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INTRODUCTION¹

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

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

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

¹Technical assistance by Ken Barnes and Carey Parsons are gratefully acknowledged.

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

EXPERIMENTAL PROCEDURES

Official Variety Test

Twenty-seven released varieties and seventeen experimental lines were tested at five locations (Figure 1) in 1990. The Official Variety Tests were conducted on disease-free soil insofar as possible. The experimental locations are as follows:

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

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

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

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

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

Agencies, Contact Person, and Addresses of 1990 Sponsors

<u>Agency and Contact Person</u>	<u>Address</u>	<u>Varieties</u>
Northrup King Seed Company Marion Hawkins	P. O. Box 340 Hartsville S.C. 29550	McNair K, Coker
N.C. Agric. Res. Service Daryl Bowman	3709 Hillsborough St. Raleigh, N.C. 27607	NC

Reams Seed Company Robert Reams	Route 2 Apex, N.C. 27502	Reams
Speight Seed Farms Mark Grimsley	Box 507 Winterville, NC. 28590	Speight
USDA Verne Sisson	Route 2, Box 16G Oxford, N.C. 27565	NC-USDA
VPI C. A. Wilkinson	Southern Piedmont Research Station Box 448 Blacksburg, 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 locations. 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.²

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

²Statistical 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.

characteristics, disease resistance,³ chemical characteristics,⁴ and physical quality traits. Data on agronomic characteristics were collected in the field and chemical determinations were made on cured leaf samples weighted over all stalk positions.

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

Each entry was rated also with a grade index ranging from 1 to 100. 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 per hundredweight. Grades N2 and B1L represent the practical extremes with values of 1 and 100 assigned to these respective grades. The 1990 data utilized a revised version of the grade index as originally developed by E. Wernsman and E. Price (1975).

³Drs. David Shew and Tom Melton of the Plant Pathology Department and Dr. Verne Sisson of the Department of Crop Science and USDA-CRS cooperated on the tests for disease reaction. Their assistance is gratefully acknowledged.

⁴Chemical 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.

Seasonal Conditions: Transplanting was on time or slightly delayed (Table 1). Rainfall was normal up through May at most locations. Rocky Mount irrigated one inch in April and June and three inches in July. Oxford irrigated in July and August while Reidsville irrigated June, July and August.

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	1.35	6.59	0.46	3.63	7.37	
Rocky Mount	2.94	4.84	3.17	3.61	4.62	
Oxford	4.10	4.94	0.81	2.60	3.18	0.95
Reidsville	3.44	7.99	1.07	3.40	2.69	0.54

RESULTS AND DISCUSSION

The data presented in Tables 2 and 3 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, varieties that were common in 1988, 1989 and 1990 are compared for a number of agronomic and chemical characteristics.

Two-year data are presented in Table 3 for 1989 and 1990. Table 4 shows the cumulative rate of harvest, approximate number of leaves/acre handled, and yield of cured leaf harvested by the end of the fourth priming for selected commercial varieties at Whiteville in 1989. All tobacco was harvested and graded ripe, thus, this information can be used to ascertain the relative rate of ripening among varieties. The number of leaves/acre handled

should indicate barn space requirements and labor requirements. Yield should be considered with number of leaves handled as well as leaf ripening rate to choose those varieties that will maximize efficiency of the grower's tobacco operation.

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. These data were furnished by Drs. Tom Melton, Verne Sisson, and David Shew.

The average performance across five locations in 1990 is shown in Table 6. NC 27NF and NC 37NF are nonflowering genotypes and should be topped at 18-20 harvestable leaves.

Individual location data are presented in Tables 7-10. The advanced breeding lines are in early stages of testing and may be released with a different designation, if they meet the standards; the data will not be discussed.

Table 11 lists the pedigrees, generation or year of release, and the developer of all entries in the 1990 Official Tobacco Variety Tests.

No data were collected at Kinston in 1990 due to loss of the third priming in the curing barn.

NC 27NF and NC 37NF 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 on a higher than average stalk.

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

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

Coker 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 64-70 with about 20 leaves per plant.

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

K-149 - This variety was developed from a number of crosses involving Speight G-28, K 399 and several breeding lines. It has high resistance to black shank and Granville wilt and is resistant to the Southern root-knot nematode.

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

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

K 340 - (tested as NK 3240) was developed by Northrup King Seed Company from a cross of McNair 944 and NC 82. K 340 has high resistance to black shank and moderate resistance to Granville wilt. It has a low ground sucker count and flowers, on the average, 64-72 days after transplanting with nearly 19 harvestable leaves.

K-346 - was developed by Northrup King Seed Company from a cross involving K 326 and a breeding line. It has high resistance to black shank and Granville wilt and is resistant to the Southern root-knot nematode.

K 358 - (tested as NK 5168) was developed by Northrup King Seed Company from a cross of K 326 and 80241 (an experimental line). It has moderate resistance to black shank and high resistance to Granville wilt. It is also resistant to root-knot nematodes. It has above average yields with 18-19 leaves on a medium height stalk. It has few ground suckers. Flowering occurs around 69 days after transplanting.

K 394 - It has high resistance to black shank and low resistance to Granville wilt. It averages nearly 20 leaves per plant on a short stalk. It averages 66-72 days to flower. It is a high-yielding variety with average quality.

