No. 9900420

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Turf Merchants, Inc.

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 [illegible]T TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR [illegible]TING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE [illegible]URPOSE , OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE [illegible]OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PR[illegible] THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

RYEGRASS, PERENNIAL

'Paragon'

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 twenty-fifth day of April, in the year two thousand and five.

Attest:

Acting Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

[illegible]retary of Agriculture

EPRODUCE 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).

1. NAME OF OWNER: Turf Merchants, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME: TMI-MML

3. VARIETY NAME: Paragon

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*: 33390 Tangent Loop, Tangent, OR 97389

5. TELEPHONE *(include area code)*: (541)926-8649

6. FAX *(include area code)*: (541)926-4435

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PVPO NUMBER: 9900420

FILING DATE: 9/20/99

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

8. IF INCORPORATED, GIVE STATE OF INCORPORATION: Oregon

9. DATE OF INCORPORATION:

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*

Dr. Michael D. Richardson
University of Arkansas
Department of Horticulture
309 Plant Science Bldg.
Fayetteville, AR 72701

FEES RECEIVED

FILING AND EXAMINATION FEES: $ 2450 DATE 9/22/99

CERTIFICATION FEE: $ 432 DATE 4/11/2005

11. TELEPHONE *(include area code)*: (501)575-2860

12. FAX *(include area code)*: (501)575-8619

13. E_MAIL: mricha@comp.uark.edu

14. CROP KIND *(Common Name)*: Perennial Ryegrass

15. GENUS AND SPECIES NAME OF CROP: Lolium perenne

16. FAMILY NAME *(Botanical)*: Graminae

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: [signature]

SIGNATURE OF OWNER:

NAME *(Please print or type)*: Michael D. Richardson, PhD

NAME *(Please print or type)*:

CAPACITY OR TITLE: Plant Breeder

DATE: 9/20/99

CAPACITY OR TITLE:

DATE:

INSTRUCTIONS

9900420

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.*

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.)*

Seed first sold on 9/23/98

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).)*

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.

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

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Exhibit A - Breeding History

Origin and Breeding History of TMI-MML Perennial Ryegrass

TMI-MML is a leafy, moderately low-growing, turf-type perennial ryegrass *(Lolium perenne)* of medium reproductive maturity. It was selected from the maternal half-sib progenies of 63 clones, each of which contained a *Neotyphodium* endophyte. An additional 27 clones served as extra pollem parents. The 63 maternal clones were selected from 14 separate breeding populations. These same 14 populations plus three additional breeding populations were represented among the pollen sources.

Over 90 percent of the germplasm used in the development of TMI-MML perennial ryegrass traces its origin to plants selected from old turfs of the United States, mostly from New Jersey, New York, Maryland, and Pennsylvania starting in 1962. Additional germplasm traces to 'Manhattan II' (Funk et al., 1984), 'Loretta', and plant introductions from Greece (PI 231, 597) and Finland (PI 197, 270).

Intercrosses of the above germplasm sources were subjected to many cycles of phenotypic and genotypic recurrent selections in greenhouse disease screening trials, space-plant nurseries, and turf trials. A modified population backcross breeding procedure was also used. These population improvement program resulted in continued genetic improvements in selecting for a darker green genetic color, finer leaf texture, greater turf density, lower growth habit, improved stress tolerance, better resistance to many pests, and higher seed yield potential.

Over 2,220 plants selected from the best breeding populations at Rutgers University were established in spaced-plant nurseries at Adelphia, NJ during the late summer and early fall of 1995. The 90 parental clones of TMI-MML perennial ryegrass were selected from these nurseries immediately prior to anthesis in the spring of 1996 and transferred to an isolated crossing block for interpollination. Selection was based on attractive, very leafy plants of medium maturity, a

rich dark green color, and freedom from disease. Seed was subsequently harvested from 63 clones showing good floret fertility and containing a *Neotyphodium* endophyte. The bulked seed was used to establish turf trials in New Jersey and was sent to Turf Merchants, Inc. to establish additional turf trials and an experimental seed increase field. Additional roguing was done during two cycles of seed increase to enhance uniformity in the variety and to establish breeder seed. TMI-MML has been observed over two generations beyond breeder seed and has been found to be uniform and stable. No variants have been observed in subsequent seed increases.

JAS 2/22/05

Reference

Funk, C.R., W.A. Meyer, and B.L. Rose. 1984. Registration of Manhattan II perennial ryegrass. Crop Sci 24:283-284.

Exhibit B - Statement of Distinctness

TMI-MML is a unique, dark-green, fine-textured perennial ryegrass that has outstanding overall turf quality, good resistance to a range of pests, and good overall performance in a most turfgrass management situations. In ongoing turf trials across the United States, MML has proven to have superior density, good disease resistance, and outstanding summer performance compared to currently marketed perennial ryegrass varieties. MML has also proven to be an outstanding over-seeding grass, with quick establishment, a rich green color, and smooth transition back to bermudagrass.

JAS 2/22/05

TMI-MML is most similar to Manhattan II perennial ryegrass, but flowers approximately 5 days later than Manhattan II and has a significantly darker, genetic color than Manhattan II. In addition, the mature plant height if MML is approximately 10 cm shorter than Manhattan II.

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

Form Approved - OMB No. 0581-0055

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection 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.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY PROGRAM
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(RYEGRASS)

9900420

OBJECTIVE DESCRIPTION OF VARIETY
RYEGRASS
(*Lolium* spp.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Turf Merchants, Inc.	TMI-MML	Paragon

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)

33390 Tangent Loop
Tangent, OR 97389

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PVPO NUMBER
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Place the appropriate number that describes the varietal characteristics of this variety in the boxes below. Use leading zeroes when necessary (e.g. 089). 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 pertinent comparative trial and evaluation data. The symbol "◣" indicates decimal.

1. SPECIES:

[2] 1 = *L. multiflorum* (annual or italian: includes Westerwoldicum) 2 = *L. perenne* (perennial) 3 = *L. rigidum* (includes Wimmeria)

4 = Hybrid (of species): _____ 5 = Other (Please specify): _____

2. PLOIDY:

[1] = Diploid 2 = Tetraploid 3 = Other (Please 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 = WIMMERIA 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 D CULTIVAR

[ ][ ] DAYS EARLIER THAN ... [ ] STANDARD CULTIVAR

[0][5] Days Later Than [7]

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

[6][5.][5] cm High [1][0.][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):** Not Available

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[ ][ ][ ] Percent Damage of Application Cultivar

[ ][ ][ ] Percent Damage of ..... [ ] STANDARD CULTIVAR

7. **TURF DENSITY (Use standard cultivars from above):**

[ ][ ][ ] Tillers per 100 square cm Not Available

[ ][ ][ ] Less tillers per 100 square cm than ... [ ] STANDARD CULTIVAR

[ ][ ][ ] More tillers per 100 square cm than ... [ ] STANDARD CULTIVAR

8. **FLAG LEAF (at full growth, use standard cultivars from above):**

[1][3][1] cm Length (from ligule to tip) [ ][3.][5] mm Width (at widest point)

[ ][5][9] cm Shorter than ..... [7] STANDARD CULTIVAR

[ ] Flag Leaf at Boot Stage
1 = Deflexed
3 = Recurved
5 = Horizontal
7 = Semi-Erect
9 = Erect

[ ][ ][ ] cm Longer than ..... [ ] STANDARD CULTIVAR

[1.][3][3] mm Narrower than ..... [3] STANDARD CULTIVAR

[ ][ ][ ] mm Wider than ..... [ ] STANDARD CULTIVAR

9. **LEAVES:**

JAS 6/30/04 [3.1] Vernation: 1 = Leaves rolled in young shoots; 2 = Leaves semi-rolled (folded with rolled edges); 3 = Leaves folded in young shoots

JAS 2/22/05 [57] % Plants with anthocyanin in lower leaf sheath

JAS 2/22/05 [3] Foliage Color: 1 = Yellow Green; 2 = Medium Green; 3 = Blue Green

10. **SPIKE:**

[3][5.][6] mm Spike length (tip to internode below lowest floret)

1 [8.][9] mm Shorter than ..... [3] STANDARD CULTIVAR

[ ][ ] mm Longer than ..... [ ] STANDARD CULTIVAR

[ ][4][3.][7] mg per ten spikes (trimmed to internode below lowest floret)

[ ][2][9.][5] mg lighter per ten spikes than ..... [3] STANDARD CULTIVAR

[ ][ ][ ] mg heavier per ten spikes than ..... [ ] STANDARD CULTIVAR

[6][.9] florets per spikelet

PERCENTAGE OF PLANTS WITH:

JAS 2/22/05

Rachis: [1][0][0] % Smooth [0][0][0] % Rough

Spike Color: [0][9][8] % Green [0][0][2] % Purple

Lemma: [0][0][0] % Awned

[ ][ ][ ] mm Awn length [8][1] mm Glume length

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10. SPIKE (*Continued*)

Jad 2/22/05 [2] 1 = Spikelet length nearly equal to outer glumes
2 = Spikelet length much longer than outer glumes

11. COLEOPTILE:

Jad 2/22/05 [0 0 0] % Plants with anthocyanin in coleoptile

12. ANTHER COLOR: 1.02 on scale of 1 (yellow) to 5 (red)

Jad 2/22/05 [0 0 0] % Plants with white anthers [1 0 0] % Plants with yellow anthers

[0 0 0] % Plants with purple anthers

13. ROOT AND PLANT CHARACTERS:

Jad 2/22/05 [0 0 0] % Plants with prostrate growth habit

[0.8 8] % Plants with flourescent roots

[1 0 0] % Plants with upright growth habit

14. SEED: Jad 2/22/05

[1 5 4 0] mg per 1000 seeds [ ] mm Total Length of 10 seeds [ ] mm Total Width of 10 seeds

15. DISEASE (0 = Not Tested, 2 = Highly Susceptible, 4 = Moderately Susceptible, 6 = Moderately Resistant, 8 = Highly Resistant)

Jad 2/22/05

5	Crown Rust (*Puccinia coronata*)	4	Dollar Spot (*Sclerotinia*)
6	Brown Patch (*Rhizoctonia*)	4	Leaf Spot (*Helminthosporium*)
0	Mildew	6	Snow Mold (*Typhula*)
6	Red Thread (*Corticium*)	6	Other (Please Specify): Gray Leaf Spot

16. INSECT (0 = Not Tested, 2 = Highly Susceptible, 4 = Moderately Susceptible, 6 = Moderately Resistant, 8 = Highly Resistant)

[0] Please Specify: _____

17. Give resemblance value in left column and variety code number in right column for variety with which comparison is made (1 = less than, 2 = same as, 3 = more erect, more resistant, denser, more persistent, darker or greater height.):

Resemblance	Character	Similar Variety	
[ ]	Plant Habit (erectness)	[ ]	1 = GULF
[ ]	Tillering	[ ]	2 = WIMMERIA 62
[ ]	Winter hardiness	[ ]	3 = LINN
[ ]	High Temperature Stress Resistance	[ ]	4 = PELO
[ ]	Turf Persistence	[ ]	5 = NORLEA
[ ]	Plant Color	[ ]	6 = ABERYSTWYTH S-23
[ ]	Vertical Seeding Growth Rate	[ ]	7 = MANHATTAN
[ ]	Crown Density	[ ]	8 = PENNFINE
[ ]	Mower Shredding Resistance	[ ]	

9900240

18. **GIVE AREA OF ADAPTATION AND INTENDED USE:** Throughout the perennial ryegrass growing region and in the southern U.S. as an overseeding grass.

