No.



TO ALL TO WHOM THESE PRESENTS SHALL COMES Koninklijk Kweekbedrijf en Zaradhandel D. I. wan der Have B. V.

Tothereas, 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 APPLI-CANT(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 EX-LUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, MPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT Y 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 THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

HARD FESCUE

8100161

'Hartina'

In Testimony Withercof, 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 15th day of July in

the year of our Lord one thousand nine hundred and eighty-two.



Kenner

Actina Commissioner Plant Variety Protection Offic Grain Division Agricultural Marketing Service



INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, 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

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- 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 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.
- 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, 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.)
- 15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

OF AGRICULTURE

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SECEI

AMS, LPG&S DIV.

UNITED STATES DEPARTME AGRICULTURAL MARI LIVESTOCK, POULTRY, GRA APPLICATION FOR PLANT VARIE INSTRUCTIONS: See Reverse,	KETING SERVICE AIN & SEED DIVISION		No certificate for pla be issued unless a co has been received (5	FORM APPROVED OMB NO. 40-R3822 ant variety protection may ompleted application form U.S.C. 553).
1a. TEMPORARY DESIGNATION OF VARIETY	16. VARIETY NAM			AL USE ONLY
HDu 26	Hartina	a	PV NUMBER	100161
2. KIND NAME	3. GENUS AND SPE	CIES NAME	FILING DATE	TIME A.M.
Hard fescue	Festuca longit	folia	9/2/81 FEE RECEIVED	12:00 P.M.
4. FAMILY NAME (BOTANICAL)	5. DATE OF DETER	MINATION	\$_500.00	9/2/81
Graminae	1975		\$ 250.00	2/24/82
6. NAME OF APPLICANT(S) Koninklijk Kweekbedrijf en Zaadhandel D.J. van der Have B.V.	7. ADDRESS (Street Code) P.O. Box 1 4420 AA Kap	t and No. or R.F.D. No., pelle N	City, State, and ZIP	8. TELEPHONE AREA CODE AND NUMBER
9. IF THE NAMED APPLICANT IS NOT A P ORGANIZATION: (Corporation, partners)	ERSON, FORM OF hip, association, etc.)	10. IF INCORPORAT DATE OF INCOR	ED, GIVE STATE AND	11. DATE OF INCOR- PORATION
Corporation	a model they we	Netherl	ands	8th March 1973
 NAME AND MAILING ADDRESS OF APP ALL PAPERS: Mr. Stan Roll. Seed Consultan CHECK BOX BELOW FOR EACH ATTAC 	in 6802 Or nt Laurel Marylar	nd 20810		CATION AND RECEIVE
 13C. Exhibit C, Objective Desc 13D. Exhibit D, Additional Desc 14a. DOES THE APPLICANT(S) SPECIFY THA SEED? (See Section 83(a). (If "Yes," answ 	scription of the Varie	ty.	6/30/82	
14b. DOES THE APPLICANT(S) SPECIFY THA LIMITED AS TO NUMBER OF GENERAT	AT THIS VARIETY BE	14c. IF "YES," TO 14 TION BEYOND	BREEDER SEED?	ATIONS OF PRODUC-
X YES NO		FOUNDATION	REGISTERED	X CERTIFIED
 15a. DID THE APPLICANT(S) FILE FOR PRO- name of countries and dates.) Netherlands 8th Novemi 15b. HAVE RIGHTS BEEN GRANTED THIS V and dates.) 	ber 1976			NO (If "Yes," give
Netherlands 24th Octo	ber 1980			
16. DOES THE APPLICANT(S) AGREE TO TH JOURNAL?		HIS/HER (THEIR) NAM	E(S) AND ADDRESS IN	THE OFFICIAL
17. The applicant(s) declare(s) that a viab replenished upon request in accordance	le sample of basic see	d of this variety will ons as may be applical	be furnished with the ble.	application and will be
The undersigned applicant(s) is (are) t variety is distinct, uniform, and stable 42 of the Plant Variety Act.	the owner(s) of this se as required in Sectio	exually reproduced no n 41, and is entitled t	ovel plant variety, and to protection under th	believe(s) that the e provisions of Section
Applicant(s) is (are) informed that fal	se representation here	ein can jeopardize pro	otection and result in I	penalties.
15-7-1981		-	17	A CALCER AND
(DATE)		m Statutes	SIGNATURE OF APPL	D.J. Glas

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

During the spring of 1965 a collection of hard fescue plants was made in the eastern part of the Netherlands. About 6 plants per ecotype were collected from 50 locations.

