No. 7200024

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, 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.)

BEAN

'Pico'

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* 21st *day of* May *in the year of our Lord one thousand nine hundred and* seventy-four

Attest:

L. G. Rollin

Commissioner
Plant Variety Protection Office
Grain Division

Earl L. Butz

Exhibit A Origin and Breeding History

Bean Pico PV#72024

Pico originated from the cross XP275, an Asgrow non-introduced breeding line, and Mignon, a French variety. The cross was made in 1962. The F1 generation was grown in 1963 and single plant selections were made in the F2 and F3 generations in 1964 and 1965.

In 1966 the F4 generation was grown as a bulk and was reselected and single plant selections were again made in 1967. These singles were grown in 1968. Trials in our breeding station at Ebnet, West Germany, indicated that this material was of interest as a potential variety for European use. Seed was sent to Florida for a winter increase in the fall of 1968. In 1969 a bulk increase was made from the Florida increase and in the summer the experimental number XP B33 was applied. In 1970 a further increase was made. The name Pico was applied and entered for registration in West Germany in 1970 and in the U.S. in 1971.

Pico has been uniform and stable from 1969 on. It has a normal rate of mutation to flat pod and strings. No other off-types are known to occur in significant amounts.

FORM GR-470 (2-1-71)

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

FORM APPROVED
OMB. NO.

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1. VARIETY NAME OR TEMPORARY DESIGNATION PICO	2. KIND NAME BEAN	FOR OFFICIAL USE ONLY PVPO NUMBER 72024	
3. GENUS AND SPECIES NAME Phaseolus Vulgaris	4. FAMILY NAME Leguminosae	FILING DATE 8/27/71	TIME 11 A.M. ~~P.M.~~
	5. DATE OF DETERMINATION 1968	FEE RECEIVED $750.00	CHARGES
6. NAME OF APPLICANT(S) Asgrow Seed Company	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) P.O. Box 725 Orange, Connecticut 06477	8. TELEPHONE AREA CODE AND NUMBER Area Code 203 795-3571	
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 March 22, 1968	

12. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

[XX] 12A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52, P.L. 91-577)*

[XX] 12B. Exhibit B, Botanical Description of the Variety

[XX] 12C. Exhibit C, Objective Description of the Variety

[XX] 12D. Exhibit D, Particulars of Trial Performance

[XX] 12E. Exhibit E, Statement of the Basis of Applicant's Ownership

The applicant declares that a viable sample of basic seed that is planted to produce the variety commercially will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable. *(See Section 52, P.L. 91-577).*

13A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? *(See Section 142, P.L. 91-577) (If "Yes," answer 13b and 13c below.)* [ ] YES [XX] NO

13B. Does the applicant(s) specify that this variety be limited as to number of generations? [ ] YES [XX] NO

13C. If "Yes" to 13B, how many generations of production beyond breeder seed? N/A

14. 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~~
~~P.O. Box 725~~
~~Orange, Conn. 06477~~

Dr. Allen R. Trotter
9625-190-1
ASGROW SEED COMPANY
KALAMAZOO, MICHIGAN 49001

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

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is entitled to protection under the provisions of Section 42 and is distinct, uniform, and stable as required in Section 41 of the Plant Variety Protection Act (P.L. 91-577).

August 16, 1971
(DATE)

ASGROW SEED COMPANY
by, John A. Batcha
(SIGNATURE OF APPLICANT)

(DATE)

John A. Batcha, Assistant to the President
(SIGNATURE OF APPLICANT)

Exhibit B Botanical Description of the Variety

Bean Pico PV#72024

Pico is a snapbean of the small podded type used primarily for whole pack by the processing industry, particularly in France. In the U.S. it is generally adapted to most areas, producing heavy pod sets and thereby yielding well in spite of small pod size.

In maturity Pico is relatively early being earlier than Tendercrop but it is later than many European varieties of the same type.

The plant is determinate and erect but generally shorter than most contemporary U. S. varieties. The bush is compact and the main stalk is wirey and stout and is well adapted to mechanical harvesting. Pod set is high for a short bush variety and the pods generally do not touch the ground.

Leaves are wrinkled, dull and of medium thickness. They are small, taper pointed, and slightly pubescent. They are dark green.

Flowers are white and are borne on medium length racemes. Fresh pods are dark green externally. Pods are short with an average length of 11 cms, 83 mm wide, and 84 mm thick. In cross section they are round, straight, without constrictions, dull, smooth, and slightly pubescent. The spur is slightly curved. The pod flesh is dark and firm and holds well. Pods are stringless and low in fiber. There are about 5 seeds per pod. Seed are white, shiny, without mottling or splashing and without a hilar ring. Seed are elliptical, truncated, and oval in cross section. Seed are small and 100 seed weigh about 16 grms. They are classed as kidney type and are 5 mm wide, 4 mm thick and 10 mm long. W/T ratio is 125.

Pico is resistant to common and NY15 strains of bean virus. It is resistant to some races of anthracnose but not to all. It is not known to be resistant to insects.

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
1	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	0	OTHER *(Specify)* _____

Note: All data reported in this description was obtained in field or greenhouse plantings at Asgrow Research Center (A.R.C.), Twin Falls, Idaho. Information not recorded in the normal plant breeding operation, may be from different years or special greenhouse plantings.

