No.



9700134

THE UNITED STRATES OF AMERICA

TO ALL TO WHOM THESE: PRESENTS SHALL COME;

RAP, TIÇ

THE LEAS, 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 MEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC PLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR TING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT AT THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY IN SECOND BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321

BERMUDAGRASS

'Majestic'

In Jestimonn Minerest, I have hereunto set my hand and caused the seal of the Hant Harrety Frotestion Office to be affixed at the City of Washington, D.C. this twenty-sixth day of July, in the year two thousand and five.

Je M Sommissioner Se

Plant Variety Protection Office Agricultural Marketing Service

E (SEO.)

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTE	CTION OFFICE	The following statements are ma- 1974 (5 U.S.C. 552s) and the Pap	FORM APPROVED - OMB NO. 0581-005 de in accordance with the Privacy Act of verwork Reduction Act (PRA) of 1995.
APPLICATION FOR PLANT VARIETY PROTECTION (Instructions and information collection burden statem)		Application is required in order to certificate is to be issued (7 U.S.C. until certificate is issued (7 U.S.C.	o determine if a plant variety protection 2 2421). Information is held confidentia 2426).
1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)	AD 6/26/04	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
H & H Seed Co., Inc.	İ	Н & Н Ехр.#9381	Majestic
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and County 350 Si Fortuna Road	σγl	5. TELEPHONE include area code; 928 526-783-7821	FOR OFFICIAL USE ONLY
P.O. Box 1688 Yuma, AZ 85366-1688	1040 -	6. FAX (include area code)	9700134 F DATE
85367	6/30/2003	520-343-0156	Feb. 18, 1997
GENUS AND SPECIES NAME	8. FAMILY NAME (Botani	cal)	FILING AND EXAMINATION FEE:
Cynodon dactylon	Gramineae		€ 2,450.00 E DATE
. CROP KIND NAME (Common name)			Feb. 18, 1997
Bermuda grass b. If the Applicant Named is not a "person", give form of organizat	TION (corporation, pertnershi	ip, essociation, etc.) (Common name)	C CERTIFICATION FEE:
Corporation I. IF INCORPORATED, GIVE STATE OF INCORPORATION			1 732 00
Arizona		12. DATE OF INCORPORATION 20 Dec 1978	D april 26, 20
. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERV	E IN THIS APPLICATION A		
Sarry L. Olsen		240 00009	14. TELEPHONE (Include area code) 938783-688 =903-675-3534
aw Offices of Larry W. Suciu, PLC 01 E. Second Street			
Tuma AZ 85364	5		16 FAX Enclude and Codes 12 8-783-70 903-675-3258
CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow in	structions on reverse)		503 073 3230
a. Exhibit A. Origin and Breeding History of the Veriety b. Exhibit B. Statement of Distinctness		and the second of the second o	
c. Exhibit C. Objective Description of the Veriety			
d.		•	
e. Exhibit E. Statement of the Basis of the Applicant's Ownership	er e		
1. Voucher Sample (2,500 viable untrested aceds or, for tuber propagated	varieties verification that tiss	sue culture will be deposited and maintained	in an approved public repository)
g. Filing and Examination Fee (62,450), made payable to "Treasurer of the DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VI			224.44.0.24.5
M TES III 'yes," answer items 18 and 19 below)	NO #/ "no," go to		63(a) or the Plant Variety Protection Acti
DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS GENERATIONS?	S TO NUMBER OF 18. (IF "YES" TO ITEM 18, WHICH CLASSES O	
HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEV	ASED TISED OFFERED FOR	SALE OF MARKETER IN THE U.S. OR OF	_
YES Iff "yes," give names of countries and dates!		SALE, ON MANKETED IN THE U.S. ON OT	HEN COUNTRIES?
The second secon			
The applicant(s) declare that a viable sample of basic sood of the variety will be for applicable, or for a tuber propagated variety a tissue culture will be deposited in a	rnished with application and s public repository and maint	I will be replenished upon request in accord tained for the duration of the certificate.	ance with such regulations as may be
The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced or tu	ber propagated plant variety,	, and believe(s) that the variety is new, dist	inct, uniform, and stable as required in
Section 42, and is entitled to protection under the provisions of Section 42 of the Applicant(s) is(are) informed that false representation herein can jeopardize protect	Plant Variety Protection Act.		
ATURE OF APPLICANT (Owner(s))		OF APPLICANT (Owner(s))	<u>"</u>
Stute K. /Lodas	1	•	and the second s
	NAME (0)	se print or type)	
	LANGE TANKS		
atrick K. Hodges, Jr			•
	CAPACITY C	DR TITLE	DATE

(See reverse for instructions and information collection burden statement)

9700134.

INSTRUCTIONS

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) at least 2,500 viable untreated seeds, or for tuber reproduced varieties verification that a viable fin 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 Blvd., 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.

Plant Variety Protection Office Telephone: (301) 504-5518

ITEM

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- 16a. 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 drow these variants may be identified.
- 16b. 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;
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 16c. Exhibit C forms are available from the PVPO for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 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.
- 16e. 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.
- 17. 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 labelled, 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)*.
- 20. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.

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 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 is specified in Section 97.175 of the regulations. (See Section 104 of the Act, and Sections 97.130, 97.131, 97.175(h) of Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant should 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 reintaining 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 uggestions for reducing this burden, to Department of Agriculture, Clearance Officer, ORM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 581-0055 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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial tatus. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should antest the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 20-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

Exhibit A. Origin and breeding history of the variety

Majestic is a seed propagated turf type Bermudagrass. Majestic is the result of a two clone, cross pollinated, intraspecific synthetic cultivar.

I. Parent clones

- A. Clone 1 is H & H selection #2690 that is a vegetative selection from a polycross of common Bermudagrass materials obtained from Dr. A. Baltensperger of the New Mexico Agricultural Experiment Station in 1989. Selection #2690 was selected in 1991 from space planted progeny from the polycross.
- B. Clone 2 is H & H selection #61 that is a vegetative selection from the same polycross described for Clone 1. It was also selected in 1991.
- C. The two parental clones are predominantly self-sterile. Panicles of each parent maintained in pollination isolation produced from 1 to 20 % of the number of expected embryos, with the majority of the embryos shriveled in appearance.