19. **GIVE AREA TEST RESULTS PRESENTED FROM:** Florida, Arizona, New Jersey

20. **COMMENTS:**

Additional data on plant morphological characteristics are provided in Table 1.

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Morphological Data

Morphological characteristics of several perennial ryegrass varieties were collected on space-plants grown near Tangent, Oregon during the 1998 and 1997 seasons. The experimental design was a randomized complete block design with 4 replications and 20 plants (sub-samples) per replication. Data were analyzed using analysis of variance procedures and means were separated by Least Significant Difference at the 0.05 level of probability.

Table 1. Morphological characteristics of several perennial ryegrass varieties grown as spaced plants near Tangent Oregon. The experimental design was a randomized complete block with 4 replications and 20 plants (sub-samples) per replication. Data were analyzed using analysis of variance and means separated by Least Significant Difference at the 0.05 level of probability.

Variety	**Genetic Color**	**Heading Date**
	(9 = darkest)	(days after April 1)
MML (Paragon)	6.1 a	52.3 a
Linn	3.1 c	32.5 c
Manhattan II	4.5 b	43.8 b
LSD (0.05)	*0.2*	*1.7*

	Anthesis Date	**Anther Color**
	(Days after April 1)	(1=yellow, 5=red)
MML (Paragon)	73.9 a	1.02 b
Linn	63.6 c	1.18 a
Manhattan II	68.9 b	1.17 a
LSD (0.05)	*0.9*	*0.07*

	Mature Plant Height	**Plant Width**
	(cm)	(cm)
MML (Paragon)	65.5 c	29.3 b
Linn	94.2 a	30.7 a
Manhattan II	75.6 b	29.1 b
LSD (0.05)	*2.7*	*1.3*

Table 1. (Cont.)

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Variety	Panicle Length	Flag Leaf Length
	(mm)	(cm)
MML (Paragon)	35.6 c	13.1 b
Linn	54.5 a	13.4 b
Manhattan II	43.9 b	18.0 a
LSD (0.05)	*2.0*	*0.9*

	Flag Leaf Width	Flag Leaf Height
	(mm)	(cm)
MML (Paragon)	3.5 b	24.5 c
Linn	4.8 a	34.0 a
Manhattan II	3.5 b	26.4 b
LSD (0.05)	*0.3*	*1.2*

	Flag Leaf Sheath Length	Flag Leaf Internode Length
	(cm)	(cm)
MML (Paragon)	11.3 c	11.0 c
Linn	15.8 a	16.9 a
Manhattan II	12.9 b	12.7 b
LSD (0.05)	*0.6*	*0.9*

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Table 1. (Cont.)

Variety	Leaf Blade Length	Leaf Blade Width
	(cm)	(mm)
MML (Paragon)	14.4 b	2.8 b
Linn	21.3 a	4.0 a
Manhattan II	15.1 b	2.8 b
LSD (0.05)	*1.0*	*0.3*

	Leaf Blade Height	Leaf Sheath Length
	(cm)	(cm)
MML (Paragon)	31.5 a	6.8 b
Linn	21.3 b	9.7 a
Manhattan II	22.1 b	6.8 b
LSD (0.05)	*1.3*	*0.5*

	Lemma Length	Lemma Width
	(mm)	(mm)
MML (Paragon)	5.8 c	1.31 c
Linn	6.9 a	1.49 a
Manhattan II	6.3 b	1.35 b
LSD (0.05)	*0.2*	*0.03*

Table 1. (Cont.)

Variety	Glume Length	Spikelets per Spike
	(mm)	
MML (Paragon)	8.1 c	23.5 a
Linn	10.3	24.1 a
Manhattan II	8.5 b	23.2 a
LSD (0.05)	*0.4*	*1.3*

	Florets per Spikelet	Spikelet Length
		(mm)
MML (Paragon)	6.9 a	12.0 c
Linn	6.8 ab	14.1 a
Manhattan II	6.4 b	13.0 b
LSD (0.05)	*0.4*	*0.6*

	Spikelet Weight	
	(mg / 10 spikes)	
MML (Paragon)	43.7 c	
Linn	73.2 a	
Manhattan II	49.2 b	
LSD (0.05)	*4.8*	

	Genetic Color (9=darkest)		
Cultivar	1998	1999	Avg
Linn	3.2	3.0	3.1
Manhattan II	5.2	3.8	4.5
MML	6.4	5.8	6.1
LSD (0.05)	0.2	0.2	0.2

	Heading Date (days after April 1)		
Cultivar	1998	1999	Avg
Linn	30.0	35.1	32.5
Manhattan II	39.3	48.3	43.8
MML	49.1	55.6	52.3
LSD (0.05)	2	1.6	1.6

	Anthesis Date (days after April 1)		
Cultivar	1998	1999	Avg
Linn	62.1	65.0	63.6
Manhattan II	67.9	69.9	68.9
MML	72.8	75.1	73.9
LSD (0.05)	1.1	0.9	0.9

	Anther Color (1=yellow, 5=Red)		
Cultivar	1998	1999	Avg
Linn	1.0	1.4	1.2
Manhattan II	1.1	1.2	1.2
MML	1.0	1.0	1.0
LSD (0.05)	0.1	0.1	0.1

	Mature Plant Height (cm)		
Cultivar	1998	1999	Avg
Linn	101.1	87.3	94.2
Manhattan II	78.7	72.5	75.6
MML	69.0	62.0	65.5
LSD (0.05)	3.6	3.8	2.9

	Plant Width (cm)		
Cultivar	1998	1999	Avg
Linn	25.0	36.5	30.7
Manhattan II	23.1	35.0	29.1
MML	23.2	35.3	29.3
LSD (0.05)	1.5	2	1.4

	Panicle Length (mm)		
Cultivar	1998	1999	Avg
Linn	61.2	47.8	54.5
Manhattan II	46.9	40.9	43.9
MML	37.2	33.9	35.6
LSD (0.05)	2.9	2.4	2

	Panicle Color (% purple)		
Cultivar	1998	1999	Avg
Linn		1.8	
Manhattan II		1.9	
MML		2.0	
LSD (0.05)		0.1	

	Flag Leaf Length (cm)		
Cultivar	1998	1999	Avg
Linn	19.5	16.6	18.0
Manhattan II	14.2	12.7	13.4
MML	13.9	12.4	13.2
LSD (0.05)	1.3	1.2	0.9

	Flag Leaf Width (mm)		
Cultivar	1998	1999	Avg
Linn	5.8	3.9	4.8
Manhattan II	3.5	3.4	3.5
MML	3.4	3.6	3.5
LSD (0.05)	0.5	0.4	0.3

	Flag Leaf Height (cm)		
Cultivar	1998	1999	Avg
Linn	36.0	32.0	34.0
Manhattan II	27.4	25.3	26.4
MML	26.0	23.0	24.5
LSD (0.05)	1.6	1.5	1.2

	Flag Leaf Sheath Length (cm)		
Cultivar	1998	1999	Avg
Linn	16.2	15.5	15.8
Manhattan II	13.2	12.7	12.9
MML	12.0	10.6	11.3
LSD (0.05)	0.7	0.7	0.6

	Flag Leaf Internode Length (cm)		
Cultivar	1998	1999	Avg
Linn	18.7	15.1	16.9
Manhattan II	13.6	11.9	12.7
MML	11.5	10.6	11.0
LSD (0.05)	1.4	0.9	0.9

	Leaf Blade Length (cm)		
Cultivar	1998	1999	Avg
Linn	21.8	20.9	21.3
Manhattan II	14.9	15.3	15.1
MML	15.2	13.6	14.4
LSD (0.05)	1.6	1.1	1.1

	Leaf Blade Width (mm)		
Cultivar	1998	1999	Avg
Linn	4.3	3.7	4.0
Manhattan II	2.4	3.2	2.8
MML	2.1	3.4	2.8
LSD (0.05)	0.4	0.4	0.3

	Leaf Blade Height (cm)		
Cultivar	1998	1999	Avg
Linn	31.8	31.3	31.5
Manhattan II	20.5	23.7	22.1
MML	21.6	21.0	21.3
LSD (0.05)	2.1	1.4	1.4

	Leaf Sheath Length (cm)		
Cultivar	1998	1999	Avg
Linn	9.0	10.4	9.7
Manhattan II	5.2	8.4	6.8
MML	6.2	7.5	6.8
LSD (0.05)	0.9	0.5	0.5

	Lemma Length (mm)		
Cultivar	1998	1999	Avg
Linn	6.8	7.1	6.9
Manhattan II	6.3	6.3	6.3
MML	5.9	5.9	5.9
LSD (0.05)	0.2	0.2	0.1

	Lemma Width (mm)		
Cultivar	1998	1999	Avg
Linn	1.5	1.5	1.5
Manhattan II	1.3	1.4	1.3
MML	1.3	1.3	1.3
LSD (0.05)	0.1	0.1	0.1

	Glume Length (mm)		
Cultivar	1998	1999	Avg
Linn	10.4	10.1	10.3
Manhattan II	8.5	8.5	8.5
MML	8.2	8.0	8.1
LSD (0.05)	0.5	0.5	0.4

	Spikelets per Spike		
Cultivar	1998	1999	Avg
Linn	25.1	23.0	24.1
Manhattan II	23.7	22.8	23.2
MML	23.3	23.7	23.5
LSD (0.05)	1.8	1.5	1.4

	Florets per Spikelet		
Cultivar	1998	1999	Avg
Linn	6.9	6.7	6.8
Manhattan II	6.4	6.4	6.4
MML	6.8	6.9	6.9
LSD (0.05)	0.6	0.6	0.4

	Spikelet Length (mm)		
Cultivar	1998	1999	Avg
Linn	14.3	14.0	14.1
Manhattan II	13.1	12.8	13.0
MML	12.1	12.0	12.0
LSD (0.05)	0.8	0.7	0.6

	Spikelet Weight (mg / 10 spikes)		
Cultivar	1998	1999	Avg
Linn	76.9	69.4	73.2
Manhattan II	52.3	46.1	49.2
MML	42.9	44.5	43.7
LSD (0.05)	6.5	6.5	5

9900240

Table 2. Mean[1] turfgrass color[2] scores of overseed entries 1997-1998. University of Arizona.

