

No.

840022



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Hsgrow 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 *eighteen* 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 (PLANT VARIETY PROTECTION ACT, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

'Atlantic'

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 27th day of December in the year of our Lord one thousand nine hundred and eighty-five.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

EXHIBIT A

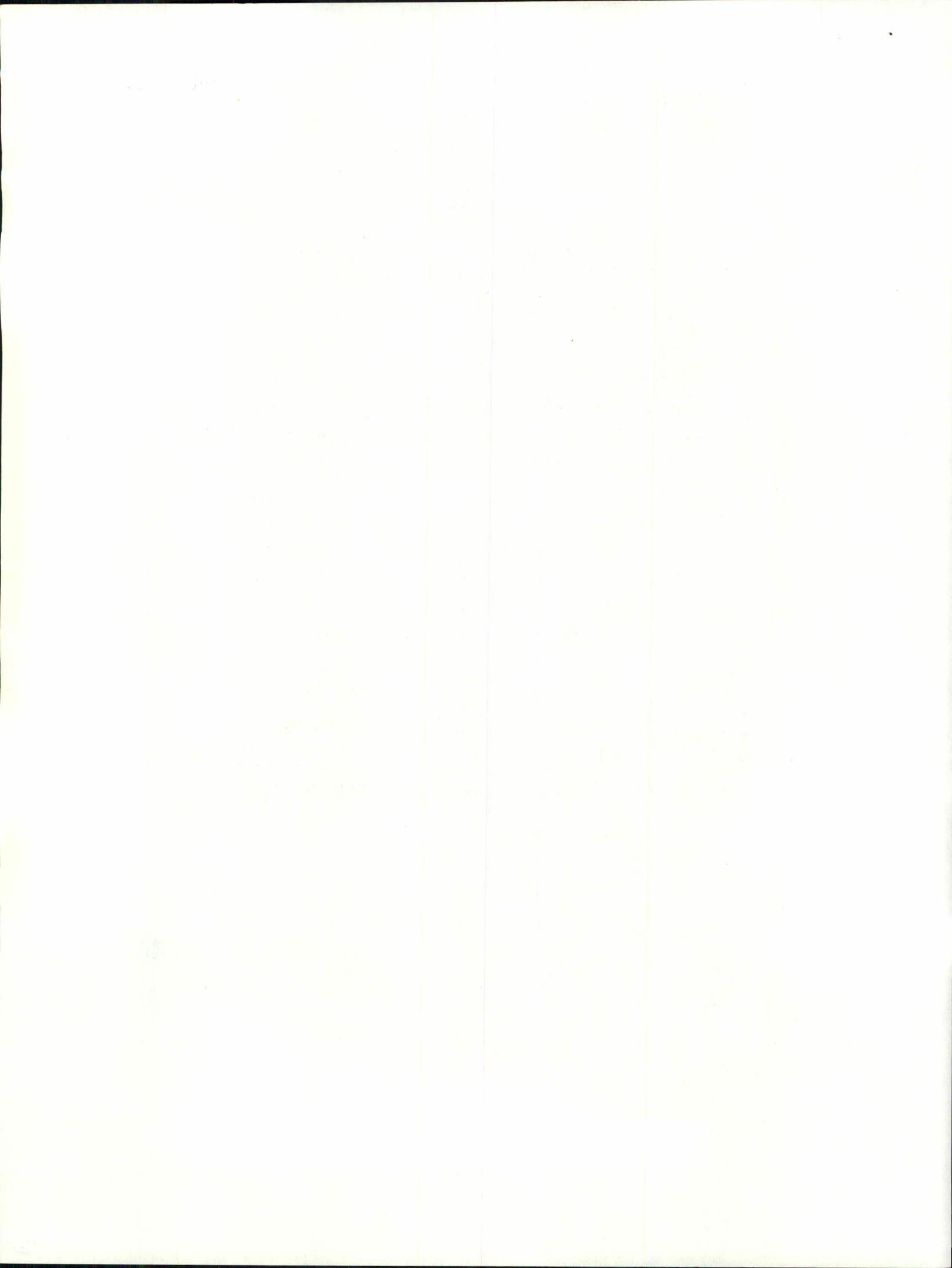
The original cross made to develop ~~XPB148~~ was ~~Gatorgreen~~ ^{ATLANTIC 19/15/85 ML} x ~~Provider~~ ^{GATORGREEN 15' 10/15/85 ML}. This cross and all subsequent breeding work was conducted at Asgrow Seed Company, Western Breeding Station in Twin Falls, Idaho.

