

NATIONAL TURFGRASS EVALUATION PROGRAM

The National Turfgrass Evaluation Program (NTEP) is designed to develop and coordinate uniform evaluation trials of turfgrass varieties and promising selections in the United States and Canada. Test results can be used by national companies and plant breeders to determine the broad picture of the adaptation of a cultivar. Results can also be used to determine if a cultivar is well adapted to a local area or level of turf maintenance.

Briefly, the NTEP is a self-supporting, non-profit program, sponsored by the Beltsville Agricultural Research Center and the National Turfgrass Federation, Inc. Program policy is made by a policy committee consisting of one member from each of the four (4) Regional Turfgrass Research Committees in the United States, one member from the Lawn Seed Division of the American Seed Trade Association, one member from the American Sod Producers Association, one member from the United States Golf Association (USGA) Green Section, one member from the Turfgrass Breeders Association, an executive director and a national program coordinator. The program does not make variety recommendations. However, the data from tests can be used by extension specialists and others for making recommendations.

The policy committee is responsible for determining program policy including, (1) requirements for submission of entries, (2) scheduling tests, (3) evaluation methods, (4) selecting standard or control test entries, (5) setting entry fees, (6) coordinating tests in their respective regions, (7) establishing guidelines for publication and data distribution and (8) scheduling committee meetings.

Executive Director - Dr. Robert Shearman, University of Nebraska

National Program Coordinator - Kevin N. Morris, National Turfgrass Federation, Inc.

CURRENT POLICY COMMITTEE MEMBERS:

Dr. Richard White, Texas A&M University
Dr. Anthony Koski, Colorado State University
Dr. Thomas Fermanian, University of Illinois
Dr. Gerald Pepin, Pickseed West, Inc.
Dr. Bridget Ruemmele, University of Rhode Island
Mr. Al Gardner, A-G Turf Farms, Inc.
Dr. Michael Kenna, USGA Green Section
Ms. Crystal Rose-Fricker, Pure-Seed Testing, Inc.

FOR ADDITIONAL REPORTS OR INFORMATION WRITE:

Kevin Morris, National Program Coordinator
National Turfgrass Evaluation Program
Beltsville Agricultural Research Center-West
Building 002, Room 013
Beltsville, Maryland 20705

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LOCATIONS SUBMITTING DATA FOR 1993

<u>State</u>	<u>Location</u>	<u>Code</u>
California	Santa Clara	CA1
Illinois	Carbondale	IL1
Illinois	Urbana	IL2
Iowa	Ames	IA1
New Jersey	North Brunswick	NJ1
New Jersey	Martinsville	NJ3
Oregon	Halsey	OR3
Rhode Island	Kingston	RI1
Virginia	Blacksburg	VA1
Washington	Pullman	WA1
Washington	Spokane	WA2

1989 NATIONAL BENTGRASS TEST

(Greens-Native Soil)

Entries and Sponsors

<u>Entry No.</u>	<u>Name</u>	<u>Species</u>	<u>Sponsor</u>
1	BR 1518	A. castellana (dryland bent)	USGA Green Section
2	Carmen	creeping	Advanta Seeds West, Inc.
3	Tracenta	colonial	Advanta Seeds West, Inc.
4	Putter	creeping	Jacklin Seed Co.
5	SR 1020	creeping	Seed Research of OR, Inc.
6	Providence	creeping	Seed Research of OR, Inc.
7	Bardot	colonial	Barenbrug USA
8	Penncross	creeping	Tee-2-Green Corp.
9	Pennlinks	creeping	Tee-2-Green Corp.
10	Egmont	A. capillaris (browntop bent)	Olsen-Fennell Seed Co.
11	Regent (Nomarc 101)	creeping	Barenbrug USA
12	PRO/CUP (Forbes 89-12)	creeping	Forbes Seed & Grain
13	Lopez (WVPB 89-D-15)	creeping	Finelawn Research Corp.
14	National	creeping	Pickseed West, Inc.
15	88.CBE	creeping	International Seeds, Inc.
16	Viper (88.CBL)	creeping	International Seeds, Inc.
17	Cobra	creeping	International Seeds, Inc.
18	Emerald	creeping	International Seeds, Inc.
19	Allure	colonial	Willamette Seed Co.

TABLE A.

