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# **ON-SITE TESTING OF BENTGRASS AND BERMUDAGRASS CULTIVARS FOR GOLF COURSE PUTTING GREENS**

## **INTRODUCTION**

There is growing interest within the golfing industry to develop on-site testing of turfgrass cultivars. This concept is not new, but has not been a common practice in recent years. Therefore, the Golf Course Superintendents Association of America (GCSAA), United States Golf Association Green Section (USGA), and the National Turfgrass Evaluation Program (NTEP) have agreed to revitalize on-site testing of turfgrass cultivars on golf courses, particularly on putting greens. This project conducts evaluations of new bentgrass and bermudagrass cultivars on USGA specification putting greens constructed at golf courses across the country. This on-site testing program is designed to provide scientific information of a more applied nature about putting green turfgrass cultivar performance.

Information from this project is valuable to the golfing industry. These studies will determine the adaptation of grasses for golf course use. In addition, information obtained from on-site testing will be of particular value to plant breeders, researchers, extension educators, USGA agronomists, golf course architects, and superintendents, who need to select the best adapted putting green cultivars for a particular regional climate.

A five-person committee composed of Dr. Jeff Nus, GCSAA Research Director; Dr. Mike Kenna, USGA Research Director; Mr. James Moore, USGA Construction Education Coordinator, Mr. Kevin Morris, NTEP Executive Director; and Dr. Bob Shearman, NTEP Special Projects Coordinator determined the trial site locations and the trial specifics. Input from golf course superintendents, USGA agronomists and turfgrass researchers assisted the committee members' decision making process.

### **Location & Number of Trial Sites**

These cultivar evaluation trials are jointly sponsored and supported by the GCSAA, USGA-Green Section, and NTEP. The USGA funded the construction of USGA specification greens for the trials. Trial sites are located on golf courses near a land grant university with a turfgrass research program or in a major metropolitan area which is readily accessible to a university turfgrass scientist. Sixteen (16) regional evaluation trial sites have been established. Trials are located in: a) northern locations for bentgrasses, b) southern locations for bermudagrass, and c) transition zone locations for both species. Trials are located where golfers practice putting and/or chipping. Host clubs provide daily maintenance of the putting green site at their own expense.

### **Trial Specifics**

The NTEP functions as the coordinating agent for the cultivar trials. These trials are five years in duration. Trials are conducted under mutually agreed upon guidelines, procedures, and funding outlined in a research agreement agreed to and signed by the appropriate representatives of GCSAA, USGA, and NTEP and each research cooperator (i.e. university turfgrass researcher). Trials are conducted at each location under the leadership of the assigned research cooperator. These persons are responsible for establishing and conducting the trial, and collecting and transferring the data to NTEP according to the research agreement.

Trials are maintained by the golf course superintendent at each location using management procedures common to their golf course, the geographical area and in consultation with the research cooperator. No special management practices are prescribed as these trials are intended to receive real-world golf course conditions and stresses.

## **ON-SITE TESTING (continued)**

These trials are conducted principally with commercially available, named cultivars. Experimental lines that will be commercially available in the near future (i.e. before the end of the test cycle) were also included in these trials at the sponsoring company's discretion.

The NTEP administers the program and its funding, sets the advisory committee and gathers their input and recommendations for each species trial. The NTEP organizes and distributes the seed and vegetative materials which constitute the entries for each trial location. The NTEP provides the maintenance and data collection protocols to each site; collects, analyzes and disseminates the performance data in annual and final reports; and conducts an annual site visit for each trial.

For more information or additional copies of reports, please contact:

Kevin Morris, Executive Director  
National Turfgrass Evaluation Program  
Beltsville Agricultural Research Center-West  
Building 003, Room 217  
Beltsville, Maryland 20705 USA

*NTEP reports can also be found on the World Wide Web at <http://www.ntep.org>.*

## ON-SITE PUTTING GREEN TEST LOCATIONS

Golf Course	Location	Superintendent	Research Cooperator
<i>Bentgrass only</i>			
Crystal Springs Golf Course	Burlingame, California	Ray Davies	Dr. Ali Harivandi, California Cooperative Extension
Fox Hollow at Lakewood	Lakewood, Colorado	Bruce Nelson	Dr. Tony Koski, Colorado State University
Lassing Pointe Golf Course	Florence, Kentucky	Jerry Coldiron	Dr. A. J. Powell, University of Kentucky
North Shore Country Club	Glenview, Illinois	Dan Dinelli	Dr. Tom Voigt, University of Illinois
Purdue University Kampen Course	West Lafayette, Indiana	Jim Scott	Dr. Zac Reicher, Purdue University
Snoqualmie Ridge C. C.	Snoqualmie, Washington	Tom Wolff	Dr. Gwen Stahnke, Washington State University
Westchester Country Club	Rye, New York	Joe Alonzi	Dr. James Murphy, Rutgers University
Westwood Golf Course	Vienna, Virginia	Walter Montross	Dr. David Chalmers, Virginia Tech University
 <i>Bentgrass and Bermudagrass</i>			
Bent Tree Country Club	Dallas, Texas	Keith Ihms	Dr. Milt Engelke, Texas A&M University
Country Club of Birmingham	Birmingham, Alabama	Lee McLemore	Dr. Elizabeth Guertal, Auburn University
Country Club of Green Valley	Green Valley, Arizona	Mike Bates	Dr. David Kopec, University of Arizona
The Missouri Bluffs	St. Charles, Missouri	Alan Zelko	Dr. Barb Corwin, University of Missouri
SCGA Members Club	Murrieta, California	John Martinez	Dr. Robert Green, University of California-Riverside
 <i>Bermudagrass only</i>			
Country Club of Mobile	Mobile, Alabama	Ron Wright	Dr. Bryan Unruh, University of Florida
Jupiter Island Club	Hobe Sound, Florida	Rob Kloska	Dr. John Cisar, University of Florida
Lakeside Country Club	Houston, Texas	Mike Sandburg	Dr. Richard White, Texas A&M University

## USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST

### Entries and Sponsors

Entry No.	Name	Sponsor
1	L-93	Simplot Turf / Jacklin Seed
2	Putter	Simplot Turf / Jacklin Seed
3	Cato	Pickseed West, Inc.
4	Crenshaw	ProSeeds Marketing, Inc.
5	Grand Prix (LCB-103)	LESCO, Inc.
6	Penncross	Standard entry
7	Backspin	Turf Merchants, Inc.
8	Trueline	Turf Merchants, Inc.
9	Providence	Seed Research of Oregon
10	SR 1020	Seed Research of Oregon
11	SR 1119	Seed Research of Oregon
12	Viper	Cebeco International Seeds, Inc.
13	Century	ProSeeds Marketing, Inc.
14	Imperial	ProSeeds Marketing, Inc.
15	Penn A-1	Tee-2-Green Corp.
16	Penn A-4	Tee-2-Green Corp.
17	Penn G-6	Tee-2-Green Corp.
18	Penn G-1	Tee-2-Green Corp.

TABLE 1A. 2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT BIRMINGHAM, AL (COUNTRY CLUB OF BIRMINGHAM)

ESTABLISHMENT		FERTILIZATION			HERBICIDES		
Seeding date	16-Sep-97	Date(s)	Product	Rate (lbs./M)	Date(s)	Product	Rate (oz./M) (1000 sq.ft.)
Problems during	None		Foliar application				
FACTORS OF PLAY		applied weekly in Feb. - Nov.		1/10-1/32 lb N	March, May, late July, and Sept.	Pre-San	2 lbs. product
Date opened for play	year round	Feb., March, April	Granular application 26-0-22 (Nutralene+KNO <sub>3</sub> )	0.5-0.6 lb. N			
Date closed for play		May, June	K <sub>2</sub> SO <sub>4</sub> (0-0-24)	1 lb. K <sub>2</sub> O			
Type of spikes allowed	softspikes	September	26-0-22 (Nutralene+KNO <sub>3</sub> )	0.6 lb. N			
Uses of green	chipping	October	26-0-22 (Nutralene+KNO <sub>3</sub> )	0.6 lb. N			
MOWING		FUNGICIDES			INSECTICIDES		
Initial height	0.25"	Date(s)	Product	Rate (oz./M) (1000 sq.ft.)	Date(s)	Product	Rate (oz./M)
Current height	0.135 -0.150"						
Frequency	6-7 days/week						
Type of mower	Toro 800 walk				as needed for cutworms early May	Talstar Nemacur	1 lb./100 sq.ft. 2.3 lbs./1000 sq.ft.
Rollers used	Rolling as needed (1/2x/week)						
Groomers used	6-7x/week Oct-June	Fungicides applications are made from Feb. to early Dec. depending on weather conditions. Big problem with pythium so Alliette, Banol, Subdue, and Heritage are rotated and sprayed on a two weeks schedule in May-Nov.	Alliette Banol Subdue Maxx Dithane Daconil Ultrex Heritage Consyst Terrazole	4 2 1 4 4-8 oz. 0.4 4 6			
CULTIVATION					OTHER PRODUCTS		
Aerification - dates	5/8" hollow x 2 direction - Feb. 1/4" hollow tine (June-August). 5/8" tine - Sept. Hydroject every other week (Feb.- Nov.).				Date(s)	Product	Rate (oz./M)
Verticutting	Lightly verticut in April & June.				weekly as needed weekly as needed 6-May 10-Jun	Astron Perkup Primo Primo	1 3 8 oz./Acre 8 oz./Acre
Dates of topdressing	Heavy topdressed after Feb. and Sept. aerifications to fill holes. Lightly topdressed biweekly during growing season.				NOTES/COMMENTS		
Other cultural practices	Rolled heavy after aerifications				This green gets a lot of play.		

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TABLE 1B.

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT BIRMINGHAM, AL (COUNTRY CLUB OF BIRMINGHAM) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/

NAME	GENETIC COLOR	LEAF TEXTURE	WINTER COLOR	COLOR MAY	FALL COLOR NOVEMBER	QUALITY RATINGS												
						JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
PENN A-4	6.0	8.0	7.0	6.3	8.7	7.7	7.0	7.7	7.0	7.3	6.3	7.3	7.0	7.0	7.7	7.7	7.3	7.3
PENN A-1	6.3	6.7	7.0	6.7	8.7	7.7	6.3	7.0	6.7	6.7	5.3	6.3	6.7	6.7	8.0	7.7	7.7	6.9
PENN G-1	6.0	8.3	6.3	7.0	7.3	7.7	6.3	7.0	7.0	6.7	6.3	6.3	6.7	7.3	7.0	6.7	6.7	6.9
BACKSPIN	4.7	6.3	6.0	4.7	7.0	6.3	6.0	6.7	6.3	7.3	6.0	5.7	6.3	6.7	7.3	6.7	6.7	6.5
IMPERIAL	5.0	6.7	6.0	4.7	6.7	7.0	5.7	6.0	5.7	6.7	6.0	6.3	7.0	6.7	7.3	6.7	6.7	6.5
GRAND PRIX (LCB-103)	5.0	7.7	6.0	5.3	7.7	7.7	6.0	6.3	6.0	6.0	6.3	5.0	7.0	6.3	7.3	7.3	6.0	6.4
CENTURY	5.3	7.0	6.3	5.3	7.0	7.0	5.7	6.0	6.0	6.3	6.0	6.0	7.0	6.0	6.3	6.3	6.3	6.3
CRENSHAW	6.7	6.0	7.3	6.3	8.3	6.0	6.3	6.7	6.3	6.0	5.7	5.7	6.7	6.3	7.7	6.3	5.7	6.3
PENN G-6	5.7	6.3	7.0	6.0	7.0	6.7	6.0	6.0	6.0	5.3	5.3	6.0	5.0	6.7	7.3	7.0	6.7	6.2
L-93	5.7	5.7	6.3	6.3	7.0	7.0	5.3	5.7	5.7	6.0	5.0	5.7	6.3	6.3	7.3	6.7	6.3	6.1
SR 1020	5.7	5.3	6.3	5.3	7.0	6.3	5.3	5.7	5.7	5.7	5.7	5.7	6.0	6.0	7.3	7.0	6.7	6.1
SR 1119	6.3	5.3	8.0	7.3	7.7	5.7	5.3	6.0	6.0	5.7	5.0	5.7	6.0	6.3	6.7	6.0	5.7	5.8
PROVIDENCE	6.0	5.3	7.0	6.3	7.3	6.0	5.3	5.3	5.7	6.0	5.7	5.0	6.0	5.3	6.0	5.7	6.0	5.7
TRUELINE	5.7	6.3	6.7	6.3	7.0	6.0	4.7	5.0	5.3	5.0	5.0	5.3	5.3	5.7	7.3	6.3	5.7	5.6
VIPER	6.7	5.7	7.0	6.7	7.7	6.0	5.0	5.3	5.0	5.3	5.0	4.7	5.3	5.3	6.0	5.7	6.0	5.4
PUTTER	6.0	5.3	6.0	6.3	7.3	6.0	5.0	4.7	5.7	6.0	4.3	5.0	4.7	5.3	6.3	5.3	5.7	5.3
CATO	5.7	5.7	7.0	5.7	7.0	5.3	4.7	5.0	4.7	4.7	5.0	4.7	4.7	4.3	7.0	5.7	5.7	5.1
PENNCROSS	5.0	5.3	6.0	6.0	6.7	5.3	4.3	5.0	5.0	4.3	4.0	4.3	5.3	4.7	6.3	5.0	5.0	4.9
LSD VALUE	2.3	2.6	1.5	1.1	1.3	1.0	1.2	1.2	1.3	1.4	1.0	2.4	2.6	1.3	1.3	1.3	1.3	0.5
C.V. (%)	15.2	19.0	10.7	10.5	8.9	9.1	11.9	11.6	11.3	12.8	10.3	18.2	18.0	12.2	9.4	11.2	11.1	5.3

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.