The 300 plants were multiplied vegetatively and observed in clonal rows between 1966 and 1969. Clones with a matching appearancewere selected and planted in isolation plots to produce Syn-1 seed in 1970.

The experimental varieties were evaluated in turf trials on clay and sandy soil in the south-western part of the Netherlands and in the southern part of Germany.

The experimental variety HDu 26 proved to have a good turf quality. Syn-2 seed of HDu 26 was harvested in 1973. Syn-1 and Syn-2 seed of HDu 26 was compared as spaced plants and in turf in 1974. No genetic shift had occured during multiplication. No variants were observed in 2 generations of reproduction and the variety was stable during 2 generations of reproduction.

In 1975 it was decided to produce enough breeders' seed for the anticipated need over the next 15 years and to release HDu 26 under the varietal name Hartina.



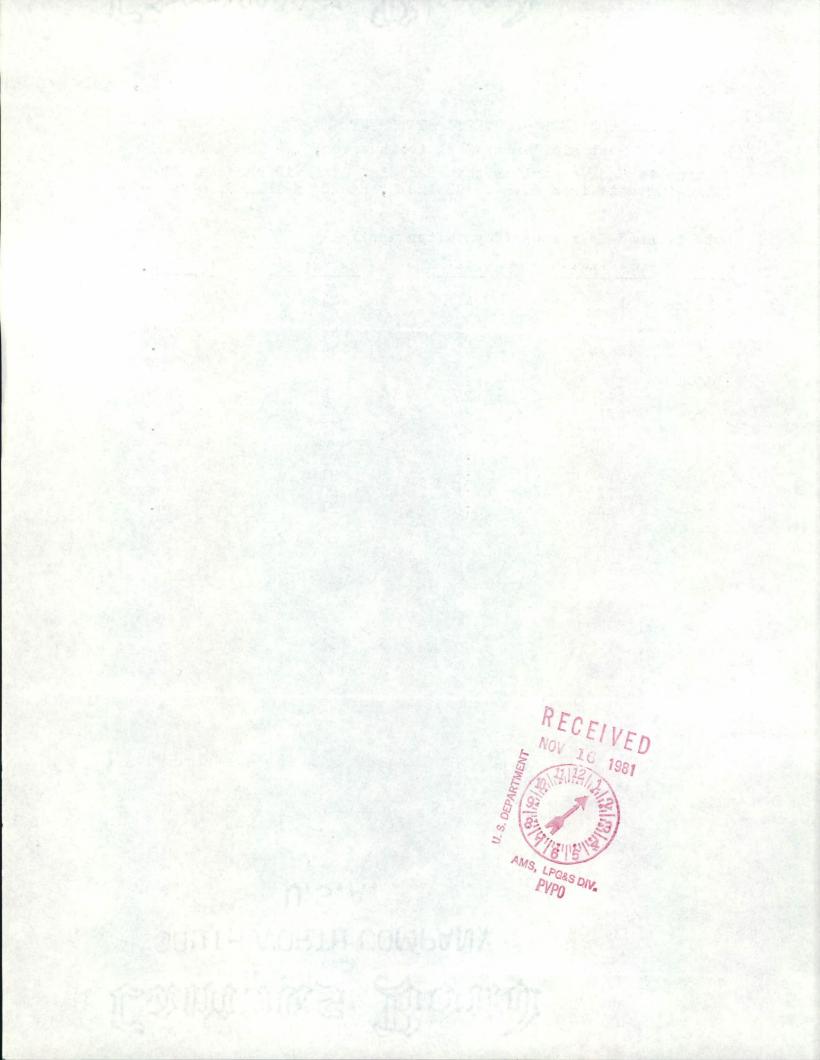
Hard Fescue Application No. 8100161

November 12, 1981

Amended Exhibit 13 B - NOVELTY STATEMENT Hartina is most similar to Scaldis; however, Hartina is 5 days earlier than Scaldis. This is based on the following data from RIVRO/WAGENINGEN, BASED ON TRIALS IN 1979-1981:

Date of Head Emergence (days after April 1)

Year	Replicate	Hartina	Scaldis	LSD 0.01
1979	I II III Mean	41 39 42 41	44 42 45 44	2.9
1980	I II III Mean	28 26 26 27	33 33 34 33	2.9
1981	I II III Mean	18 13 15 15	23 21 20 21	4•3



Hard fescue application no. 8100161 Hartina.

November 26, 1981

Ammended Exhibit 13 B - Novelty Statement.

Hartina is most similar to Scaldis, however, the length of the flag leaf of Hartina is 10 mm shorter than that of Scaldis (significant in 1980 and 1981 at P = 0.01).

The height of plant (one month after head emergence) of Hartina is 9 cm shorter than that of Scaldis (significant in 1979, 1980 and 1981 at P = 0.01).

Length of flag leaf (mm).

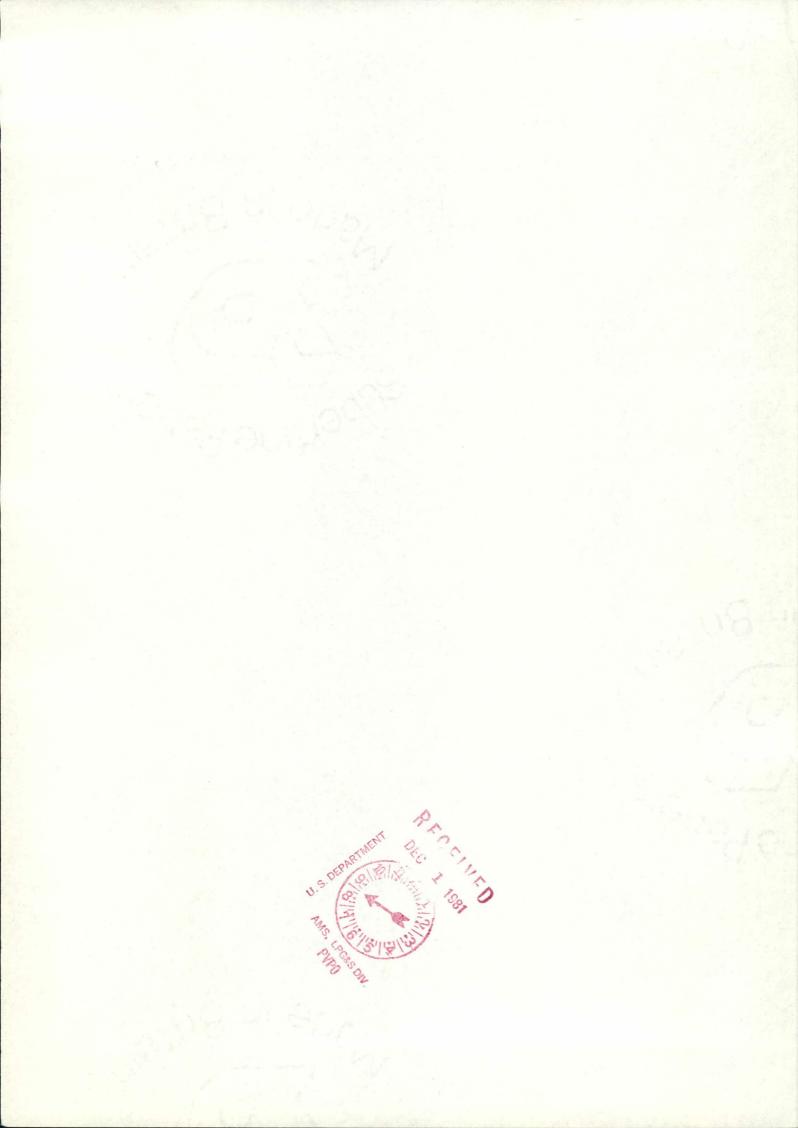
Year	Replicate	Hartina	Scaldis	LSD 0.01
1979	I	51	49	
	II	47	59	
	III	53	59	
	Mean	50	56	8.0
1980	I	62	77	
	II	67	80	
	III	65	82	
	Mean	65	79	11.1
1981	I	57	71	
	II	55	68	
	III	57	60	
	Mean	56	67	8.4
	overall mean	57	67	