1993 LOCATIONS, SITE DESCRIPTIONS AND MANAGEMENT PRACTICES IN
THE 1989 NATIONAL BENTGRASS (NATIVE SOIL - GREEN) TEST

LOCATION	SOIL TEXTURE	SOIL PH	SOIL PHOSPHOROUS (LBS/ACRE)	SOIL POTASSIUM (LBS/ACRE)	NITROGEN (LBS/1000 SQ FT)	SUN OR SHADE	MOWING HEIGHT (IN)	IRRIGATION PRACTICED
CA1	LOAM	6.1-6.5	61-150	0-150	3.1-4.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
IA1	SANDY CLAY LOAM	7.1-7.5	0-60	241-375	3.1-4.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
IL1	-	-	-	-	-	-	-	-
IL2	SILT LOAM AND SILT	-	-	-	2.1-3.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
NJ1	LOAM	6.6-7.0	61-150	151-240	3.1-4.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
NJ3	SILT LOAM AND SILT	6.6-7.0	61-150	501+	4.1-5.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
OR3	-	-	-	-	-	-	-	-
RI1	SILT LOAM AND SILT	6.6-7.0	-	0-150	4.1-5.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
VA1	SILT LOAM AND SILT	6.1-6.5	61-150	241-375	3.1-4.0	FULL SUN	0.0-0.5	TO PREVENT DORMANCY
WA1	SILT LOAM AND SILT	6.1-6.5	0-60	501+	4.1-5.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
WA2	LOAM	5.6-6.0	0-60	241-375	3.1-4.0	FULL SUN	0.0-0.5	TO PREVENT STRESS

FUNGICIDE USE IN 1993 (SUBMITTED TO NTEP)

LOCATION	FUNGICIDE	RATE (OZ/1000 SQ. FT.)	DATE(S) OF APPLICATION
NJ1	CHLOROTHALONIL	6	6/4 - 8/26, FOUR TOTAL APPLICATIONS
RI1	ANILAZINE	8	7/2, 8/26
	PROPOCONAZOLE	2	7/2
	EAGLE	1/2	9/13

TABLE B.

LOCATIONS AND DATA COLLECTED IN 1993

LOCATION	JANUARY QUALITY RATINGS	FEBRUARY QUALITY RATINGS	MARCH QUALITY RATINGS	APRIL QUALITY RATINGS	MAY QUALITY RATINGS	JUNE QUALITY RATINGS	JULY QUALITY RATINGS	AUGUST QUALITY RATINGS	SEPTEMBER QUALITY RATINGS	OCTOBER QUALITY RATINGS	NOVEMBER QUALITY RATINGS	DECEMBER QUALITY RATINGS	GENETIC COLOR RATINGS	SPRING GREENUP RATINGS
CA1	X	X	X	X	X	X	X	X	X	X	X	X	X	
IA1					X	X	X	X						
IL1				X	X	X	X							
IL2				X	X	X	X							
NJ1				X	X	X	X		X	X	X			
NJ3				X		X							X	
OR3	X	X	X	X	X	X	X	X						
RI1					X	X	X	X	X	X	X			
VA1				X	X	X	X	X						
WA1				X	X		X		X	X				X
WA2				X	X		X		X	X	X			

LOCATIONS AND DATA COLLECTED IN 1993

LOCATION	LEAF TEXTURE RATINGS	SPRING DENSITY	SUMMER DENSITY	FALL DENSITY	PERCENT COVER FALL	THATCH MEASUREMENTS	FUSARIUM PATCH	DOLLAR SPOT	BROWN PATCH	FUSARIUM BLIGHT	PCT POA JAN	PCT POA FEB	PCT POA APR	PCT POA MAY	PCT POA JUL	PCT POA OCT
CA1	X	X	X	X	X	X					X	X	X	X	X	X
IA1																
IL1										X						
IL2									X				X			
NJ1																
NJ3	X	X	X													
OR3																
RI1																
VA1								X	X							
WA1										X						
WA2										X						

TABLE 1. MEAN TURFGRASS QUALITY RATINGS OF BENTGRASS CULTIVARS GROWN ON A
NATIVE SOIL GREEN AT ELEVEN LOCATIONS IN THE U.S.
1993 DATA

