No. 7300054

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Ring Around Products, Inc.

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, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'Mitchell'

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* 30th *day of* October *in the year of our Lord one thousand nine hundred and* seventy-four

Attest:

Acting
Commissioner
Plant Variety Protection
Grain Division
Agricultural Marketing Ser

Secretary of Agriculture

FORM GR-470
(12-15-72)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL 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	2. KIND NAME	FOR OFFICIAL USE ONLY
Mitchell	Soybean	PV NUMBER 73054
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 1/30/73 — TIME 3:30 A.M. (P.M.)
Glycine Max	Leguminosae	FEE RECEIVED $ 250.00 — BALANCE DUE $ —
	5. DATE OF DETERMINATION	$ 250.00 — $ —
		$ 250.00 — $ —

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
ROHM AND HAAS SEEDS, INC. ~~AGRIPRO, INC.~~ ~~RING ABBOTT PRODUCTS, INC.~~	~~ATTN: J. HARDEY CLARK, PO BOX 589 MONTGOMERY, ALABAMA 36101~~ ~~103 South 16th Street Ames, IA 50010~~	~~(515) 232-0691~~

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	~~Iowa~~ DELAWARE	~~1973~~

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

~~Dr. Brian J. Moraghan~~ ~~DR. WAYNE ERLINGSON~~
~~103 South 16th Street~~
~~Ames, IA 50010~~

DR. JAMES E STROIKE, 727 NORRISTOWN ROAD, BUILDING 70, SPRING HOUSE, PA 19477

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

[X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

[X] 13B. Exhibit B, Botanical Description of the Variety

[X] 13C. Exhibit C, Objective Description of the Variety

[X] 13D. Exhibit D, Data Indicative of Novelty

[X] 13E. Exhibit E, Statement of the Basis of Applicant's Ownership

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). (If "Yes," answer 14B and 14C below.)* [ ] YES [X] NO

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

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? [ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

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.

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.

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

March 20, 1974 — (DATE) — B. J. Moraghan — (SIGNATURE OF APPLICANT)

(DATE) — (SIGNATURE OF APPLICANT)

73-54

~~Stine Seed Farm, Inc.~~

~~R#3 Box 98~~ ~~Adel, Iowa 50003~~ ~~Ph. 515/677-2605~~

~~soybeans & seed oats~~

~~AGRIPRO, INC.~~ RFS
RING AROUND PRODUCTS, INC.

MITCHELL

Exhibit "A"

1. Amsoy X Wayne.
2. F_2 derived lines yield tested.
3. F_4 derived lines selected from high yielding F_2 lines in winter nursery.
4. F_4 derived lines yield tested the following summer.
5. Mitchell increased and yield tested extensively in subsequent years.
6. The line is adequately uniform for maturity, height and other characters associated with intergenotypic competition to assure adequate stability in subsequent generations of multiplication.

73-54

~~Iowa's Best~~

~~soybeans & seed oats~~

~~Stine Seed Farm, Inc.~~

~~R#3 Box 98~~ ~~Adel, Iowa 50003~~ ~~Ph. 515/677-2605~~

~~AGRIPRO, Inc.~~ RJS
RING AROUND PRODUCTS, INC.

MITCHELL

Exhibit "B"

Emergence is better than Cutler 71, Clark 63 or Bonus. Growth habit is bushy, similar to Cutler 71, Clark 63 and Bonus. Height is shorter than Bonus but taller than Cutler 71 or Clark 63. Hilum color is brown, Cutler 71 and Clark 63 is black, Bonus is imperfect black.
Data indicates yield of Mitchell is significantly higher than Cutler 71, Clark 63 and Bonus.

FORM GR-470-2
(6-15-72)

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

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (GLYCINE MAX)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)
~~Stine Seed Farm, Inc.~~ ~~AGRIPRO, INC~~ RING AROUND PRODUCTS, INC. R/S

ADDRESS (Street and No., or R.F.D. No.; City, State, and ZIP Code)
~~Route 3 Box 98~~ ~~103 S. SIXTEENTH ST.~~
~~Adel, Iowa 50003~~ ~~AMES, IOWA 50010~~ MONTGOMERY, ALA.

FOR OFFICIAL USE ONLY

PVPO NUMBER
73054

VARIETY NAME OR TEMPORARY DESIGNATION
MITCHELL

Place the appropriate number that describes the varietal character of this variety in the boxes below.

1. SEED SHAPE:
[2] 1 = SPHERICAL 2 = SPHERICAL FLATTENED 3 = ELONGATE 4 = OTHER (Specify)

2. SEED COAT COLOR:
[1] 1 = YELLOW 2 = GREEN 3 = BROWN 4 = BLACK 5 = OTHER (Specify)
SHADE: [2] 1 = LIGHT 2 = MEDIUM 3 = DARK

3. SEED COAT LUSTER:
[2] 1 = DULL 2 = SHINY

4. SEED SIZE
[1 6] GRAMS PER 100 SEEDS

5. HILUM COLOR:
[3] 1 = BUFF 2 = YELLOW 3 = BROWN 4 = GRAY 5 = IMPERFECT BLACK 6 = BLACK 7 = OTHER (Specify)
SHADE: [1] 1 = LIGHT 2 = MEDIUM 3 = DARK

