No. 7700099

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 TY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT T. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

'Bush Blue Lake 94'

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* 16th *day of* March *in the year of our Lord one thousand nine hundred and* seventy-eight

Attest:

Acting

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

XP-B 94

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

JEF
78228

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1a. TEMPORARY DESIGNATION OF VARIETY: XP-B 94	1b. VARIETY NAME: Bush Blue Lake 94	FOR OFFICIAL USE ONLY — PV NUMBER: 7700099
2. KIND NAME: Garden Bean	3. GENUS AND SPECIES NAME: Phaseolus vulgaris	FILING DATE: 8-30-77 — TIME: 3:00 A.M. (P.M.)
4. FAMILY NAME (BOTANICAL): Leguminosae	5. DATE OF DETERMINATION: August, 1975	FEE RECEIVED: $ 250.00 / $ 250.00 / $ 250.00 — DATE: 8-30-77 / 8-30-77 / 2-10-78
6. NAME OF APPLICANT(S): Asgrow Seed Company	7. ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*): Kalamazoo, Michigan 49001	8. TELEPHONE AREA CODE AND NUMBER: (616) 385-6605
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (*Corporation, partnership, association, etc.*): Corporation	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION: Delaware	11. DATE OF INCORPORATION: 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 [XX] 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? [XX] 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 27, 1977 (DATE) — John A. Batcha (SIGNATURE OF APPLICANT)

John A. Batcha 1

(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.)

Asgrow Seed Company
Garden Bean, ~~XP-B-94~~ Bush Blue Lake 94

7700099

EXHIBIT A--Origin and Breeding History of ~~XP-B94~~ Garden Bean
Bush Blue Lake 94

The original cross, BBL-272 x BBL-1502, was made in 1961. This material was selected for several years and then bulk material was grown for several generations without selecting. Since there is practically no cross pollination of beans at Twin Falls, Idaho, (experiments to measure crossing at Twin Falls have given zero cross pollinations in 18,000 plus test plants), this bulk population consisted of a wide range of F_{10} material. This was planted and single plant selections were made in 1969. These were then placed "on the shelf" to be used when needed in the Breeding Program.

The F_{11} progenies were grown in 1974 and from the wide range of types, certain progenies were selected. One progeny was very similar to BBL-290 except it produces a very large pod, which is desired by some processors in the Pacific Northwest for processing of french cut beans.

This line was placed in trial in 1975 and since it was in the F_{12} generation, it was very uniform. In August, 1975, it was determined that we had a new distinct variety which should be further evaluated and promoted. The line was designated ~~XP-B94~~ Bush Blue Lake 94 on October 10, 1976.

One hundred and fifty plant selections were made in 1975 and the progenies were grown in 1976. The progenies appeared to be identical except for the normal mutation to flat pods. Any progeny which was suspect in any way or which contained any flat-podded plants was eliminated and the remaining progenies were harvested as a bulk; this has become our "Breeder's Seed".

~~XP-B94~~ Bush Blue Lake 94 is a true breeding, stable line, and we have been able to find no segregation other than for the normal mutation to flat pod, which occurs in all round podded varieties known to us.

JET 780228

J.D. Atkin
6/8/77

Asgrow Seed Company
Garden Bean, ~~XP-B 94~~ Bush Blue Lake 94

7700099

EXHIBIT B--Novelty Statement Concerning ~~XP-B94~~ Bush Blue Lake 94 Garden Bean

Ret 780228

To our knowledge, the commercial variety most similar to ~~XP-B94~~ Bush Blue Lake 94 is Bush Blue Lake 290. Comparative characteristics which make ~~XP-B94~~ Bush Blue Lake 94 a distinct variety include, but are not restricted to, the following:

1. ~~XP-B94~~ Bush Blue Lake 94 produces much larger pods as measured by sieve size.
2. ~~XP-B94~~ Bush Blue Lake 94 produced longer pods.