NAME	TURFGRASS QUALITY RATINGS 1-9; 9=IDEAL TURF 1/											
	CA1	IA1	IL1	IL2	NJ1	NJ3	OR3	RI1	VA1	WA1	WA2	MEAN
PROVIDENCE	5.9	5.1	6.8	5.1	7.0	6.2	5.6	7.3	5.2	7.5	6.8	6.2
PRO/CUP (FORBES 89-12)	6.1	6.4	7.2	4.9	6.2	6.2	5.6	6.8	4.9	6.9	6.4	6.2
LOPEZ (WVPB 89-D-15)	5.4	8.0	6.0	4.8	6.1	6.5	5.3	6.4	4.9	6.9	7.1	6.1
PUTTER	5.6	6.4	7.5	4.8	6.3	6.0	5.8	6.3	5.2	6.9	6.5	6.1
PENNLINKS	6.5	6.6	6.5	5.4	5.8	5.5	5.5	6.7	5.2	6.7	6.4	6.1
REGENT (NORMARC 101)	5.7	6.7	6.3	4.4	6.1	6.0	5.5	6.7	5.7	6.9	6.6	6.1
VIPER (88.CBL)	6.1	5.1	6.9	4.2	6.5	6.3	5.9	6.1	4.9	7.7	6.9	6.1
COBRA	6.0	5.4	6.6	4.4	6.0	6.3	5.6	6.5	5.1	6.9	6.7	6.0
88.CBE	5.5	5.3	6.8	3.8	5.8	6.2	6.0	6.3	5.1	7.1	7.1	5.9
SR 1020	6.2	5.8	7.0	4.5	5.9	6.2	5.7	6.5	4.4	6.8	5.7	5.9
PENNCROSS	5.4	6.6	6.3	4.8	5.0	5.8	5.5	5.9	5.3	7.0	6.2	5.8
CARMEN	5.9	6.3	6.7	3.8	5.5	5.8	5.1	5.6	4.5	6.3	6.4	5.6
NATIONAL	4.8	4.6	5.3	4.1	4.4	5.5	4.8	5.6	4.6	5.3	5.9	5.0
EMERALD	4.9	6.6	4.2	4.4	4.3	4.8	4.3	5.0	3.9	5.6	5.8	4.9
BARDOT	4.7	6.3	3.8	3.8	3.9	3.2	3.2	4.7	4.2	5.2	4.9	4.3
EGMONT	4.3	5.3	2.6	4.6	4.0	3.0	3.5	5.5	5.5	5.1	4.4	4.3
TRACENTA	4.1	6.1	3.7	3.2	3.7	4.2	3.1	4.0	3.8	5.5	5.0	4.2
ALLURE	4.0	5.3	2.6	2.9	2.8	2.8	3.8	4.7	4.0	5.1	4.4	3.9
BR 1518	3.9	6.2	3.3	2.9	2.9	3.0	1.8	4.8	3.7	4.7	3.8	3.7
LSD VALUE	0.8	2.0	1.4	0.9	0.5	1.0	0.8	0.4	0.8	1.1	0.6	0.3

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).

TABLE 2. MEAN TURFGRASS QUALITY RATINGS OF BENTGRASS CULTIVARS FOR EACH MONTH GROWN ON A NATIVE SOIL GREEN AT ELEVEN LOCATIONS IN THE U.S. 1993 DATA