6. COTYLEDON COLOR:
[1] 1 = YELLOW 2 = GREEN

7. LEAFLET SIZE (See Reverse):
[2] 1 = SMALL 2 = MEDIUM 3 = LARGE

8. LEAFLET SHAPE:
[1] 1 = OVATE 2 = OBLONG 3 = LANCEOLATE 4 = ELLIPTICAL 5 = OTHER (Specify)

9. LEAF COLOR (See reverse):
[2] 1 = LIGHT GREEN 2 = MEDIUM GREEN 3 = DARK GREEN

10. FLOWER COLOR:
[2] 1 = WHITE 2 = PURPLE 3 = OTHER (Specify)

11. POD COLOR: R/S 4/2/85
[~~2~~ 1] 1 = TAN 2 = BROWN 3 = BLACK

12. POD SET:
[2] 1 = SCATTERED 2 = CONCENTRATED

13. PLANT PUBESCENCE COLOR:
[2] 1 = GRAY 2 = BROWN 3 = OTHER (Specify)
SHADE: [2] 1 = LIGHT 2 = MEDIUM 3 = DARK

14. PLANT TYPES (See Reverse):
[2] 1 = SLENDER 2 = BUSHY 3 = INTERMEDIATE

15. PLANT HABIT:
[2] 1 = DETERMINATE 2 = INDETERMINATE 3 = OTHER (Specify)

16. HYPOCOTYL COLOR:
[2] 1 = GREEN 2 = PURPLE

17. SEED PROTEIN:
[ ] 1 = A 2 = B

18. NUMBER OF DAYS TO FLOWERING (Place a zero in first box (e.g. [0 9]) when days are 9 or less.)
[ ][ ]

19. MATURITY GROUP:
[6] 1 = 00 2 = 0 3 = I 4 = II 5 = III 6 = IV 7 = V 8 = VI 9 = VII 10 = VIII

20. SIZE OF 10 DAY OLD SEEDLING GROWN UNDER CONSTANT LIGHT (Growth Chamber) AT 25° C. (Place a zero in first box (e.g. [0 2]) when size is 9 mm. or less.)
[ ][ ][ ] MM. LENGTH OF SEEDLING
[ ][ ] MM. LENGTH OF COTYLEDON
[ ][ ] MM. WIDTH OF COTYLEDON

21. DISEASE: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[0] BACTERIAL PUSTULE	[0] SOYBEAN CYST	[0] DOWNY MILDEW	[0] PURPLE STAIN	[0] POD AND STEM BLIGHT	[0] ROOT KNOT
[0] FROGEYE	[0] STEM CANKER	[1] PHYTO-PHTHORA	[0] BROWN STEM ROT	[0] TARGET SPOT	[0] BROWN SPOT
[0] BUD BLIGHT	[0] WILDFIRE	[0] RHIZOCTONIA ROT	[ ] OTHER (Specify)		

73054

FORM GR-470-2 (REVERSE)

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant shape	Cutler	Petiole angle	Cutler
Leaf shape	Cutler	Seed size	Cutler
Leaf color	Cutler	Seed shape	Cutler
Leaf surface	Cutler	Seedling pigmentation	Cutler

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY:

VARIETY	NO. OF DAYS TO MATURITY	LODGING SCORE	PLANT HEIGHT	LEAF SIZE		CONTENT		AVERAGE NO. OF PODS PER PLANT	IODINE NO.
				Width	Length	Protein	Oil		
Submitted	131	2.7	49				%	49	
Name of similar variety Cutler	130	2.5	47					44	

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for completing this form:

1. Scott, Walter O. and Samuel R. Aldrich, 1970, Modern Soybean Production, The Farmer Quarterly.
2. Norman, A. G., 1963, The Soybean: Genetics, Breeding, Physiology, Nutrition, Management.
3. McKie, J. W., and K. L. Anderson, 1970, The Soybean Book.

LEAF COLOR: Nickerson's or any recognized color fan may be used to determine the leaf color of the described variety. The following Soybean varieties may be used as a guide to identify the colors listed on the form.

COLOR	VARIETY
Light Green	"Ada"
Medium Green	"Wilkin"
Dark Green	"Swift"

LEAF SIZE: The following varieties may be used as a guide to identify the relative size leaves.

SIZE	VARIETY
Small	"Amsoy"
Medium	"Bonus"
Large	"Anoka"

PLANT TYPE: The following varieties may be used as a guide to identify the plant type.

TYPE	VARIETY
Slender	"Vansoy"
Intermediate	"Wirth"
Bushy	"Adelphia"

73-54

MITCHELL - EXHIBIT D

Novelty of Variety Mitchell

R.S. 4/2/85

To the breeder's knowledge, the soybean variety "Mitchell" most closely resembles the variety Cutler. Mitchell is similar to Cutler in that it also has tawny pubescence, ~~brown~~ TAN pod color, and purple flower color; but it can be distinguished from Cutler by its brown hilum color. Mitchell is also three days later than Cutler and has better emergence than Cutler. Yield data from state experiment tests in 1973 illustrates Mitchell's yield superiority over Cutler.

enclosure: copy of 1973 Illinois State Soybean Tests
1973 Kansas State Soybean Tests
1973 Missouri State Soybean Tests

EXHIBIT E

STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

Improved Variety Research, Inc.