ENTRY	DEC	JAN	MAR	WINTER AVG
97-1143	8.5	8.0	8.0	7.9
97-1159	7.7	7.7	7.3	7.6
97-1111	7.7	7.7	7.0	7.4
97-1109	6.7	7.7	7.7	7.3
97-1150	6.7	7.0	8.0	7.2
M59-6-663	7.7	6.0	8.0	7.2
97-1107	7.0	7.3	7.3	7.2
97-1106	6.3	7.3	7.7	7.1
97-1142	7.0	6.3	8.0	7.1
97-1197	6.7	7.3	7.3	7.1
97-1108	6.3	7.0	7.7	7.0
97-3809	5.5	7.3	7.7	7.0
97-1196	7.0	7.3	6.7	7.0
97-3808	6.0	7.0	7.3	6.9
97-1164	6.5	6.3	7.7	6.8
97-1157	6.3	7.3	6.7	6.8
97-3806	7.5	6.7	6.7	6.8
95-1	6.0	6.7	7.0	6.6
97-1104	5.3	6.7	7.7	6.6
Imgn/Lynx/Pgss	6.7	6.7	6.0	6.4
Majesty	6.7	6.0	6.7	6.4
97-3807	6.5	6.0	7.0	6.4
97-1149	7.0	6.3	6.3	6.4
LP 9	7.0	6.0	6.0	6.3
P68-7-21	6.0	6.7	6.3	6.3
EP 37	6.3	5.7	6.3	6.1
Premier II	6.0	6.0	6.3	6.1
Cat/wntrply	6.7	6.0	5.0	5.9
Sonoran	5.7	6.0	6.0	5.9
Select 1	5.7	6.0	6.0	5.9
LA20-6-PRMC	5.0	6.7	6.0	5.9
Catalina	5.7	5.7	6.3	5.9
Paragon	5.7	6.0	6.0	5.9
WX5-195 HF	6.0	5.7	6.0	5.9
Divine	5.7	6.0	5.7	5.8
Charger II	5.7	5.7	5.7	5.7
Vivd/Cathd2/Slct 1	5.3	5.7	6.0	5.7
MP 5	5.0	6.7	5.0	5.6
Turfstar Plus	5.7	6.0	4.7	5.4
Leaderboard	5.7	5.3	5.3	5.4
Pro-Select	5.3	5.7	5.3	5.4
Citation II	5.5	5.3	5.3	5.4
Pick hybred YNC	5.7	5.7	4.7	5.3
Laredo	5.3	5.7	5.0	5.3
EPH	5.0	5.3	5.3	5.2
First cut	4.7	5.7	5.0	5.1
TPD	4.3	5.7	5.0	5.0
Vision quest	5.0	4.7	5.0	4.9
Gulf	4.0	4.0	3.3	3.8
Interim	3.7	4.0	3.7	3.8
Barverdi	4.0	4.0	3.3	3.8
TEST MEAN[3]	5.8	5.8	5.6	5.7
LSD VALUE[4]	1.5	1.3	1.5	1.2

990042

[1]Values are the mean of three replications.
[2]Color 1-9. 1 = dead, 9 = darkest green.
[3]Test Mean = mean of all entries.
[4]LSD Value = mean separation statistic. Entries whose means differ greater than the LSD value are statistically different from each other.

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9900420

Table 6. Seasonal average genetic color of overseed grasses and ground cover components of 'TifSport' bermudagrass, overseed grass, and Brown patch disease during transition at Gainesville, FL.

Turfgrass	Color[Y]	Transition ground cover[Z]		
		Bermudagrass	Overseed grass	Disease
	Rating	%		
Brightstar II	8.57 a*	40 c-f	60 e-h	0 d
Paragon	8.57 a	43 b-e	57 e-h	0 d
Citation III	8.50 a	47 b-d	53 f-h	0 d
Roadrunner	8.48 a	44 b-e	56 f-h	0 d
Catalina	8.47 a	50 bc	50 f-h	0 d
Gator II	8.41 a	36 d-f	64 d-f	0 d
Charger II	8.38 ab	51 bc	49 gh	1 cd
2CB	8.37 a-c	42 b-e	58 e-h	0 d
Quickstart	8.37 a-c	45 b-e	55 f-h	0 d
Blend 1	8.35 a-c	49 bc	51 f-h	0 d
Mix 1	8.35 a-c	30 f-h	70 c-e	3 b-d
Buccaneer II	8.16 b-d	44 b-e	56 f-h	0 d
Navajo	8.16 b-d	53 b	47 h	0 d
Vibrant	8.13 cd	45 b-e	55 f-h	0 d
Futura 2500	7.99 d	42 b-e	58 e-h	0 d
Mix 4	7.21 e	21 hi	79 gh	9 b
Platinum Mix	7.13 ef	23 hi	77 b-d	5 b-d
Mix 5	6.98 e-g	16 i	84 b	4 b-d
Mix 2	6.90 f-h	24 g-i	76 b-d	1 cd
Mix 3	6.85 gh	16 i	84 b	1 cd
Winterplay	6.75 g-i	16 i	84 b	3 b-d
Pick Lh R+	6.68 h-j	34 e-g	63 e-g	7 bc
Fuzzy	6.54 i-k	18 i	82 bc	1 cd
DW 208	6.44 jk	0 j	81 bc	16 a

Table 6 Continued

TABLE 19. LEAF SPOT RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
2000-03 DATA

LEAF SPOT RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	WA3
CITATION FORE (PST-2BR)	7.0
MACH 1 (ROBERTS-627)	7.0
GATOR 3 (CIS-PR-85)	6.7
BLAZER IV (PICK MDR)	6.3
KOKOMO (CIS-PR-69)	6.3
PENTIUM (NJ-6401)	6.3
PIZZAZZ	6.3
SR 4220 (SRX 4801)	6.3
AMAZING (B1)	6.0
APPLAUD (PENNINGTON-11301)	6.0
ARRIVAL (CIS-PR-84)	6.0
BRIGHTSTAR II	6.0
CABO (CIS-PR-80)	6.0
HAWKEYE (SRX 4RHT)	6.0
INSPIRE (R8000)	6.0
IQ (CIS-PR-75)	6.0
PICK PR QH-97	6.0
PINNACLE II (BAR 9 B2)	6.0
PROMISE	6.0
QUEST II (ABT-99-4.721)	6.0
SEVILLE II	6.0
SUNKISSED (ABT-99-4.834)	6.0
TERRADYNE (A5C)	6.0
ABT-99-4.115	5.7
ABT-99-4.965	5.7
ALL STAR2 (CIS-PR-78)	5.7
ASCEND	5.7
BARLENNIUM	5.7
CHARISMATIC (LTP 98-501)	5.7
DLF-LDD	5.7
FIESTA 3	5.7
GALLERY (MB 412)	5.7
GRAND SLAM 2L96 (PST-2L96)	5.7
JET	5.7
MAJESTY	5.7
MANHATTAN 4 (PST-2CRL)	5.7
NEXUS	5.7
PACESETTER (6011)	5.7
RENAISSANCE (APR 1233)	5.7
SALINAS (PST-2SLX)	5.7
STELLAR (CIS-PR-72)	5.7
WVPB-R-84	5.7
ABT-99-4.464	5.3
ABT-99-4.560	5.3
APR 776	5.3
CATALINA	5.3

NAME	WA3
CRUISER (ABT-99-4.709)	5.3
DAZZLE (ABT-99-4.724)	5.3
EXACTA	5.3
HEADSTART	5.3
JR-128	5.3
LS 2100 (PST-2SBE)	5.3
PARAGON	5.3
PREMIER II	5.3
PST-2LA	5.3
RADIANT	5.3
SPLENDID (MB 411)	5.3
SR 4420 (SRX 4820)	5.3
SUMMERSET (MB 413)	5.3
WILMINGTON	5.3
ABT-99-4.600	5.0
AFFIRMED	5.0
APR 1231	5.0
APR 1232	5.0
APR 1235	5.0
CALYPSO II	5.0
CATALINA II (PST-CATS)	5.0
CHURCHILL	5.0
COURAGE (MB 410)	5.0
DIVINE	5.0
ELFKIN	5.0
ICON (MB 414)	5.0
KOOS R-71	5.0
LINE DRIVE	5.0
LPR 98-143	5.0
MANHATTAN 3	5.0
MEPY	5.0
MP103	5.0
MP107	5.0
PENNANT II	5.0
PICK PR B-97	5.0
PICK PRNGS	5.0
PLEASURE XL	5.0
PROWLER (APR 777)	5.0
RACER	5.0
SECRETARIAT	5.0
SKYHAWK	5.0
SR 4500	5.0
SRX 4120	5.0
SUPERSTAR (EP57)	5.0
ABT-99-4.339	4.7
ABT-99-4.815	4.7

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TABLE 19. (CONT'D) LEAF SPOT RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
2000-03 DATA

LEAF SPOT RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	WA3
ALLSPORT	4.7
BRIGHTSTAR SLT (PST-2A6B)	4.7
CAS-LP84	4.7
EP53	4.7
LPR 98-144	4.7
LTP-ME	4.7
MDP	4.7
MONTEREY II (JR-187)	4.7
PALMER III	4.7
PASSPORT	4.7
PHANTOM	4.7
PICK EX2	4.7
PR 1-94 (PICK PR 1-94)	4.7
PST-2CRR	4.7
PST-2JH	4.7
PST-2M4	4.7
RACER II (PICK RC2)	4.7
SR 4350 (APR 1237)	4.7
ADMIRE (JR-151)	4.3
APR 1234	4.3
BUCCANEER	4.3
BY-100	4.3
CHARGER II	4.3
DP 17-9069	4.3
EDGE	4.3
EXTREME (JR-317)	4.3
PANTHER	4.3
PARADIGM (APR 1236)	4.3
PEARL II (EPD)	4.3
PREMIER	4.3
PROSPORT (AG-P981)	4.3
PROTYME (ABT-99-4.625)	4.3
PST-2RT	4.3
CATHEDRAL II	4.0
DP 17-9391	4.0
DP LP-1	4.0
MP88	4.0
WVPB-R-82	4.0
YATSUGREEN	4.0
DP 17-9496	3.3
LINN	3.0
LSD VALUE	1.0
C.V. (%)	12.2

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1/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05).

2/ C.V. (COEFFICIENT OF VARIATION) INDICATES THE PERCENT VARIATION OF THE MEAN IN EACH COLUMN.

