No. 8900011

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Agripro Biosciences, 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 eighteen 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

'AP 2324'

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, D. C. *this* 31st *day of* January *in the year of our Lord one thousand nine hundred and ninety-one.*

Attest:

Kenneth H. Evans

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Clayton Yeutter

Secretary of Agriculture

APPROVAL EXPIRES 2-28-88

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S): Nickerson American Plant Breeders

2. TEMPORARY DESIGNATION:

3. VARIETY NAME: AP 2324

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*: 5201 Johnson Drive, P.O. Box 2955, Mission, KS 66205

5. PHONE *(Include area code)*: (913) 384-4940

FOR OFFICIAL USE ONLY

PVPO NUMBER: 8900011

6. GENUS AND SPECIES NAME: Glycine max

7. FAMILY NAME *(Botanical)*: Leguminosae

FILING — DATE: October 14, 1988 — TIME: 9:30 ☑ A.M. ☐ P.M.

8. KIND NAME: Soybean

9. DATE OF DETERMINATION: January 1985

FEES RECEIVED — AMOUNT FOR FILING: $ 1800.00 — DATE: Aug. 22, 1988 — AMOUNT FOR CERTIFICATE: $ 200.00 — DATE: Jan. 4, 1991

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*: Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION: Delaware

12. DATE OF INCORPORATION: April 1, 1983

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS:
Wayne Ellingson, Director of Oilseeds Research
AgriPro Seeds
R.R. #2, Hwy 30 East
Ames, Iowa 50010
PHONE *(Include area code)*: (515) 232-0691

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

- a. ☒ Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- b. ☒ Exhibit B, Novelty Statement.
- c. ☒ Exhibit C, Objective Description of Variety *(Request form from Plant Variety Protection Office.)*
- d. ☐ Exhibit D, Additional Description of Variety.
- e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

15. 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) of the Plant Variety Protection Act.)* ☐ Yes *(If "Yes," answer items 16 and 17 below)* ☒ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ Yes ☐ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? ☐ Foundation ☐ Registered ☐ Certified

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? ☐ Yes *(If "Yes," give date)* ☒ No

19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? ☒ Yes *(If "Yes," give names of countries and dates)* ☐ No

A small quantity, less than 500 bags, was sold in the U.S. during the spring of 1988.

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) 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(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT: Wayne R. Ellingson — DATE: August 8, 1988

SIGNATURE OF APPLICANT: RE Heuer — DATE: 8-10-88

FORM LS-470 (3-86) *Edition of 7-84 obsolete.*

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"EXHIBIT A"
ORIGIN AND HISTORY OF "AP 2324"

1. AP 2324 originated in Iowa during the summer of 1979. It was derived from the hand pollinated cross of 'HP 2530' and 'HS 235'. The F1, F2 and F3 generations were grown in Brazil during the fall of 1979, winter 1979-80 and the summer of 1980, respectively. The F4 generation was grown in Indiana during the summer of 1981. Early generations were advanced using a modified single seed descent technique. Single plants of the cross were selected in the F4 generation and the seed was planted as a progeny row in Indiana the summer of 1982.

2. In 1984, single plants of the variety were reselected and grown in progeny rows in 1985. Only rows conforming to a standard were harvested and bulked. The genetic make-up of the variety was stabilized in the sixth generation (1984). The variety has remained stable since the reselection. The purpose of the reselection was for beginning multiplication for seed stock production. The variety was not changed, but only the mixtures removed which occurred during yield testing.

3. AP 2324 has been yield tested since 1983. See attached for 1984-1987 data. AP 2324 has been tested under the experimental designations 79025-B82-20059 and EX 2324.

4. Discernible variants are not an inherent component of the variety.

"EXHIBIT B"

Novelty is based on the unique combination of the following characters:

AP 2324 is most similar to 'HP 2530'. However, AP 2324 differs from HP 2530 in flower color, hypocotyl color and hilum color.