TURFGRASS QUALITY RATINGS 1-9; 9=IDEAL TURF; MONTHS 1/

NAME	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
PROVIDENCE	4.8	5.2	5.8	5.8	6.4	6.4	6.7	5.8	6.9	6.7	6.2	5.3	6.2
PRO/CUP (FORBES 89-12)	5.0	5.5	6.2	6.1	5.9	6.2	6.8	6.4	6.4	6.3	5.5	5.3	6.2
LOPEZ (WVPB 89-D-15)	4.8	4.5	5.7	5.8	5.7	6.2	6.6	6.3	6.5	6.5	5.6	4.3	6.1
FUTTER	5.5	5.7	5.8	5.8	6.0	6.5	6.6	6.0	6.2	6.2	5.3	5.0	6.1
BENNLINKS	5.8	6.0	6.5	5.6	5.9	6.1	6.6	6.4	6.4	6.3	5.9	6.0	6.1
REGENT (NORMARC 101)	5.8	5.5	5.5	6.0	5.7	6.0	6.5	6.3	6.2	6.5	5.6	5.0	6.1
VIPER (88.CBL)	6.0	6.2	6.3	5.9	5.8	6.1	6.5	5.3	6.6	6.5	6.3	5.7	6.1
COBRA	5.5	5.8	5.8	5.7	5.8	5.8	6.6	5.7	6.3	6.4	6.0	6.0	6.0
88.CBE	5.8	5.3	6.0	5.8	5.7	5.7	6.3	5.7	6.3	6.4	5.6	5.3	5.9
SR 1020	6.5	6.0	6.7	5.6	5.5	5.8	6.5	5.5	6.1	6.1	5.8	5.0	5.9
BENNCROSS	5.5	5.2	5.0	5.3	5.6	5.6	6.3	6.2	5.8	6.4	5.1	5.0	5.8
CARMEN	5.2	5.0	6.2	5.2	5.4	5.8	6.1	5.7	6.1	5.9	5.1	4.7	5.6
NATIONAL	4.7	5.2	4.3	4.8	4.7	5.0	5.3	5.0	5.4	5.7	4.6	3.7	5.0
EMERALD	4.8	4.8	4.8	4.6	4.5	4.7	5.3	5.0	5.0	5.6	4.5	4.7	4.9
EARDOT	3.5	3.3	4.5	4.2	4.5	4.3	4.4	4.8	4.7	4.8	4.4	3.7	4.3
EGMONT	4.2	4.0	3.7	3.9	4.5	4.1	4.6	4.9	4.7	4.9	4.5	4.0	4.3
TRACENTA	3.8	3.0	3.2	4.6	4.1	4.0	3.9	4.1	4.5	4.5	4.3	4.0	4.2
ALLURE	4.3	3.7	3.3	4.0	3.8	3.6	3.8	4.1	4.4	4.4	4.0	3.7	3.9
BR 1518	3.0	2.3	3.0	3.3	3.6	3.7	3.6	4.1	4.1	4.5	4.3	3.0	3.7
LSD VALUE	1.4	0.9	0.9	0.6	0.6	0.7	0.7	1.1	0.8	0.7	0.8	1.3	0.5

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).

TABLE 3. RANKING OF MEAN TURFGRASS QUALITY RATINGS OF BENTGRASS CULTIVARS GROWN ON A NATIVE SOIL GREEN AT ELEVEN LOCATIONS IN THE U.S. 1/ 1993 DATA

QUALITY RANKINGS; 1=HIGHEST MEAN; STATE LOCATIONS REPORTING 2/

NAME	CA1	IA1	IL1	IL2	NJ1	NJ3	OR3	RI1	VA1	WA1	WA2	MEAN
PROVIDENCE	7	17.5	5.5	2.0	1.0	5.5	6.5	1	4.5	2.0	4.0	1
PRO/CUP (FORBES 89-12)	4	6.5	2.0	3.0	4.0	5.5	5.0	2	10.0	8.0	8.0	2
LOPEZ (WVPB 89-D-15)	11	1.0	12.0	4.5	6.0	1.0	11.0	7	9.0	5.5	2.0	3
PUTTER	9	6.5	1.0	4.5	3.0	8.5	3.0	8	4.5	8.0	7.0	4
PENNLINKS	1	4.0	9.0	1.0	9.5	12.5	9.0	3	6.0	11.0	9.5	5
REGENT (NORMARC 101)	8	2.0	10.5	10.0	5.0	8.5	9.0	4	1.0	5.5	6.0	6
VIPER (88.CBL)	3	17.5	4.0	12.0	2.0	2.5	2.0	10	11.0	1.0	3.0	7
COBRA	5	13.0	8.0	10.0	7.0	2.5	6.5	5	7.0	8.0	5.0	8
88.CBE	10	15.5	5.5	14.5	9.5	5.5	1.0	9	8.0	3.0	1.0	9
SR 1020	2	12.0	3.0	8.0	8.0	5.5	4.0	6	14.0	10.0	14.0	10
PENNCROSS	12	4.0	10.5	6.0	12.0	10.5	9.0	11	3.0	4.0	11.0	11
CARMEN	6	8.5	7.0	14.5	11.0	10.5	12.0	13	13.0	12.0	9.5	12
NATIONAL	14	19.0	13.0	13.0	13.0	12.5	13.0	12	12.0	15.0	12.0	13
EMERALD	13	4.0	14.0	10.0	14.0	14.0	14.0	15	17.0	13.0	13.0	14
BARDOT	15	8.5	15.0	16.0	16.0	16.0	17.0	18	15.0	16.0	16.0	15
EGMONT	16	15.5	18.5	7.0	15.0	17.5	16.0	14	2.0	17.0	17.0	16
TRACENTA	17	11.0	16.0	17.0	17.0	15.0	18.0	19	18.0	14.0	15.0	17
ALLURE	18	14.0	18.5	18.5	19.0	19.0	15.0	17	16.0	18.0	18.0	18
BR 1518	19	10.0	17.0	18.5	18.0	17.5	19.0	16	19.0	19.0	19.0	19

1/ THIS TABLE CONTAINS NO STATISTICAL VALUES (LSD VALUES) THEREFORE IT SHOULD ONLY BE USED TO DETERMINE THE GENERAL PERFORMANCE OF AN ENTRY OR ENTRIES ACROSS SEVERAL LOCATIONS OR REGIONS. TO ASSESS STATISTICAL DIFFERENCES AMONG ENTRIES, REFER TO THE MEANS AND LSD VALUES FOUND IN TABLE 1.