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	0	OTHER *(Specify)* _____

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

0 HEAT	0 COLD	0 DROUGHT	0 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.

Various characteristics identified and described above can be significantly influenced by factors such as environment (moisture, temperature, soil type, disease, etc.) as well as population density.

EXHIBIT C

This variety represents a unique combination of characteristics including, but not necessarily restricted, to the following:

1. A uniquely small sieve green podded bean.

2. Pod length - averages 11.7 cm or 4.7 inches.

3. Pod diameter - very slender with most pods falling in the 1-3 sieve size with a few 4 sieve and practically no 5 sieve pods at maturity.

4. Pod color - medium green.

5. Pod - stringless.

6. Plant size - small.

7. Plant type - upright bush.
   Days to harvest at Asgrow Research Center, Twin Falls, Idaho - 66, Jolanda - 68, Rodeo - 68, Orbit - 70.

8. Disease resistant - N.Y. 15 Mosaic.

9. Seed Color - white.

10. Seed size - Approximately 2200-2300 per pound.

Bean - Pico

Asgrow Seed Company

August 16, 1971

EXHIBIT D REVISED RJS

DATA INDICATIVE OF NOVELTY

Bean, 'Pico' PV#72024

A combination of short pods (11 cm. long) small diameter Blue Lake-type pod (8 mm.) distinguishes 'Pico' from other varieties. Pods are round in cross-section having dark green external and internal color. 'Pico' is resistant to common bean Mosaic. In Northern European areas 'Pico' developes a physiologic darker green pod spotting. This spotting is absent in warmer areas.

Exhibit D Data Indicative of Novelty

Bean Pico PV#72024

We know of no contemporary U.S. variety which resembles Pico. It is distinguished from other U.S. varieties on pod length and diameter, being generally shorter than most varieties and smaller in diameter. The average pod length is from 4-1/2 to 4-3/4 inches and its small diameter results in a 2-3-4 sieve bean with relatively few pods exceeding 4 sieve size. This combination of short pods and small diameter distinguishes Pico from all other U.S. varieties.

Pico has Blue Lake pod characteristics with dark external and internal color. The flesh is firm and holds well. The relatively slow rate of seed development together with low fiber content results in excellent quality. Commercially, it is physiologically mature at four sieve diameter, resulting in a high percentage of 3 sieve at ideal maturity with a very low percentage of 5 sieve or none.

In trials at ARC and in Europe Pico has been unique in its characteristics. In general European varieties are mostly smaller in plant type and earlier in maturity. Many European varieties tend to oval pod shape; many are not resistant to common bean mosaic; some have higher levels of anthracnose resistance. In northern European areas Pico develops a physiologic darker green pod spotting. This spotting is absent in warmer areas or at least has not been observed there.

EXHIBIT D

Yield Records from Asgrow Research Center, Twin Falls, Idaho

1970	Yield lbs/acre	5% and over	10 seed length mm	% Fiber	% Seed
Pico	6800	0	100	.007	12
Jolanda	8420	4	104	.022	12
B34	9140	0	125	.022	19
1969					
Pico	7020	0	99	.01	11
B34	11140	Tr.	106	.02	13
1968					
Pico	9350	2	106	.11	12
Jolanda	3430	5	125	.05	21
B34	9340	0	119	.01	12
1967					
Pico	4510	1	109	.61	17
B34	7430	2	129	.25	20

EXHIBIT E

Statement of the Basis of the Applicant's Ownership

Bean - Pico

Asgrow Seed Company

August 16, 1971

The variety for which Plant Variety Protection is hereby sought was developed by Dr. W. H. Pierce, retired, an employee of Asgrow Seed Company. By agreement between the employee and Asgrow Seed Company, all rights to any invention, discovery, or development made by the employee while employed by Asgrow Seed Company were assigned to Asgrow Seed Company with no rights of any kind retained by the employee.

FORM APPROVED. OMB NO. 40-R3712

FORM GR-470-12
(11-15-72)

EXHIBIT C
(Bean)

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

DATE: Jan. 24, 1973

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*)
9620-190-1
Kalamazoo, Michigan 49001

FOR OFFICIAL USE ONLY

PVPO NUMBER
72024

VARIETY NAME OR TEMPORARY DESIGNATION
Pico

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

[0][3] 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

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

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

[ ][ ] CM. SPREAD

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

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

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

[ ][ ] 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

[1] Size: 1 = SMALL (*Earliwax*) 2 = MEDIUM 3 = LARGE (*Tendercrop*) [ ] 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:
[ ] PUBESCENCE - Ventral:
1 = NONE 2 = SLIGHT 3 = CONSIDERABLE

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

4-9

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 [ ] 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 1] CM. LENGTH [8 3] MM. WIDTH *(Between sutures)* [8 4] MM. THICKNESS [1 0] 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

[2] 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

[ ] MM. SPUR LENGTH

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

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

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

[5] 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:
[ ] Secondary color:
1 = WHITE 2 = YELLOW 3 = BUFF 4 = TAN
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)*_____

[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

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

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

[16] GM. WEIGHT PER 100 SEEDS

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

[0 5] MM. WIDTH *(Dorsal to ventral)* [0 4] MM. THICKNESS *(Side to side)*

[1 0] MM. LENGTH [1 2 5] WIDTH / THICKNESS X 10