No. 7500014

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

D. J. van der Have 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 VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (7 U.S.C. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

HARD FESCUE

'Scaldis'

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* 2nd *day of* February *in the year of our Lord one thousand nine hundred and* seventy-eight

Attest:

Acting
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
(12-15-72)

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

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1. VARIETY NAME OR TEMPORARY DESIGNATION Scaldis	2. KIND NAME Hard fescue	FOR OFFICIAL USE ONLY PV NUMBER 7500014
3. GENUS AND SPECIES NAME Festuca ovina ssp. duriuscula	4. FAMILY NAME *(Botanical)* Graminae	FILING DATE 9.17.74 / TIME 10 A.M. ~~P.M.~~
	5. DATE OF DETERMINATION 1972	FEE RECEIVED $250.00 / $250.00 / $250.00 — BALANCE DUE $ 9-17-74 / $ 7-12-76 / $ 1-16-78
6. NAME OF APPLICANT(S) Koninklijk Kweekbedrijf en Zaadhandel D.J. van der Have B.V.	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* P.O. Box 1, ~~Kapelle 3615~~ Rilland 3648 Netherlands ggH 1/16/78	8. TELEPHONE AREA CODE AND NUMBER
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* Corporation	10. STATE OF INCORPORATION Netherlands	11. DATE OF INCORPORATION 8th March 1973

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

~~Mr. David J. Hayes,~~
~~1610 Forest Ridge Place,~~
~~Mt. Vernon Washington 98273~~

Mr. D.J. GLAS
P.O. Box 1
Rilland 3648
Netherlands
ggH 1/16/78

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, Botanical Description of the Variety
- [ ] 13C. Exhibit C, Objective Description of the Variety
- [x] 13D. Exhibit D, Data Indicative of Novelty
- [x] 13E. Exhibit E, Statement of the Basis of Applicant's Ownership

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 [X] 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 [X] CERTIFIED

The applicant declares 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) of this sexually-reproduced novel plant variety believes 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 is informed that false representation herein can jeopardize protection and result in penalties.

August 2nd, 1974.
(DATE)

(SIGNATURE OF APPLICANT)
D.J. Glas.

(DATE)

(SIGNATURE OF APPLICANT)

SCALDIS. HARD FESCUE.

Exhibit 13A.

Hard fescue plants were collected out of the eastern part of the Netherlands in spring 1965. From 50 locations about 6 plants per location were collected so in total 300 plants.
The plants were cloned and observed during 1965 and 1966 in a clone nursery. The clones with the same general characters have been combined in isolation plots for syn 1 seed production in 1967 of experimental varieties.

During 1968 till 1972 these experimental varieties have been observed on two lawn trials in the S.W. of the Netherlands, one on clay soil and one on sandy soil.

By 1969 the experimental HDu2 was proved to have superior turf qualities. Syn 2 seed of HDu2 was harvested in 1970. In 1970 a spaced plant trial and a new turf trial were established to compare the syn 1 and the syn 2 of the experimental HDu2.
No genetic shift in uniformity and turf quality was observed.

By 1972 it was decided to produce enough breeders seed for the anticipated need over the next 15 years and to release the variety in the future under the varietal name of SCALDIS.

Exhibit 13B.

There are no identifying seed characteristics.

The chromosome number 2n=42.
The growth habit of spaced plants in fall when planted in spring of the same year is prostrate.
The colour of the leaf is dark-grey-green, in comparison with C-26 which is dark green.
Time of heading is fairly early.
Average date of heading May the 1st, in comparison with C-26 April 24th (52°NL).

Addition to Exhibit A. Scaldis 7500014.

Variants and their frequencies.

During the years of registration trials no "variants" observed.

RECEIVED
SEP 17 1974
U.S. DEPARTMENT OF AGRICULTURE
AMS, GRAIN DIV.
PVPO

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, 6525 Belcrest Road, Hyattsville, Maryland 20782. (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 Insert the date the applicant determined that he had a new variety based on the definition in Section 41 (a) of the Act and decision is made to increase the seed.

13a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.

13b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.

13c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

13d Provide complete data indicative of novelty. Seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty may be submitted. Seeds submitted may be sterile.