1. AP 2324 has purple flowers where HP 2530 has white.

2. AP 2324 has purple hypocotyl color where HP 2530 has green.

3. AP 2324 has imperfect black hilum color where HP 2530 has buff.

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (Glycine max L.*)*

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Nickerson American Plant Breeders		AP 2324

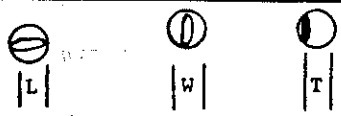
ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*
5201 Johnson Drive
P.O. Box 2955
Mission, KS 66205

FOR OFFICIAL USE ONLY
PVPO NUMBER
8900011

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., [0][9]). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:

[2]



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

[1] 1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other *(Specify)* _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

[1] 1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

[2][0] Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

[5] 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other *(Specify)* _____

★ 6. COTYLEDON COLOR: (Mature Seed)

[1] 1 = Yellow 2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

[1] 1 = Low 2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

[1] 1 = Type A ($SP1^a$) 2 = Type B ($SP1^b$)

★ 9. HYPOCOTYL COLOR:

[4] 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

[3] 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other *(Specify)* _____

11. LEAFLET SIZE:

[2] 1 = Small ('Amsoy 71'; 'A5312') 2 = Medium ('Corsoy 79'; 'Gasoy 17') 3 = Large ('Crawford'; 'Tracy')

12. LEAF COLOR:

[2] 1 = Light Green ('Weber'; 'York') 2 = Medium Green ('Corsoy 79'; 'Braxton') 3 = Dark Green ('Gnome'; 'Tracy')

★ **13. FLOWER COLOR:**

[2] 1 = White 2 = Purple 3 = White with purple throat

★ **14. POD COLOR:**

[2] 1 = Tan 2 = Brown 3 = Black

★ **15. PLANT PUBESCENCE COLOR:**

[1] 1 = Gray 2 = Brown (Tawny)

16. PLANT TYPES:

[2] 1 = Slender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton') 3 = Bushy ('Gnome'; 'Govan')

★ **17. PLANT HABIT:**

[3] 1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will') 3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ **18. MATURITY GROUP:**

[0][5] 1 = 000 2 = 00 3 = 0 4 = I 5 = II 6 = III 7 = IV 8 = V 9 = VI 10 = VII 11 = VIII 12 = IX 13 = X

★ **19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)**

BACTERIAL DISEASES:

★ [0] Bacterial Pustule *(Xanthomonas phaseoli* var. *sojensis)*

★ [0] Bacterial Blight *(Pseudomonas glycinea)*

★ [0] Wildfire *(Pseudomonas tabaci)*

FUNGAL DISEASES:

★ [0] Brown Spot *(Septoria glycines)*

Frogeye Leaf Spot *(Cercospora sojina)*

★ [0] Race 1 [0] Race 2 [0] Race 3 [0] Race 4 [0] Race 5 [ ] Other *(Specify)* _____

[0] Target Spot *(Corynespora cassiicola)*

[0] Downy Mildew *(Peronospora trifoliorum* var. *manshurica)*

[0] Powdery Mildew *(Microsphaera diffusa)*

★ [0] Brown Stem Rot *(Cephalosporium gregatum)*

[0] Stem Canker *(Diaporthe phaseolorum* var. *caulivora)*

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19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

★ [0] Pod and Stem Blight *(Diaporthe phaseolorum* var; *sojae)*

[0] Purple Seed Stain *(Cercospora kikuchii)*

[0] Rhizoctonia Root Rot *(Rhizoctonia solani)*

Phytophthora Rot *(Phytophthora megasperma* var. *sojae)*

★ [1] Race 1 [1] Race 2 [1] Race 3 [1] Race 4 [1] Race 5 [1] Race 6 [1] Race 7

[1] Race 8 [1] Race 9 [ ] Other *(Specify)* _____

VIRAL DISEASES:

[0] Bud Blight (Tobacco Ringspot Virus)

[0] Yellow Mosaic (Bean Yellow Mosaic Virus)

★ [0] Cowpea Mosaic (Cowpea Chlorotic Virus)

[0] Pod Mottle (Bean Pod Mottle Virus)

★ [0] Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode *(Heterodera glycines)*

★ [0] Race 1 [0] Race 2 [1] Race 3 [0] Race 4 [ ] Other *(Specify)* _____

[0] Lance Nematode *(Hoplolaimus Colombus)*

★ [0] Southern Root Knot Nematode *(Meloidogyne incognita)*

★ [0] Northern Root Knot Nematode *(Meloidogyne Hapla)*

[0] Peanut Root Knot Nematode *(Meloidogyne arenaria)*

[0] Reniform Nematode *(Rotylenchulus reniformis)*

[ ] OTHER DISEASE NOT ON FORM *(Specify)*: _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