73-54

Harry H. Stine
Rt. 3, Adel, Iowa 50003
[redacted]

Dale McCubbin
Rt. 5, Marshalltown, Iowa 50158
Vice President

Willard C. Latham
Alexander, Iowa 50420
Secretary, Treasurer

Harold A. Folkerts
Rt. 2, Allison, Iowa 50602
Director, Equipment Designer

EXHIBIT E RJS

To whom it may concern:

This is to inform you that as of June 1, 1973, the following assets of Improved Variety Research, Inc. have been purchased by Agripro, Inc., according to the terms of a contract:

1. All soybean seed and genetic and research materials, processes and formulae owned, used or developed by IVR wherever situated, whether in the form of seed stocks, growing plants, or genetic materials.

2. All records and memoranda used or maintained in connection with breeding, testing, increasing or any other phase of the soybean seed breeding program.

3. All contracts, agreements, leases and rights in connection with breeding, increasing, testing, marketing and producing soybean seed strains, varieties or brands, including variety protection rights.

4. All equipment, supplies, and materials including tractors, trucks, planters, cultivators, threshers, seed bags, office equipment.

5. The brand or trade name IVR and its good will.

Sincerely,

Willard C. Latham

Willard C. Latham, Secretary-Treasurer
Improved Variety Research, Inc.

1973 Performance of Commercial Soybeans in Illinois Circular 1088

73-54

Table 3. — Brownstown (Planted 30-inch rows)

Entry	Total acre yield (bu.)	Moisture	Maturity	Lodging score	Height (in.)	2-year average (1972-1973) Acre yield	2-year average (1972-1973) Lodging score	2-year average (1972-1973) Height (in.)	3-year average (1971-1972-1973) Acre yield	3-year average (1971-1972-1973) Lodging score	3-year average (1971-1972-1973) Height (in.)
Kent	44.6	10.5	Oct. 9	2.0	34	37.6	1.9	37			
Mitchell	41.4	15.2	Sept. 27	1.0	33	...	...	...	...	...	..
Seedmaker 1-E	35.6	14.6	Sept. 19	1.0	34	34.9	1.5	34	32.9	1.3	35
Cutler '71	34.1	15.1	Sept. 29	1.0	36	...	...	..	...	...	..
SRF 425	33.7	16.0	Sept. 26	1.0	37	...	...	..	...	...	..
SRF 350	33.6	12.1	Sept. 23	1.0	31	...	...	..	...	...	..
SM 36691 A Exp.	32.4	14.9	Sept. 25	1.0	35	...	...	..	...	...	..
Peterson 125[a]	32.0	15.0	Sept. 27	1.0	36	33.8	1.1	37	...	...	..
Williams	31.9	15.2	Sept. 27	1.0	32	35.4	1.0	35	...	...	..
Clark '63	31.3	14.0	Sept. 26	1.0	34	...	...	..	...	...	..
XB 59[a]	31.3	15.6	Sept. 24	1.0	34	...	...	..	...	...	..
Amsoy '71	30.9	15.6	Sept. 12	1.0	33	31.6	1.2	33	31.1	1.2	34
McCurdy X500[a]	30.1	14.9	Sept. 25	1.0	34	...	...		..	...	..
2D-310-1	30.0	14.0	Sept. 19	1.0	34	...	...		...	...	..
Seedmaker 1-G	29.8	13.7	Sept. 19	1.0	31	33.8	1.3	34	30.8	1.2	35
SRF 307P	29.8	15.0	Sept. 20	1.0	34	...	..	..	...	...	..
2D-326-1	29.5	14.7	Sept. 25	1.0	35	...	...	..	...	...	..
FFR 951154	29.4	14.8	Sept. 18	1.0	34	...	...		...	...	..
Wayne	29.2	14.9	Sept. 16	1.0	31	33.5	1.2	33	31.1	1.1	34
SRF 200	28.9	15.2	Sept. 18	1.0	34		.	..	..	..	..
SM 6165-2 Exp.	28.9	15.3	Sept. 17	1.0	29	...	..		...	...	..
Wells[b]	28.6	14.7	Sept. 10	1.0	29	...	.	..	...	...	..
2D-313-1	28.5	15.1	Sept. 16	1.0	32	...			...	...	..
McCurdy 109+[a]	28.1	13.9	Sept. 21	1.0	33	...	...	..	...	...	..
Calland	27.9	14.4	Sept. 21	1.0	34	...	...		...	...	..
Washington	27.6	15.0	Sept. 22	1.0	37	32.1	1.5	30	...	...	..
2D-312-1	26.8	14.3	Sept. 9	1.0	32	...	...	..	...	...	..
SM 26691A Exp.	26.0	16.1	Sept. 20	1.0	36	...	...	..	...	...	..
Bonus	17.7	15.3	Sept. 28	1.4	31	...	...	..	...	...	..
1973 average	30.5	14.6	...	1.05	33						
1973 L.S.D.	4.6	1.8	...	1.0	3.0						
2-year average	...	...	...	...	..	34.1	1.3	35	...	...	..
2-year L.S.D.	...	...	...	...	..	2.0	0.2	2.0	...	...	..
3-year average	...	...	...	..	..		...		31.5	1.2	35
3-year L.S.D.	...	...	...	...	..	..	...	..	N.S.	N.S.	N.S.
1973 C.V.	~~21~~ 11.5	...	...	...	..	...	...	..	...	...	..
2-year C.V.	1.7	...	...	...	..	...	...	..	...	...	..
3-year C.V.	0.7	...	...	...	..	...	...	..	...	...	..

[a] Indicates brand or blend.
[b] Infected in August by charcoal rot and downy mildew.

