No. 8900186

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Michigan State University

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. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS [illegible] BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

'Mayflower'

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, D.C. *this* 29th *day of* May *in the year of our Lord one thousand nine hundred and* ninety-two.

Attest:

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

Edward Madigan
Secretary of Agriculture

APPROVAL EXPIRES 2-28-88

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

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).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
Michigan State University		Mayflower

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*	5. PHONE *(Include area code)*	FOR OFFICIAL USE ONLY
109 Agriculture Hall Michigan State University East Lansing, MI 48824-1039	(517) 355-0123	PVPO NUMBER 8900186

6. GENUS AND SPECIES NAME	7. FAMILY NAME *(Botanical)*	FILING
Phaseolus vulgaris L.	Leguminosae	DATE Apr. 19, 1989 TIME ☐ A.M. ☐ P.M.

8. KIND NAME	9. DATE OF DETERMINATION	FEES RECEIVED
Navy (Pea) Bean	December 10, 1987	AMOUNT FOR FILING $ 1800.00 DATE Apr. 19, 1989 AMOUNT FOR CERTIFICATE $ 200.00 DATE March 30, 1992

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*	11. IF INCORPORATED, GIVE STATE OF INCORPORATION	12. DATE OF INCORPORATION
Public University		

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

Dr. L.O. Copeland
Department of Crop and Soil Sciences
Michigan State University
East Lansing, MI 48824-1325
PHONE *(Include area code)*: (517) 353-9545

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 Variety *(Request form from Plant Variety Protection Office.)*
d. ☒ Exhibit D, Additional Description of Variety.
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

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

Add 1pc letter 28 May 1992

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☒ Yes ☐ No	☒ Foundation ☐ Registered ☒ Certified

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

19. HAS THE VARIETY BEEN RELEASED, 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	DATE
Robert J. Grant, Director, Michigan Agricultural Experiment Station	3/27/88
SIGNATURE OF APPLICANT	DATE

FORM LS-470 (3-86) *Edition of 7-84 obsolete.*

INSTRUCTIONS

General: Send an original copy of the application and exhibits, at least 2,500 viable seeds *(furnish only untreated seed)*, and $1,800 fee *($200 filing fee and $1,600 examination fee)* to the U. S. Department of Agriculture, Agricultural Marketing Service, 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.

14e Section 52(4) of the Plant Variety Protection Act requires applicants to furnish a statement of the basis of the applicant's ownership. The applicant may be the actual breeder, the employer of the breeder, the owner through purchase or inheritance, 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.)*

19 See Sections 41 (i,j) and 42 of the Plant Variety Protection Act and Section 180.7 of the Regulations and Rules of Practice for eligibility requirements.

NOTE: All information submitted in support of an application becomes PUBLIC INFORMATION once the certificate is issued. (See Section 180.17 of the Regulations and Rules of Practice.)

8900186

REVISED EXHIBIT A

ORIGIN AND BREEDING HISTORY OF THE VARIETY MAYFLOWER

Mayflower was derived from the cross of MSU breeding line N80043 with the navy bean variety C-20, made in 1981 and coded 81N029. Parental breeding line N80043 originated from the cross of 61627 (Nep-2/BTS) with 2W33-2, a small white variety from TARS program in Puerto Rico (PR). Cross number 81N029 was advanced through the F_2 and F_3 generations without selection, using the single seed descent procedure in PR during the winter of 1982/83. Breeding line number 15 was selected and advanced as an F_4 row during 1983 in Saginaw, Michigan, and further advanced as a mass selected F_5 row during the winter of 1983/84 in PR. Selection number 81N029-00-15-01 entered yield tests in Saginaw as an F_6 generation breeding line in 1984 and was coded with the permanent MSU accession number N84024.

Strain N84024 has been extensively tested for five seasons (1984-1988) over 37 locations by Michigan State University staff and the data indicates that N84024 possesses the same yield potential as the C-20. N84024 was officially named Mayflower and approved for release by the Michigan Agricultural Experiment Station in December 1987.

Type and Frequency of Variants

No (0%) variants are recognized as part of the navy bean cultivar Mayflower. The Mayflower cultivar exhibits uniformity in height, flowering date and flower color, growth habit, disease reaction and maturity as described in Exhibit C.