★ [2] Iron Chlorosis on Calcareous Soil

[ ] Other *(Specify)* _____

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

[0] Mexican Bean Beetle *(Epilachna varivestis)*

[0] Potato Leaf Hopper *(Empoasca fabae)*

[ ] Other *(Specify)* _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	HP 2530	Seed Coat Luster	HP 2530
Leaf Shape	HP 2530	Seed Size	HS 235
Leaf Color	HP 2530	Seed Shape	HS 235
Leaf Size	HP 2530	Seedling Pigmentation	HS 235

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23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
Submitted	120	2.0	85	8.5	12.0	39.1	22.6	20	N/D
Name of Similar Variety HP 2530	122	2.5	95	8.0	11.5	39.8	22.9	18	N/D

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A_2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

NICKERSON AMERICAN PLANT BREEDERS INC.
SOYBEAN TRIAL SUMMARY REPORT 1984

OVER-LOCATION MEANS TRIAL #Y2-1205 LOCS: BO, SB, SF, SP

ENTRY NO.	VARIETY OR LINE	MAT.	HT. (in)	LODGE (1-5)	BO YIELD	SB YIELD	SF YIELD	SP YIELD	MEAN YIELD	YIELD RANK	WORTH	SEED QUAL
27	P1677	13.0	30.1	1.7	41.0	31.5	35.7	47.8	39.0	5	1.5	2.5
10	79120-B82-14160	14.5	32.3	1.6	33.8	34.6	30.1	44.0	35.6	27	2.0	2.7
26	AP200	15.0	31.6	1.7	34.2	38.5	32.5	42.7	37.0	21	2.2	2.9
04	79116-B82-37137	17.2	32.0	1.9	41.9	30.7	34.6	50.0	39.3	3	2.0	2.6
16	79018-B82-28036	17.2	27.8	1.5	37.2	29.4	32.8	52.7	38.0	13	1.7	2.3
09	79120-A82-38156	17.7	34.3	1.8	40.8	40.5	34.0	48.8	41.0	1	2.0	2.4
01	79113-A82-18126	18.2	30.6	1.5	41.7	32.2	31.5	47.9	38.3	9	2.2	2.7
15	79017-B82-26027	18.2	28.8	1.7	39.5	28.4	32.7	48.6	37.3	18	2.3	2.8
19	79053-B82-16139	18.7	32.3	1.5	38.8	31.6	31.8	46.7	37.2	19	2.2	2.4
02	79115-A82-22151	18.8	35.3	1.6	40.6	33.6	32.6	43.4	37.6	15	1.8	2.2
14	79118-B82-03154	18.8	34.7	1.8	42.0	32.1	30.8	46.4	37.8	14	1.8	2.2
05	79119-A82-04048	19.0	29.2	1.3	38.3	31.7	32.0	51.2	38.3	10	1.8	2.5
12	79153-A82-08078	19.0	30.0	1.6	39.5	28.7	32.9	46.1	36.8	22	2.0	2.4
25	79176-B82-23271	19.0	32.9	1.8	39.7	30.8	32.7	45.0	37.1	20	2.2	2.1
24	79176-B82-23263	19.2	31.3	1.8	38.7	31.6	35.3	44.5	37.5	17	2.0	2.3
22	79140-B82-24211	19.3	32.3	1.6	39.0	30.4	32.8	45.1	36.8	23	2.0	3.0
18	79038-B82-12098	19.8	30.8	1.7	41.2	31.3	34.0	49.4	39.0	4	2.3	2.4
13	79176-B82-23267	20.2	31.0	1.8	42.0	33.0	33.1	45.8	38.5	8	2.3	2.2
17	79021-A82-06118	20.3	34.9	1.7	40.3	27.1	30.9	44.3	35.7	26	2.2	2.3
✓ 21	79025-B82-20059	20.3	30.1	1.8	41.3	30.9	34.8	52.5	39.9	2	2.0	2.7
03	79115-A82-23135	20.7	33.5	1.6	39.3	32.9	32.0	48.3	38.1	12	2.2	2.2
08	79119-A82-35131	20.8	35.4	1.6	36.8	36.2	31.0	50.7	38.7	6	2.0	2.3
11	79153-A82-08071	20.8	35.3	1.6	38.7	29.5	29.6	45.8	35.9	25	1.8	2.6
20	79007-A82-24055	20.8	31.3	1.5	42.0	31.8	34.8	44.4	38.2	11	1.8	2.3
28	AP240	21.0	29.8	1.9	38.2	28.3	35.7	43.2	36.4	24	1.7	2.1
07	79115-A82-21144	22.7	35.8	1.9	43.6	32.4	31.5	46.6	38.5	7	2.0	2.4
06	79038-B82-14091	23.5	34.8	2.0	38.4	32.3	32.1	47.1	37.5	16	2.7	2.7
23	79174-B82-14275		36.3	2.3	36.2	30.7	27.3	39.7	33.5	28	2.8	2.6
	MEAN	19.5	32.3	1.7	39.5	31.9	32.6	46.7	37.7		2.1	2.5
	C.V.	9.5	7.2	16.7	8.7	12.8	8.0	6.1	10.1		31.5	14.3
	LSD(.05)	10.3NS	2.1	.4NS	5.6NS	6.6NS	4.2NS	4.7	3.5NS		.8NS	.6NS
	NO. OF REPS	6.0	12.0	12.0	3.0	3.0	3.0	3.0	12.0		6.0	6.0