TABLE 2A. 2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT GREEN VALLEY, AZ (COUNTRY CLUB OF GREEN VALLEY)

ESTABLISHMENT		FERTILIZATION			INSECTICIDES		
Seeding date	October 1997	Date(s)	Product	Rate (lbs./M)	Date(s)	Product	Rate (oz./M)
Problems during	one plot washed out-replanted	Feb	15-15-15	0.25 lb. N			
		March	15-15-15	0.4 lb. N			
FACTORS OF PLAY		April	20-10-6	1.25 lb. N			
		May	20-10-6	0.75 lb. N			
Date opened for play	Open all year	June	Methylene urea	0.25 lb. N			
Date closed for play		Oct	15-5-8	0.25 lb. N			
Type of spikes allowed	soft spikes only	Nov	Lesco slo	0.50 lb. N			
Uses of green	Practice putting	Feromec applied 5 times at 3 oz./M					
MOWING					OTHER PRODUCTS		
Initial height	5/32"						
Current height	5/32"	FUNGICIDES					
Frequency	6X/week	Date(s)	Product	Rate (oz./M)	Date(s)	Product	Rate (oz./M)
Type of mower	22" walker						
Rollers used	Wiehle roller				Florantine Root enhancer applied six times year at 1x rate.		
Groomers used	None	None					
CULTIVATION					NOTES/COMMENTS		
Aerification - dates	solide tines - May, Oct., Nov.						
Aerification - type	Core April 1/2" 2x 4 spacing	HERBICIDES					
Verticutting	Medium - March, lite - May, June, October	Date(s)	Product	Rate (oz./M)			
Dates of topdressing	May, Oct, Nov and April; plus , light topdressing after each verticutting.						
Other cultural practices	Brushed after topdressings. Hand broom orocco-mat.						

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TABLE 2B.

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT GREEN VALLEY, AZ (COUNTRY CLUB OF GREEN VALLEY) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/  
TURFGRASS STIMPMETER READINGS MEASURED IN INCHES

NAME	PERCENT LIVING COVER			FROST TOLERANCE	WINTER COLOR	FALL COLOR	FALL COLOR	FALL COLOR	FALL COLOR	STIMPMETER READINGS			
	SPRING	SUMMER	FALL			SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	SPRING	SUMMER	FALL	WINTER
PENN A-4	99.0	99	99	8.0	5.3	7.3	5.7	6.0	5.7	105.7	116.0	111.7	130.0
BACKSPIN	97.7	99	99	8.0	5.3	4.7	6.0	5.7	5.3	111.3	125.7	110.3	130.0
L-93	98.7	99	99	8.3	6.7	8.0	7.3	7.0	6.7	108.7	111.0	106.3	125.3
PENN G-1	99.0	99	99	8.0	5.3	6.7	5.3	6.0	5.0	100.0	117.3	112.3	124.7
PENN G-6	97.7	99	99	7.7	5.0	5.7	5.3	5.0	5.7	114.3	111.3	112.0	132.7
SR 1119	98.7	99	99	8.0	7.3	6.7	7.0	8.0	7.0	104.0	124.0	127.3	133.0
GRAND PRIX (LCB-103)	98.7	99	99	8.0	5.3	5.7	6.0	5.7	5.7	102.7	106.7	119.7	117.7
PENN A-1	97.7	99	99	8.0	5.7	5.3	6.0	6.0	5.7	109.3	107.7	125.3	129.7
PROVIDENCE	97.3	99	99	8.3	6.3	6.3	6.3	6.7	6.3	104.7	107.0	119.3	117.7
PUTTER	97.0	99	99	7.0	5.0	5.7	6.3	6.0	5.0	101.7	132.7	120.7	126.7
TRUELINE	98.7	99	99	7.7	6.7	6.7	6.7	7.7	6.3	108.3	111.7	114.3	124.0
CRENSHAW	96.7	99	99	7.3	7.0	7.0	6.3	7.3	7.0	101.3	118.0	122.0	124.0
CATO	97.3	99	99	8.0	6.0	6.0	6.7	6.3	6.3	109.7	103.3	117.3	116.7
VIPER	97.3	99	99	7.7	7.0	7.3	7.0	7.3	6.7	110.3	123.0	110.0	130.7
IMPERIAL	97.7	99	99	6.7	5.0	5.0	5.3	5.0	5.7	106.7	117.0	118.7	133.0
SR 1020	96.7	99	99	8.0	6.0	5.3	6.3	5.7	7.0	106.7	95.7	131.3	129.3
CENTURY	99.0	99	99	7.7	5.0	5.0	5.3	5.0	5.3	112.0	94.0	129.3	135.0
PENNCROSS	96.0	99	99	7.3	4.7	5.3	6.7	5.7	4.7	109.7	113.0	120.0	125.3
LSD VALUE	4.1	0	0	1.4	1.2	1.3	2.2	1.6	1.7	19.6	29.5	26.8	26.9
C.V. (%)	1.5	0	0	7.5	12.0	12.7	14.2	13.9	14.3	6.4	11.4	8.9	7.4

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).

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TABLE 2B.  
(CONT'D)

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT GREEN VALLEY, AZ (COUNTRY CLUB OF GREEN VALLEY) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/  
TURFGRASS STIMPMETER READINGS MEASURED IN INCHES

NAME	GENETIC COLOR	SPRING GREENUP	LEAF TEXTURE	DENSITY RATINGS			QUALITY RATINGS												
				SPRING	SUMMER	FALL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
PENN A-4	6.3	5.3	8.3	8.7	8.7	8.3	8.7	8.3	8.7	8.3	8.7	8.7	7.3	7.3	6.7	6.3	7.0	6.7	7.7
BACKSPIN	5.3	6.7	7.7	8.0	8.7	8.3	6.7	7.7	8.0	7.7	7.7	8.0	7.0	7.3	7.7	6.7	8.7	7.0	7.5
L-93	7.0	7.0	7.7	7.0	7.3	8.0	6.3	6.7	8.0	7.3	7.0	7.7	7.0	8.0	7.7	7.7	7.7	7.7	7.4
PENN G-1	6.3	5.0	8.0	7.7	8.7	8.7	6.3	7.3	8.0	8.0	7.0	7.3	6.0	8.0	8.3	5.3	7.0	6.7	7.1
PENN G-6	5.7	6.0	7.3	7.3	8.0	8.0	6.7	7.0	7.0	7.3	7.3	7.0	7.3	7.7	8.3	6.0	7.7	5.7	7.1
SR 1119	6.3	7.0	7.7	7.0	7.3	7.3	5.3	7.0	7.7	7.7	7.3	7.0	7.3	6.0	6.3	7.3	8.0	6.7	7.0
GRAND PRIX (LCB-103)	5.0	5.0	8.3	7.7	8.3	8.0	6.7	7.0	7.3	7.0	7.0	8.0	7.0	7.0	7.3	6.3	6.7	6.7	6.9
PENN A-1	5.7	5.7	7.7	7.7	7.3	7.0	7.0	7.3	7.7	7.3	7.3	7.3	7.3	6.0	6.0	6.7	7.3	5.7	6.9
PROVIDENCE	6.3	6.3	7.7	7.3	7.3	7.3	6.3	6.7	8.3	7.0	7.0	6.3	5.0	6.7	7.0	7.0	7.7	6.7	6.8
PUTTER	5.3	5.7	6.7	6.7	6.7	7.0	6.7	6.3	8.0	6.0	6.0	6.3	6.3	6.7	7.7	6.0	7.7	6.3	6.7
TRUELINE	6.3	6.3	7.7	7.3	7.7	7.7	6.3	7.0	7.3	6.7	6.3	7.0	6.0	7.3	7.0	6.0	6.3	6.0	6.6
CRENSHAW	6.7	8.0	7.3	6.0	7.0	7.0	5.0	6.7	8.3	5.3	7.0	7.0	6.0	6.3	6.7	6.3	7.0	5.7	6.4
CATO	5.7	5.7	7.0	6.3	7.0	7.0	5.7	6.0	7.3	6.0	6.3	6.0	6.0	6.3	6.3	6.0	7.0	6.0	6.3
VIPER	6.7	7.7	7.3	6.3	7.0	7.0	5.7	6.3	8.3	5.7	5.7	5.7	6.3	6.7	6.7	5.7	6.7	5.7	6.3
IMPERIAL	5.0	5.7	7.7	7.7	7.7	7.3	6.3	6.3	7.3	6.7	6.3	6.0	5.3	6.0	7.0	5.7	6.3	5.3	6.2
SR 1020	5.3	7.0	7.3	7.3	6.3	6.3	6.7	6.3	7.7	7.0	6.3	5.3	5.0	6.0	5.3	6.3	6.7	5.7	6.2
CENTURY	4.7	5.3	8.0	7.5	7.7	7.3	6.7	6.3	7.3	6.7	7.0	6.3	5.3	5.0	6.0	5.3	6.7	5.0	6.1
PENNCROSS	5.3	6.0	6.0	6.0	6.0	6.3	6.7	4.7	7.0	5.0	5.0	4.0	5.0	6.0	5.3	5.0	6.3	5.0	5.4
LSD VALUE	1.0	1.2	1.4	1.3	1.7	2.2	1.8	1.4	1.4	1.9	1.7	1.7	3.1	3.4	2.6	2.8	3.5	3.8	1.3
C.V. (%)	10.0	11.3	8.9	9.6	11.2	12.2	13.9	11.2	8.0	14.2	12.6	14.0	19.8	19.0	16.8	17.1	16.4	20.9	9.4

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.

