No. 7700094

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Asgrow 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, 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 (7 U.S.C. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

'Strike'

PLANT VARIETY PROTECTION OFFICE · U.S. DEPARTMENT OF AGRICULTURE

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 20th day of October in the year of our Lord one thousand nine hundred and seventy-seven

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
(1-76)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
PLANT VARIETY PROTECTION OFFICE
NATIONAL AGRICULTURAL LIBRARY
BELTSVILLE, MARYLAND 20705

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME	FOR OFFICIAL USE ONLY
XP-B 77	Strike	PV NUMBER 7700094
2. KIND NAME	3. GENUS AND SPECIES NAME	FILING DATE 8-12-77 / TIME 8:30 A.M. P.M.
Garden Bean	Phaseolus vulgaris	FEE RECEIVED $ 250.00 / DATE 8-12-77
4. FAMILY NAME (BOTANICAL)	5. DATE OF DETERMINATION	$ 250.00 / 8-12-77
Leguminosae	August 1974	$ 250.00 / 10-12-77
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
Asgrow Seed Company	Kalamazoo, Michigan 49001	(616) 385-6605

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	Delaware	March 22, 1968

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

John A. Batcha
Asgrow Seed Company
Unit 9630-190-1
7000 Portage Road
Kalamazoo, Michigan 49001

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, Novelty Statement.

[X] 13C. Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*

[ ] 13D. Exhibit D, Additional Description of the Variety.

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 [ ] NO

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

15. Does the applicant(s) agree to the publication of his/her (their) name(s) and address in the Official Journal? [X] YES [ ] NO

16. The applicant(s) declare(s) 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) 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 Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

July 26, 1977
(DATE)

John A. Batcha
(SIGNATURE OF APPLICANT)
John A. Batcha 00001

(DATE)

(SIGNATURE OF APPLICANT)

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, National Agricultural Library, Beltsville, Maryland 20705. (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 Give the date the applicant determined that he had a new variety based on (1) the definition in Section 41(a) of the Act and (2) the date a decision was made to increase the seed.

13a Give (1), the genealogy, including public and commerical varieties, lines, or clones used, and the breeding method. (2), the details of subsequent stages of selection and multiplication. (3), the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4), evidence of stability.

13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties; (1) identify these varieties and state all differences objectively; (2) Attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

13c Fill in the Exhibit C, Objective Description form for all characteristics, for which you have adequate data.

13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe; such as; plant habit, plant color, disease resistance, etc.

14A If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled or published or the certificate has been issued. However, if the applicant specifies "NO", he may change his choice. (See Section 180.15 of the Regulations and Rules of Practice.)

EXHIBIT A--Origin and Breeding History of Strike (XP-B77) Garden Bean

The original cross, Falcon x (Idelight x Harvester) was made in 1969 and XP-B77 was developed by straight line selection from this cross. Individual single vine selections were made through the F_5. The line was placed in special observation trials in 1973 and in replicated trial at the Asgrow Research Center in 1974. As a result of these trials, it was determined in August, 1974 that the line was distinct and worthy of increase. It was also designated as XP-B77 in August, 1975.

In 1974, 300 single plants were harvested separately and in 1975, the 300 progenies were grown as a final test of homozygosity. All progenies seemed to be identical, but any progenies which were suspect in any way were discarded. The remaining progenies were harvested as a bulk and this has become our Breeder's Seed.

Strike is a true breeding, homozygous line. We have found no off-types, other than for the normal mutation to flat pod which occurs in all round podded varieties known to us.

J.D. Atkin
7/22/77

EXHIBIT B--Novelty Statement Concerning Strike (XP-B77) Garden Bean

To our knowledge, the bean variety most similar to Strike is Sprite. Comparative characteristics which make Strike a different variety include, but are not restricted to, the following:

1. Strike has smaller seed than Sprite
2. Strike is a smaller sieve bean than Sprite
3. Strike has much better seed quality than Sprite.
4. Strike plants are larger than Sprite plants at bloom stage.

Strike has consistently produced smaller seed than Sprite. Seed size varies from year to year and is also influenced by plant spacing and other factors. Therefore, any comparison of seed size should be on seed grown under similar conditions. The following data are from plots grown very near each other, planted on the same day, and at the same spacing.

