

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS, SHALL COME:

Agway, 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 (34 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

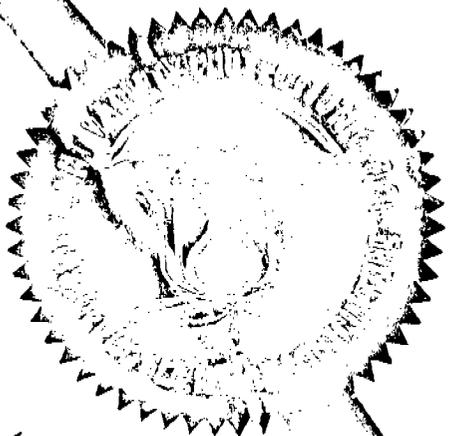
'Sinclair Butterwax'

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 9th day of May in the year of our Lord one thousand nine hundred and seventy-four

Attest:

S. J. Rollin
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Earl H. Buttz
Secretary of Agriculture



SINCLAIR BUTTERWAX BEAN

EXHIBIT "A"

ORIGIN:

While handpicking a stock seed increase of the black seeded variety Eastern Butterwax produced in 1965 in New York State, ten white seeded beans were found. As the lot of seed planted had been handpicked, and the field in which planted had never been planted to a white seeded bean the seeds were saved.

During the winter of 1965-66, five of these white seeds were planted in the greenhouse. One died, one plant was heavy mosaic and was diseased, and the other three produced healthy white seeded wax beans. Through some genetic studies, Horticulturists James Matheson and Fred Williams ascertained that these seeds came from a mutation that is now breeding true as a homozygous recessive for white seed coat.

All plants grown from greenhouse produced seed, in 1966, produced white seeded wax beans. An additional increase in the greenhouse in 1966-67 of 500 plants produced only one green podded plant with white seeds.

Single plant selections have been made over the past three years toward the present characteristics of a medium, round smooth wax pod, 6-1/2 to 7 inches long.

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1. VARIETY NAME OR TEMPORARY DESIGNATION Sinclair Butterwax	2. KIND NAME Bean	FOR OFFICIAL USE ONLY	
		PV NUMBER 7100100	
3. GENUS AND SPECIES NAME Phaseolus vulgaris	4. FAMILY NAME (Botanical) Leguminosae	FILING DATE 5/10/71	TIME 2:30 P.M.
		FEE RECEIVED \$ 250.00	BALANCE DUE \$ —
	5. DATE OF DETERMINATION 1966	\$ 250.00	\$ —
6. NAME OF APPLICANT(S) Agway Inc.	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Box 1333 Syracuse, New York 13201	8. TELEPHONE AREA CODE AND NUMBER 315-477-7061	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation		10. STATE OF INCORPORATION Delaware	11. DATE OF INCORPORATION July 1964

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

Mr. James L. MacEachron
Agway Inc.
Box 1333
Syracuse, New York 13201

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- 13B. Exhibit B, Botanical Description of the Variety
- 13C. Exhibit C, Objective Description of the Variety
- 13D. Exhibit D, Data Indicative of Novelty
- 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 NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? YES 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.

1

October 9, 1973

(DATE)

J. L. MacEachron

(SIGNATURE OF APPLICANT)

J. L. MacEachron
(SIGNATURE OF APPLICANT)

(DATE)

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and \$250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, 6525 Belcrest Road, Hyattsville, Maryland 20782. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

- 5 Insert the date the applicant determined that he had a new variety based on the definition in Section 41 (a) of the Act and decision is made to increase the seed.
- 13a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.
- 13b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.
- 13c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.
- 13d Provide complete data indicative of novelty. Seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty may be submitted. Seeds submitted may be sterile.
- 13e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

SINCLAIR BUTTERWAX BEAN

EXHIBIT "B"

BOTANICAL DESCRIPTION:

Plants are medium size, 12 to 16 inches tall with a spread of 10 to 14 inches. Plants are erect, compact and runnerless. Stems are stout, round, ridged with short internodes and not heavily branched. Foliage has a dull green color and the flowers are white.

Pods are intermediate to long; bright to medium dull yellow in color, round and moderately straight. The quality is excellent, tender stringless and holds its firmness well even after freezing and re-cooking. The spur is medium length and yellow. The suture is rounded, neither razor back nor crease backed.

