No. 7700064

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Mommersteeg International B.V.

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, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT TY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PERENNIAL RYEGRASS

'Caravelle'

PLANT VARIETY PROTECTION OFFICE · U.S. DEPARTMENT OF AGRICULTURE

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* 20th *day of* November *in the year of our Lord one thousand nine hundred and* eighty.

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
(1-76)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
PLANT VARIETY PROTECTION OFFICE
NATIONAL AGRICULTURAL LIBRARY
BELTSVILLE, MARYLAND 20705

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME CARAVELLE	FOR OFFICIAL USE ONLY PV NUMBER 7700064
2. KIND NAME Perennial ryegrass	3. GENUS AND SPECIES NAME Lolium perenne L.	FILING DATE 4-15-77 / TIME 2:15 A.M. P.M. FEE RECEIVED $ 250.00 / DATE 4-15-77
4. FAMILY NAME (BOTANICAL) GRAMINEAE	5. DATE OF DETERMINATION September 25, 1972	$ 250.00 / 4-15-77 $ 250.00 / 10-15-80
6. NAME OF APPLICANT(S) MOMMERSTEEG INTERNATIONAL b.v.	7. ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*) P. O. Box 1, VLIJMEN, The Netherlands	8. TELEPHONE AREA CODE AND NUMBER The Netherlands Area code 4108 number 9116
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (*Corporation, partnership, association, etc.*) CORPORATION	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION THE NETHERLANDS	11. DATE OF INCORPORATION February 26, 1973

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

MR. STAN ROLLIN
6802 OREM DRIVE
LAUREL, MARYLAND 20810

Est as per letter dtd 9/5/80

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- [X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [X] 13B. Exhibit B, Novelty Statement.
- [X] 13C. Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*
- [ ] 13D. Exhibit D, Additional Description of the Variety.

14A. 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). (If "Yes," answer 14B and 14C below.)* [X] YES [ ] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? [ ] YES [ ] NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? [ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

15. Does the applicant(s) agree to the publication of his/her (their) name(s) and address in the Official Journal? [X] YES [ ] NO

16. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically 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 Act.

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

April 6, 1977
(DATE)

MOMMERSTEEG INTERNATIONAL b.v.
(SIGNATURE OF APPLICANT)
General Director.
Ir. J.W. Berkelbach van der Sprenkel,

(DATE)

(SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and $250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, National Agricultural Library, 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.

RECEIVED APR 5 1977 U.S. DEPARTMENT OF AGRICULTURE

ITEM

5 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.

13a Give (1), the genealogy, including public and commerical 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 stability.

13b 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 differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

13c Fill in the Exhibit C, Objective Description form for all characteristics, for which you have adequate data.

13d 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.

14A 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 or published or the certificate has been issued. However, if the applicant specifies "NO", he may change his choice. (See Section 180.15 of the Regulations and Rules of Practice.)

Application for Plant Variety Protection Certificate.

Addendum II ad 13 B Exhibit B

Genus and Species: Lolium perenne

Variety: Caravelle (Application No 7700064)

Novelty Statement.

The variety Caravelle is most similar to the variety Yorktown but differs from Yorktown by:

a) a later heading date (4 days later)
b) a narrower flagleave (.6 mm narrower) 9/10/80
c) a shorter flagleave (3 cm shorter)
d) a shorter mature plant height (9 cm shorter)

Trial results 1976, 1977 in the Netherlands.

Caracteristics	Year	Caravelle	Yorktown	LSD 5%
a) Heading date	1976	May 26	May 22	1,86 days
" "	1977	June 4	May 31	1,89 days
b) Width of the flagleave	1976	3,3 mm	3,9 mm	0,31 mm
" " " "	1977	4,0 mm	4,6 mm	0,27 mm
c) Length of the flagleave	1976	5,1 cm	7,2 cm	1,33 cm
" " " "	1977	9,0 cm	12,0 cm	1,41 cm
d) Mature plant height	1977	60 cm	69 cm	3,72 cm

Application for Plant Variety Protection Certificate.

13 A Exhibit A, Origin and Breeding History of the Variety

Genus and Species: Lolium perenne
Variety: CARAVELLE.

Orriginal material was collected in France. After observation of the material there was plant- and clone selection, followed by a polycross and a progeny testing. The progenies have also been tested in turf trials. Eventually the variety Caravelle was formed and based on 13 clones.
Breeders seed is produced by cloning the 13 basic clones and planting them in a polycross formation in an isolated field.
The next generations are:

Prebasic Seed (= Foundation Seed)
Basic Seed (= Registered Seed)
Certified Seed.

The prebasic and basic seed generations have been tested and no objectionable off-type plants or variants have been observed.

Application for Plant Variety Protection Certificate.

Addendum ad 13B Exhibit B.

Genus and Species: Lolium perenne.

Variety: CARAVELLE.

1. The mature plant height is 11 cm shorter than the mature plant height of Manhattan.
2. The length of the flagleaf is 3.2 cm shorter than the length of flagleaf of Manhattan.
3. The width of the flagleaf is 0,5 cm narrower than the width of flagleaf of Manhattan.
4. The length of the spike is 4 cm shorter than the length of spike of Manhattan.
5. The colour of the leaves is darker than the colour of the leaves of Pennfine and Manhattan.

