16.30	0.18	4.93
Coker 83-379Y	60	185.41	6081	3277	65	17.8	42	2.1	3.28	16.30	0.31	5.02
Coker 84-108C	69	189.00	6252	3307	61	18.0	36	1.3	2.84	15.90	0.37	5.70
Golden 141	57	183.78	5074	2760	52	16.9	36	3.7	3.49	12.07	0.31	3.47
NC TG-27	69	189.43	6247	3297	65	18.0	30	1.2	2.87	19.50	0.28	6.79
NC TG-28	63	184.30	6463	3509	64	18.9	35	1.8	3.08	17.10	0.44	5.56
NC TG-34	66	188.77	6434	3408	63	19.3	39	1.2	2.81	17.87	0.29	6.50
NC TG-35	65	187.11	5897	3148	65	18.0	30	2.4	3.35	15.77	0.16	4.70
NC TG-36	66	189.36	5908	3118	65	18.0	31	1.9	3.23	14.93	0.24	4.73
NC TG-37	67	189.00	5897	3120	65	18.0	33	1.9	3.17	16.13	0.17	5.09
NC 4409	53	178.08	6167	3465	63	17.9	47	0.4	2.75	16.10	0.27	5.96
NC 4410	62	186.82	6140	3287	63	18.2	43	0.6	3.73	13.73	0.23	3.74
NC 4413	67	188.77	6085	3223	64	19.1	46	0.7	3.18	16.30	0.36	5.20
NC 2005 USDA	59	182.11	6008	3305	60	17.9	36	1.8	3.53	17.13	0.37	4.94
NC 2060 USDA	74	191.33	6606	3453	68	18.9	42	2.2	2.66	16.73	0.29	6.35
NC 4001 USDA	72	192.54	6960	3615	68	21.1	40	1.8	2.66	15.83	0.10	5.96
NC 4012 USDA	72	192.91	7771	4025	64	20.7	41	1.3	2.83	17.50	0.21	6.67
NC 4027 USDA	67	188.35	6752	3584	62	19.1	42	3.1	3.17	18.80	0.16	5.96
NC 4065 USDA	48	179.19	6204	3459	67	19.1	42	0.8	2.90	13.23	0.03	4.63
NC 4073 USDA	69	186.52	6451	3455	66	17.9	40	1.5	2.55	17.30	0.06	6.84
NC 4080 USDA	72	190.90	6578	3445	67	20.7	44	2.8	2.84	16.30	0.09	5.84
NK 336	68	186.46	6663	3574	65	17.9	39	0.3	2.78	17.70	0.13	6.51
NK 3240	65	187.80	6363	3386	65	18.1	42	0.2	2.60	17.70	0.11	6.85
Reams 158	72	187.58	5787	3085	64	19.3	41	0.7	2.80	14.90	0.16	5.32
Speight G-82M	64	185.75	5675	3055	63	19.0	41	2.3	3.16	15.60	0.13	4.93
Speight G-92M	59	180.55	5985	3315	65	19.8	41	0.4	3.42	13.67	0.40	3.99
Speight G-96M	60	187.55	6277	3348	63	19.7	38	3.1	3.31	15.87	0.27	4.85
Speight G-97	60	187.47	6689	3564	64	19.4	41	1.8	2.60	18.60	0.28	7.14
Speight G-98	58	186.46	6759	3621	65	19.3	41	1.1	3.14	17.20	0.27	5.50
Speight G-101	63	188.85	6883	3643	64	19.8	42	1.2	3.14	20.07	0.30	6.44
Speight G-103	67	186.94	5531	2960	61	18.5	40	2.2	2.81	16.20	0.40	5.83
Speight G-107	63	186.91	6643	3554	69	18.6	45	1.6	3.16	15.77	0.17	5.02
Mean	64	186.87	6265	3351	64	18.7	40	1.6	3.04	16.34	0.24	5.51
BLSD (K-100)	12	7.78	705	343	5	1.6	3	0.9	0.53	4.81	NS	2.35
C.V. (%)	10	2	7	6	4	5	6	41	10	14	73	20

Table 14. Comparison of advanced breeding lines with NC 2326 and NC 95 at Rocky Mount - 1985.