Details of the breeding history follow:

- February 1979 - BC₀ produced in the greenhouse, Twin Falls, Idaho.
- April 1979 - Planted BC₀ in the greenhouse for production of BC₁.
- July 1979 - Planted BC₁ in the greenhouse for production of BC₂.
- November 1979 - Planted BC₂ in the greenhouse for production of BC₃.
- February 1980 - Planted BC₃ in the greenhouse for production of BC₄.
- May 1980 - Planted BC₄ in the greenhouse for production of BC₅.
- August 1980 - Planted BC₅ in the greenhouse for production of BC₆.
- December 1980 - Planted BC₆S₀ in the greenhouse for production of BC₆S₁.
- June 1981 - Planted BC₆S₁ in the field for production of BC₆S₂.
- October 1981 - Planted BC₆S₂ in the greenhouse for production of BC₆S₃.
- February 1982 - Planted BC₆S₃ in the greenhouse for production of BC₆S₄.
- June 1982 - Planted BC₆S₄ in the field.
- August/September 1982 - Observed BC₆S₄; determined it was uniform and breeding true.

Observations indicate ~~XPB148~~ ^{'ATLANTIC'} is uniform and stable within commercially acceptable limits. As is true with other garden bean varieties, a small percentage of variants or offtypes can occur within commercially acceptable limits, for almost any characteristic during the course of repeated multiplication.

JAB:mga



U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, MEAT, GRAIN & SEED DIVISION

FORM APPROVED: OMB NO. 0581-0055
 Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions on reverse)

1. NAME OF APPLICANT(S) Asgrow Seed Company		2. TEMPORARY DESIGNATION XPB148	3. VARIETY NAME ATLANTIC 10/15/85 W.
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 9620 190 25 Gull Raod Kalamazoo, MI 49001		5. PHONE (Include area code) (616) 385-6605	FOR OFFICIAL USE ONLY PVPO NUMBER 8400022
6. GENUS AND SPECIES NAME Phaseolus vulgaris	7. FAMILY NAME (Botanical) Leguminosae		FILING DATE 12/14/83 TIME 2:30 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.
8. KIND NAME Garden Bean	9. DATE OF DETERMINATION September 1982		FEE RECEIVED AMOUNT FOR FILING \$ 1,000 DATE 12/14/83 AMOUNT FOR CERTIFICATE \$ 500.00 DATE 11/21/85
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			12. DATE OF INCORPORATION March 22, 1968
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware			

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
**Mr. John A. Batcha 9620 190 25
 Asgrow Seed Company
 Kalamazoo, MI 49001**

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)	c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement	d. <input type="checkbox"/> Exhibit D, Additional Description of the Variety

15. 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) of the Plant Variety Protection Act.)
 Yes (If "Yes," answer items 16 and 17 below) No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
 Yes No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
 Foundation Registered Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
 Yes (If "Yes," give date)
 No

19. HAS THE VARIETY BEEN OFFERED FOR SALE OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
 Yes (If "Yes," give names of countries and dates)
 No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request 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 Protection Act.
 Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT <i>John A. Batcha</i>	DATE November 3, 1983
SIGNATURE OF APPLICANT	DATE

INSTRUCTIONS

General: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$1,000 fee (*\$500 filing fee and \$500 examination fee*) to U.S. Department of Agriculture, Agricultural Marketing Service, Livestock, Meat, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, 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

- 9 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.
- 14a Give: (1) the genealogy, including public and commercial 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 uniformity and stability.
- 14b 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 are clear differences; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 14d 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.
- 15 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, his decision published, or the certificate has been issued. However, if the applicant specified "No," he may change his choice. (*See section 180.16 of the Regulations and Rules of Practice.*)
- 16 See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

Asgrow Seed Company
Plant Variety Protection Application
Garden Bean ~~XPB148~~ 'ATLANTIC'
November 3, 1983

8400022

EXHIBIT B

Novelty Statement - Garden Bean ~~XPB148~~

ATLANTIC 10/15/83 ML

'GATORGREEN 15'

To our knowledge, the variety which most closely resembles XPB148 is ~~Gatorgreen~~. Difference which distinguishes these varieties includes, but is not necessarily restricted to seed color.

'GATORGREEN 15'
10/15/83 ML

~~Gatorgreen~~ - White Seed
~~XPB148~~ - Mottled Purple and Tan Seed
'ATLANTIC'

Evaluations indicate breeding efforts have significantly improved germination capacity of ~~XPB148~~ under stress conditions.

'ATLANTIC'

JAB:mga



8400022



Asgrow Seed Company-International
subsidiary of The Upjohn Company

Kalamazoo, Michigan 49001

*Addendum to
Exhibit B
K.*

October 11, 1985

Ms. Virginia Lerch
U.S. Department of Agriculture
Plant Variety Protection Office
National Agricultural Library Building
Beltsville, MD 20705

Dear Ms. Lerch:

This letter is a followup to our telephone conversation concerning bean application 8400022 x PB148. This variety has now been named "Atlantic."

Reference is made in the application (Exhibits A and B) to the garden bean variety Gatorgreen. Gatorgreen is a name commonly used by many in the industry. Since submitting the application, I have learned the variety name is Gatorgreen15.

Very truly yours,

John A. Batcha
John A. Batcha

lka

*10/15/85
PRACNT updated*

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
 BELTSVILLE, MARYLAND 20705

EXHIBIT C
 (Bean)

OBJECTIVE DESCRIPTION OF VARIETY
 BEAN (*Phaseolus vulgaris* L.)