3/ LEAF SPOT RATED IN 2000 ONLY.□

TABLE 21. DOLLAR SPOT RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
2000-03 DATA

DOLLAR SPOT RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	KS1	MI1	NJ1	NJ2	RI1	MEAN
PENTIUM (NJ-6401)	8.3	6.7	7.7	9.0	6.7	7.7
PST-2M4	8.0	5.7	7.1	8.7	5.7	7.2
AMAZING (B1)	7.0	5.7	7.1	7.7	5.7	7.1
SALINAS (PST-2SLX)	6.7	5.7	7.6	7.0	6.7	7.1
APPLAUD (PENNINGTON-11301)	5.7	6.7	6.8	6.7	6.7	7.0
LS 2100 (PST-2SBE)	8.3	5.7	7.6	6.7	6.0	7.0
DLF-LDD	8.7	5.3	6.7	7.7	6.0	7.0
PST-2JH	7.0	4.3	7.1	8.3	7.0	6.9
MACH 1 (ROBERTS-627)	9.0	6.3	6.4	7.3	6.7	6.9
STELLAR (CIS-PR-72)	6.7	5.7	7.4	6.0	7.7	6.9
PIZZAZZ	7.7	5.0	6.8	8.3	5.3	6.9
QUEST II (ABT-99-4.721)	6.7	5.0	7.1	7.0	5.7	6.8
BLAZER IV (PICK MDR)	7.3	5.0	7.3	6.0	4.3	6.8
ABT-99-4.115	6.7	6.3	5.9	8.3	5.7	6.8
ARRIVAL (CIS-PR-84)	4.7	5.0	6.7	7.7	6.7	6.8
ABT-99-4.965	5.7	4.3	6.8	7.3	7.7	6.7
ALL STAR2 (CIS-PR-78)	7.0	6.0	6.3	6.7	7.0	6.7
MANHATTAN 3	7.7	5.0	6.6	8.3	6.7	6.7
CHARISMATIC (LTP 98-501)	5.0	6.7	7.0	6.0	5.3	6.6
NEXUS	6.7	5.0	6.9	6.7	5.7	6.6
PACESETTER (6011)	7.0	5.7	6.6	7.0	5.7	6.6
PARADIGM (APR 1236)	6.3	3.7	7.1	7.7	6.7	6.6
RENAISSANCE (APR 1233)	7.7	5.7	6.9	8.0	5.3	6.6
JET	6.0	5.7	6.6	6.7	6.0	6.6
KOKOMO (CIS-PR-69)	8.3	4.3	6.7	5.7	6.7	6.6
SR 4220 (SRX 4801)	8.0	6.0	6.0	6.3	6.0	6.5
ABT-99-4.560	8.0	5.0	5.9	8.3	6.0	6.4
INSPIRE (R8000)	6.0	5.7	6.1	7.7	5.0	6.4
PROWLER (APR 777)	8.0	6.3	6.8	7.0	5.7	6.4
GRAND SLAM 2L96 (PST-2L96)	8.0	4.3	6.3	6.7	6.0	6.4
PST-2RT	8.3	5.7	6.1	7.3	4.0	6.4
APR 1231	8.3	5.0	6.6	6.0	4.7	6.3
SUNKISSED (ABT-99-4.834)	5.0	3.0	6.6	6.7	6.7	6.3
BRIGHTSTAR II	7.3	3.0	6.6	6.7	6.7	6.3
GALLERY (MB 412)	6.3	2.3	7.0	6.0	6.0	6.3
SEVILLE II	7.3	5.0	6.3	8.0	5.7	6.3
SR 4420 (SRX 4820)	6.7	3.7	6.0	7.7	6.0	6.3
MANHATTAN 4 (PST-2CRL)	5.3	4.3	6.3	6.7	7.3	6.3
SR 4500	7.3	4.3	6.2	6.3	6.7	6.3
PINNACLE II (BAR 9 B2)	6.0	7.7	5.7	6.0	4.7	6.3
PROMISE	7.7	4.3	6.9	6.3	4.7	6.3
APR 1235	6.3	4.3	6.9	7.7	5.3	6.2

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PST-2LA	7.7	5.0	6.2	5.3	6.3	6.2
DIVINE	7.0	5.0	6.0	7.3	5.7	6.2
GATOR 3 (CIS-PR-85)	6.7	3.7	6.3	7.0	5.3	6.2
SUMMERSET (MB 413)	7.7	3.0	6.7	6.3	6.3	6.2

TABLE 21. DOLLAR SPOT RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
(CONT'D) 2000-03 DATA

DOLLAR SPOT RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	KS1	MI1	NJ1	NJ2	RI1	MEAN
PICK PRNGS	7.7	6.0	6.0	6.0	5.3	6.1
YATSUGREEN	5.7	6.3	6.1	7.3	5.0	6.1
CHARGER II	8.3	4.3	6.0	7.3	6.0	6.1
DAZZLE (ABT-99-4.724)	8.3	5.0	6.0	5.7	5.7	6.1
MAJESTY	7.0	5.7	5.8	7.0	4.7	6.1
PICK PR B-97	6.7	5.7	6.3	5.7	5.7	6.1
CATALINA II (PST-CATS)	8.0	3.7	6.3	6.0	7.0	6.1
PROTYME (ABT-99-4.625)	8.3	3.7	6.1	8.0	6.3	6.1
ABT-99-4.464	4.7	5.7	5.9	6.3	6.3	6.1
SPLENDID (MB 411)	6.7	3.7	5.9	6.7	6.3	6.1
CITATION FORE (PST-2BR)	7.3	3.7	6.0	6.0	6.7	6.0
PREMIER II	6.7	7.0	6.1	6.7	4.3	6.0
RACER II (PICK RC2)	6.7	4.3	5.9	7.7	3.7	6.0
SECRETARIAT	5.7	4.3	5.7	7.7	5.3	6.0
PLEASURE XL	6.7	4.3	6.1	6.3	6.0	6.0
EXACTA	7.0	5.0	5.8	6.0	6.3	6.0
ADMIRE (JR-151)	6.3	3.7	5.9	6.0	6.7	5.9
PST-2CRR	7.0	5.7	6.1	6.3	5.3	5.9
APR 776	6.7	4.3	6.4	5.3	6.0	5.9
COURAGE (MB 410)	8.7	3.7	6.0	6.3	4.7	5.9
CRUISER (ABT-99-4.709)	8.0	3.0	5.8	6.7	6.0	5.9
HAWKEYE (SRX 4RHT)	8.3	3.0	5.7	6.7	6.3	5.9
LTP-ME	6.0	5.7	5.3	6.7	5.0	5.9
BARLENNIUM	6.3	4.3	5.8	5.7	5.7	5.9
CALYPSO II	5.3	3.7	6.2	6.0	5.3	5.9
IQ (CIS-PR-75)	8.3	5.0	5.7	5.3	5.7	5.8
WVPB-R-84	7.0	3.0	5.4	7.7	5.3	5.8
LPR 98-144	8.0	2.3	5.9	7.3	4.7	5.8
BRIGHTSTAR SLT (PST-2A6B)	5.3	4.3	5.7	5.3	6.0	5.8
FIESTA 3	7.3	5.0	5.1	7.0	5.0	5.8
PR 1-94 (PICK PR 1-94)	6.0	3.7	5.8	6.3	5.0	5.8
DP 17-9391	6.7	6.0	5.4	5.7	4.3	5.7
PICK PR QH-97	8.3	4.3	5.6	4.7	4.7	5.7
SR 4350 (APR 1237)	5.3	3.7	5.6	7.0	6.0	5.7
DP LP-1	6.0	3.0	6.2	6.0	5.7	5.7
LINN	8.0	6.0	5.4	7.7	6.3	5.7
PANTHER	4.7	4.3	5.8	5.3	5.7	5.7

CATALINA	7.0	3.7	5.7	6.0	5.3	5.6
ABT-99-4.600	7.7	4.3	5.1	5.3	5.0	5.6
WILMINGTON	6.7	2.3	6.4	4.3	5.7	5.6
APR 1232	6.7	3.0	5.6	6.7	5.7	5.6
PICK EX2	7.7	5.7	5.3	7.0	5.0	5.6
MP88	8.3	2.3	5.7	4.7	6.0	5.6
ELFKIN	7.3	5.0	6.1	4.7	5.3	5.6
CABO (CIS-PR-80)	6.3	4.0	5.7	6.0	6.0	5.5
RACER	6.3	3.7	5.6	6.7	5.0	5.5
CHURCHILL	6.3	4.3	5.2	5.0	6.0	5.4
DP 17-9496	6.0	6.3	5.7	7.0	5.0	5.4
PASSPORT	8.3	3.7	5.2	5.3	6.3	5.4
KOOS R-71	6.3	3.0	5.2	6.7	5.0	5.4

TABLE 21. DOLLAR SPOT RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
(CONT'D) 2000-03 DATA

DOLLAR SPOT RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	KS1	MI1	NJ1	NJ2	RI1	MEAN
MONTEREY II (JR-187)	7.3	5.0	5.1	5.7	4.7	5.4
ABT-99-4.339	6.3	4.3	5.2	5.7	4.7	5.4
PALMER III	6.3	3.7	5.2	5.7	6.0	5.4
CATHEDRAL II	6.7	3.0	4.9	7.0	5.7	5.3
PARAGON	6.3	6.7	5.3	5.7	5.0	5.3
PHANTOM	8.3	3.0	5.0	5.0	5.3	5.3
ASCEND	6.3	3.7	5.4	5.7	5.7	5.3
BY-100	5.7	5.7	4.8	6.0	6.3	5.3
JR-128	5.0	4.3	5.2	4.7	4.3	5.3
APR 1234	6.3	4.3	5.3	6.3	5.0	5.3
LPR 98-143	5.0	4.3	5.3	6.3	4.7	5.3
SKYHAWK	5.3	3.0	5.1	5.7	6.0	5.3
MP107	5.3	1.7	5.1	6.7	5.3	5.2
ABT-99-4.815	4.7	3.7	5.8	3.7	5.7	5.2
AFFINITY	5.7	4.3	5.0	4.7	5.7	5.1
DP 17-9069	5.7	7.0	4.9	5.7	4.3	5.1
ICON (MB 414)	5.0	2.3	5.0	5.7	6.3	5.1
TERRADYNE (A5C)	6.7	4.3	5.0	6.7	5.3	5.1
ALLSPORT	7.3	3.7	5.1	4.3	5.3	5.0
BUCCANEER	6.7	4.3	4.8	6.0	4.3	5.0
RADIANT	5.7	2.3	5.1	5.3	6.3	5.0
PENNANT II	7.3	2.3	4.9	5.7	5.0	5.0
PROSPORT (AG-P981)	6.3	3.0	5.2	4.0	6.3	5.0
EDGE	6.0	3.0	5.1	5.0	5.0	4.9
MEPY	7.3	2.3	4.3	6.0	4.7	4.8
SUPERSTAR (EP57)	4.7	3.0	4.7	5.0	5.7	4.8
AFFIRMED	6.7	5.0	4.2	5.0	5.7	4.8
SRX 4120	7.0	4.3	4.1	6.0	5.7	4.8
LINE DRIVE	5.0	4.3	4.7	5.7	5.7	4.7

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PEARL II (EPD)	6.7	3.7	4.7	4.0	5.0	4.6
WVPB-R-82	7.0	4.3	4.2	6.3	3.7	4.6
EP53	8.0	2.3	4.3	5.0	5.0	4.5
HEADSTART	7.0	3.0	4.0	6.0	4.7	4.5
MDP	7.0	3.0	4.3	5.3	5.7	4.5
CAS-LP84	5.0	5.0	3.8	5.7	5.0	4.2
PREMIER	4.0	3.0	4.0	5.3	6.0	4.2
EXTREME (JR-317)	5.7	3.7	4.0	4.7	3.7	4.1
MP103	7.3	1.7	3.6	4.3	4.3	3.9
LSD VALUE	3.2	2.9	2.1	2.3	2.0	1.6
C.V. (%)	29.5	40.6	22.2	22.7	21.7	23.9

1/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05).