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APPENDIX II APPENDIX III

NICKERSON AMERICAN PLANT BREEDERS
SOYBEAN TRIAL SUMMARY REPORT 1985

OVER-LOCATION MEANS TRIAL #Y3-2001 LOCS: MT, AM, BO, SB, BK, KI

ENTRY NO.	VARIETY OR LINE	MAT.	HT. (in)	LODGE (1-5)	MT YIELD	AM YIELD	BO YIELD	SB YIELD	BK YIELD	KI YIELD	MEAN YIELD	YIELD RANK	WORTH	SEED QUAL
02	79122-B82-20154	12.5	31.6	1.6	39.0	35.2	42.1	40.7	54.1	51.5	43.8	23	2.5	2.0
04	79116-182-24151	13.7	30.2	1.3	36.4	32.1	35.6	39.4	61.2	46.8	41.9	27	2.0	2.0
01	79122-B82-19161	14.2	29.2	1.4	40.8	36.5	39.9	34.6	53.2	42.7	41.3	28	2.0	2.0
08	79176-B82-23267	14.6	31.1	1.5	40.7	38.7	29.2	40.2	66.1	50.4	45.9	17	2.2	1.8
19	CORSOY 79	14.8	36.8	2.6	39.7	34.4	46.9	38.3	58.0	51.2	44.7	21	3.7	2.2
07	79038-B82-12098	15.4	30.8	1.4	45.4	40.2	35.1	28.4	60.2	54.0	45.6	18	3.2	2.2
05	79118-B82-06174	15.6	34.0	1.4	44.8	38.7	39.5	45.2	59.1	54.3	46.9	11	2.3	2.2
03	79025-A82-28017	15.8	30.9	1.6	42.8	40.8	38.5	43.4	63.9	48.7	46.4	14	2.7	2.3
13	79052-A82-13152	15.8	34.6	2.6	39.4	39.1	44.1	42.2	64.5	48.9	46.4	15	3.5	2.1
15	79049-B82-01128	16.2	29.6	1.4	39.7	36.2	42.6	33.8	60.1	46.4	43.1	24	3.0	2.4
06	79049-B82-02130	16.6	34.7	2.2	40.1	40.1	43.4	40.9	56.5	35.4	42.7	25	3.3	2.7
21	AP240	17.1	31.0	1.6	44.6	42.4	39.7	41.1	59.3	52.2	46.6	13	2.0	1.9
16	74022- 80- Y034	17.6	32.5	1.7	39.7	34.1	35.6	38.5	61.5	43.3	42.1	26	2.5	2.7
20	S1492	17.8	33.8	2.0	46.1	43.4	45.2	39.6	63.1	51.0	48.0	8	3.0	2.0
10	78098-B82-36263	18.3	34.9	1.9	43.6	42.6	41.1	45.1	65.6	53.7	48.6	7	3.0	2.3
27	KELLER	18.6	34.6	2.3	41.7	36.8	45.4	42.4	60.0	46.0	45.4	20	3.0	2.6
09	79025-B82-20059 ✓	19.6	31.6	1.6	46.1	44.9	39.8	47.7	64.3	54.7	49.6	3	2.8	2.3
12	79038-B82-10094	19.7	38.4	1.8	45.9	41.1	35.4	40.8	61.3	39.3	44.0	22	2.8	2.0
14	79140-B82-22187	20.2	33.9	1.8	46.3	44.0	43.1	46.0	61.5	39.2	46.7	12	2.5	2.0
25	HS265	20.5	31.9	1.4	43.0	37.2	37.0	43.6	64.2	52.9	46.3	16	1.7	2.3
23	CENTURY 84	20.6	36.2	1.6	45.1	41.7	44.2	45.4	67.6	51.0	49.2	4	3.2	2.3
22	HP2530	21.5	30.8	1.6	45.7	40.1	44.0	42.0	62.4	51.0	47.5	9	2.8	2.4
17	74019- 80-T028E	22.3	37.4	2.3	46.9	39.2	37.5	51.1	64.2	53.5	48.7	6	3.2	2.1
18	76201-B80-28140	22.7	35.8	1.9	42.0	38.2	40.4	39.1	61.1	51.3	45.4	19	3.3	1.8
24	STINE 2050	22.8	35.4	1.7	45.1	47.2	51.3	48.0	68.4	53.6	52.2	1	2.5	2.2
28	HP3033S	22.9	33.0	1.9	42.2	38.9	43.3	43.1	66.1	51.5	47.5	10	2.3	2.1
26	PELLA	23.4	36.8	1.6	50.8	44.9	38.9	44.5	66.4	55.2	50.1	2	2.0	2.0
11	79025-A82-26102	24.4	31.7	1.9	51.2	45.2	29.2	41.1	69.5	56.6	48.8	5	2.3	2.2
	MEAN	18.4	33.3	1.8	43.4	39.8	40.6	42.0	62.3	49.5	46.3		2.7	2.2
	C.V.	9.6	8.1	21.3	6.5	8.1	14.7	7.7	6.2	7.3	9.3		24.1	10.8
	LSD(.05)	2.1	1.9	.3	4.6	5.3	9.7	5.3	6.3	5.8	4.0		.7	.3
	NO. OF REPS	12.0	18.0	18.0	3.0	3.0	3.0	3.0	3.0	3.0	18.0		6.0	12.0