II. Synthetic Development

- A. In 1992, a field cross was established using equal numbers of vegetatively produced plants of Clone 1 and Clone 2.
- B. Seed from the 1992 cross was used for turf evaluation in 1993 at the H & H Seed Company, Inc. research facility located in Yuma, Arizona. The cultivar was designated H & H Exp. #9381. In addition, a one acre Breeders field was established at Bard, CA from equal amounts of vegetatively propagated material of Clones 1 &2.
- C. In 1994, turf evaluations were initiated at Athens, TX under H & H Seed Company management.
- D. In 1995, a 10 acre foundation field was established at Brawley, CA from seed produced in the Breeders field at Bard, CA.

III. Seed Production Procedures

- A. Parental clones are maintained vegetatively through cuttings of each clone. Breeders seed will be produced from vegetative sprig plantings of the parent clones (Clone 1 and Clone 2) planted in equal amounts. Breeders seed will be harvested for a maximum of three years from these plantings.
- B. Seed from the Breeders field will be used to establish Foundation fields. These fields will be harvested for Foundation class seed for a maximum of three years.
- C. Seed from the Foundation Fields will be used to establish certified fields. These fields will be harvested for Certified class seed for a maximum of five years.
- D. Vegetative material of the two parent clones will be maintained at the research facilities of Castle Dome Seed, Yuma, AZ.

Majestic is a uniform and stable variety as observed for three generations (from the breeders seed through foundation to turfgrass produced from certified seed). No objectionable variants have been observed in the reproduction or multiplication of Majestic. Majestic shows less than five percent variants in leaf texture or color; Majestic tends to have morphological characters intermediate between the two parents in leaf texture and size of plant. Up to five percent of the Majestic plants may appear closer to the characters of the wider bladed leaf and longer internodes of one parental clone.

During variety development, Majestic was selected for seed yield and turf quality.

Exhibit B. Statement of Distinctness

Majestic bermudagrass is distinct from all other bermudagrasses by a combination of turf and morphological measurements. Majestic is most similar to Arizona Common bermudagrass.

Majestic is morphologically distinct from other varieties in spaced plantings (Tables 1-6). Majestic may be distinguished from Arizona Common by a higher tiller number per square inch (Table 14), that is also reflected in higher turf density in NTEP trials (Table 13).

Table 14.	Tiller dens	ity of Arizona	common a	nd Majestic	bermudagr	ass, 2005.
			Location			
Variety		Parker, TX		Lebanon, C	OR .	
		Tiller numbe	r	Tiller numb	per	
		per sq. inch		per sq. incl	1	
Majestic		4.8		10.3		
Arizona Co	mmon	2.0		7.5		
LSD, 0.05		1.3		1.6		

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 1.4 hours 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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U. S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY PLANT VARIETY PROTECTION OFFICE BELTSVILLE, MD 20705 EXHIBIT C (Bermudagrass)

OBJECTIVE DESCRIPTION OF VARIETY BERMUDAGRASS (Cynodon spp.)

NAME OF APPLICANT(S) John	KAO 12 15 04		FOR OFFICIAL USE ONLY
	KNB LCC		PVPO NUMBER
ADDRESS (Street and No. or R.F.D. No.	o., City, State, and ZIP Code)		9 100 134
PO Box 1688			VARIETY NAME
Yuma, AZ 85366-1688			Majestic
			TEMPORARY OR EXPERIMENTAL DESIGNATION
(e.g. 0/9/9 or 0/9/) when a including numerical meas be made under the same of spaced plants that represed individual unclipped pots	number is either 99 or less or 9 or less arements, should represent those the conditions. Append all pertinent content the application variety, the most if grown in a greenhouse. Data should be used for the conditions of the con	ess. The symbol "▲" indicates de at are TYPICAL for the variety. Of mparative trial and evaluation data similar variety, and one standard of ould be obtained from mature plan	provided. Place a zero in the first box cimal. Characteristics described, Comparisons to standard varieties must a. Measured data should be for unclipped cultivar, or replicated unclipped plots or ts (specify age of plants when measured). wing conditions and experimental design.
	· · · · · · · · · · · · · · · · · · ·		
	STANDARD CULTIVARS Us	se cultivars from same species and	l ploidy level
1 = Seeded Common	STANDARD CULTIVARS Us 4 = Tifway	se cultivars from same species and $7 = \text{Coastal}$	l ploidy level 10 = other (Specify species)
		-	
2 = Guymon	4 = Tifway	7 = Coastal	
2 = Guymon 3 = Mirage PECIFIC VARIETIES U	4 = Tifway 5 = Tifgreen 6 = Midiron	7 = Coastal 8 = Coastcross-1 9 = Giant HECK VARIETIES IN THIS API	10 = other (Specify species) ———————————————————————————————————
rarieties that are adapted to	4 = Tifway 5 = Tifgreen 6 = Midiron SED FOR COMPARISON AS CH	7 = Coastal 8 = Coastcross-1 9 = Giant HECK VARIETIES IN THIS API varieties must be the most similar	10 = other (Specify species) ———————————————————————————————————
2 = Guymon 3 = Mirage PECIFIC VARIETIES Utarieties that are adapted to ISV 1AZ common	4 = Tifway 5 = Tifgreen 6 = Midiron SED FOR COMPARISON AS CH	7 = Coastal 8 = Coastcross-1 9 = Giant HECK VARIETIES IN THIS APProprieties must be the most similar Yukon V Varieties within species of application of the second species of	10 = other (Specify species) PLICATION: Use standard regional check variety (MSV) used in Exhibit B. Fariety 3. Yuma