2/ C.V. (COEFFICIENT OF VARIATION) INDICATES THE PERCENT VARIATION OF THE MEAN IN EACH COLUMN.

3/ DOLLAR SPOT RATED AT "KS1", "MI1" & "RI1" IN 2002, AT "NJ1" IN 2000-02, AND AT "NJ2" IN 2001.

4/ DOLLAR SPOT CAUSED BY SCLEROTINIA HOMOEOCARPA AT "NJ1" AND "NJ2".

TABLE 22.

RED THREAD RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
2000-03 DATA

RED THREAD RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	NJ1	VA1	WA4	MEAN
BUCCANEER	9.0	9.0	5.0	7.7
IQ (CIS-PR-75)	8.7	8.0	5.7	7.4
EDGE	9.0	8.3	4.7	7.3
APR 1231	9.0	7.3	5.3	7.2
ADMIRE (JR-151)	8.7	8.0	4.7	7.1
ALL STAR2 (CIS-PR-78)	8.3	7.0	6.0	7.1
EXACTA	8.3	8.0	5.0	7.1
AFFINITY	9.0	8.0	4.3	7.1
APR 776	9.0	7.7	4.3	7.0
GRAND SLAM 2L96 (PST-2L96)	9.0	7.0	5.0	7.0
HAWKEYE (SRX 4RHT)	9.0	6.3	5.7	7.0
SR 4220 (SRX 4801)	9.0	6.7	5.3	7.0
SR 4350 (APR 1237)	9.0	7.7	4.3	7.0
APR 1234	7.3	7.7	5.7	6.9
PALMER III	8.7	7.0	5.0	6.9
SR 4420 (SRX 4820)	8.3	6.3	6.0	6.9
BLAZER IV (PICK MDR)	8.7	6.7	5.0	6.8
DP 17-9496	8.3	7.3	4.7	6.8
GATOR 3 (CIS-PR-85)	8.3	5.7	6.3	6.8
PARAGON	8.3	7.3	4.7	6.8
APPLAUD (PENNINGTON-11301)	8.7	5.3	6.3	6.8
KOOS R-71	9.0	7.0	4.3	6.8
AFFIRMED	8.3	7.3	4.3	6.7
KOKOMO (CIS-PR-69)	8.3	6.0	5.7	6.7
LINN	7.7	7.7	4.7	6.7
PASSPORT	8.3	7.3	4.3	6.7
PICK PRNGS	8.3	7.0	4.7	6.7
PST-2LA	8.7	6.7	4.7	6.7
SALINAS (PST-2SLX)	8.7	5.7	5.7	6.7
SECRETARIAT	8.7	6.0	5.3	6.7
WVPB-R-82	8.7	6.3	5.0	6.7
WVPB-R-84	8.7	7.3	4.0	6.7
BRIGHTSTAR II	7.3	7.7	4.7	6.6
CHARISMATIC (LTP 98-501)	8.3	6.7	4.7	6.6
DP LP-1	9.0	6.0	4.7	6.6
RACER II (PICK RC2)	7.7	7.7	4.3	6.6
CALYPSO II	7.3	6.3	6.0	6.6
CITATION FORE (PST-2BR)	8.7	5.3	5.7	6.6
JR-128	8.3	7.0	4.3	6.6
LPR 98-144	8.7	6.0	5.0	6.6
PICK EX2	8.7	6.0	5.0	6.6
SRX 4120	8.3	7.0	4.3	6.6
LTP-ME	8.3	6.7	4.3	6.4
MACH 1 (ROBERTS-627)	8.3	4.0	7.0	6.4
MP103	8.7	6.0	4.7	6.4
PANTHER	7.7	7.0	4.7	6.4

NAME	NJ1	VA1	WA4
PICK PR QH-97	8.3	6.3	4.7
RACER	8.3	5.7	5.3
RENAISSANCE (APR 1233)	8.3	7.0	4.0
SUMMERSET (MB 413)	9.0	5.7	4.7
YATSUGREEN	8.3	6.0	5.0
ARRIVAL (CIS-PR-84)	8.0	5.3	6.0
ELFKIN	9.0	6.0	4.3
MANHATTAN 4 (PST-2CRL)	8.7	5.3	5.3
PENNANT II	8.0	6.0	5.3
PROSPORT (AG-P981)	9.0	5.3	5.0
ALLSPORT	8.7	5.3	5.0
BRIGHTSTAR SLT (PST-2A6B)	9.0	4.7	5.3
CATALINA	8.3	6.0	4.7
DAZZLE (ABT-99-4.724)	9.0	5.7	4.3
EXTREME (JR-317)	8.7	6.0	4.3
FIESTA 3	8.0	5.7	5.3
STELLAR (CIS-PR-72)	9.0	4.7	5.3
ABT-99-4.115	7.7	6.7	4.3
CATHEDRAL II	8.0	6.0	4.7
CHARGER II	9.0	5.0	4.7
CHURCHILL	7.3	6.7	4.7
PR 1-94 (PICK PR 1-94)	7.3	6.7	4.7
PROWLER (APR 777)	9.0	4.7	5.0
SEVILLE II	7.7	5.7	5.3
SPLENDID (MB 411)	8.0	5.7	5.0
APR 1232	8.7	5.3	4.7
CABO (CIS-PR-80)	8.7	4.7	5.3
COURAGE (MB 410)	7.3	7.0	4.3
GALLERY (MB 412)	8.7	5.0	5.0
INSPIRE (R8000)	8.3	5.3	5.0
MEPY	8.7	6.0	4.0
PIZZAZZ	8.7	4.7	5.3
PLEASURE XL	8.3	6.0	4.3
TERRADYNE (A5C)	8.0	5.3	5.3
ABT-99-4.560	9.0	4.7	4.7
HEADSTART	8.3	6.0	4.0
LINE DRIVE	8.7	5.0	4.7
PACESETTER (6011)	8.7	4.7	5.0
BARLENNIUM	8.0	6.3	4.0
DP 17-9391	9.0	5.0	4.3
MP107	9.0	5.3	4.0
SR 4500	8.0	6.3	4.0
ABT-99-4.339	8.3	6.0	3.7
APR 1235	8.3	5.7	4.0
DP 17-9069	8.7	5.3	4.0
MP88	8.3	5.3	4.3

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TABLE 22. (CONT'D) RED THREAD RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
2000-03 DATA

RED THREAD RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	NJ1	VA1	WA4	MEAN
PST-2CRR	7.7	5.0	5.0	5.9
QUEST II (ABT-99-4.721)	9.0	4.7	4.0	5.9
RADIANT	9.0	3.0	5.7	5.9
ABT-99-4.464	8.7	4.3	4.7	5.9
DLF-LDD	8.7	5.0	4.0	5.9
EP53	8.3	5.3	4.0	5.9
ICON (MB 414)	8.0	4.3	5.3	5.9
LPR 98-143	9.0	3.7	5.0	5.9
MANHATTAN 3	8.7	4.3	4.7	5.9
MDP	8.3	5.3	4.0	5.9
MONTEREY II (JR-187)	8.7	3.7	5.3	5.9
PHANTOM	8.7	4.3	4.7	5.9
ASCEND	7.7	5.7	4.0	5.8
PENTIUM (NJ-6401)	8.7	4.0	4.7	5.8
ABT-99-4.965	8.7	4.3	4.3	5.8
PST-2RT	7.3	5.7	4.3	5.8
SUNKISSED (ABT-99-4.834)	8.0	5.0	4.3	5.8
CATALINA II (PST-CATS)	7.3	5.3	4.3	5.7
PEARL II (EPD)	8.7	4.0	4.3	5.7
PREMIER	7.7	4.3	5.0	5.7
PREMIER II	7.7	5.3	4.0	5.7
WILMINGTON	8.7	3.3	5.0	5.7
PICK PR B-97	7.7	4.3	4.7	5.6
PROMISE	7.3	4.7	4.7	5.6
PST-2JH	7.7	4.3	4.7	5.6
BY-100	7.3	5.3	4.0	5.6
JET	8.3	3.0	5.3	5.6
SKYHAWK	8.3	4.3	4.0	5.6
AMAZING (B1)	7.7	4.7	4.0	5.4
PARADIGM (APR 1236)	7.0	5.7	3.7	5.4
DIVINE	7.7	4.3	4.3	5.4
PROTYME (ABT-99-4.625)	8.7	3.7	4.0	5.4
MAJESTY	6.0	5.7	4.3	5.3
NEXUS	8.0	3.3	4.7	5.3
SUPERSTAR (EP57)	8.3	3.7	4.0	5.3
ABT-99-4.600	8.0	3.3	4.3	5.2
CRUISER (ABT-99-4.709)	7.0	5.0	3.7	5.2
CAS-LP84	7.3	4.3	4.0	5.2
ABT-99-4.815	7.3	4.3	3.7	5.1
PST-2M4	8.0	3.0	4.3	5.1
LS 2100 (PST-2SBE)	6.7	3.3	4.3	4.8
LSD VALUE	1.7	2.5	1.2	1.8
C.V. (%)	12.8	27.3	15.9	18.7

PINNACLE II (BAR 9 B2) 7.3 5.3 5.3

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1/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05).
2/ C.V. (COEFFICIENT OF VARIATION) INDICATES THE PERCENT VARIATION OF THE MEAN IN EACH COLUMN.
3/ RED THREAD RATED AT "NJ1" IN 2003, AT "VA1" IN 2002, AND AT "WA4" IN 2000.
4/ RED THREAD CAUSED BY LAETISARIA FUCIFORMIS AT "NJ1".