13e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

FORM GR-470-37
(3-76)

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

OBJECTIVE DESCRIPTION OF VARIETY
FESCUE
(Festuca spp.)

NAME OF APPLICANT(S) Koninklijk Kweekbedrijf en Zaadhandel, D.J. van der Have B.V.	VARIETY NAME OR TEMPORARY DESIGNATION Scaldis
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) Kapelle 3615, PB 1, Netherlands.	FOR OFFICIAL USE ONLY PVPO NUMBER 7500014

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. Characteristics described, including numerical measurements, should represent those that are typical for the variety. Ranges may be given also. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors; designate system used: I.V.R.O. system. Describe location of test area Rilland-Wageningen Netherlands. All questions need not be answered, however, completeness should be striven for in order to establish the most adequate Variety Identification.

1. SPECIES: (With comparison varieties for use below - use varieties within species of application variety)

[62]
1 = F. ARUNDINACEA (TALL) 11 = ALTA 12 = FAWN 13 = GOAR 14 = KENTUCKY 31
2 = F. PRATENSIS (MEADOW) 21 = ENSIGN 22 = TRADER
3 = F. RUBRA SSP. COMMUTATA (CHEWINGS) 31 = CASCADE 32 = HIGHLIGHT 33 = JAMESTOWN
4 = F. RUBRA SSP. RUBRA (RED) 41 = BOREAL 42 = PENNLAWN 43 = DAWSON
5 = F. OVINA VAR. OVINA (SHEEP) ~~61 = DURAR 62 = BILJART (C-26)~~ 63 = SCALDIS
6 = F. LONGIFOLIA (HARD) 61 = DURAR 62 = BILJART (C-26) 63 = SCALDIS
7 = OTHER (SPECIFY) F.

2. CYTOLOGY

[42] 2n CHROMOSOME NUMBER

3. ADAPTATION: (0 = Not Tested; 1 = Not Adapted; 2 = Adapted)

[2] NORTHEAST [2] SOUTHEAST [2] NORTH CENTRAL [2] PACIFIC N.W. [2] OTHER (SPECIFY) South East for overseeding

4. MATURITY: (50% Headed) Give Test Area Wageningen - Netherlands

[-][-] DAYS EARLIER THAN . . . . . [-][-]
MATURITY SAME AS . . . . . [-][-] COMPARISON VARIETY
[0][5] DAYS LATER THAN . . . . . [6][2]

5. PLANT HEIGHT: (At maturity to top of panicle)

[8][3][8] mm HEIGHT
[-][-] mm SHORTER THAN . . . . . [-][-]
HEIGHT SAME AS . . . . . [-][-] COMPARISON VARIETY
1 [1][8] mm TALLER THAN . . . . . [6][2]

6. GROWTH HABIT (Mature)

[2] 1 = ERECT (KENTUCKY 31) 2 = SEMI ERECT (HIGHLIGHT) 3 = PROSTRATE

7. RHIZOMES

[-][-] mm LENGTH [-][-] mm WIDTH

[0] 0 = ABSENT 1 = WEAKLY CREEPING (DAWSON) 2 = STRONGLY CREEPING (BOREAL) 3 = OTHER

8. LEAF BLADE:

[3] COLOR: 1 = LIGHT GREEN (GOLFROOD) 2 = MODERATELY LIGHT GREEN (HIGHLIGHT) 3 = MEDIUM GREEN (JAMESTOWN, KENTUCKY 31) 4 = DARK GREEN (CASCADE) 5 = BLUE GREEN 6 = GRAYGREEN 7 = OTHER (SPECIFY)

 750001f SCALDIS

8. LEAF BLADE:

[0] ANTHOCYANIN: 0 = ABSENT 1 = PRESENT [1] HAIRS (BASAL): 0 = ABSENT 1 = PRESENT [2] MARGINS: 1 = SMOOTH 2 = SEMI-ROUGH 3 = ROUGH