6 2n Chromosome Number

Ploidy 1 = diploid 2 = tetraploid 3 = triploid				
4 = Other (Specify)	Application Vari	-	Comparison Variety :Yukon: 2	2 Comparison Variety 3
3. ADAPTATION: (0=	Not tested; 1= Inad	equately Tested; 2= Not Ada	pted; 3 = Adapted)	
0 Northwest	0 North C	entral 0 Northeas	t Other	
3 West Central	3 Central	3 East Cen	<u> </u>	
3 Southwest	3 South C	—		
4. RHIZOMES				
1 = None (Coastcross -1)				
4 = Weakly Rhizomatous				
6 = Moderately Rhizoma	ous (Common)			
9 = Heavy Rhizomatous	ation Variaty	MCM Variate 1	Comparison Variety	Comparison Variaty 2
Appno Majest	ation Variety	MSV Variety 1 AZ common: 6	Comparison Variety 2 Yukon: 4	Comparison Variety 3 Yuma: 7
Amount of spread in 1		AZ COMMON. O	I uxon. +	Tuna. /
	Majestic: 21.6	AZ Common: 22	Yukon: 16 Yuma: 16	
5. STOLONS AND SHO	OOTS:			<u>,</u>
Specify site season and o	rossing conditions:	Lehanon OR snace nlan	t nurseries 2004 irrigated un	mown unless otherwise specified
Speedy site, season and g	rowing conditions.		it marsories, 2007, migatod, am	mown amess caref wise speedica
	ion (cool temperatuation Variety	re). Examples: present in C MSV Variety 1	common, absent in Midland. Comparison Variety 2	2 Comparison Variety 3
	present		present	present
Or				
Percent of plants with a	nthocyanin pigme	ntation		
Stolon internade langth	om Massura from	hetween 3rd and 4th fully exte	nded nodes from apical meristo	am
-	, Study II	Study II	-	idy II
	, 4.46cm	4.04	4.39 4.0	·
	•			
			d internode from apical merist	
	, Study II	Study II		ıdy II
1.66mr	n, 1.54 mm	1.53mm	1.33 mm	_1.56mm
Number of growing poir	nts at a mature no	le. Recommend 4 th node.		
	, Study II	Study II	Study I Stu	ıdy II
2.24, 2	· · · · · · · · · · · · · · · · · · ·	2.08	2.44 2.0	8
Specify	which node was c	ounted.		
	3	3	3	3
Length of longest stolon	cm (measur	ed Parker, TX, 2004)		
	63.93 cm	51,32 (Az.com	nmon) 38.26 (Yuma)	
or		 ;	, , , ,	
Stolon length mm. Meas		apical meristem to the 5th no		
	Application Varie		Comparison Variety 2	
	Study I, Study II	Study II	Study I	Study II

6. LEAF BLADE: Color 1 = Light Green (Bayshore, Seeded Common), 3 = Light Medium Green, 5 = Medium Green (Guymon), 7 = Medium Dark Green (Everglades, Tifway), 9 = Dark Green (Tifgreen, Sunturf), AZ common: 5 Yukon: 7 Majestic: 6 Other Color 1 = Bluegreen (Tifdwarf, No Mow) 2 = Grev Green3 = Other (specify)Percent plants with other color NA Width Class 1 = Very Coarse (Coastcross-1) 3 = Coarse (Midland, Guymon) 5 = Medium (Seeded Common) 7 = Fine (Tifway)_Majestic: 6______ AZ common: 5_____ Yukon:7__ Yuma: 6 9 = Very Fine (Tifgreen) Leaf length cm. Measure longest leaf at third node below apical meristem on main upright tiller. Comparison Variety 3 Application Variety MSV Variety 1 Comparison Variety 2 Study I, Study II Study II Study I Study II 8.0, 9.1 cm 7.64 4.91 11.33 Leaf width mm. Measurement on 3rd or 4th leaf below apical meristem. Measure width at widest part about 1 cm from base. Comparison Variety 3 **Application Variety** MSV Variety 1 Comparison Variety 2 Study I, Study II Study II Study I Study II 11.33 3.67, 3.67 7.64 2.66 MSV Variety 1 Comparison Variety 2 Comparison Variety 3 Application Variety Flag leaf length cm Study I Study II Study II Study I, Study II 5.23 4.89, 3.70 3.83 3.67

MSV Variety 1

Study II

Flag leaf width mm. Measure width at widest part or about 1 cm from base. Application Variety

Study I, Study II

Application Variety

Study I, Study II

2.31,2.21

6.97,6.77

Comparison Variety 2

Study I

Comparison Variety 3

Study II

2.54

Leaf width mm (lateral)		est part of largest leaf at 4 th no MSV Variety 1 3.05		
Leaf length cm (lateral l		est part of largest leaf at 4th no		
	6.87	_9.83	_6.40	
Leaf blade hair number	(use 1 = absent; several;	9 = abundant).		
	Application Variety	MSV Variety 1	Comparison Variety 2	Comparison Variety 3
	Majestic: 1, absent	AZ common: 1, absent	Yukon: 1, absent (although	h some leaves have very sparse hair
Leaf blade hair length (use 1 = absent; 5=short; 9	e very long).		
	_NA			
Leaf sheath hair numbe	r (use 1 = absent; several	; 9 = abundant).		
	Majestic: 1, absent	AZ common: 1, absent	Yukon: 1, absent	
Leaf sheath hair length	(use 1 = absent; 5=short;	9 = very long).		
	NA			
Leaf collar hair number	(use 1 = absent; several;	9 = abundant).		
	Majestic: 7	AZ common: 5	Yukon: 5	
Leaf collar hair length (use 1 = absent: 5=short: 9) = very long)		
		AZ common: 9, very long	Yukon: 9, very long	
7. INFLORESCENCE unless otherwise specified		growing conditions)Leba	nnon, OR, space plant nurs	eries, 2004, irrigated, unmov
Inflorescence length cm.	The length of the raceme	s on the inflorescence.		
_Majest	Application Variety ic: _Study I, Study II 4.07, 4.07	MSV Variety 1 Study II 4.09	Comparison Variety 2 Study I 4.06	Comparison Variety 3 Study II 4.9
Number of racemes per i		MSV Variety 1	Comparison Variety 2	Comparison Variety 3
	Study I, Study II 4.83, 4.83	Study II 4.63	Study I 5.3	Study II 5.0
Number of who	rls per inflorescence.			
	Majestic: 1 AZ co	ommon: 1, rarely 2	Yukon: 1	
Percent of plants with me	ore than one whorl of br	anches/inflorescence.		
	_Majestic: 0 AZ co	ommon: < 10%	Yukon: 0	MANAGEMENT
Percent of inflorescences	with more than 1 whorl	•		
	_Majestic 0 A	Z common: < 2% Yukon:	0	