Seeds are white, round and elongated measuring 1.7 x .7 x .6 cm. Hilum is small and protuberant. The chalky white surface is unlayered by a greyish vein-like marking over the entire area. Beans are marked with an indistinct yellowish, narrow eye-ring.

OBJECTIVE DESCRIPTION OF VARIETY
BEAN (PHASEOLUS VULGARIS)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S) Agway Inc.	FOR OFFICIAL USE ONLY	
	PVPO NUMBER	71100
	VARIETY NAME OR TEMPORARY DESIGNATION	Sinclair Butterwax
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) P. O. Box 1333 Syracuse, New York 13201		

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. 089 or 09) when number is either 99 or less or 9 or less.

1. TYPE:

1 = SNAPBEAN 2 = GREEN SHELL 3 = DRY EDIBLE 4 = MULTIPURPOSE

2. SEASON AND REGION OF ADAPTABILITY IN THE U.S.:

Grows best during: 1 = SPRING 2 = SUMMER 3 = FALL 4 = WINTER

Best adapted in: 1 = NORTHWEST 2 = NORTHCENTRAL 3 = NORTHEAST 4 = SOUTHEAST
5 = SOUTHWEST 6 = MOST REGIONS

3. MATURITY (Days from seeding to first harvest):

52. RJS GREEN PODS GREEN SHELLS DRY SEEDS

NO. DAYS EARLIER THAN } 1 = TENDERCROP 2 = KENTUCKY WONDER 3 = KINGHORN WAX
 NO. DAYS LATER THAN } 4 = WHITE KIDNEY 5 = MICHELITE 62 6 = DWARF HORTI-CULTURAL
7 = BUSH BLUE LAKE 8 = OTHER (Specify)

4. PLANT:

1 = DETERMINATE, ERECT BUSH 2 = DETERMINATE, SPRAWLING BUSH
3 = DETERMINATE, SEMIPOLE 4 = INDETERMINATE, POLE

CM. HEIGHT OR LENGTH OF VINE FROM PRIMARY LEAF NODE

NUMBER PRIMARY BRANCHES PER MAIN STALK

CM. SPREAD

Branching habit: 1 = COMPACT 2 = OPEN

NUMBER INTERNODES ON MAIN STALK BETWEEN PRIMARY LEAF AND BASE OF TERMINAL INFLORESCENCE

CM. LENGTH OF FIRST INTERNODE ABOVE PRIMARY LEAF

MM. STALK DIAMETER ABOVE FIRST TRIFOLIATE LEAF

Main stalk: 1 = BRITTLE 2 = WIREY 1. STOUT 2. THIN

Flower position: } 1 = LOW, CONCENTRATED 2 = HIGH, CONCENTRATED 3 = SCATTERED
 Pod Position: }

5. LEAVES:

1 = SMOOTH 2 = WRINKLED 1 = DULL 2 = GLOSSY Thickness: 1 = THIN 2 = MEDIUM 3 = THICK

Size: 1 = SMALL (Earliwax) 2 = MEDIUM 3 = LARGE (Tendercrop) CM. PETIOLE LENGTH (To basal leaflets of first trifoliate leaf)

Tip shape of center leaflet: 1 = ROUNDED 2 = TAPER POINTED 3 = SHARP POINTED

PUBESCENCE - Dorsal: } 1 = NONE 2 = SLIGHT 3 = CONSIDERABLE
 PUBESCENCE - Ventral: }

Color: 1 = LIGHT GREEN (Bountiful) 2 = MEDIUM GREEN 3 = DARK GREEN (Bush Blue Lake)

6. FLOWERS:

01 Color: 1 = WHITE 2 = CREAM 3 = PINK 4 = LILAC 5 = PURPLE
6 = OTHER (Specify) _____

02 Racemes: 1 = LONG 2 = MEDIUM 3 = SHORT NUMBER FLOWERS PER RACEME

7. FRESH PODS: (Edible maturity, averages for 10 pods)

05 Color: 1 = LIGHT GREEN (Bountiful) 2 = MEDIUM GREEN (Tendergreen) 3 = DARK GREEN (Wade)
4 = LIGHT YELLOW (Brittlewax) 5 = GOLDEN YELLOW (Cherokee Wax) 6 = GREEN-RED VARIAGATED (Horticultural)
7 = OTHER (Specify) _____