[– – –] mm LENGTH (FIRST LEAF BELOW FLAG LEAF) [– –] mm WIDTH

[– –] mm SHORTER THAN . . . . [– –] COMPARISON VARIETY [– –] mm NARROWER THAN [– –] COMPARISON VARIETY

LENGTH SAME AS . . . . . [– –] WIDTH SAME AS . . [– –]

[– –] mm LONGER THAN . . . . [– –] [– –] mm WIDER THAN . . [– –]

9. LEAF SHEATH (Plant Base):

[2] COLOR: 1 = WHITE (HIGHLIGHT) 2 = RED [1] AURICLE HAIRINESS: 0 = ABSENT 1 = PRESENT

10. PANICLE (Mature plant)

[– – –] NUMBER OF PANICLES PER PLANT (FIRST YEAR OF PRODUCTION - FALL OR SPRING PLANTING SPECIFY _____

[0 9 0] mm LENGTH [– – –] GRAMS OF SEED PER PANICLE

[– –] mm SHORTER THAN . . . [– –] COMPARISON VARIETY [– –] GRAMS LESS SEED THAN [– –] COMPARISON VARIETY

LENGTH SAME AS . . . [– –] WEIGHT SAME AS . . [– –]

[2 0] mm LONGER THAN . . . [6 2] [– –] GRAMS MORE SEED THAN [– –]

[2] SHAPE: 1 = NARROW-TAPERING 2 = EGG SHAPE 3 = OBLONG 4 = OTHER (SPECIFY) _____

[2] TYPE: 1 = OPEN 2 = INTERMEDIATE 3 = COMPACT

[2] HABIT: 1 = ERECT 2 = NODDING

[2] BRANCHES: 1 = SMOOTH 2 = ROUGH

[4] COLOR (At 50% flowering): 1 = YELLOWISH GREEN 2 = GREEN 3 = BLUISH GREEN 4 = PURPLISH 5 = REDDISH 6 = OTHER (SPECIFY) _____

11. PALEA:

[1] HAIRS (ON KEELS): 0 = ABSENT 1 = SHORT (OLDS) 2 = LONG (RAINIER)

12. LEMMA:

[1] HAIRS: 0 = ABSENT 1 = PRESENT [2] TEXTURE: 1 = SMOOTH 2 = ROUGH

[4 4] mm LEMMA LENGTH [9 7] mm LEMMA WIDTH

[0 1] mm SHORTER THAN . . . . [6 2] COMPARISON VARIETY [– –] mm NARROWER THAN [– –] COMPARISON VARIETY

LENTGH SAME AS . . . . [– –] WIDTH SAME AS . . . [ ]

[– –] mm LONGER THAN . . . . [– –] [1 2] mm WIDER THAN. . . [6 2]

[1] AWNS: 0 = ABSENT 1 = PRESENT

[1 0] mm AWN LENGTH

7500014 SCALDIS

FORM GR-470-37 (PAGE 3)

12. LEMMA:

– –	mm SHORTER THAN	– –	COMPARISON VARIETY
	LENGTH SAME AS	– –	
– –	mm LONGER THAN	– –	

13. SEED:

5 3 9	mm LENGTH		9 7	mm WIDTH	
– – –	mm SHORTER THAN	– –	– –	mm. NARROWER THAN	– –
	LENGTH SAME AS	– –		WIDTH SAME AS	– –
0 7 1	mm LONGER THAN	6 2	1 2	mm WIDER THAN	6 2

0 8 9 8 GRAMS PER 1000 SEED

– – – –	GRAMS LESS THAN	– –
	WEIGHT SAME AS	– –
0 1 8 1	GRAMS MORE THAN	6 2

COMPARISON VARIETY

14. DISEASE, INSECT, AND NEMATODE (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

0	HELMINTHOSPORIUM VAGANS	0	H. SOROKINIANUM	0	H. DICTYOIDES
0	RHIZOCTONIA SOLANI	2	ERYSIPHE GRAMINIS	0	USTILAGO STRIIFORMIS
2	FUSARIUM NIVALE	0	F. ROSEUM	2	TYPHULA IOTANA
2	PUCCINIA GRAMINIS	0	P. STRIIFORMIS	2	P. POAE-NEMORALIS
2	P. CORONATA	0	PYTHIUM ULTIMUM	2	CORTICIUM FUSCIFORME
0	SCLEROTINIA HOMEOCARPA	0	INSECT	0	NEMATODE
	OTHER		OTHER		OTHER

15. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics indicate degree of resemblance (D.R.) by placing in the column marked, D.R., one of the following numbers:

1 = Application variety is less than comparison variety 2 = Same as

3 = More than, better, greater, darker, more disease resistant, etc.