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

McNair 373 - This variety has a high number of leaves with a short stalk. 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 at a moderate rate and flowers somewhat earlier than some other multi-disease resistant varieties. It produces adequate yields of high-quality leaf.

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

NC 22NF - This variety has low 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.

NC 27NF - is a "non-flowering" variety that produces high yields with a high grade index. It was developed by breeders at North Carolina State University from a cross of Coker 319 and a non-flowering genotype. NC 27NF has low resistance to black shank and moderate resistance to Granville wilt. It is sensitive to brown spot.

NC 37NF - is a "non-flowering" variety that produces high quality leaf. It was developed by breeders at North Carolina State University from a cross involving a non-flowering genotype with Coker 319 and NC 82. It has low resistance to black shank and low resistance to Granville wilt and resistance to root-knot nematodes.

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

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

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

NC 82 - An average yielding variety with high quality. It has an intermediate number of leaves on a medium to short stalk. Flowers fairly early and may prematurely flower. 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. It averages 66-67 days to flower.

NC 95 - One of the first varieties with disease resistance and high quality. It has low 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 is susceptible to 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.

Reams 134 - produces high quality tobacco on a medium high stalk. It was developed by Reams Seed Company from a cross between McNair 944 and Hicks. It yields in the low range with 20 leaves per stalk. It has moderate resistance to black shank with low resistance to Granville wilt.

Reams 158 - produces moderately low yields with a high grade index. It was developed by Reams Seed Company from a cross between McNair 944 and Hicks. This variety has moderate resistance to black shank and low resistance to Granville wilt. It produces 19-20 leaves on a slightly higher than average plant.

Speight G-28 - It has high resistance to black shank and Granville wilt with resistance to Fusarium wilt and root-knot nematodes. It averages around 66 days from transplanting to flowering with more than 19 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. It has resistance to root knot nematodes. It has high resistance to black shank and moderate

resistance to Granville wilt. 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 high resistance to black shank and Granville wilt and resistance to Fusarium wilt and the most prevalent species of root knot nematodes. It produces nearly 19 leaves on a short stalk and averages 65 days to flower.

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

Speight G-108 - It has moderate resistance to black shank and Granville wilt and is also resistant to the common root-knot nematode. It was developed by Speight Seed Farms from a cross of Speight G-70 and Speight G-28. This variety flowers on the average 70 days after transplanting with 19 harvestable leaves.

VA 116 - was developed by Virginia Polytechnic Institute and Southern University from a cross involving NC 82 and Coker 319. It has low resistance to black shank and Granville wilt.

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 - 1990.

Station	Fertilization	Side-Dressing	Soil Type	Chemical Soil Treatment	Date of Transplanting	Date First Harvest
Border Belt Tobacco Research Station Whiteville, N.C.	1100#/A 3-3-9	325#/A 6-6-18	Norfolk Fine Sandy Loam	Ridomil Telone C-17	April 24	July 17
Upper Coastal Plain Research Station Rocky Mount, N.C.	467#/A 8-24-24	120#/A 15-0-14	Norfolk Loamy Sand	Nemacure-Dasanit Ridomil	April 25	July 23
Oxford Tobacco Research Station Oxford, N.C.	600#/A 8-8-24	100#/A 15-0-14	Appling Sandy Loam	Ridomil	May 2	July 30
Upper Piedmont Research Station Reidsville, N.C.	750#/A 6-12-18	100#/A 15-0-14	Appling Sandy Loam	Ridomil Telone C-17	May 14	August 7

TABLE 2. COMPARISON OF CERTAIN VARIETIES IN OFFICIAL VARIETY TRIALS ACROSS THREE YEARS (1988-90).

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALLY AVAILABLE VARIETIES											
NC 2326	2447	4014	163.73	51	62	17.0	43		19.32	2.69	8.00
NC 95	2604	4236	162.28	49	67	18.4	42		19.27	2.74	7.95
COKER 176	2482	4055	163.20	53	68	19.5	41		18.56	2.87	7.05
COKER 319	2532	4198	165.41	56	68	19.0	43		19.55	2.49	8.59
COKER 371	2559	4267	166.16	59	67	18.9	39		18.53	2.84	7.31
K 326	2919	4870	166.30	56	70	20.0	40		19.37	2.51	8.59
K 340	2799	4594	163.82	52	69	18.0	41		19.19	2.43	8.73
K 358	2719	4496	164.89	56	68	19.4	41		18.43	2.57	8.00
K 394	2863	4722	164.63	52	69	19.4	40		19.63	2.40	9.13
K 399	2714	4467	164.25	54	69	19.8	39		18.67	2.50	8.17
MCNAIR 373	2610	4311	164.84	57	68	20.4	39		19.11	2.56	8.08
MCNAIR 944	2706	4457	164.24	52	69	18.9	42		19.82	2.69	8.17
NC 27NF	2753	4544	164.91	56	69	19.2	37		19.17	2.62	8.10
NC 37NF	2603	4323	165.76	60	69	18.7	37		18.06	2.75	7.44
NC 60	2667	4405	164.84	56	71	19.2	42		18.79	2.56	8.00
NC 82	2586	4267	164.55	55	66	18.3	42		19.28	2.53	8.47
REAMS 158	2387	3930	164.20	58	68	19.0	41		19.00	2.44	8.47
SPEIGHT G-28	2639	4344	164.36	54	69	19.2	38		19.11	2.44	8.43
SPEIGHT G-70	2847	4673	163.67	49	67	18.1	39		19.73	2.63	8.15
SPEIGHT G-108	2798	4597	163.82	50	71	19.2	40		18.76	2.61	8.04

TABLE 3. COMPARISON OF CERTAIN VARIETIES IN OFFICIAL VARIETY TRIALS ACROSS TWO YEARS (1989-90).