Replicated yield trials are conducted at Twin Falls where sections of the four replications are harvested every two or three days, starting when the crop is not quite ready for commercial processing harvest and continuing until the crop is over mature. Sieve size is determined by bulking the pods from all four replications and running them through a commercial Chisholm-Ryder Bean Grader and then weighing the different sizes. Pod length is determined by measuring 25 sieve size pods taken at random. Percent seed is derived in conjunction with the fiber test, where it is necessary to work with 100 grams of deseeded pods from canned samples. The seed removed in deseeding the pods is weighed and the percent seed is calculated.

Data from the 1976 trials are summarized in the accompanying table #1.

J.D. Atkin
6/8/77

EXHIBIT B--~~XP-B90~~ Bush Blue Lake 94

Asgrow Seed Company

Table #1

	~~XP-B94~~ Bush Blue Lake 94							Bush Blue Lake 290						
HARVEST DATE	YIELD LBS/ACRE	5% SIEVE & OVER	% SEED 4's	% SEED 5's	% SEED 6's	POD LENGTH CM	POD LENGTH STANDARD ERROR	YIELD LBS/ACRE	5% SIEVE & OVER	% SEED 4's	% SEED 5's	% SEED 6's	POD LENGTH CM	POD LENGTH STANDARD ERROR
8/9/76	10,600	45		6.8				9,400	25		7.7			
8/11/76	13,900	55		6.5				11,300	40	7.8	9.7			
8/13/76	16,500	65	5.1	7.7		14.8	0.23	12,500	56	9.0	10.2		13.3	0.21
8/16/76	20,000	79	4.9	9.8	11.1	14.5	0.18	15,500	64	9.0	12.7	14.2	14.0	0.23

An examination of the data shows that Bush Blue Lake 290 has consistently small sieve, but higher per cent seed. This indicates that Bush Blue Lake 290 pods are actually older at a given harvest and that the difference in sieve size at a given stage of maturity is actually greater than the differences shown here.

The data also indicate that ~~XP-B 94~~ Bush Blue Lake 94 pods are longer than those of Bush Blue Lake 290.

7700099

SEF 780228

~~XP-L94~~

FORM APPROVED. OMB NO. 40-R2712

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

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
7700099

VARIETY NAME OR TEMPORARY DESIGNATION
Bush Blue Lake 94

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

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

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

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

[ ][ ] NO. DAYS EARLIER THAN --------- [ ]
[0][4] NO. DAYS LATER THAN ---------- [8]

1 = TENDERCROP 2 = KENTUCKY WONDER 3 = KINGHORN WAX
4 = WHITE KIDNEY 5 = MICHELITE 62 6 = DWARF HORTICULTURAL
7 = BUSH BLUE LAKE 8 = OTHER (*Specify*) BBL-53

4. PLANT:

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

[0][4][2] CM. HEIGHT OR LENGTH OF VINE FROM PRIMARY LEAF NODE

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

[5][6] CM. SPREAD

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

[0][4] NUMBER INTERNODES ON MAIN STALK BETWEEN PRIMARY LEAF AND BASE OF TERMINAL INFLORESCENCE

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

[0][7] 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

[2] Size: 1 = SMALL (*Earliwax*) 2 = MEDIUM 3 = LARGE (*Tendercrop*) [8] 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

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

Bush Blue Lake 94 ~~XP-B94~~

FORM GR-470-12 (PAGE 2 OF 3 PAGES) Asgrow Seed Company EXHIBIT C, continued JET 780228

7700099

6. FLOWERS:

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

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

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

[3] 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 5] CM. LENGTH [0 9] MM. WIDTH *(Between sutures)* [0 9] MM. THICKNESS [1 0] WIDTH / THICKNESS X 10

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

[ ] 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

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

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

[12] MM. SPUR LENGTH

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

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

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

[7] 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

[ ] Secondary color: 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)*_____

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

[1] 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

[23] 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 1] MM. LENGTH

[0 1 2] WIDTH / THICKNESS X 10

FORM GR-470-12 (PAGE 3 OF 3 PAGES) Asgrow Seed Company Bush Blue Lake 94 ~~XP B94~~ 7700099

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):*

0 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.