2/ RANKING OF MEAN TURFGRASS QUALITY IS ACHIEVED BY ASSIGNING "1" TO THE HIGHEST MEAN, "2" TO THE SECOND HIGHEST MEAN, ETC. FOR EACH LOCATION. FOR EXAMPLE, IF TWO MEANS ARE TIED FOR THE SECOND AND THIRD RANKS, BOTH ARE ASSIGNED "2.5".

TABLE 4. GENETIC COLOR RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

GENETIC COLOR RATINGS 1-9; 9=DARK GREEN 1/

NAME	CA1	NJ3	MEAN
VIPER (88.CBL)	7.7	5.3	6.5
PROVIDENCE	7.0	5.7	6.3
PRO/CUP (FORBES 89-12)	7.3	5.3	6.3
88.CBE	6.7	5.3	6.0
LOPEZ (WVPB 89-D-15)	7.0	5.0	6.0
SR 1020	6.7	5.3	6.0
PENNCROSS	6.0	5.7	5.8
PENNLINKS	6.7	5.0	5.8
REGENT (NORMARC 101)	6.3	5.3	5.8
CARMEN	6.7	4.7	5.7
COBRA	6.7	4.7	5.7
NATIONAL	6.3	5.0	5.7
PUTTER	6.0	5.3	5.7
EMERALD	5.0	4.7	4.8
TRACENTA	5.7	3.7	4.7
BARDOT	5.3	3.3	4.3
ALLURE	5.7	2.0	3.8
BR 1518	5.7	2.0	3.8
EGMONT	4.3	2.0	3.2
LSD VALUE	1.5	1.3	1.0

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).

TABLE 5. SPRING GREENUP RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

SPRING GREENUP RATINGS 1-9; 9=COMPLETELY GREEN 1/

NAME	WA1
BR 1518	5.0
EGMONT	5.0
PROVIDENCE	5.0
CARMEN	4.7
EMERALD	4.7
NATIONAL	4.7
PENNCROSS	4.7
PENNLINKS	4.7
PUTTER	4.7
REGENT (NORMARC 101)	4.7
SR 1020	4.7
ALLURE	4.3
COBRA	4.3
PRO/CUP (FORBES 89-12)	4.3
88.CBE	4.0
BARDOT	4.0
LOPEZ (WVPB 89-D-15)	4.0
TRACENTA	4.0
VIPER (88.CBL)	4.0
LSD VALUE	0.8

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).

TABLE 6. LEAF TEXTURE RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

LEAF TEXTURE RATINGS 1-9; 9=VERY FINE 1/

NAME	CA1	NJ3	MEAN
VIPER (88.CBL)	7.0	6.7	6.8
SR 1020	7.3	6.3	6.8
PRO/CUP (FORBES 89-12)	7.0	6.3	6.7
PROVIDENCE	7.0	6.3	6.7
88.CBE	6.7	6.3	6.5
CARMEN	7.0	6.0	6.5
COBRA	6.7	6.0	6.3
LOPEZ (WBPB 89-D-15)	6.7	6.0	6.3
PENNLINKS	6.7	6.0	6.3
PUTTER	6.7	6.0	6.3
REGENT (NORMARC 101)	7.0	5.3	6.2
PENNCROSS	6.3	5.3	5.8
EMERALD	6.0	5.3	5.7
EGMONT	7.7	3.3	5.5
NATIONAL	6.0	5.0	5.5
ALLURE	6.3	4.0	5.2
BARDOT	7.0	3.0	5.0
TRACENTA	6.3	3.7	5.0
BR 1518	6.3	2.7	4.5
LSD VALUE	0.9	1.6	0.9

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).