Write first line

CHARACTER	VARIETY	D.R.	CHARACTER	VARIETY	D.R.
GERMINATION RATE*			SEED YIELD*		
RHIZOME LENGTH	Biljart - 62	2	GROWTH HABIT	Biljart - 62	3 x
LEAF WIDTH	"	3	LEAF COLOR	"	3
PANICLE COLOR	"	3	PANICLE SHAPE	"	2
WINTER COLOR	"	3	COLD INJURY	"	2
SHADE TOLERANCE	"	2	HEAT	"	2
DROUGHT	"	2	DISEASE**	"	2

* Good seed used in planting under good conditions for germination and yield evaluation.

**Specify each disease evaluated.

x Scaldis somewhat more erect.

6

Exhibit 13D.

Scaldis Hard fescue is the first dark-grey-green, fairly early heading variety to be developed.
Compared with the average collected material, a considerable improvement was obtained in colour, turf density, persistancy and uniformity.

Exhibit 13E.

The original material was collected by the staff of D.J. van der Have B.V. Breeding Station. All the selection, recombining and testing work was carried out by the Van der Have staff at the Van der Have trials.

D.J. van der Have B.V. is the actual breeder of Scaldis.

Exhibit D
'Scaldis'

PV # 7500014

'Scaldis' most closely resembles 'Biljart' but 'Scaldis' is 14 cm taller (84 vs. 70), has a 2 cm longer panicle(9 vs. 7), and heads 5 days later than 'Biljart.'

Signature

D.J. Glas.

Exhibit 13D Scaldis Festuca ovina ssp duriuscula (7500014).

1. Plant height. letter 6/10/76

	Biljart (C26)	SD ~~SE~~	VC	Scaldis	SD ~~SE~~	VC
1972	73 cm	8.3	11	85 cm	8.8	10
1973	75 cm	5.5	7	88 cm	7.4	8
1974	68 cm	6.1	9	80 cm	7.3	9
1975	72 cm	6.1	8	82 cm	6.3	8

Each year the height has been measured of 60 plants, and well the length of the longest culm.

The difference between the mean plant height of Biljart and Scaldis was significant at 1% level, in each of the year from 1972 to 1975.

2. Length of Panicle.

	Biljart (C26)	SD ~~SE~~	VC	Scaldis	SD ~~SE~~	VC
1972	7 cm	-	-	10 cm	-	-
1973	7 cm	1.5	21	9 cm	2.2	25
1974	7 cm	1.6	23	8 cm	1.7	22
1975	7 cm	3.0	41	9 cm	2.3	26

The difference between the mean panicle length of Biljart and Scaldis was significant at 1% level in all the years 1972 to 1975.

3. Length of Flag leaf.

	Biljart (C26)	SD ~~SE~~	VC	Scaldis	SD ~~SE~~	VC
1972	4.9 cm	1.5	31	6.2 cm	1.5	24
1973	5.2 cm	1.4	27	5.5 cm	1.2	22
1974	6.3 cm	1.9	31	6.4 cm	1.8	29
1975	5.8 cm	2.2	39	5.6 cm	1.9	35

Each year the length of the flag leaf has been measured of 60 plants.

Only in 1972 the difference between the mean flag leaf length of Biljart and Scaldis was significant at 1% level. In the other years the differences were not significant at 5% level.

4. Average date of heading at 52°NL. Scaldis April 23.
Biljart " 18.

Number of days after March 31. The heading date was determined on 60 plants per variety per year when 3 eartips were visible.

Year	Biljart	SD ~~SE~~	Scaldis	SD ~~SE~~
1972	17	10.0	26	7.3
1973	19	11.9	23	10.4
1974	14	6.1	19	8.0
1975	24	8.0	25	6.8

In all the years 1972 to 1975 the difference between the mean heading date of Biljart and Scaldis was significant at 1% level.