Line	Grade Index	Value Index		Yield Lbs/A	Days to Flower	Leaves per Plant	Plant Height Inches	Ground Suckers	Cured Leaf Analysis			
		\$/Cwt.	\$/A						Nic.	Red. Sug.	Nor. Nic.	Sug. Nic.
NC 2326	43	175.36	5325	3029	61	16.5	48	0.0	2.44	22.20	0.25	9.10
NC 95	53	179.10	5723	3196	61	17.3	47	0.2	2.69	24.50	0.17	9.15
Coker 83-379Y	54	180.73	5952	3295	66	16.5	46	0.2	2.71	20.80	0.29	7.79
Coker 84-108C	59	180.59	5501	3046	63	17.7	41	0.3	2.79	20.57	0.20	7.45
Golden 141	54	178.82	4853	2718	54	16.4	45	0.3	2.73	21.33	0.12	7.82
NC TG-27	55	181.74	6497	3577	64	17.5	39	0.1	2.52	21.70	0.23	8.72
NC TG-28	58	180.52	5600	3105	63	17.0	37	0.1	2.98	17.10	0.40	5.80
NC TG-34	53	178.66	6225	3484	66	18.1	47	0.0	2.49	21.97	0.19	9.14
NC TG-35	60	181.83	5796	3186	63	17.3	37	0.4	2.81	19.30	0.33	6.87
NC TG-36	56	180.40	6140	3405	61	17.1	38	0.2	2.38	19.50	0.23	8.70
NC TG-37	62	182.23	6365	3492	61	18.2	43	0.5	2.52	22.40	0.15	9.13
NC 4409	51	177.65	5964	3357	64	17.6	57	0.0	2.02	24.83	0.11	12.34
NC 4410	57	180.35	5430	3006	54	16.9	47	0.1	2.72	21.53	0.27	7.97
NC 4413	53	179.14	5550	3097	63	18.5	53	0.3	2.61	20.30	0.21	7.92
NC 2005 USDA	49	177.95	6159	3458	68	15.0	43	0.2	2.50	22.73	0.39	9.81
NC 2060 USDA	55	180.82	5928	3274	68	17.2	45	0.2	2.31	22.10	0.26	9.58
NC 4001 USDA	56	180.57	6770	3748	67	17.3	43	0.3	2.32	22.90	0.27	9.93
NC 4012 USDA	58	181.28	5670	3133	66	20.6	47	0.1	2.11	21.63	0.13	10.37
NC 4027 USDA	51	176.02	5614	3188	59	17.6	45	1.5	2.81	22.00	0.30	7.88
NC 4065 USDA	60	179.10	5848	3266	64	18.1	41	0.0	2.46	21.90	0.22	9.06
NC 4073 USDA	54	175.78	6082	3454	68	19.3	47	0.3	2.17	22.27	0.12	10.49
NC 4080 USDA	59	181.04	5667	3124	67	18.2	46	0.6	2.39	21.80	0.30	9.13
NK 336	54	179.04	6395	3570	67	18.1	44	0.0	2.12	22.73	0.08	10.89
NK 3240	50	178.73	6516	3643	63	18.6	51	0.1	2.10	21.00	0.16	9.99
Reams 158	59	181.27	5767	3181	63	17.9	49	0.1	2.52	20.17	0.04	8.15
Speight G-82M	49	177.81	5963	3353	65	19.4	48	0.4	2.11	24.03	0.35	11.37
Speight G-92M	47	174.26	5610	3219	66	18.3	47	0.0	2.46	24.93	0.39	10.23
Speight G-96M	42	172.58	6032	3494	66	18.8	46	1.4	2.56	20.70	0.11	8.17
Speight G-97	49	176.73	5904	3340	66	18.0	50	0.5	1.97	23.23	0.11	12.09
Speight G-98	53	179.80	6339	3524	66	18.2	47	0.3	2.20	22.93	0.38	10.42
Speight G-101	52	179.49	6414	3581	62	18.6	48	0.1	2.21	22.30	0.25	10.17
Speight G-103	51	176.20	5903	3348	63	18.3	45	0.6	2.03	22.93	0.24	11.50
Speight G-107	58	177.81	5857	3296	63	19.5	52	1.0	2.51	23.57	0.05	9.54
Mean	54	178.89	5920	3309	64	17.9	46	0.3	2.43	21.94	0.22	9.29
BLSD (K-100)	8	11.99	935	469	5	3.1	4	0.4	0.61	7.55	NS	4.12
C.V. (%)	9	2	8	8	5	8	6	79	12	2	74	20

Table 15. Comparison of advanced breeding lines with NC 2326 and NC 95 at Oxford - 1985.

Line	Grade Index	Value \$/Cwt.	Index \$/A	Yield Lbs/A	Days to Flower	Leaves per Plant	Plant Height Inches	Ground Suckers	Cured Leaf Analysis			
									Nic.	Red. Sug.	Nor. Nic.	Sug. Nic.
NC 2326	69	190.93	5005	2620	64	15.5	36	1.3				
NC 95	61	185.20	5526	2984	64	16.2	35	2.5				
Coker 83-379Y	66	189.97	5243	2760	66	16.7	32	3.3				
Coker 84-108C	71	189.91	5533	2915	65	16.0	30	2.6				
Golden 141	64	188.70	4479	2372	68	16.6	33	3.5				
NC TG-27	59	186.96	6544	3501	67	18.0	32	2.7				
NC TG-28	49	181.97	6239	3427	67	19.7	34	2.2				
NC TG-34	60	185.99	6019	3237	59	16.0	34	2.0				
NC TG-35	56	185.31	5878	3180	70	16.5	32	4.0				
NC TG-36	72	191.50	6104	3184	68	19.1	36	2.4				
NC TG-37	73	192.00	6192	3225	68	19.1	36	3.0				
NC 4409	69	191.40	6026	3148	65	16.3	39	0.3				
NC 4410	68	190.11	4846	2548	64	14.8	34	1.8				
NC 4413	71	193.35	4813	2489	63	16.3	36	2.0				
NC 2005 USDA	69	191.14	6069	3174	61	16.3	31	2.5				
NC 6060 USDA	72	191.74	5975	3117	61	17.2	37	2.6				
NC 4001 USDA	69	190.45	5939	3118	60	15.4	31	3.7				
NC 4012 USDA	48	180.21	5716	3170	64	17.7	34	3.1				
NC 4027 USDA	80	197.76	6129	3099	61	17.3	34	3.2				
NC 4065 USDA	77	193.97	5921	3051	60	17.3	33	1.1				
NC 4073 USDA	70	190.57	5865	3081	66	17.8	35	2.1				
NC 4080 USDA	78	194.16	5059	2606	62	16.3	33	2.8				
NK 336	56	181.40	5702	3142	64	15.3	27	1.0				
NK 3240	57	184.84	5660	3065	60	15.7	30	0.7				
Reams 158	69	187.74	5365	2849	65	17.1	36	1.3				
Speight G-82M	64	186.97	5329	2853	61	16.8	34	2.2				
Speight G-92M	62	187.82	4718	2513	64	16.7	29	0.6				
Speight G-96M	54	185.58	5895	3178	63	16.1	35	3.6				
Speight G-97	53	183.91	6019	3273	64	15.7	35	2.1				
Speight G-98	64	189.76	6074	3200	64	16.1	34	1.8				
Speight G-101	50	181.90	5375	2958	61	15.9	34	2.2				
Speight G-103	61	186.48	5475	2932	61	16.3	32	2.8				
Speight G-107	72	193.89	5656	2915	64	17.5	39	2.8				
Mean	65	188.59	5648	2996	64	16.7	34	2.3				
BLSU (K-100)	15	7.54	612	293	NS	3.0	5	1.2				
C.V. (%)	13	2	7	6	7	8	8	34				

Table 16. Comparison of advanced breeding lines with NC 2326 and NC 95 at Reidsville - 1985.

Line	Grade Index	Value Index		Yield Lbs/A	Days to Flower	Leaves per Plant	Plant Height Inches	Ground Suckers	Cured Leaf Analysis			
		\$/Cwt.	\$/A						Nic.	Red. Sug.	Nor. Nic.	Sug. Nic.
NC 2326	61	185.22	5073	2741	53	20.0	44	0.8	3.12	21.07	0.29	6.96
NC 95	57	181.66	4802	2643	64	20.7	41	1.6	3.09	20.83	0.06	6.77
Coker 83-379Y	61	182.83	4817	2635	62	20.5	39	2.0	3.02	18.00	0.09	6.02
Coker 84-108C	65	181.36	4179	2310	61	20.0	34	1.4	3.10	15.50	0.23	5.06
Golden 141	65	184.57	4123	2235	58	18.7	39	2.6	2.91	21.47	0.14	7.43
NC TG-27	59	182.49	5871	3225	66	22.5	37	1.1	2.60	20.93	0.10	8.06
NC TG-28	61	185.58	5579	3010	65	21.1	36	1.6	2.58	21.13	0.04	8.25
NC TG-34	66	184.79	5553	3012	63	21.9	39	1.3	3.38	17.40	0.15	5.18
NC TG-35	70	187.07	5133	2745	67	19.7	34	2.6	2.64	19.77	0.35	7.51
NC TG-36	75	189.12	4910	2595	67	20.9	38	2.2	2.52	19.10	0.10	7.55
NC TG-37	74	188.27	5234	2781	67	21.9	38	1.3	2.90	20.00	0.22	6.93
NC 4409	56	178.26	4413	2484	66	20.1	43	0.2	2.83	17.77	0.23	6.39
NC 4410	56	181.52	4562	2520	63	21.1	42	1.0	4.15	16.37	0.14	4.01
NC 4413	74	189.60	4901	2585	59	20.6	40	1.0	3.60	17.03	0.22	4.73
NC 2005 USDA	63	183.18	5023	2743	60	19.7	36	1.2	3.09	21.20	0.37	6.89
NC 2060 USDA	73	186.39	5074	2723	64	20.8	39	1.5	2.61	22.60	0.20	8.68
NC 4001 USDA	68	187.13	5322	2848	62	22.3	40	1.8	2.76	20.13	0.18	7.33
NC 4012 USDA	48	177.04	5308	2996	64	19.9	38	1.6	2.44	24.30	0.01	9.95
NC 4027 USDA	57	182.15	5463	3002	64	21.1	42	3.4	3.16	18.77	0.09	6.02
NC 4065 USDA	63	181.45	4845	2671	63	20.5	38	0.9	2.94	19.70	0.19	6.84
NC 4073 USDA	63	185.25	5613	3030	64	18.9	39	1.9	2.61	20.53	0.09	7.95
NC 4080 USDA	60	183.14	4762	2599	65	21.1	42	2.8	2.94	18.33	0.10	6.24
NK 336	58	181.51	5107	2817	63	21.3	38	0.5	2.48	20.33	0.08	8.20
NK 3240	55	180.54	5116	2833	62	20.0	39	0.6	2.69	19.80	0.15	7.38
Reams 158	64	179.50	3790	2111	62	20.1	41	0.8	2.72	16.87	0.06	6.19
Speight G-82M	66	186.36	4925	2649	64	21.0	39	1.0	3.04	20.10	0.20	6.65
Speight G-92M	65	183.76	4955	2701	64	20.7	36	0.9	3.60	17.63	0.26	5.15
Speight G-96M	68	186.78	5255	2827	64	21.2	38	3.4	3.00	20.93	0.22	6.97
Speight G-97	56	181.67	5152	2837	63	21.3	43	2.3	2.70	22.13	0.11	8.22
Speight G-98	57	180.67	5327	2952	66	20.0	41	1.5	2.90	21.17	0.30	7.52
Speight G-101	61	183.64	5376	2930	63	21.6	40	1.5	2.54	18.20	0.23	7.15
Speight G-103	62	180.96	4607	2547	63	20.9	37	0.7	2.66	19.20	0.17	7.21
Speight G-107	67	186.68	4979	2671	63	21.2	44	1.6	2.89	19.07	0.11	6.84
Mean	61	183.04	5040	2755	63	20.8	39	1.3	2.92	19.26	0.17	6.92
BLSD (K-100)	NS	NS	639	346	5	NS	4	1.1	0.49	6.35	NS	2.18
C.V. (%)	17	3	8	8	4	7	6	46	10	13	102	18

Table 17. Pedigrees of entries in the 1985 Official Variety Tests.

Variety or Line	Generation or Yr. of Release	Pedigree	Sponsor
NC 2326	Rel. 1965	(Hicks x 9102)Hicks)Hicks)Hicks	N. C.
NC 95	Rel. 1961	(C-139 x Bel. 4-30)x(C-139 x Hicks)	N. C.
Coker 83-379Y	F 7	C-334 x G-70	Coker
Speight G-103	F 10	G-50 x NC 79	Speight
NK 3240	F 7	McNair 944 x NC 82	N. K.
Reams 158	F 9	McNair 944 x Hicks	Reams
NC TG-27	F 8	(Coker 319 x NC TG-21) x Coker 319	N. C.
NC TG-28	F 8	(Coker 319 x NC TG-21) x NC 82	N. C.
NC 2060 USDA	F 7	McNair 944 x Speight G-28	USDA
Speight G-92M	F 10	G-49 x SC 72	Speight
NC 2005 USDA	F 10	5075 x 5115	USDA
Golden 141	F 7	(NC 95 x Hicks) x NC 2326	Golden
NK 336	F 13	Speight G-28 x McNair 944	N. K.
PD 4	Rel. 1979	(Hicks x Burley 21) x NC 95	S. C.
PD 279	Rel. 1984	PD 5 x Coker 347	S. C.
Coker 48	Rel. 1976	(C 258 x C 319) x C 319	Coker
Coker 176	Rel. 1981	[C258 (61-10x319)258x(139x59-84-2F)] x [C258 (61-10x319)258x(139x59-84-2F)] Dwarf	Coker
Coker 206	Rel. 1983	(C-139x59-84-2F) x 74-472M	Coker
Coker 298	Rel. 1965	(C-139 x C-156)	Coker
Coker 319	Rel. 1963	(C-139 x Hicks)	Coker
Coker 347	Rel. 1969	(C-319 x C-258)	Coker
K 317	Rel. 1984	McNair 225 x NC 1071	N. K.
K 326	Rel. 1981	McNair 225 (McNair 30 x NC 95)	N. K.
K 394	Rel. 1983	Speight G-28 x McNair 944	N. K.
K 399	Rel. 1979	(Coker 139 x Coker 319) x NC 95	N. K.
McNair 373	Rel. 1978	(C-139 x C-319) McNair 039-4	N. K.
McNair 944	Rel. 1972	Speight G-10 x McNair 30	N. K.
NC 22NF	Rel. 1981	(SC 58 x NC 2326) x NC 2326 BC4S3	N. C.
NC 50	Rel. 1982	5140 x 5116	N. C.
NC 82	Rel. 1978	6129 x C-319	N. C.
NC 85	Rel. 1983	C-319 x C-298	N. C.
NC 567	Rel. 1982	(3658 x 3611)	N. C.
Speight G-28	Rel. 1969	(Ox. 1-181 x C-139 x NC 95)	Speight
Speight G-70	Rel. 1978	C-258 x Va. 115 x G-10	Speight
Speight G-80	Rel. 1983	(G-28 x G-45)	Speight
VA 182	Rel. 1980	(Coker 319 x NC 95) S7	VA
Coker 84-108C	F 6	[G-28 x 354] (139 x F 105) x (G-28 x 354)]x[334(C-137 x C-176)]	Coker
NC TG-34		NC 84225 x NC 84103	N. C.
NC TG-35	F ∞	C-319 x TG-21	N. C.
NC TG-36	F 7	C-319 x TG-21 x NC 82	N. C.
NC TG-37	F 6	C-319 x TG-21 x NC 82	N. C.
NC 4409	F 14	1824-2 x 20038	N. C.
NC 4410	F 14	1824-2 x 20048	N. C.
NC 4413	F 12	1824-2 x 20048	N. C.

Table 17. (Continued)

Variety or Line	Generation or Yr. of Release	Pedigree	Sponsor
NC 4001	USDA F 12	Speight G-28 x 3018	USDA
NC 4012	USDA F 8	Speight G-23 x NC 13	USDA
NC 4027	USDA F 6	McNair 944 x 9166	USDA
NC 4065	USDA F 6	5017 x 9214	USDA
NC 4073	USDA F 6	5017 x 9214	USDA
NC 4080	USDA F 6	5017 x 9214	USDA
Speight G-82M	F 10	G-33 x SC 72	Speight
Speight G-96M	F 10	G-25M x SC 72	Speight
Speight G-97	F 9	G-52 x G-21	Speight
Speight G-98	F 10	G-59 x G-33	Speight
Speight G-101	F 7	G-89 x G-33	Speight
Speight G-107	F 6	G-78 x G-70	Speight