Spikelets per raceme.				
-	Application Variety	MSV Variety 1	Comparison Variety 2	Comparison Variety 3
	Study I, Study II	Study II	Study I	Study II
	43.66, 42.3	AZ common: 36,07	Yukon:30.56	Yuma:40.5
Spikelet spacing on ra	ceme mm Measured from	bottom 1/3 of spike. (Expre	essed as number per inch)	
	Application Variety	MSV Variety 1	Comparison Variety 2	Comparison Variety 3
	Study I, Study II	Study II	Study I	Study II
	21.61, 22.17	AZ common:19.82	Yukon:20.4	Yuma:20.75
Raceme density [numb	` .			
	Application Variety		Companion (and)	Comparison Variety 3
		000 (Seedhead Ratings – A		
	Majestic: 5, 5.2	AZ Common: 4.7, 5.3		
Percent of plants with		AZ common:	100%	
Stigma color % plants	with white stigmas. Mea	sure within 24 hours after a	nthesis.	
	Majestic: 33% AZ c	common: 0% Yukon:0%		
Stigma color % plants	with light purple stigmas	s. Measure within 24 hours	after anthesis.	
	_ Majestic: 0% AZ cor	mmon: 0% Yukon: 0% _		
Stigma color % plants	with purple stigmas. Me	asure within 24 hours after	anthesis.	
Stigma color % plants		ommon: 100% Yuk		
	_Majestic: 67% AZ co		on: 100%	
-	_Majestic: 67% AZ co	ommon: 100% Yuko	on: 100%	
Anther color % plants	_ Majestic: 67% AZ co with purple anthers. MeMajestic:43% A	ommon: 100% Yuko	on: 100% anthesis. on: 100%	
Anther color % plants	_ Majestic: 67% AZ co with purple anthers. MeMajestic:43% A	ommon: 100% Yuke easure within 24 hours after Z common: 50% Yuke esure within 24 hours after a	on: 100% anthesis. on: 100%	
Anther color % plants Anther color % plants	Majestic: 67% AZ co with purple anthers. Me Majestic:43% A with yellow anthers. Mea Majestic: 57% AZ	ommon: 100% Yuke easure within 24 hours after Z common: 50% Yuke esure within 24 hours after a	on: 100% anthesis. on: 100% nthesis. on: 0%_	
Anther color % plants Anther color % plants Anther color % plants	Majestic: 67% AZ co with purple anthers. Me Majestic: 43% A with yellow anthers. Mea Majestic: 57% AZ with other (specify). Mea	ommon: 100% Yuko easure within 24 hours after Z common: 50% Yuko esure within 24 hours after a Z common: 50% Yuko	on: 100% anthesis. on: 100% nthesis. on: 0%_ r anthesis. NA	
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. Mea	Majestic: 67% AZ co with purple anthers. MeMajestic: 43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in	common: 100% Yuke sasure within 24 hours after a Z common: 50% Yuke saure within 24 hours after a Z common: 50% Yuke saure within 24 hours after a Z common: 50% Yuke saure within 24 hours after a mflorescence to the flag leaf. MSV Variety 1	on: 100% anthesis. on: 100% on: 0%_ r anthesis. NA Comparison Variety 2	Comparison Variety 3
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. Mea	Majestic: 67% AZ co with purple anthers. MeMajestic: 43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II	common: 100% Yuke sasure within 24 hours after Z common: 50% Yuke sare within 24 hours after a Z common: 50% Yuke saure within 24 hours after a Z common: 50% Yuke saure within 24 hours after a MSV Variety 1 Study II	on: 100% anthesis. on: 100% nthesis. on: 0% r anthesis. NA Comparison Variety 2 Study I	Study II
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. Mea	Majestic: 67% AZ co with purple anthers. Me Majestic:43% A with yellow anthers. Mea Majestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49	common: 100% Yuko casure within 24 hours after Z common: 50% Yuko casure within 24 hours after a Z common: 50% Yuko casure within 24 hours after asure within 24 hours after as a sure within 24 hours after a	on: 100% anthesis. on: 100% on: 0%_ r anthesis. NA Comparison Variety 2	
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. Mea	Majestic: 67% AZ co with purple anthers. MeMajestic: 43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49 easure internode from base	common: 100% Yuke sasure within 24 hours after Z common: 50% Yuke sure within 24 hours after a Z common: 50% Yuke sure within 24 hours after a Z common: 50% Yuke sure within 24 hours after mflorescence to the flag leaf. MSV Variety 1 Study II AZ common: 2.93 of whorl to first node.	on: 100% anthesis. on: 100% nthesis. on: 0% r anthesis. NA Comparison Variety 2 Study I Yukon: 1.51	Study II Yuma: 3.85
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. Mea	Majestic: 67% AZ co with purple anthers. MeMajestic: 43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49 easure internode from base cation Variety	common: 100% Yuko casure within 24 hours after Z common: 50% Yuko casure within 24 hours after a Z common: 50% Yuko casure within 24 hours after asure within 24 hours after as a sure within 24 hours after as a	on: 100% anthesis. on: 100% nthesis. on: 0% r anthesis. NA Comparison Variety 2 Study I Yukon: 1.51 Comparison Variety 2	Study II Yuma: 3.85 Comparison Variety 3
Anther color % plants Anther color % plants Anther color % plants Iead exertion cm. Mea	Majestic: 67% AZ co with purple anthers. MeMajestic: 43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49 easure internode from base cation Variety Study I, Study II	common: 100% Yuke sasure within 24 hours after a Z common: 50% Yuke sure withi	on: 100% anthesis. on: 100% nthesis. on: 0% r anthesis. NA Comparison Variety 2 Study I Yukon: 1.51 Comparison Variety 2 Study I	Study II Yuma: 3.85 Comparison Variety 3 Study II
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. MeaA Peduncle length cm. Me	Majestic: 67% AZ co with purple anthers. MeMajestic:43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49 easure internode from base cation Variety Study I, Study II 9.92, 9.85	common: 100% Yuko casure within 24 hours after Z common: 50% Yuko casure within 24 hours after a Z common: 50% Yuko casure within 24 hours after asure within 24 hours after as a sure within 24 hours after as a	on: 100% anthesis. on: 100% nthesis. on: 0% r anthesis. NA Comparison Variety 2 Study I Yukon: 1.51 Comparison Variety 2	Study II Yuma: 3.85 Comparison Variety 3