1973 KANSAS SOYBEAN VARIETY TESTS.

73-54

TABLE 3. SOYBEAN PERFORMANCE IN BROWN COUNTY.

ENTRY	YIELD BU/A 1971	1972	1973	1972-73	1971-73	MATURITY 1/ 1973	1971-73	LODGING SCORE 2/ 1973	1971-73	HEIGHT IN. 1973	1971-73	SEEDS PER LB. 1973	1971-73
NK 9210	----	----	43.7	----	----	-18	---	2.7	---	38	--	2772	----
AMSOY 71	31.6	51.7	40.5	46.1	41.3	-17	-20	2.5	1.5	45	37	2566	2851
SRF 350	----	----	46.4	----	----	-3	---	2.7	---	46	--	3254	----
WILLIAMS	32.1	56.7	45.8	51.2	44.9	-2	-3	1.3	1.3	44	39	2427	2764
CALLAND	32.7	54.7	43.2	48.9	43.5	-1	-6	1.8	1.5	45	39	2365	2621
BONUS	27.6	58.2	48.6	53.4	44.8	0	-1	1.6	1.3	51	43	2472	2821
FFR 951154	----	----	38.4	----	----	0	---	2.3	---	49	--	2726	----
CLARK 63	19.8	52.4	41.5	46.9	37.9	0	0	2.6	1.8	46	40	2857	3281
SRF 425	----	----	43.5	----	----	+1	---	3.0	---	48	--	3118	----
CUTLER 71	20.3	52.3	43.9	48.1	38.8	+2	+2	1.2	1.2	48	41	2500	2793
MITCHELL	----	----	48.6	----	----	+5	---	2.1	---	49	--	2863	----
SRF 450	20.1	55.8	40.8	48.3	38.9	+5	+6	1.2	1.3	41	37	2826	3032
OKSOY	----	47.9	38.6	43.2	----	+12	---	2.0	---	49	--	3190	----
CUSTER	----	44.2	33.6	38.3	----	+13	---	1.0	---	53	--	3197	----
COLUMBUS	24.2	55.1	39.0	47.0	39.4	+13	+16	1.2	1.1	47	41	3001	3044
SHAWNEE	----	54.1	38.5	46.3	----	+13	---	1.0	---	46	--	3055	----
TEST AVERAGES	26.8	52.3	42.3	47.3	40.4	1	-1	2.0	1.5	46	39	2819	2974
LSD (.05)	4.1	3.4	4.7	----	----	2.4	---	0.8	---	3.2	--	186.0	----

1/ MEASURED AS DAYS EARLIER OR LATER THAN CLARK 63(AVERAGE DATE 10/1)
2/ BASED ON A 1-TO-5 SCORE WITH 1= EXCELLENT, 5= POOR.

TABLE 4. SOYBEAN VARIETY PERFORMANCE IN FRANKLIN COUNTY.

ENTRY	YIELD BU/A 1971	1972	1973	1972-73	1971-73	MATURITY 1/ 1973	1971-73	LODGING SCORE 2/ 1973	1971-73	HEIGHT IN. 1973	1971-73	SEEDS PER LB. 1973	1971-73
AMSOY 71	64.0	48.3	31.7	40.0	48.0	-14	-14	1.0	1.2	39	39	3062	2876
SRF 200	----	----	30.1	----	----	-14	---	1.0	---	35	--	3333	----
SEEDMAKERS I-E	56.1	41.8	31.1	36.4	43.0	-14	-11	1.7	1.5	42	42	2934	2859
CALLAND	58.2	42.7	25.5	34.1	42.1	-9	-7	1.0	1.3	41	42	3257	3200
TEW 20-313-1	----	----	29.9	----	----	-9	---	1.0	---	40	--	3163	----
WILLIAMS	55.5	47.6	28.4	38.0	43.8	-5	-3	1.0	1.2	40	42	3275	3234
BONUS	58.9	41.0	32.5	36.8	44.1	-4	-2	1.0	1.7	45	47	3429	3317
TEW 20-326-1	----	----	23.5	----	----	-2	---	1.0	---	45	--	3742	----
BELLATTI L263	47.2	45.6	23.1	34.3	38.6	0	0	1.0	1.6	41	43	3636	3495
CLARK 63	46.7	42.6	23.0	32.8	37.4	0	0	1.0	1.6	44	45	3777	3691
CUTLER 71	50.9	43.0	26.9	34.9	40.1	+2	+1	1.0	1.5	42	44	3323	3257
FFR 951194	----	----	23.3	----	----	+5	---	1.0	---	40	--	3375	----
MITCHELL	----	----	34.5	----	----	+15	---	1.0	---	43	--	3738	----
CUSTER	----	34.9	26.5	30.7	----	+17	---	1.0	---	48	--	3781	----
OKSOY	----	39.3	29.7	34.5	----	+17	---	1.0	---	46	--	3643	----
SHAWNEE	----	47.4	32.1	39.7	----	+19	---	1.0	---	42	--	3358	----
COLUMBUS	41.9	51.1	31.0	41.0	41.3	+20	+18	1.0	1.5	43	46	3390	3427
TEST AVERAGES	52.0	43.2	28.3	35.8	41.2	0	0	1.0	1.5	42	42	3428	3309
LSD (.05)	5.4	6.0	3.9	----	----	3.4	---	0.2	---	3.1	--	283.3	----

1/ MEASURED AS DAYS EARLIER OR LATER THAN CLARK 63(AVERAGE DATE 9/19)
2/ BASED ON A 1 TO 5 SCORE WITH 1= EXCELLENT, 5= POOR.