5. Width of vegetative leaf.

Year	Biljart	Scaldis
1971	2.8	3.8
1972	3.0	4.0
1973	3.8	4.1
1974	3.8	3.7
1975	3.3	3.3

This width of leaf is not measured, but determined in notes rating from 1 to 9. 7 = very small leaved
9 = very wide leaved
Notes based on the average of 60 plants in October, planted in the spring of the same year.

The difference between mean vegetative leaf width of Biljart and Scaldis was found to be not significant at 5% level.

6. Leaf colour.

Year	Biljart	Scaldis
1971	4.8	6.2
1972	5.4	5.9
1973	5.9	5.6
1974	4.5	6.6
1975	5.4	6.8

Notes in a rating from 1 - 9. 1 = very bright green
9 = very dark green

Notes based on the average of 60 plants in October, planted in the spring of the same year.

The difference between the mean leaf colour of Biljart and Scaldis was significant at 5% level.

The measurements were obtained from the "IVRO" Wageningen.

No. 7500014

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

D. J. van der Have 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.

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HARD FESCUE

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Attest:

Acting Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
(12-15-72)

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

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

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9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation	10. STATE OF INCORPORATION Netherlands	11. DATE OF INCORPORATION 8th March 1973

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

~~Mr. David L. Hayes,~~
~~1610 Forest Ridge Place,~~
~~Mt. Vernon Washington 98273~~

Mr. D.J. GLAS
P.O. Box 1
Rilland 3648
Netherlands
ggh 1/16/78

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August 2nd, 1974.
(DATE)

(SIGNATURE OF APPLICANT)
D.J. Glas.

(DATE)

(SIGNATURE OF APPLICANT)

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Hard fescue plants were collected out of the eastern part of the Netherlands in spring 1965. From 50 locations about 6 plants per location were collected so in total 300 plants.
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The clones with the same general characters have been combined in isolation plots for syn 1 seed production in 1967 of experimental varieties.

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By 1969 the experimental HDu2 was proved to have superior turf qualities. Syn 2 seed of HDu2 was harvested in 1970. In 1970 a spaced plant trial and a new turf trial were established to compare the syn 1 and the syn 2 of the experimental HDu2.
No genetic shift in uniformity and turf quality was observed.

By 1972 it was decided to produce enough breeders seed for the anticipated need over the next 15 years and to release the variety in the future under the varietal name of SCALDIS.

Exhibit 13B.

There are no identifying seed characteristics.

The chromosoms number 2n=42.
The growth habit of spaced plants in fall when planted in spring of the same year is prostrate.
The colour of the leaf is dark-grey-green, in comparison with C-26 which is dark green.
Time of heading is fairly early.
Average date of heading May the 1st, in comparison with C-26 April 24th (52°NL).

Addition to Exhibit A. Scaldis 7500014.

Variants and their frequencies.

During the years of registration trials no "variants" observed.

ORM GR-470-37
(3-76)

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

OBJECTIVE DESCRIPTION OF VARIETY
FESCUE
(Festuca spp.)

NAME OF APPLICANT(S)	VARIETY NAME OR TEMPORARY DESIGNATION
Koninklijk Kweekbedrijf en Zaadhandel, D.J. van der Have B.V.	Scaldis
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)	FOR OFFICIAL USE ONLY
Kapelle 3615, PB 1, Netherlands.	PVPO NUMBER 7500014

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. Characteristics described, including numerical measurements, should represent those that are typical for the variety. Ranges may be given also. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors; designate system used: I.V.R.O. system. Describe location of test area Rilland-Wageningen Netherlands. All questions need not be answered, however, completeness should be striven for in order to establish the most adequate Variety Identification.