TABLE 7. SPRING DENSITY RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

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

NAME	CA1	NJ3	MEAN
SR 1020	6.3	7.0	6.7
COBRA	6.0	6.7	6.3
PRO/CUP (FORBES 89-12)	6.0	6.7	6.3
PUTTER	6.0	6.7	6.3
VIPER (88.CBL)	6.0	6.7	6.3
88.CBE	6.0	6.3	6.2
CARMEN	6.0	6.3	6.2
PROVIDENCE	6.0	6.3	6.2
PENNCROSS	6.0	6.0	6.0
REGENT (NORMARC 101)	6.0	5.7	5.8
LOPEZ (WVPB 89-D-15)	6.0	5.3	5.7
PENNLINKS	6.0	5.3	5.7
EMERALD	6.0	5.0	5.5
NATIONAL	6.0	5.0	5.5
TRACENTA	6.0	5.0	5.5
BARDOT	6.0	4.0	5.0
BR 1518	6.0	4.0	5.0
EGMONT	6.0	4.0	5.0
ALLURE	6.0	3.3	4.7
LSD VALUE	0.2	1.1	0.6

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).

TABLE 8. SUMMER DENSITY RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

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

NAME	CA1	NJ3	MEAN
VIPER (88.CBL)	6.7	7.0	6.8
PRO/CUP (FORBES 89-12)	7.0	6.3	6.7
PROVIDENCE	6.7	6.3	6.5
SR 1020	7.0	6.0	6.5
COBRA	6.0	6.7	6.3
CARMEN	6.3	6.0	6.2
PUTTER	6.0	6.3	6.2
LOPEZ (WBPB 89-D-15)	5.7	6.3	6.0
PENNLINKS	6.0	6.0	6.0
88.CBE	5.7	6.0	5.8
REGENT (NORMARC 101)	5.7	6.0	5.8
PENNCROSS	5.3	5.7	5.5
NATIONAL	4.7	5.3	5.0
EMERALD	4.3	5.3	4.8
BARDOT	4.7	3.7	4.2
TRACENTA	4.7	3.7	4.2
ALLURE	4.3	3.0	3.7
EGMONT	4.3	3.0	3.7
BR 1518	4.3	2.3	3.3
LSD VALUE	1.3	1.4	1.0

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).

TABLE 9. FALL DENSITY RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

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

NAME	CA1
88.CBE	7.0
ALLURE	7.0
CARMEN	7.0
COBRA	7.0
LOPEZ (WVPB 89-D-15)	7.0
NATIONAL	7.0
PENNCROSS	7.0
PENNLINKS	7.0
PRO/CUP (FORBES 89-12)	7.0
PROVIDENCE	7.0
PUTTER	7.0
SR 1020	7.0
VIPER (88.CBL)	7.0
EMERALD	6.7
REGENT (NORMARC 101)	6.7
TRACENTA	6.7
BARDOT	6.3
BR 1518	6.3
EGMONT	6.3
LSD VALUE	0.5

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).

TABLE 10. PERCENT LIVING GROUND COVER (FALL) RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

PERCENT LIVING GROUND COVER IN FALL: LOCATIONS 1/

NAME	CA1
LOPEZ (WVPB 89-D-15)	99.0
FUTTER	99.0
COBRA	98.7
NATIONAL	97.3
EMERALD	97.0
VIPER (88.CBL)	96.7
EARDOT	96.3
PENNCROSS	96.3
PRO/CUP (FORBES 89-12)	96.3
REGENT (NORMARC 101)	96.3
BR 1518	96.0
PROVIDENCE	95.7
88.CBE	95.3
SR 1020	95.3
TRACENTA	94.3
CARMEN	93.0
PENNLINKS	93.0
EGMONT	92.3
ALLURE	92.0
LSD VALUE	5.5

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).

TABLE 11. THATCH MEASUREMENTS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

THATCH MEASUREMENTS IN MILLIMETERS 1/

NAME	CA1
EMERALD	45.7
88.CBE	45.3
LOPEZ (WVPB 89-D-15)	45.3
SR 1020	45.3
EGMONT	45.0
BARDOT	44.7
REGENT (NORMARC 101)	44.3
VIPER (88.CBL)	44.3
CARMEN	44.0
PENNLINKS	44.0
PRO/CUP (FORBES 89-12)	43.0
PUTTER	43.0
NATIONAL	41.3
PROVIDENCE	41.3
COBRA	41.0
PENNCROSS	41.0
ALLURE	36.7
TRACENTA	36.7
BR 1518	27.7
LSD VALUE	10.0

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).