MISSOURI CROP PERFORMANCE Report 161, 1973

TABLE 1. PERFORMANCE OF SOYBEAN VARIETIES EVALUATED IN AREA I OF MISSOURI DURING 1973—AVERAGE OF KNOX AND GRUNDY COUNTY TRIALS.

BRAND-VARIETY	ACRE YIELD (BU)	LODGING SCORE* (1-5)	PLANT HEIGHT (IN)	GRAIN MOISTURE (%)
MATURITY GROUP 2				
AMSOY 71	38.6	1.6	42	14.8
BEESON	27.9	1.3	36	15.3
A.K. EXP 9447	37.4	1.6	37	14.7
A.K. EXP 9210	36.3	2.0	38	15.0
CHEROKEE	37.9	1.6	39	15.0
SRF 200	38.3	2.1	40	15.1
MATURITY GROUP 3				
AGRIPRO EX 7710	33.7	1.3	38	14.9
PETERSON 2120	39.3	1.5	41	15.2
L. TEWELES XK-5851	37.9	1.6	40	15.3
L. TEWELES 20312-1	40.0	1.6	41	16.3
CALLAND	40.0	1.4	42	15.3
SEEDMAKERS 1-E	34.1	1.6	44	15.0
WILLIAMS	41.9	1.3	42	14.9
MATURITY GROUP 4				
CLARK 63	34.4	1.8	43	14.8
MITCHELL	46.0	1.7	45	14.8
PETERSON XB-59	37.3	1.5	46	14.8
L. TEWELES 20313-1	38.6	1.8	43	16.2
PETERSON 125	42.7	1.4	44	15.4
L. TEWELES 20326-1	43.5	1.9	46	14.4
SL 13	39.0	1.6	50	14.5
AVERAGE	38.3	1.6	42	15.1
LSD(.05)**	8.7			

*LODGING SCORES: 1=NO LODGING; 5=ALL PLANTS LODGED.

**DIFFERENCES BETWEEN VARIETIES GREATER THAN THE GIVEN LEAST SIGNIFICANT DIFFERENCE (L.S.D.) CAN BE CONSIDERED DUE TO VARIETIES 19 OUT OF 20 TIMES GROWN.

TABLE 2. PERFORMANCE OF SOYBEAN VARIETIES EVALUAT
IN AREA II OF MISSOURI DURING 1973—AVER
OF AUDRAIN, BOONE AND CARROLL COUNTY TRI

BRAND-VARIETY	ACRE YIELD (BU)	LODGING SCORE* (1-5)	PLANT HEIGHT (IN)	GRA MOI TUR (%
MATURITY GROUP 2				
AMSOY 71	30.7	1.2	21	15.
SRF 200	34.0	1.1	21	15.
BEESON	28.3	1.2	20	15.
CHEROKEE	34.3	1.3	21	14.
MATURITY GROUP 3				
CALLAND	38.8	1.4	25	15
WILLIAMS	37.8	1.3	26	15
WAYNE	26.7	1.3	22	15
SRF 307	34.0	1.3	23	16
SRF 307P	36.0	1.4	25	15
PETERSON 2120	39.4	1.3	24	15
SRF 350	39.0	1.3	25	15
SEEDMAKERS 1-E	33.4	1.3	24	15
WASHINGTON	28.9	1.5	26	14
MATURITY GROUP 4				
SRF 450	31.4	1.3	23	15
SL 13	37.5	1.6	29	15
OKSOY	41.5	1.4	28	15
PETERSON XB-59	34.3	1.3	25	15
COLUMBUS	32.4	1.5	28	15
BONUS	35.7	1.4	29	16
PETERSON 125	38.9	1.3	27	15
SRF 400	32.8	1.3	27	15
CLARK 63	36.2	1.5	27	14
SRF 425	35.8	1.3	27	15
CUTLER 71	34.6	1.5	28	15
MITCHELL	46.9	1.6	26	15
CUSTER	39.0	1.7	31	15
AVERAGE	35.3	1.4	25	15
LSD(.05)**	6.3			

*LODGING SCORES: 1=NO LODGING; 5=ALL PLANTS LODGE

**DIFFERENCES BETWEEN VARIETIES GREATER THAN THE G
LEAST SIGNIFICANT DIFFERENCE (L.S.D.) CAN BE CONSI
ED DUE TO VARIETIES 19 OUT OF 20 TIMES GROWN.

U3-54

73-54

ADDENDUM TO EXHIBIT E. RJS 1/10/78

ASSIGNMENT OF PLANT VARIETY PROTECTION

WHEREAS, AGRIPRO, INC., a corporation organized and existing under the laws of the State of Iowa, with principal offices in Ames, Iowa, is the owner of plant variety protection under the Plant Variety Protection Act represented by Certificate No. 7300054, dated October 30, 1974, with respect to "Mitchell" variety soybean, for which it made application for Plant Variety Protection Certificate on March 20, 1974; and

WHEREAS, RING AROUND PRODUCTS, INC., a corporation organized and existing under the laws of the State of Delaware, having its principal office in Montgomery, Alabama, is desirous of acquiring the interest of Agripro, Inc., in and to the Plant Variety Protection Certificate and application therefor as described above;

NOW, THEREFORE, for and in consideration of the sum of One ($1.00) Dollar and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Agripro, Inc., by these presents, does hereby sell, assign, transfer and convey unto the said Ring Around Products, Inc., the full and exclusive right to the said Certificate of Plant Variety Protection and application therefor and to the "Mitchell" variety soybean as described therein, such protection evidenced by a Certificate of Plant Variety Protection No. 7300054, issued by the Plant Variety Protection Office on October 30, 1974; and Agripro, Inc. hereby requests the Secretary of Agriculture or his delegate, the Commissioner of Plant Variety Protection, to issue unto Ring Around Products, Inc., as the assignee, a Certificate of Plant Variety Protection with respect to the "Mitchell" variety soybean for the sole use of the said Ring Around Products, Inc., and its legal representatives.