Plant height (cm).

Year	Replicate	Hartina	Scaldis	LSD 0.01
1979	I	68	74	
	II	67	77	
	III	65	74	
	Mean	67	75	4.3
1980	I	71	78	
	II	68	73	
	III	64	75	
	Mean	68	75	6.5
1981	I	73	81	
	II	72	82	
	III	74	85	
• 10°	Mean	73	83	5.1
	Overall mean	69	78	

Data provided by RIVRO / Wageningen. Measured on 60 new plants each year.

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Hard fescue application No. 8100161 Hartina. November 26, 1981

Amended Exhibit 13 D - Additional Information.

Hartina displays a better resistance against Fusarium nivale than Scaldis.



FORM GR-470-37 (PAGE 2) 8100161
8. LEAF BLADE: 1 = SMOOTH 1 = SMOOTH 3 = ROUGH
6 5 9 mm LENGTH (FIRST LEAF BELOW FLAG LEAF) 1 6 mm WIDTH
8 8 mm SHORTER THAN
LENGTH SAME AS
9. LEAF SHEATH (Plant Base):
2 COLOR: 1 = WHITE (HIGHLIGHT) 2 = RED 1 AURICLE HAIRINESS: 0 = ABSENT 1 = PRESENT
10. PANICLE (Mature plant)
3 3 0 NUMBER OF PANICLES PER PLANT (FIRST YEAR OF PRODUCTION - FALL OR SPRING PLANTING SPECIFY Fall
0 7 8 mm LENGTH GRAMS OF SEED PER PANICLE
0 8 mm SHORTER THAN 6 2 GRAMS LESS SEED THAN
LENGTH SAME AS
0 4 mm LONGER THAN 6 3
2 SHAPE: 1 = NARROW-TAPERING 2 = EGG SHAPE 3 = OBLONG 4 = OTHER (SPECIFY)
3 TYPE: 1 = OPEN 2 = INTERMEDIATE 3 = COMPACT
2 HABIT: 1 = ERECT 2 = NODDING
2 BRANCHES: 1 = SMOOTH . 2 = ROUGH
6 COLOR (At 50% flowering): 1 = YELLOWISH GREEN 2 = GREEN 3 = BLUISH GREEN 4 = PURPLISH 5 = REDDISH 6 = OTHER (SPECIFY) greyish green
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
1 HAIRS: 0 = ABSENT 1 = PRESENT 2 TEXTURE: 1 = SMOOTH 2 = ROUGH 4 5 mm LEMMA LENGTH
0 1 mm SHORTER THAN 6 2 1. 1 mm NARROWER THAN 6 3
LENGTH SAME AS
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
mm AWN LENGTH