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	2481	4113	165.33	52	61	17.3	43		20.75	2.51	9.10
NC 95	2675	4431	165.07	51	67	18.5	43		20.72	2.51	9.13
COKER 176	2485	4134	165.99	54	68	19.9	42		20.19	2.65	8.17
COKER 319	2656	4437	166.79	53	68	19.5	44		20.50	2.26	9.78
COKER 371	2603	4385	167.77	57	67	19.1	40		19.78	2.60	8.34
K 149	2839	4736	166.47	53	68	20.6	41		19.61	2.39	8.94
K 326	3001	5046	167.41	55	69	20.3	41		20.93	2.33	10.02
K 340	2843	4722	165.65	51	69	18.0	41		20.84	2.19	10.19
K 346	2749	4611	167.14	52	68	19.7	41		20.11	2.36	9.24
K 358	2789	4667	166.75	55	67	19.7	41		20.35	2.39	9.44
K 394	2845	4741	166.09	51	69	19.5	40		20.66	2.19	10.47
K 399	2806	4682	166.52	54	69	20.0	39		19.84	2.34	9.15
MCNAIR 373	2640	4398	166.07	56	68	20.6	39		20.27	2.42	9.13
MCNAIR 944	2694	4488	165.84	51	69	19.1	43		20.91	2.51	9.13
NC 27NF	2645	4404	166.14	55	67	19.6	38		20.41	2.48	9.20
NC 37NF	2663	4450	166.65	56	66	18.7	37		19.59	2.50	8.65
NC 60	2709	4529	166.75	55	70	19.5	43		20.40	2.36	9.32
NC 82	2698	4496	166.21	52	67	18.6	42		20.44	2.32	9.70
REAMS 134	2453	4070	165.40	55	69	19.9	41		20.24	2.30	9.62
REAMS 158	2389	3971	165.51	56	68	19.7	42		20.20	2.25	9.70
SPEIGHT G-28	2681	4461	166.01	53	71	19.4	39		20.59	2.28	9.47
SPEIGHT G-70	2944	4896	165.80	49	67	18.5	39		20.98	2.41	9.34
SPEIGHT G-108	2912	4846	165.86	50	71	19.5	41		20.28	2.34	9.47

Table 4. Cumulative rate of harvest, approximate number of leaves/acre handled, and yield of cured leaf harvested by the end of the fourth priming for selected commercial varieties at Whiteville - 1989.

Variety	Cumulative Harvest	Number of Leaves/Acre	Yield
	%		lbs/a
Reams 158	83.5	100,025	2056
Reams 134	79.8	98,199	2243
McNair 944	79.1	90,016	2410
Coker 371	78.6	80,591	2345
K 340	76.8	82,381	2266
NC 27NF	74.4	72,919	1936
Coker 319	72.0	85,073	1912
NC 60	70.7	78,917	2148
K 394	68.9	80,660	2280
Coker 176	68.7	77,807	1944
McNair 373	67.0	80,989	2093
NC 82	66.7	73,000	1972
NC 2326	64.4	62,768	1719
K 149	64.4	77,846	2112
Speight G-28	63.4	71,114	1933
K 326	63.1	73,870	2227
NC 37NF	63.1	61,844	1668
K 399	62.6	74,648	2021
K 346	62.2	70,784	1998
Speight G-70	60.3	66,980	2034
Speight G-108	59.1	69,187	1943
K 358	55.0	66,184	1907
NC 95	53.0	59,448	1603

Table 5. Summary information on disease resistance - 1990.

Varieties or Lines	Black ^{1/} Shank	Bacterial ^{1/} Wilt	Root ^{2/} Knot	Mosaic ^{2/}
Commercially Available Varieties				
NC 2326	Low	Susc.		
NC 95	Low	High	Res.	
Coker 176	Mod.	Mod.	Res.	Res.
Coker 319	Low	Low		
Coker 371	High	Mod.		

K 149	High	High	Res.	
K 326	Low	Mod.	Res.	
K 340	High	Mod.		
K 346	High	High	Res.	
K 358	Mod.	High	Res.	

K 394	High	Low		
K 399	High	High	Res.	
McNair 373`	Mod.	High	Res.	
McNair 944	High	Low		
NC 27NF	Low	Mod.		

NC 37NF	Low	Low	Res.	
NC 60	High	Mod.	Res.	
NC 82	High	Mod.		
Reams 134	Mod.	Low		
Reams 158	Mod.	Low		

Speight G-28	High	High	Res.	
Speight G-70	High	Mod.	Res.	
Speight G-108	Mod.	Mod.	Res.	
VA 116	Low	Low		

Table 5. (Continued)

	Advanced Breeding Lines		
NK Coker I-39	15	22	R
NK 730	26	17	R
NK 7160	22	27	R
NC 8003	10	23	
NC 9136	13	5	
NC 9140	3	13	

NC 9145	31	28	
NC 9147	12	18	
NC 9149	17	11	
NC 9153	29	25	
NC 9169	10	15	

Speight G-121	13	28	
Speight G-125	5	16	
Speight G-126	13	12	R
Speight G-128	8	40	R
Speight G-134	15	16	R
Speight G-135	19	8	R
			Seg.

