No. 7600004

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Coker's Pedigreed Seed Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF seventeen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, [illegible]R IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT [illegible]IETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. [illegible] UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS [illegible] OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS [illegible]Y THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

TOBACCO

'Coker 86'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 27th *day of* October *in the year of our Lord one thousand nine hundred and* seventy-six

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
(2-12-71)

UNITED STATES DEPARTMENT OF AGRICULTURE
CONSUMER AND MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1. VARIETY NAME OR TEMPORARY DESIGNATION Coker 86	2. KIND NAME Tobacco	FOR OFFICIAL USE ONLY PVPO NUMBER 7600004
3. GENUS AND SPECIES NAME Nicotiana tabacum	4. FAMILY NAME *(Botanical)* Solanaceae 5. DATE OF DETERMINATION 1971	FILING DATE 8-20-75 / TIME 9:00 A.M. FEE RECEIVED $ 750.00 / CHARGES —
6. NAME OF APPLICANT(S) Coker's Pedigreed Seed Company	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* P. O. Box 340 Hartsville, S. C. 29550	8. TELEPHONE AREA CODE AND NUMBER 803-332-8151

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* Corporation	10. STATE OF INCORPORATION South Carolina	11. DATE OF INCORPORATION June 12, 1918

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:
Dr. C. R. Miller
Tobacco Department
Coker's Pedigreed Seed Company
P. O. Box 340
Hartsville, S. C. 29550

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

[X] 12A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52, P.L. 91-577)*

[X] 12B. Exhibit B, Botanical Description of the Variety

[X] 12C. Exhibit C, Objective Description of the Variety

[X] 12D. Exhibit D, Data Indicative of Novelty

[X] 12E. Exhibit E, Statement of the Basis of Applicant's Ownership

The applicant declares that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable. *(See Section 52, P.L. 91-577).*

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? *(See Section 83(a), P.L. 91-577) (If "Yes," answer 14B and 14C below.)* [X] YES [ ] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? [X] YES [ ] NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? Registered (1 year) Certified (1 year)

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act (P.L. 91-577).

Aug 1, 1975
(DATE)

Carol R. Miller
(SIGNATURE OF APPLICANT)
Dr. Carol R. Miller
Director, Tobacco Breeding and Research

(DATE)

(SIGNATURE OF APPLICANT)

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Exhibit A. ORIGIN AND BREEDING HISTORY OF COKER 86 TOBACCO

Year	
1961	Cross of Beltsville 61-10 and a selection from a cross between Coker 139 and Hicks that was released two years later as Coker 319.
1961-62	F_1 plants grown in Florida winter breeding nursery.
1962	F_2 progeny rows reselected in summer breeding nursery.
1963	F_3 progeny rows reselected in summer breeding nursery.
1964	F_4 progeny rows reselected in summer breeding nursery.
1965	F_5 progeny rows reselected in summer breeding nursery.
1965	Cross of Coker 258 and F_5 selection of the above cross (Beltsville 61-10xCoker 319)
1965-66	F_1 plants grown in Florida winter breeding nursery.
1966	F_2 progeny rows reselected in summer breeding nursery.
1966-67	F_3 progeny rows reselected in Florida winter breeding nursery.
1967	F_4 progeny rows reselected in summer breeding nursery.
1968	F_5 progeny rows reselected in summer breeding nursery.
1968	Cross of F_5 selection of above cross (Coker 258x(Belts. 61-10xCoker 319) with 175 LaPrade.
1968-69	F_1 plants grown in Florida winter breeding nursery.
1969	F_2 progeny rows reselected in summer breeding nursery.
1969-70	F_3 progeny rows reselected in Florida winter breeding nursery.
1970	F_4 progeny rows reselected in summer breeding nursery.
1971	F_5 progeny rows reselected in summer breeding nursery.
1972	F_6 progeny rows tested in Advanced Strains-Variety Test and Regional Small Plot Tests as Coker 71-86MM.
1973	F_7 progeny rows tested in Advanced Strains-Variety Test and nurseries and a small seed increase was carried out.
1974	F_8 progeny rows were tested in the Advanced Strains-Variety Test and both the Regional Small Plot and Regional Farm Tests. A seed increase field was planted from bulked seed from a selected F_8 progeny row and the resulting F_9 seed were harvested.

Throughout the development of Coker 86, each generation of each progeny row was grown from seed of an individual plant selection.

The breeding nurseries in which this variety was produced are severely infested with either the black shank, Granville (bacterial) wilt, and/or root knot organisms. Leaves were harvested, identified, cured and graded, and chemically analyzed from every plant progeny row throughout the entire development period. Fusarium wilt inoculation tests were also conducted in the greenhouse during the same winters plants were grown in South Florida near Homestead.

Variants: No variants have been observed throughout the regional testing and increase period.

Evidence of stability: Coker 86 has remained phenotypically stable throughout its advanced testing and increase period. Progeny rows from the variety are of the same phenotype, maturity, height, yield and quality, and exhibit the same disease resistance reactions.

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Exhibit 12B. Botanical Description of the Variety.

Coker 86 has a medium-broad leaf similar to Coker 258 in both size and surface texture. It differs from Coker 258 in that the leaf is more channeled and the midrib is slightly curved in younger leaves but tends to straighten and simultaneously arch as the leaf matures. The veins originating directly from the midrib tend to be unevenly spaced producing slight evaginations of the leaf surface in one or more areas of the leaf.