		Seeds per pound	
		Strike	Sprite
1974	Breeding grounds	1960	1570
1974	Observation Trial rows	2250	1840
1975	" " "	1600	1380
1976	" " "	1910	1760
AVERAGE		1930	1638

The above data indicate that in all comparisons, Strike was smaller seeded than Sprite and that the average difference was nearly 300 seeds per pound.

Strike is a smaller sieve bean than Sprite. Following, are data from the Yield Trials at Twin Falls where a series of destructive harvests are made, starting before the pods reach processing maturity and continuing until the pods are over mature. The pods are graded in a commercial Chisholm-Ryder grader similar to graders used in processing plants.

Date Harvested	% Sieve Size Five and Over	
	Sprite	Strike
8/7/75	2	2
8/9/75	5	2
8/11/75	12	4
8/13/75	14	4
8/15/75	31	6
8/18/75	41	10
7/31/76	1	--
8/3/76	7	1
8/5/76	11	3
8/7/76	20	3

The above data illustrate that Strike pods are considerably smaller sieve than Sprite. Strike pods seldom become five sieve, but generally reach a maximum size of sieve size four. Sprite pods reach a maximum size generally of sieve size five.

Strike has much better seed quality than Sprite when seed quality is defined as the ability to withstand adverse weather conditions and mechanical injury at harvest time. Asgrow has developed test procedures where seed of different varieties grown under as nearly identical environmental conditions as possible is subjected to a series of conditions which cause damage to the seed. The seed is then germinated under standardized conditions and the percentage of perfect seedlings is determined. The absolute values vary somewhat from year to year and test to test, but the ranking of varieties is essentially the same from year to year and test to test. Varieties as different as Strike and Sprite are always in the same order.

		Percentage Perfect Seedlings	
		Strike	Sprite
1975	P.V.P. Trial	70	8
1975	Observation Trial	81	6
1975	Yield Trial (4 Reps)	54	13
1976	Observation Trial	80	25
1976	Yield Trial (4 Reps)	32	16
1974	Observation	90	7
1974	Yield Trial (4 Reps)	96	60
AVERAGE		71.9	19.3

Asgrow Seed Company
Garden Bean, (XP-B77) Strike
Exhibit B--Continued

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On July 22, 1977 plants of Sprite and Strike growing in the Replicated Yield Trial at Twin Falls were measured to give height and spread. There was a very obvious, visible difference in that Strike plants were considerably larger and more vigorous at bloom stage. The data are as follows and are given in centimeters.

PLANT HEIGHT		REP A	REP B	REP C	REP D	AVE.
	Sprite	30	30	27	30	29.2
	Strike	35	36	29	34	33.5
PLANT SPREAD						
	Sprite	39	42	37	41	39.8
	Strike	44	43	44	45	44.0

J.D. Atkin
7/22/77

FORM GR-470-12
(10-2-72)

FORM APPROVED. OMB NO. 43-R0712
EXHIBIT C
(Bean)

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

OBJECTIVE DESCRIPTION OF VARIETY
BEAN (*PHALEOLUS VULGARIS*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S): Asgrow Seed Company

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*): Kalamazoo, Michigan 49001

FOR OFFICIAL USE ONLY

PVPO NUMBER: 7700094

VARIETY NAME OR TEMPORARY DESIGNATION: Strike (XP-B77)

Place the appropriate number that describes the varietal character of this variety 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. TYPE:

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

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

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

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

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

[6][7] GREEN PODS [ ][ ] GREEN SHELLS [ ][ ] DRY SEEDS

[0][2] NO. DAYS EARLIER THAN --------- [1]
[ ][ ] NO. DAYS LATER THAN ---------- [ ]

1 = TENDERCROP 2 = KENTUCKY WONDER 3 = KINGHORN WAX 4 = WHITE KIDNEY 5 = MICHELITE 62 6 = DWARF HORTICULTURAL 7 = BUSH BLUE LAKE 8 = OTHER (*Specify*)