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. MeaA Peduncle length cm. Mea	Majestic: 67% AZ co with purple anthers. MeMajestic:43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49 easure internode from base cation Variety Study I, Study II 9.92, 9.85 em.	common: 100% Yuke sasure within 24 hours after a Z common: 50% Yuke saure within 24 hours after a Z common: 50% Yuke saure within 24 hours after a Z common: 50% Yuke saure within 24 hours after a MSV Variety 1 Study II AZ common: 2.93 of whorl to first node. MSV Variety 1 Study II AZ common: 9.78	anthesis. on: 100% nthesis. on: 0% ranthesis. NA Comparison Variety 2 Study I Yukon: 1.51 Comparison Variety 2 Study I Yukon: 6.25	Study II Yuma: 3.85 Comparison Variety 3 Study II Yuma: 3.85
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. MeaA Peduncle length cm. Mea	Majestic: 67% AZ co with purple anthers. MeMajestic:43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49 easure internode from base cation Variety Study I, Study II 9.92, 9.85 cm. cation Variety	common: 100% Yuke sasure within 24 hours after a Z common: 50% Yuke sure within 24 hours after a Z common: 50% Yuke sure within 24 hours after a Z common: 50% Yuke sure within 24 hours after a Z common: 50% Yuke sure within 24 hours after a Z common: 50% Yuke sure within 24 hours after a Z common: 50% Yuke sure within 24 hours after a Z common: 50% Yuke sure within 24 hours after a Z common: 2.93 of whorl to first node. MSV Variety 1 Study II AZ common: 9.78 MSV Variety 1	anthesis. on: 100% nthesis. on: 0% r anthesis. NA Comparison Variety 2 Study I Yukon: 1.51 Comparison Variety 2 Study I Yukon: 6.25 Comparison Variety 2	Study II Yuma: 3.85 Comparison Variety 3 Study II Yuma: 3.85 Comparison Variety 3
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. MeaA Peduncle length cm. Mea	Majestic: 67% AZ co with purple anthers. MeMajestic:43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49 easure internode from base cation Variety Study I, Study II 9.92, 9.85 em. cation Variety Study I, Study II	common: 100% Yuko casure within 24 hours after Z common: 50% Yuko sure within 24 hours after a Z common: 50% Yuko sure within 24 hours after a Z common: 50% Yuko sure within 24 hours after a MSV Variety 1 Study II AZ common:2.93 c of whorl to first node. MSV Variety 1 Study II AZ common:9.78 MSV Variety 1 Study II AZ common:9.78 MSV Variety 1 Study II	anthesis. on: 100% anthesis. on: 0%_ ranthesis. NA Comparison Variety 2 Study I Yukon: 1.51 Comparison Variety 2 Study I Yukon: 6.25 Comparison Variety 2 Study I	Study II Yuma: 3.85 Comparison Variety 3 Study II Yuma: 3.85 Comparison Variety 3 Study II
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. Mea A Peduncle length cm. Me Applic	Majestic: 67% AZ co with purple anthers. MeMajestic:43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49 easure internode from base cation Variety Study I, Study II 9.92, 9.85 em. cation Variety Study I, Study II Majestic: 4.88, 4.17	common: 100% Yuko casure within 24 hours after Z common: 50% Yuko sure within 24 hours after a Z common: 50% Yuko sure within 24 hours after a Z common: 50% Yuko sure within 24 hours after a MSV Variety 1 Study II AZ common:2.93 cof whorl to first node. MSV Variety 1 Study II AZ common:9.78 MSV Variety 1 Study II AZ common:9.78 MSV Variety 1 Study II AZ common:5.0	anthesis. on: 100% nthesis. on: 0% r anthesis. NA Comparison Variety 2 Study I Yukon: 1.51 Comparison Variety 2 Study I Yukon: 6.25 Comparison Variety 2	Study II Yuma: 3.85 Comparison Variety 3 Study II Yuma: 3.85 Comparison Variety 3
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. Mea ———————————————————————————————————	Majestic: 67% AZ co with purple anthers. MeMajestic:43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49 easure internode from base cation Variety Study I, Study II 9.92, 9.85 em. cation Variety Study I, Study II	common: 100% Yuko casure within 24 hours after Z common: 50% Yuko sure within 24 hours after a Z common: 50% Yuko sure within 24 hours after a Z common: 50% Yuko sure within 24 hours after a MSV Variety 1 Study II AZ common:2.93 cof whorl to first node. MSV Variety 1 Study II AZ common:9.78 MSV Variety 1 Study II AZ common:9.78 MSV Variety 1 Study II AZ common:5.0	anthesis. on: 100% anthesis. on: 0%_ ranthesis. NA Comparison Variety 2 Study I Yukon: 1.51 Comparison Variety 2 Study I Yukon: 6.25 Comparison Variety 2 Study I	Study II Yuma: 3.85 Comparison Variety 3 Study II Yuma: 3.85 Comparison Variety 3 Study II
Anther color % plants Anther color % plants Anther color % plants I ead exertion cm. Mea Applic	Majestic: 67% AZ co with purple anthers. MeMajestic:43% A with yellow anthers. MeaMajestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49 easure internode from base cation Variety Study I, Study II 9.92, 9.85 em. cation Variety Study I, Study II Majestic: 4.88, 4.17	common: 100% Yuko casure within 24 hours after Z common: 50% Yuko sure within 24 hours after a Z common: 50% Yuko sure within 24 hours after a Z common: 50% Yuko sure within 24 hours after a MSV Variety 1 Study II AZ common:2.93 cof whorl to first node. MSV Variety 1 Study II AZ common:9.78 MSV Variety 1 Study II AZ common:9.78 MSV Variety 1 Study II AZ common:5.0	anthesis. on: 100% anthesis. on: 0%_ ranthesis. NA Comparison Variety 2 Study I Yukon: 1.51 Comparison Variety 2 Study I Yukon: 6.25 Comparison Variety 2 Study I	Study II Yuma: 3.85 Comparison Variety 3 Study II Yuma: 3.85 Comparison Variety 3 Study II Yuma: 6.10
Anther color % plants Anther color % plants Anther color % plants Head exertion cm. Mea A Peduncle length cm. Me Applic First internode length color Applic	Majestic: 67% AZ co with purple anthers. Me Majestic: 43% A with yellow anthers. Mea Majestic: 57% AZ with other (specify). Mea asure from the base of the in pplication Variety Study I, Study II 3.13, 3.49 easure internode from base cation Variety Study I, Study II 9.92, 9.85 em. cation Variety Study I, Study II Majestic: 4.88, 4.17 cm. Measure from node to	common: 100% Yuko casure within 24 hours after Z common: 50% Yuko casure within 24 hours after a Z common: 50% Yuko casure within 24 hours after asure within 24 hours after as asure within 24 hours after asure within 24 hours	on: 100% anthesis. on: 100% nthesis. on: 0% r anthesis. NA Comparison Variety 2 Study I Yukon: 1.51 Comparison Variety 2 Study I Yukon: 6.25 Comparison Variety 2 Study I Yukon: 6.25	Study II Yuma: 3.85 Comparison Variety 3 Study II Yuma: 3.85 Comparison Variety 3 Study II