FORM GR-470-31
(12-16-74)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

OBJECTIVE DESCRIPTION OF VARIETY
Tobacco (Nicotiana tabacum)

NAME OF APPLICANT(S)
Coker's Pedigreed Seed Company

VARIETY NAME OR TEMPORARY DESIGNATION
Coker 86

ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)
P. O. Box 340
Hartsville, S. C. 29550

FOR OFFICIAL USE ONLY
PVPO NUMBER
7600004

Place the appropriate number that describes the varietal character in the boxes below.
Place a zero in first box (e.g. [0 8 9] or [0 9] when number is either 99 or less or 9 or less.

1. CLASS:

[1] 1 = FLUE-CURED 2 = FIRE-CURED 3 = AIR-CURED 4 = CIGAR FILLER 5 = CIGAR BINDER 6 = CIGAR WRAPPER
7 = MISCELLANEOUS-DOMESTIC 8 = FOREIGN-CIGAR LEAF 9 = FOREIGN-NON-CIGAR LEAF

[ ] AIR-CURED: 1 = BURLEY 2 = MARYLAND 3 = DARK AIR-CURED

STANDARD VARIETIES

01 = NC 95 02 = NC 2326 03 = COKER 319 04 = HICKS 05 = SPEIGHT G-28 06 = SC 58
07 = Ky 151 08 = BURLEY 21 09 = BURLEY 49 10 = Ky 10 11 = MARYLAND 609 12 = Ky 165
13 = Pennbel 69 14 = HAVANA 503 15 = FLORIDA 17 16 = OTHER

2. MATURITY (Transplant to 50% plants 1 Fl.) (Select code from Standard Varieties listed above)

[0 5 9] NO. OF DAYS
[ ] DAYS EARLIER THAN . . . [ ]
[0 5] DAYS LATER THAN . . . . . [0 2]

3. SEEDING TO TRANSPLANTING (Select code from Standard Varieties listed above)

[ ] NO. OF DAYS
[ ] DAYS EARLIER THAN . . . [ ]
[ ] DAYS LATER THAN . . . . . [ ]

4. PLANT HEIGHT (After topping) (Select code from Standard Varieties listed above)

[1 1 1] CM TALL
[ ] CM SHORTER THAN . . . . . [ ]
[0 7] CM TALLER THAN . . . . . [0 2]

5. LEAF SIZE (At leaf maturity) (Select code from Standard Varieties listed above)

LENGTH

[6 5 6] CM 5TH LEAF
[6 0] CM SHORTER THAN . . . . . [0 2]
[2 3] CM LONGER THAN . . . . . [0 1]

[6 8 0] CM ~~XXX~~ 8th LEAF
[5 5] CM SHORTER THAN . . . . [0 2]
[2 8] CM LONGER THAN . . . . . [0 1]

[ ] CM 15TH LEAF
[ ] CM SHORTER THAN . . [ ]
[ ] CM LONGER THAN . . . [ ]

WIDTH

[2 8 0] CM 5TH LEAF
[2 8] CM NARROWER THAN . . . [0 1]
[0 1] CM WIDER THAN . . . . . [0 2]

[2 9 2] CM ~~XXX~~ 8th LEAF
[2 4] CM NARROWER THAN . . . [0 2]
[ ] CM WIDER THAN . . . . . [ ]

[ ] CM 15TH LEAF
[ ] CM NARROWER THAN [ ]
[ ] CM WIDER THAN . . . . [ ]

6. LEAF YIELD (Select code from Standard Varieties listed above)

[3 0 3 2] KG/HA
[ ] % LESS THAN . . . . . [ ]
[1 6] % MORE THAN . . . . . [0 2]

Exhibit D. Data Indicative of Novelty

Summary Novelty Statement: Coker 86 differs from most other flue-cured tobacco varieties by the fact that it (Coker 86) is resistant to tobacco mosaic virus (TMV). Only three other varieties, namely Va. 770, SC 71 and SC 72, exhibit resistance to TMV.

Coker 86 can be most readily distinguished from the above three varieties by the following characteristics. Coker 86 has high resistance to black shank, Fusarium wilt and bacterial wilt whereas Va. 770 has only low resistance to black shank and Fusarium wilt and moderate resistance to bacterial wilt (Table 1).

Coker 86 differs most obviously from SC 71 by the fact that SC 71 is susceptible to root-knot nematodes (meloidgyne incognita) whereas Coker 86 is resistant to the above nematode disease (Table 1).

The differences between the disease resistance reactions of Coker 86 and SC 72 are not quite as obvious as in the two above comparisons since S. C. 72 is moderatly resistant to black shank and has a similar degree of resistance to the other major diseases as does Coker 86. However, Coker 86 can be easily distinguished from SC 72 by the fact that Coker 86 yields on the average 166 pounds more per acre, blooms two days later, and exhibits a value index of 1.35 lower than SC 72 (significant at the .05, and .01 levels, respectively). In addition, Coker 86 is on the average three inches (7.62 cm) taller than SC 72 (significant at the .01 level) (Table 2).

(Tobacco Application No. 7600004 - "Coker 86")

Exhibit D. Data Indicative of Novelty (Revised 4/14/76)

SUMMARY NOVELTY STATEMENT: Coker 86 clearly differs from all other flue-cured tobacco varieties except Va. 770, SC 71, and SC 72 by the fact that Coker 86 is resistant to tobacco mosaic virus. Coker 86 is distinguished from Va. 770 since Coker 86 has high resistance to blackshank, Fusarium wilt and Granville wilt whereas Va. 770 has only low resistance to both blackshank and Fusarium wilt and moderate resistance to Granville wilt.