TABLE 12. FUSARIUM PATCH RATINGS OF BENIGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

FUSARIUM PATCH RATINGS 1-9; 9=NO DISEASE 1/

NAME	WA1	WA2	MEAN
88.CBE	7.0	9.0	8.0
COBRA	7.7	8.3	8.0
NATIONAL	7.3	8.3	7.8
EMERALD	7.0	8.3	7.7
LOPEZ (WBPB 89-D-15)	6.7	8.3	7.5
PROVIDENCE	7.3	7.7	7.5
TRACENTA	6.3	8.7	7.5
PENNCROSS	7.7	7.0	7.3
VIPER (88.CBL)	6.7	8.0	7.3
PENNLINKS	7.3	7.3	7.3
BR 1518	6.7	7.7	7.2
ALLURE	6.3	8.0	7.2
REGENT (NORMARC 101)	7.0	7.3	7.2
BARDOT	6.7	7.3	7.0
PRO/CUP (FORBES 89-12)	7.0	7.0	7.0
PUTTER	6.0	7.3	6.7
EGMONT	5.7	6.7	6.2
CARMEN	6.0	6.3	6.2
SR 1020	5.0	6.0	5.5
LSD VALUE	2.4	1.6	1.4

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).

TABLE 13. DOLLAR SPOT RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

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

NAME	VA1
EGMONT	8.0
TRACENTA	7.7
BARDOT	6.3
BR 1518	6.3
PENNLINKS	6.3
ALLURE	6.0
PENNCROSS	5.7
REGENT (NORMARC 101)	5.7
88.CBE	5.3
COBRA	5.3
PROVIDENCE	5.3
NATIONAL	5.0
VIPER (88.CBL)	4.7
LOPEZ (WVPB 89-D-15)	4.3
PUTTER	4.3
CARMEN	4.0
EMERALD	4.0
PRO/CUP (FORBES 89-12)	4.0
SR 1020	2.7
LSD VALUE	2.4

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).

TABLE 14. BROWN PATCH RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

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

NAME	IL2	VA1	MEAN
COBRA	9.0	7.3	8.2
LOPEZ (WPB 89-D-15)	9.0	7.3	8.2
SR 1020	9.0	7.0	8.0
VIPER (88.CBL)	9.0	7.0	8.0
PENNCROSS	9.0	6.7	7.8
PUTTER	9.0	6.7	7.8
REGENT (NORMARC 101)	9.0	6.7	7.8
CARMEN	9.0	6.3	7.7
NATIONAL	9.0	6.3	7.7
PENNLINKS	9.0	6.0	7.5
88.CBE	9.0	5.7	7.3
PRO/CUP (FORBES 89-12)	9.0	5.7	7.3
PROVIDENCE	8.3	6.3	7.3
EMERALD	8.3	6.0	7.2
EGMONT	7.3	5.3	6.3
BR 1518	6.7	5.3	6.0
ALLURE	7.3	3.0	5.2
BARDOT	5.3	2.7	4.0
TRACENTA	5.0	2.7	3.8
LSD VALUE	2.3	2.4	1.7

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).

TABLE 15. FUSARIUM BLIGHT RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

FUSARIUM BLIGHT RATINGS 1-9; 9=NO DISEASE 1/

NAME	IL1
SR 1020	9.0
CARMEN	8.7
PUTTER	8.7
TRACENTA	8.7
ALLURE	8.5
BARDOT	8.3
BR 1518	8.3
PRO/CUP (FORBES 89-12)	7.7
REGENT (NORMARC 101)	7.7
PENNLINKS	7.3
PENNCROSS	7.0
88.CBE	6.7
EGMONT	6.3
PROVIDENCE	6.3
EMERALD	6.0
LOPEZ (WVPB 89-D-15)	6.0
VIPER (88.CBL)	6.0
NATIONAL	5.7
COBRA	4.7
LSD VALUE	4.1

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).

TABLE 16. PERCENT POA ANNUA (JANUARY) RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

PERCENT POA ANNUA: LOCATIONS 1/

NAME	CA1
BR 1518	74.0
BARDOT	71.0
NATIONAL	55.7
TRACENTA	50.7
ALLURE	43.3
EMERALD	35.3
LOPEZ (WVPB 89-D-15)	29.0
PENNCROSS	26.0
EGMONT	25.0
88.CBE	15.0
REGENT (NORMARC 101)	13.3
PROVIDENCE	11.3
COBRA	11.0
FUTTER	11.0
PENNLINKS	10.3
PRO/CUP (FORBES 89-12)	9.3
CARMEN	7.7
VIPER (88.CBL)	7.0
SR 1020	4.3
LSD VALUE	28.1

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).

