No. 7100025

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

'Rodeo'

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* 18th *day of* April *in the year of our Lord one thousand nine hundred and* seventy-five

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
12-1-71

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

FORM APPROVED
OMB. NO. 22-R71

Rec'd 2/
9:30

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1. VARIETY NAME OR TEMPORARY DESIGNATION	2. KIND NAME	FOR OFFICIAL USE ONLY
Rodeo	BEAN	PVPO NUMBER 7125
3. GENUS AND SPECIES NAME	4. FAMILY NAME	FILING DATE 2/9/71 / TIME 9:30 A.M.
Phaseolus Vulgaris	Leguminosae	
	5. DATE OF DETERMINATION 1966	FEE RECEIVED $ 750 / CHARGES

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	P. O. Box 725 Orange, Connecticut 06477	Area Code 203 795-3571

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.)	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	Delaware	March 22, 196

12. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

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

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

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

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

[X] 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 [X] NO

13B. Does the applicant(s) specify that this variety be limited as to number of generations?	13C. If "Yes" to 13B, how many generations of production beyond breeder seed?
[ ] YES [X] NO	

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. Taylor
9625-190-1 Asgrow Seed Co.
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).

February 5, 1971
(DATE)

ASGROW SEED COMPANY
by, John A. Batcha
(SIGNATURE OF APPLICANT)
John A. Batcha, Assistant to the President

(DATE)

(SIGNATURE OF APPLICANT)

Exhibit A

Bean Rodeo PV#7125

Rodeo originated from a cross in 1960 between Line 254 and Line 1327, two Asgrow breeding lines. Line 1327 is resistant to curly top, a virus disease.

In 1962 and 1963 single plant selections were made in plots with heavy natural infection of curly top virus.

In 1964 a number of lines were tested for curly top resistance among which was the line which eventually became XP296 and then Rodeo. This line was found to be homozygous for resistance to curly top virus.

In 1965 and 1966 seed stock increases were made and evaluated for horticultural type and curly top resistance. It was concluded that one line was horticulturally acceptable as a curly top resistant variety and was designated XP296.

From 1966 until November 1969, when XP296 was named and introduced as Rodeo, it was tested in various trials, mostly in areas free from infection by curly top virus. It was offered for sale in the spring of 1970.

Rodeo has been judged to be uniform and stable from 1966 on. It has a normal mutation rate for flat pods and strings. No other off-types are known to occur.

Exhibit B Botanical Description

Bean Rodeo PV#7125

Rodeo is a green podded garden bean of Tendergreen type. It is generally adapted to various areas but the primary area of use is in the northeastern, northwestern, and mid-western sections of the U.S.

It is mid-season in maturity, reaching market maturity in about 68 days at Twin Falls, Idaho, where it is about 4 days earlier than Bush Blue Lake and approximates the maturity of Tendercrop. The plant is a determinate, erect bush. It is generally compact without excessive branches. The plant is wirey. Flowers and pods are produced relatively high on the plant and pods normally do not touch the ground. Leaves are somewhat wrinkled and are dull green in color. Leaves are medium sized and of medium thickness, taper pointed, and slightly pubescent. Flowers are white and are produced on medium length racemes. Pods are light green about 13 cm long by 90 mm in width and 95 mm thick with a W/T ratio of 95. In cross section the pods are round, becoming creasebacked with age, although not to as high a degree as some other varieties. The pods normally are straight, slightly pubescent and free from constrictions. The spur is of average size and slightly curved. The surface color is dull and smooth. Internal pod color is light and firm. The pods are stringless and relatively low in fiber content. The average pod produces about 5 seed. The variety is adapted to machine harvest. Seed coat is white and shiny. There is no mottling or splashing of other colors. There is no hilar ring. There is a vein-like undercoat pattern. In shape the seed are elliptical and kidney shaped. In cross section they are round. Seed weight is approximately 100 per ounce. The average seed is 12 mm long, 06 mm wide, and 06 mm thick.

Rodeo is resistant to curly top and to common and NY 15 bean viruses. No insect resistance is known.

FORM APPROVED. OMB NO. 40-R3712

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

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

EXHIBIT C
(Bean)

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DATE: Jan. 24, 1973

OBJECTIVE DESCRIPTION OF VARIETY

INSTRUCTIONS: See Reverse.

BEAN (*PHALEOLUS VULGARIS*)

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
7125

VARIETY NAME OR TEMPORARY DESIGNATION
Rodeo

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][8] GREEN PODS [ ][ ] GREEN SHELLS [ ][ ] DRY SEEDS

[0][4] NO. DAYS EARLIER THAN --------- [7]
[ ][ ] 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][1] CM. HEIGHT OR LENGTH OF VINE FROM PRIMARY LEAF NODE

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

[4][4] 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

[2] 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

4

[1] 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)*_____

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

7. FRESH PODS: ***(Edible maturity, averages 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 3] CM. LENGTH [9 0] MM. WIDTH *(Between sutures)* [9 5] MM. THICKNESS [9 5] 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

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

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

[ ] MM. SPUR LENGTH

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

[2] 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: 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)*_____

[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

[4] 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 6] MM. THICKNESS *(Side to side)*

[1 2] MM. LENGTH

[1 0 0] 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):*

[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
[2]	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 (ARC), 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.