And, for the same consideration, Agripro, Inc., by its duly authorized officers, agrees to assign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths, and generally to do everything to aid said Ring Around Products,

73-54

Inc., its successors, assigns, and nominees to obtain and enforce proper protection for said plant variety in all countries throughout the world.

IN WITNESS WHEREOF, the undersigned duly authorized officer of Agripro, Inc., has executed this Assigment on behalf of Agripro, Inc., this 15th day of May, 1975.

AGRIPRO, INC.

ATTEST:

By: [signature]
Its President

By: [signature]
Its Secretary

STATE OF IOWA)
:
COUNTY OF Story)

I, Joseph E. Grandgeorge, a Notary Public, (State of Iowa at Large,) (in and for said County in said State,) hereby certify that on this day before me personally appeared Richard Elijah and Gary M. Roeff, to me known and known to be the persons described in and who executed the foregoing Assignment of Plant Variety Protection as Agr-Pro's President and Agr-Pro's Secretary, and severally acknowledged before me that, being informed of the contents of the foregoing instrument, they executed the same voluntarily as such duly appointed officer, in the name of and for and on behalf of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal, on this the 15 day of May, 1975.

[signature]
Notary Public
JOE E. GRANDGEORGE
NOTARY PUBLIC
My Commission Expires Sept. 30, 1977

ENTERED IN THE COMPUTER

ASSIGNMENT

PLANT VARIETY PROTECTION CERTIFICATE

WHEREAS, Ring Around Products, Inc., a Delaware corporation, having a place of business at 12200 Ford Road, Suite 400, Dallas, Texas 75234, hereinafter referred to as "Ring Around", is the duly authorized owner and holder of the entire right, title and interest in and to the following U.S. Plant Variety Protection Certificates and applications for U.S. Plant Variety Certificates (collectively referred to as "Certificates"):

Plant Protection Certificates and Applications

Variety	PVP Certificate No.	Date Issued
Mitchell	7300054	10/30/74
RA-526	7500067	12/12/75
RA-501A	76TQ006	5/11/78
RA-401	7800030	6/22/78
RA-601	7800031	6/22/78
RA-480	7900007	2/15/79
RA-604	7900008	3/1/79
Mitchell 450	7900046	6/14/79
RA-402	8000093	7/31/80
RA-481	8000054	3/26/81
RA-680	8100097	4/15/82
RA-502	8200160	8/31/83
RA-403	8200163	10/27/83
Mitchell 410	8200162	10/27/83
RA-606	8200161	10/27/83
RA-580	8300075	4/30/84
RA-405	8500010 (filing number)	10/10/84 (filing date)
RA-451	8500008 (filing number)	10/10/84 (filing date)
RA-452	8500009 (filing number)	10/10/84 (filing date)

WHEREAS, ROHM AND HAAS SEEDS INC., a Delaware corporation, ("RHS") having a place of business at Independence Mall West, Philadelphia, Pennsylvania 19105, is desirous of acquiring the entire interest in the aforementioned varieties, Certificates and the rights associated therewith;

NOW, THEREFORE, in consideration of and in exchange for the sum of one dollar ($1.00) and other good and valuable consideration, receipt of which is hereby acknowledged, Ring Around does hereby sell, assign, transfer and set over, unto RHS its entire right, title and interest in and to the aforementioned varieties and Certificates.

ASSIGNMENT

WHEREAS, Rohm and Haas Seeds Inc., a Delaware corporation, with its principal office at Independence Mall West, Philadelphia, Pennsylvania 19105 ("RHS") is the owner of the entire right, title and interest in and to the following soybean varieties, applications for United States Plant Variety Protection Certificates and United States Plant Variety Protection Certificates (collectively referred to as "Certificates"):

Soybean Variety	Certificate Number	Date Issued
Mitchell	7300054	October 30, 1974
RA-401	7800030	June 22, 1978
RA-601	7800031	June 22, 1978
Mitchell 450	7900046	June 14, 1979
RA-481	8000054	March 26, 1981
RA-402	8000093	July 31, 1980
Mitchell 410	8200162	October 27, 1983
RA-403	8200163	October 27, 1983
RA-526	7500067	December 12, 1975
RA-604	7900008	March 1, 1979
RA-680	8100097	April 15, 1982
RA-502	8200160	August 31, 1983
RA-606	8200161	October 27, 1983
RA-580	8300075	April 30, 1984
RA-501 A	76TQ006	May 11, 1978
RA-480	7900007	February 15, 1979

Soybean Variety	Application Number	Filing Date
RA-451	8500008	October 10, 1984
RA-452	8500009	October 10, 1984
RA-405	8500010	October 10, 1984