Coker 86 differs most obviously from SC 71 by the fact that Coker 86 is resistant to the root-knot nematode *Meliodogyne incoynita* whereas SC 71 is susceptible.

Coker 86 differs from SC 72 in that Coker 86 has high resistance to blackshank whereas SC 72 has moderate resistance. In addition, Coker 86 blooms two days later (significant at .05 level) and averages three inches taller (significant at .01 level) than SC 72.

Exhibit D

APPENDIX

Table 1. Disease Resistance Ratings for the Flue-Cured Tobacco Varieties Exhibiting Resistance to Tobacco Mosaic Virus.

Variety	Black Shank	Fusarium Wilt	Bacterial Wilt	Rootknot Nematode
Coker 86	High	High	High	Resistant
Va. 770	Low	Low	Mod.	Resistant
SC 71	Mod.	Mod.	Low	Susceptible
SC 72	Mod.	High	High	Resistant

Table 2. Comparison of Two Varieties for Certain Characteristics *.

Variety	Yield Lbs/A	Value Index Dollar/CWT	Days to Flower	Height of Plant
Coker 86	2864	95.52	65	41
SC 72	2698	96.87	63	38
LSD (.05)	172	1.00	2	2
(.01)	227	1.32	3	2

* Data from five locations.

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Exhibit 12D. Data Indicative of Novelty

Table 1. Tobacco Variety-Strains Test. 1972 and 1974.
Coker's Pedigreed Seed Company
Hartsville, South Carolina[1]

Variety	Pounds per Acre	U.S. Grade Support Dollar per Acre	U.S. Grade Support Price per CWT	Days to Flower	Plant Height Inches	Leaves per Plant
			1974			
Coker 319	2052	$1759.85	85.76	56	39.3	20.4
NC 2326	2199	1823.37	82.92	51	37.3	16.5
NC 95	2088	1836.99	87.98	56	38.4	19.7
*Coker 86	2547	2225.82	87.39	62	43.0	20.8
			1972			
Coker 319	2365	1953.80	82.61	53	36.7	17.7
NC 2326	2267	1886.20	83.20	51	35.4	15.9
NC 95	2288	1849.60	80.84	53	39.4	16.8
*SC 72	2532	2063.40	81.49	52	41.0	18.0
*Coker 86	2826	2291.60	81.09	56	43.3	20.6

[1]Replicated 3 times at each of two locations.
*Resistant to tobacco mosaic virus.

Table 2. Disease Resistance Ratings for Several Flue-Cured Tobacco Varieties.

Variety	Black Shank	Fusarium Wilt	Bacterial Wilt	Rootknot Nematodes	Tobacco Mosaic Virus
Coker 319	Low	Low	Low	Susceptible	Susceptible
NC 2326	Mod.	Low	Susc.	Susceptible	Susceptible
NC 95	Mod.	High	High	Resistant	Susceptible
SC 71	Mod.	Mod.	Low	Susceptible	Resistant
SC 72	Mod.	High	High	Resistant	Resistant
VA 770	Low	Low	Mod.	Resistant	Resistant
Coker 86	High	High	High	Resistant	Resistant

Coker 86 is a high yielding, late maturing variety that is resistant to tobacco mosaic virus, black shank, Fusarium wilt, bacterial wilt and rootknot nematodes. It can be distinguished from the only other three mosaic resistant varieties by its higher yield, late maturity, the Coker 258-type texture of the leaf surface and generally higher disease resistance.

(Tobacco Application No. 7600004 - "Coker 86")

Appendix - Exhibit D. (Revised 4/13/76)

Table 1. Disease Resistance Ratings for Flue-Cured Tobacco Varieties Exhibiting Resistance to Tobacco Mosaic Virus.

Variety	Black Shank	Fusarium Wilt	Granville Wilt	Rootknot Nematode
Coker 86 1)	High	High	High	Resistant
Va. 770 2)	Low	Low	Mod.	Resistant
SC 71 2)	Mod.	Mod.	Low	Susceptible
SC 72 3)	Mod.	High	High	Resistant

1) Based on two years data. See Table 18 on page 2 of Appendix. (Machine copy of page 22 of 1976 Tobacco Information. North Carolina Agricultural Extension Service, Misc. Ext. Publication No. 152.)

2) Most Recent Test. See Table 15 on page 3 of Appendix. (Machine Copy of page 17 of Tobacco Information for 1973, North Carolina Agricultural Extension Service, Misc. Ext. Publication No. 90.)

3) Most Recent Tests. See Tables 18 and 14 on pages 4 and 5 of Appendix. (Machine copies of page 19 of Tobacco Information for 1974, and page 19 of 1975 Tobacco Information, N.C. Agricultural Extension Service, Misc. Ext. Publication Nos. 108 and 126, respectively.)

Table 2. Comparison of two Varieties for Certain Characteristics for Five Locations in 1974. *

Variety	Days to Flower	Height of Plant
Coker 86	65	41 inches
SC 72	63	38 inches
LSD (.05)	2	2
(.01)	3	2

* Measured Crop Preformance - Tobacco. 1974. N.C. State University, Research Report No. 53, page 22. (Coker 71-86MM = Coker 86)

Page 2 - Appendix

VARIETY INFORMATION

Variety Selection

Selecting the variety or varieties to best fit a grower's situation is an important part of growing a good crop of tobacco. A grower should give major consideration to the following characteristics when making his decision:

1. Disease resistance needed.
2. Yield potential.
3. Quality of cured leaf.
4. Number of ground suckers.
5. General handling characteristics.

Growers should be cautious of selecting any variety with which they have had no experience. A new variety should be planted on a limited scale the first year it is available.

Table 18. Combined Data of the 1974-75 Official Tobacco Variety Tests Conducted by The N. C. Agricultural Experiment Station. 1/

Variety	Release Date	Yield lbs/A	Value $/A	1975 2/ Quality Index	Resistance 3/ 1975 Rating BS	GW	RK	B. Spot
NC 2326	1965	2768	2797	50	M	Su	Su	MT
NC 95	1961	2749	2744	48	M	H	R	T
*Coker 86	1974	2988	2936	41	H	H	R	Se
Coker 254	1967	2751	2759	50	M	H	R	Se
Coker 258	1966	2792	2742	43	H	H	R	Su
Coker 298	1965	2769	2738	46	H	H	Su	VS
Coker 319	1963	2664	2691	52	L	L	Su	Se
Coker 347	1969	2969	2981	48	M	M	R	Se
Coker 411	1969	2874	2901	52	H	L	Su	VS
McNair 944	1972	2944	2969	49	H	L	Su	VS
McNair 1040	1973	2797	2828	52	M	L	Su	VS
*NC 12	1974	2760	2776	45	M	M	Su	Se
*NC 79	1973	2909	2948	50	M	L	R	MT
NC 88	1971	2862	2875	50	M	M	R	T
*NC 98	1974	2674	2681	49	M	M	R	MT
Speight G-15	1972	2589	2610	51	M	M	R	T
*Speight G-23	1974	2786	2774	46	M	H	R	T
Speight G-28	1969	2711	2702	47	H	H	R	T
Speight G-33	1970	2910	2866	44	M	M	R	T
Speight G-140	1971	3052	3061	48	H	M	Su	VS
Va. 115	1965	2900	2904	48	M	L	Su	MT

*New variety available for grower planting in 1976.

1/ Conducted by John C. Rice, Glenn Hayes, and Ernest Price, Crop Science Department.

2/ Quality Index based on numerical quality rating based on government grade.

3/ Description rating applied specifically to North Carolina. H = High; M = Moderate; L = Low; Su = Susceptible; T = Tolerant; Se= Sensitive; M.T. = Moderately Tolerant; V.S. = Very Sensitive; BS = Black Shank; GW = Granville Wilt; FW = Fusariam Wilt Complex; RK = Root Knot; B. Spot = Brown Spot.

Table 15. Combined data of the 1971-1972 official tobacco variety tests conducted by the N. C. Agricultural Experiment Station

Whiteville, Rocky Mount, Kinston and Reidsville

Varieties	Yield lbs/A	Value $/A	Price[1/] $/cwt.	Suckers Per Plant Ground	Suckers Per Plant Leaf Axil	No. leaves per plant	Nic. %	Sugar %	Resistance[2/] 1972 Rating BS	GW	FW	Root Knot	Brown Spot
NC 2326	2205	1805	81.94	1.2	25.1	17.5	3.37	15.96	M	L	M	S	Mod. Tol.
NC 95	2354	1920	81.68	2.8	23.8	18.8	3.52	15.30	H	H	M	R	Mod. Tol.
Bell 110	2287	1853	81.14	2.0	22.8	18.8	3.41	15.74	M	H	M	R	Mod. Tol.
Coker 254	2477	2017	81.49	3.6	23.5	20.8	3.31	14.49	H	H	S	R	Sen.
Coker 298	2463	1988	80.71	1.6	19.1	20.0	3.46	15.20	H	H	S	S	V. Sen.
Coker 319	2373	1937	81.73	2.3	26.6	19.5	3.05	15.34	L	L	L	S	Sen.
Coker 347	2592	2119	81.82	2.2	26.1	20.2	3.10	14.73	H	M	M	R	Mod. Tol.
Coker 411	2435	1983	81.49	1.4	22.3	18.8	2.99	15.11	H	L	S	S	V. Sen.
McNair 30	2220	1807	81.48	2.5	26.6	17.4	3.55	14.55	M	S	L	S	Sen.
McNair 133	2357	1921	81.56	3.2	23.3	19.0	3.26	15.19	H	H	S	S	V. Sen.
McNair 135	2483	2016	81.33	1.9	22.7	20.7	3.23	16.28	M	L	L	S	V. Sen.
*NC 88	2497	2044	81.97	3.4	24.1	18.5	3.69	14.52	L	M	L	R	Tol.
SC 71	2388	1916	80.27	2.4	23.4	19.6	3.53	15.83	M	L	M	S	Sen.
*SC 72	2435	1977	81.22	2.0	21.8	19.1	3.53	15.85	L	M	L	R	Sen.
Speight G-7	2545	2070	81.44	3.1	24.0	19.6	3.44	15.99	M	L	S	S	Sen.
Speight G-28	2316	1874	80.95	1.6	22.8	18.9	2.94	14.15	H	H	L	R	Tol.
Speight G-33	2496	2034	81.52	1.8	24.0	20.3	3.04	16.99	H	H	M	R	Tol.
Speight G-41	2406	1947	80.99	1.6	21.0	19.4	3.39	15.64	M	H	M	R	Tol.
*Speight G-140	2656	2161	81.42	2.1	21.5	20.4	3.21	16.94	M	M	M	S	Sen.
Va. 115	2374	1923	81.15	1.8	22.9	18.6	3.37	16.38	M	L	S	S	Mod. Tol.
Va. 770	2159	1731	80.09	5.0	28.3	17.5	3.36	14.47	L	M	L	R	Mod. Tol.

1/ Price is based on average market price by grade. 2/ The descriptive rating applied specifically to North Carolina. H = High resistance; M = Moderate; L = Low; S = Susceptible; Tol. = Tolerant; Sen. = Sensitive; BS = Blackshank; GW = Granville Wilt; FW = Fusarium Wilt.

Table 16. Results of Official Tobacco Variety Test - At Individual Locations 1972

Varieties	Whiteville Yield	Whiteville Value	Whiteville Price	Rocky Mount Yield	Rocky Mount Value	Rocky Mount Price	Kinston Yield	Kinston Value	Kinston Price	Reidsville Yield	Reidsville Value	Reidsville Price
NC 2326	2566	2188	85.26	2140	1785	83.46	2208	1868	84.59	1600	1351	84.44
NC 95	2628	2213	84.23	2080	1729	83.10	2364	1983	83.89	1902	1602	84.22
Bell 110	2608	2194	84.15	2058	1700	82.61	2568	2170	84.48	1666	1403	84.18
Coker 254	2884	2422	83.97	2302	1910	82.99	2566	2162	84.25	2054	1736	84.54
Coker 298	2844	2381	83.74	2540	2111	83.13	2276	1869	82.11	1984	1651	83.21
Coker 319	2734	2308	84.40	2228	1872	84.01	2252	1885	83.69	1968	1669	84.80
Coker 347	3004	2521	83.92	2422	2009	83.00	2598	2197	84.58	2134	1809	84.75
Coker 411	2662	2258	84.82	2276	1914	84.09	2500	2097	83.86	2074	1760	84.87
McNair 30	2560	2169	84.72	2066	1706	82.58	2146	1805	84.11	1958	1647	84.10
McNair 133	2626	2211	84.18	2318	1911	82.46	2356	1965	83.39	1826	1545	84.56
McNair 135	2934	2466	84.06	2380	1997	83.93	2336	1940	83.04	1996	1679	84.09
*NC 88	2670	2245	84.07	2268	1866	82.20	2424	2039	84.11	2048	1723	84.14
SC 71	2860	2375	83.07	2176	1805	82.96	2402	2017	83.98	1886	1562	82.84
*SC 72	2774	2331	84.03	2240	1841	82.22	2456	2065	84.07	2046	1730	84.55
Speight G-7	2974	2475	83.21	2364	1970	83.34	2528	2126	84.05	2060	1737	84.32
Speight G-28	2644	2220	83.92	2124	1747	82.24	2352	1964	83.50	1822	1536	84.28
Speight G-33	2912	2449	84.08	2500	2091	83.60	2536	2124	83.75	1800	1513	84.06
Speight G-41	2650	2229	84.13	2512	2048	81.50	2486	2090	84.06	1738	1459	83.82
*Speight G-140	2998	2516	83.93	2520	2073	82.27	2514	2107	83.80	2256	1905	84.41
Va. 115	2582	2179	84.38	2180	1811	83.01	2416	2039	84.38	1784	1481	83.06
Va. 770	2576	2154	83.62	1982	1644	82.97	2232	1851	82.93	1948	1632	83.78

* New varieties available for grower planting in 1972.
Tests conducted by John C. Rice, DeWitt T. Gooden and Ernest Price, Crop Science Department, N. C. State University.

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REPORT ON NEW VARIETIES

The varieties listed below have been tested for several years. They have met the standards of the Flue-Cured Tobacco Variety Evaluation Committee and were released in 1972. Seed were increased during 1973 and will be available for the 1974 season. The following is a brief description of these varieties. Disease resistance data may be found in the disease section of this publication. Growers should be cautious about selecting a new variety with which they have had no experience and should plant only a portion of their crop with the new variety.

McNair 944 was developed from a cross of (Speight G-10 x McNair 30). It produced a high yield of high quality tobacco on the basis of government grades. The variety produced a high percentage of orange colored leaf which was medium in body and texture with a medium nicotine content. The plants grew medium tall with a medium number of leaves which were of medium length and width. There was a low number of ground suckers.

Va. 080 was developed from a cross of (NC 95 x Burley 49). It produced a medium to low yield of high quality tobacco on the basis of government grades. The variety produced a high percentage of orange colored leaf which was medium to thin in body and medium texture, with a medium to high nicotine content. The plants grew medium tall with a medium number of leaves which were of medium length and width. There was a medium number of ground suckers.

Table 18. Combined Data of the 1972-73 Official Tobacco Variety Tests Conducted By the N. C. Agricultural Experiment Station.

Varieties	Yield lbs/A	Value $/A	Price 1/ $/cwt.	Resistance 2/ 1973 Rating				
				BS	GW	FW	Root Knot	Brown Spot
NC 2326	2442	2105	86.20	M	Su.	L	Su.	M.T.
NC 95	2476	2124	85.78	M	H	H	R	T
Coker 254	2611	2240	85.79	M	H	L	R	S
Coker 298	2597	2216	85.33	H	H	Su.	Su.	V.S.
Coker 319	2568	2210	86.06	L	L	L	Su.	S
Coker 347	2756	2359	85.60	M	M	H	R	M.T.
Coker 411	2656	2291	86.26	H	L	Su.	Su.	V.S.
McNair 133	2444	2096	85.76	H	H	Su.	Su.	V.S.
McNair 135	2674	2287	85.53	M	L	Su.	Su.	V.S.
*McNair 944	2700	2313	85.67	H	L	Su.	Su.	V.S.
NC 88	2633	2261	85.87	M	M	H	R	T
SC 72	2553	2187	85.66	M	H	H	R	S
Speight G-28	2547	2182	85.67	H	H	H	R	T
Speight G-33	2698	2311	85.66	M	H	H	R	T
Speight G-41	2524	2153	85.30	L	M	H	R	T
Speight G-140	2845	2440	85.76	M	M	L	Su.	V.S.
*Va. 080	2417	2069	85.60	L	L	H	R	T
Va. 115	2549	2184	85.68	M	L	Su.	Su.	M.T.

1/ Price is based on market price by grade.
2/ The descriptive rating applied specifically to North Carolina. H = High; M = Moderate; L = Low; Su = Susceptible; T = Tolerant; S = Sensitive; M.T. = Moderately tolerant; V.S. = Very Sensitive; B.S. = Black Shank; G.W. = Granville Wilt; F.W. = Fusarium Wilt complex.

7600004

Exhibit 12E. Statement of the Basis of Applicant's Ownership of Coker 86 Tobacco.

Coker 86 is owned by Coker's Pedigreed Seed Company. All breeding, developmental and testing of Coker 86 (other than that performed by the regional variety testing committee) was done on land owned or operated by Coker's Pedigreed Seed Company and under the direct supervision of personnel of the tobacco department of said company. All seed were also produced on land owned or operated by Coker's Pedigreed Seed Company, supervised by tobacco department personnel, and inspected and approved by the South Carolina Crop Improvement Association and the South Carolina Department of Agriculture.

7600004

ASSIGNMENT OF PLANT VARIETY PROTECTION CERTIFICATES

WHEREAS, COKER'S PEDIGREED SEED COMPANY, a South Carolina corporation ("Coker's"), having its offices at 900 Darlington Highway, Hartsville, South Carolina 29550, has adopted and used and is the sole and exclusive owner of certain United States Plant Variety Protection Certificates and similar rights under laws of countries other than the United States as listed in Exhibit A hereto:

WHEREAS, COKER'S PEDIGREED SEED CO. and NORTHRUP KING CO., a Delaware corporation ("NK"), have entered into an Asset Purchase Agreement, dated July 20, 1988, providing for the purchase and sale of substantially all of the assets and business of Coker's and the assumption of certain of Coker's liabilities and obligations by NK; and

WHEREAS, NK desires to acquire the right, title and interest in, to and under the Plant Variety Protection Certificates listed on Exhibit A hereto and the pending applications hereto (collectively, the "Plant Variety Protection Certificates").

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, Coker's hereby sells, assigns, transfers and sets over to NK the Plant Variety Protection Certificates. Coker's further agrees, at no cost to it, to execute and deliver to NK, upon the request of NK, any further instrument of assignment that may be necessary to effectuate the transfer of each Plant Variety Protection Certificate.

IN WITNESS WHEREOF, Coker's has caused this instrument to be executed by its duly authorized representative as of the 20th day of July, 1988.

COKER'S PEDIGREED SEED COMPANY

By: _____
E. Joe Dahmer
President

STATE OF MINNESOTA)
) ss:
COUNTY OF HENNEPIN)

On this 20th day of July, 1988, before me, a Notary Public in and for the County aforesaid, the undersigned officer, E. Joe Dahmer, personally appeared and acknowledged himself to be the President of Coker's Pedigreed Seed Co., and that he executed the foregoing instrument for the purposes therein.

WITNESS my hand and seal this 20th day of July, 1988.

TIMOTHY M. BANGASSER
NOTARY PUBLIC — MINNESOTA
HENNEPIN COUNTY
My Commission Expires May 22 1992

_____
Notary Public

Winter Oat Varieties

Variety Name	U.S. Plant Variety Certificate Number	Issue Date	Term (Yrs.)
Coker 227	7500007	Oct. 20, 1977	17
Coker 716	7900003	Dec. 28, 1978	17
Coker 820	8400059	June 30, 1987	18
Coker 234	7500008	Oct. 26, 1977	17
Four Twenty Two	7700085	Apr. 12, 1979	17
Big Mac	8200121	Aug. 19, 1982	18
Mesquite	8200122	Aug. 19, 1982	18

Tobacco Varieties

Coker 347	72022	Oct. 27, 1976	17
Coker 411	72023	Oct. 27, 1976	17
Coker 86	7600004	Oct. 27, 1976	17
Coker 48	7800008	Sept. 20, 1978	17
Coker 51	8100048	Feb. 18, 1982	18
Coker 176	8300056	Sept. 29, 1983	18
Coker 206	8500040	Apr. 30, 1986	18
Coker 371 Gold	8700049	Sept. 30, 1987	18

Cotton Varieties

Coker 310	7100021	Jan. 18, 1974	17
Coker 304	7700024	Dec. 21, 1978	17
Coker 420	7900087	Jan. 29, 1980	17
Coker 315	8000087	Dec. 18, 1980	17

FORM GR-470-31
(12-16-74)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

OBJECTIVE DESCRIPTION OF VARIETY

Tobacco (Nicotiana tabacum)

NAME OF APPLICANT(S)
Coker's Pedigreed Seed Company

ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)
P. O. Box 340
Hartsville, S. C. 29550

VARIETY NAME OR TEMPORARY DESIGNATION
Coker 86

FOR OFFICIAL USE ONLY
PVPO NUMBER
7600004

Place the appropriate number that describes the varietal character in the boxes below.
Place a zero in first box (e.g. [0 8 9] or [0 9] when number is either 99 or less or 9 or less.

1. CLASS:

[1] 1 = FLUE-CURED 2 = FIRE-CURED 3 = AIR-CURED 4 = CIGAR FILLER 5 = CIGAR BINDER 6 = CIGAR WRAPPER
7 = MISCELLANEOUS-DOMESTIC 8 = FOREIGN-CIGAR LEAF 9 = FOREIGN-NON-CIGAR LEAF

[ ] AIR-CURED: 1 = BURLEY 2 = MARYLAND 3 = DARK AIR-CURED

STANDARD VARIETIES

01 = NC 95	02 = NC 2326	03 = COKER 319	04 = HICKS	05 = SPEIGHT G-28	06 = SC 58
07 = Ky 151	08 = BURLEY 21	09 = BURLEY 49	10 = Ky 10	11 = MARYLAND 609	12 = Ky 165
13 = Pennbel 69	14 = HAVANA 503	15 = FLORIDA 17	16 = OTHER		

2. MATURITY (Transplant to 50% plants 1 Fl.) (Select code from Standard Varieties listed above)

[0 5 9] NO. OF DAYS
[ ] DAYS EARLIER THAN . . . [ ]
[0 5] DAYS LATER THAN . . . . . [0 2]

3. SEEDING TO TRANSPLANTING (Select code from Standard Varieties listed above)

[ ] NO. OF DAYS
[ ] DAYS EARLIER THAN . . . [ ]
[ ] DAYS LATER THAN . . . . . [ ]

4. PLANT HEIGHT (After topping) (Select code from Standard Varieties listed above)

[1 1 1] CM TALL
[ ] CM SHORTER THAN . . . . . [ ]
[0 7] CM TALLER THAN . . . . . [0 2]

5. LEAF SIZE (At leaf maturity) (Select code from Standard Varieties listed above)

LENGTH

[6 5 6] CM 5TH LEAF
[6 0] CM SHORTER THAN . . . . . [0 2]
[2 3] CM LONGER THAN . . . . . [0 1]

[6 8 0] CM 8th LEAF
[5 5] CM SHORTER THAN . . . . [0 2]
[2 8] CM LONGER THAN . . . . . [0 1]

[ ] CM 15TH LEAF
[ ] CM SHORTER THAN . . [ ]
[ ] CM LONGER THAN . . . [ ]

WIDTH

[2 8 0] CM 5TH LEAF
[2 8] CM NARROWER THAN . . . [0 1]
[0 1] CM WIDER THAN . . . . . [0 2]

[2 9 2] CM 8th LEAF
[2 4] CM NARROWER THAN . . . [0 2]
[ ] CM WIDER THAN . . . . . [ ]

[ ] CM 15TH LEAF
[ ] CM NARROWER THAN [ ]
[ ] CM WIDER THAN . . . . [ ]

6. LEAF YIELD (Select code from Standard Varieties listed above)

[3 0 3 2] KG/HA
[ ] % LESS THAN . . . . . [ ]
[1 6] % MORE THAN . . . . . [0 2]

 7600004 COKER 86

13. DISEASE (0 = Not tested, 1 = Susceptible, 2 = Resistant)

0	POTATO VIRUS Y	2	TMV
0	NEMATODE ROOT ROT (LESION, SPECIES)	2	ROOT KNOT NEMATODE
0	TOBACCO ETCH VIRUS	1	OZONE AIR POLLUTION
	OTHER (Specify)		OTHER (Specify)

NOTE: Under 16 "Comments", give comparative reaction with a standard variety appropriate for each disease tested and indicate if disease reaction of the variety exceeds, equals or is less than that of the standard).

14. LEAF CONSTITUENTS (Give data for described and standard variety):

VARIETY	NICOTINE %	NOR NICOTINE %	TOTAL NITROGEN %	REDUCING SUGARS % (FLUE-CURED)
SUBMITTED	2.86	2.2	2.24	15.83
STANDARD	3.20	2.0	2.28	15.40
NAME OF STANDARD VARIETY	NC 2326	NC 2326	NC 2326	NC 2326

15. VARIETIES MOST CLOSELY RESEMBLING THAT DESCRIBED FOR THE CHARACTERS GIVEN:

CHARACTER	VARIETY	CHARACTER	VARIETY
MATURITY	Coker 258	LEAF TIP SHAPE	
LEAF LENGTH	NC 95	VENATION PATTERN	Speight G-28
LEAF WIDTH	NC 95	LEAF SURFACE	Coker 258
LEAF CARRIAGE		LEAF MARGIN	Coker 258
PETIOLE ANGLE		LEAF COLOR	Coker 258
LEAF SHAPE	NC 95	PLANT FORM	Unique

16. COMMENTS (For increasing accuracy of description)

FORM GR-470-31 (page 2) Coker 86 7600004

GROUPING: STANDARD VARIETIES

01 = NC 95 02 = NC 2326 03 = COKER 319 04 = HICKS 05 = SPEIGHT G-28 06 = SC 58
07 = Ky 151 08 = BURLEY 21 09 = BURLEY 49 10 = Ky 10 11 = MARYLAND 609 12 = Ky 165
13 = Pennbel 69 14 = HAVANA 503 15 = FLORIDA 17 16 = OTHER _____

7. LEAF NUMBER (Select code from Standard Varieties listed above)

TOPPED NORMAL:

[2 0 8] NO. PER PLANT

[ ] NO. OF LEAVES > 40.6 CM [ ] CM HEIGHT OF LAST LEAF > 40.6 CM

NOT TOPPED:

[ ] NO. OF LEAVES OR NODES TO "CROWFOOD" FROM 1ST HARVESTABLE LEAF

8. INTERNODES (Topped) (Select code from Standard Varieties listed above)

[5 2] MM LENGTH [0 5] MM SHORTER THAN ..... [0 2] [ ] MM LONGER THAN..... [ ]

9. LEAF CHARACTERISTICS:

PETIOLE ANGLE:

[4 5] DEGREES [3] GROUPING: 1 = < 35° 2 = 35–45° 3 = 46–65° 4 = > 65°

LEAF CARRIAGE

[1] 1 = ARCHED (DROOPING) 2 = HORIZONTAL 3 = UPRIGHT

LEAF COLOR (At topping or when 50% of plants with 1 flower)

[2] 1 = LIGHT GREEN 2 = GREEN 3 = DARK GREEN 4 = YELLOW–GREEN 5 = YELLOW

LEAF SHAPE:

[3] 1 = BROADER THAN LONG 2 = LENGTH EQUALS WIDTH 3 = LONGER THAN BROAD

[ ] 1 = BROADEST AT MIDDLE 2 = BELOW MIDDLE 3 = ABOVE MIDDLE

TIP SHAPE

[2] 1 = ACUTE 2 = ACUMINATE 3 = OBTUSE

VENATION PATTERN:

[2] 1 = SQUARE 2 = ANGULAR

LEAF SURFACE

[2] 1 = SMOOTH (HICKS) 2 = PUCKERED (NC 95)

LEAF MARGIN

[2] 1 = WAVY 2 = NOT WAVY

[2] 1 = RECURVED 2 = NOT RECURVED

10. FLOWERS:

[2] COLOR: 1 = WHITE 2 = PINK 3 = RED 4 = OTHER _____

FLOWER HEAD HABIT:

[2] 1 = CLOSED (NC 95) 2 = INTERMEDIATE 3 = OPEN (HICKS)

11. PLANT FORM

[1] 1 = PYRAMIDAL 2 = COLUMNAR 3 = OTHER (Specify) _____

12. GROUND SUCKERS:

[0 5] NO. PER PLANT

13. DISEASE (0 = Not tested, 1 = Susceptible, 2 = Resistant)

[2] BLACK SHANK (RACES) Common

[2] BLACK ROOT ROT

[0] BLUE MOLD

[0] WILDFIRE (SPECIES) _____

[0] BLACKFIRE

[2] FUSARIUM WILT (NICOTIANA)

[0] FUSARIUM WILT (BATATAS)

[1] FROGEYE

[1] BROWN SPOT

[2] BACTERIAL WILT

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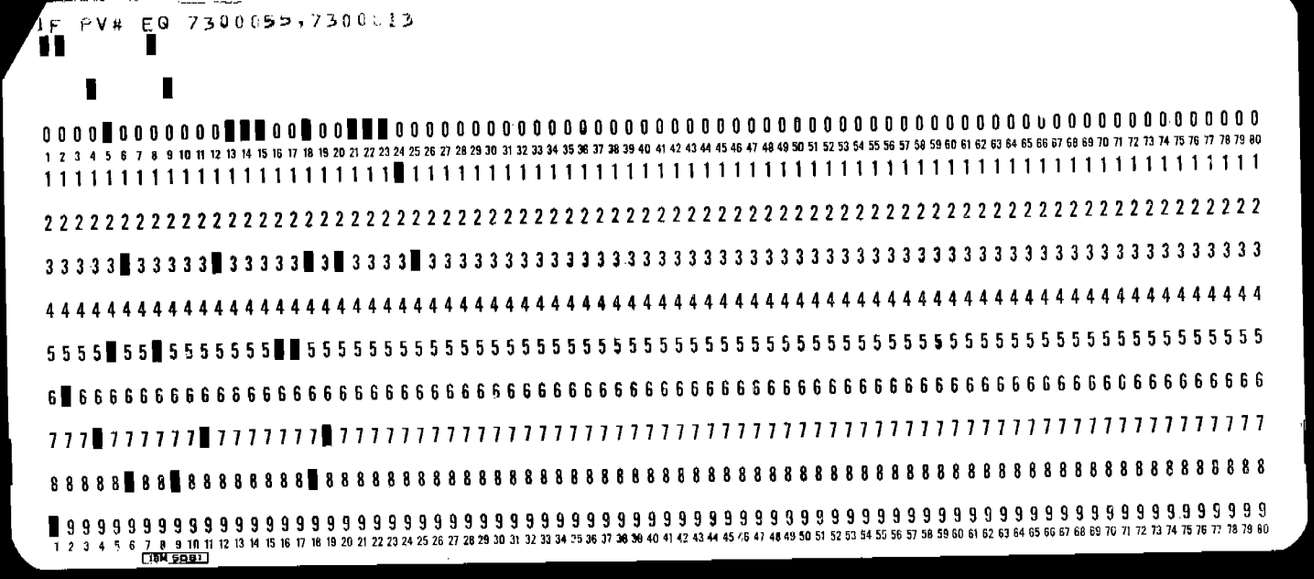

17 sheets

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Certificate folder

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