^{8.} PLANT HEIGHT (Specify site, time, growing conditions).). ___Lebanon, OR, space plant nurseries, 2004, irrigated, unmown unless otherwise specified

•	Parker, TX	A 7 40.00	V-1 20.72	
	Majestic: 65.24	AZ common: 42.86	Yukon: 39.73	
		ding seedheads, measure at s		
	ication Variety	MSV Variety 1	Comparison Variety 2	Comparison Variety
	7 I, Study II stic: 18.2, 16.80	Study II AZ common: 22.47	Study I Yukon:18.4	Study II Yuma:18.31
iviaje	suc. 16.2, 10.60	722 Common. 22.47	1 UKOH, 10.4	Tulia. 16.51
. SEED, LEMMA, A	ND GLUME: Use seed h	arvested from PVP nursery,	not commercial seed lots.	
Glume length mm				
-	Application Variety	MSV Variety 1	Comparison Variety 2	Comparison Variety
	Majestic: 0.5mm			······································
Jume width mm				
	Majestic: 0.2mm			
	141ajo3do: 0.211111			
emma length mm				
	Majestic: 0.74			
emma width mm				
	Majestic: 1.83mm			
9				
lume/lemma length 1				
	Majestic: 67			
emma keel hair num	ber (use 1 = absent; 5=seve	eral; 9 = many).		
	Majestic: 5			
emma keel hair lengt	h (use 1 = absent; 5=short	; 9 = very long).		
	Maiestic: short to lo	ong (5 – 9)		
amma marain hair n	umber (use 1 = absent; 5=:			
emina margus nan 18	•	•••		
	Majestic: several t	o many (5-9)	 	
emma margin hair le	ngth (use 1 = absent; 5=sl	nort; 9 = very long).		
	Majestic: variable: 5	- 9		
eed length mm (nake	d caryopses).			
	_Majestic: 1 mm		Sydney:	1.05 mm
eed width mm (naked				
•	Maiestic: 0.5 mm		Sydno	ey: 0.5 mm
				-J,-

Weight of 100 seed mg

Majestic: 29.8 Number of seeds per gram (hulled)	
_Majestic: 3357.12 seed/	gSydney: 4068.5 seed/g
0. LOW TEMPERATURE TOLERANCE (Win	ter hardiness)
Application Variety Majestic: 66.7 %winterkill Majestic rating: 6 11. DISEASES AND INSECTS	AZ Common rating: 5
0=Not Tested, 1=Susceptible, 2=Moderately sus 0 Brown patch (Rhizotonia solani) 0 Dollar spot (Sclerotinia homoeocarpa) 0 Fading out (Curvularia spp.) 0 Leafspot (Bipolaris spp.) 0 Rusts (Puccinia spp.) 2 Spring Dead Spot (Pathogen indefinite) 0 Zonate leafspot (D. gigantea)	ceptible, 3=Moderately resistant, 4=Resistant): O

12. INDICATE THE SEED PROPAGATED VARIETY THAT MOST CLOSELY RESEMBLES THE APPLICATION VARIETY FOR THE FOLLOWING CHARACTERS: For each of the following characters, indicate the degree of resemblance 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, etc.

CHARACTER	VARIETY	D.R.
Rate of Spread	Arizona Common	2
Sod Density	Riveria	1 (based on NTEP data)
Color	Continental	1 (NTEP fall color, 2000)
Cold Tolerance	Arizona Common	2 (based on NTEP data)

13. SPECIFY LOCATION, GROWING CONDITIONS, AND EXPERIMENTAL DESIGN BELOW. Include location, age of plants, date of data collection (with daylength if possible), management conditions, experimental design etc.). Attach more paper if needed.

Lebanon, OR; 4 month old plants, August - September 2004, spaced plants, unmown with irrigation, randomized complete block design with three replications in Study I, two replications in Study II

TABLE .. 13.

FALL DENSITY RATINGS OF BERNIDAGRASS (SEEDED) CULTIVARS 1/1997-2001 DATA

DENSITY RATINGS 1-9; 9-MAXIMUM DENSITY 2/

NAME	AR1	AZ1	FL1	댔	MO1	MO3	NM1	OK1	TX2	MEAN	
PRINCESS	7.6	7.5	7.2	8,3	8.2	8.7	7.2	7.4	6.4	7.6	
SWI-11	8.1	7.3	6.9	9.0	8.2	8,3	8.	œ œ	6.3	7.5	
RIVIERA (OKS 95-1)	7.1	8,	6.4	8.7	8.3	8.7	7.0	7.4	6.1	7.4	
TRANSCONTINENTAL (PST-R69C)	7.3	6.7	1.9	7.0	8,3	æ	8.9	7.1	6.0	7.1	
SOUTHERN STAR (J-1224)	6.7	5.8	5.6	7.0	7.7	6.7	6.4	6.4	5,9	6.5	
SYDNEY (SWI~7)	9.9	5.2	6,0	6.7	8.5	7.7	5.9	4.4	5,5	6.5	
MAJESTIC	5.8	5.6	5.4	0.6	7.8	7.3	5.9	6.1	5.1	6.5	
SAVANNAH	6.2	5,9	5.3	6.7	7.8	7.7	6.5	6.2	5.1	6.4	
BLACKJACK	9.9	5,3	5.1	œ O:	8.0	7.0	6.2	5,9	5.1	6.3	
048-0	5.8	ις Φ	5,3	0.8	7.0	7,3	6.3	6. 0	5.6	6.3	
SUNDEVIL II	5.7	S.	5,2	7.7	7.3	7.3	6.3	6.3	ۍ ش	6.3	
SHANGRI LA	6,3	5,2	5.4	9.0	7.3	7.3	6.1	5. 0	5.4	6.3	
BLUE-MUDA	5,6	8. B.	5.2	8.3	7.5	6.3	5,9	5.7	5,1	6.2	
JACKPOT	5,9	in m	4.9	8,3	7.0	7.3	5,8	5.7	5.0	6.1	
PYRAMID	5.4	5.7	ω. 	8,0	7.7	6.7	6.0	5. 8.	4.7	6.1	
MIRAGE	5.4	8.	5,3	8.0	7.3	5.7	9.0	ري وو	0	6.0	
NUMEX-SAHARA	7.2	5,3	₽,	8	5	5.7	5,7	ۍ ه	6.4	8,2	
ARIZONA COMMON	5,5	5.2	3,8	8.7	6.7	0.9	6.8	5.4	5.5	5.7	
LSD VALUE	0.5	9.0	1.1	1.4	1.2	1.4	7.0	0.5	0.5	0,3	
C.V. (%)	10.5	13.4	24.7	11.0	13.6	12.4	14.7	9.0	14.0	13.8	