TABLE 3A. 2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT BURLINGAME, CA (CRYSTAL SPRINGS GOLF COURSE)

ESTABLISHMENT		FERTILIZATION			HERBICIDES					
Seeding date	25-Sep-97	Date(s)	Product	Rate (lbs./M)	Date(s)	Product	Rate (oz./M)			
Problems during	None	04-Jan	16-4-8 granular	0.5 lb.	16-Mar	Triplet	0.1oz./M			
FACTORS OF PLAY	open all year	08-Feb	Now 12-0-12 liquid	0.5 oz.		/2,4-D, MCPP, Dicamba				
		09-Feb	16-4-8 granular	0.5 lb.						
		15-Mar	Now 12-0-12 liquid	0.5 oz.						
		05-Apr	16-4-8 granular	0.5 lb.						
		24-Apr	6-2-0 Milorganite	1 lb.						
Date opened for play	open all year	30-May	Now 12-0-12 liquid	0.5 oz.	INSECTICIDES					
Date closed for play		15-Jun	6-2-0 Milorganite	1.5 lbs.						
Type of spikes allowed	Softspikes preferred	06-Jul	Now 12-0-12 liquid	0.5 oz.						
Uses of green	chipping and putting	12-Jul	6-2-0 Milorganite	1 lb.				Date(s)	Product	Rate (oz./M)
		8/8, 9/17, 10/8	Now 12-0-12 liquid	0.5 oz.						
MOWING		03-Dec	6-2-0 Milorganite	1 lb.	None					
Initial height	0.25"				OTHER PRODUCTS					
Current height	0.125"									
Frequency	daily									
Type of mower	walking	FUNGICIDES						Date(s)	Product	Rate (oz./M)
Rollers used	None									
Groomers used	None	Date(s)	Product	Rate (oz./M)	None					
CULTIVATION		16-Feb	Cleary's 3336	0.5 lb./M	NOTES/COMMENTS					
		08-Mar	Scott's Fungicide X	0.5 lb./M						
		5/30, 7/6, 8/10, 9/15	Heritage (azoxystrobin)	0.5 oz.						
Aerification - dates	4/42 7/25, 10/4	11/23, 12/7	Cleary's 3336	0.5 lb./M						
Aerification - type	1/4" hollow tines.	26-Dec	Scott's Fungicide X	0.5 lb./M						
Verticutting	5/16, 6/17, 8/18, 9/17 Spiking									
Dates of topdressing	11/10, 11/28 - light sand									
Other cultural practices	None									

Product and company names mentioned herein may be trademarks and/or registered trademarks of their respective owners

TABLE 3B.

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT BURLINGAME, CA (CRYSTAL SPRINGS G.C.) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/  
TURFGRASS STIMPMETER READINGS MEASURED IN INCHES

NAME	GENETIC COLOR	LEAF TEXTURE	DENSITY SPRING	DENSITY SUMMER	DENSITY FALL	<u>PERCENT LIVING COVER RATINGS</u>			PERCENT POA	<u>STIMPMETER READINGS</u>	
						SPRING	SUMMER	FALL	ANNUA	MAY	OCTOBER
L-93	8.7	7.0	8.7	8.7	8.7	95.0	95.0	93.3	5.0	103.3	113.3
PENN A-4	8.3	8.0	8.7	8.3	8.3	95.0	93.3	93.3	5.0	114.7	120.3
IMPERIAL	7.7	7.7	8.7	8.7	8.0	93.3	93.3	91.7	10.0	103.3	121.7
PENN G-6	8.3	8.0	8.3	9.0	7.7	95.0	93.3	90.0	6.7	100.0	121.3
PENN A-1	7.0	7.7	8.0	8.7	8.3	91.7	91.7	91.7	6.7	101.3	123.3
SR 1119	8.0	7.7	8.0	9.0	7.3	91.7	88.3	83.3	8.3	102.7	121.7
GRAND PRIX (LCB-103)	7.3	8.0	7.0	8.7	8.0	95.0	93.3	95.0	5.0	107.3	125.7
BACKSPIN	8.0	7.7	8.7	8.0	7.3	95.0	93.3	88.3	8.3	106.7	121.7
PENN G-1	8.0	7.3	7.7	7.7	8.0	93.3	91.7	91.7	7.5	101.3	115.0
CENTURY	6.7	8.0	7.7	8.3	8.3	95.0	90.0	95.0	6.7	106.7	119.0
TRUELINE	7.7	7.0	7.7	8.3	7.3	91.7	88.3	86.7	10.0	108.7	124.7
PUTTER	7.3	6.7	6.3	8.7	7.3	95.0	91.7	85.0	10.0	102.7	129.3
CRENSHAW	8.0	7.7	8.3	7.7	7.0	93.3	88.3	88.3	6.7	108.0	126.0
SR 1020	7.3	7.3	7.0	8.0	7.0	93.3	91.7	83.3	10.0	108.0	124.3
VIPER	7.3	6.7	7.0	7.0	7.3	93.3	85.0	90.0	8.3	108.0	132.3
PENNCROSS	7.3	6.7	7.7	7.7	6.7	95.0	90.0	86.7	10.0	109.3	126.0
CATO	7.3	7.0	7.0	8.3	7.7	90.0	88.3	81.7	11.7	106.0	123.0
PROVIDENCE	7.3	6.3	8.0	6.7	6.3	93.3	86.7	80.0	7.3	113.0	127.3
LSD VALUE	1.3	1.2	1.9	1.9	2.5	7.4	6.2	6.6	9.7	22.0	15.6
C.V. (%)	7.9	8.1	11.1	10.3	12.5	2.8	3.4	4.3	42.4	6.9	5.2

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.

TABLE 3B.  
(CONT'D)

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT BURLINGAME, CA (CRYSTAL SPRINGS G.C.) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/  
TURFGRASS STIMPMETER READINGS MEASURED IN INCHES

NAME	QUALITY RATINGS												MEAN
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
L-93	7.7	7.0	6.7	8.7	8.3	7.7	8.7	8.7	8.7	7.3	6.0	6.0	7.6
PENN A-4	7.7	7.3	6.7	7.7	7.3	8.0	8.0	8.0	7.7	6.7	6.7	6.7	7.4
IMPERIAL	8.0	7.0	7.0	7.0	8.0	7.0	8.0	8.3	8.3	6.3	6.0	6.0	7.3
PENN G-6	7.7	7.0	7.0	7.7	7.3	7.3	7.0	8.0	9.0	6.7	6.0	6.0	7.2
PENN A-1	8.0	6.7	6.0	7.0	7.7	7.0	8.7	8.0	7.7	6.7	6.0	6.0	7.1
SR 1119	7.0	6.7	6.3	7.7	7.7	7.3	8.3	7.7	7.7	6.7	6.0	5.7	7.1
GRAND PRIX (LCB-103)	7.3	7.3	6.7	6.3	7.3	7.0	7.3	8.0	8.0	6.7	6.0	6.0	7.0
BACKSPIN	7.3	6.3	7.0	8.3	8.0	7.3	7.7	7.0	8.0	5.7	5.7	5.0	6.9
PENN G-1	7.7	7.0	6.3	7.0	7.7	7.0	7.3	7.7	8.3	5.7	5.7	6.0	6.9
CENTURY	7.7	6.3	6.0	7.7	7.3	6.7	7.7	8.0	6.0	6.3	6.0	5.7	6.8
TRUELINE	6.7	5.7	6.7	6.3	7.0	7.3	7.3	7.3	7.7	5.7	5.7	5.3	6.6
PUTTER	6.7	5.7	5.7	6.0	7.3	7.3	7.3	7.3	8.0	5.3	5.7	5.7	6.5
CRENSHAW	6.7	5.3	6.3	6.7	7.3	5.7	6.3	6.7	8.0	6.0	6.3	5.3	6.4
SR 1020	7.3	6.0	6.3	6.3	7.0	6.0	7.3	6.7	7.7	5.0	6.0	5.3	6.4
VIPER	8.3	7.0	6.7	5.7	7.3	6.0	6.7	6.0	7.0	5.0	5.3	5.3	6.4
PENNCROSS	6.0	5.7	6.3	5.7	6.7	7.0	6.7	7.3	7.0	6.0	6.0	5.3	6.3
CATO	6.3	5.7	5.3	5.7	7.0	7.0	7.0	6.7	7.7	5.3	5.3	5.3	6.2
PROVIDENCE	7.7	6.3	6.7	8.0	7.0	5.3	5.3	6.0	7.3	4.3	5.0	5.0	6.2
LSD VALUE	1.5	1.0	3.7	1.3	2.8	2.4	2.3	2.6	2.1	1.7	1.7	1.4	0.9
C.V. (%)	9.9	8.9	16.8	10.8	11.7	14.2	14.0	14.3	11.5	14.5	10.6	10.6	6.9

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.

TABLE 4A. 2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT MURRIETA, CA (The SCGA MEMBERS' CLUB)

ESTABLISHMENT		FUNGICIDES			INSECTICIDES		
Seeding date	Sept. 1997	Date(s)	Product	Rate (oz./M)	Date(s)	Product	Rate (oz./M)
Problems during	None						
		07-Jan	26 Chipco GT Flo.	5	02-Jul	Merit (75 WSP)	0.19
		18-Jun	Subdue (F)	2	14-Sep	Tempo 20 WP	5 grams/1000
FACTORS OF PLAY		18-Jun	Fore (WP)	8			
		18-Jul	Alliette	4			
Date opened for play		18-Jul	Fore (WP)	8			
Date closed for play		30-Jul	Daconil WS	2	HERBICIDES		
Type of spikes allowed	Softspikes only	25-Aug	Subdue Maxx	1			
Uses of green	putting, chipping, target.	25-Aug	Fore (WP)	8	Date(s)	Product	Rate (oz./M)
	Heavy use PPG.	29-Nov	26 Chipco GT Flo.	5			
					18-Jan	Betasan 4E	4
MOWING							
Initial height	0.125"				OTHER PRODUCTS		
Current height	0.125"						
Frequency	7 days/week				Date(s)	Product	Rate (oz./M)
Type of mower	Triplex - GKV						
Rollers used	Groomers used approximate						
Groomers used	4 days/week. Rollers used 1-2 times per month.						
CULTIVATION							
Aerification - dates	3/12, 10/9				NOTES/COMMENTS		
Aerification - type	5/8" hollow tine				Control of "Poa annua" continues to be our biggest problem. Some bentgrass varieties are very resistant to "Poa annua" in comparison to other varieties.		
Verticutting	2-3 times per month depending upon thatch						
Dates of topdressing	Heavy topdressing w/USGA spec. sand on 3/14, 10/10, following aerification. Light topdressing w/#30 silica sand monthly except Jan. and Feb.						
Other cultural practices	Heavy brushing in Mar., Oct. Rolled for special tournament events which were 1-2 times/month. Flushed with 6" of irrigation water once every 3 weeks from June-Oct. to lower high E.C. (100% reclaimed irrigation use in 2001)						

Product and company names mentioned herein may be trademarks and/or registered trademarks of their respective owners

TABLE 4B.

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT MURRIETA, CA (SCGA MEMBERS CLUB) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/  
TURFGRASS STIMPMETER READINGS MEASURED IN INCHES