NAME OF APPLICANT(S) Asgrow Seed Company	FOR OFFICIAL USE ONLY
	PVPO NUMBER 8400022
ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 9620 190 25 Gull Road Kalamazoo, MI 49001	VARIETY NAME OR TEMPORARY DESIGNATION ATLANTIC 10/15/85ll.

Place numbers in the boxes (e.g.) for the characters that best describe this variety. Measured data should be for SPACED PLANTS. Ranges may also be given. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____ . The location of test area is _____ . Please answer questions appropriate for your variety if the information is available.

1. TYPE:

1 = Field (dry-edible) 2 = Garden

2. MARKET MATURITY:

Days to edible pods Days to green shells

Days to dry seeds

Heat units to edible pods Heat units to green shells

Heat units to dry seeds

No. days earlier than }
 Same as .. }
 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 290 8 = Other (specify below)

3. PLANT:

1 = Determinate 2 = Indeterminate

cm height

cm shorter than }
 Same as .. } comparison variety from above

cm taller than }

cm spread Number primary branches near base

cm narrower than }
 width same as ... } comparison variety from above

cm wider than }

Main stalk: 1 = brittle 2 = wirey Branching habit:
 1 = stout 2 = thin 1 = compact 2 = open

5

8. SEED SHAPE AND SIZE: (Cont'd)

2 1 = truncate ends 2 = rounded ends

3 5 gm/100 seed

gm/100 seed lighter than

gm/100 seed same as

2 gm/100 seed heavier than 8

} comparison variety from page one (Eagle)

9. ANTHOCYANIN: (1 = absent 2 = present)

2 Flowers

1 Stems

1 Pods

2 Seeds

1 Leaves

10. DISEASE RESISTANCE (0 = not tested 1 = susceptible 2 = resistant):

1 Anthracnose (specify race below) _____

0 Rust (specify race below) _____

0 Powdery mildew

0 Fusarium root rot

0 Pythium root rot

0 Rhizoctonia root rot

0 Pythium wilt

0 Angular leaf spot

0 Bacterial wilt

0 Halo blight (specify race below) _____

0 Fuscous blight

0 Red node virus

0 Pod mottle virus

2 Bean common mosaic virus (specify strain below) NY 15 _____

2 Mosaic mottle

0 Black root

0 Bean yellow mosaic virus

0 Curly top

Other (specify below) _____

11. INSECT RESISTANCE: (0 = not tested 1 = susceptible 2 = resistant)

0 Aphids

0 Leaf hopper

0 Lygus

0 Pod borer

0 Root knot nematode

0 Seed corn maggot

0 Thrips

0 Weavils

Other (specify below) _____

12. PHYSIOLOGICAL RESISTANCE: (0 = not tested 1 = susceptible 2 = resistant)

0 Heat

0 Cold

0 Drought

0 Air pollution

13. COMMENTS:



84-22

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, receipt 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

55-48

SECURITY AGREEMENT

By

SEMINIS VEGETABLE SEEDS, INC.,

SEMINIS, INC.

and

THE DOMESTIC SUBSIDIARIES PARTY HERETO,
as Grantors,

and

CITICORP NORTH AMERICA, INC.,
as Collateral Agent

Dated as of September 29, 2003

Original document filed in front office.
(52 pages)

#559734

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, MEAT, GRAIN & SEED DIVISION

APPROVAL EXPIRES 4-30-85

FORM APPROVED: OMB NO. 0681-0055

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
 (Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Asgrow Seed Company		2. TEMPORARY DESIGNATION XPB148	3. VARIETY NAME ATLANTIC ^{19/13/83}	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 9620 190 25 Gull Raod Kalamazoo, MI 49001		5. PHONE (Include area code) (616) 385-6605	FOR OFFICIAL USE ONLY PVPO NUMBER 8400022	
6. GENUS AND SPECIES NAME Phaseolus vulgaris	7. FAMILY NAME (Botanical) Leguminosae		FILING DATE 12/14/83 TIME 2:30 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.	
8. KIND NAME Garden Bean	9. DATE OF DETERMINATION September 1982		AMOUNT FOR FILING \$ 1,000 DATE 12/14/83	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			AMOUNT FOR CERTIFICATE \$ 500.00 DATE 11/21/85	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware			12. DATE OF INCORPORATION March 22, 1968	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Mr. John A. Batcha 9620 190 25 Asgrow Seed Company Kalamazoo, MI 49001				

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)

b. Exhibit B, Novelty Statement

c. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)

d. Exhibit D, Additional Description of the Variety

15. 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) of the Plant Variety Protection Act.)