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EXHIBIT C

Objective Description of the Variety

Bean - Rodeo

Asgrow Seed Company

February 5, 1971

A curly top resistant variety of the Tendergreen class with slender pods of a light green color competitive to curly top susceptible varieties such as Slimgreen, Slenderwhite and Tenderwhite.

It is considered to be main season in maturity, ranging from 63-67 days or from 1194-1357 degree days, depending on season.

The plant is erect, vigorous, and stands well. Pods are borne off the ground, foliage is a light yellow green. The variety is resistant to curly top virus and to BV1 variant NY15.

Pods are straight, light green in color, nearly round with a tendency to become creasebacked in larger sieve sizes. Width/thickness ratios are from 0.92 to 0.98. Pod length about 5 inches, fiber is low when harvested at a seed length of 100-110 mm. and about 10-11% seed. Processed color is light green and the variety is considered to be more acceptable as a canned than a frozen product. It is also suitable for market garden and home garden use.

Seed is white with a seed count of 85-90 per ounce.

Yield is good and is about equivalent to Slimgreen when harvested at 100-110 mm. seed length. At this maturity the sieve distribution is from 15-30% 5-sieve and over concentration in the four sieve size 50-70%. Yields at Twin Falls, Idaho have averaged about 10,000 pounds(range 7610-15590) over a 5-year period. Adaptation tests indicate that the variety is well adapted to Wisconsin, Idaho and Germany and in the Columbia Basin. It appears to be less well adapted to Florida and the Mid-Atlantic states and its performance has been erratic in California.

The variety can be expected to outperform curly top susceptible varieties in the presence of the disease and has performed competitively with susceptible varieties in the Midwest in the absence of the disease.

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Exhibit D Novelty

Bean Rodeo PV#7125

Rodeo most resembles Wondergreen and Apollo, two curly top resistant varieties. It differs from other slender-podded non-curly top resistant varieties by virtue of its resistance to the curly top virus.

Rodeo is a light colored, slender podded variety of the general Tendergreen type which includes Slendergreen, Slimgreen, and Slenderwhite among others.

It differs from Wondergreen in that it has a longer pod and is lighter in pod color. It normally does not crease-back as much as Wondergreen. Rodeo is white-seeded; Wondergreen has buff colored seeds. Wondergreen has a stronger tendency to produce "fishmouth" seed; seed not entirely covered by seed coats.

Rodeo differs from Apollo by being about four days earlier in maturity. It also produces more slender pods than Apollo. Rodeo seed is smaller averaging about 100 seed per ounce whereas Apollo averages about 90 seed per ounce.

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EXHIBIT D

Particulars of Trial Performance

Bean - Rodeo

Asgrow Seed Company

February 5, 1971

Years in Trial at Twin Falls, Idaho

	1966	1967	1968	1969	1970
Planting date	5/18	5/23	5/27	5/26	5/25
Blossom date	7/2	7/4	7/9	7/12	7/8
Harvest date	7/25	8/4	8/3	8/2	8/7
Days - HU	68/1113	73/1332	68/1325	68/1187	74/1219
Yield 1-3 Sieve	2470	1540	2810	2150	2030
4-Sieve	5270	3790	6810	7270	7210
5 and over	3320	2280	5920	1410	3060
Total	11060	7610	15590	10830	12300
10 seed legth mm.		132	112	110	131
w/t	.93	.92	.97	.96	.98
% fiber	.010	.430	.030	.064	.084

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EXHIBIT E

Statement of the Basis of the Applicant's Ownership

Bean - Rodeo

Asgrow Seed Company

February 5, 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.

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Asgrow Seed Company

Transfer of Plant Variety Protection Act Rights

Asgrow Seed Company, a Delaware Corporation with its principle place of business at 2605 E. Kilgore Road, Kalamazoo MI 49001, is the owner of the Plant Variety Protection Act Certificates and applications for certificates listed on and attached as Exhibit A to this document (the "Certificates and Applications").

For good and valuable consideration, reciept of which is hereby acknowledged, Asgrow hereby transfers all of its right, title and interest in and to the Certificates and Applications and to all rights relating thereto under the Plant Variety Protection Act to Seminis Vegetable Seeds, Inc., a California corporation, whose principle place of business is at 1905 Lirio Street, Saticoy, CA 93007-4206.

Dated: January 31, 1997

Asgrow Seed Company

By: Norman A Braksik
Norman A. Braksik
President