NAME	GENETIC COLOR	LEAF TEXTURE	PERCENT POA ANNUA			STIMPMETER READINGS			QUALITY RATINGS											
			MARCH	SEPT.	DEC.	SEPT.21	SEPT.24	DECEMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	NOV	DEC	MEAN
PENN A-4	7.0	8.0	18.3	26.7	33.3	115.0	109.7	140.3	8.0	7.7	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.0	8.0	7.9
CENTURY	7.3	8.0	50.0	33.3	65.0	112.3	109.0	143.7	7.3	7.0	7.7	7.3	7.7	7.7	8.0	8.0	8.0	7.3	7.7	7.6
GRAND PRIX (LCB-103)	7.3	7.7	55.0	33.3	56.7	108.7	103.3	147.0	7.7	7.0	7.3	7.3	7.7	7.7	8.0	8.0	8.0	7.0	7.7	7.6
PENN A-1	7.3	8.0	50.0	25.0	43.3	118.7	110.0	151.7	7.7	7.0	7.0	7.3	8.0	7.7	8.0	8.0	8.0	7.0	7.7	7.6
PENN G-1	7.3	8.0	41.7	41.7	46.7	113.7	110.3	146.7	7.3	7.0	7.7	8.0	7.7	7.3	8.0	8.0	8.0	7.0	7.7	7.6
PENN G-6	7.0	7.7	38.3	48.3	35.0	110.0	105.0	145.3	7.0	7.0	7.0	7.3	8.0	7.3	8.0	8.0	8.0	7.0	7.7	7.5
SR 1119	7.3	7.3	70.0	61.7	65.0	118.3	107.7	146.3	7.0	7.0	7.3	7.0	7.3	7.0	8.0	8.0	8.0	7.0	7.3	7.4
BACKSPIN	7.7	7.7	58.3	41.7	50.0	115.7	106.3	150.3	7.0	7.0	7.0	7.0	7.0	7.0	8.0	8.0	8.0	7.0	7.7	7.3
CRENSHAW	7.7	7.3	68.3	45.0	55.0	119.3	112.7	159.0	7.0	7.0	7.0	7.0	7.0	7.0	8.0	8.0	8.0	7.0	7.3	7.3
IMPERIAL	7.3	7.3	60.0	55.0	68.3	111.7	108.3	151.7	7.0	7.0	7.0	7.0	7.0	7.0	8.0	8.0	8.0	7.0	7.3	7.3
L-93	7.7	7.3	60.0	58.3	61.7	112.7	109.3	152.7	7.0	7.0	7.0	7.3	7.0	7.0	8.0	8.0	8.0	7.0	7.3	7.3
PROVIDENCE	7.7	7.0	76.7	61.7	68.3	120.7	113.3	151.7	7.0	7.0	7.0	7.0	7.0	7.0	8.0	8.0	7.7	7.0	7.3	7.3
CATO	7.3	7.0	83.3	60.0	71.7	117.0	112.7	150.3	7.0	7.0	7.0	7.0	7.0	7.0	8.0	8.0	7.3	7.0	7.0	7.2
PUTTER	7.3	7.0	83.3	65.0	68.3	121.3	107.0	151.0	7.0	7.0	7.0	7.0	7.0	7.0	7.7	8.0	7.0	7.0	7.0	7.2
SR 1020	7.3	7.0	73.3	65.0	73.3	119.7	110.7	149.3	7.0	7.0	7.0	7.0	7.0	7.0	7.7	8.0	7.3	7.0	7.0	7.2
TRUELINE	7.3	7.3	73.3	61.7	66.7	117.0	109.3	150.0	7.0	7.0	7.0	7.0	7.0	7.0	8.0	8.0	7.3	7.0	7.0	7.2
VIPER	7.3	7.0	85.0	71.7	68.3	119.0	112.0	151.3	7.0	7.0	7.0	7.0	7.0	7.0	8.0	7.3	8.0	7.0	7.0	7.2
PENNCROSS	7.3	7.0	91.7	76.7	73.3	114.3	107.0	149.7	6.3	6.7	7.0	7.0	7.0	7.0	7.3	7.0	7.3	7.0	7.0	7.0
LSD VALUE	1.8	0.7	14.6	15.5	10.8	19.5	27.3	16.4	0.5	0.4	0.5	0.5	0.4	0.6	0.6	0.2	0.5	0.4	1.1	0.2
C.V. (%)	6.9	5.3	15.0	18.8	11.6	5.7	6.9	4.2	4.2	2.8	3.7	4.0	3.6	4.2	3.0	1.7	4.0	1.9	6.2	1.5

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.



TABLE 5A. 2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT GLENVIEW, IL (NORTH SHORE COUNTRY CLUB )

ESTABLISHMENT		FERTILIZATION			FUNGICIDES		
		Date(s)	Product	Rate (oz./M)	Date(s)	Product	Rate (oz./M)
Seeding date	28-Aug-97						
Problems during	slow to fill, overseeded at 1/2 rate in mid-Sept.	08-Mar	Milorganite (8-3-6)	0.8 lb. N	01-Mar	Daconil Ultrex	5
		31-Mar	Macrosorb Foliar (2-0-0)	0.001 lb. N	31-Mar	Chipco alliete signature 4oz; Chipco 26019 1.5oz; Cleary's 3336 2oz; Banol 0.38oz.	
		18-Apr	Tuff Turf (1-0-14)	0.01 lb. K			
		18-Apr	Sprint 330	0.03lb. Product/M	18-Apr	Daconil Ultrex 0.11 lb./M; Banol 0.5oz.	
FACTORS OF PLAY		18-Apr	PanaSea Plus (0-3-2)	0.03lb. Product/M	20-Jun	Daconil Ultrex	0.11 lb./M
		18-Apr	Lesco Chelated Fe+ (12-0-0)	0.01 lb. N	13-Jul	Daconil Ultrex	0.13 lb./M
Date opened for play		18-Apr	Nutraculture (10-20-30)	0.03 lb. K	13-Jul	Cleary's 3336	0.13lb/M
Date closed for play		18-Apr	Macrosorb Foliar (2-0-0)	0.001 lb. N	24-Jul	Daconil Ultrex	0.13 lb./M
Type of spikes allowed		30-Apr	Macrosorb Foliar (2-0-0)	0.001 lb. N	27-Aug	Daconil Ultrex 0.23lb./M; Cleary's 3336 0.13lb/M; Banol 1.13oz.	
Uses of green		30-Apr	Quelant K (1-0-30)	0.01 lb. K			
		01-May	Nutraculture (10-20-30)	0.13 lb. K	16-Nov	Cleary's 3336 0.25lb./M; Consyst 0.42lb./M; Chipco GT 2.63oz/M	
		02-May	14-0-28 Plus Turf Enhancer	0.37 lb. K			
MOWING		30-May	Biogain WSP (Fe) (0-0-3)	0.003 lb. K			
		30-May	Turf Vigor (9-3-6)	0.13 lb. N			
Initial height		03-Jun	Potassium Nitrate (13.75-0-46)	0.10 lb. K	INSECTICIDES		
Current height		03-Jun	Nutraculture (10-20-30)	0.06 lb. K			
Frequency		11-Jun	Turf Vigor (9-3-6)	0.11 lb. N	Date(s)	Product	Rate (oz./M)
Type of mower		15-Jun	Lex (1-0-0)	0.001 lb. N			
Rollers used		15-Jun	PK Plus (3-21-18)	0.01 lb. K	18-Apr	Cavalier 4.5F	0.63
Groomers used		15-Jun	Agriplex Micromix (0-3-5)	0.001 lb. K	20-Jun	Mach 2	0.63
		15-Jun	Sprint 330	0.06lb. Product/M			
CULTIVATION		20-Jun	Nutragreen (5-10-5)	0.02 lb. N	HERBICIDES		
Aerification - dates	5/29, 6/26, 8/13	20-Jun	Tuff Turf (1-0-14)	0.01 lb. K			
Aerification - type	Hydrojet	20-Jun	Perk up	0.03lb. Product/M	Date(s)	Product	Rate (oz./M)
Verticutting		20-Jun	Lex (1-0-0)	0.03lb. Product/M			
		20-Jun	Agriplex Micromix (0-3-5)	0.03lb. Product/M			
		27-Jun	Turf Vigor (9-3-6)	0.06 lb. N	None		
Dates of topdressing	4/5, 5/14, 5/29, 6/26, 7/2, 7/17, 8/7, 8/13, 9/5, 11/7	27-Jun	PK Plus (3-21-18)	0.02 lb. K	OTHER PRODUCTS		
		06-Jul	Turf Vigor (9-3-6)	0.07 lb. N			
		06-Jul	PK Plus (3-21-18)	0.02 lb. K			
Other cultural practices		14-Aug	Turf Vigor (9-3-6)	0.01 lb. N	Date(s)	Product	Rate (oz./M)
		27-Aug	PK Plus (3-21-18)	0.04 lb. K			
		27-Aug	Lesco Chelated Fe+ (12-0-0)	0.01 lb. N	30-Apr	LescoFlo	5
		27-Aug	Perk-up	0.16lb. Product/M	5/30, 6/11, 6/27	Thatchless	3
		27-Aug	Sprint 330	0.1lb. Product/M	14-Aug	Green Relief	8.01
		04-Oct	Turf Enhancer (14-0-28)	0.70 lb. K	27-Aug	Primo	0.13
		07-Nov	IBDU (10-18-22)	1.83 lb. K			
		16-Nov	PK Plus (3-21-18)	0.15 lb. K			

NOTES/COMMENTS

Product and company names mentioned herein may be trademarks and/or registered trademarks of their respective owners

TABLE 5B.

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT GLENVIEW, IL (NORTH SHORE COUNTRY CLUB) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/

NAME	GENETIC COLOR	SPRING GREENUP	LEAF TEXTURE	QUALITY RATINGS							
				APR	MAY	JUN	JUL	AUG	SEP	OCT	MEAN
PENN G-1	5.7	6.7	8.3	7.3	7.0	8.0	7.7	8.0	8.0	8.7	7.8
PENN A-1	6.0	7.3	8.3	7.7	6.0	8.3	8.3	7.3	8.0	8.3	7.7
PENN A-4	6.0	7.7	9.0	7.7	7.3	7.7	7.7	6.7	8.7	8.0	7.7
PENN G-6	6.0	8.0	9.0	7.7	7.3	7.7	7.7	7.0	8.0	8.3	7.7
L-93	6.3	6.7	7.7	7.3	6.7	7.3	7.3	7.0	8.3	8.0	7.4
IMPERIAL	5.7	6.3	7.7	7.0	6.0	8.0	7.3	6.3	7.7	7.3	7.1
PROVIDENCE	6.7	6.3	7.3	7.3	6.3	7.3	7.3	7.0	7.0	7.7	7.1
TRUELINE	6.7	6.3	7.3	6.7	6.3	7.3	8.0	7.0	6.3	8.0	7.1
GRAND PRIX (LCB-103)	5.0	7.0	8.0	6.3	6.3	7.3	7.7	6.7	7.7	6.7	7.0
PUTTER	5.7	6.0	7.3	6.7	6.3	7.0	7.3	7.0	7.3	7.0	7.0
SR 1119	6.3	7.3	8.0	6.7	6.3	7.3	6.7	6.3	7.3	7.0	6.8
SR 1020	6.0	5.3	7.0	5.7	6.3	7.3	7.0	6.0	7.7	7.0	6.7
BACKSPIN	5.7	7.0	7.3	6.0	5.0	6.7	7.0	6.7	7.7	7.0	6.6
CATO	6.3	5.7	7.0	6.0	5.0	6.7	7.3	6.3	7.3	7.3	6.6
VIPER	6.7	5.0	8.0	6.3	5.7	6.3	6.3	6.3	7.3	6.7	6.4
CENTURY	4.3	6.7	8.0	5.3	4.0	6.7	6.0	6.3	7.0	5.3	5.8
CRENSHAW	7.0	6.3	6.7	5.0	4.0	5.7	6.7	6.7	7.3	5.0	5.8
PENNCROSS	5.7	6.0	6.0	5.0	5.0	5.7	5.7	7.0	6.3	5.7	5.8
LSD VALUE	1.1	1.5	0.6	1.4	1.7	1.2	1.6	1.7	2.0	1.3	0.6
C.V. (%)	9.9	12.2	5.4	11.9	15.6	9.4	10.8	10.1	11.3	10.8	5.6

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.

TABLE 6A. 2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT WEST LAFAYETTE, IN (PURDUE UNIVERSITY - KAMPEN GOLF COURSE )

ESTABLISHMENT		FERTILIZATION			HERBICIDES		
Seeding date	03-Oct-97	Date(s)	Product	Rate (lbs./M)	Date(s)	Product	Rate (oz./M)
Problems during	None						
		25-Apr	18-4-10	0.5lb. N	None		
		04-May	22-0-22	1.0 lb. N			
FACTORS OF PLAY		14-May	18-4-10	0.5lb. N			
		21-May	22-0-22	1.0 lb. N			
Date opened for play	Open all year around	24-Aug	21-3-16	0.75 lb. N	INSECTICIDES		
Date closed for play	unless snow covered	17-Sep	21-3-16	0.75 lb. N			
Type of spikes allowed	softspikes	24-Oct	21-3-16	0.75 lb. N	Date(s)	Product	Rate (oz./M)
Uses of green	putting				01-Aug	Merit	0.15
MOWING							
Initial height		FUNGICIDES					
Current height	1/8"						
Frequency	7 days/week	Date(s)	Product	Rate (oz./M)			
Type of mower	Triplex/Walking						
Rollers used	No	08-May	Daconil Ultrex	4			
Groomers used	No	19-May	Chipco GT	4	OTHER PRODUCTS		
		07-Jun	Daconil Ultrex	4			
CULTIVATION		07-Jun	Alliette Signature	4	Date(s)	Product	Rate (oz./M)
		22-Jun	Chipco GT	4			
Aerification - dates		22-Jun	Alliette Signature	4			
Aerification - type		05-Jul	Heritage	0.4			
Verticutting	once every 2-3 weeks,	05-Jul	Chipco GT	2			
	Grooming - once a week	22-Jul	03-Aug	03-Aug			
		22-Jul	Alliette Signature	4			
Dates of topdressing	once every 2-3 weeks	03-Aug	Chipco GT	4			
		03-Aug	Alliette GT	4			
		17-Aug	Daconil Ultrex	4			
		17-Aug	Alliette	2	NOTES/COMMENTS		
		30-Aug	Daconil Ultrex	4			
		30-Aug	Chipco Alliette	4	Located just east of the driving range and is used extensively.		
Other cultural practices	No	28-Sep	Banner	1			
		16-Nov	Heritage	0.4			

Product and company names mentioned herein may be trademarks and/or registered trademarks of their respective owners

TABLE 6B.