1986 CV-2001 SUMMARY IN MATURITY ORDER
JF,AM,MT,KI,KT,SB,BK

ENT NO	VARIETY	MAT	HT IN	LODGE	YIELD JEFFER IA	AMES IA	MARSHALL IA	KANKAKEE IL	KENTLAND IN	SOUTHB IN	BROOKSTON IN	MEAN	RANK	PER CHECK
9	EX 2021	19.2	34.3	2.1	52.6	45.5	58.0	49.2	46.9	39.0	48.5	48.5	19	97
6	76116-B82-37137	19.4	35.3	2.6	49.3	44.6	57.2	43.6	53.6	33.7	48.8	47.3	24	94
28	A2187	19.4	35.4	2.0	50.8	38.4	56.1	43.3	47.1	35.9	49.1	45.8	27	91
1	79009-A82-15017	20.4	33.4	2.9	37.5		52.0	43.5	48.4	36.9	43.4	40.6	28	81
2	79118-B82-06174	20.4	37.3	2.4	47.7	45.1	57.3	46.3	59.5	38.8	51.6	49.5	16	99
10	EX 2309	20.9	36.5	2.5	47.9	40.2	58.8	47.2	55.1	41.3	48.9	48.5	20	97
27	P9251	21.9	33.8	1.9	53.7	43.0	61.4	46.7	49.1	36.6	44.1	47.8	22	95
7	79038-B82-12098	22.1	33.4	2.3	54.0	43.8	61.8	43.2	61.2	36.2	48.7	49.8	13	100
8	CORSOY79	22.1	40.1	3.4	50.9	41.7	49.6	47.2	51.4	28.3	52.2	45.9	26	92
✓3	79025-B82-20059	22.4	33.4	2.2	52.0	48.0	60.3	45.2	59.1	38.1	54.5	51.0	7	102
13	AP 2190	22.6	36.0	2.5	52.2	50.6	60.6	44.8	56.1	35.0	49.7	49.9	11	100
21	ELGIN	22.8	33.8	2.6	55.5	49.2	56.5	44.3	54.7	31.7	50.6	48.9	18	98
12	S1492	23.4	35.5	2.8	52.2	49.0	57.7	45.0	52.0	37.2	45.0	48.3	21	96
17	CENTURY84	23.8	36.4	2.2	49.7	46.8	59.3	52.3	58.0	37.0	49.6	50.4	9	101
4	78098-B82-36263	24.0	33.7	2.5	52.7	46.3	57.7	48.3	59.4	38.0	46.2	49.8	12	100
22	S27-10	24.3	33.3	2.6	51.9	49.5	53.3	53.2	58.3	33.7	48.7	49.8	15	100
24	HACK	24.4	34.1	1.9	56.2	42.1	62.0	52.0	65.1	42.3	48.8	52.6	3	105
11	AP 240	24.7	32.9	2.5	45.6	49.7	54.4	46.9	60.5	35.8	52.2	49.3	17	98
23	S24-24	24.7	36.3	3.2	52.0	44.6	60.3	47.4	47.0	34.6	43.7	47.1	25	94
25	PRESTON	26.4	37.2	2.5	47.9	49.2	55.0	47.1	64.1	38.5	51.7	50.5	8	101
15	HP 2530	26.5	37.6	2.8	50.9	46.3	54.9	46.7	58.2	37.2	54.7	49.8	14	100
16	AP 3023	26.5	37.3	2.8	54.4	46.4	60.9	52.7	62.8	45.1	52.6	53.6	1	107
19	AP 3132	26.8	36.3	2.4	48.0	49.2	60.9	45.9	56.3	37.9	53.3	50.2	10	100
18	STINE2050	28.3	34.6	2.3	51.0	34.4	56.4	42.6	60.3	37.4	51.2	47.6	23	95
14	HS265	28.6	35.7	2.3	50.2	41.2	59.8	49.6	63.2	38.2	56.2	51.2	6	102
20	PELLA	28.6	39.4	2.3	50.5	44.9	60.6	49.3	62.4	39.5	56.7	52.0	4	104
5	78009-B82-32274	29.0	34.9	2.4	53.8	49.2	56.1	52.7	59.7	38.1	52.5	51.7	5	103
26	HS302	29.8	34.0	1.9	54.1	54.2	60.4	47.7	61.5	41.1	56.1	53.6	2	107
	MEAN	24.0	35.4	2.5	50.9	44.9	57.8	47.3	56.8	37.3	50.3	49.3		
	C.V.	5.4	6.9	13.3	7.1	10.8	5.5	9.2	8.5	9.5	7.5	8.3		
	LSD (5%)	0.9	1.6	0.2	5.9	7.9	5.2	7.1	7.9	5.8	6.2	2.8		
	F-TEST VALUE	20.6	3.4	6.0	2.9	4.6	2.8	1.5	3.8	2.5	2.8	3.0		
	NO. OF REPS	12.0	21.0	21.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	21.0		

8900011

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1987 CV-2001 SUMMARY IN MATURITY ORDER