Yes (If "Yes," answer items 16 and 17 below) No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

Yes No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

Foundation Registered Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

Yes (If "Yes," give date)

No

19. HAS THE VARIETY BEEN OFFERED FOR SALE OR MARKETED IN THE U.S. OR OTHER COUNTRIES?

Yes (If "Yes," give names of countries and dates)

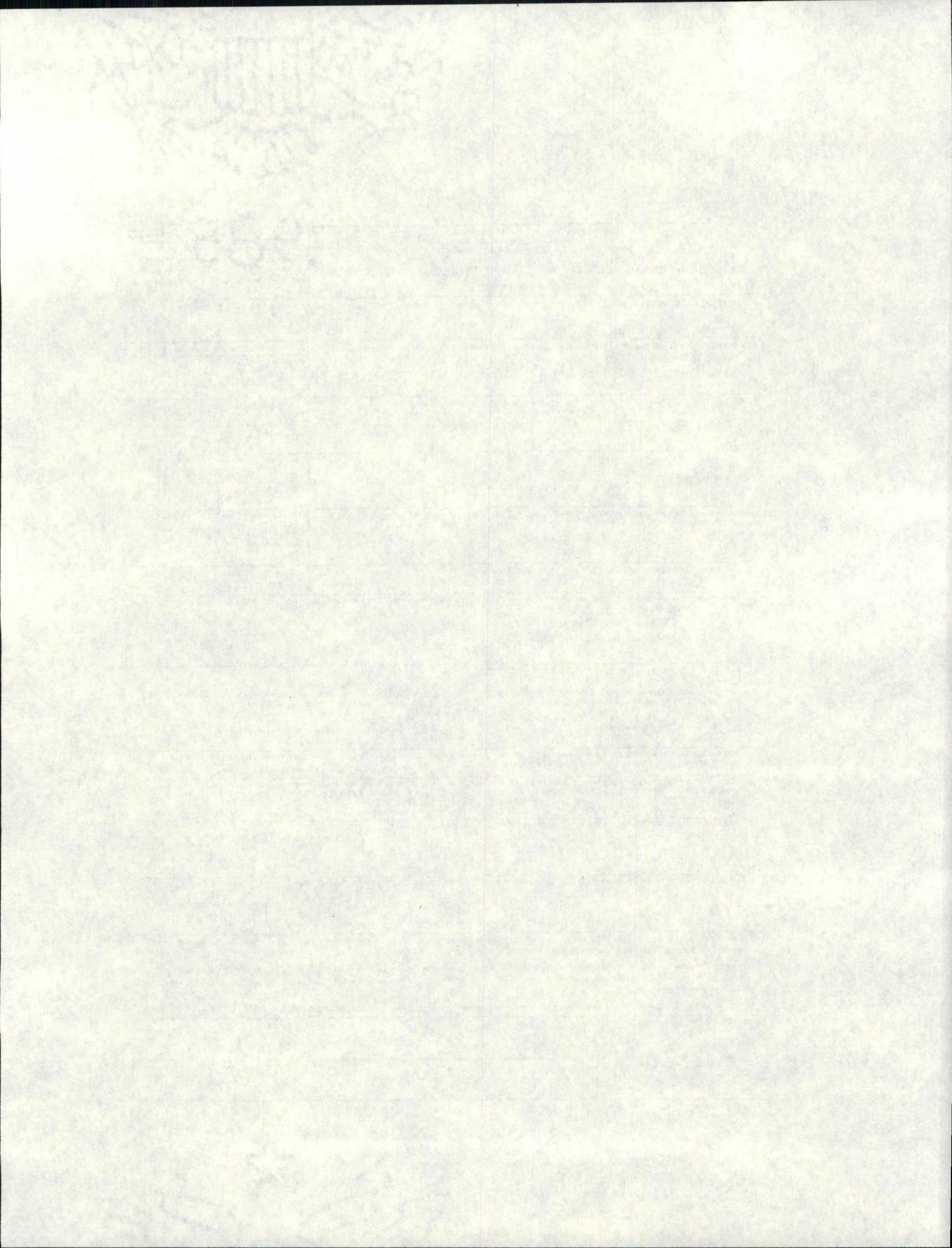
No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request 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 Protection Act.

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

SIGNATURE OF APPLICANT <i>John A. Batcha</i>	DATE November 3, 1983
SIGNATURE OF APPLICANT	DATE



Asgrow Seed Company
Plant Variety Protection Application
Garden Bean XPB-148 - 'ATLANTIC' 19/13/82 ML
November 3, 1983

8400022

EXHIBIT A

The original cross made to develop XPB148 was ^{ATLANTIC 19/13/82 ML} Gatorgreen ^{15' 10/13/85 ML} x Provider. This cross and all subsequent breeding work was conducted at Asgrow Seed Company, Western Breeding Station in Twin Falls, Idaho.