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TABLE 23. BROWN PATCH (WARM TEMPERATURE) RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
2000-03 DATA

BROWN PATCH RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	IL2	ME1	PA1	MEAN
PIZZAZZ	8.3	8.3	7.3	8.1
GATOR 3 (CIS-PR-85)	8.0	8.3	7.7	8.0
MACH 1 (ROBERTS-627)	7.7	9.0	7.7	8.0
SEVILLE II	7.0	9.0	7.7	7.7
DAZZLE (ABT-99-4.724)	7.3	8.3	7.3	7.6
DLF-LDD	7.0	9.0	7.3	7.6
ALLSPORT	7.0	8.7	7.3	7.5
AMAZING (B1)	6.3	9.0	8.3	7.5
APR 1231	7.3	8.7	6.7	7.5
COURAGE (MB 410)	7.0	9.0	7.0	7.5
PACESETTER (6011)	6.7	9.0	7.7	7.5
SR 4420 (SRX 4820)	7.0	9.0	7.0	7.5
SECRETARIAT	6.7	8.3	8.0	7.4
SR 4500	7.0	8.0	7.7	7.4
ALL STAR2 (CIS-PR-78)	6.3	9.0	8.0	7.4
RACER II (PICK RC2)	6.3	8.7	8.3	7.4
ARRIVAL (CIS-PR-84)	6.0	9.0	8.3	7.3
HAWKEYE (SRX 4RHT)	6.7	8.3	7.7	7.3
MONTEREY II (JR-187)	6.7	8.7	7.3	7.3
PST-2JH	6.7	8.0	8.0	7.3
RACER	6.3	8.7	8.0	7.3
AFFIRMED	6.7	8.3	7.3	7.3
CALYPSO II	6.7	8.7	7.0	7.3
CRUISER (ABT-99-4.709)	6.7	7.7	8.0	7.3
GRAND SLAM 2L96 (PST-2L96)	6.3	9.0	7.3	7.3
LS 2100 (PST-2SBE)	7.0	8.0	7.0	7.3
PREMIER II	6.3	9.0	7.3	7.3
PROTYME (ABT-99-4.625)	6.3	8.3	8.0	7.3
SR 4220 (SRX 4801)	6.3	8.7	7.7	7.3
SR 4350 (APR 1237)	6.7	9.0	6.7	7.3
PICK PR QH-97	6.0	9.0	7.7	7.2
CHURCHILL	6.3	8.7	7.3	7.2
PST-2RT	6.3	8.3	7.7	7.2
APR 776	6.3	8.0	7.7	7.1
PINNACLE II (BAR 9 B2)	5.7	9.0	8.0	7.1
SRX 4120	6.3	7.7	8.0	7.1
STELLAR (CIS-PR-72)	6.7	7.3	7.7	7.1
ABT-99-4.339	6.0	8.7	7.7	7.1
ABT-99-4.464	6.0	8.7	7.7	7.1
APR 1232	6.3	8.7	7.0	7.1
EDGE	6.0	9.0	7.3	7.1
YATSUGREEN	6.0	7.7	8.7	7.1

NAME	IL2	ME1	PA1
PREMIER	6.3	8.3	7.0
PST-2CRR	6.0	8.3	7.3
TERRADYNE (A5C)	6.0	7.3	8.3
ABT-99-4.115	5.7	9.0	7.3
EXACTA	5.7	8.7	7.7
NEXUS	6.3	7.7	7.3
PICK PR B-97	5.7	8.7	7.7
APPLAUD (PENNINGTON-11301)	5.7	8.7	7.3
FIESTA 3	5.7	7.7	8.3
JET	5.7	8.3	7.7
KOKOMO (CIS-PR-69)	5.7	8.3	7.7
WVPB-R-84	5.7	7.7	8.3
PARAGON	6.0	7.3	8.0
APR 1235	5.7	8.7	7.0
ELFKIN	5.3	9.0	7.3
EXTREME (JR-317)	5.7	8.3	7.3
ICON (MB 414)	5.3	8.7	7.7
LINE DRIVE	5.7	8.3	7.3
PST-2M4	6.0	7.3	7.7
QUEST II (ABT-99-4.721)	5.7	9.0	6.7
RADIANT	6.0	8.7	6.3
SALINAS (PST-2SLX)	5.3	8.7	7.7
PR 1-94 (PICK PR 1-94)	6.0	7.7	7.0
ABT-99-4.965	6.0	7.3	7.3
APR 1234	6.7	6.0	7.3
BARLENNIUM	5.3	9.0	7.0
CHARGER II	5.7	8.0	7.3
CITATION FORE (PST-2BR)	5.0	8.7	8.0
LTP-ME	5.3	8.7	7.3
PENTIUM (NJ-6401)	5.0	8.7	8.0
SPLENDID (MB 411)	5.3	8.7	7.3
BRIGHTSTAR II	5.7	8.3	6.7
BUCCANEER	5.7	7.3	7.7
BY-100	5.7	8.0	7.0
JR-128	6.3	7.7	6.0
MAJESTY	5.3	8.0	7.7
PICK PRNGS	5.3	8.3	7.3
PROWLER (APR 777)	6.3	7.7	6.0
PROSPORT (AG-P981)	6.0	7.0	7.3
AFFINITY	5.7	6.7	8.0
CATALINA II (PST-CATS)	5.3	7.7	7.7
INSPIRE (R8000)	5.0	8.3	7.7

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ABT-99-4.560	6.7	7.3	7.3	7.0
ADMIRE (JR-151)	6.3	7.7	7.7	7.0
PARADIGM (APR 1236)	5.7	8.3	8.3	7.0
PICK EX2	6.0	8.0	8.0	7.0
IQ (CIS-PR-75)	5.0	9.0	7.0	
MANHATTAN 3	5.0	8.0	8.0	
PEARL II (EPD)	5.7	8.3	6.3	
PLEASURE XL	6.0	7.7	6.3	
RENAISSANCE (APR 1233)	5.7	8.3	6.3	

TABLE 23. (CONT'D) BROWN PATCH (WARM TEMPERATURE) RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
2000-03 DATA

BROWN PATCH RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	IL2	ME1	PA1	MEAN
SUMMERSET (MB 413)	5.3	8.7	6.7	6.5
SUNKISSED (ABT-99-4.834)	5.0	9.0	7.0	6.5
ABT-99-4.600	5.0	8.0	7.7	6.4
CATHEDRAL II	5.0	9.0	6.7	6.4
CHARISMATIC (LTP 98-501)	5.0	8.0	7.7	6.4
PST-2LA	5.0	8.3	7.3	6.4
ASCEND	5.0	8.7	7.0	6.4
MDP	5.3	8.7	6.3	6.4
MEPY	6.3	7.0	5.7	6.3
DIVINE	5.3	8.7	6.0	6.3
LPR 98-144	6.0	6.0	7.3	6.3
BLAZER IV (PICK MDR)	4.3	9.0	7.3	6.3
CABO (CIS-PR-80)	5.0	8.0	7.0	6.3
CAS-LP84	5.7	7.0	6.7	6.3
DP 17-9496	6.0	5.3	7.7	6.3
EP53	5.7	7.7	6.0	6.3
HEADSTART	4.7	8.3	7.3	6.3
KOOS R-71	5.7	6.3	7.3	6.3
BRIGHTSTAR SLT (PST-2A6B)	4.7	7.7	7.7	6.2
GALLERY (MB 412)	5.0	8.3	6.3	6.2
DP 17-9391	6.0	6.7	5.7	6.1
PANTHER	3.7	9.0	7.7	6.0
PROMISE	4.3	9.0	6.3	6.0
PALMER III	3.3	8.7	8.3	5.9
SUPERSTAR (EP57)	5.0	7.3	6.3	5.9
WVPB-R-82	5.0	6.3	7.3	5.9
MANHATTAN 4 (PST-2CRL)	4.3	8.0	6.7	5.8
MP107	5.3	7.0	5.7	5.8
PHANTOM	4.3	8.3	6.3	5.8
LPR 98-143	5.0	7.3	6.0	5.8
ABT-99-4.815	3.3	9.0	7.3	5.8
CATALINA	4.0	7.7	7.3	5.8
PASSPORT	4.0	8.7	6.3	5.8
SKYHAWK	4.0	8.0	7.0	5.8
WILMINGTON	4.3	7.3	6.7	5.7
DP 17-9069	5.0	5.7	6.0	5.4
MP88	4.3	8.0	5.0	5.4

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DP LP-1	4.3	5.7	6.7	5.3
PENNANT II	2.3	9.0	7.0	5.2
MP103	3.0	6.7	6.0	4.7
LINN	3.3	4.3	4.7	3.9
LSD VALUE	2.2	1.8	1.6	1.7
C.V. (%)	23.7	13.4	13.8	18.7

1/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05).

2/ C.V. (COEFFICIENT OF VARIATION) INDICATES THE PERCENT VARIATION OF THE MEAN IN EACH COLUMN.

3/ BROWN PATCH RATED AT "IL2" IN 2001, AND AT "ME1" & "PA1" IN 2003.□

TABLE 24. CROWN RUST RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
2000-03 DATA

CROWN RUST RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	NJ1	NAME	NJ1
APPLAUD (PENNINGTON-11301)	8.0	PICK PR QH-97	4.7
STELLAR (CIS-PR-72)	8.0	PST-2M4	4.7
ALL STAR2 (CIS-PR-78)	7.7	SKYHAWK	4.7
ARRIVAL (CIS-PR-84)	7.7	ABT-99-4.464	4.3
KOKOMO (CIS-PR-69)	7.7	KOOS R-71	4.3
AMAZING (B1)	7.3	MONTEREY II (JR-187)	4.3
MACH 1 (ROBERTS-627)	7.3	PACESETTER (6011)	4.3
PINNACLE II (BAR 9 B2)	7.3	PALMER III	4.3
PIZZAZZ	7.3	PREMIER II	4.3
JET	7.0	SR 4500	4.3
LTP-ME	7.0	WVPB-R-82	4.3
SR 4220 (SRX 4801)	7.0	AFFIRMED	4.0
SUNKISSED (ABT-99-4.834)	7.0	ALLSPORT	4.0
BLAZER IV (PICK MDR)	6.7	CALYPSO II	4.0
CHARISMATIC (LTP 98-501)	6.7	LS 2100 (PST-2SBE)	4.0
PENTIUM (NJ-6401)	6.7	PANTHER	4.0
SEVILLE II	6.7	PHANTOM	4.0
GATOR 3 (CIS-PR-85)	6.3	PLEASURE XL	4.0
SR 4420 (SRX 4820)	6.3	PROMISE	4.0
ABT-99-4.115	6.0	PROSPORT (AG-P981)	4.0
CITATION FORE (PST-2BR)	6.0	RACER II (PICK RC2)	4.0
QUEST II (ABT-99-4.721)	6.0	SECRETARIAT	4.0
YATSUGREEN	6.0	WVPB-R-84	4.0
ABT-99-4.560	5.7	ABT-99-4.815	3.7
DLF-LDD	5.7	CATALINA	3.7
PST-2CRR	5.7	DP LP-1	3.7
BRIGHTSTAR II	5.3	ELFKIN	3.7
DP 17-9391	5.3	LPR 98-144	3.7
GRAND SLAM 2L96 (PST-2L96)	5.3	MEPY	3.7
HAWKEYE (SRX 4RHT)	5.3	MP103	3.7
LINN	5.3	PARADIGM (APR 1236)	3.7
ABT-99-4.965	5.0	PICK PRNGS	3.7
BRIGHTSTAR SLT (PST-2A6B)	5.0	PST-2RT	3.7
DAZZLE (ABT-99-4.724)	5.0	RENAISSANCE (APR 1233)	3.7
DP 17-9496	5.0	SUMMERSET (MB 413)	3.7
EXACTA	5.0	ABT-99-4.339	3.3
FIESTA 3	5.0	AFFINITY	3.3
INSPIRE (R8000)	5.0	APR 776	3.3
MANHATTAN 4 (PST-2CRL)	5.0	BARLENNIUM	3.3
PARAGON	5.0	CHARGER II	3.3
PST-2LA	5.0	DP 17-9069	3.3
SALINAS (PST-2SLX)	5.0	EXTREME (JR-317)	3.3
TERRADYNE (A5C)	5.0	GALLERY (MB 412)	3.3
CABO (CIS-PR-80)	4.7	JR-128	3.3
CHURCHILL	4.7	MP107	3.3
IQ (CIS-PR-75)	4.7	NEXUS	3.3