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

2/ Resistant or segregating for resistance.

TABLE 6. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS FOR FOUR LOCATIONS - 1990

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	2835	4732	166.93	50	61	17.4	43	0.000	20.08	2.98	7.43
NC 95	2930	4899	167.06	49	64	18.1	42	0.044	19.85	2.83	7.82
COKER I-39	3136	5292	168.58	52	67	19.9	41	0.006	19.91	2.71	8.00
COKER 176	2812	4698	166.98	49	66	20.1	42	0.000	19.46	2.93	7.13
COKER 319	2882	4860	168.45	53	65	18.4	44	0.083	19.70	2.54	8.37
COKER 371	2967	5048	170.02	59	65	19.5	39	0.050	18.50	3.02	6.71
K 149	3062	5148	168.06	51	66	20.4	39	0.000	19.02	2.74	7.54
K 326	3443	5854	169.67	54	66	19.4	40	0.000	19.92	2.69	8.45
K 340	3195	5361	167.68	50	66	18.2	40	0.000	19.59	2.44	8.59
K 346	3074	5193	168.68	50	65	19.3	39	0.000	19.87	2.73	7.83
K 358	3094	5222	168.59	53	64	19.0	40	0.006	19.55	2.75	7.95
K 394	3249	5464	168.07	48	66	19.1	39	0.094	20.15	2.49	8.91
K 399	3113	5246	168.47	52	66	19.4	36	0.006	19.68	2.66	8.09
NK 730	3075	5224	169.67	55	64	18.8	38	0.000	19.70	2.67	8.10
NK 7160	2925	4923	168.20	51	63	18.3	39	0.000	19.00	2.69	7.67
MCNAIR 373	2900	4872	167.80	54	64	19.4	39	0.000	18.96	2.81	7.34
MCNAIR 944	3104	5231	168.34	49	66	18.4	41	0.094	19.84	2.93	7.46
NC 27NF	2921	4939	169.11	54	68	18.7	37	0.000	19.66	2.97	7.50
NC 37NF	3045	5135	168.57	55	68	18.7	37	0.000	18.66	2.83	7.42
NC 60	3081	5198	168.71	52	68	19.2	42	0.294	19.28	2.64	7.87
NC 82	2978	5011	168.17	51	64	18.9	41	0.000	19.79	2.70	8.15
REAMS 134	2819	4725	167.52	53	66	19.2	41	0.000	18.92	2.67	7.77
REAMS 158	2750	4655	169.15	61	66	19.0	40	0.183	19.21	2.62	7.80

SPEIGHT G-28	2970	4982	167.53	53	68	18.4	37	0.000	19.92	2.50	8.46
SPEIGHT G-70	3291	5534	168.02	50	65	17.4	37	0.017	20.10	2.75	7.77
SPEIGHT G-108	3302	5537	167.46	50	69	18.7	38	0.000	19.10	2.58	8.24
VA 116	3247	5515	169.70	52	66	19.5	42	0.000	19.78	2.78	7.90

ADVANCED BREEDING LINES

NC 8003 USDA	3146	5325	169.13	54	64	20.2	40	0.000	20.70	2.51	8.94
NC 9136 USDA	3084	5233	169.44	53	65	19.2	35	0.022	19.22	2.79	7.38
NC 9140 USDA	2857	4798	167.68	51	66	18.7	39	0.000	19.20	2.63	7.85
NC 9145 USDA	2891	4875	168.67	51	63	18.6	40	0.374	20.09	2.64	8.24
NC 9147 USDA	3015	5073	168.08	53	65	19.3	38	0.072	19.24	2.44	8.51

NC 9149 USDA	3108	5248	168.68	55	65	20.2	42	0.067	18.89	2.55	7.96
NC 9153 USDA	3086	5192	168.04	50	65	19.3	44	0.017	19.57	2.65	7.96
NC 9169 USDA	3118	5205	166.92	48	67	19.1	41	0.017	18.19	2.85	7.06
SPEIGHT G-121	2990	5027	168.14	52	66	18.1	45	0.000	18.79	2.65	7.64

SPEIGHT G-125	2694	4509	167.16	52	63	17.8	38	0.017	19.00	2.86	7.19
SPEIGHT G-126	3178	5361	168.50	54	67	19.7	39	0.000	19.78	2.61	8.35
SPEIGHT G-128	3215	5413	168.32	50	64	17.9	38	0.000	19.57	2.79	7.70
SPEIGHT G-134	2880	4832	167.67	52	65	19.2	37	0.011	19.66	2.53	8.51
SPEIGHT G-135	2719	4576	168.13	54	65	18.7	39	0.000	19.65	2.55	8.30

MEAN OF TEST	3029	5102	168.29	52	65	19.0	40	NA	19.48	2.70	7.90
B.L.S.D. (K-100)	243	433	4.18	5	4	1.9	6	NA	3.01	0.24	0.99
C.V. (%)	7	7	1	10	3	6	6	NA	8	9	13