Evidence of Uniformity

Mayflower is an F_9 generation pure line bean cultivar which is highly inbred, breeds true for all plant characteristics since it is both highly homozygous and is exclusively self-pollinated. Mayflower will be uniform for height, flower color and date, growth habit, disease reaction and maturity and will exhibit stability for these traits when grown across a range of environments and years.

EXHIBIT B

NOVELTY STATEMENT

1. Mayflower represents a navy bean cultivar which basis its development upon the ideotype concept. The concept states that certain modified plant architectural features should permit better light penetration of canopy, planting in narrow rows and direct harvest in order to maximize yield potential. Mayflower possesses many of these features and the modified plant architecture, known as an 'architype', which distinguishes it from standard bush navy bean cultivars like Seafarer.

2. Mayflower has a type II, upright short vine plant habit compared to type I determinate bush habit of Seafarer cultivar. The plants are taller, more erect, narrow in profile with fewer basal branches. The stiff stem and deep taproot contribute to its lodging resitance as compared to Seafarer.

3. Mayflower carries resistance to the delta strain of anthracnose to which the standard Seafarer cultivar is susceptible.

4. Mayflower is resistance to indigenous rust races prevalent in Michigan to which Seafarer is very susceptible. In addition, Mayflower is resistant to races 38, 39, 40, 41, 42, 51, 52, 53, 54, 55, 56, 57, 59, 60, 61, and 63, while Seafarer is resistant only to races 38 and 39.

5. Mayflower exhibits a unique (u) NADH-diaphorase banding pattern using starch gel electrophoresis, which the standard Seafarer cultivar does not demonstrate.

Per conversation (telephone) with L. Copeland 6 Dec 1991 'Seafarer' is "most similar" to 'Mayflower'. AAA 11 Dec 1991

Per conversation (telephone) with L. Copeland this date 'C-20' is the "most similar" variety AAA 16 Dec 1991

8900186

Mayflower PV8900186
(Most Similar Variety)

Mayflower is most similar to the navy bean 'C-20' (PV8300150) which was used as a parent in its development (Exhibit A). Mayflower differs consistently from C-20 in number of days to harvest maturity. This difference was previously documented in Exhibit C and is shown in the following table with Seafarer as the check variety.

Variety	Days to harvest maturity
Mayflower	95
C-20	100
Seafarer (check)	85

Exhibit C

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK AND SEED DIVISION

OBJECTIVE DESCRIPTION OF VARIETY
Dry Edible Bean (Phaseolus vulgaris L.)

NAME OF APPLICANT(S)	EXPERIMENTAL NAME	VARIETY NAME
Michigan Agriculture Experiment Station	N84024	Mayflower

ADDRESS (*Street and No. or R.F.D. No., City, State, ZIP*)
101 Agriculture Hall
Michigan State University
East Lansing, MI 48824-1325

FOR OFFICIAL USE ONLY
PVPO NO. 8900186

Provide data for all characters unless indicated as "optional." Place numbers in the boxes for the characters or numerical values which best describe this variety. Measured data should be the mean of an appropriate number of well spaced (15-20 cm) plants. The Royal Horticulture Society or any recognized color standard may be used to determine plant color. Designate the color system used below.

COLOR SYSTEM USED	LOCATION OF THE TEST(S) TO EVALUATE THIS VARIETY
none	Saginaw, Michigan

1. MARKET CLASS

[0 1]

CLASS	CHECK
1 = Navy (Pea)	Seafarer
2 = Small White	Aurora
3 = Black	Midnight
4 = Pinto	UI-114
5 = Great Northern	UI-59
6 = Small Red	NW-59
7 = Pink	Viva
8 = Cranberry	UI-50
9 = Dark Red Kidney	Montcalm
10 = Light Red Kidney	Redkloud
11 = Yellow Eye	Steuben
12 = Other (specify)	

2. MATURITY

[2] 1 = Early (80-90 days); 2 = Medium (90-100 days); 3 = Late (>100 days)

[9 5] Days from planting to harvest maturity

[ ] Heat units from planting to harvest maturity (optional). Specify base temperature used: _____

[8 5] Days from planting to harvest maturity of check variety (use check appropriate to market class shown in item 1)

3. PLANT HABIT

[3]

TYPE
1 = Ia Bush-determinate, strong and erect stem and branches
2 = Ib Bush-determinate, weak stem and branches
3 = IIa Erect growth habit-indeterminate, guides (runners) short or not developed
4 = IIb Erect growth habit-indeterminate, guides medium to long, with no ability to climb
5 = IIIa Vine-indeterminate, short guides with no ability to climb
6 = IIIb Vine-indeterminate, long guides with ability to climb
7 = IVa Indeterminate climbing, pods distributed throughout the plant
8 = IVb Indeterminate climbing, pods concentrated on the upper part of the plant

[5 0] Average height of mature plant, in cm.

[4 0] Average height of check variety, in cm. (use same check as above)

[2] Pod Position: 1 = Low (lower pods touching soil surface) 2 = High (lower pods not touching soil surface) 3 = Scattered (not concentrated high or low)

[1] Adaptability to machine harvest: 1 = Adapted 2 = Not Adapted

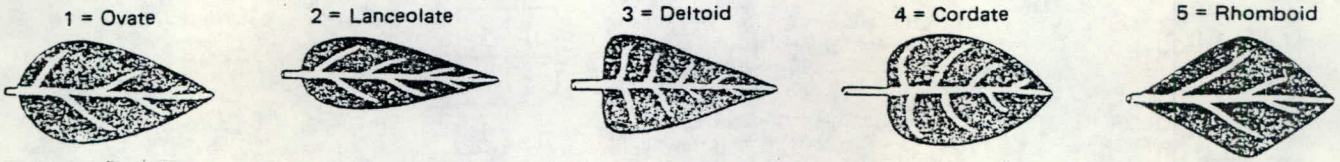
[1] Lodging resistance: 1 = Good 2 = Fair 3 = Poor

4. LEAFLET MORPHOLOGY (Use terminal leaflet of a fully expanded trifoliolate)

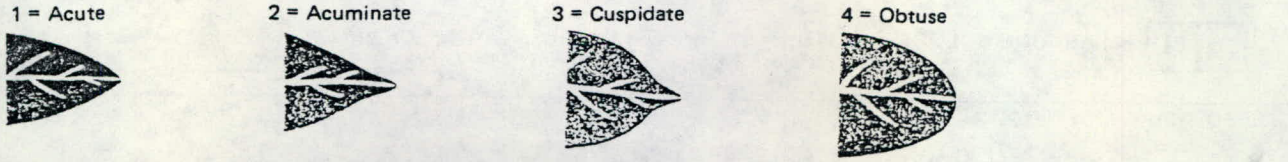
[2] 1 = Smooth; 2 = Wrinkled

[1] 1 = Dull; 2 = Glossy; 3 = Semiglossy; 4 = Variable

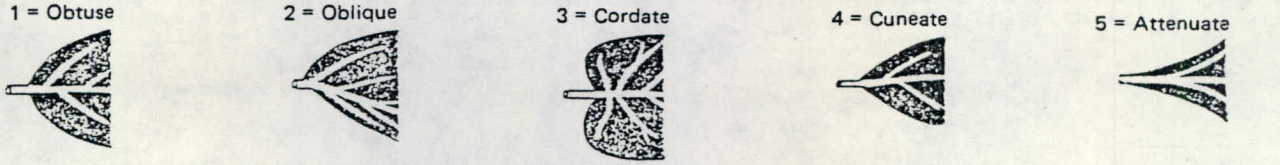
[1] SHAPE:



[1] APEX OF LEAFLET:



[1] BASE OF LEAFLET:



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8900186

5. FLOWER COLOR AND DAYS TO BLOOM

[1] COLOR OF STANDARD: 1 = White; 2 = Cream; 3 = Pink; 4 = Blue; 5 = Purple

[1] COLOR OF KEEL: 1 = White; 2 = Cream; 3 = Pink; 4 = Blue; 5 = Purple

[1] COLOR OF WINGS: 1 = White; 2 = Cream; 3 = Pink; 4 = Blue; 5 = Purple

[4][6] Days to 50% bloom

6. POD MORPHOLOGY (Green pod morphology optional)

Green Mature

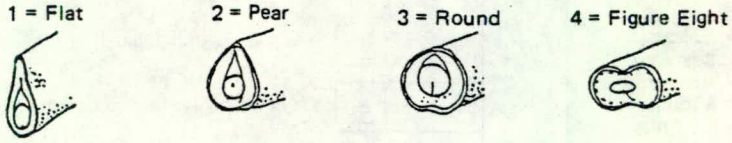
[ ][ ] COLOR PATTERN: 1 = Solid; 2 = Striped; 3 = Blotched; 4 = Mottled; 5 = Other _____

[ ][ ] PRIMARY COLOR: 1 = Purple; 2 = Red; 3 = Green; 4 = Yellow; 5 = Tan; 6 = Brown; 7 = Other _____

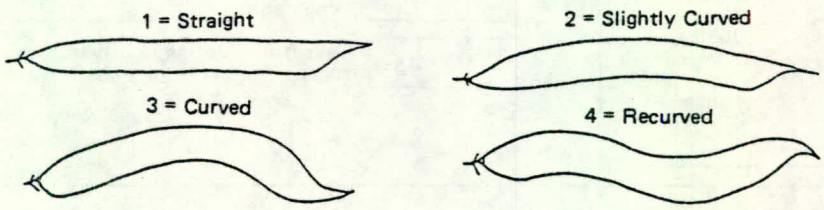
[ ][ ] COLOR MODIFIER: 1 = Light; 2 = Light Medium; 3 = Medium; 4 = Medium Dark; 5 = Dark

[ ][ ] SECONDARY COLOR: 1 = Purple; 2 = Red; 3 = Green; 4 = Yellow; 5 = Tan; 6 = Brown; 7 = Other _____

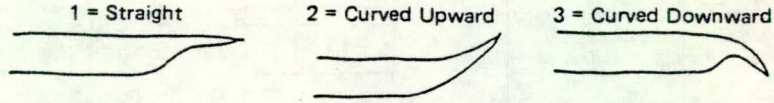
[ ][ ] CROSS SECTION SHAPE: 1 = Flat 2 = Pear 3 = Round 4 = Figure Eight



[ ][ ] POD CURVATURE: 1 = Straight 2 = Slightly Curved 3 = Curved 4 = Recurved



[ ][ ] POD BEAK ORIENTATION: 1 = Straight 2 = Curved Upward 3 = Curved Downward 4 = Variable



Average beak length, in cm. _____

[ ][ ] CONSTRICTIONS: 1 = None; 2 = Slight; 3 = Deep

[ ].[ ] Average number of seeds per pod

7. SEED COLOR

[3] 1 = Shiny; 2 = Dull; 3 = Semishiny; 4 = Variable

[1] 1 = Monochrome; 2 = Polychrome

[0][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_____

[0][1] SECONDARY COLOR: 1 = White; 2 = Yellow; 3 = Buff; 4 = Tan; 5 = Brown; 6 = Pink; 7 = Red; 8 = Purple; 9 = Blue; 10 = Black; 11 = Other_____

[1] COLOR PATTERN: 1 = Solid; 2 = Splashed; 3 = Mottled; 4 = Striped; 5 = Flecked; 6 = Dotted

[1] HILAR RING: 1 = Absent; 2 = Present

[0][1] HILAR RING COLOR: 1 = White; 2 = Yellow; 3 = Buff; 4 = Tan; 5 = Brown; 6 = Pink; 7 = Red; 8 = Purple; 9 = Blue; 10 = Black; 11 = Other_____

8. SEED SHAPE AND WEIGHT

[2] SHAPE OF SEED TAKEN FROM MIDDLE OF POD: 1 = Round 2 = Oval 3 = Cuboid 4 = Kidney 5 = Truncate Fastigiate

[1][9] Dry seed weight in g/100g seeds (adjusted to 12% moisture)

6

8900186

9. ANTHOCYANIN PIGMENTATION

1 = ABSENT
2 = PRESENT

[1] Flowers [1] Stems [1] Pods [1] Seeds

[1] Leaves [1] Petioles [1] Peduncles [1] Nodes

10. KNOWN DISEASE REACTION

DISEASES - COMMON NAME: Anthracnose, Rust, Powdery mildew, Fusarium root rot, Pythium root rot, Rhizoctonia root rot, Pythium wilt, Sclerotinia white mold, Angular leaf spot, Bacterial wilt, Halo blight, Fuscous blight, Common bacterial blight, Red node virus, Pod mottle virus, Bean common mosaic virus, Bean yellow mosaic virus, Curly top virus, Bacterial brown spot, Bean southern mosaic virus, Other (specify) _____

REACTION: 1 = Susceptible; 2 = Resistant; 3 = Tolerant; 4 = Avoidance

(Give the common name (CN), scientific name (SN), and race(s), where applicable)

[2] DISEASE: CN Rust ; SN Uromyces appendiculatus ; Race(s) 38-42, 51-57, 59-61, 63, 68

[2] DISEASE: CN Bean Common Mosaic Virus ; SN none ; Race(s) All strains

[2] DISEASE: CN Angular Leaf Spot ; SN Isariopsis griseola ; Race(s) Michigan - isolate

[3] DISEASE: CN Halo Blight ; SN Pseudomonas phaseolicola ; Race(s) Races 1 & 2

[1] DISEASE: CN Common Bacterial Blight ; SN Xanthomanas phaseoli ; Race(s) Michigan isolates

[2] DISEASE: CN Anthracnose ; SN Colletotrichum lindemuthianum ; Race(s) Delta

11. KNOWN INSECT/NAMATODE RESISTANCE

PESTS - COMMON NAME: Aphids, Bean pod weevil, Bruchid beetle, Corn earworm, Flea beetle, Leaf hopper, Lesion nematode, Lygus, Mexican bean beetle, Root knot nematode, Corn seed maggot, Spider mites, Thrips, Weevils, Western bean cutworm, Other (specify)

_____

REACTION: 1 = Susceptible; 2 = Resistant; 3 = Tolerant; 4 = Avoidance

(Give the common name (CN), scientific name (SN), and biotype, where applicable)

[1] PEST: CN Leafhopper ; SN _____ ; Biotype _____

[1] PEST: CN Mexican bean beetle ; SN _____ ; Biotype _____

[1] PEST: CN Corn seed maggot ; SN _____ ; Biotype _____

12. KNOWN PHYSIOLOGICAL STRESS REACTION

1 = Susceptible; 2 = Resistant; 3 = Tolerant; 4 = Avoidance

[ ] Heat [ ] Cold [3] Drought [2] Air Pollution

Nutrient toxicity or deficiency (specify nutrient) none

Other _____

13. COMMENTS

7

5. FLOWER COLOR AND DAYS TO BLOOM

[1] COLOR OF STANDARD: 1 = White; 2 = Cream; 3 = Pink; 4 = Blue; 5 = Purple

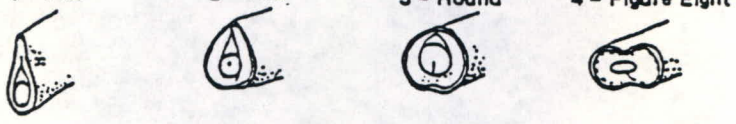
[1] COLOR OF KEEL: 1 = White; 2 = Cream; 3 = Pink; 4 = Blue; 5 = Purple

[1] COLOR OF WINGS: 1 = White; 2 = Cream; 3 = Pink; 4 = Blue; 5 = Purple

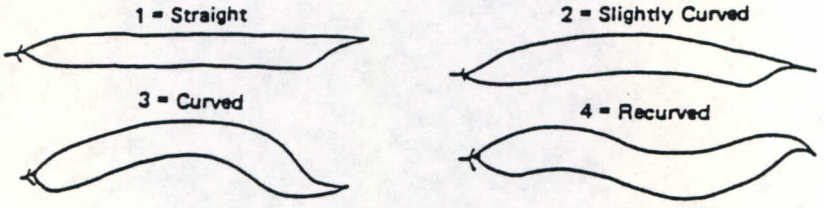
[4][6] Days to 50% bloom

6. POD MORPHOLOGY (Green pod morphology optional)

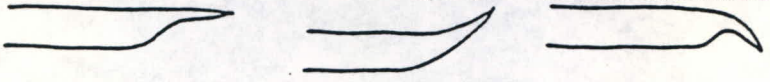
Green	Mature		
[ ]	[1]	COLOR PATTERN:	1 = Solid; 2 = Striped; 3 = Blotched; 4 = Mottled; 5 = Other _____
[ ]	[5]	PRIMARY COLOR:	1 = Purple; 2 = Red; 3 = Green; 4 = Yellow; 5 = Tan; 6 = Brown; 7 = Other _____
[ ]	[1]	COLOR MODIFIER:	1 = Light; 2 = Light Medium; 3 = Medium; 4 = Medium Dark; 5 = Dark
[ ]	[4]	SECONDARY COLOR:	1 = Purple; 2 = Red; 3 = Green; 4 = Yellow; 5 = Tan; 6 = Brown; 7 = Other _____
[ ]	[1]	CROSS SECTION SHAPE:	1 = Flat; 2 = Pear; 3 = Round; 4 = Figure Eight



[ ] [1] POD CURVATURE: 1 = Straight; 2 = Slightly Curved; 3 = Curved; 4 = Recurved



[ ] [3] POD BEAK ORIENTATION: 1 = Straight; 2 = Curved Upward; 3 = Curved Downward; 4 = Variable



Average beak length, in cm. _____

[ ] [1] CONSTRICTIONS: 1 = None; 2 = Slight; 3 = Deep

[ ].[5] Average number of seeds per pod

7. SEED COLOR

[3] 1 = Shiny; 2 = Dull; 3 = Semishiny; 4 = Variable

[1] 1 = Monochrome; 2 = Polychrome

[0][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 _____

[0][1] SECONDARY COLOR: 1 = White; 2 = Yellow; 3 = Buff; 4 = Tan; 5 = Brown; 6 = Pink; 7 = Red; 8 = Purple; 9 = Blue; 10 = Black; 11 = Other _____

[1] COLOR PATTERN: 1 = Solid; 2 = Splashed; 3 = Mottled; 4 = Striped; 5 = Flecked; 6 = Dotted

[1] HILAR RING: 1 = Absent; 2 = Present

[0][1] HILAR RING COLOR: 1 = White; 2 = Yellow; 3 = Buff; 4 = Tan; 5 = Brown; 6 = Pink; 7 = Red; 8 = Purple; 9 = Blue; 10 = Black; 11 = Other _____

8. SEED SHAPE AND WEIGHT

[2] SHAPE OF SEED TAKEN FROM MIDDLE OF POD: 1 = Round; 2 = Oval; 3 = Cuboid; 4 = Kidney; 5 = Truncate Fastigiate

[1][9] Dry seed weight in g/100g seeds (adjusted to 12% moisture)

EXHIBIT D

ADDITIONAL DESCRIPTION OF MAYFLOWER

		YIELD (CWT/A)		
YEARS	LOCATIONS	MAYFLOWER N84024	C-20	SEAFARER
1984-88	37	24.1	23.8	19.4
RANGE:	LOW	14.2	10.1	9.4
	HIGH	38.3	42.4	32.0

AGRONOMIC & DISEASE TRAITS		MAYFLOWER N84024	C-20	SEAFARER
MATURITY:	(days)	95	100	85
SEED SIZE:	(g/100 seeds)	20.3	21.9	21.6
SEED COLOR:	(L-Hunter)	63.2	62.9	63.7
LODGING SCORE:	(1-5)*	2.0	3.0	2.5
SELECTION INDEX:	(1-9)**	6.3	5.0	3.5
ANTHRACNOSE:	(alpha)	S	S	R
BCVM:	(Michigan	R	R	R
RUST:	isolates)	R	R	S
CANNED TEXTURE:	(kg/100 g)	64.9	58.7	60.9

* 1 = erect, 5 = prostrate

** 1 - worse, 9 = best

EXHIBIT E

STATEMENT OF OWNERSHIP

Mayflower was developed by a team of plant scientists in several departments under the Michigan Agricultural Experiment Station at Michigan State University working cooperatively with the Agricultural Research Service of the United States Department of Agriculture. The ownership rights are the property of Michigan State University.