Application for Plant Variety Protection Certificate.

Addendum ad 13A Exhibit A.

Genus and Species: Lolium perenne.

Variety: CARAVELLE.

The variety CARAVELLE has obtained Plant Breeders Right in the Netherlands and in the Federal Republic of Germany. In both countries the official people have declared the variety to be stable.
In the Netherlands the officials of the Variety Research Institute as well as the officials of the NAK (Certifying Agency) compared different generations and they dit not find a change with generations. We did not expect them to find changes, because in our own breeding work we did not find any change between generations.
The method to maintain Caravelle has been used and is still used with all our new varieties of cross-fertilizing grasses. All our varieties are synthetics, based on a certain number of basic plants. We keep the basic plants in a nursery (clones) and we use them to plant a breeder's seed field, if we need breeder's seed.
Next generations are prebasic, basic and Certified seed. We do not use more than 4 generations.
In general this method of maintaining a variety has proven to act very well. With the variety Caravelle we did not have any difficulties until now.

FORM APPROVED: OMB NO. 40-R3712

FORM GR-470-36
(9-76)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

OBJECTIVE DESCRIPTION OF CULTIVARS
RYEGRASS
(Lolium spp.)

NAME OF APPLICANT(S): MOMMERSTEEG INTERNATIONAL b.v.

VARIETY NAME OR TEMPORARY DESIGNATION: Caravelle.

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code): P.O. Box 1, VLIJMEN, the Netherlands

FOR OFFICIAL USE ONLY

PVPO NUMBER: 7700064

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 if either 99 or less or 9 or less. Descriptions of characters should represent those that are typical for the variety. Ranges may be given also. Measured data should be for SPACED PLANTS. Give additional description for all characteristics that cannot be adequately described in the form below. Append all petrinent comparative trial and evaluation data.

1. SPECIES:

[2] 1 = L. MULTIFLORUM (annual or Italian: includes Westerwoldicum) 2 = L. PERENNE (perennial) 3 = L. RIGIDUM (includes Wimmera)
4 = HYBRID (of species) _____ 5 = OTHER (Specify) _____

2. PLOIDY:

[1] 1 = DIPLOID 2 = TETRAPLOID 3 = OTHER (Specify) _____

3. DURATION:

[3] 1 = ANNUAL OR BIENNIAL 2 = SHORT LIVED PERENNIAL (3-4 years) 3 = PERENNIAL (more than 4 years)

STANDARD CULTIVARS

1 = GULF 2 = WIMMERA 62 3 = LINN 4 = PELO
5 = NORLEA 6 = ABERYSTWYTH S-23 7 = MANHATTAN 8 = PENNFINE

4. MATURITY (50% HEADED) Use standards from above for comparison:

[5] 1 = VERY EARLY 3 = EARLY
5 = MEDIUM 7 = LATE
9 = VERY LATE

[0][4] DAYS EARLIER THAN ..... [7] STANDARD CULTIVAR
[1][3] DAYS LATER THAN ..... [8] STANDARD CULTIVAR

5. MATURE PLANT HEIGHT (Use standard cultivars from above) :

[0][4][6] CM. HIGH [0][1][1] CM. SHORTER THAN ..... [7] STANDARD CULTIVAR
[ ][ ][ ] CM. TALLER THAN ..... [ ] STANDARD CULTIVAR

6. PERCENT WINTER DAMAGE (estimated as percent of the area appearing dead). Use standard cultivars from above for comparison:

[ ][ ][ ] PERCENT DAMAGE OF APPLICATION CULTIVAR
[ ][ ][ ] PERCENT DAMAGE OF ..... [ ] STANDARD CULTIVAR

7. TURF DENSITY Use standard cultivars from above:

[ ][ ][ ] TILLERS PER 100 SQ. CM.
[ ][ ][ ] LESS TILLERS PER 100 SQ. CM. THAN .... [ ] STANDARD CULTIVAR
[ ][ ][ ] MORE TILLERS PER 100 SQ. CM. THAN ... [ ] STANDARD CULTIVAR

8. FLAG LEAF (at full growth) Use standard cultivars from above:

[0][7.][4] CM. LENGTH (from ligule to tip) [0][3.][5] MM. WIDTH (at widest point)
[0][3.][2] CM. SHORTER THAN ..... [7] STANDARD CULTIVAR
[ ][ ][ ] CM. LONGER THAN ..... [ ] STANDARD CULTIVAR
[0.][5][0] MM. NARROWER THAN ..... [7] STANDARD CULTIVAR
[ ][ ][ ] MM. WIDER THAN ..... [ ] STANDARD CULTIVAR

[ ] FLAG LEAF AT BOOT STAGE: 1 = DEFLEXED 3 = RECURVED 5 = HORIZONTAL 7 = SEMI-ERECT 9 = ERECT

Application for Plant Variety Protection Certificate

13 B Exhibit B, Novelty Statement.

Genus and Species: Lolium perenne
Variety : CARAVELLE.

The novelty of Caravelle is based on the fact, that the variety has a number of characteristics clearly different from all other varieties known with us.

1) The colour is darker
2) The mature plant height is shorter
3) The length of the flag leaf is shorter
4) The width of the flag leaf is narrower
5) The length of the spike is shorter