FORM GR-470	-37	U.S. DEPARTMENT OF AGRICULTU	IRE
(3-76)		GRICULTURAL MARKETING SERV GRAIN DIVISION	
	ORIE	HYATTSVILLE, MARYLAND 20782 CTIVE DESCRIPTION OF VARI	
	ObiE	FESCUE	EIT
NAME OF AP	PLICANT(S) Koninklijk Kweek D.J. van der Hav		VARIETY NAME OR TEMPORARY DESIGNATION Hartina
ADDRESS (St	reet and No., or R.F.D. No., City, State, a	nd ZIP Code)	FOR OFFICIAL USE ONLY
	P.O. Box 1 4420 AA Kapelle	Netherlands.	PVPO NUMBER 8100161
Dia si a			
number is eithe Ranges may be mine plant colo All questions n	r 99 or less or 9 or less. Characteristics de given also. Measured data should be for S ers; designate system used: <u>RIVRO</u> eed not be answered, however, completene	scribed, including numerical measurem PACED PLANTS. Royal Horticultural system	low. Place a zero in first box (e.g. 0 8 9 or 0 9) when ents, should represent those that are typical for the variety. I Society or any recognized color fan may be used to deter- be location of test area <u>Wageningen/Rilland</u> ablish the most adequate Variety Identification.
1. SPECIES	(With comparison varieties for use below		
6 1=	F. ARUNDINACEA (TALL) 11 = A F. PRATENSIS (MEADOW) 21 = EI	LTA 12 = FAWN 13 = GOAR NSIGN 22 = TRADER	14 = KENTUCKY 31
	F. RUBRA SSP. COMMUTATA (CHEWI F. RUBRA SSP. RUBRA (RED) 41 = B		
	F. OVINA VAR. OVINA (SHEEP)		
	F. LONGIFOLIA (HARD) 61 = DUR	AR $62 = BILJART (C-26) 63 = SC.$	ALDIS
7 =	OTHER (SPECIFY) F		
2. CYTOLO	GY		
4 2	2n CHROMOSOME NUMBER		
3. ADAPTA	TION: (O = Not Tested; 1 = Not Adapted	d; 2 = Adapted)	South east for
			overseeding
2 NOR	HEAST 2 SOUTHEAST	2 NORTH CENTRAL	2 PACIFIC N.W. 2 OTHER (SPECIFY)
4. MATURI	TY: (50% Headed) Give Test Area Wag	eningen, Netherlands (5	
04	and the season of the season of the	6 3	and the second sec
	DAYS EARLIER THAN		
	MATURITY SAME AS	6 2 COMPARISON	VARIETY
	DAYS LATER THAN		
5. PLANT	EIGHT: (At maturity to top of panicle)	100 100 100 100 100 100 100 100 100 100	
6 6 7			
	mm HEIGHT	63 - + di	to go shorter than Scalding
A 5 0	mm SHORTER THAN	· · · · · · · · · · · · · · · · · · ·	ate 90 shorter than Scalding nor 26, 1981
90		COMPARISON	VARIETY
	HEIGHT SAME AS		
X 1 4	mm TALLER THAN	6 3	
6. GROWT	HABIT (Mature)	The second second	
3 1 = E	RECT (KENTUCKY 31) 2 = SEMI-ER	ECT (HIGHLIGHT) 3 = PROST	RATE
7. RHIZON	ES		
	mm LENGTH	mm WIDTH	
	BSENT 1 = WEAKLY CREEPING (DA	AWSON) 2 = STRONGLY CREEP	ING (BOREAL) 3 = OTHER
8. LEAF B	ADE:		
	1 = LIGHT GREEN (GOLFROOD)	2 = MODERATELY LIGHT GREEN	(HIGHLIGHT) 3 = MEDIUM GREEN (JAMESTOWN, KENTUCKY 31)
		5 = BLUEGREEN 6 = GRAYGR	