TABLE 7. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS AT WHITEVILLE NC - 1990

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	3461	5880	169.90	61	60	17.3	45	0.000	18.63	3.38	5.53
NC 95	3375	5744	170.18	66	60	19.4	47	0.000	18.77	3.14	6.01
COKER I-39	3633	6214	170.97	64	64	19.5	43	0.017	17.50	3.06	5.78
COKER 176	3074	5161	167.88	55	63	20.4	44	0.000	17.30	3.04	5.70
COKER 319	3405	5823	171.00	68	63	17.9	46	0.000	17.03	3.09	5.52
COKER 371	3473	6002	172.85	69	63	19.3	42	0.000	17.13	3.37	5.14
K 149	3507	6003	171.15	64	63	20.2	41	0.000	17.67	3.10	5.70
K 326	4241	7345	173.09	70	61	20.0	44	0.000	19.20	2.72	7.13
K 340	3872	6608	170.66	65	63	18.4	44	0.000	18.30	2.49	7.36
K 346	3911	6696	171.22	64	63	19.6	41	0.000	19.00	2.91	6.53
K 358	3840	6557	170.77	65	62	19.1	43	0.017	19.30	2.93	6.59
K 394	3708	6322	170.46	58	61	19.2	44	0.283	19.57	2.50	7.84
K 399	3499	5969	170.71	66	63	19.1	41	0.018	18.23	2.74	6.87
NK 730	3612	6250	173.03	67	61	19.1	43	0.000	18.07	2.98	6.08
NK 7160	3486	5979	171.51	63	61	19.3	44	0.000	17.57	2.84	6.41
MCNAIR 373	3671	6289	171.20	64	62	20.1	42	0.000	17.13	2.99	5.77
MCNAIR 944	3590	6111	170.17	66	62	18.9	45	0.000	18.27	3.08	5.92
NC 27NF	2999	5136	171.25	65	66	18.0	34	0.000	16.07	3.28	4.92
NC 37NF	3427	5868	171.22	68	66	18.0	36	0.000	17.73	3.11	5.71
NC 60	3335	5675	170.17	66	64	19.7	45	0.017	19.00	2.61	7.32
NC 82	3391	5735	169.17	66	62	19.1	45	0.000	18.63	2.97	6.37
REAMS 134	3139	5330	169.82	64	64	19.7	44	0.000	17.70	2.66	6.65
REAMS 158	3142	5360	170.61	71	65	18.5	42	0.000	16.90	2.56	6.61

SPEIGHT G-28	3598	6158	171.06	66	66	18.6	41	0.000	18.40	2.65	7.05
SPEIGHT G-70	3738	6401	171.30	62	62	17.9	40	0.000	18.63	2.95	6.34
SPEIGHT G-108	3908	6721	171.96	63	67	19.7	40	0.000	16.80	2.68	6.25
VA 116	3612	6247	173.02	66	62	19.7	44	0.000	17.90	2.93	6.13

ADVANCED BREEDING LINES

NC 8003 USDA	3691	6300	170.68	66	61	19.7	42	0.000	16.83	2.59	6.75
NC 9136 USDA	3846	6598	171.53	62	62	19.9	37	0.000	18.40	3.04	6.07
NC 9140 USDA	3510	5980	170.41	63	62	18.3	44	0.000	17.17	2.97	5.83
NC 9145 USDA	3180	5381	169.20	62	61	19.1	42	1.088	17.47	2.99	5.86
NC 9147 USDA	3619	6220	171.92	66	63	19.5	40	0.217	17.47	2.60	6.75

NC 9149 USDA	3779	6461	170.90	62	60	20.2	45	0.200	17.80	2.84	6.28
NC 9153 USDA	3529	6022	170.66	65	61	19.3	47	0.033	17.90	2.91	6.29
NC 9169 USDA	3727	6331	169.91	58	63	20.2	44	0.017	16.33	3.17	5.19
SPEIGHT G-121	3455	5894	170.58	63	62	18.6	48	0.000	18.70	3.06	6.17
SPEIGHT G-125	3149	5338	169.49	67	60	18.3	44	0.050	17.47	3.01	5.81

SPEIGHT G-126	3685	6341	172.04	64	64	19.9	41	0.000	17.90	2.87	6.35
SPEIGHT G-128	3650	6243	171.02	60	60	18.9	42	0.000	17.03	3.12	5.47
SPEIGHT G-134	3518	5949	168.99	59	62	19.7	41	0.000	18.43	2.91	6.39
SPEIGHT G-135	3208	5461	170.16	64	61	18.5	43	0.000	17.70	2.65	6.77

MEAN OF TEST	3541	6051	170.82	64	62	19.2	43	NA	17.88	2.91	6.22
B.L.S.D. (K-100)	273	470	3.80	22	4	2.2	2	NA	5.61	0.54	2.10
C.V. (%)	5	5	1	9	3	5	4	NA	8	9	14

TABLE 8. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS AT ROCKY MOUNT NC - 1990