TABLE 17. PERCENT POA ANNUA (FEBRUARY) RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

PERCENT POA ANNUA: LOCATIONS 1/

NAME	CA1
BR 1518	89.3
BARDOT	77.0
ALLURE	71.7
TRACENTA	69.3
EGMONT	65.3
EMERALD	56.3
NATIONAL	47.0
FENNCROSS	41.7
LOPEZ (WVPB 89-D-15)	40.3
FENNLINKS	24.0
88.CBE	19.0
PRO/CUP (FORBES 89-12)	18.0
COBRA	17.0
CARMEN	16.7
VIPER (88.CBL)	16.3
FUTTER	12.0
PROVIDENCE	11.3
REGENT (NORMARC 101)	8.7
SR 1020	5.7
LSD VALUE	34.3

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).

TABLE 18. PERCENT POA ANNUA (APRIL) RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

PERCENT POA ANNUA: LOCATIONS 1/			
NAME	CA1	IL2	MEAN
BR 1518	80.3	29.0	54.7
ALLURE	75.7	26.7	51.2
TRACENTA	72.7	23.3	48.0
BARDOT	69.0	25.0	47.0
NATIONAL	59.3	20.0	39.7
EGMONT	56.7	13.3	35.0
EMERALD	40.3	10.0	25.2
PENNCROSS	36.7	9.3	23.0
LOPEZ (WVPB 89-D-15)	30.3	8.0	19.2
88.CBE	24.7	13.3	19.0
PUTTER	28.7	9.0	18.8
VIPER (88.CBL)	20.3	15.0	17.7
PENNLINKS	27.7	5.7	16.7
COBRA	21.0	10.7	15.8
CARMEN	19.3	11.7	15.5
PRO/CUP (FORBES 89-12)	25.3	5.0	15.2
REGENT (NORMARC 101)	18.0	7.3	12.7
PROVIDENCE	17.0	7.7	12.3
SR 1020	7.7	8.0	7.8
LSD VALUE	25.4	11.3	13.9

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).

TABLE 19. PERCENT POA ANNUA (MAY) RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

PERCENT POA ANNUA: LOCATIONS 1/

NAME	CA1
BR 1518	85.3
ALLURE	79.7
TRACENTA	79.7
EGMONT	61.7
NATIONAL	60.3
BARDOT	56.7
EMERALD	47.3
FENNCROSS	41.0
LOPEZ (WVPB 89-D-15)	36.3
FENNLINKS	26.0
88.CBE	22.7
PRO/CUP (FORBES 89-12)	21.0
FUTTER	21.0
REGENT (NORMARC 101)	21.0
CARMEN	20.7
VIPER (88.CBL)	17.7
COBRA	16.7
PROVIDENCE	16.3
SR 1020	9.3
LSD VALUE	24.5

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).

TABLE 20. PERCENT POA ANNUA (JULY) RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

PERCENT POA ANNUA: LOCATIONS 1/

NAME	CA1
BR 1518	94.7
EMERALD	89.0
TRACENTA	86.0
EGMONT	81.3
NATIONAL	69.3
PENNCROSS	65.7
ALLURE	64.7
BARDOT	57.3
LOPEZ (WVPB 89-D-15)	48.3
CARMEN	43.3
88.CBE	42.3
COBRA	32.7
PRO/CUP (FORBES 89-12)	28.0
FUTTER	24.7
REGENT (NORMARC 101)	23.0
PENNLINKS	16.3
PROVIDENCE	16.3
VIPER (88.CBL)	15.0
SR 1020	11.0
LSD VALUE	41.0

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).

TABLE 21. PERCENT POA ANNUA (OCTOBER) RATINGS OF BENTGRASS CULTIVARS
GROWN ON A NATIVE SOIL GREEN
1993 DATA

PERCENT POA ANNUA: LOCATIONS 1/

NAME	CA1
NATIONAL	94.7
TRACENTA	94.3
ALLURE	93.3
FENNCROSS	92.0
REGENT (NORMARC 101)	91.0
BARDOT	90.0
EGMONT	90.0
ER 1518	87.3
EMERALD	86.0
PRO/CUP (FORBES 89-12)	86.0
CARMEN	83.0
PROVIDENCE	82.0
VIPER (88.CBL)	78.7
LOPEZ (WVPB 89-D-15)	77.0
FENNLINKS	75.0
88.CBE	71.3
FUTTER	68.7
SR 1020	65.7
COBRA	60.3
LSD VALUE	30.0

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).