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT WEST LAFAYETTE, IN (PURDUE UNIVERSITY - KAMPEN G.C.) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/

NAME	GENETIC COLOR	SPRING GREENUP	LEAF TEXTURE	STIMPETER READINGS		QUALITY RATINGS								
				SLOW	MEDIUM	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	MEAN
PENN A-4	7.0	5.0	7.7	116.0	128.7	6.3	7.7	8.0	7.0	7.0	6.7	8.0	7.3	7.3
GRAND PRIX (LCB-103)	6.0	4.3	7.3	112.0	129.0	5.7	6.7	7.3	7.3	7.3	6.7	7.0	7.0	6.9
PENN A-1	6.7	4.7	7.3	124.0	132.3	5.7	7.3	7.7	7.3	7.0	6.3	7.3	6.7	6.9
CENTURY	6.0	4.0	7.0	114.0	126.0	5.3	7.0	7.7	7.7	7.3	6.0	7.0	6.3	6.8
PENN G-1	6.3	4.3	6.7	113.7	123.7	5.7	7.0	7.3	7.3	7.0	6.7	6.7	7.0	6.8
BACKSPIN	6.0	4.3	7.0	118.7	131.3	5.7	7.0	7.0	6.7	7.7	6.0	6.7	6.0	6.6
L-93	7.7	5.3	5.7	124.0	129.3	6.7	6.7	7.0	6.3	6.3	6.0	6.0	6.7	6.5
PENN G-6	7.0	4.3	6.7	117.3	131.3	5.7	6.3	6.7	6.7	6.7	6.7	7.0	6.0	6.5
CRENSHAW	7.3	5.0	6.3	123.0	130.3	5.0	7.3	7.0	7.0	6.3	6.0	6.3	6.0	6.4
IMPERIAL	6.7	5.3	6.7	120.7	126.7	5.7	7.0	7.0	7.0	6.7	5.3	6.7	6.0	6.4
PROVIDENCE	7.3	5.0	6.0	121.0	121.7	5.7	6.3	7.0	6.7	6.7	6.0	6.3	5.7	6.3
SR 1119	7.7	4.3	6.7	130.7	132.7	5.3	6.3	6.7	6.3	6.3	6.0	6.7	6.0	6.2
SR 1020	7.0	4.3	6.0	117.7	133.7	5.7	6.0	7.0	6.0	6.3	5.7	6.3	6.0	6.1
CATO	7.3	4.3	5.7	127.3	128.0	5.7	6.3	6.7	6.7	5.7	5.0	5.7	6.3	6.0
TRUELINE	7.0	3.3	5.7	122.3	129.7	5.0	5.7	6.3	6.3	6.0	5.7	6.0	5.7	5.8
VIPER	7.0	4.0	5.3	123.0	127.7	4.7	5.7	5.7	6.3	6.0	5.3	6.0	5.7	5.7
PUTTER	7.0	4.0	5.3	119.0	129.3	5.7	5.7	6.0	6.0	5.7	5.3	5.7	5.0	5.6
PENNCROSS	6.7	4.3	4.3	112.3	123.7	5.0	5.7	5.3	5.7	5.0	4.7	4.3	4.7	5.0
LSD VALUE	0.8	3.1	0.9	18.7	24.6	2.0	1.3	0.8	1.0	0.9	1.0	1.0	1.0	0.5
C.V. (%)	6.5	22.0	8.6	6.2	5.7	13.2	10.3	7.3	8.0	8.3	9.6	9.7	9.4	4.7

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.

TABLE 7A. 2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT FLORENCE, KY (LASSING POINTE GOLF COURSE )

ESTABLISHMENT		FERTILIZATION			FUNGICIDES		
Seeding date	15-Sep-98	Date(s)	Product	Rate (lbs./M)	Date(s)	Product	Rate (oz./Acre)
Problems during		17-Jan	0-0-45		1/16, 5/22	PMAS	22oz Per Acre
		17-Jan	Magnesium Sulfate		4/12, 5/22, 6/1	Daconil	12lb per acre
FACTORS OF PLAY		17-Jan	Step		4/12, 5/2	Scotts Liquid Fert.	2.5 gal per 6 acres
		29-Apr	19-26-5		21-May	Cascade	2.75 gal per acre
Date opened for play	02/31/2001	29-Apr	STEP		5/22, 6/13, 7/9	Banner Max	22oz per acre
Date closed for play		29-Apr	Sand Aid		6/1, 6/13, 7/9	Liquid Fert.	2.5 gal per 6 acres
Type of spikes allowed	softspikes	20-May	19-26-5		6/13, 6/25, 7/9	Daconil	12lb per acre
Uses of green		10-Sep	25-20 with Cascade		6/25, 8/14	Eagle	22 oz per acre
Others	40,000 rounds	1-Oct	18-9-18		7/23, 8/14, 9/3	Daconil	12lb per acre
		1-Oct	STEP		7/23, 7/31, 8/27	Liquid Fert.	2.5 gal per 6 acres
		1-Oct	Sand Aid		23-Jul	Alliette	11 lb per acre
MOWING		29-Oct	0-0-50		31-Jul	Chipco Signature	1 gal per acre
		12-Dec	18-9-18		7/31, 8/27	Chipco 26 GT	1 gal per acre
Initial height		20-Dec	0-0-50		27-Aug	Pro Star	4 lb per acre
Current height	5/32"	20-Dec	Magnesium Sulfate		3-Sep	Banner Maxx	22 oz per acre
Frequency	7 days/week	20-Dec	STEP				
Type of mower	Toro Greens Master 3100	20-Dec	Sand Aid				
Rollers used	rolled - 5/21, 8/27, 11/12						
Groomers used	A clearup pass was mowed every other day						
CULTIVATION		OTHER PRODUCTS					
					Date(s)	Product	Rate (oz./M)
Aerification - dates	5/4, 10/2	Date(s)	Product		6/1, 6/13, 6/25, 7/9	Acclaim	3oz per acre
Aerification - type					31-Jul	Acclaim	3 oz per acre
Verticutting	5/14, 8/20, 11/5	4/12, 6/1, 6/13	Primo	5.5oz per acre			
Dates of topdressing	5/4, 5/14, 8/20, 10/2, 11/5	4/12, 5/2,	Sequential	2.5 gal per 6 acres	INSECTICIDES		
Other cultural practices	rolled with Toro triplex rollers on 5/12, 6/5, 6/9-13, 10/29	5/2, 6/25 6/25, 7/9, 7/23 7/31, 8/14, 8/27, 9/3 8/14, 9/3	CPR	2.5 gal per 6 acres			
			Primo	3 oz per acre	Date(s)	Product	
			Primo	3 oz per acre			
			CPR	2.5 gal per 6 acres	4/12, 6/1, 6/25, 27-Aug	Delta Guard	22oz per acre
						Delta Guard	22 oz per acre

NOTES/COMMENTS

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TABLE 7B.

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT FLORENCE, KY (LASSING POINTE GOLF COURSE) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/  
TURFGRASS STIMPMETER READINGS MEASURED IN INCHES

NAME	GENETIC COLOR	SPRING GREENUP	LEAF TEXTURE	DENSITY SPRING	PERCENT LIVING GROUND COVER		DOLLAR SPOT JUNE	% POA ANNUA NOVEMBER	STIMPMETER READINGS			QUALITY RATINGS								
					SPRING	SUMMER			AUGUST	SEPT.	OCTOBER	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	MEAN
BACKSPIN	6.7	6.3	7.3	7.3	96.7	88.0	3.0	6.7	99.0	89.7	100.7	7.3	5.7	7.0	9.0	6.3	6.7	7.0	7.3	7.0
IMPERIAL	7.3	6.0	7.7	7.3	96.0	96.0	0.0	5.3	100.7	87.0	100.0	7.3	4.0	7.0	7.7	6.7	7.3	8.0	7.3	6.9
PENN A-1	7.0	6.7	7.7	7.0	96.0	86.3	0.0	3.0	90.7	84.0	98.7	7.0	5.3	6.0	7.7	6.7	7.0	7.3	7.0	6.8
PENN A-4	7.7	7.0	7.7	6.7	96.0	87.7	0.0	6.0	95.7	85.7	100.0	7.0	3.3	7.0	8.0	7.0	7.0	7.7	7.3	6.8
PENN G-1	7.0	7.7	6.3	6.7	94.3	86.3	1.0	10.0	97.7	94.0	100.7	7.3	5.0	6.7	8.3	7.0	6.3	7.0	6.7	6.8
PENN G-6	7.3	7.0	6.7	6.3	99.0	91.0	0.0	5.7	90.7	116.3	93.3	7.0	4.7	6.7	8.7	7.3	6.7	7.0	6.7	6.8
CENTURY	7.0	6.7	7.3	6.7	92.7	78.0	6.0	9.3	91.0	83.0	94.0	7.0	5.3	6.7	7.3	5.7	6.0	8.0	6.3	6.5
CATO	6.7	7.0	6.3	6.0	95.3	91.3	0.0	5.7	100.0	100.0	100.0	6.7	4.3	7.0	7.7	6.3	6.3	6.7	6.3	6.4
SR 1119	7.0	7.0	7.0	6.7	88.0	83.0	6.3	1.0	90.0	122.3	92.3	7.0	5.0	5.7	7.7	6.0	6.3	7.7	6.0	6.4
L-93	6.7	6.7	6.3	5.7	91.7	86.3	0.0	6.0	100.3	104.3	105.0	6.3	5.7	5.7	7.0	6.0	6.7	7.0	5.7	6.3
VIPER	7.7	7.7	6.3	6.0	93.7	76.7	0.0	4.0	85.3	79.3	94.0	6.3	5.0	5.7	8.0	6.0	6.3	7.7	5.3	6.3
CRENSHAW	6.7	6.7	6.3	5.7	96.7	78.3	5.0	13.7	96.7	91.7	105.0	6.7	5.0	5.7	7.3	5.3	6.7	6.7	6.0	6.2
SR 1020	7.0	6.7	7.0	6.0	94.3	92.7	1.0	3.0	95.7	87.3	91.3	6.3	5.0	5.7	7.0	6.7	6.0	7.3	5.3	6.2
GRAND PRIX (LCB-103)	7.0	6.0	6.3	6.7	96.0	79.7	0.0	6.0	92.0	88.0	102.3	6.7	4.7	5.7	7.3	5.3	6.3	7.0	6.0	6.1
PROVIDENCE	6.7	6.7	5.7	6.7	96.7	78.0	0.0	7.0	90.0	84.3	98.3	7.3	3.7	6.3	5.7	5.7	5.7	6.3	6.3	5.9
TRUELINE	6.0	6.3	5.3	6.0	92.7	66.7	3.3	12.7	99.0	89.0	102.3	6.7	4.7	6.0	7.3	4.3	6.0	6.3	5.3	5.8
PENNCROSS	6.7	7.0	6.3	6.0	86.3	76.3	0.0	8.3	94.0	91.0	104.3	6.0	4.7	5.7	6.0	5.3	5.7	6.7	5.3	5.7
PUTTER	6.7	5.7	6.7	5.7	93.0	84.7	4.0	5.7	97.3	98.0	108.3	6.0	4.3	5.3	6.3	5.7	6.0	6.3	5.7	5.7
LSD VALUE	2.1	1.9	2.3	2.6	22.9	49.8	16.2	11.5	18.2	69.0	21.9	2.5	5.1	2.8	2.2	3.1	2.7	1.6	2.8	1.6
C.V. (%)	10.4	11.4	14.1	14.3	7.3	18.2	298.4	69.8	7.2	23.8	7.9	12.2	31.1	15.9	13.8	19.0	13.7	9.9	17.3	9.8

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.