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PASSPORT 3.3

TABLE 24. CROWN RUST RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
(CONT'D) 2000-03 DATA

CROWN RUST RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	NJ1
PREMIER	3.3
PROTYME (ABT-99-4.625)	3.3
SRX 4120	3.3
SUPERSTAR (EP57)	3.3
ABT-99-4.600	3.0
ADMIRE (JR-151)	3.0
ASCEND	3.0
BUCCANEER	3.0
BY-100	3.0
CAS-LP84	3.0
CRUISER (ABT-99-4.709)	3.0
DIVINE	3.0
EP53	3.0
LPR 98-143	3.0
MANHATTAN 3	3.0
MDP	3.0
PEARL II (EPD)	3.0
PENNANT II	3.0
PICK EX2	3.0
PR 1-94 (PICK PR 1-94)	3.0
PST-2JH	3.0
CATHEDRAL II	2.7
COURAGE (MB 410)	2.7
MP88	2.7
PICK PR B-97	2.7
PROWLER (APR 777)	2.7
SPLENDID (MB 411)	2.7
WILMINGTON	2.7
APR 1231	2.3
APR 1235	2.3
CATALINA II (PST-CATS)	2.3
EDGE	2.3
ICON (MB 414)	2.3
RACER	2.3
RADIANT	2.3
SR 4350 (APR 1237)	2.3
APR 1232	2.0
APR 1234	2.0
HEADSTART	2.0
LINE DRIVE	2.0
MAJESTY	2.0
LSD VALUE	1.2
C.V. (%)	18.2

1/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY
STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.
2/ C.V. (COEFFICIENT OF VARIATION) INDICATES THE PERCENT VARIATION OF THE MEAN IN EACH COLUMN.
3/ CROWN RUST RATED IN 2000 ONLY.
4/ CROWN RUST CAUSED BY PUCCINIA CORONATA.

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TABLE 25.

GRAY LEAF SPOT RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
2000-03 DATA

GRAY LEAF SPOT RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	IL2	MD2	NJ1	MEAN
PST-2RT	6.7	8.0	5.7	7.1
SR 4500	6.0	6.7	8.3	6.9
APR 1234	5.7	7.3	7.0	6.8
CITATION FORE (PST-2BR)	6.3	6.5	8.0	6.8
SR 4220 (SRX 4801)	6.0	6.7	8.0	6.8
STELLAR (CIS-PR-72)	5.3	7.3	7.3	6.8
LS 2100 (PST-2SBE)	6.0	6.8	7.3	6.8
ABT-99-4.560	6.0	6.3	8.0	6.7
APR 1235	5.0	6.7	8.0	6.6
RACER II (PICK RC2)	5.7	6.8	7.0	6.6
COURAGE (MB 410)	6.3	7.0	6.0	6.6
PST-2JH	5.3	7.7	5.7	6.6
ASCEND	5.7	6.5	7.3	6.5
DIVINE	5.7	6.7	7.0	6.5
KOKOMO (CIS-PR-69)	6.0	6.7	6.7	6.5
PST-2LA	5.0	7.0	7.0	6.5
CABO (CIS-PR-80)	4.7	7.2	6.7	6.4
INSPIRE (R8000)	6.7	6.7	5.7	6.4
AMAZING (B1)	6.0	6.2	7.0	6.3
CALYPSO II	5.7	6.8	6.0	6.3
IQ (CIS-PR-75)	5.0	6.2	8.0	6.3
MAJESTY	5.3	7.2	5.7	6.3
SEVILLE II	6.3	5.8	7.3	6.3
PACESETTER (6011)	6.0	6.2	6.7	6.3
PICK EX2	6.0	6.2	6.7	6.3
BARLENNIUM	5.0	6.7	6.7	6.3
CRUISER (ABT-99-4.709)	5.0	7.5	5.0	6.3
GRAND SLAM 2L96 (PST-2L96)	5.7	6.7	6.0	6.3
PREMIER	5.0	6.3	7.3	6.3
ALL STAR2 (CIS-PR-78)	5.7	6.7	5.7	6.2
CHARISMATIC (LTP 98-501)	5.7	6.2	6.7	6.2
ELFKIN	5.3	6.3	6.7	6.2
PARADIGM (APR 1236)	4.7	7.0	6.0	6.2
PARAGON	6.3	5.3	7.7	6.2
PIZZAZZ	5.7	6.7	5.7	6.2
SECRETARIAT	6.0	6.0	6.7	6.2
SR 4350 (APR 1237)	6.0	6.5	5.7	6.2
APR 1232	5.3	6.7	6.0	6.2
GATOR 3 (CIS-PR-85)	6.0	6.2	6.3	6.2
CHARGER II	5.0	7.2	5.0	6.1
LINE DRIVE	5.7	6.8	5.0	6.1
PICK PR B-97	5.0	7.0	5.3	6.1
PST-2M4	4.3	7.0	6.0	6.1
RADIANT	4.3	6.3	7.3	6.1
ABT-99-4.965	4.7	6.8	5.7	6.0
EXACTA	5.7	6.0	6.3	6.0

NAME	IL2	MD2	NJ1
LPR 98-143	4.3	6.5	6.7
MANHATTAN 4 (PST-2CRL)	5.0	6.5	6.0
PINNACLE II (BAR 9 B2)	4.3	6.5	6.7
PLEASURE XL	5.3	7.0	4.7
RENAISSANCE (APR 1233)	5.7	6.5	5.3
BRIGHTSTAR SLT (PST-2A6B)	5.7	6.3	5.3
PEARL II (EPD)	4.3	6.7	6.0
PENTIUM (NJ-6401)	5.0	6.5	5.7
WILMINGTON	4.3	6.2	7.0
YATSUGREEN	5.7	6.0	6.0
SALINAS (PST-2SLX)	4.3	6.5	6.3
AFFIRMED	5.7	6.3	5.0
MP88	4.0	6.3	6.7
SRX 4120	5.0	6.2	6.0
BLAZER IV (PICK MDR)	5.7	6.2	5.3
BRIGHTSTAR II	4.3	6.7	5.7
ICON (MB 414)	4.0	7.0	5.3
MP107	4.0	6.3	6.7
PICK PR QH-97	5.0	6.0	6.3
PREMIER II	5.0	6.5	5.3
PROWLER (APR 777)	4.7	6.3	6.0
APPLAUD (PENNINGTON-11301)	5.3	6.3	5.0
JR-128	5.3	5.8	6.0
PROTYME (ABT-99-4.625)	5.0	5.7	6.7
QUEST II (ABT-99-4.721)	5.3	6.3	5.0
RACER	5.0	6.5	5.0
ABT-99-4.464	4.7	6.7	4.7
APR 776	5.0	6.2	5.3
DAZZLE (ABT-99-4.724)	5.0	6.5	4.7
DLF-LDD	5.7	6.7	3.7
MANHATTAN 3	4.0	6.2	6.3
FIESTA 3	5.0	6.2	5.3
CATALINA II (PST-CATS)	4.3	6.3	5.3
WVPB-R-84	4.3	6.3	5.3
JET	4.7	5.8	5.7
ABT-99-4.600	5.0	6.5	4.0
DP 17-9496	4.7	6.2	5.0
EP53	4.3	5.2	7.3
NEXUS	4.7	6.0	5.3
SUMMERSET (MB 413)	4.3	5.8	6.0
SUNKISSED (ABT-99-4.834)	4.7	5.7	6.0
TERRADYNE (A5C)	4.0	6.0	6.0
GALLERY (MB 412)	4.7	5.8	5.3
MDP	4.7	5.8	5.3
PICK PRNGS	5.3	5.8	4.7
SKYHAWK	4.0	6.2	5.3

ABT-99-4.815 4.3 6.2 4.7

TABLE 25. GRAY LEAF SPOT RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
(CONT'D) 2000-03 DATA

GRAY LEAF SPOT RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	IL2	MD2	NJ1	MEAN
ARRIVAL (CIS-PR-84)	5.7	6.5	2.7	5.3
EDGE	5.0	6.3	3.7	5.3
SUPERSTAR (EP57)	4.7	5.3	6.0	5.3
APR 1231	5.3	5.7	4.7	5.3
CATHEDRAL II	4.7	5.8	5.0	5.3
CHURCHILL	4.7	5.3	6.0	5.3
DP 17-9391	3.7	6.3	5.0	5.3
MONTEREY II (JR-187)	5.0	5.7	5.0	5.3
PR 1-94 (PICK PR 1-94)	5.3	5.7	4.7	5.3
SR 4420 (SRX 4820)	4.3	5.5	6.0	5.3
ABT-99-4.115	5.0	6.2	3.7	5.3
MACH 1 (ROBERTS-627)	5.7	5.5	4.3	5.3
MEPY	4.0	5.7	5.7	5.3
PHANTOM	4.3	5.8	5.0	5.3
PROMISE	5.0	5.5	5.0	5.3
PROSPORT (AG-P981)	3.7	5.8	5.7	5.3
PST-2CRR	4.3	5.8	5.0	5.3
ADMIRE (JR-151)	5.0	6.3	3.0	5.2
AFFINITY	5.7	5.3	4.3	5.2
ABT-99-4.339	5.3	5.7	4.0	5.2
CAS-LP84	3.0	6.2	5.3	5.2
KOOS R-71	4.7	5.8	4.0	5.1
PENNANT II	4.0	5.7	5.0	5.1
BUCCANEER	4.0	5.2	5.7	5.0
DP LP-1	4.0	5.2	5.7	5.0
SPLENDID (MB 411)	4.3	5.5	4.7	5.0
EXTREME (JR-317)	4.7	5.2	4.7	4.9
MP103	3.3	5.0	6.3	4.9
LPR 98-144	5.3	5.3	3.3	4.8
HAWKEYE (SRX 4RHT)	4.7	5.0	4.3	4.8
HEADSTART	5.0	4.8	4.3	4.8
BY-100	4.7	5.0	4.0	4.7
DP 17-9069	3.3	5.0	5.0	4.6
PALMER III	3.7	5.2	4.3	4.6
CATALINA	4.3	5.0	3.3	4.4
LTP-ME	4.0	4.3	4.7	4.3
WVPB-R-82	4.0	4.8	3.3	4.3
ALLSPORT	4.0	4.8	3.0	4.2
PASSPORT	3.7	3.5	5.0	3.9
LINN	2.3	3.3	4.7	3.4
PANTHER	3.3	3.7	2.0	3.2
LSD VALUE	1.5	1.5	2.5	1.8
C.V. (%)	19.1	15.7	28.0	19.6

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1/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05).
2/ C.V. (COEFFICIENT OF VARIATION) INDICATES THE PERCENT VARIATION OF THE MEAN IN EACH COLUMN.
3/ GRAY LEAF SPOT RATED AT "IL2" IN 2000, AT "MD2" IN 2001, AND AT "NJ1" IN 2003.
4/ GRAY LEAF SPOT CAUSED BY PYRICULARIA GRISEA AT "IL2" AND "NJ1".