Details of the breeding history follow:

- February 1979 - BC₀ produced in the greenhouse, Twin Falls, Idaho.
- April 1979 - Planted BC₀ in the greenhouse for production of BC₁.
- July 1979 - Planted BC₁ in the greenhouse for production of BC₂.
- November 1979 - Planted BC₂ in the greenhouse for production of BC₃.
- February 1980 - Planted BC₃ in the greenhouse for production of BC₄.
- May 1980 - Planted BC₄ in the greenhouse for production of BC₅.
- August 1980 - Planted BC₅ in the greenhouse for production of BC₆.
- December 1980 - Planted BC₆S₀ in the greenhouse for production of BC₆S₁.
- June 1981 - Planted BC₆S₁ in the field for production of BC₆S₂.
- October 1981 - Planted BC₆S₂ in the greenhouse for production of BC₆S₃.
- February 1982 - Planted BC₆S₃ in the greenhouse for production of BC₆S₄.
- June 1982 - Planted BC₆S₄ in the field.
- August/September 1982 - Observed BC₆S₄; determined it was uniform and breeding true.

Observations indicate XPB148 is uniform and stable within commercially acceptable limits. As is true with other garden bean varieties, a small percentage of variants or offtypes can occur within commercially acceptable limits, for almost any characteristic during the course of repeated multiplication.

JAB:mga



1875

Asgrow Seed Company
Plant Variety Protection Application
Garden Bean XPB148 'ATLANTIC'
November 3, 1983

8400022

EXHIBIT B

Novelty Statement - Garden Bean XPB-148

ATLANTIC 10/1/83
GATORGREEN 15 To our knowledge, the variety which most closely resembles XPB148 is *Gatorgreen*. Difference which distinguishes these varieties includes, but is not necessarily restricted to seed color.

10/1/83
GATORGREEN 15 *Gatorgreen* - White Seed
ATLANTIC XPB148 - Mottled Purple and Tan Seed

Evaluations indicate breeding efforts have significantly improved germination capacity of XPB148 under stress conditions.

ATLANTIC

JAB:mga

8400022



Asgrow Seed Company-International
subsidiary of The Upjohn Company

Kalamazoo, Michigan 49001

*Addendum to
Exhibit P
W*

October 11, 1985

Ms. Virginia Lerch
U.S. Department of Agriculture
Plant Variety Protection Office
National Agricultural Library Building
Beltsville, MD 20705

Dear Ms. Lerch:

This letter is a followup to our telephone conversation concerning bean application 8400022 x PB148. This variety has now been named "Atlantic."

Reference is made in the application (Exhibits A and B) to the garden bean variety Gatorgreen. Gatorgreen is a name commonly used by many in the industry. Since submitting the application, I have learned the variety name is Gatorgreen15.

Very truly yours,

John A. Batcha
John A. Batcha

lka

*10/15/85
PVACT updated A*

OBJECTIVE DESCRIPTION OF VARIETY
 BEAN (*Phaseolus vulgaris* L.)

NAME OF APPLICANT(S)

Asgrow Seed Company

ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)
 9620 190 25 Gull Road
 Kalamazoo, MI 49001

FOR OFFICIAL USE ONLY

PVPO NUMBER

8400022

VARIETY NAME OR TEMPORARY DESIGNATION

ATLANTIC 10/18/52

Place numbers in the boxes (e.g.) for the characters that best describe this variety. Measured data should be for SPACED PLANTS. Ranges may also be given. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____ The location of test area is _____

Please answer questions appropriate for your variety if the information is available.

1. TYPE:

1 = Field (dry-edible) 2 = Garden

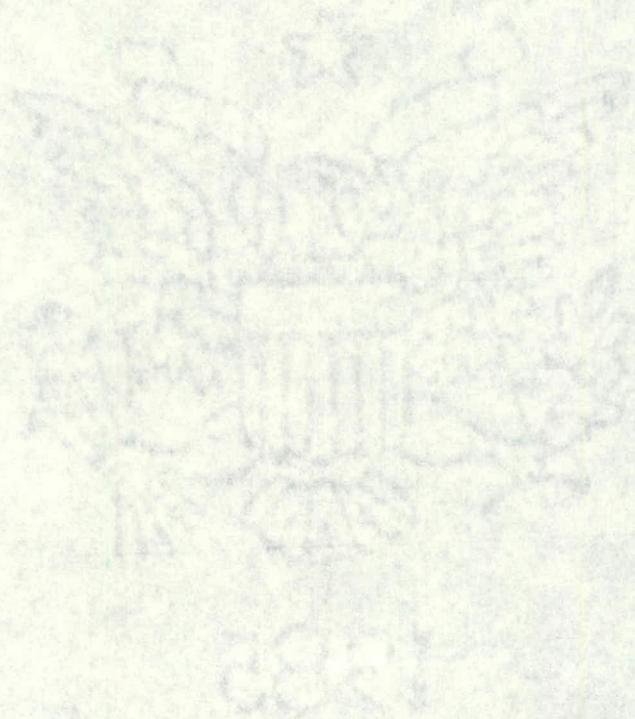
2. MARKET MATURITY:

Days to edible pods Days to green shells
 Days to dry seeds
 Heat units to edible pods Heat units to green shells
 Heat units to dry seeds
 No. days earlier than }
 Same as .. } 1 = Tendercrop 2 = Kentucky Wonder
 No. days later than } 3 = Kinghorn Wax 4 = White Kidney
 5 = Michelite 62 6 = Dwarf Horticultural
 7 = Bush Blue Lake 290 8 = Other (specify below)

3. PLANT:

1 = Determinate 2 = Indeterminate

cm height
 cm shorter than }
 Same as .. } comparison variety from above
 cm taller than }
 cm spread Number primary branches near base
 cm narrower than }
 width same as ... } comparison variety from above
 cm wider than }
 Main stalk: 1 = brittle 2 = wirey Branching habit:
 1 = compact 2 = open
 1 = stout 2 = thin



3. PLANT: (Cont'd)

3 Pod position: 1 = low 2 = high 3 = scattered

1 Bush form (illustrated below):



1 = spherical bush form

2 = stem bush form

3 = wide bush form

4 = high bush form

5 = other (specify) _____

4. LEAVES:

2 1 = smooth 2 = wrinkled

1 1 = dull 2 = glossy

2 Size: 1 = small (Earliwax) 2 = medium 3 = large (Tendercrop)

2 Color: 1 = light green (as light or lighter than Bountiful) 2 = medium green
3 = dark green (as dark or darker than Bush Blue Lake 290)

5. FLOWERS:

3 Color: 1 = white 2 = cream 3 = pink 4 = lilac 5 = purple 6 = Other (specify) _____

4 7 Days to 50% bloom

6. FRESH PODS: (Edible maturity, average for 20 pods)

2 Exterior color: 1 = light green (as light or lighter than Bountiful)
2 = medium green
3 = dark green (as dark or darker than Bush Blue Lake 290)
4 = light yellow (Brittlewax)
5 = golden yellow (Cherokee Wax)
6 = green-red variegated (Horticultural)
7 = other (specify) _____

% Sieve size distribution at optimum maturity for non-flat pods

Note:

- 1 = 4.76 mm to 5.76 mm
- 2 = 5.76 mm to 7.34 mm
- 3 = 7.34 mm to 8.34 mm
- 4 = 8.34 mm to 9.53 mm
- 5 = 9.53 mm to 10.72 mm
- 6 = 10.72 mm or larger