TABLE 8A. 2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT ST. CHARLES, MO (THE MISSOURI BLUFFS GOLF COURSE )

ESTABLISHMENT		FUNGICIDES			HERBICIDES		
Seeding date	15-Sep-97	Date(s)	Product	Rate (oz./M)	Date(s)	Product	Rate (oz./M)
Problems during		30-Mar	Manicure Ultrex	2	None		
		16-Apr	Manicure Ultrex	2			
FACTORS OF PLAY		30-Apr	Prostar	2.2			
		04-May	Manicure Ultrex	2	OTHER PRODUCTS		
Date opened for play		24-May	Manicure Ultrex	2			
Date closed for play		07-Jun	Manicure Ultrex	2	Date(s)	Product	Rate (oz./M)
Type of spikes allowed		14-Jun	Heritage	0.25			
Uses of green		14-Jun	Concorde	4 lbs./A	14-Apr	Scotts TGR	8 oz./A
		25-Jun	Concorde	3.5 lbs./A	30-Apr	Lesco Flo.	8
MOWING		06-Jul	Prostar	1.2	14-May	Aqueduct	8
		07-Jul	Manicure Ultrex	6	24-May	Scotts TGR	6 oz./A
Initial height		07-Jul	Prodigy	7	25-Jun	Scotts TGR	6 oz./A
Current height	0.135" (0.145" Winter)	12-Jul	Touche	2.75 lbs./A	06-Jul	Aqueduct	7
Frequency		23-Jul	Manicure Ultrex	2	17-Jul	Scotts TGR	4 oz./A
Type of mower		30-Jul	Chipco Aliette	2	07-Aug	Aqueduct	6
Rollers used		07-Aug	Banol	1.3	05-Sep	Trimmit	6 oz./A
Groomers used		07-Aug	Cavalier	2	23-Oct	Trimmit	6 oz./A
		13-Aug	Manicure Ultrex	2			
CULTIVATION		28-Aug	Manicure Ultrex	2			
		05-Sep	Touche	2.75 lbs./A			
Aerification - dates	September	11-Dec	Manicure Ultrex	2			
Aerification - type	1/4" quadlines	11-Dec	Chipco GT	3.5			
Verticutting	3 times						
Dates of topdressing	every 2 weeks in Spring and Fall, less frequently in Summer. Topdressing from March to December.	INSECTICIDES			NOTES/COMMENTS		
		Date(s)	Product	Rate (oz./M)			
		14-Apr	Math 2	3 qt/A			
		07-Jun	Dursban 50WP	2 lbs./A			
		06-Jul	Scimitar	10oz./A			
		30-Jul	Scimitar	10oz./A			
Other cultural practices	None						

Product and company names mentioned herein may be trademarks and/or registered trademarks of their respective owners

TABLE 8A.  
(Cont'd)

2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT ST. CHARLES, MO (THE MISSOURI BLUFFS GOLF COURSE )

FERTILIZATION			FERTILIZATION			FERTILIZATION		
Date(s)	Product	Rate (lbs. oz./M)	Date(s)	Product	Rate (lbs. oz./M)	Date(s)	Product	Rate (lbs. oz./M)
15-Mar	Soil Synergy 10-2-8	.1 lb N/1000	7-Jun	Proganics 10-5-10	3 oz/1000	23-Jul	Macrosorb Foliar	.5 oz/1000
15-Mar	White Gold 0-0-24	.5 lb K/1000	7-Jun	Fish emulsion	2 oz/1000	23-Jul	Proganics 10-5-10	2 oz/1000
30-Mar	Proganics 10-5-10	4 oz/1000	7-Jun	Bio Basics 24-0-0	.5 oz/1000	23-Jul	Eco P 2-20-0	2 oz/1000
30-Mar	Fish emulsion	2 oz/1000	7-Jun	Bio Basics P	.5 oz/1000	23-Jul	Eco N 24-0-0	2 oz/1000
30-Mar	Seaweed	2 oz/1000	7-Jun	Manganese sulfate	3 lb/A	23-Jul	Eco K 1-0-24	1 oz/1000
11-Apr	sulfate of potash	1 lb K/1000	7-Jun	Macrosorb Foliar	.25 oz/1000	30-Jul	Macrosorb Radicular	.5 oz/1000
11-Apr	MAP	.25 lb P/1000	14-Jun	Fish emulsion	1 oz/1000	30-Jul	Proganics 10-5-10	3 oz/1000
16-Apr	Proganics 10-5-10	4 oz/1000	14-Jun	Seaweed	1 oz/1000	30-Jul	Bio Basics P 2-20-0	.5 oz/1000
16-Apr	Fish emulsion	2 oz/1000	14-Jun	Macrosorb Radicular	.25 oz/1000	7-Aug	Proganics 10-5-10	3 oz/1000
16-Apr	Seaweed	2 oz/1000	14-Jun	Magnesium	64 oz/A	13-Aug	Proganics 10-5-10	3 oz/1000
16-Apr	Macrosorb Foliar	1 oz/1000	14-Jun	Manganese sulfate	3 lb/A	13-Aug	Macrosorb Foliar	.5 oz/1000
16-Apr	Bio Basics 24-0-0	1 oz/1000	14-Jun	Dextrose	3 lb/A	28-Aug	Bio Flora Iron	1 gal/A
19-Apr	Macrosorb Foliar	.75 oz/1000	25-Jun	Fish emulsion	1 oz/1000	28-Aug	Macrosorb Foliar	.5 oz/1000
30-Apr	manganese	2.75 oz/1000	25-Jun	Seaweed	1 oz/1000	28-Aug	Manganese	3 lb/A
4-May	Proganics 10-5-10	3 oz/1000	25-Jun	Macrosorb Foliar	.25 oz/1000	28-Aug	Bio basics N 24-0-0	2 oz/1000
4-May	Fish emulsion	2 oz/1000	25-Jun	Proganics 10-5-10	1 oz/1000	5-Sep	Bio Flora Iron	64 oz/A
4-May	Seaweed	2 oz/1000	7-Jul	Proganics 10-5-10	2 oz/1000	5-Sep	humic acid	1 gal/A
6-May	KMAG	5 lb/1000	7-Jul	Macrosorb Foliar	.25 oz/1000	5-Sep	Dextrose	10 lb/A
6-May	MAP	.25 lb P/1000	13-Jul	Sanctuary 10-2-8	.2 lb N/1000	15-Oct	Daniels 21-3-8	2 gal/A
24-May	Proganics 10-5-10	2 oz/1000	13-Jul	gypsum	5 lb/1000	15-Oct	White Gold 0-0-24	10 lb/A
24-May	Fish emulsion	2 oz/1000	13-Jul	White Gold 0-0-24	.65 lb K/1000	15-Oct	Macrosorb Foliar	.25 oz/1000
24-May	Seaweed	2 oz/1000	17-Jul	Macrosorb Radicular	.15 oz/1000	23-Oct	Daniels 21-3-8	1.5 gal/A
1-Jun	KMAG	5 lb/1000	17-Jul	Bio Basics 24-0-0	1 oz/1000	13-Nov	Daniels 21-3-8	3 gal/A
1-Jun	Soil Synergy 10-2-8	.15 N lb/1000	17-Jul	Bio Basics P	1 oz/1000	27-Nov	IBDU 21-3-16	1 lb N/1000
			17-Jul	Bio Basics K	1 oz/1000	11-Dec	Proganics 10-5-10	3 oz/1000

Product and company names mentioned herein may be trademarks and/or registered trademarks of their respective owners



TABLE 8B.

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
 1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
 AT ST. CHARLES, MO (THE MISSOURI BLUFFS G.C.) 1/  
 2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/

NAME	GENETIC COLOR	DENSITY SUMMER	FALL COLOR	FALL COLOR	FALL COLOR	QUALITY RATINGS							MEAN
			SEPTEMBER	OCTOBER	NOVEMBER	APR	MAY	JUL	AUG	SEP	NOV	DEC	
CENTURY	6.6	7.0	8.0	8.0	8.0	5.3	5.7	6.7	7.3	7.0	7.0	7.3	6.7
L-93	6.7	7.3	8.0	8.0	8.0	5.0	6.7	6.7	7.3	7.0	7.0	7.0	6.7
PENN A-4	6.9	7.0	8.0	8.0	8.0	5.0	7.3	7.0	7.3	7.0	7.3	7.7	6.7
PENN G-1	6.9	7.7	8.0	8.0	8.0	5.0	7.3	7.0	7.0	7.3	7.3	7.3	6.7
BACKSPIN	6.5	6.7	8.0	8.0	8.0	5.3	6.3	6.7	7.7	6.7	6.7	6.7	6.0
CATO	6.3	7.3	8.0	8.0	8.0	5.3	6.3	6.3	6.7	6.7	6.3	6.3	6.0
GRAND PRIX (LCB-103)	6.4	6.7	8.0	8.0	8.0	4.7	6.7	6.7	7.3	6.7	6.7	6.7	6.0
PENN A-1	7.1	7.7	8.0	8.0	8.0	5.0	7.7	7.3	7.3	8.0	7.7	7.7	6.0
PENN G-6	6.7	7.3	8.0	8.0	8.0	5.3	7.3	7.0	7.0	7.0	7.0	7.0	6.0
PROVIDENCE	6.2	8.0	8.0	8.0	8.0	5.0	6.7	7.0	7.0	6.0	6.0	6.0	6.0
SR 1020	6.3	7.7	8.0	8.0	8.0	5.0	6.3	6.3	6.7	6.3	6.7	6.7	6.0
SR 1119	6.2	7.7	8.0	8.0	8.0	5.0	6.7	7.0	6.7	6.0	6.0	6.0	6.0
CRENSHAW	5.9	7.0	8.0	6.7	5.7	5.0	6.3	6.3	6.0	6.0	6.0	6.0	5.7
IMPERIAL	6.5	8.0	8.0	8.0	8.0	5.0	7.0	7.0	6.7	7.0	7.0	7.0	5.7
TRUELINE	5.8	7.7	8.0	8.0	7.3	5.0	6.7	6.7	6.3	5.3	5.3	5.3	5.7
VIPER	5.7	7.7	8.0	8.0	8.0	5.3	6.7	6.0	5.7	5.7	5.3	5.0	5.7
PUTTER	5.4	6.7	8.0	8.0	8.0	4.3	6.0	6.0	5.7	5.0	5.3	5.7	5.0
PENNCROSS	4.9	6.3	8.0	7.3	6.3	4.0	5.7	5.3	5.0	5.0	5.0	5.0	4.3
LSD VALUE	1.4	0.0	0.5	0.4	0.6	0.7	1.7	0.9	1.0	0.8	0.8	1.5	0.5
C.V. (%)	8.6	0.0	3.9	3.1	5.4	7.4	11.1	7.3	8.7	8.1	8.0	11.9	5.3

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.