4. PLANT:

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

[0][4][3] CM. HEIGHT OR LENGTH OF VINE FROM PRIMARY LEAF NODE

[0][0][5] NUMBER PRIMARY BRANCHES PER MAIN STALK

[4][0] CM. SPREAD

[1] Branching habit: 1 = COMPACT 2 = OPEN

[0][5] NUMBER INTERNODES ON MAIN STALK BETWEEN PRIMARY LEAF AND BASE OF TERMINAL INFLORESCENCE

[0][2] CM. LENGTH OF FIRST INTERNODE ABOVE PRIMARY LEAF

[0][9] MM. STALK DIAMETER ABOVE FIRST TRIFOLIATE LEAF

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

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

5. LEAVES:

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

[3] Size: 1 = SMALL (*Earliwax*) 2 = MEDIUM 3 = LARGE (*Tendercrop*) [12] CM. PETIOLE LENGTH (*To basal leaflets of first trifoliate leaf*)

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

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

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

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6. FLOWERS:

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

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[2] Racemes: 1 = LONG 2 = MEDIUM 3 = SHORT [6] NUMBER FLOWERS PER RACEME

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

[1] 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) _____

[1 4] CM. LENGTH [0 9] MM. WIDTH (Between sutures) [0 8] MM. THICKNESS [1 1] WIDTH/THICKNESS X 10

[4] Cross section pod shape: 1 = FLAT 2 = OVAL 3 = CREASEBACK 4 = ROUND

[1] Curvature: 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED

[2] Pubescence: 1 = NONE 2 = SPARSE 3 = CONSIDERABLE

[1] Constrictions: 1 = NONE 2 = SLIGHT 3 = DEEP

[3] Spur: 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED

[2] Surface: 1 = SHINY 2 = DULL

[1] Surface: 1 = SMOOTH 2 = BLISTERED

[1] Pod flesh: 1 = LIGHT 2 = DARK

[1] Pod flesh: 1 = FIRM 2 = WATERY

[10] MM. SPUR LENGTH

[2] Suture string: 1 = PRESENT 2 = ABSENT

[3] Fiber: 1 = NONE 2 = SPARSE 3 = CONSIDERABLE

[2] Seed development: 1 = SLOW 2 = MEDIUM 3 = FAST

[ ] NUMBER OF SEEDS PER POD

[ ] NUMBER PODS PER PLANT (Once over harvest)

[ ] NUMBER MARKETABLE PODS PER PLANT (Once over harvest)

[1] Machine harvest: 1 = ADAPTED 2 = NOT ADAPTED

8. SEED COAT COLOR:

[1] 1 = MONOCHROME 2 = POLYCHROME

[1] 1 = SHINY 2 = DULL

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

[ ] Secondary color:

[ ] 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)_____

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

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

9. SEED SHAPE AND SIZE:

[1] Hilum view: 1 = ELLIPTICAL 2 = OVAL 3 = ROUND

[3] Side view: 1 = OVAL 2 = ROUND 3 = KIDNEY 4 = TRUNCATE ENDS

[2] Cross section: 1 = ELLIPTICAL 2 = OVAL 3 = CORDATE 4 = ROUND

[27] GM. WEIGHT PER 100 SEEDS

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

[0 6] MM. WIDTH (Dorsal to ventral) [0 5] MM. THICKNESS (Side to side)

[1 3] MM. LENGTH [0 1 2] WIDTH/THICKNESS X 10

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

1 FLOWERS	1 STEMS	1 PODS	1 SEEDS	1 LEAVES

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

1	RUST (Specify race) _____	0	ANGULAR LEAF SPOT
0	BACTERIAL WILT	2	COMMON BEAN MOSAIC
0	ANTHRACNOSE	0	YELLOW BEAN MOSAIC
0	SOUTHERN BEAN MOSAIC	0	FUSARIUM ROOT ROT
0	CURLY TOP	2	N.Y. 15 BEAN MOSAIC
0	POWDERY MILDEW	0	BEAN MOSAIC VIRUS 4
0	HALO BLIGHT	0	FUSCOUS BLIGHT
0	ALFALFA MOSAIC VIRUS	0	ALFALFA MOSAIC VIRUS 2
0	POD MOTTLE VIRUS	0	RED NODE VIRUS
0	ROOT KNOT NEMATODE		OTHER (Specify) _____

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

0	APHIDS	0	LEAF HOPPERS
0	POD BORER	0	LYGUS
0	THRIPS	0	WEAVILS
0	SEED CORN MAGGOT		OTHER (Specify) _____

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

0 HEAT	0 COLD	0 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.