1. SPECIES: (With comparison varieties for use below - use varieties within species of application variety)

[62]
1 = F. ARUNDINACEA (TALL) 11 = ALTA 12 = FAWN 13 = GOAR 14 = KENTUCKY 31
2 = F. PRATENSIS (MEADOW) 21 = ENSIGN 22 = TRADER
3 = F. RUBRA SSP. COMMUTATA (CHEWINGS) 31 = CASCADE 32 = HIGHLIGHT 33 = JAMESTOWN
4 = F. RUBRA SSP. RUBRA (RED) 41 = BOREAL 42 = PENNLAWN 43 = DAWSON
5 = F. OVINA VAR. OVINA (SHEEP) ~~61 = DURAR~~ 62 = BILJART (C-26) 63 = SCALDIS
6 = F. LONGIFOLIA (HARD) 61 = DURAR 62 = BILJART (C-26) 63 = SCALDIS
7 = OTHER (SPECIFY) F.

2. CYTOLOGY

[42] 2n CHROMOSOME NUMBER

3. ADAPTATION: (0 = Not Tested; 1 = Not Adapted; 2 = Adapted)

[2] NORTHEAST [2] SOUTHEAST [2] NORTH CENTRAL [2] PACIFIC N.W. [2] OTHER (SPECIFY) South East for overseeding

4. MATURITY: (50% Headed) Give Test Area Wageningen - Netherlands

[- -] DAYS EARLIER THAN . . . . . [- -]
MATURITY SAME AS . . . . . [- -] COMPARISON VARIETY
[0 5] DAYS LATER THAN . . . . . [6 2]

5. PLANT HEIGHT: (At maturity to top of panicle)

[8 3 8] mm HEIGHT
[- -] mm SHORTER THAN . . . . . [- -]
HEIGHT SAME AS . . . . . [- -] COMPARISON VARIETY
1 [1 8] mm TALLER THAN . . . . . [6 2]

6. GROWTH HABIT (Mature)

[2] 1 = ERECT (KENTUCKY 31) 2 = SEMI ERECT (HIGHLIGHT) 3 = PROSTRATE

7. RHIZOMES

[- -] mm LENGTH [- -] mm WIDTH
[0] 0 = ABSENT 1 = WEAKLY CREEPING (DAWSON) 2 = STRONGLY CREEPING (BOREAL) 3 = OTHER

8. LEAF BLADE:

[3] COLOR: 1 = LIGHT GREEN (GOLFHOUD) 2 = MODERATELY LIGHT GREEN (HIGHLIGHT) 3 = MEDIUM GREEN (JAMESTOWN, KENTUCKY 31) 4 = DARK GREEN (CASCADE) 5 = BLUE GREEN 6 = GRAYGREEN 7 = OTHER(SPECIFY) 4

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8. LEAF BLADE:

[0] ANTHOCYANIN: 0 = ABSENT 1 = PRESENT [1] HAIRS (BASAL): 0 = ABSENT 1 = PRESENT [2] MARGINS: 1 = SMOOTH 2 = SEMI-ROUGH 3 = ROUGH

[- - -] mm LENGTH (FIRST LEAF BELOW FLAG LEAF) [- -] mm WIDTH

[- -] mm SHORTER THAN . . . . [- -] COMPARISON VARIETY [- -] mm NARROWER THAN [- -] COMPARISON VARIETY

LENGTH SAME AS . . . . . [- -] WIDTH SAME AS . . [- -]

[- -] mm LONGER THAN . . . . [- -] [- -] mm WIDER THAN . . [- -]

9. LEAF SHEATH (Plant Base):

[2] COLOR: 1 = WHITE (HIGHLIGHT) 2 = RED [1] AURICLE HAIRINESS: 0 = ABSENT 1 = PRESENT

10. PANICLE (Mature plant)

[- - -] NUMBER OF PANICLES PER PLANT (FIRST YEAR OF PRODUCTION - FALL OR SPRING PLANTING SPECIFY _____

[0 9 0] mm LENGTH [- - -] GRAMS OF SEED PER PANICLE

[- -] mm SHORTER THAN . . . [- -] COMPARISON VARIETY [- -] GRAMS LESS SEED THAN [- -] COMPARISON VARIETY

LENGTH SAME AS . . . [- -] WEIGHT SAME AS . . [- -]

[2 0] mm LONGER THAN . . . [6 2] [- -] GRAMS MORE SEED THAN [- -]