TABLE 9. MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT RYE, NY (WESTCHESTER COUNTRY CLUB) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/

NAME	GENETIC COLOR	SPRING GREENUP	DENSITY SPRING	DENSITY SUMMER	QUALITY RATINGS						MEAN
					APR	MAY	JUN	AUG	SEP	OCT	
EENN A-4	5.3	7.7	9.0	6.7	8.3	8.7	8.7	7.0	7.0	7.7	7.9
CENTURY	3.3	8.7	8.3	6.7	8.7	8.7	8.3	7.7	6.7	6.7	7.8
EENN A-1	5.3	6.3	9.0	6.0	7.3	9.0	8.3	8.0	6.0	8.0	7.8
EENN G-1	6.0	8.3	8.3	6.0	9.0	8.3	8.3	7.0	6.0	7.0	7.6
GRAND PRIX (LCB-103)	3.3	8.3	8.0	5.7	8.0	8.3	8.0	6.0	5.0	7.0	7.1
EENN G-6	5.7	7.0	8.3	5.7	6.7	8.3	7.7	7.3	5.3	6.7	7.0
L-93	6.7	5.0	6.7	5.0	6.3	7.0	7.7	7.7	6.3	5.7	6.8
SR 1119	7.0	5.7	6.7	5.0	6.7	6.7	7.0	7.0	6.0	6.0	6.6
IMPERIAL	4.3	6.0	7.7	4.7	6.7	7.7	7.3	6.3	4.7	6.0	6.4
BACKSPIN	3.7	6.7	7.3	4.7	6.3	7.3	7.0	5.7	4.3	5.0	5.9
CRENSHAW	6.3	3.3	5.7	4.3	5.7	6.3	5.7	5.7	5.0	6.0	5.7
SR 1020	4.0	3.7	6.0	4.3	5.7	6.7	6.3	5.7	4.7	5.0	5.7
PROVIDENCE	5.0	7.0	5.3	3.7	5.7	6.3	4.7	5.3	3.7	4.7	5.1
TRUELINE	5.3	5.7	4.7	4.0	5.0	4.7	5.3	5.0	3.0	5.0	4.7
CATO	5.3	4.0	5.0	2.7	4.7	5.3	5.0	4.3	2.7	4.0	4.3
VIPER	7.3	4.0	4.3	2.7	3.7	4.7	4.0	4.0	2.3	4.0	3.8
FUTTER	3.7	4.3	3.7	1.7	3.7	4.0	3.3	4.3	2.3	3.0	3.4
EENNCROSS	2.7	7.7	3.0	1.3	2.7	3.3	2.7	3.0	1.3	2.7	2.6
LSD VALUE	1.5	1.3	0.9	1.0	1.3	0.8	0.8	1.9	1.4	1.2	0.6
C.V. (%)	18.2	14.2	9.4	15.2	13.3	8.0	8.5	18.6	19.4	13.9	6.7

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.

TABLE 10A. 2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT DALLAS, TX (BENT TREE COUNTRY CLUB)

ESTABLISHMENT		FERTILIZATION			FUNGICIDES		
Seeding date	10-Sep-97	Date(s)	Product	Rate (lbs./M)	Date(s)	Product	Rate (oz./M)
Problems during	None	Granular Fertilizer Applications			Applied Heritage 2apps spring (April and May) & 2apps fall (Sept and Oct)		
FACTORS OF PLAY		February	Par Ex 16-0-24	0.5 lb. N	Application Aliette 4oz and Fore 8oz in August		
		March	Par Ex 16-0-24	0.5 lb. N	Applications of Banol @1.3oz in April/June/August and Subdue Maxx @1oz in May/July/Sept		
Date opened for play	open year round	May	Polyon 0-0-46	1 lb. K	Koban drench @ 8oz in April following Star Tine		
Date closed for play	5 days in Winter weather related plus ever Mon.	June	Polyon 0-0-46	1 lb. K	ProStar drench @6oz in May following Star Tine		
Type of spikes allowed	Softspikes	July	Polyon 0-0-46	1 lb. K			
Uses of green	Chipping and Putting	September	Polyon 0-0-46	1 lb. K			
		September	Scotts 13-2-26	0.5 lb. N	HERBICIDES		
		October	Polyon 0-0-46	1 lb. K	Date(s) Product Rate (oz./M)		
		November	Scotts 15-0-29	0.5 lb. N			
MOWING		November	Polyon 0-0-46	0.5 lb. K			
		December	Scotts 15-0-29	0.5 lb. N			
Initial height		December	Polyon 0-0-32	0.5 lb. K	Applied Conserve GC week prior to each star tine cultivation		
Current height	0.125"	Total - Granular app. 2.5 lbs. N, 0.10 lbs. P, 10.4 lbs. K					
Frequency	6 days/week						
Type of mower	Toro walkers	Foliar Fertilizer Applications			INSECTICIDES		
Rollers used	Brush 2-4X/week with solid	Every two weeks throughout year (24 Apps)			Date(s) Product Rate (oz./M)		
Groomers used	rollers all year						
CULTIVATION		Each Floratine app. consisted of:			Applied Conserve GC week prior to each star tine cultivation		
Aerfication - dates	April, June, Aug, Sept.	Total - Foliar app. 1.3 lbs. N, 0.7 lbs. P, 2.1 lbs. K			OTHER PRODUCTS		
Aerfication - type	Star tine				Date(s) Product Rate (oz./M)		
Verticutting	Verticut 1X/week - Mar-May, Oct; 1X/month - June-Sept.						
Dates of topdressing	Topdressed with sand 1X/week lightly - March-June and Sept.-Oct; sand 1X/month lightly July and August; sand medium after solid tine cultivation.	Total Fertilizer app. 3.8 lbs. N, 0.8 lbs. P, 12.5 lbs. K			None		
Other cultural practices	Triplex mount for special events (10X/year) and after Star Tine Cultivation.				NOTES/COMMENTS		

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TABLE 10B.

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT DALLAS, TX (BENT TREE COUNTRY CLUB) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/

NAME	GENETIC COLOR	LEAF TEXTURE	DENSITY SPRING	DENSITY SUMMER	DENSITY FALL	FALL COLOR	QUALITY RATINGS													
						NOVEMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN	
PENN A-1	7.7	7.3	8.0	7.7	9.0	8.0	8.0	8.7	8.3	8.3	8.3	6.7	7.3	7.3	7.0	8.3	7.7	8.3	7.7	7.8
L-93	8.0	7.3	8.0	7.3	9.0	8.7	8.3	8.0	8.0	8.0	7.3	8.0	6.3	7.3	7.7	7.7	8.0	6.3	7.6	
PENN G-1	8.0	7.3	8.0	7.7	8.7	8.0	8.3	8.3	8.0	8.0	6.7	7.7	7.0	7.0	7.7	7.0	8.0	7.0	7.6	
CENTURY	7.7	8.0	8.0	8.0	8.7	8.0	8.3	8.3	8.7	8.3	6.3	8.0	6.7	7.0	6.7	7.3	8.0	6.7	7.5	
IMPERIAL	8.0	7.7	8.0	7.7	9.0	8.0	8.0	8.3	8.0	8.0	7.0	8.0	6.7	7.0	7.0	7.7	7.7	7.0	7.5	
GRAND PRIX (LCB-103)	7.7	7.3	8.0	7.3	8.7	7.3	9.0	8.3	7.7	8.0	7.0	7.7	6.3	6.3	7.3	7.0	7.0	6.7	7.4	
PENN A-4	7.3	7.3	8.0	7.0	8.3	7.3	8.0	9.0	8.7	8.3	7.0	7.3	6.3	6.3	6.7	7.3	7.7	6.7	7.4	
PUTTER	7.7	7.3	8.0	7.0	9.0	8.0	8.7	8.0	7.3	7.7	6.3	7.7	6.7	7.3	7.0	7.7	8.0	6.7	7.4	
BACKSPIN	8.0	7.7	8.0	7.3	9.0	8.0	7.3	8.3	8.7	7.3	6.7	7.7	6.7	7.0	7.3	7.0	7.7	6.0	7.3	
PENN G-6	8.0	7.0	8.0	7.3	8.7	8.0	7.3	8.7	7.3	7.7	7.3	7.7	6.3	6.7	7.0	7.3	8.0	6.3	7.3	
SR 1119	7.3	7.3	8.0	7.0	9.0	8.7	7.7	8.3	7.7	7.7	7.0	8.0	6.3	6.3	7.0	7.3	8.0	6.3	7.3	
CRENSHAW	8.3	7.7	8.0	7.0	8.7	8.0	7.7	7.7	7.0	7.7	6.7	8.0	6.3	6.7	7.7	7.7	7.3	6.3	7.2	
PROVIDENCE	7.3	7.0	8.0	6.7	8.7	8.7	8.0	8.3	7.3	7.0	7.0	7.3	6.7	6.7	7.0	7.3	7.3	6.0	7.2	
SR 1020	7.7	7.3	8.0	7.3	9.0	7.7	7.7	8.3	7.3	7.7	5.7	7.7	6.7	7.0	7.3	7.3	7.3	6.7	7.2	
CATO	8.0	7.7	8.0	7.3	8.7	8.0	7.3	8.3	7.3	7.7	6.3	8.0	6.7	6.3	7.0	7.0	7.0	6.0	7.1	
VIPER	7.0	7.3	8.0	7.7	8.7	8.3	7.7	8.3	7.0	7.7	6.3	7.0	6.7	7.3	6.7	7.0	7.7	6.0	7.1	
TRUELINE	7.7	7.3	8.0	8.0	8.7	8.3	7.3	7.7	7.3	7.3	6.0	7.7	6.7	7.0	6.7	7.0	7.3	6.0	7.0	
PENNCROSS	7.3	7.0	7.7	6.7	8.3	7.7	7.0	7.3	6.0	7.0	6.0	7.0	6.0	6.3	7.0	6.7	6.7	6.0	6.6	
LSD VALUE	1.6	1.6	0.4	1.7	1.3	1.2	0.8	1.2	0.9	0.7	1.5	2.5	2.4	2.0	2.6	1.5	2.1	1.2	0.5	
C.V. (%)	7.3	6.8	1.7	8.5	4.9	6.6	6.1	6.2	6.8	5.2	9.5	9.7	10.5	9.7	11.8	7.3	9.7	8.5	3.8	

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.

TABLE 11A. 2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT VIENNA, VA (WESTWOOD GOLF COURSE )

ESTABLISHMENT		FERTILIZATION			HERBICIDES		
Seeding date	05-Sep-97	Date(s)	Product	Rate (lbs./M)	Date(s)	Product	Rate (oz./M)
Problems during	None						
		30-Apr	17-3-17	0.25 N	11-Jun	Acclaim	3 oz./Acre
		12-May	18-3-12	0.5 N	7/9, 7/30, 8/29	Acclaim	4 oz./Acre
FACTORS OF PLAY		27-May	18-3-12	0.5 N			
		03-Aug	14-1-11	0.5 N			
Date opened for play		20-Aug	17-3-17	0.5 N	INSECTICIDES		
Date closed for play		06-Sep	14-1-11	0.5 N			
Type of spikes allowed		24-Sep	14-1-11	0.65 N	Date(s)	Product	Rate (oz./M)
Uses of green		11-Oct	16-4-8	0.5 N			
		23-Oct	16-4-8	0.25 N	5/10, 5/31, 7/9, 8/29	Delta Guard	0.4
MOWING					25-Jun	Sevin	3
			Total	4.15 lbs N/M	30-Jul	Scimilar	7.5oz./A
Initial height					26-Sep	Scimilar	10oz./A
Current height							
Frequency							
Type of mower							
Rollers used							
Groomers used							
		FUNGICIDES			OTHER PRODUCTS		
		Date(s)	Product	Rate (oz./M)	Date(s)	Product	Rate (oz./M)
CULTIVATION					11-Apr	Embark .1oz; Ferromec 5oz; Powder Blue 2.5oz; Direction Green .75oz	
Aerfication - dates		11-Apr	Daconil	2			
Aerfication - type		10-May	Rubigan	1	10-May	Ferromec 6oz; Direction Green .5oz	
		21-May	Cleary's 3336	1	20-May	Echo	5
		22-May	Chipco 6.5oz; Banner 1oz; Heritage 0.4oz; Fore 4 oz.		21-May	Echo	2
Verticutting					22-May	Ferromec	4
Dates of topdressing		31-May	Chipco	4	31-May	CC 10-5-4	6
		01-Jun	Banner 1oz; Subdue 1oz; Fore 4oz.		11-Jun	Echo 4oz; Ferromec 6oz; Delta Force .4oz; Stand Up 4oz; Direction Green .75oz	
		25-Jun	Chipco 4oz; Rubigan 1oz; Fore 4oz.				
		09-Jul	Heritage 0.4oz; Chipco 3oz; Rubigan 1oz; Subdue 1oz; Fore 4oz.		25-Jun	Ferromec 4oz; Foliar 1.5oz; Radicular 1.5oz.	
Other cultural practices	None				09-Jul	Ferromec 4oz; Direction Green .75oz	
		30-Jul	Subdue 1oz; Fore 4oz; Banner 0.5oz.		30-Jul	Ferromec 5oz; Primer 4oz; Direction Green .75oz	
		07-Aug	Heritage 0.4oz; Fore 4oz; Chipco 3oz; Rubigan 1oz.		07-Aug	Ferromec	4
		18-Aug	Chipco 4oz; Rubigan 1oz.		29-Aug	Ferromec 4oz; Direction Green .75oz	
		29-Aug	Curalan 1.5oz; Fore 4oz.		26-Sep	Direction Green	0.75
		26-Sep	Curalan 1.5oz; Fore 4oz; Heritage 4oz.		03-Dec	Ferromec 4oz; Primo .25oz; Nutri Rational .75oz; Agro Plex .2oz.	
		03-Dec	Daconil 3oz; Fore 4oz; Banner 1oz.				