15.54 CM. LENGTH 11.4 MM. WIDTH (Between sutures) 11.4 MM. THICKNESS 10 $\frac{\text{WIDTH}}{\text{THICKNESS}} \times 10$

02 of RJS. Cross section pod shape: 1 = FLAT 2 = OVAL 3 = CREASEBACK 4 = ROUND

02 Curvature: 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED 02 Pubescence: 1 = NONE 2 = SPARSE 3 = CONSIDERABLE

01 Constrictions: 1 = NONE 2 = SLIGHT 3 = DEEP 01 Spur: 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED

02 Surface: 1 = SHINY 2 = DULL 01 Surface: 1 = SMOOTH 2 = BLISTERED

01 Pod flesh: 1 = LIGHT 2 = DARK 01 Pod flesh: 1 = FIRM 2 = WATERY

MM. SPUR LENGTH 02 Suture string: 1 = PRESENT 2 = ABSENT

02 Fiber: 1 = NONE 2 = SPARSE 3 = CONSIDERABLE 01 Seed development: 1 = SLOW 2 = MEDIUM 3 = FAST

07 NUMBER OF SEEDS PER POD NUMBER PODS PER PLANT (Once over harvest)

NUMBER MARKETABLE PODS PER PLANT (Once over harvest) 02 Machine harvest: 1 = ADAPTED 2 = NOT ADAPTED

8. SEED COAT COLOR:

01 1 = MONOCHROME 2 = POLYCHROME 02 1 = SHINY 2 = DULL

01 Primary color: } 1 = WHITE 2 = YELLOW 3 = BUFF 4 = TAN
 Secondary color: } 5 = BROWN 6 = PINK 7 = RED 8 = PURPLE
9 = BLUE 10 = BLACK 11 = OTHER (Specify) _____

Color pattern: 1 = SPLASHED 2 = MOTTLED 3 = STRIPED 4 = FLECKED 5 = DOTTED

Secondary color location: 1 = HILAR RING 2 = HILAR SURFACE
3 = STROPHIOLE 4 = MICROPYLE
5 = SIDES 6 = DORSAL SURFACE
7 = NOT RESTRICTED TO ANY AREA 8 = COMBINATION OF LOCATIONS (Specify) _____

02 Hilar ring: 1 = NOT PRESENT 2 = NARROW 3 = BUTTERFLY SHAPED

02 Vein-like under coat pattern: 1 = ABSENT 2 = PRESENT

9. SEED SHAPE AND SIZE:

01 Hilum view: 1 = ELLIPTICAL 2 = OVAL 3 = ROUND 01 Side view: 1 = OVAL 2 = ROUND
3 = KIDNEY 4 = TRUNCATE ENDS

02 Cross section: 1 = ELLIPTICAL 2 = OVAL GM. WEIGHT PER 100 SEEDS
3 = CORDATE 4 = ROUND

04 Classification: 1 = PEA 2 = MEDIUM 3 = MARROW 4 = KIDNEY 5 = PINTO

07 MM. WIDTH (Dorsal to ventral) 06 MM. THICKNESS (Side to side)

17 MM. LENGTH 11.6 $\frac{\text{WIDTH}}{\text{THICKNESS}} \times 10$

10. ANTHOCYANIN: (1 = Absent 2 = Present):

FLOWERS STEMS PODS SEEDS LEAVES

11. DISEASE RESISTANCE (0 = Not tested; 1 = Susceptible; 2 = Resistant):

- | | |
|--|---|
| <input type="checkbox"/> RUST (Specify race) _____ | <input type="checkbox"/> ANGULAR LEAF SPOT |
| <input type="checkbox"/> BACTERIAL WILT | <input type="checkbox"/> COMMON BEAN MOSAIC |
| <input type="checkbox"/> ANTHRACNOSE | <input type="checkbox"/> YELLOW BEAN MOSAIC |
| <input type="checkbox"/> SOUTHERN BEAN MOSAIC | <input type="checkbox"/> FUSARIUM ROOT ROT |
| <input type="checkbox"/> CURLY TOP | <input type="checkbox"/> N.Y. 15 BEAN MOSAIC |
| <input type="checkbox"/> POWDERY MILDEW | <input type="checkbox"/> BEAN MOSAIC VIRUS 4 |
| <input type="checkbox"/> HALO BLIGHT | <input type="checkbox"/> FUSCOUS BLIGHT |
| <input type="checkbox"/> ALFALFA MOSAIC VIRUS | <input type="checkbox"/> ALFALFA MOSAIC VIRUS 2 |
| <input type="checkbox"/> POD MOTTLE VIRUS | <input type="checkbox"/> RED NODE VIRUS |
| <input type="checkbox"/> ROOT KNOT NEMATODE | <input type="checkbox"/> OTHER (Specify) _____ |