TABLE 26. SNOW MOLD RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
2000-03 DATA

SNOW MOLD RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	WI1
ABT-99-4.560	6.5
DLF-LDD	6.5
DP 17-9069	6.5
HAWKEYE (SRX 4RHT)	6.5
JET	6.5
MP88	6.5
PACESETTER (6011)	6.5
PARAGON	6.5
PICK EX2	6.5
PINNACLE II (BAR 9 B2)	6.5
PIZZAZZ	6.5
ADMIRE (JR-151)	6.3
ALLSPORT	6.3
APPLAUD (PENNINGTON-11301)	6.3
DP 17-9391	6.3
FIESTA 3	6.3
QUEST II (ABT-99-4.721)	6.3
SR 4350 (APR 1237)	6.3
SR 4420 (SRX 4820)	6.3
SRX 4120	6.3
WVPB-R-82	6.3
ABT-99-4.115	6.2
ABT-99-4.464	6.2
ABT-99-4.965	6.2
AMAZING (B1)	6.2
APR 1232	6.2
BARLENNIUM	6.2
BLAZER IV (PICK MDR)	6.2
CHARISMATIC (LTP 98-501)	6.2
ELFKIN	6.2
JR-128	6.2
KOOS R-71	6.2
LINE DRIVE	6.2
MACH 1 (ROBERTS-627)	6.2
MONTEREY II (JR-187)	6.2
PALMER III	6.2
PANTHER	6.2
PEARL II (EPD)	6.2
PENTIUM (NJ-6401)	6.2
PICK PR QH-97	6.2
PROMISE	6.2
PST-2LA	6.2
PST-2RT	6.2
SALINAS (PST-2SLX)	6.2
SECRETARIAT	6.2
GATOR 3 (CIS-PR-85)	6.2

NAME	WI1
RENAISSANCE (APR 1233)	6.2
ABT-99-4.600	6.0
AFFINITY	6.0
APR 1231	6.0
APR 1234	6.0
ARRIVAL (CIS-PR-84)	6.0
BRIGHTSTAR II	6.0
BRIGHTSTAR SLT (PST-2A6B)	6.0
BY-100	6.0
CALYPSO II	6.0
CATALINA	6.0
CATALINA II (PST-CATS)	6.0
CATHEDRAL II	6.0
CHARGER II	6.0
CHURCHILL	6.0
DIVINE	6.0
DP LP-1	6.0
EDGE	6.0
EP53	6.0
HEADSTART	6.0
INSPIRE (R8000)	6.0
IQ (CIS-PR-75)	6.0
KOKOMO (CIS-PR-69)	6.0
MANHATTAN 3	6.0
MDP	6.0
MEPY	6.0
MP107	6.0
NEXUS	6.0
PASSPORT	6.0
PENNANT II	6.0
PICK PR B-97	6.0
PICK PRNGS	6.0
PST-2JH	6.0
PST-2M4	6.0
RACER II (PICK RC2)	6.0
SEVILLE II	6.0
SR 4220 (SRX 4801)	6.0
SR 4500	6.0
SUPERSTAR (EP57)	6.0
WILMINGTON	6.0
YATSUGREEN	6.0
MANHATTAN 4 (PST-2CRL)	5.8
ABT-99-4.815	5.8
AFFIRMED	5.8
APR 776	5.8
CABO (CIS-PR-80)	5.8

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TABLE 26. (CONT'D)

CAS-LP84

SNOW MOLD RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/
2000-03 DATA

5.8

SNOW MOLD RATINGS 1-9; 9=NO DISEASE 2/ 3/

NAME	WI1
COURAGE (MB 410)	5.8
DAZZLE (ABT-99-4.724)	5.8
EXACTA	5.8
EXTREME (JR-317)	5.8
GALLERY (MB 412)	5.8
GRAND SLAM 2L96 (PST-2L96)	5.8
LTP-ME	5.8
MAJESTY	5.8
MP103	5.8
PR 1-94 (PICK PR 1-94)	5.8
PREMIER	5.8
PROTYME (ABT-99-4.625)	5.8
STELLAR (CIS-PR-72)	5.8
SUNKISSED (ABT-99-4.834)	5.8
TERRADYNE (A5C)	5.8
CITATION FORE (PST-2BR)	5.7
DP 17-9496	5.7
LS 2100 (PST-2SBE)	5.7
PARADIGM (APR 1236)	5.7
PHANTOM	5.7
PLEASURE XL	5.7
PROWLER (APR 777)	5.7
SKYHAWK	5.7
SPLENDID (MB 411)	5.7
ABT-99-4.339	5.7
LPR 98-143	5.7
PREMIER II	5.7
RACER	5.7
RADIANT	5.7
SUMMERSET (MB 413)	5.7
ALL STAR2 (CIS-PR-78)	5.5
APR 1235	5.5
ICON (MB 414)	5.5
PROSPORT (AG-P981)	5.5
PST-2CRR	5.5
WVPB-R-84	5.5
BUCCANEER	5.3
CRUISER (ABT-99-4.709)	5.3
LPR 98-144	5.3
ASCEND	5.2
LINN	5.0
LSD VALUE	0.8
C.V. (%)	13.5

99002440

1/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05).

2/ C.V. (COEFFICIENT OF VARIATION) INDICATES THE PERCENT VARIATION OF THE MEAN IN EACH COLUMN.

3/ SNOW MOLD RATED IN 2000-01.

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99002410

Table 1. Endophyte infection of seeds from cultivars and selections entered in the 1999 National Perennial Ryegrass Test. (NOTE: The endophyte in these seeds are not necessarily viable and the infection rate in the resulting turf plots may be lower.)

NTEP Number	Cultivar or Selection	Endophyte Infection[1] (%)
125	PST-2L96	98
95	Pacesetter	98
117	ABT-99-4.560	96
100	APR 1232	96
86	Seville II	96
81	ABT-99-4.721	96
55	Extreme	96
51	Premier II	96
25	Nexus	96
20	APR 1233	96
17	Pick EX2	96
120	ABT-99-4.724	94
101	SRX 4801	94
90	DP 17-9069	94
88	DP 17-9496	94
57	Edge	94
46	Exacta	94
26	DLF-LDD	94
128	Courage	92
108	EPD	92
99	APR 1231	92
87	Pennant II	92
37	Inspire	92
31	Kokomo	92
28	Roberts-627	92
16	Pick RC2	92
14	Promise	92
97	Prowler	90
49	Barlennium	90
47	Affirmed	90
30	Applaud	90
27	Pentium	90
2	Racer	90
133	Jet	88
68	Citation Fore	88
116	ABT-99-4.115	86
61	Pick PR B-97	86
53	Monterey II	86
124	PST-2JH	84
119	ABT-99-4.709	84
80	ABT-99-4.600	84
74	Manhattan 3	84
69	Catalina SLT	84
56	Admire	84
50	Pinnacle II	84

Table 1 (continued).

NTEP Number	Cultivar or Selection	Endophyte Infection[1] (%)
48	LTP-ME	84
41	Pleasure XL	84
6	Pick PR 1-94	84
98	APR 776	82
70	Manhattan 4	82
36	Gator 3	82
19	APR 1234	82
129	Summerset	80
126	SR 4820	80
94	Wilmington	80
85	Panther	80
79	ABT-99-4.464	80
39	Divine	80
29	Charismatic	80
15	Paragon	80
83	ABT-99-4.834	78
43	APR 1235	78
1	Calypso II	78
132	Radiant	76
122	ABT-99-4.965	76
118	ABT-99-4.625	76
78	ABT-99-4.339	76
76	Palmer III	76
73	Catalina	76
67	Salinas SLT	76
54	Galaxy	76
52	Premier	76
24	Paradigm	76
112	MP88	74
33	Allstar2	74
12	Secretariat	74
11	Yatsugreen	74
9	LPR 98-143	74
82	ABT-99-4.815	72
71	PST-2LA	72
42	Amazing	72
127	Gallery	70
104	SRX 4RHT	70
84	Cathedral II	70
44	APR 1237	70
32	CIS-PR-75	70
22	WVPB-R-82	70
18	Affinity	70
7	Passport	70
35	CIS-PR-84	69
131	MB 414	68

Table 1 (continued).

NTEP Number	Cultivar or Selection	Endophyte Infection[1] (%)
105	Elfkin	66
72	Brightstar II	66
66	PST-2M4	66
60	Pick PRNGS	66
38	Majesty	66
3	Fiesta 3	66
121	A5C	64
102	SR 4500	64
64	PST-2SBE	64
13	Pizzazz	64
115	MEPY	63
123	Stellar	60
63	Brightstar SLT	60
40	Ascend	60
109	EP53	58
45	Churchill	56
8	Headstart	56
134	BY-100	54
130	Splendid	54
93	Line Drive	54
62	PST-2RT	54
59	Blazer IV	54
5	Buccaneer	52
34	Cabo	48
89	DP LP-1	46
91	DP 17-9391	44
113	MP107	38
65	PST-2CRR	38
103	SRX 4120	34
10	LPR 98-144	34
110	Superstar	32
58	Pick PR QH-97	30
107	MDP	26
23	WVPB-R-84	26
21	Koos R-71	26
75	Charger II	24
111	Skyhawk	14
92	Allsport	14
4	Linn	14
106	CAS LP84	8
96	Prosport	8
77	Phantom	8
114	MP103	4

[1]Percent infection based on 50 seeds examined from each entry.

9900420

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).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Turf Merchants, Inc.	TMI-MML	Paragon
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	5. TELEPHONE *(include area code)*	6. FAX *(include area code)*
33390 Tangent Loop Tangent, OR 97389	(541)926-8649	(541)926-4435
	7. PVPO NUMBER 9900240	

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 [ ] NO
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 original developer of TMI-MML was Rutgers University, who then entered a contractual agreement with Turf Merchants, Inc. to transfer ownership of the variety.

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.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to compete this information collection is estimated to average 10 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.

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