TABLE 10C. FALL DENSITY PATINGS OF BERMUDAGRASS (VEGETATIVE) CULTIVARS 1/1997-2001 DATA

/2 WITHOUS THE SAME OF THE CONTINUE OF THE CON

		DENSLIT F	WITTH'S	# 6 . T	DENSITY KATINGS 1-5; SHMAIMUM DENSITY	ENSLIT	/2				
NAME	ARI	AZI	FL1	KX1	MO1	MO3	NW)	OK1	TX2	MEAN	
MINI-VERDE	9.4	8.5	9.6	0.6	7.5	8.3	7.8	8.8	8.0	7,8	
TIESPORT (TIFT 94)	%	7.0	6.3	8.3	8.2	°.	7.4	0.0	6.7	7.6	
	9	7,6	5.9	8,3	7.7	8.3	7.4	. 0	6.7	7.6	
NEGRETA	60	8.2	2,6	0.6	60	7.7	7.5	0.0	7.3	7.5	
CARDINAL	69.7	90	2.7	9.0	7.0	0.6	7.3	8,4	6.0	7.4	
PATRIOT (OKC 18-4)	8,2	7.1	8.8	8.0	7.7	7.7	7.5	6.	6.2	7.2	
OKC 19-9	8	5	3.3	7.	.,	ст с о	7.2	0	6,0	7.1	
MIDIAM	ຜ	7,1	e.	8.0	7.5	17	7.6	7.6	6.5	7.1	
2-9	8.0	7,3	υ. Ε.	5.7	7.2	۲- ع	7.0	8	6.7	7.0	
SHANGHAI	7.7	5.4	5.2	6.0	7,5	7.0	7.0	6.4	5,6	6.4	
LSD VALUE	0.5	0.8	1.2	0.8	1.1	1.6	0.7	4.0	ထမ	6.0	
C.V. (%)	8. 1.	13,4	34.3	6.0	12.2	12.2	12.6	9	1/.2	ກຸ	

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 CORPESPONDING LSD VALUE (LSD 0.05). 7

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

TABLE .. 13

SUMMER DENSITY RATINGS OF BERMUDAGRASS (SEEDED) CULTIVARS 1/1997-2001 DATA

DENSITY RATINGS 1-9, 9-MAXIMUM DENSITY 2/

NAME	AR1	AZ1	FL1	KY1	WO.	W 05	MO3	ZWI	OKI	1 42	MEAN	
PRINCESS	7.3	7.5	7.2	8.5	8.3	5.7	7.7	7.8	7.5	9.9	7.4	
RIVIERA (OKS 95-1)	6.8	6.9	4	9,0	8.5	6.0	8.0	7.8	7.6	6.7	7.3	
SWI-11	7.1	7.6	6.3	8.7	8,2	5,7	8	7.3	7.0	6.1	7.3	
TRANSCONTINENTAL (EST-R69C)	6.7	6.8	6.0	0.9	9,0	5.7	7.3	7.2	7.3	6,5	6.7	
SOUTHERN STAR (J-1224)	6.3	6.0	5,5	5,8	7.7	4.7	7.3	6.1	6.8	6,3	6.2	
SAVANNAH	6.2	5.7	4. 8.	6.2	8.0	5.0	6.3	6.3	8,8	5,3	0.9	
SYDNEY (SWI-7)	5.7	6.4	6.1	6.2	7.8	4.3	7.0	6,3	6.8	5.2	6.0	
SHANGRI LA	5.6	5.2	5.2	7.0	7.3	5.0	6.7	5.7	6.7	5,5	6.0	
J~540	۵, 80	5.9	4.8	6.5	7.2	4.7	6.7	6.3	8.9	0.9	0.9	
MAJESTIC	5.5	5.8	5.2	7.0	1.7	4.3	7.0	5.9	6.3	5.2	6.0	
BLACKJACK	6.3	5,3	9,	6.8	7.7	4.7	5.3	6.1	9.9	5.2	5.9	
SUNDEVIL II	5,3	5.6	4. 9 .		7.2	5.0	6,3	6.7	œ.	5.5	5.9	
PYRAMID	5,3	5.7	4. 4.	6,5	7.3	4.3	6.3	6.0	9.9	4.9	5.7	
BLUE-MUDA	4.7	5.7	5.2	7.2	7.2	4.3	5.7	2.6	6 ,5	υ, e,	5.7	
MIRAGE	5.1	ري و	4.3	5.7	7,5	4.7	9.0	5.6	6. 5	5.3	5.7	
NUMEX-SAHARA	5.2	8	4.0	6.7	7.0	0.4	6.7	5.7	6,3	4.9	5.6	
JACKPOT	ις C	5,6	4.7	6.8	6.5	4.3	5.0	ιν œ	6.4	4 .	5.5	
ARIZONA COMON	4.7	5.7	3.9	5.2	6.7	4.3	5.0	6. 6.	5.B	4.3	5.1	
LSD VALUE	9.0	9.0	6.0	1.0	8.0	1.0	1.2	1.0	0.5	9.0	0.3	
C.V. (%)	13.0	12.5	21.3	13.6	9.6	13.3	11.3	20.4	6.6	14.2	14.7	

TABLE 9C. SUMMER DENSITY RATINGS OF BERADDAGRASS (VEGETATIVE) CULTIVARS 1/1987-2001 DATA

DENSITY HATINGS 1-9; 9=MAXIMUM DENSITY 2/

6.8 9.0 8.5 6.0 9.0 7.8 8.3 7.3 7.3 6.8 6.1 8.5 8.3 6.3 8.3 7.7 7.7 8.1 6.6 6.8 4.1 8.7 7.2 6.3 7.3 7.7 7.8 8.3 5.4 4.1 8.7 7.2 6.3 7.3 7.8 7.7 6.7 5.5 5.0 7.8 6.7 8.3 7.3 7.8 7.7 6.7 5.3 7.8 8.7 7.9 6.7 6.7 5.3 7.8 8.3 7.4 7.8 6.6 5.3 7.1 5.3 7.8 7.7 6.6 14.9
8.7 7.2 6.3 7.3 7.7 7.8 8.3 5.0 7.7 7.8 8.3 7.7 7.8 8.3 7.7 7.8 8.3 7.7 7.8 8.3 7.7 7.8 8.3 7.7 7.8 8.3 7.7 7.8 8.3 7.7 7.8 8.3 7.7 7.8 8.3 7.4 7.0 8.3 7.4 7.0 0.5 1.0 0.9 1.0 0.9 0.4 5.3 11.4 8.5 7.9 14.0 6.6
8.7 7.2 6.3 7.3 7.8 7.7 5.0 5.5 5.0 7.8 7.7 8.3 7.3 8.0 8.0 7.7 5.3 7.3 7.4 7.8 7.0 6.5 1.0 0.9 1.0 0.9 0.4 5.3 11.4 8.5 7.9 14.0 6.6
5.0 7.8 6.7 8.3 7.3 8.0 8.7 7.7 5.7 8.3 7.4 7.8 7.8 7.7 5.3 7.3 7.4 7.0 0.5 1.0 0.9 1.0 0.9 0.4 5.3 11.4 8.5 7.9 14.0 6.6
7.8 7.7 5.3 7.3 7.4 7.0 0.5 1.0 0.9 0.4 5.3 11.4 8.5 7.9 14.0 6.6
0,5 1.0 0.9 1.0 0.9 0.4 5.3 11,4 8.5 7.9 14.0 6.6
5,3 11,4 8.5 7,9 14,0 6,6

TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WIEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05). 7

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

Table 1.	Bermudagrass characters, Field Study I, Lebanon, OR, 2004.	charact	ers, Field &	Study I, I	ebanon,	OR, 2004.					
	Flag	Flag leaf	Flag leaf	Sheath	Sheath Branch	Spikelet per Spikelet	Spikelet	Head	Peduncle	Panicle	Panicle
	length		width	Length	number	branch	per inch	extension	length	internode	sheath length
Variety	СШ		mm	E	number	number	number	CU	ш	E)	cm
Majestic		4.89	2.31	6.97	4.83	43.66	21.61	3.13	9.92	4.88	6.97
Riveria		2.17	1.74	5.52	4.61	33.26	22.33	1.51	6.77		
P77		2.42	1.88	5.16	3.31	28.19	17.87	1.62	6,31		
Mohawk		3.60	2.04	66.9	5.19	38.11	19.48	3.03	9.80		
NuMex Sahara		3.66	2.06	8.01	4.62	35.32	18.08	3.13	10.52		
Yukon		3.67	2.35	5.09	5.30	30.56	20.40	1.51	6.25	2.62	
Southern Star		3.88	1.99	5.91	4.81	35.00	21.92	2.68	8.14	3.54	
LSD 0.05		1.26	0.33	1.59	0.74	7.76	2.67	1.05	1.72	0.83	1.57
Varieties planted as individual spaced plants, 6' x 6' centers.	ndividual spaced plan	its, 6'x 6'	centers.								
Means presented averaged over 3 replications arranged in a randomized complete block design, 9 measurements per replication.	raged over 3 replicat	ons arran	iged in a rando	omized con	npiete block	design, 9 measur	ements per rep	lication.			

	Growing Length from Leaf	point apex width length	number cm mm cm		2.24 20.65 3.67 8.00	2.15 15.03 2.76 4.31	2.30 18.27 3.17 7.56	2.07 17.74 3.26 8.36	2.30 19.13 2.93 6.23	2.44 19.84 2.66 4.91	2.15 20.32 3.41 8.12	0.40 1.89 0.33 2.15		urements per replication.	
2004.	Internode	diameter p	mm n		1.66	1.28	1.51	1.63	1.55	1.33	1.66	0.15		k design, 9 meas	-
Characters, Field Study I, Lebanon, OR 2004	Internode length,	3-4 node	cm	-	4.69	3.23	3.94	4.00	4.38	4.39	4,55	0.78	nters.	replications arranged in a randomized complete block design, 9 measurements per replication.	
haracters, Fie													d plants, 6' x 6' cer	plications arranged	
Bermudagrass C							JE.				ara		Varieties planted as individual spaced plants, 6' x 6' centers.	Means presented averaged over 3 re	
Table 5. B			Variety		Majestic	P77	Southern Star	Mohawk	Riveria	Yukon	NuMex Sahara	LSD 0.05	Varieties planted	Means presente	

REPRODUCE LOCALLY. Include form number and date on all reproductions.	FORM APPROVED - OMB NO. 0581-0055 EXPIRES: 12-31-96
AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE	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.
EXHIBIT E	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
STATEMENT OF THE BASIS OF OWNERSHIP	until certificate is issued (7 U.S.C. 2426).
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER 3. VARIETY NAME
H& H Seed Co., Inc. RNB, LLC	H & H Exp.#9381 Majestic
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)	5. TELEPHONE (include area code) 6. FAX (include area code)
11350 S. Fortuna Rd.	$\frac{328}{520}$ - 783 - 7821 $\frac{328}{520}$ - 343 - 0156
P.O. Box 1688	7. PVPO NUMBER
Yuma, AZ 85366-1688 -85367	9700134
8. Does the applicant own all rights to the variety? Mark an "X" in appropriate i	block. If no, please explain. X YES NO
Is the applicant (individual or company) a U.S. national or U.S. based company If no, give name of country	Y? XYES NO
O. Is the applicant the original breeder? If no, please answer the following:	X YES X NO RAD
 a. If original rights to variety were owned by individual(s): ls (are) the original breeder(s) a U.S. national(s)? If no, give name of or 	3/11/0
 b. If original rights to variety were owned by a company: Is the original breeder(s) U.S. based company? If no, give name of containing the property of the property	Untry
1. Additional explantion on ownership (If needed, use reverse for extra space):	
LEASE NOTE:	
ant variety protection can be afforded only to owners (not licensees) who meet o	one of the following criteria:
If the rights to the variety are owned by the original breeder, that person must of a country which affords similar protection to nationals of the U.S. for the sac	be a U.S. national, national of a UPOV member country, or national me genus and species.
If the rights to the variety are owned by the company which employed the originationals of a UPOV member country, or owned by nationals of a country which genus and species.	inal breeder(s), the company must be U.S. based, owned by a affords similar protection to nationals of the U.S. for the same
If the applicant is an owner who is not the spirits.	
If the applicant is an owner who is not the original breeder, both the original bree	eeder and the applicant must meet one of the above criteria.
e original breeder may be the individual or company who directed final breed finition.	ling. See Section 41(a)(2) of the Plant Variety Protection Act for
blic reporting burden for this collection of information is estimated to average 10 minutes per response, inci	
intaining the data needed, and completing and reviewing the collection of information. Send comments rega- tigestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, J 81-0055 and form number in your letter.	arrive this burden estimate or any other espect of this collection of information, including

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To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

Under the PRA of 1395, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

AUCTIONEER'S CERTIFICATE

I, Robert Tuffly, presided as the auctioneer of the assets of H & H Seed Co., Inc., sold at an auction on Friday, May 26, 2004 at 10:00 a.m. at 4796 E. 30th Place, Yuma, Arizona.

RNB, LLC through a credit bid was the successful purchaser of the following asset:

Bermuda Majestic – Application Number 9700134 filed with the United States Department of Agriculture Plant Variety Protection Office, and all ownership rights and incidents thereof.

DATED this 7th day of June, 2004.

Robert Tuffly

STATE OF ARIZONA

ss.

County of YUMA

Subscribed and sworn to before me this 7th day of June, 2004 by Robert Tuffly.

My commission expires:

Ditober 19, 2004

Notary Public