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	2342	3941	168.29	55					24.47	1.93	12.71
NC 95	2500	4209	168.40	48					22.77	1.75	13.03
COKER I-39	2673	4493	168.13	53					23.63	1.82	12.99
COKER 176	2425	4060	167.51	55					23.03	2.07	1.14
COKER 319	2317	3915	168.99	53					23.17	1.78	13.01
COKER 371	2482	4206	169.53	61					22.33	1.99	11.28
K 149	2322	3925	169.09	56					22.70	1.88	12.09
K 326	2737	4597	168.00	54					24.43	1.62	15.18
K 340	2840	4781	168.41	50					23.43	1.71	13.77
K 346	2565	4295	167.30	51					22.37	1.87	12.18
K 358	2408	4050	168.06	54					23.30	1.80	13.54
K 394	2930	4921	167.93	48					23.13	1.61	14.43
K 399	2787	4709	168.98	53					22.53	1.76	12.83
NK 730	2671	4548	170.26	60					23.63	1.79	13.30
NK 7160	2473	4173	168.74	55					22.50	1.89	11.96
MCNAIR 373	2261	3796	167.92	58					22.57	1.88	12.10
MCNAIR 944	2852	4823	169.09	46					23.47	1.84	12.76
NC 27NF	2621	4439	169.35	58					22.43	1.78	12.59
NC 37NF	2746	4695	170.89	61					21.63	1.75	12.39
NC 60	2535	4264	168.28	51					22.93	1.88	12.38
NC 82	2490	4169	167.43	47					24.33	1.71	14.25
REAMS 134	2454	4085	166.49	53					22.37	1.77	12.79
REAMS 158	2288	3841	167.89	57					22.73	1.88	12.15

SPEIGHT G-28	2295	3855	167.94	61	22.33	1.77	12.66
SPEIGHT G-70	2874	4830	168.07	51	22.50	1.97	11.50
SPEIGHT G-108	2787	4728	169.59	54	21.77	1.66	13.38
VA 116	2753	4653	168.98	51	23.97	1.77	13.58

ADVANCED BREEDING LINES

NC 8003 USDA	2643	4459	168.56	56	23.63	1.68	14.10
NC 9136 USDA	2476	4217	170.28	51	21.30	1.99	11.14
NC 9140 USDA	2481	4155	167.49	54	21.00	1.83	11.66
NC 9145 USDA	2313	3920	169.54	51	22.87	1.74	13.16
NC 9147 USDA	2548	4278	167.89	56	22.40	1.67	13.49

NC 9149 USDA	2561	4390	171.33	64	21.57	1.76	12.24
NC 9153 USDA	2414	4023	166.64	49	24.03	1.87	12.88
NC 9169 USDA	2478	4231	170.78	58	22.73	1.89	12.06
SPEIGHT G-121	2477	4170	168.33	51	22.60	1.82	12.44

SPEIGHT G-125	2224	3684	165.58	54	24.00	2.01	11.94
SPEIGHT G-126	2618	4364	166.70	56	22.80	1.65	13.80
SPEIGHT G-128	2681	4524	168.74	51	23.13	1.85	12.58
SPEIGHT G-134	2350	3979	169.21	58	22.37	1.66	13.65
SPEIGHT G-135	2329	3909	167.72	59	23.47	1.74	13.51

MEAN OF TEST	2537	4276	168.50	54	22.89	1.81	12.80
B.L.S.D. (K-50)	345	584	3.24	7	3.17	0.54	4.15
C.V. (%)	8	8	1	7	5	10	11

TABLE 9. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS AT OXFORD NC - 1990

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	2442	4100	167.87	42	62			0.000	17.87	3.45	5.23
NC 95	2552	4222	165.20	41	68			0.133	17.43	3.67	4.75
COKER I-39	2931	4892	166.86	42	70			0.000	17.60	3.35	5.26
COKER 176	2606	4308	165.02	39	69			0.000	17.17	3.71	4.62
COKER 319	2711	4524	166.62	45	66			0.250	18.00	2.95	6.14
COKER 371	2865	4836	168.86	49	67			0.150	15.90	3.51	4.63
K 149	3039	4995	164.31	40	69			0.000	14.13	3.29	4.30
K 326	3096	5233	168.91	45	70			0.000	15.47	3.48	4.47
K 340	3037	5059	166.60	40	68			0.000	16.30	2.79	5.84
K 346	2859	4838	169.19	41	67			0.000	17.53	3.32	5.27
K 358	3075	5129	166.80	39	67			0.000	17.17	3.54	4.85
K 394	3101	5189	167.36	41	70			0.000	17.10	3.25	5.29
K 399	2987	4990	167.02	42	68			0.000	17.53	3.37	5.21
NK 730	3096	5212	168.36	40	67			0.000	16.90	3.36	5.07
NK 7160	2765	4679	169.14	44	65			0.000	16.30	3.30	4.99
MCNAIR 373	2661	4478	168.17	50	66			0.000	17.63	3.45	5.14
MCNAIR 944	2817	4673	165.84	39	70			0.281	18.97	3.43	5.59
NC 27NF	2741	4606	168.02	46	70			0.000	17.80	3.94	4.64
NC 37NF	3109	5170	166.29	43	70			0.000	14.87	3.73	4.08
NC 60	3075	5183	168.53	45	71			0.833	15.30	3.18	4.88
NC 82	2732	4589	167.92	45	65			0.000	16.97	3.30	5.20
REAMS 134	2630	4398	167.16	46	68			0.000	16.17	3.44	4.71
REAMS 158	2611	4434	169.82	60	66			0.000	16.77	3.23	5.17