12. INSECT RESISTANCE: (0 = Not tested; 1 = Susceptible; 2 = Resistant)

- | | |
|---|--|
| <input type="checkbox"/> APHIDS | <input type="checkbox"/> LEAF HOPPERS |
| <input type="checkbox"/> POD BORER | <input type="checkbox"/> LYGUS |
| <input type="checkbox"/> THRIPS | <input type="checkbox"/> WEAVILS |
| <input type="checkbox"/> SEED CORN MAGGOT | <input type="checkbox"/> OTHER (Specify) _____ |

13. PHYSIOLOGICAL RESISTANCE: (0 = Not tested; 1 = Susceptible; 2 = Resistant)

HEAT COLD DROUGHT OTHER (Specify) _____

REFERENCES: The following publications may be used as a reference in completing this form:

1. Beans of New York. Vol. 1 Part II of Vegetables of New York. U.P. Hedrick et al. J. B. Lyon Company, Albany, N.Y. 1931.
2. Yarnell, S. H., Cytogenetics of the Vegetable Crops IV. Legumes. Bot. Rev. 31:247 - 330. 1965.
3. USDA Yearbook of Agriculture. 1937.

COLOR: Nickerson's or any recognized color fan may be used to determine the colors.

SINCLAIR BUTTERWAX BEAN

EXHIBIT "C"

OBJECTIVE DESCRIPTION:

A pure line, white seeded butterwax bean with 6-1/2 - 7" long, round, smooth, meaty, thick-fleshed pods. Extremely uniform pod development with outstanding uniformity of color which does not fade with maturity. A particularly rugged, high yield variety with healthy, vigorous, medium dull green foliage. Ideal for canning as the white seed coat is entirely without color to stain the broth.

Easy to pick as the pods are born in clusters near the main stem. Outstanding yields, excellent size and unsurpassed quality make Sinclair Butterwax a first choice variety for fresh market, freezing and canning.

Exhibit D
Supplement 1

Sinclair Butterwax

Seed Color	-	white				
Days to Maturity	-	52				
Pod Shape	-	round				
Pod Length	-	4 1/2	5	5 1/2	6	6 1/2
		3	12	15	16	5
Sieve Size	-	2	3	4	5	6
		1	7	30	13	0

Eastern Butterwax

Seed Color	-	black				
Days to Maturity	-	53				
Pod Shape	-	oval				
Pod Length	-	4 1/2	5	5 1/2	6	6 1/2
		6	9	14	15	10
Sieve Size	-	2	3	4	5	6
		1	16	11	24	2

Kinghorn Wax

Seed Color	-	white				
Days to Maturity	-	54				
Pod Shape	-	round				
Pod Length	-	4	4 1/2	5	5 1/2	6
		12	20	12	6	0
Sieve Size	-	2	3	4	5	6
		0	4	12	30	4

SINCLAIR BUTTERWAX BEAN

EXHIBIT "D"

1969 VEGETABLE VARIETY TRIALS

PENNSYLVANIA STATE UNIVERSITY

	Pod Color	Days to Picking	Pods (cm.)		Seeds per Pod	Pod Shape		Yield per 100' of row	General Rating (1-5)	
			Length	Width		Thickness	% Straight			% Curved
Sin Clair B.W.	White	61	6.12	.45	.45	7	Oval	50	68.8	3
Eastern B.W.	White	62	6.34	.48	.44	6	Round	80	85.2	2
Kinghorn Wax	White	61	5.76	.47	.46	7	Round	96	86.8	2

SINCLAIR BUTTERWAX BEAN

EXHIBIT "E"

STATEMENT OF OWNERSHIP:

The applicant, Agway Inc., is the employer of all breeders involved in the development of the variety Sinclair Butterwax Bean.