ORM GR-470-37 (PAGE 3)						8100161	
12. LEMMA:						8- 4-196	
mm SHORTE)					
LENGTH SA	ME AS		COMPARI	SON			
0 3 mm LONGEI	в тнам[6 2					
3. SEED:							
4 4 7 mm LENG	GTH			8 3 mm WIDTH			
0 0 9 mm SHOI	RTER THAN	6 2		1 1 mm. NARROW	ER THAN	6 3	
LENGTH	SAME AS		MPARISOI RIETY	N WIDTH SAME	AS	COMPARI	
mm LON	GER THAN)		mm WIDER TH	AN)	
0 8 6 1 GRA	MS PER 1000 SEED						
0 0 3 7 GRA	MS LESS THAN .	6 3					
WEIG	GHT SAME AS		MPARISO	J			
0 1 3 6 GRA	MS MORE THAN .	6 2					
	the mone man . I	0 2 1/					
- A	, AND NEMATODE (C		1 = Suscep	tible, 2 = Resistant):		<u>.</u>	
4. DISEASE, INSECT,	•) = Not Tested,					
	, AND NEMATODE (C) = Not Tested,	1 = Suscept		0	H. DICTYOIDES	
4. DISEASE, INSECT,	, AND NEMATODE (C	D = Not Tested,		ANUM	0	H. DICTYOIDES	MIS
4. DISEASE, INSECT,	AND NEMATODE (C) = Not Tested, 0 H.5 2 ER	SOROKIN	ANUM		State of the second second	MIS
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A. DISEASE, INSECT, DISEASE, INSECT, HELMINTHOSPOR RHIZOCTONIA SO FUSARIUM NIVAL PUCCINIA GRAMI P. CORONATA	AND NEMATODE (C	0 H.S 0 H.S 2 ER 0 F.I 0 F.S 0 P.S 0 P.S 0 P.S 0 P.S 0 INS	SOROKINI YSIPHE G ROSEUM STRIIFOR		0	USTILAGO STRIIFORI TYPHULA IOTANA P. POAE-NEMORALIS CORTICIUM FUSCIFO	RME
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	AND NEMATODE (C IUM VAGANS DLANI E MEOCARPA MEOCARPA R VARIETIES THAT esemblance (D.R.) by p iety is less than compar er, greater, darker, mor VARIE not present Scaldis	0 H.S 0 H.S 2 ER 0 F.I 0 F.S 0 P.S 0 PY 0 INS 0 INS	SOROKINI YSIPHE G ROSEUM STRIIFOR THIUM UL SECT HER HER N RESEMI Jumn mark mt, etc. D.R. 1	ANUM RAMINIS MIS TIMUM BLE THE APPLICATION V ed, D.R., one of the followi 2 = Same as CHARACTER GROWTH HABIT LEAF COLOR	0 0 2 2 0 /ARIETY. ing numbers	USTILAGO STRIIFORI TYPHULA IOTANA P. POAE-NEMORALIS CORTICIUM FUSCIFO NEMATODE OTHER For the following character VARIETY	Pristics
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14. DISEASE, INSECT, 0 HELMINTHOSPOR 0 RHIZOCTONIA SO 2 FUSARIUM NIVAL 2 PUCCINIA GRAMI 2 PUCCINIA GRAMI 2 P. CORONATA 0 SCLEROTINIA HO 0 SCLEROTINIA HO 0 OTHER 15. GIVE VARIETY OF indicate degree of re 1 = Application vari 3 = More than, bett	AND NEMATODE (C IUM VAGANS DLANI E MEOCARPA MEOCARPA R VARIETIES THAT esemblance (D.R.) by p iety is less than compar er, greater, darker, mor VARIE not present Scaldis	0 H.S 0 H.S 2 ER 0 F.I 0 F.S 0 P.S 0 PY 0 INS 0 INS	SOROKINI YSIPHE G ROSEUM STRIIFOR THIUM UL SECT HER HER NY RESEMI Jumn mark mt, etc. D.R. 1 3 2	ANUM RAMINIS MIS TIMUM BLE THE APPLICATION Ved, D.R., one of the following 2 = Same as CHARACTER GROWTH HABIT LEAF COLOR PANICLE SHAPE	0 0 2 2 0 /ARIETY. ing numbers	USTILAGO STRIIFORI TYPHULA IOTANA P. POAE-NEMORALIS CORTICIUM FUSCIFO NEMATODE OTHER For the following character VARIETY	Pristics

* more erect

*Specify each disease evaluated.

** Fusarium nivale.

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16. ADDITIONAL DESCRIPTION: (Use additional sheets as required)

Describe all characteristics that cannot be adequately described in the form above. Comparative varieties should be used as may be appropriate, such as for disease. Append all comparative trial and evaluation data, including measured characters, environmental, and disease tests. Od/d -NIO S%Dd7 'SWV