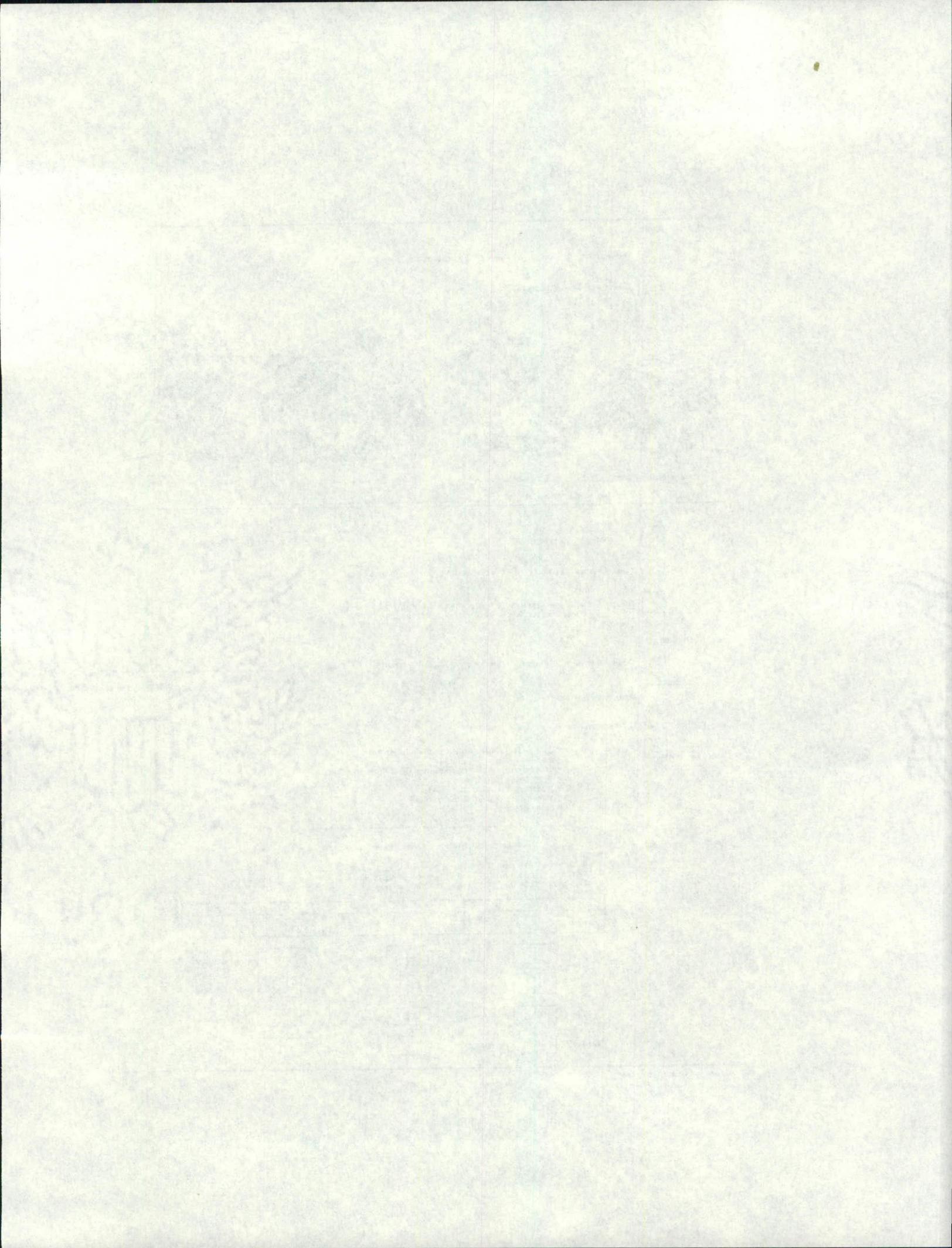
1	2	3	4	5	6
		27	40	33	

3 sieve cm length mm width mm thickness

4 sieve 1 5 cm length 9 5 mm width 9 1 mm thickness

5 sieve cm length mm width mm thickness

6 sieve cm length mm width mm thickness



6. FRESH PODS: (Cont'd)

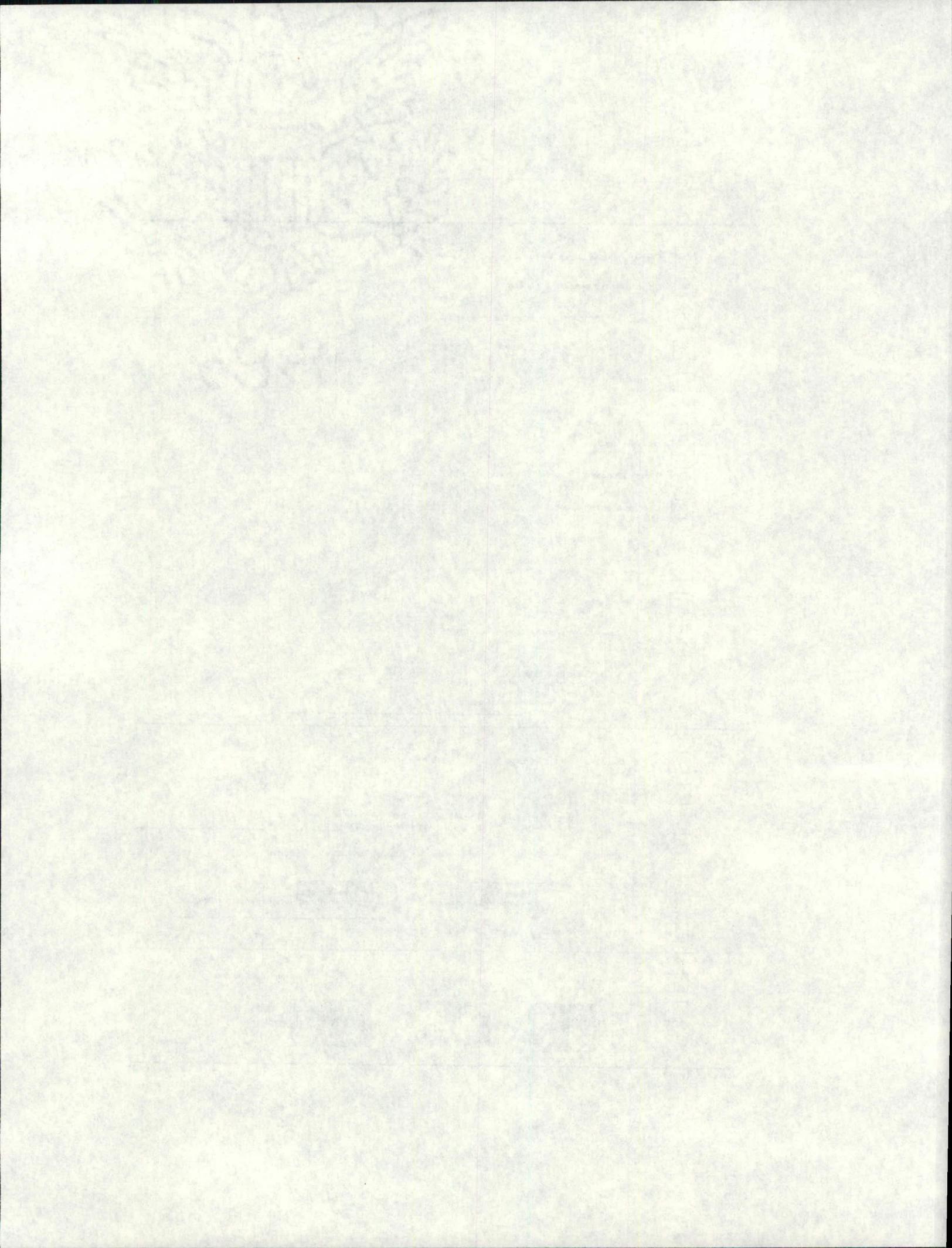
- 2 Cross section pod shape: 1 = flat 2 = oval 3 = round 4 = heart
- 2 Creaseback: 1 = present 2 = absent
- 2 Pubescence: 1 = none 2 = sparse 3 = considerable
- 3 Spur: 1 = straight 2 = slightly curved 3 = curved
- 1 Constrictions: 1 = none 2 = slight 3 = deep
- 2 Pod flesh: 1 = light 2 = medium 3 = dark
- 1 7 mm spur length
- 3 Fiber: 1 = none 2 = sparse 3 = considerable
- 6 Number of seeds per pod
- 1 Surface: 1 = smooth 2 = rough
- 2 Suture string: 1 = present 2 = absent
- 2 Seed development (Snap Bean): 1 = slow 2 = medium 3 = fast
- 1 Machine harvest: 1 = adapted 2 = not adapted
- 1 Pod flavor: (1) Standard (Tendercrop)
 (2) Mild Blue Lake (BBL 274)
 (3) Strong Blue Lake (Pole FM1)
 (4) Mild Romano (Roma)
 (5) Strong Romano (Pole Romano)
 (6) Other (specify) _____