[2] SHAPE: 1 = NARROW-TAPERING 2 = EGG SHAPE 3 = OBLONG 4 = OTHER (SPECIFY) _____

[2] TYPE: 1 = OPEN 2 = INTERMEDIATE 3 = COMPACT

[2] HABIT: 1 = ERECT 2 = NODDING

[2] BRANCHES: 1 = SMOOTH 2 = ROUGH

[4] COLOR (At 50% flowering): 1 = YELLOWISH GREEN 2 = GREEN 3 = BLUISH GREEN 4 = PURPLISH 5 = REDDISH 6 = OTHER (SPECIFY) _____

11. PALEA:

[1] HAIRS (ON KEELS): 0 = ABSENT 1 = SHORT (OLDS) 2 = LONG (RAINIER)

12. LEMMA:

[1] HAIRS: 0 = ABSENT 1 = PRESENT [2] TEXTURE: 1 = SMOOTH 2 = ROUGH

[4 4] mm LEMMA LENGTH [9 7] mm LEMMA WIDTH

[0 1] mm SHORTER THAN . . . . [6 2] COMPARISON VARIETY [- -] mm NARROWER THAN [- -] COMPARISON VARIETY

LENTGH SAME AS . . . . [- -] WIDTH SAME AS . . . [ ]

[- -] mm LONGER THAN . . . . [- -] [1 2] mm WIDER THAN . . . [6 2]

[1] AWNS: 0 = ABSENT 1 = PRESENT

[1 0] mm AWN LENGTH

7500014 SCALDIS

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12. LEMMA:

- -	mm SHORTER THAN	- -	COMPARISON VARIETY
	LENGTH SAME AS	- -	
- -	mm LONGER THAN	- -	

13. SEED:

5 3 9 mm LENGTH

9 7 mm WIDTH

- - -	mm SHORTER THAN	- -	COMPARISON VARIETY
	LENGTH SAME AS	- -	
0 7 1	mm LONGER THAN	6 2	

- -	mm. NARROWER THAN	- -	COMPARISON VARIETY
	WIDTH SAME AS	- -	
1 2	mm WIDER THAN	6 2	

0 8 9 8 GRAMS PER 1000 SEED

- - - -	GRAMS LESS THAN	- -	COMPARISON VARIETY
	WEIGHT SAME AS	- -	
0 1 8 1	GRAMS MORE THAN	6 2	

14. DISEASE, INSECT, AND NEMATODE (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

0	HELMINTHOSPORIUM VAGANS	0	H. SOROKINIANUM	0	H. DICTYOIDES
0	RHIZOCTONIA SOLANI	2	ERYSIPHE GRAMINIS	0	USTILAGO STRIIFORMIS
2	FUSARIUM NIVALE	0	F. ROSEUM	2	TYPHULA IOTANA
2	PUCCINIA GRAMINIS	0	P. STRIIFORMIS	2	P. POAE-NEMORALIS
2	P. CORONATA	0	PYTHIUM ULTIMUM	2	CORTICIUM FUSCIFORME
0	SCLEROTINIA HOMEOCARPA	0	INSECT	0	NEMATODE
	OTHER		OTHER		OTHER

15. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics indicate degree of resemblance (D.R.) by placing in the column marked, D.R., one of the following numbers:
1 = Application variety is less than comparison variety 2 = Same as
3 = More than, better, greater, darker, more disease resistant, etc.

Allele frequencies

CHARACTER	VARIETY	D.R.	CHARACTER	VARIETY	D.R.
~~GERMINATION RATE*~~			~~SEED YIELD*~~		
RHIZOME LENGTH	Biljart - 62	2	GROWTH HABIT	Biljart - 62	3 x
LEAF WIDTH	"	3	LEAF COLOR	"	3
PANICLE COLOR	"	3	PANICLE SHAPE	"	2
WINTER COLOR	"	3	COLD INJURY	"	2
SHADE TOLERANCE	"	2	HEAT	"	2
DROUGHT	"	2	DISEASE**	"	2

* ~~Good seed used in planting under good conditions for germination and yield evaluation.~~
**Specify each disease evaluated.

x Scaldis somewhat more erect.

