No. 7700107

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Zwaan & de Wiljes'

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 VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

KENTUCKY BLUEGRASS

'Harmony'

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* 29th *day of* September *in the year of our Lord one thousand nine hundred and* seventy-eight

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 HARMONY	FOR OFFICIAL USE ONLY PV NUMBER 7700107
2. KIND NAME Kentucky bluegrass	3. GENUS AND SPECIES NAME Poa pratensis L.	FILING DATE 9-14-77 / TIME 11:30 A.M. P.M. FEE RECEIVED $ 250.00 / DATE 9-14-77
4. FAMILY NAME (BOTANICAL) Gramineae	5. DATE OF DETERMINATION April 1975	$ 250.00 / 9-14-77 $ 250.00 / 9-7-78
6. NAME OF APPLICANT(S) Zwaan & de Wiljes' Zaadteelt en Zaadhandel B.V.	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* Stationsstraat 124 SCHEEMDA/Netherlands	8. TELEPHONE AREA CODE AND NUMBER 05979-1233

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* Private company	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION the Netherlands	11. DATE OF INCORPORATION 1914

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

no representative

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 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.)* ☒ 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? ☒ 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.

September 8th 1977
(DATE)

ZWAAN & DE WILJES'
ZAADTEELT EN ZAADHANDEL B.V.
(SIGNATURE OF APPLICANT)

(DATE)

E. Post, Director
(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.

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 No. 7700107 "Harmony", Kentucky Bluegrass

New Exhibit A (dated 17/6/78)

Harmony traces back to one plant of a wild European collection made in 1973.
The original plants are all cloned to three plants. These plants were observed in 1973 and spring 1974.
In the summer of 1974 we harvested seeds on the better plants. The parent plant of Harmony already proved to be a very good seedyielder.
The seed was used to plant a turftrial in 1974.
During 1974, 1975 and 1976 this turf was observed. Already in the summer of 1975 we used the harvested seed of the parent plant of Harmony for sowing in the greenhouse. Later in 1975 we could plant a single-spaced plant-field.
In autumn 1975 we could count the number of "off-types". We found less than 1% off-types. So we could conclude that Harmony was a 100% (or better more than 99%) apomictic variety, and consequently would also be stable.
On the single-spaced plant we harvested seed in 1976 and 1977. This seed is also used for further multiplications.

Zwaan & De Wiljes – Scheemda (Holland)

Kentucky bluegrass, Application No. 7700107 "Harmony"

Novelty statement, dated August 2nd 1978

"HARMONY" closely resembles the variety Baron.

There are some differences:

"Harmony" has a slightly haired upper-surface of the leafblade, whereas Baron has a hairless upper-surface of the leafblade.

"Harmony" does not show a curve[x] in the axis, whereas Baron does show this.

x bend in rachis opposite lower side branches (of panicle)
Proc. Int. Seed Test. Ass. Vol 37 (2). 1972.

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FORM APPROVED. OMB NO. 40-R3712

FORM GR-470-18
(1-15-73)

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

EXHIBIT C
(Bluegrass)

OBJECTIVE DESCRIPTION OF VARIETY

BLUEGRASS *(POA SPP.)*

NAME OF APPLICANT(S)
Zwaan & de Wiljes'Zaadteelt en Zaadhandel B.V.

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
Stationsstraat 124, P.O. Box 2, SCHEEMDA
Netherlands

FOR OFFICIAL USE ONLY

PVPO NUMBER
7700107

VARIETY NAME OR TEMPORARY DESIGNATION
Harmony

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. KIND:

[2] 1 = POA COMPRESSA 2 = P. PRATENSIS 3 = P. TRIVIALIS 4 = OTHER (Specify) _____

2. REGION OF BEST ADAPTATION:

[1] 1 = NORTHEAST 2 = TRANSITIONAL ZONE 3 = NORTH CENTRAL 4 = PACIFIC N.W. 5 = OTHER (Specify) _____

3. MATURITY (At First Anthesis):

[4] 1 = EARLY (Delta) 2 = MEDIUM EARLY (Fylking) 3 = MEDIUM (Newport) 4 = LATE (Merion)

[0 1] NUMBER OF DAYS EARLIER THAN ..... [6]
[0 3] NUMBER OF DAYS LATER THAN ..... [4]

1 = NUGGET 2 = FYLKING
3 = DELTA 4 = MERION
5 = NEWPORT 6 = BARON

4. PLANT HEIGHT (Longest Shoot from Soil Surface to Top of Head):

[0 7 8] CM. HEIGHT

[1 2] CM. SHORTER THAN ..... [7]
[2 8] CM. TALLER THAN ..... [2]

1 = NUGGET 2 = FYLKING
3 = DELTA 4 = MERION
5 = NEWPORT 6 = BARON
7 = Monopoly

5. HABIT:

[2] 1 = PROSTRATE (Fylking) 2 = SEMI-PROSTRATE (Marion) 3 = ERECT (Delta)

6. VEGETATIVE REPRODUCTION (1 = Absent; 2 = Present):

[2] RHIZOMES [1] STOLONS

7. LEAF BLADE:

[3] Color: 1 = LIGHT GREEN (Rough Bluegrass) 2 = BLUE GREEN (Canada Bluegrass) 3 = MODERATELY DARK GREEN (Merion) 4 = DARK GREEN (Adelphi) 5 = OTHER (Specify) _____