NOTES/COMMENTS

Product and company names mentioned herein may be trademarks and/or registered trademarks of their respective owners

TABLE 11B.

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT VIENNA, VA (WESTWOOD GOLF COURSE) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/  
TURFGRASS STIMPMETER READINGS MEASURED IN INCHES

NAME	DENSITY	DENSITY	PERCENT	PERCENT	STIMPMETER READINGS		QUALITY RATINGS						MEAN
	SUMMER	FALL	POA ANNUA APRIL	POA ANNUA MAY	JUNE	SEPTEMBER	APR	MAY	JUN	JUL	AUG	SEP	
PENN A-1	7.3	6.7	3.0	3.0	128.7	138.0	7.0	7.0	7.7	7.7	8.0	7.0	7.4
PENN A-4	8.0	7.3	6.0	3.7	139.3	139.7	6.3	6.3	7.0	8.0	8.0	5.3	6.8
CENTURY	7.7	6.7	11.7	5.0	124.3	133.7	6.3	6.3	7.3	7.3	7.7	5.3	6.7
PENN G-1	7.7	6.3	4.3	3.0	124.3	142.3	6.3	6.7	7.7	7.0	7.0	5.7	6.7
CRENSHAW	7.7	6.3	8.3	5.0	123.0	129.7	6.0	6.3	7.3	7.0	7.3	5.3	6.6
GRAND PRIX (ICB-103)	7.3	6.3	3.3	3.3	126.3	131.7	6.7	6.7	7.3	6.7	7.0	4.7	6.5
L-93	7.0	6.7	13.3	6.7	117.0	127.7	6.0	6.0	7.7	6.3	7.0	6.0	6.5
BACKSPIN	7.0	6.3	11.7	6.7	134.3	136.7	6.0	6.0	7.0	6.3	6.7	6.7	6.4
PENN G-6	7.3	7.0	5.7	5.0	120.7	130.0	5.7	5.7	7.3	7.0	7.0	5.7	6.4
IMPERIAL	7.3	6.3	8.3	6.7	119.7	134.0	6.0	6.0	7.3	6.3	7.0	5.3	6.3
SR 1020	7.3	6.3	8.3	5.0	128.0	136.7	5.7	6.0	7.3	6.7	6.3	6.0	6.3
CATO	7.3	6.0	15.0	6.7	121.3	137.7	5.7	6.3	7.0	6.0	6.7	5.3	6.2
PROVIDENCE	7.0	6.0	13.3	6.0	122.7	142.7	6.0	6.0	7.0	6.0	6.0	5.7	6.1
VIPER	7.0	6.0	11.7	6.7	124.0	135.3	5.3	5.7	7.0	6.3	6.7	5.7	6.1
SR 1119	6.7	6.0	11.7	5.0	126.7	140.7	5.7	6.0	7.3	6.0	6.3	4.3	5.9
PUTTER	6.3	5.3	13.3	6.7	113.0	124.0	5.0	5.7	7.0	5.3	6.0	5.7	5.8
TRUELINE	6.3	5.7	21.7	11.7	126.3	129.7	5.7	5.3	6.0	5.3	6.0	4.7	5.5
PENNCROSS	5.7	5.3	18.3	15.0	117.7	130.0	5.0	4.3	5.7	4.7	4.7	4.3	4.8
LSD VALUE	1.1	1.4	11.4	7.6	23.2	35.8	0.9	0.8	1.3	0.7	0.8	2.4	0.5
C.V. (%)	8.1	10.2	53.8	58.0	7.3	8.2	8.3	7.6	8.8	7.2	7.2	17.9	4.6

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.

TABLE 12A. 2001 MANAGEMENT - ON-SITE BENTGRASS TEST AT SNOQUALMIE, WA (TPC AT SNOQUALMIE RIDGE)

ESTABLISHMENT		FERTILIZATION			FUNGICIDES		
Seeding date	08-Jun-98	Date(s)	Product	Rate (lbs./M)	Date(s)	Product	Rate (oz./M)
Problems during		06-Feb	Kpower	0.40N, 1.33K	None		
		27-Mar	Kpower	0.48N, 1.61K			
FACTORS OF PLAY		20-Apr	N-Sure, KTS	0.47N, 0.26K, 0.10S			
Date opened for play		10-May	N-Sure, KTS	0.75N, 0.26K, 0.026Fe, 0.10S	HERBICIDES		
Date closed for play		07-Jun	MAP, KTS, DP	0.48N, 1.10P, 0.20K, 0.026Fe,	Date(s)	Product	Rate (oz./M)
Type of spikes allowed				0.41N, 0.20K,	None		
Uses of green	Putting	28-Jun	N-Sure, KTS	0.33N, 0.20K, 0.026Fe, 0.13S			
		09-Jul	N-Sure, KTS	0.16N, 0.80P	INSECTICIDES		
MOWING		19-Jul	MAP	0.33N, 0.20K, 0.026Fe, 0.13S	Date(s)	Product	Rate (oz./M)
Initial height		31-Jul	N-Sure, KTS	0.16N, 0.80P	None		
Current height	0.133-0.187"	19-Aug	MAP	0.75N, 0.20K, 0.026Fe, 0.13S			
Frequency		23-Aug	N-Sure, KTS	0.34N, 0.20K, 0.026Fe, 0.13S			
Type of mower		14-Sep	N-Sure, KTS	0.20N, 1.01P	OTHER PRODUCTS		
Rollers used	6/2,5,30; 7/4,7,18,28; 8/20,25	20-Sep	MAP	0.36N, 0.20K, 0.026Fe, 0.13S	Date(s)	Product	Rate (oz./M)
Groomers used		04-Oct	N-Sure, KTS	0.26N, 0.12P, 0.79P	None		
CULTIVATION		25-Oct	Micro-Greenm	0.30N, 0.14P, 0.93P			
Aerification - dates	5/15-16, 8/27-28	17-Nov	Micro-Greenm	0.30N, 0.14P, 0.93P			
Aerification - type	one time over with 5/8 tines	03-Dec	Micro-Greenm				
Verticutting or other cultivation	3/21, 4/25, 6/19, 7/10 - 1-16" layer double screen sand	Total/year		6.48N, 4.11P, 7.45K, 0.208Fe, 1.11S	NOTES/COMMENTS		
Dates of topdressing or other type products applied	3/21, 4/25, 6/19, 7/10: 3/16"below grade, and over twice in 2 directions						
Other cultural practices							

Product and company names mentioned herein may be trademarks and/or registered trademarks of their respective owners

TABLE 12B.

MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS IN THE  
1997 USGA/GCSAA/NTEP ON-SITE BENTGRASS TEST  
AT SNOQUALMIE, WA (TPC AT SNOQUALMIE RIDGE) 1/  
2001 DATA

TURFGRASS QUALITY AND OTHER RATINGS 1-9; 9=BEST 2/  
TURFGRASS STIMPMETER READINGS MEASURED IN INCHES

NAME	GENETIC COLOR	SPRING GREENUP	LEAF TEXTURE	SUMMER COLOR	WINTER COLOR	STIMPMETER READINGS			QUALITY RATINGS													
						MARCH	AUGUST	NOVEMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN	
PENN G-1	7.0	6.7	8.0	7.3	6.0	100.0	152.3	115.7	5.0	5.7	6.0	5.7	6.0	6.3	8.0	7.0	7.0	6.7	6.0	5.7	6.3	
GRAND PRIX (LCB-103)	6.0	5.0	7.7	6.0	6.3	108.0	164.0	137.0	5.7	6.0	5.7	6.0	5.7	6.3	7.3	7.0	6.0	6.7	6.0	6.0	6.0	6.2
PENN A-4	7.0	7.0	7.7	6.3	6.0	114.0	158.0	134.3	5.3	5.3	5.7	6.7	6.3	6.3	7.0	6.7	6.3	6.0	6.0	5.7	6.1	
CENTURY	5.7	5.0	8.0	5.0	6.0	99.0	151.7	128.0	5.0	6.0	6.0	6.3	6.0	6.0	6.3	6.7	7.0	5.7	5.0	6.0	6.0	
L-93	7.0	6.7	7.0	7.0	5.0	107.3	154.3	133.7	5.0	5.0	6.0	6.3	6.0	6.7	7.0	6.7	7.0	6.0	5.0	5.3	6.0	
PENN A-1	7.0	6.0	8.0	7.0	5.0	111.3	158.7	126.3	4.7	5.7	5.3	7.0	6.0	6.3	7.0	6.7	6.7	6.0	5.0	5.7	6.0	
IMPERIAL	5.7	6.0	7.0	6.0	5.7	103.3	148.7	131.7	5.0	5.3	6.0	6.3	5.7	6.0	7.0	6.7	6.0	6.0	5.3	5.3	5.9	
PENN G-6	6.7	6.7	7.0	6.3	5.0	103.3	153.0	129.0	5.0	5.0	6.0	7.0	6.3	6.0	6.7	6.3	7.0	5.3	5.3	5.3	5.9	
PROVIDENCE	6.7	5.7	7.0	6.7	5.0	114.0	155.3	139.3	5.0	5.3	6.0	5.7	5.7	6.3	7.0	7.0	6.7	5.7	5.0	5.3	5.9	
SR 1020	6.7	6.0	7.0	7.0	6.3	116.3	163.7	133.0	5.0	4.7	5.0	5.7	5.7	6.0	7.0	6.3	7.3	6.3	6.0	6.0	5.9	
TRUELINE	6.7	6.3	7.0	7.0	6.0	112.7	161.0	135.0	5.0	5.0	5.0	6.0	5.3	6.7	7.0	6.3	6.7	6.0	5.3	5.7	5.8	
BACKSPIN	6.0	6.0	7.0	5.0	5.0	105.3	157.3	131.7	5.0	5.0	5.7	5.0	6.0	6.0	6.7	6.7	6.0	6.0	5.0	5.3	5.7	
SR 1119	7.0	6.7	7.0	7.0	5.0	106.0	154.3	131.0	4.7	5.0	5.3	5.3	6.0	6.7	7.0	7.3	6.3	5.3	5.0	4.7	5.7	
VIPER	6.7	7.0	6.7	7.3	5.3	107.7	152.0	135.7	5.0	5.7	5.3	6.7	5.3	6.3	6.0	6.0	6.7	5.7	5.0	5.0	5.7	
CATO	7.0	6.0	7.0	7.0	5.0	106.7	156.0	127.3	5.0	5.3	5.3	6.0	5.0	6.0	6.7	6.0	5.7	5.3	4.0	5.3	5.5	
PUTTER	6.0	6.0	6.0	6.0	5.7	106.7	159.7	126.3	5.0	5.3	6.0	5.7	5.3	5.3	5.7	6.0	5.7	5.3	5.0	5.7	5.5	
CRENSHAW	7.0	6.7	7.0	7.7	4.0	116.3	161.7	142.0	4.0	4.3	5.0	4.7	5.7	6.3	6.7	7.0	6.3	5.3	4.0	4.7	5.3	
PENNCROSS	5.7	5.0	6.0	6.0	4.7	101.3	163.7	145.3	4.0	5.0	5.0	4.3	4.7	4.3	5.0	5.0	5.0	4.7	4.7	4.7	4.7	
LSD VALUE	0.6	0.7	0.4	0.5	0.6	23.2	30.9	25.9	0.4	1.0	0.6	1.2	1.1	0.9	0.9	0.7	0.9	0.9	0.6	1.1	0.3	
C.V. (%)	6.0	7.1	3.3	4.6	7.3	7.9	6.1	7.6	5.4	9.2	6.5	11.4	9.2	7.9	8.0	6.7	7.9	8.2	7.2	9.6	3.0	

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.