7. SEED COAT COLOR:

- 2 1 = Monochrome 2 = Polychrome 2 1 = shiny 2 = dull
- 8 Primary color: } 1 = white 2 = yellow 3 = buff 4 = tan
- 4 Secondary color: } 5 = brown 6 = pink 7 = red 8 = purple
 9 = blue 10 = black 11 = other (specify) _____
- 3 Color Pattern: 1 = none 2 = splashed 3 = mottled 4 = striped 5 = flecked 6 = dotted
- 5 Secondary color location: 1 = hilar ring 2 = ventral surface
 3 = sides 4 = dorsal surface
 5 = not restricted to any area 6 = combination of location (specify below)
- 1 Hilar ring on colored seeds: 1 = absent 2 = narrow 3 = butterfly shaped

8. SEED SHAPE AND SIZE:

- 1 Hilum view: 1 = elliptical 2 = oval 3 = round 2 Cross section: 1 = elliptical 2 = oval 3 = cordate
 3 = round 4 = round
- 1 Side view:   
 1 = oval to oblong 2 = round 3 = reniform



8. SEED SHAPE AND SIZE: (Cont'd)

2 1 = truncate ends 2 = rounded ends

3 5 gm/100 seed

gm/100 seed lighter than }
 gm/100 seed same as } comparison variety from page one
 (Eagle)

2 gm/100 seed heavier than 8 }

9. ANTHOCYANIN: (1 = absent 2 = present)

2 Flowers 1 Stems 1 Pods 2 Seeds 1 Leaves

10. DISEASE RESISTANCE (0 = not tested 1 = susceptible 2 = resistant):

<input type="checkbox"/> 1 Anthracnose (specify race below) _____	<input type="checkbox"/> 0 Fuscos blight
<input type="checkbox"/> 0 Rust (specify race below) _____	<input type="checkbox"/> 0 Red node virus
<input type="checkbox"/> 0 Powdery mildew	<input type="checkbox"/> 0 Pod mottle virus
<input type="checkbox"/> 0 Fusarium root rot	<input type="checkbox"/> 2 Bean common mosaic virus (specify strain below) NY 15
<input type="checkbox"/> 0 Pythium root rot	<input type="checkbox"/> 2 Mosaic mottle
<input type="checkbox"/> 0 Rhizoctonia root rot	<input type="checkbox"/> 0 Black root
<input type="checkbox"/> 0 Pythium wilt	<input type="checkbox"/> 0 Bean yellow mosaic virus
<input type="checkbox"/> 0 Angular leaf spot	<input type="checkbox"/> 0 Curly top
<input type="checkbox"/> 0 Bacterial wilt	<input type="checkbox"/> Other (specify below) _____
<input type="checkbox"/> 0 Halo blight (specify race below) _____	

11. INSECT RESISTANCE: (0 = not tested 1 = susceptible 2 = resistant)

<input type="checkbox"/> 0 Aphids	<input type="checkbox"/> 0 Root knot nematode
<input type="checkbox"/> 0 Leaf hopper	<input type="checkbox"/> 0 Seed corn maggot
<input type="checkbox"/> 0 Lygus	<input type="checkbox"/> 0 Thrips
<input type="checkbox"/> 0 Pod borer	<input type="checkbox"/> 0 Weavils
	<input type="checkbox"/> Other (specify below) _____

12. PHYSIOLOGICAL RESISTANCE: (0 = not tested 1 = susceptible 2 = resistant)

0 Heat 0 Cold 0 Drought 0 Air pollution

13. COMMENTS:

