No. 9900258

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Cornell University Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED 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 TWENTY 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 CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , 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.)

SQUASH

'Bugle'

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 third day of December, in the year two thousand one.

VARIETY PROTECTION OFFICE
U.S. DEPARTMENT OF AGRICULTURE

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

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).

JMS 3/16/01 9/17/01 JMS

1 NAME OF OWNER
Cornell University Experiment Station ~~Molly K. Jahn~~

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
94-692

3. VARIETY NAME
~~PMR Butternut~~ Bugle
JMS 12/1/99

4 ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
Cornell University Experiment Station
College of Agriculture & Life Sciences
Roberts Hall
Cornell University
Ithaca, NY 14853

JMS 6/4/01

5. TELEPHONE *(include area code)*
607-255-8147

6. FAX *(include area code)*
607-255-6683

FOR OFFICIAL USE ONLY

PVPO NUMBER
9900258

FILING DATE
May 10, 1999

7 IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
University

8. IF INCORPORATED, GIVE STATE OF INCORPORATION

9. DATE OF INCORPORATION

10 NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Molly K. Jahn
312 Bradfield Hall
Dept. of Plant Breeding
Cornell University
Ithaca, NY 14853

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 2450.00
DATE May 10, 1999

CERTIFICATION FEE:
$ 320.00
DATE 10/16/01

11. TELEPHONE *(Include area code)*
607-255-8147

12. FAX *(Include area code)*
607-255-6683

13. E_MAIL
mmk9@cornell.edu

14. CROP KIND *(Common Name)*
butternut squash

15 GENUS AND SPECIES NAME OF CROP
Cucurbita moschata

16. FAMILY NAME *(Botanical)*
Cucurbitaceae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☒ NO

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of Variety
d. ☐ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☒ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes", answer items 20 and 21 below)* ☒ NO *(If "no," go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☒ NO

21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☐ YES ☒ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

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

SIGNATURE OF OWNER
Molly Jahn

NAME *(Please print or type)*
Molly Jahn

CAPACITY OR TITLE
Assoc. Prof.

DATE
6/3/99

SIGNATURE OF OWNER

NAME *(Please print or type)*

CAPACITY OR TITLE

DATE
1

INSTRUCTIONS

9900258

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $2,450 ($300 filing fee and $2,150 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvp.htm

ITEM

18a. 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) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety 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 (prints) of seed and plant comparisons which clearly indicate distinctness

18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. 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 this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

22. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

23. *See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.*

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22. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

None

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23. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

None

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center–East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.

S&T-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete.

2

Item 18a. Exhibit A. Origin and Breeding History of Bugle

During the winter of 1973-74, Waltham butternut (Massachusetts Agricultural Experiment Station) was crossed with Cucurbita martinezii at Cornell University. The Cucurbita martinezii accession we used was received at Cornell by H.M. Munger in 1968 from Tom Whitaker of La Jolla, California. It was later PI'd under the number PI 406680, however, this PI has undergone a round of open-pollination so it is dangerous to assume that the genetic integrity of this PI has been preserved. Nevertheless, this is the accession number.

The resulting F1 was crossed with Butternut 23 (Asgrow) to create BC1 F1 generation. The parent indicated as Butternut 23 (Asgrow) is very old (1920s) genotype called Butternut that was received at Cornell from Asgrow Seed Company before there were distinct varieties of this type of squash.

The F1 was sib-pollinated to give rise to the F2 which was selected for resistance to powdery mildew and used as the female in a cross with Waltham butternut to generate a BC2 F1. This F1 was again selfed, and selected in the F2 for resistance to powdery mildew before a third backcross to Waltham butternut. This process was repeated until 1988 when the BC6 F2 was selected for type and resistance to powdery mildew and inbred to the F4, produced in 1989.

This F4 was crossed with an F7 line developed in a separate breeding program for eating quality and earliness derived from a cross between New Hampshire Butternut and Butternut 77. The parent called New Hampshire Butternut is actually Baby Butternut, released by the University of New Hampshire. Documentation is included with this letter. The parent called Butternut 77 is a public release from Cornell University. Release notice is attached.

The resulting progeny was inbred, selected for resistance to powdery mildew and mature eating quality until the F5 and resulting sister lines were increased for trial.

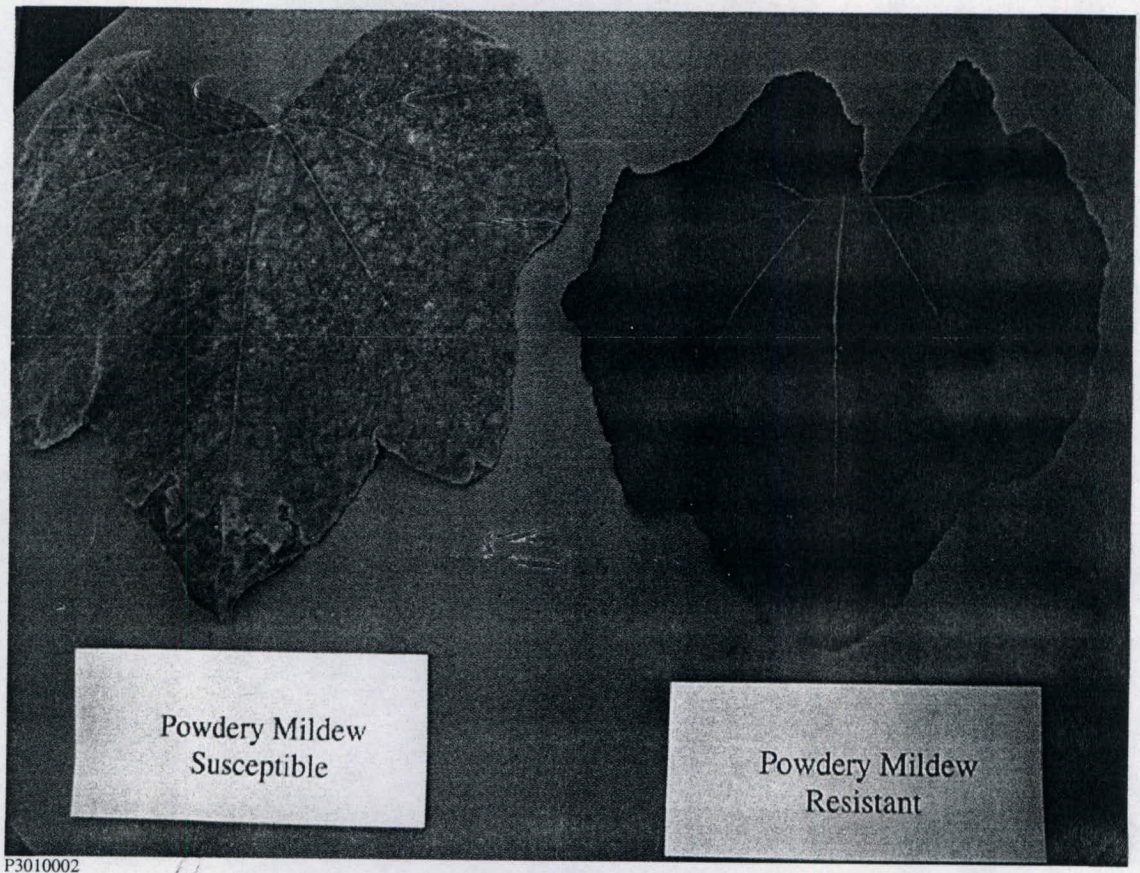
I have looked at this variety for three years and the stability and uniformity of the variety is commensurate with other butternut varieties that also share the variety's relative stability for crooking. We do not regularly observe any regular classes of variants or off-types during reproduction and multiplication, however fruit size and shape may vary slightly between sister lines and as a consequence of cultivation conditions.

Item 18b. Exhibit B. Statement of Distinctness

This variety is most similar to Waltham butternut in type and vine appearance except that it is highly tolerant to infection by most isolates of powdery mildew found in the field in North America. To date the only actively sporulating infections on these genotypes under field pressure for the disease have been observed on very highly stressed plants.

Genotype	Mean Rating	+/- standard deviation
Bugle	1.4	0.7
Resistant Check (PMR pumpkin)	1.3	0.9
Waltham butternut (Susceptible Check)	4.8	0.8

Results from a field trial in 1999 replicated three times in Ithaca, NY. Plants were inoculated with *Sphaerotheca fuliginea*, the causative agent of powdery mildew, in the greenhouse prior to transplanting. Plants were transplanted to the field, and then rated when fruit were mature. Each plant was given a visual rating based upon disease development from 1 to 5 with 1 being free of mildew on undersides of leaves, petioles and stems, with very limited sporulation of the upper leaf surface to 5, all plant parts affected with considerable dying of leaves.



P3010002

Waltham Butternut Bugle

for Bugle PVP. Item 7.

FORM APPROVED: OMB NO. 40-R3822

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Pumpkin/
Squash/Gourd)

Item 18c.

OBJECTIVE DESCRIPTION OF VARIETY

PUMPKIN/SQUASH/GOURD (*CUCURBITA SPP.*)

NAME OF APPLICANT(S)
Molly K. Jahn

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
Cornell University Experiment Station
College of Agriculture & Life Sciences
Roberts Hall, Cornell University
Ithaca, NY 14853

VARIETY NAME OR TEMPORARY DESIGNATION
Bugle

JMS 12/1/99

FOR OFFICIAL USE ONLY

PVPO NUMBER
9900258

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. SPECIES:

[4] 1 = LAGENARIA 2 = MAXIMA 3 = MIXTA 4 = MOSCHATA 5 = PEPO 6 = OTHER (*Specify*) _____

2. KIND (According to use):

[2] 1 = PUMPKIN 2 = SQUASH 3 = GOURD

3. TYPE:

[2] 1 = SUMMER (Vegetable Marrow) 2 = WINTER (Boston Marrow)

4. COTYLEDON:

[0][4][5] MM. LONG [0][3][0] MM. WIDE

[2] Apex: 1 = TAPERED 2 = ROUNDED 3 = NOTCHED [2] Veining: 1 = OBSCURE 2 = PLAINLY VISIBLE 3 = PROMINENT

[3] 1 = LIGHT GREEN 2 = GRAY-GREEN 3 = MEDIUM GREEN 4 = DARK GREEN

5. PLANT:

[3] 1 = BUSH 2 = SEMI-BUSH 3 = LONG VINES [1] 1 = PILOSE 2 = PRICKLY 3 = GLABROUS

6. MAIN STEM:

[2] 1 = ROUND 2 = ANGLED [0][1][3] MM. DIAMETER AT MID-POINT OF FIRST INTERNODE [0][1][2] CM. AVERAGE LENGTH

[1][4] AVERAGE NUMBER OF INTERNODES

7. LEAVES:

[3] Shape: 1 = OVATE 2 = ORBICULAR 3 = RENIFORM 4 = RETUSE

[2] Shape: 1 = NOT LOBED 2 = SHALLOW LOBED 3 = DEEP LOBED

[3] Margin: 1 = ENTIRE 2 = DENTICULATE 3 = DENTATE

[1] Margin: 1 = FLAT 2 = FRILLED

[2][3] CM. WIDE [2][2] CM. LONG [1] Surface: 1 = SMOOTH 2 = BLISTERED

[2] Dorsal Surface:
[2] Ventral Surface:
1 = GLABROUS 2 = SOFT HAIRY 3 = BRISTLED

[3] 1 = LIGHT GREEN 2 = GRAY-GREEN 3 = MEDIUM GREEN 4 = DARK GREEN

[1] 1 = NOT BLOTCHED 2 = BLOTCHED WITH GRAY

[2][5] CM. PETIOLE LENGTH

8a. FLOWER - Pistillate:

[1][5] CM. DIAMETER [3] Ovary: 1 = DRUM-LIKE 2 = TURBINATE 3 = FUSIFORM [2] Pedicel: CM. LENGTH

[2] Margin: 1 = STRAIGHT 2 = CURVED [2] Margin: 1 = PLAIN 2 = FRILLED [0][2] Sepals: MM. WIDTH [0][3] Sepals: MM. LENGTH

[3] Color: 1 = WHITE 2 = LEMON YELLOW 3 = MID-YELLOW 4 = DEEP YELLOW 5 = ORANGE

8b. FLOWER - Staminate:

[2][5] Sepals: MM LENGTH [1][1] Sepals: MM WIDTH [0][8] Pedicel: CM LENGTH

[3] Color: 1 = WHITE 2 = LEMON YELLOW 3 = MID-YELLOW 4 = DEEP YELLOW 5 = ORANGE

9. FRUIT (Market Maturity)

[2][0] CM LENGTH [0][9] CM WIDTH (Stem end) [1][0] CM WIDTH (Blossom end) [1][2][5][5] GM AVERAGE WEIGHT

[4] Shape according to variety type: 1 = ACORN 2 = BANANA 3 = BUTTERCUP 4 = BUTTERNUT 5 = CONNECTICUT FIELD 6 = CROOKNECK 7 = HUBBARD 8 = SCALLOP 9 = STRAIGHTNECK 10 = OTHER (Specify) _____

[3] Apex: 1 = DEPRESSED 2 = FLATTENED

[1] Base: 3 = ROUNDED 4 = TAPER POINTED

[1] Ribs: 1 = NONE 2 = INCONSPICUOUS 3 = PROMINANT

[NA] Rib Furrows: 1 = SHALLOW 2 = MEDIUM DEEP [NA] Rib Furrows: 1 = NARROW 2 = MEDIUM WIDE 3 = WIDE

[1] Fruit Surface: 1 = SMOOTH 2 = FINE WRINKLE 3 = SHALLOWLY WAVY

[1] Warts: 1 = NONE 2 = FEW 3 = MANY

[0][1] Blossom Scar Button: 1 = DEPRESSED 2 = SLIGHTLY EXTENDED 3 = RAISED ACORN

JMS 3/16/01

10. RIND

[0][4] MM THICKNESS AT MEDIAL [3] 1 = SOFT 2 = HARD 3 = WOODY & TOUGH

[1] COLOR PATTERN: 1 = REGULAR 2 = IRREGULAR

COLORS: (Select two when necessary, i.e. Grayish–Buff) [1][2] [0][4]

01 = WHITE 02 = CREAM 03 = YELLOW 04 = BUFF 05 = BROWN 06 = BRONZE 07 = GREEN 08 = ORANGE
08 = PINK 10 = RED 11 = BLUE 12 = GRAY 13 = BLACK 14 = OTHER (Specify) _____

[0][2] [0][4] SELF OR GROUND

PATTERN:

[ ][ ]	[ ][ ]	STREAKS
[ ][ ]	[0][7]	STRIPES
[ ][ ]	[ ][ ]	SPOTS
[ ][ ]	[ ][ ]	BLOTCHES
[ ][ ]	[ ][ ]	LACE
[ ][ ]	[ ][ ]	OTHER (Specify) _____

LOCATION OF PATTERN COLORS:

- [ ] 1 = NOT SPECIFIC
- [X] 2 = STEM END HALF
- [ ] 3 = BLOSSOM END HALF
- [ ] 4 = ACORN OR TORBAN
- [ ] 5 = OTHER (Specify) _____

11. FLESH

[2][2] Thickness: MM BLOSSOM END [8][2] Thickness: MM MEDIAL [8][2] Thickness: MM STEM END

[1] Texture: 1 = FINE 2 = GRANULAR 3 = LUMPY 4 = STRINGY

[2] Texture: 1 = SOFT 2 = FIRM 3 = BRITTLE

[1] Texture: 1 = DRY 2 = MOIST 3 = JUICY

[2] Flavor: 1 = INSIPID 2 = SLIGHTLY SWEET 3 = SWEET

[3] Quality: 1 = INEDIBLE 2 = GOOD 3 = EXCELLENT

[0308] Color: (Choose from rind colors above)

12. SEED CAVITY: (Sectioned apex to base)

[06] CM LENGTH

[05] CM WIDTH

[3] Location: 1 = CONFORMS TO FRUIT SHAPE 2 = NEAR APEX 3 = APEX ONLY

[2] Placental Tissue: 1 = SPARSE 2 = MODERATELY ABUNDANT 3 = ABUNDANT

[1] Center Core: 1 = INCONSPICUOUS 2 = PROMINANT

13. FRUIT STALKS

[03] CM LENGTH

[01] CM DIAMETER

[2] 1 = ROUND 2 = IRREGULAR

[1] 1 = NOT TWISTED 2 = TWISTED

[1] 1 = NOT TAPERED 2 = TAPERED

[2] 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED

[3] Texture: 1 = SOFT 2 = SPONGY 3 = HARD

[2] Farrows: 1 = NONE 2 = SHALLOW 3 = DEEP

[3] Surface: 1 = SMOOTH 2 = ROUGH 3 = SPINY

[2] Attachment End: 1 = NOT EXPANDED 2 = SLIGHTLY EXPANDED 3 = EXPANDED

[2] Detaches: 1 = EASILY 2 = WITH DIFFICULTY

[2] Color: 1 = LIGHT GREEN 2 = MEDIUM GREEN 3 = DARK GREEN

14. SEEDS

[11] MM LENGTH

[07] MM WIDTH

[02] MM THICKNESS

[2] Face Surface: 1 = SMOOTH 2 = WRINKLED 3 = SLIGHTLY PITTED 4 = SCALY 5 = CREASED

[2] Color: 1 = WHITE 2 = CREAM 3 = BUFF 4 = BROWN

[2] Luster: 1 = DULL 2 = GLOSSY

[2] Margin: 1 = STRAIGHT 2 = CURVED 3 = TWISTED

[2] Margin: 1 = ROUNDED 2 = WEDGE-LIKE

[1] Separation from pulp: 1 = EASY 2 = MODERATELY EASY 3 = DIFFICULT

[08] GMS PER 100 SEEDS

[169] NO. SEEDS PER FRUIT

[1] 1 = NORMAL 2 = NAKED

15. DISEASE RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[2] POWDERY MILDEW

[1] CUCUMBER MOSAIC

[1] SQUASH MOSAIC

[1] WATERMELON MOSAIC

[ ] OTHER (Specify) _____

16. INSECT RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant

[1] SQUASH BUG

[2] SQUASH BORER

[ ] OTHER (Specify) _____

17. INDICATE A VARIETY MOST CLOSELY RESEMBLING THAT SUBMITTED FOR EACH CHARACTER

CHARACTER	VARIETY	CHARACTER	VARIETY
PLANT HABIT		FRUIT SHAPE	
LEAF TYPE		FRUIT COLOR	
FLOWER TYPE		CULINARY TYPE	

REFERENCES

1. Currence, T. M. 1954. Vegetable Crops Breeding, Department of Horticulture, University of Minnesota.
2. Tapley, W.T., Enzie, W.D. and Van Eseltine, G. P., 1937. Vegetables of New York: The Cucurbits 1 (4). J.B. Lyon Company, Albancy, New York.
3. USDA Farmess Bulletin No. 1086. 1969. Growing Pumpkins and Squashes.
4. Whitaker, T.W. and G.N. Davics. Cucurbits. Interscience Publiaations, Inc., New York, N.Y.

9900258

Item 18d. Exhibit D. Additional Description of the Variety

Typical growth habit and fruit type of Bugle.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

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).

JMS 3/16/01 JMS 9/17/01

1. NAME OF APPLICANT(S)

~~Molly K. Jahn~~
Cornell University Experiment Station

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER

94-692
PMR Butternut

3. VARIETY NAME

Bugle

JMS 12/1/99

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*

312 Bradfield Hall
Department of Plant Breeding
Cornell University
Ithaca, NY 14853

5. TELEPHONE *(include area code)*

607-255-8147

6. FAX *(include area code)*

607-255-6683

7. PVPO NUMBER

9900258

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* **If no, please explain.** [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [X] NO JMS 3/16/01
If no, give name of country

10. Is the applicant the original owner? [X] YES [ ] NO ***If no, please answer one of the following:***

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

[ ] YES [ ] NO **If no, give name of country**

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

[ ] YES [ ] NO **If no, give name of country**

11. Additional explanation on ownership *(if needed, use reverse for extra space)*:

The material was bred entirely at Cornell except for some trialing at the stage where the final F5 sister lines were released. The Cornell source of mildew resistance, C. martinezii, was first noted by Dr. Henry Munger at Cornell, and then distributed for breeding to others, but most all the PMR Cucurbita material available now traces back to Cornell germplasm, thus the distinctive feature of this germplasm was identified solely at Cornell by Cornell staff, and developed solely at Cornell.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

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