[2] Upper Surface: 1 = SHINY 2 = DULL

[1] Lower Surface: 1 = SHINY 2 = DULL

[3.5] MM. WIDTH

[2 0 9] MM. LENGTH

8. LEAF SHEATH (Base):

[1] Seedling Color: 1 = GREEN 2 = RED

[/] MM. LENGTH

[2] Keel: 1 = NOT KEELED 2 = KEELED

Surface:

[2] 1 = GLABROUS 2 = PUBESCENT

[1] 1 = SMOOTH 2 = ROUGH

[1] 1 = NON-GLAUCOUS 2 = GLAUCOUS

9. LEAFINESS (At First Anthesis):

[2] Number of leaves per tiller or shoot: 1 = FEW (1 - 3) 2 = INTERMEDIATE (4 - 6) 3 = MANY (More than 6)

10. PANICLE:

[1 1 1] MM. LENGTH

[0 1 3] MM. LONGER THAN ..... [6]
[0 2 8] MM. SHORTER THAN ..... [7]

1 = NUGGET 2 = FYLKING
3 = DELTA 4 = MERION
5 = NEWPORT 6 = BARON
7 = Monopoly

Exhibit D to our application for
Kentucky bluegrass HARMONY

Additional Description of the Variety

- no hairs on the undersurface of the leafblade
- a not red-colored panicle
- the collar of the rachis opposite the lower side branches is closed.

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'Harmony' 7700107

FORM GR-470-18 (Reverse)

10. PANICLE (Cont.):

[0 6 0] NUMBER OF PANICLES PER PLANT [ ] MILLIGRAMS SEED PER PANICLE

[2] Branches LOWEST WHORL: 1 = DROOPING (Prato) 2 = HORIZONAL (Merion) 3 = OTHER (Specify) _____

[2] Panicle Habit: 1 = NODDING (Newport) 2 = UPRIGHT (Nugget) [ ] MM. SPIKELET LENGTH

11. LEMMA

[2] KEEL
[2] LATERAL NERVES
} 1 = GLABROUS 2 = SLIGHTLY PUBESCENT 3 = PUBESCENT 4 = OTHER (Specify) _____

[2] Intermediate Nerves: 1 = DISTINCT 2 = OBSCURE [2] Basal Webbing: 1 = NONE 2 = SCANT 3 = COPIOUS

12. SEED:

[1] Apomictic Percentage: 1 = MORE THAN 95 2 = 85 TO 95 3 = LESS THAN 85

[4] Phenol Reaction: 1 = NONE - LEMMA REMOVED (Merion) 2 = BEIGE (Cougar) 3 = BROWN (Windsor) 4 = BLACK (Delta - 2 hours) 5 = BLACK (Anheuser - 24 hours)

[0 8 5] MM. WIDTH [3 2 0] MM. LENGTH [4 8 2] GRAMS PER 10,000 SEEDS [ ] CHROMOSOME NO. (2n)

13. TURF DENSITY MAINTENANCE AT ONE INCH CUT:

[2] 1 = POOR 2 = MODERATE (Merion) 3 = SUPERIOR (Nugget) 4 = EXCELLENT

14. VERTICAL GROWTH RATE:

[2] 1 = SLOW (Nugget) 2 = MEDIUM (Merion) 3 = FAST (Delta) 4 = OTHER (Specify relation to a standard) _____

15. SPRING GREEN UP:

[1] 1 = EARLY (Windsor) 2 = MEDIUM (Fylking) 3 = LATE (Nugget)

16. FALL DORMANCY: (1 = Not Dormant; 2 = Intermediate; 3 = Dormant)

[1] NORTHERN (42° 30′ ± 30′ Lat.) [1] INTERMEDIATE (40° ± 30′ Lat.) [1] SOUTHERN (37° 30′ ± 30′ Lat.)

17. SEEDLING VIGOR (Growth Rate):

[3] Seedling: 1 = SLOW 2 = MEDIUM 3 = FAST

18. ENVIRONMENTAL RESISTANCE: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[2] COOL TEMPERATURE (Winter color)	[2] COLD (Injury)	[2] HEAT	[2] DROUGHT
[2] SHADE	[1] POOR FERTILITY	[0] ACID SOIL	[0] ALKALINITY
[0] SALINITY	[2] SOIL COMPACTION	[2] POOR DRAINAGE	[0] AIR POLLUTION
[2] OTHER (Specify) wear			

19. DISEASE, INSECTS, AND NEMATODE RESISTANCE: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[2] HELMINTHOSPORIUM VAGANS	[0] H. SOROKINIANUM	[0] H. DICTYOIDES	[0] RHIZOCTONIA SOLANI
[2] ERYSIPHE GRAMINIS	[2] USTILAGO STRIIFORMIS	[2] FUSARIUM NIVALE	[0] F. ROSEUM
[0] TYPHULA IOTANA	[0] SCELEROTINIA HOMEOCARPA	[0] PUCCINIA GRAMINIA	[0] P. STRIIFORMIS
[0] PYTHIUM ULTIMATUM	[0] CRAMBUS BONIFATELLUNS	[2] OTHER (Specify) puccinia poaenemoralis	

REFERENCE

Nickerson's or any recognized color fan may be used to determine plant colors of the described variety.