Exhibit 13D.

Scaldis Hard fescue is the first dark-grey-green, fairly early heading variety to be developed.
Compared with the average collected material, a considerable improvement was obtained in colour, turf density, persistancy and uniformity.

Exhibit 13E.

The original material was collected by the staff of D.J. van der Have B.V. Breeding Station. All the selection, recombining and testing work was carried out by the Van der Have staff at the Van der Have trials.

D.J. van der Have B.V. is the actual breeder of Scaldis.

Exhibit D
'Scaldis'

PV # 7500014

'Scaldis' most closely resembles 'Biljart' but 'Scaldis' is 14 cm taller (84 vs. 70), has a 2 cm longer panicle(9 vs. 7), and heads 5 days later than 'Biljart.'

Signature

D.J. Glas.

Exhibit 13D Scaldis Festuca ovina ssp duriuscula (7500014).

1. Plant height.

	Biljart (C26)	~~SE~~ SD	VC	Scaldis	~~SE~~ SD	VC
1972	73 cm	8.3	11	85 cm	8.8	10
1973	75 cm	5.5	7	88 cm	7.4	8
1974	68 cm	6.1	9	80 cm	7.3	9
1975	72 cm	6.1	8	82 cm	6.3	8

Each year the height has been measured of 60 plants, and well the length of the longest culm.

The difference between the mean plant height of Biljart and Scaldis was significant at 1% level, in each of the year from 1972 to 1975.

2. Length of Panicle.

	Biljart (C26)	~~SE~~ SD	VC	Scaldis	~~SE~~ SD	VC
1972	7 cm	-	-	10 cm	-	-
1973	7 cm	1.5	21	9 cm	2.2	25
1974	7 cm	1.6	23	8 cm	1.7	22
1975	7 cm	3.0	41	9 cm	2.3	26

The difference between the mean panicle length of Biljart and Scaldis was significant at 1% level in all the years 1972 to 1975.

3. Length of Flag leaf.

	Biljart (C26)	~~SE~~ SD	VC	Scaldis	~~SE~~ SD	VC
1972	4.9 cm	1.5	31	6.2 cm	1.5	24
1973	5.2 cm	1.4	27	5.5 cm	1.2	22
1974	6.3 cm	1.9	31	6.4 cm	1.8	29
1975	5.8 cm	2.2	39	5.6 cm	1.9	35

Each year the length of the flag leaf has been measured of 60 plants.

Only in 1972 the difference between the mean flag leaf length of Biljart and Scaldis was significant at 1% level. In the other years the differences were not significant at 5% level.

4. Average date of heading at 52°NL. Scaldis April 23.
Biljart " 18.

Number of days after March 31. The heading date was determined on 60 plants per variety per year when 3 eartips were visible.

Year	Biljart	~~SE~~ SD	Scaldis	~~SE~~ SD
1972	17	10.0	26	7.3
1973	19	11.9	23	10.4
1974	14	6.1	19	8.0
1975	24	8.0	25	6.8

In all the years 1972 to 1975 the difference between the mean heading date of Biljart and Scaldis was significant at 1% level.

5. Width of vegetative leaf.

Year	Biljart	Scaldis
1971	2.8	3.8
1972	3.0	4.0
1973	3.8	4.1
1974	3.8	3.7
1975	3.3	3.3

This width of leaf is not measured, but determined in notes rating from 1 to 9. 7 = very small leaved
9 = very wide leaved
Notes based on the average of 60 plants in October, planted in the spring of the same year.

The difference between mean vegetative leaf width of Biljart and Scaldis was found to be not significant at 5% level.

6. Leaf colour.

Year	Biljart	Scaldis
1971	4.8	6.2
1972	5.4	5.9
1973	5.9	5.6
1974	4.5	6.6
1975	5.4	6.8

Notes in a rating from 1 - 9. 1 = very bright green
9 = very dark green

Notes based on the average of 60 plants in October, planted in the spring of the same year.

The difference between the mean leaf colour of Biljart and Scaldis was significant at 5% level.

The measurements were obtained from the "IVRO" Wageningen.