8900011

VARIETY OR LINE	MAT. (1-5)	HT. (in)	LODGE (1-5)	YIELD Bu/Ac HI	JE	AM	MT	KT	KI	BK	SB	MEAN	YIELD RANK	PER CHECK	WORTH (1-5)	SQ (1-5)
AP 200	5.1	37.8	3.0	50.8	39.6	45.4	44.5	40.0	35.0	58.4	44.3	44.8	28	83	3.6	0.0
78048-A81-24060	5.3	35.7	3.1	51.0	49.7	56.1	55.7	50.7	49.1	59.1	52.9	53.0	17	98	3.7	0.0
A2187	5.4	37.1	2.5	51.5	44.8	50.7	52.8	42.8	40.7	52.6	52.8	48.6	27	90	3.1	0.0
S23-12	8.2	38.0	1.8	54.8	46.7	51.4	56.8	47.3	44.0	67.1	52.3	52.6	20	97	2.8	0.0
80122-B83-09094	8.7	37.6	2.5	49.2	46.5	49.1	58.4	42.0	45.6	64.3	50.8	50.7	24	94	2.9	0.0
79038-B82-12098	8.9	36.5	2.3	39.7	47.1	56.7	62.2	44.7	40.3	67.0	50.0	51.0	23	94	3.1	0.0
AP 2190	9.0	36.5	2.7	53.7	49.1	53.2	55.9	40.9	36.7	64.1	52.1	50.7	25	94	3.0	0.0
79025-B82-20059	9.3	33.4	2.0	51.2	52.3	53.5	61.1	47.1	42.7	64.8	50.4	52.9	19	98	2.6	0.0
HACK	9.4	35.5	2.3	55.5	43.9	56.7	59.4	43.6	41.4	65.4	53.8	52.5	21	97	2.9	0.0
ELGIN	10.4	35.6	2.5	55.9	51.2	56.1	58.8	45.2	45.5	66.6	49.4	53.6	12	99	2.2	0.0
STINE2750	10.7	33.7	2.3	55.0	47.0	56.4	59.8	53.2	39.9	63.6	52.6	53.4	13	99	2.7	0.0
P9251	10.7	38.3	2.3	57.9	50.9	56.0	65.9	45.8	49.3	62.4	50.8	54.9	8	101	2.6	0.0
80169-B83-14235	10.9	36.7	2.1	51.8	45.1	58.2	59.3	45.5	45.6	63.5	56.1	53.1	15	98	2.1	0.0
AP 3023	11.1	40.0	3.0	51.3	47.1	53.0	55.9	50.2	45.0	63.7	57.5	53.0	18	98	4.0	0.0
CENTURY84	11.4	38.5	2.1	49.1	47.2	55.1	58.5	44.8	45.4	68.5	55.8	53.1	16	98	2.2	0.0
80170-B83-18237	11.9	31.9	1.8	49.1	48.9	55.4	59.4	45.1	38.6	57.7	44.3	49.8	26	92	1.6	0.0
P9271	12.3	34.3	1.9	57.9	52.4	57.7	60.6	52.7	52.7	63.4	53.3	56.3	3	104	1.8	0.0
PRESTON	12.3	40.0	2.7	50.4	48.3	53.6	54.6	50.1	44.9	70.5	47.0	52.4	22	97	2.9	0.0