WHEREAS, CR Seeds, a general partnership, having its principal office at 900 Darlington Highway, Hartsville, South Carolina 29550 ("Partnership") is desirous of acquiring the entire interest in the aforementioned varieties and Certificates;

ASSIGNMENT

WHEREAS, CR Seeds, a general partnership having it principal office at 900 Darlington Highway, Hartsville, South Carolina 29550 ("Partnership"), is the owner of the entire right, title and interest to the United States Plant Variety Protection Certificates and applications for such Certificates (collectively "Certificates") listed on Appendix A attached hereto;

WHEREAS, the partners of CR Seeds, Rohm and Haas Seeds Inc., a Delaware corporation having its principal office at Independence Mall West, Philadelphia, PA 19105 ("RHS") and Coker's Pedigreed Seed Company, a South Carolina corporation with its principal office at 900 Darlington Highway, Hartsville, SC 29550 ("CPS"), are each desirous of acquiring a one-half undivided interest in the varieies and Certificates listed on Appendix A;

NOW, THEREFOR, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, CR Seeds does hereby sell, assign and transfer to RHS a one-half undivided interest in and to the varieties and Certificates and to CPS a one-half undivided interest in and to the varieties and Certificates for each of their use and benefit and for each of their successors and assigns.

IN TESTIMONY THEREOF, CR Seeds intending to be legally bound has caused this assignment to be executed by its duly authorized officer.

CR Seeds

By: E. Joe Dahmer
President

State of South Carolina)
)SS
County of Darlington)

On this 30th day of December, 1986, before me appeared E. Joe Dahmer of CR Seeds, the person who signed this instrument who acknowledged that he signed it as a free act on behalf of CR Seeds with authority to do so.

Louis B. Elliott
Notary Public

My commission expires 4-14-91.

APPENDIX A

Soft Red Winter Wheat Varieties

Variety Name	U.S. Plant Variety Certificate No.	Issue Date
Coker 68-15	7200014	Mar. 6, 1974
Coker 68-19	7200015	Mar. 6, 1974
Coker 747	76TQ015	Sept. 9, 1978
Coker 762	8000152	Dec. 12, 1981
Coker 797	8000145	Dec. 12, 1981
Coker 916	8300036	Sept. 27, 1985
Coker 983	8400058[1]	Feb. 27, 1984[1]
McNair 701	7200038	Feb. 26, 1974
McNair 4823	7200037	April 8, 1975
RHS 8232	8400136[1]	July 16, 1984[1]
9227	8600009[1]	Oct. 22, 1985[1]
9323	8600010[1]	Oct. 22, 1985[1]

1. Application number and filing date.

Winter Oat Varieties

Variety Name	U.S. Plant Variety Certificate No.	Issue Date
Coker 227	7500007	Oct. 20, 1977
Coker 716	7900003	Dec. 28, 1978
Coker 820	8400059[1]	Feb. 28, 1984[1]
Coker 234	7500008	Oct. 26, 1977
Four Twenty Two	7700085	Apr. 12, 1979
Big Mac	8200121	Aug. 19, 1982
Mesquite	8200122	Aug. 19, 1982

1. Application number and filing date.

Soybean Varieties

Coker Hampton 266A	7100022	Sept. 6, 1973
Coker 136	7300091	Oct. 18, 1973
Coker 338	7400058	Oct. 29, 1976
Coker 237	7800034	July 13, 1978
Coker 488	7800035	July 13, 1978
Coker 156	7900043	Nov. 27, 1979
Coker 317	8100095	Nov. 19, 1981
Coker 368	8200140	Aug. 31, 1983
Coker 425	8400077	May 31, 1985
Coker 485	8400078	May 31, 1985
Coker 393 (Q327-4270)	8400018	Jan. 25, 1985
Coker 355 (XP5878)	8400019	Jan. 25, 1985
Coker 627	8700001[1]	Oct. 3, 1986[1]
Coker 686	Pending[1]	Dec. 19, 1986

1. Application number and filing date.

Variety Name	U.S. Plant Variety Certificate No.	Issue Date
AP55	8100089	Feb. 18, 1982
AP70	7800081	Feb. 15, 1979
AP71	8100090	Sept. 24, 1981
Lancer	7600044	Sept. 29, 1976
RA-526	7500067	Dec. 12, 1975
RA-604	7900008	Mar. 1, 1975
RA-680	8100097	Apr. 15, 1982
RA-502	8200160	Aug. 31, 1983
RA-606	8200161	Oct. 27, 1983
RA-580	8300075	Apr. 30, 1984
Mitchell	7300054	Oct. 30, 1974
RA-401	7800030	June 22, 1978
RA-601	7800031	June 22, 1978
Mitchell 450	7900046	June 14, 1979
RA-481	8000054	Mar. 26, 1981
RA-402	8000093	July 31, 1981
Mitchell 410	8200162	Oct. 27, 1983
RA-403	8200163	Oct. 27, 1983

Variety Name	Certificate No.	Issue Date
RA-451	8500008[1]	Oct. 10, 1984[1]
RA-452	8500009[1]	Oct. 10, 1984[1]
RA-405	8500010[1]	Oct. 10, 1984[1]
RA-501 A	76TQ006	May 11, 1978
RA-480	7900007	Feb. 15, 1979

1. Application number and filing date.

ASSIGNMENT

WHEREAS, Rohm and Haas Seeds Inc., a Delaware corporation having its principal office at Independence Mall West, Philadelphia, PA 19105 ("RHS"), is the owner of a one-half undivided interest in and to the United States Plant Variety Protection Certificates and applications for such Certificates (collectively "Certificates") listed on Appendix A attached hereto:

WHEREAS, Coker's Pedigreed Seed Company, a South Carolina corporation with its principal office at 900 Darlington Highway, Hartsville, SC 29550 ("CPS"), is desirous of acquiring this one-half undivided interest in the aforementioned varieties and Certificates;

NOW, THEREFOR, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, RHS does hereby sell, assign and transfer to CPS RHS's one-half undivided interest in and to the varieties and Certificates for CPS's use and benefit and for its successors and assigns.