SPEIGHT G-28	2789	4597	164.76	42	69	0.000	18.60	2.99	6.27
SPEIGHT G-70	3092	5135	166.04	42	68	0.000	16.93	3.34	5.07
SPEIGHT G-108	3262	5414	165.97	39	71	0.000	16.93	3.48	4.87
VA 116	2787	4667	167.44	43	70	0.000	17.73	3.46	5.23

ADVANCED BREEDING LINES

NC 8003 USDA	3092	5244	169.56	46	68	0.000	19.40	3.10	6.27
NC 9136 USDA	2741	4580	166.86	47	69	0.067	17.53	3.22	5.46
NC 9140 USDA	2618	4341	165.77	39	69	0.000	17.80	3.18	5.68
NC 9145 USDA	2774	4633	166.98	45	65	0.000	18.90	3.00	6.47
NC 9147 USDA	2849	4766	167.24	41	66	0.000	17.37	3.02	5.81

NC 9149 USDA	2820	4584	162.44	37	70	0.000	15.90	2.99	5.35
NC 9153 USDA	2930	4886	166.64	42	70	0.000	15.80	3.02	5.23
NC 9169 USDA	2938	4752	161.72	35	70	0.033	14.53	3.53	4.11
SPEIGHT G-121	2890	4870	168.53	47	69	0.000	14.30	2.89	4.93

SPEIGHT G-125	2633	4382	166.27	40	65	0.000	14.87	3.49	4.27
SPEIGHT G-126	3106	5211	167.81	48	70	0.000	18.47	3.23	5.76
SPEIGHT G-128	3177	5284	166.29	40	67	0.000	18.33	3.32	5.67
SPEIGHT G-134	2802	4668	166.54	45	69	0.033	16.53	3.09	5.39
SPEIGHT G-135	2740	4608	168.10	47	69	0.000	18.03	2.98	6.08

MEAN OF TEST	2868	4789	166.95	43	68	NA	16.95	3.30	5.20
B.L.S.D. (K-100)	336	664	5.14	12	3	NA	5.65	0.69	2.19
C.V. (%)	7	7	1	13	3	NA	12	10	16

TABLE 10. COMPARISON OF VARIETIES FOR CERTAIN CHARACTERISTICS AT REIDSVILLE NC - 1990

VARIETY	YIELD LBS/A	VALUE \$/A	INDEX \$/CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	GROUND SUCKERS	CURED LEAF ANALYSIS		
									RED. SUG. %	TOT. ALK. %	RATIO SUG. ALK.
COMMERCIALY AVAILABLE VARIETIES											
NC 2326	3096	5007	161.66	41		17.5	41	0.000	19.37	3.17	6.25
NC 95	3294	5421	164.44	42		16.9	37	0.044	20.43	2.75	7.50
COKER I-39	3307	5569	168.37	47		20.3	40	0.006	20.90	2.62	7.98
COKER 176	3141	5262	167.51	47		19.8	40	0.000	20.33	2.88	7.06
COKER 319	3097	5178	167.22	48		18.9	41	0.083	20.60	2.35	8.83
COKER 371	3048	5149	168.86	56		19.7	35	0.050	18.63	3.22	5.79
K 149	3381	5671	167.70	45		20.6	37	0.000	21.57	2.68	8.05
K 326	3699	6240	168.70	48		18.7	35	0.000	20.57	2.95	7.02
K 340	3031	4996	165.04	45		18.0	36	0.000	20.33	2.76	7.37
K 346	2959	4942	167.00	45		19.1	36	0.000	20.60	2.83	7.32
K 358	3053	5154	168.74	52		18.9	38	0.000	18.43	2.71	6.80
K 394	3258	5426	166.54	45		19.1	35	0.000	20.80	2.59	8.10
K 399	3180	5315	167.18	49		19.8	31	0.000	20.43	2.75	7.44
NK 730	2921	4887	167.03	52		18.5	32	0.000	20.20	2.56	7.97
NK 7160	2976	4860	163.42	43		17.3	35	0.000	19.63	2.72	7.31
MCNAIR 373	3008	4925	163.90	44		18.7	35	0.000	18.50	2.92	6.37
MCNAIR 944	3159	5317	168.26	47		18.0	36	0.000	18.67	3.35	5.58
NC 27NF	3323	5577	167.82	48		19.3	40	0.000	22.33	2.86	7.87
NC 37NF	2897	4806	165.86	47		19.5	37	0.000	20.40	2.73	7.51
NC 60	3378	5671	167.89	47		18.7	39	0.033	19.90	2.89	6.92
NC 82	3301	5551	168.16	47		18.7	38	0.000	19.23	2.84	6.78
REAMS 134	3053	5087	166.63	48		18.7	39	0.000	19.43	2.81	6.92
REAMS 158	2960	4984	168.26	53		19.4	37	0.550	20.43	2.82	7.28

SPEIGHT G-28	3197	5319	166.36	43	18.3	34	0.000	20.33	2.59	7.87
SPEIGHT G-70	3461	5769	166.70	43	16.9	34	0.050	22.33	2.74	8.16
SPEIGHT G-108	3249	5287	162.31	43	17.8	37	0.000	20.90	2.50	8.44
VA 116	3835	6494	169.35	49	19.4	40	0.000	19.53	2.97	6.65

ADVANCED BREEDING LINES

NC 8003 USDA	3158	5298	167.72	49	20.6	37	0.000	22.93	2.65	8.65
NC 9136 USDA	3272	5536	169.08	51	18.5	33	0.000	19.63	2.92	6.86
NC 9140 USDA	2819	4715	167.05	49	19.1	35	0.000	20.83	2.54	8.23
NC 9145 USDA	3295	5566	168.96	47	18.2	37	0.033	21.13	2.83	7.46
NC 9147 USDA	3044	5026	165.26	48	19.1	36	0.000	19.73	2.48	7.98

NC 9149 USDA	3270	5558	170.07	55	20.2	39	0.000	20.30	2.58	7.97
NC 9153 USDA	3471	5839	168.23	46	19.3	41	0.017	20.57	2.82	7.43
NC 9169 USDA	3331	5506	165.28	43	17.9	38	0.000	19.17	2.83	6.88
SPEIGHT G-121	3137	5173	165.12	46	17.7	41	0.000	19.57	2.82	7.01

SPEIGHT G-125	2770	4635	167.28	46	17.3	32	0.000	19.67	2.93	6.74
SPEIGHT G-126	3301	5528	167.45	47	19.5	36	0.000	19.97	2.69	7.47
SPEIGHT G-128	3350	5599	167.22	49	16.9	33	0.000	19.80	2.86	7.07
SPEIGHT G-134	2851	4732	165.95	46	18.7	33	0.000	21.30	2.48	8.60
SPEIGHT G-135	2597	4326	166.53	47	19.0	36	0.000	19.40	2.84	6.85

MEAN OF TEST	3169	5290	166.88	47	18.7	37	NA	20.22	2.78	7.37
B.L.S.D. (K-100)	571	962	6.24	12	2.2	5	NA	5.82	0.53	2.16
C.V. (%)	9	9	2	10	6	7	NA	8	9	13

Table 11. Pedigrees of entries in the 1990 Official Variety Tests.

Variety or Line	Generation or Yr. of Release	Pedigree	Sponsor
NC 2326	1965	(Hicks X 9102) Hicks) Hicks) Hicks)	NC
NC 95	1961	(C-139 X Bel. 4-30) X (C-139 X Hicks)	NC
Coker I-39	1989	([G-28 X 354] X [CB-139 X F-105] X [G-28-354] X C-347	NK
Coker 176	1981	(C-258 (61-10 X 319)258X(139X59-84-2F) X(C-258(61-10X319)258XC139X59-84-2F)) Dwarf	NK
Coker 319	1963	(C-139 X Hicks)	NK
Coker 371-Gold	1986	(G-28 X 354) X (CB 139 X F-105) (G-28 X 34) X NC 82	NK
K 149	1988	([G-28 X 354] X[CB-139 X F-105 X [G-28 X 354] X McNair 399	NK
K 326	1981	McNair 225 (McNair 30 X NC 95)	NK
K 340	1985	McNair 944 X NC 82	NK
K 346	1988	McNair 926 X 80241	NK
K 358	1987	McNair 926 X 80241	NK
K 394	1983	Speight G-28 X McNair 944	NK
K 399	1979	(C-139 X C-319) X NC 95	NK
NK 730	1989	McNair 926 X 80241	NK
NK 7160	1989	McNair 926 X McNair 944	NK
McNair 373	1978	(C-139 X C-319) McNair 039-4	NK
McNair 944	1972	Speight G-10 X McNair 30	NK
NC 27NF	1985	(C-319 X NC TG-21) X C-319	NC
NC 37NF	1987	(C-319 X NC TG-21) X NC 82	NC
NC 60	1985	McNair 944 X Speight G-28	NC
NC 82	1978	6129 X C-319	NC
Reams 134	1988	McNair 944 X Hicks	Reams
Reams 158	1985	McNair 944 X Hicks	Reams
Speight G-28	1969	(Ox. 1-181 X C-139 X NC 95)	Speight
Speight G-70	1978	C-258 X Va.115 X G-10	Speight
Speight G-108	1986	G-70 X G-28	Speight
Va. 116	1989	NC 82 X C-319	Va.
NC 8003 USDA	F11	(Speight G-28 X C 411)X(CV 244 X CV 267)	USDA
NC 9136 USDA	F8	(K 326 X K 399)	USDA
NC 9140 USDA	F8	(Speight G-28 X C 347) X C 48	USDA
NC 9145 USDA	F8	(NC 86 X McNair 373)X(C 347 X K 399)	USDA
NC 9147 USDA	F13	[C 319 X Speight G-28] X [McNair 944 X (CV 244 X CV 267)]	USDA
NC 9149 USDA	F8	McNair 373 X C 347	USDA
NC 9153 USDA	F∞	(C 319 X K 399)	USDA
NC 9169 USDA	F5	NC 85 X K 326	USDA
Speight G-121	F10	G-78 X G-70	Speight
Speight G-125	F8	G-52 X NC 82	Speight
Speight G-126	F7	K-326 X G-96	Speight
Speight G-128	F7	G-58 X Va. 115	Speight
Speight G-134	F7	G-80 X G-100	Speight
Speight G-135	F6	G-83M X G-80	Speight