S27-10	12.4	37.0	2.4	57.2	47.3	58.5	62.1	48.1	47.7	65.0	56.7	55.3	6	102	2.6	0.0
HP2530	13.3	42.9	3.1	51.6	50.7	54.6	58.9	46.0	47.8	68.7	53.0	53.9	11	100	3.6	0.0
80122-B83-19100	13.4	37.7	2.4	60.3	51.0	57.1	64.7	46.5	50.2	65.9	51.5	55.9	4	103	2.6	0.0
AP 3132	14.3	39.2	2.4	55.5	50.2	60.4	64.9	44.0	46.2	68.9	54.3	55.6	5	103	2.2	0.0
PELLA 86	15.6	39.7	2.3	56.5	49.3	59.2	64.0	45.9	47.2	66.1	49.4	54.7	10	101	2.0	0.0
KRUGER2195	16.7	38.4	2.7	59.4	51.0	62.1	64.8	50.7	29.2	72.9	49.4	54.9	9	101	3.0	0.0
P9292	17.4	36.0	1.6	55.0	50.7	58.5	66.1	46.3	47.2	67.2	49.3	55.0	7	102	1.6	0.0
80122-B83-11107	17.6	36.7	2.2	53.5	45.6	55.5	61.7	41.0	50.3	68.5	50.6	53.3	14	98	1.9	0.0
A2943	18.3	40.0	2.0	62.8	48.1	58.5	62.9	45.8	46.8	66.8	58.3	56.3	2	104	1.7	0.0
HS 302	24.7	42.0	3.1	52.5	52.2	57.6	56.9	51.3	54.0	79.3	53.3	57.1	1	105	1.8	0.0
MEAN	11.9	37.4	2.4	53.6	48.4	55.6	59.5	46.3	44.6	65.4	51.9	53.2	0	00	2.6	0.0
C.V.	12.8	6.3	13.7	7.2	5.8	5.4	6.0	9.9	11.7	10.8	11.3	8.5	0	00	0.0	0.0
LSD (5%)	0.8	1.5	0.2	6.3	4.6	4.9	5.9	7.5	8.5	11.5	9.5	2.9	0	00	0.0	0.0
F-TEST VALUE	38.8	5.4	7.6	4.0	3.2	4.0	4.8	1.7	3.2	1.4	1.0	2.9	0	00	0.0	0.0
NO. OF REPS	15.0	24.0	24.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	24.0	0	00	24.0	20.0

"EXHIBIT E"

Nickerson American Plant Breeders, through various changes in corporate structure and purchases, are sole owners of the assets of the previous companies North American Plant Breeders and AgriPro, Inc. The ownership comprises all the soybean genetic material, including the variety AP 2324.

Wayne R. Ellingson
Signature

Wayne R. Ellingson

Director of Oilseeds Research