IN TESTIMONY THEREOF, RHS intending to be legally bound has caused this assignment to be executed by its duly authorized officer.

ROHM AND HAAS SEEDS INC.

By: Howard A. Mergelkamp Jr.
Assistant Treasurer

State of Pennsylvania)
)SS
County of Philadelphia)

On this 31st day of December, 1986, before me appeared Howard A. Mergelkamp of Rohm and Haas Seeds Inc., the person who signed this instrument who acknowledged that he signed it as a free act on behalf of Rohm and Haas Seeds Inc. with authority to do so.

Elizabeth A. Smith
Notary Public

ELIZABETH A. SMITH
Notary Public, Phila., Phila. Co.
My Commission Expires Oct. 14, 1989

My commission expires _____.

7300054

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
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

Timothy M Bangasser
Notary Public

Soybean Varieties, Continued

Variety Name	U.S. Plant Variety Certificate Number	Issue Date	Term (Yrs.)
AP55	8100089	Feb. 18, 1982	18
AP70	7800081	Feb. 15, 1979	17
AP71	8100090	Sept. 24, 1981	18
Lancer	7600044	Sept. 29, 1976	17
RA-526	7500067	Dec. 12, 1975	17
RA-604	7900008	Mar. 1, 1975	17
RA-680	8100097	Apr. 15, 1982	18
RA-502	8200160	Aug. 31, 1983	18
RA-606	8200161	Oct. 27, 1983	18
RA-580	8300075	Apr. 30, 1984	18
Mitchell	7300054	Oct. 30, 1974	17
Ra-401	7800030	June 22, 1978	17
RA-601	7800031	June 22, 1978	17
Mitchell 450	7900046	June 14, 1979	17
RA-481	8000054	Mar. 26, 1981	18
RA-402	8000093	July 31, 1980	17
Mitchell 410	8200162	Oct. 27, 1983	18
RA-403	8200163	Oct. 27, 1983	18
RA-451	8500008	Dec. 27, 1985	18
RA-452	8500009	Aug. 30, 1985	18
RA-405	8500010	Aug. 30, 1985	18
RA-501A	76T0006	May 11, 1978	17
RA-480	7900007	Feb. 15, 1979	17

ASSIGNMENT

WHEREAS, Rohm and Haas Seeds Inc., a Delaware corporation, with its principal office at Independence Mall West, Philadelphia, Pennsylvania 19105 ("RHS") is the owner of the entire right, title and interest in and to the following soybean varieties, applications for United States Plant Variety Protection Certificates and United States Plant Variety Protection Certificates (collectively referred to as "Certificates"):

Soybean Variety	Certificate Number	Date Issued
Mitchell	7300054	October 30, 1974
RA-401	7800030	June 22, 1978
RA-601	7800031	June 22, 1978
Mitchell 450	7900046	June 14, 1979
RA-481	8000054	March 26, 1981
RA-402	8000093	July 31, 1980
Mitchell 410	8200162	October 27, 1983
RA-403	8200163	October 27, 1983
RA-526	7500067	December 12, 1975
RA-604	7900008	March 1, 1979
RA-680	8100097	April 15, 1982
RA-502	8200160	August 31, 1983
RA-606	8200161	October 27, 1983
RA-580	8300075	April 30, 1984
RA-501 A	76TQ006	May 11, 1978
RA-480	7900007	February 15, 1979

Soybean Variety	Application Number	Filing Date
RA-451	8500008	October 10, 1984
RA-452	8500009	October 10, 1984
RA-405	8500010	October 10, 1984

WHEREAS, CR Seeds, a general partnership, having its principal office at 900 Darlington Highway, Hartsville, South Carolina 29550 ("Partnership") is desirous of acquiring the entire interest in the aforementioned varieties and Certificates;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, RHS does hereby sell, assign, transfer to the Partnership the entire right, title and interest in and to the varieties and Certificates for its use and benefit and for its successors and assigns.

IN TESTIMONY THEREOF, Rohm and Haas Seeds Inc. intending to be legally bound has caused this assignment to be executed by its duly authorized officer, effective as of the 20th day of December, 1984.

Date: 12/23/85

ROHM AND HAAS SEEDS INC.

By: Charles H. Baker

Title: PRES

STATE OF Penna :

COUNTY OF Phila : SS

On this 23 day of December, 1985, before me appeared Charles H. Baker of Rohm and Haas Seeds Inc., the person who signed this instrument, who acknowledged that he signed it as a free act on behalf of Rohm and Haas Seeds Inc with authority to do so.

Joan B. Henderson Notary Public

JOAN B. HENDERSON
Notary Public, Phila., Phila. Co.
My Commission Expires Nov. 29, 1986

My Commission Expires: