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 United States Golf Association (USGA) Green Section, one member from the Golf Course Superintendents Assoc. of America (GCSAA), one member for the Turfgrass Producers International (TPI), one member from the Turfgrass Breeders Association, one member from the Sports Turf Managers Association of America (STMA), and an executive director. 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 - Kevin N. Morris, National Turfgrass Evaluation Program, Inc.

CURRENT POLICY COMMITTEE MEMBERS:

Mr. Sean Chaney, DLF North America
Mr. Bo Lacy, Barenbrug USA.
Dr. Cole Thompson, USGA Green Section
Dr. Barry Stewart, Mississippi State University
Dr. Alec Kowalewski, Oregon State University
Mr. Mike Selman, Buena Vista Turf Farm
Mr. Mark Johnson, Golf Course Superintendents Assoc. of America
Dr. Aaron Patton, Purdue University
Mr. Austin Fricker, Pure-Seed Testing, Inc.
Dr. Mike Fidanza, Penn State University, Berks Campus
Ms. Kristen Althouse, Sports Turf Managers Association of America

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2020 National Bentgrass (PUTTING GREEN) Test - 2021 data

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A Guide to NTEP Turfgrass Ratings

Introduction

The quality and scientific merit of NTEP data is extremely important. However, the evaluation of turfgrass species and cultivars is a difficult and complex issue. Furthermore, turfgrass evaluation is generally a subjective process based on visual estimates of factors, like genetic color, stand density, leaf texture, uniformity and quality. These factors can not be measured in the same way as other agricultural crops. Turfgrass quality is not a measure of yield or nutritive value. Turfgrass quality is a measure of aesthetics (i.e. density, uniformity, texture, smoothness, growth habit and color), and functional use. The most common way of assessing turfgrass quality is a visual rating system that is based on the turfgrass evaluator's judgement.

General Considerations

Most visual ratings collected on NTEP trials are based on a 1 to 9 rating scale. One is the poorest or lowest and 9 is the best or highest rating. However, a few characteristics, such as winter kill or percent living ground cover, are rated on a percentage basis, again by using the evaluator's judgement. Most disease ratings found in NTEP reports will use the 1-9 scale, 9=no disease except where the evaluator made a judgement of the percentage of disease in each plot. Percent disease data will be found in separate tables and will normally not be included with disease data using the 1-9 scale.

Turfgrass Quality

Turfgrass Quality is based on 9 being outstanding or ideal turf and 1 being poorest or dead. A rating of 6 or above is generally considered acceptable. A quality rating value of 9 is reserved for a perfect or ideal grass, but it also can reflect an absolutely outstanding treatment plot. The NTEP requires quality ratings on a monthly basis. Quality ratings take into account the aesthetic and functional aspects of the turf. Quality ratings are not based on color alone, but on a combination of color, density, uniformity, texture, and disease or environmental stress.

Turfgrass quality ratings are grouped and presented by region, management level, a particular stress (shade, traffic, etc.) and in some cases, by individual location (starting with 2001 data, data from each location will be posted separately as well on the NTEP web site, *http://www.ntep.org*). Also available now is a summary table (Appendix) in the back of this report. This summary table includes various statistical measures not previously compiled for NTEP reports. For an explanation of this table and these changes, please go to the NTEP web site at *http://www.ntep.org/pdf/grandmean.mem.pdf*.

Other Ratings

More detailed information on the ratings of specific characteristics can be found on the NTEP web site at *http://www.ntep.org/reports/ratings.htm*.

2020 NATIONAL BENTGRASS TEST
(Putting Green)

LOCATIONS SUBMITTING DATA FOR 2021

State	Location	Code
Indiana	Auburn	AL1
Illinois	Olympia (Olympia Fields, CC)	IL5
Indiana	West Lafayette	IN1
Indiana	West Lafayette (Reduced Fungicide)	IN2
Kansas	Manhattan (Shadow Glen, GC)	KS1
Massachusetts	Amherst	MA1
Minnesota	St. Paul	MN1
Missouri	Columbia	MO1
New Jersey	North Brunswick	NJ1
North Carolina	Raleigh	NC1
Oklahoma	Stillwater (Karsten Creek CC)	OK1
Oregon	Corvallis (Tokatee GC)	OR1
Utah	Logan	UT1
Virginia	Blacksburg	VA1
Wisconsin	Madison	WI1

2020 NATIONAL BENTGRASS TEST
(Putting Green)

Entries and Sponsors

Entry No	Name	Species	Sponsor
*1	Penncross	Creeping	Standard
*2	Penn A-1	Creeping	Standard
*3	007XL	Creeping	DLF Pickseed USA
4	CY-4	Creeping	Snow Brand Seed Co., Ltd.
*5	S1	Creeping	SiteOne Landscape Supply
*6	Piranha	Creeping	Standard
*7	Barracuda	Creeping	Mountain View Seeds
8	PSU-CBG1	Creeping	Penn State University
9	PSU-CBG2	Creeping	Penn State University
10	PSU-CBG3	Creeping	Penn State University
11	DLFPS-AP-3084	Creeping	DLF Pickseed USA
12	PVF-PV-1	Creeping	Lebanon Turf
13	PVF-PV-2	Creeping	SiteOne Landscape
*14	Declaration	Creeping	Standard
*15	Spectrum (LNS 19)	Creeping	Landmark Turf & Native Seeds
*16	Oakley (PPG-AP-TV1)	Creeping	Mountain View Seeds
*17	Piper (PPG-AP-MTV2)	Creeping	Mountain View Seeds
18	PST-0DSF	Creeping	Pure-Seed Testing
19	PST-0HR	Creeping	Pure-Seed Testing
*20	L-93 XD	Creeping	Standard

* Commercially Available in the USA in 2022 or any Other Country

TABLE A. 2021 LOCATIONS, SITE DESCRIPTIONS AND MANAGEMENT PRACTICES IN THE 2020 NATIONAL BENTGRASS (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
AL1	LOAMY SAND	6.1-6.5	0-60	0-150	2.1-3.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
IL5	-	-	-	-	-	-	-	-
IN1	SAND	7.6-8.5	0-60	151-240	2.1-3.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
IN2	SAND	7.6-8.5	0-60	151-240	2.1-3.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
KS1	SAND	-	0-60	151-240	3.1-4.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
MA1	SAND	5.6-6.0	61-150	151-240	3.1-4.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
MN1	SAND	7.1-7.5	0-60	0-150	2.1-3.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
MO1	-	-	-	-	-	-	-	-
NC1	SILTY CLAY LOAM	6.1-6.5	61-150	0-150	3.1-4.0	FULL SUN	-	TO PREVENT STRESS
NJ1	SAND	-	-	-	3.1-4.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
OK1	SAND	7.1-7.5	61-150	151-240	2.1-3.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
OR1	SILTY CLAY LOAM	6.1-6.5	0-60	0-150	4.1-5.0	PARTIAL SHADE	0.0-0.5	TO PREVENT STRESS
UT1	SAND	6.6-7.0	-	-	-	FULL SUN	0.0-0.5	TO PREVENT STRESS
VA1	SAND	5.6-6.0	0-60	0-150	4.1-5.0	FULL SUN	0.0-0.5	TO PREVENT STRESS
WI1	SILT LOAM AND SILT	7.1-7.5	-	-	3.1-4.0	FULL SUN	0.0-0.5	TO PREVENT DORMANCY

TABLE B. LOCATIONS AND DATA COLLECTED IN 2021

LOCATION	JANUARY QUALITY RATING	FEBRUARY QUALITY RATING	MARCH QUALITY RATING	APRIL QUALITY RATING	MAY QUALITY RATING	JUNE QUALITY RATING	JULY QUALITY RATING	AUGUST QUALITY RATING	SEPTEMBER QUALITY RATING	OCTOBER QUALITY RATING	NOVEMBER QUALITY RATING	DECEMBER QUALITY RATING	GENETIC COLOR	SPRING GREENUP	LEAF TEXTURE
AL1					X	X	X	X	X	X	X	X	X		X
IL5					X	X	X	X	X		X				
IN1					X	X	X	X	X	X	X			X	X
IN2					X	X	X	X	X	X	X			X	
KS1				X	X	X								X	
MA1					X	X	X	X	X	X	X				
MN1						X	X	X	X	X			X		
MO1				X	X	X	X	X	X	X					
NC1	X	X	X	X	X	X	X	X	X	X	X		X		X
NJ1			X	X	X	X	X	X	X	X			X		X
OK1									X	X	X	X	X		
OR1				X	X	X	X				X		X		X
UT1					X	X	X	X	X	X			X		
VA1				X	X	X	X	X	X	X	X				
WI1					X	X	X	X	X	X	X		X		

TABLE B. (CONT'D) LOCATIONS AND DATA COLLECTED IN 2021

LOCATION	SEEDLING VIGOR	SPRING DENSITY	SUMMER DENSITY	FALL DENSITY	PERCENT COVER SPRING	PERCENT COVER SUMMER	PERCENT COVER FALL	MICRODO-CHIUM PATCH	DOLLAR SPOT	BROWN PATCH WARM TEMP.	PYTHIUM BLIGHT	BROWN PATCH COOL TEMP.	PINK SNOW MOLD
AL1													
IL5		X											
IN1			X										X
IN2			X					X	X	X			
KS1	X	X											
MA1													
MN1			X	X						X		X	
MO1					X				X				
NC1		X	X	X	X	X	X						
NJ1	X			X			X			X			
OK1				X									
OR1						X					X		
UT1			X										
VA1													
WI1	X	X											

TABLE B. (CONT'D) LOCATIONS AND DATA COLLECTED IN 2021

LOCATION	FALL COLOR NOVEMBER	PERCENT ESTABLISH-MENT	QUALITY NOVEMBER 2020	QUALITY RATINGS AFTER ESTABLISHMENT 3-WEEKS	6-WEEKS	ALGAE RATINGS	BENTGRASS DEAD SPOT PERCENT	COUNTS	PERCENT ESTABLISHENT RATINGS MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	WEAR TOLERANCE MAY	JULY	OCTOBER
AL1									X	X	X								
IL5																			
IN1																			
IN2																			
KS1																			
MA1		X															X	X	X
MN1																			
MO1		X	X				X	X											
NC1						X													
NJ1																			
OK1																			
OR1																			
UT1	X														X	X			
VA1				X	X						X	X	X	X	X				
WI1			X																

TABLE 1. MEAN TURFGRASS QUALITY RATINGS OF BENTGRASS CULTIVARS GROWN ON 1/
A GREEN AT THREE LOCATIONS IN THE U.S. FOR LPI GROUP 1 **/
2021 DATA

TURFGRASS QUALITY RATINGS 1-9; 9=IDEAL TURF 2/

NAME	# ENTRY	OR1	VA1	WI1	MEAN
* PIRANHA	6	5.9	5.6	6.0	5.8
DLFPS-AP-3084	11	5.5	5.3	5.9	5.5
* 007XL	3	5.4	5.3	5.9	5.5
* BARRACUDA	7	5.7	5.3	5.6	5.5
* L-93 XD	20	5.5	5.3	5.7	5.5
CY-4	4	5.5	5.3	5.7	5.5
PST-0DSF	18	5.5	5.2	5.6	5.4
PST-0HR	19	5.0	5.2	5.9	5.4
* PIPER (PPG-AP-MTV2)	17	5.1	5.2	5.8	5.4
PVF-PV-1	12	5.1	5.2	5.8	5.4
* PENN A-1	2	5.6	5.0	5.3	5.3
* OAKLEY (PPG-AP-MTV1)	16	4.9	5.1	5.8	5.3
* S1	5	5.2	5.0	5.6	5.3
* DECLARATION	14	5.5	4.9	5.2	5.2
* SPECTRUM (LNS 19)	15	4.8	5.0	5.7	5.2
* PENNCROSS	1	5.7	4.8	4.9	5.1
PVF-PV-2	13	4.4	4.7	5.4	4.8
PSU-CBG2	9	4.5	4.5	5.1	4.7
PSU-CBG1	8	4.2	4.2	4.9	4.4
PSU-CBG3	10	4.0	4.1	4.7	4.2
LSD VALUE		1.0	1.0	1.0	1.0
C.V. (%)		11.7	12.0	10.9	11.6

* COMMERCIALLY AVAILABLE IN THE USA IN 2022.

**/ ENTRIES WITHIN THIS TABLE ARE ORDERED BY THE OVERALL MEAN AND HAVE SIMILAR TURF QUALITY PERFORMANCES IN ALL TEST LOCATIONS INCLUDED IN THIS AMMI GROUP. IF YOUR STATE IS NOT REPRESENTED, THEN CHOOSE AN AMMI GROUP THAT CONTAINS A LOCATION AND MANAGEMENT SIMILAR TO YOUR PLANTING CONDITIONS. FOR MORE INFORMATION ON AMMI, GO TO WWW.NTEP.OR/AMMI_Q&A.PDF

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 2. MEAN TURFGRASS QUALITY RATINGS OF BENTGRASS CULTIVARS GROWN ON 1/
A GREEN AT SEVEN LOCATIONS IN THE U.S. FOR LPI GROUP 2 */
2021 DATA

TURFGRASS QUALITY RATINGS 1-9; 9=IDEAL TURF 2/

NAME	# ENTRY	MO1	NC1	MN1	UT1	IN1	AL1	NJ1	MEAN
PST-0HR	19	5.8	6.8	7.5	6.3	7.8	6.9	7.7	7.0
OAKLEY (PPG-AP-MTV1)	16	5.7	6.7	7.4	6.2	7.7	6.9	7.7	6.9
PVF-PV-2	13	5.3	6.3	7.1	5.9	7.5	6.7	7.6	6.6
PIPER (PPG-AP-MTV2)	17	5.7	6.6	7.3	6.0	7.4	6.4	7.0	6.6
SPECTRUM (LNS 19)	15	5.5	6.5	7.2	6.0	7.4	6.5	7.2	6.6
PVF-PV-1	12	5.7	6.6	7.3	6.0	7.4	6.4	7.0	6.6
007XL	3	5.8	6.7	7.3	6.0	7.3	6.2	6.8	6.6
DLFPS-AP-3084	11	5.7	6.6	7.2	5.9	7.0	5.9	6.3	6.4
PIRANHA	6	5.8	6.7	7.2	5.8	6.7	5.4	5.6	6.2
S1	5	5.4	6.3	6.9	5.6	6.7	5.5	6.0	6.1
L-93 XD	20	5.6	6.5	7.0	5.6	6.7	5.4	5.7	6.1
CY-4	4	5.5	6.4	6.9	5.6	6.6	5.4	5.7	6.0
PSU-CBG2	9	5.0	6.0	6.6	5.3	6.7	5.7	6.3	5.9
PST-0DSF	18	5.4	6.3	6.8	5.4	6.4	5.1	5.4	5.8
PSU-CBG1	8	4.7	5.7	6.4	5.1	6.4	5.4	6.1	5.7
BARRACUDA	7	5.4	6.3	6.7	5.3	6.2	4.7	4.9	5.7
PSU-CBG3	10	4.6	5.5	6.2	4.9	6.2	5.2	5.8	5.5
PENN A-1	2	5.1	5.9	6.3	4.8	5.6	4.0	4.0	5.1
DECLARATION	14	5.0	5.8	6.1	4.7	5.4	3.8	3.7	4.9
PENNCROSS	1	4.6	5.3	5.5	4.0	4.3	2.3	1.9	4.0
LSD VALUE		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
C.V. (%)		11.2	9.6	8.8	11.0	9.0	11.0	10.2	10.0

*/ ENTRIES WITHIN THIS TABLE ARE ORDERED BY THE OVERALL MEAN AND HAVE SIMILAR TURF QUALITY PERFORMANCES IN ALL TEST LOCATIONS INCLUDED IN THIS AMMI GROUP. IF YOUR STATE IS NOT REPRESENTED, THEN CHOOSE AN AMMI GROUP THAT CONTAINS A LOCATION AND MANAGEMENT SIMILAR TO YOUR PLANTING CONDITIONS. FOR MORE INFORMATION ON AMMI, GO TO WWW.NTEP.OR/AMMI_Q&A.PDF

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 3. MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS GROWN ON A GREEN UNDER TRAFFIC STRESS AT AMHERST, MA 1/
2021 DATA

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

NAME	PERCENT ESTABLISHMENT	WEAR TOLERANCE RATINGS MAY	JULY	OCTOBER	QUALITY RATINGS MAY	JUN	JUL	AUG	SEP	OCT	NOV	MEAN
PST-0HR	36.7	6.3	6.3	6.0	6.7	6.3	6.7	7.7	7.0	6.7	6.7	6.8
PIPER (PPG-AP-MTV2)	56.7	5.0	5.0	5.3	5.7	6.3	6.7	6.3	6.0	6.0	6.0	6.1
PSU-CBG1	15.0	6.3	5.7	6.0	5.7	6.3	5.7	6.7	6.3	6.0	6.0	6.1
LNS 19	53.3	5.3	5.0	5.7	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
OAKLEY (PPG-AP-MTV1)	40.0	5.3	5.7	5.7	5.7	5.7	5.7	6.3	6.3	6.0	6.0	6.0
PSU-CBG3	20.0	5.7	5.3	5.3	5.7	5.3	6.3	6.3	6.0	6.0	5.3	5.9
007XL	56.7	5.7	5.3	6.0	5.7	5.7	5.7	5.7	6.0	5.7	6.0	5.8
PSU-CBG2	23.3	6.3	6.3	6.0	6.0	5.7	5.0	6.3	6.0	6.0	5.3	5.8
PVF-PV-1	40.0	4.7	5.7	5.0	6.7	5.7	5.7	5.7	6.0	5.3	5.7	5.8
PVF-PV-2	40.0	5.0	5.0	5.7	6.0	6.0	6.0	5.7	6.0	5.3	5.7	5.8
CY-4	53.3	5.0	4.7	4.3	5.3	5.7	5.7	6.0	6.0	5.7	5.7	5.7
PIRANHA	53.3	4.7	4.3	4.3	6.3	6.3	5.7	5.7	5.3	4.7	5.3	5.6
DLFPS-AP-3084	53.3	5.3	5.3	5.0	5.3	5.3	5.0	5.7	6.0	5.7	5.3	5.5
PENN A-1	53.3	4.0	4.0	4.7	7.0	6.0	5.3	5.0	5.7	5.0	4.3	5.5
L-93 XD	56.7	5.3	5.0	5.0	4.3	5.0	5.3	6.0	6.0	5.7	4.3	5.2
S1	43.3	4.7	4.3	5.0	5.7	5.0	6.0	4.7	5.3	5.0	4.3	5.1
BARRACUDA	60.0	4.7	4.7	5.0	5.7	5.3	5.3	5.3	5.0	4.7	4.0	5.0
PST-0DSF	43.3	4.7	4.7	4.3	5.0	5.3	5.0	5.0	4.3	4.3	4.0	4.7
DECLARATION	53.3	3.7	3.7	4.0	4.7	5.0	5.0	4.7	4.3	4.7	4.0	4.6
PENNCROSS	53.3	3.0	3.0	3.3	5.7	4.7	4.0	4.3	3.3	3.3	3.7	4.1
LSD VALUE	8.1	0.8	0.8	0.8	0.8	0.7	0.7	0.7	1.0	0.7	0.7	0.5
C.V. (%)	11.8	9.9	9.8	10.2	8.4	7.5	7.7	8.0	11.1	8.4	8.3	5.7

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 4. MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS GROWN ON A GREEN UNDER REDUCED FUNGICIDE USE AT WEST LAFAYETTE, IN 1/
2021 DATA

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

NAME	SPRING GREENUP	SUMMER DENSITY	MICRODOCHIUM PATCH	BROWN PATCH DOLLAR SPOT	BROWN PATCH WEAR TOL	QUALITY RATINGS MAY	JUN	JUL	AUG	SEP	OCT	NOV	MEAN
LNS 19	7.7	8.0	8.3	8.3	9.0	7.3	7.7	8.0	7.7	6.7	6.7	7.0	7.3
DLFPS-AP-3084	7.3	6.7	8.3	8.3	8.0	6.3	7.3	7.0	8.0	7.3	6.7	7.0	7.1
PIPER (PPG-AP-MTV2)	7.7	8.3	9.0	8.0	9.0	6.3	7.3	7.7	8.0	7.0	7.3	6.0	7.1
007XL	7.3	7.3	9.0	8.7	8.3	7.3	7.7	7.7	7.7	6.3	6.0	6.3	7.0
OAKLEY (PPG-AP-MTV1)	8.0	7.0	8.7	8.3	7.7	6.7	7.3	7.7	8.0	6.7	5.7	6.3	6.9
PVF-PV-1	7.3	7.7	8.3	8.0	9.0	6.3	7.3	7.0	8.0	6.0	7.0	6.7	6.9
PST-0DSF	8.0	8.0	9.0	8.0	8.3	7.0	7.0	7.7	8.0	6.7	5.7	5.7	6.8
PST-0HR	6.3	8.7	8.3	7.0	9.0	7.0	7.7	8.3	8.3	5.0	4.7	5.0	6.6
PVF-PV-2	6.7	7.3	9.0	8.3	8.3	6.0	6.7	7.0	7.3	6.3	6.0	6.0	6.5
PSU-CBG2	6.3	8.7	8.7	8.0	9.0	5.3	7.0	8.0	8.0	5.7	5.7	5.3	6.4
PIRANHA	7.0	7.0	9.0	7.0	9.0	6.7	6.7	6.3	7.3	5.3	5.7	6.0	6.3
CY-4	7.0	6.3	8.0	8.0	9.0	6.0	6.3	5.7	7.0	6.0	5.7	6.0	6.1
L-93 XD	8.0	6.0	9.0	8.3	9.0	5.7	6.3	6.3	7.0	6.3	5.7	5.3	6.1
BARRACUDA	7.7	6.0	8.3	8.3	7.7	6.3	6.0	6.3	6.3	5.7	5.7	5.3	6.0
PSU-CBG1	6.0	8.0	8.7	7.7	9.0	4.7	6.7	6.0	7.7	6.3	5.7	4.7	6.0
S1	7.3	6.7	8.0	8.0	8.0	5.7	6.0	6.3	6.7	5.3	6.3	5.7	6.0
PENN A-1	7.3	5.3	9.0	8.3	9.0	6.0	6.3	5.0	6.3	5.3	5.7	5.3	5.7
DECLARATION	8.0	5.0	7.7	7.7	9.0	5.3	6.0	5.3	6.3	5.3	5.7	5.3	5.6
PSU-CBG3	5.0	8.3	9.0	7.0	9.0	4.7	5.7	7.3	7.3	5.3	4.7	4.0	5.6
PENNCROSS	6.3	3.0	8.7	8.0	9.0	4.3	4.7	3.7	4.3	3.7	4.3	4.3	4.2
LSD VALUE	1.9	0.9	2.5	1.7	3.2	1.3	1.0	1.4	0.9	2.2	1.4	1.4	0.6
C.V. (%)	12.9	8.5	9.2	8.7	11.4	12.2	9.0	12.5	7.5	17.1	12.8	13.7	5.9

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 5. MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS GROWN ON A GREEN AT OLYMPIA (OLYMPIA FIELDS CC), IL 1/
2021 DATA

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

NAME	SPRING DENSITY	QUALITY RATINGS MAY	JUN	JUL	AUG	SEP	NOV	MEAN
LNS 19	8.0	8.7	8.7	7.7	7.3	8.3	7.3	8.0
PVF-PV-2	7.3	7.7	8.7	7.7	7.7	7.7	7.3	7.8
PST-0HR	6.3	7.3	8.3	7.3	7.7	8.3	7.3	7.7
PIPER (PPG-AP-MTV2)	6.3	7.7	8.3	7.3	7.0	8.0	7.3	7.6
PVF-PV-1	7.0	7.7	8.0	7.0	7.0	8.0	6.3	7.3
PSU-CBG2	5.7	5.0	8.0	7.0	7.3	8.3	7.3	7.2
S1	7.7	7.3	7.7	6.7	7.3	7.0	7.3	7.2
DLFPS-AP-3084	7.0	8.0	8.0	7.0	7.3	6.7	5.7	7.1
PIRANHA	7.0	7.7	7.7	7.7	6.0	7.3	6.0	7.1
CY-4	6.7	7.3	7.3	6.7	6.0	7.0	7.0	6.9
007XL	6.0	7.0	7.3	6.7	5.7	8.0	6.3	6.8
OAKLEY (PPG-AP-MTV1)	6.7	6.7	7.7	6.7	5.0	8.0	6.7	6.8
BARRACUDA	7.0	7.0	7.0	6.0	6.3	6.7	7.3	6.7
L-93 XD	6.0	7.0	7.3	7.0	6.7	6.7	5.7	6.7
PSU-CBG1	4.0	6.0	6.0	6.3	5.7	7.7	7.3	6.5
PSU-CBG3	3.0	4.3	5.7	6.0	6.3	7.7	7.3	6.2
PST-0DSF	5.0	7.0	7.0	5.7	5.3	6.0	4.7	5.9
DECLARATION	7.3	7.0	6.0	5.7	5.7	5.7	4.3	5.7
PENN A-1	6.0	6.0	5.0	6.0	5.3	5.3	4.7	5.4
PENNCROSS	8.0	6.3	3.7	4.7	4.7	4.3	4.3	4.7
LSD VALUE	2.4	2.2	1.5	1.6	3.2	1.0	1.5	0.8
C.V. (%)	20.2	16.2	13.2	12.5	20.3	9.0	14.2	7.1

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).

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

TABLE 6. MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS GROWN ON A GREEN AT MANHATTAN (SHADOW GLEN G.C.) , KS 1/
2021 DATA

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

NAME	SPRING GREENUP	SEEDLING VIGOR	SPRING DENSITY	QUALITY RATINGS APR	MAY	JUN	MEAN
BARRACUDA	7.0	6.0	7.3	6.7	7.0	8.0	7.2
OAKLEY (PPG-AP-MTV1)	7.0	6.7	6.7	6.3	6.7	6.7	6.6
PIPER (PPG-AP-MTV2)	6.7	5.7	6.0	6.0	6.0	6.7	6.2
S1	7.0	5.7	6.3	6.0	6.3	6.3	6.2
DECLARATION	7.0	4.7	5.7	5.7	6.0	6.7	6.1
PENN A-1	7.0	5.7	6.0	5.3	6.3	6.7	6.1
PIRANHA	7.0	5.3	6.3	5.7	6.0	6.7	6.1
DLFPS-AP-3084	7.0	6.0	6.0	5.7	6.3	6.0	6.0
LNS 19	7.0	5.3	5.7	5.7	6.0	6.3	6.0
PVF-PV-1	6.7	5.0	5.7	5.7	6.3	5.7	5.9
007XL	7.0	5.0	5.3	5.3	5.3	6.7	5.8
PST-0HR	6.3	4.3	5.3	5.3	5.7	6.0	5.7
PENNCROSS	6.3	6.0	6.0	5.3	5.7	5.7	5.6
CY-4	6.3	6.0	6.3	5.7	5.3	5.3	5.4
PST-0DSF	7.0	5.3	5.3	5.3	5.3	5.3	5.3
L-93 XD	7.0	5.3	5.7	5.3	5.0	5.3	5.2
PVF-PV-2	6.3	5.0	5.3	5.3	5.0	5.3	5.2
PSU-CBG2	6.7	3.3	4.3	4.0	4.3	5.0	4.4
PSU-CBG1	7.0	3.3	4.7	4.0	4.7	4.3	4.3
PSU-CBG3	6.3	3.0	4.3	3.7	4.0	3.7	3.8
LSD VALUE	0.8	1.4	1.8	1.4	2.4	1.5	1.3
C.V. (%)	5.3	15.9	15.1	13.8	18.3	14.5	12.8

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 7. MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS GROWN ON A GREEN AT STILLWATER (KARSTEN CREEK C.C), OK 1/
2021 DATA

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

NAME	GENETIC COLOR	FALL DENSITY	QUALITY RATINGS SEP	OCT	NOV	DEC	MEAN
PST-0HR	7.7	9.0	8.7	8.0	7.3	6.7	7.7
PSU-CBG3	5.3	8.3	8.7	7.7	7.3	6.3	7.5
PSU-CBG1	4.7	8.0	8.3	7.7	6.7	6.3	7.3
PSU-CBG2	5.7	9.0	8.7	7.7	6.7	5.3	7.1
OAKLEY (PPG-AP-MTV1)	3.7	7.0	7.3	7.0	6.3	6.7	6.8
PST-0DSF	8.7	6.7	8.3	7.7	5.7	5.3	6.8
PVF-PV-2	4.7	7.7	8.0	6.3	6.0	6.3	6.7
PIPER (PPG-AP-MTV2)	3.7	7.3	7.3	6.7	6.3	5.7	6.5
007XL	3.7	7.3	7.0	6.7	6.3	5.3	6.3
CY-4	4.3	6.3	6.7	6.3	6.0	6.3	6.3
PIRANHA	4.7	6.0	6.7	6.0	5.3	7.0	6.3
PVF-PV-1	4.3	8.0	8.3	6.0	6.0	4.7	6.3
DLFPS-AP-3084	3.7	7.3	7.0	6.3	5.7	5.7	6.2
LNS 19	5.0	7.3	6.0	7.0	6.0	5.7	6.2
S1	4.0	6.0	6.7	6.0	5.3	6.0	6.0
L-93 XD	4.7	6.7	7.0	6.0	5.3	4.7	5.8
BARRACUDA	4.7	6.0	6.3	5.3	4.7	6.3	5.7
PENN A-1	6.0	5.7	6.0	5.3	4.7	6.0	5.5
DECLARATION	6.7	4.3	5.7	4.7	4.0	4.3	4.7
PENNCROSS	3.3	2.7	4.0	3.0	2.0	2.7	2.9
LSD VALUE	1.4	1.0	1.2	1.1	1.5	2.1	0.8
C.V. (%)	18.1	9.8	10.3	10.7	16.2	19.2	8.1

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).

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

TABLE 8. MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BENTGRASS CULTIVARS GROWN ON A GREEN AT CORVALLIS (TOKATEE G.C.), OR 1/
2021 DATA

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

NAME	GENETIC COLOR	LEAF TEXTURE	PERCENT GROUND COVER SUMMER	PYTHIUM	QUALITY RATINGS APR	MAY	JUN	JUL	NOV	MEAN
PIRANHA	6.7	6.3	89.0	8.0	5.7	6.7	6.7	6.7	6.7	6.5
PENNCROSS	6.0	3.0	98.3	8.7	4.7	5.0	6.0	7.7	5.7	5.8
PIPER (PPG-AP-MTV2)	7.0	6.0	83.0	7.3	5.0	6.0	6.3	5.3	6.3	5.8
BARRACUDA	6.3	6.0	87.7	7.3	4.7	6.3	6.0	5.7	6.0	5.7
CY-4	6.7	5.7	76.3	7.3	4.7	5.7	6.0	6.0	6.0	5.7
PENN A-1	6.0	5.7	72.7	7.0	4.3	5.7	6.3	6.3	5.7	5.7
PST-0HR	6.7	7.0	88.3	7.7	4.3	6.0	6.0	6.3	5.7	5.7
007XL	5.7	6.0	69.3	7.0	5.3	5.7	5.7	5.3	5.7	5.5
DLFPS-AP-3084	5.7	6.3	74.7	6.7	5.0	5.7	5.3	5.3	5.7	5.4
DECLARATION	5.3	5.0	78.0	7.3	4.7	5.7	6.0	5.3	5.0	5.3
L-93 XD	6.0	6.7	63.0	6.0	4.3	5.3	5.7	4.7	6.0	5.2
OAKLEY (PPG-AP-MTV1)	6.0	6.0	63.3	5.7	4.3	5.7	6.0	4.3	5.0	5.1
LNS 19	6.0	6.3	57.7	5.3	4.7	5.3	5.0	4.0	5.3	4.9
PSU-CBG2	6.7	7.0	61.3	6.3	3.7	5.3	5.7	4.7	5.0	4.9
S1	6.3	5.7	60.0	5.3	5.0	5.7	5.0	4.0	5.0	4.9
PST-0DSF	4.0	6.7	36.7	4.3	4.0	6.0	5.7	2.7	5.0	4.7
PSU-CBG1	6.7	7.0	81.3	7.7	2.7	4.0	5.3	5.0	5.3	4.5
PVF-PV-1	6.0	6.0	72.3	6.3	3.3	4.7	5.7	4.7	4.3	4.5
PSU-CBG3	6.7	6.3	54.7	5.0	2.0	4.0	4.0	4.0	4.0	3.6
PVF-PV-2	5.3	5.7	39.3	4.7	3.0	4.3	4.3	3.0	3.3	3.6
LSD VALUE	1.4	1.1	63.4	5.0	1.3	1.7	2.1	3.2	2.0	1.4
C.V. (%)	11.9	11.0	34.4	28.1	17.5	15.0	15.5	29.7	17.8	14.3

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. GENETIC COLOR RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

GENETIC COLOR RATINGS 1-9; 9=DARK GREEN 2/

NAME	AL1	MN1	NC1	NJ1	UT1	WI1	MEAN
PST-0HR	7.3	7.0	9.0	8.7	7.7	5.3	7.5
PST-0DSF	8.3	9.0	9.0	2.0	8.0	7.0	7.2
PSU-CBG1	7.3	6.7	9.0	7.0	7.3	5.0	7.1
PSU-CBG2	7.3	6.7	9.0	6.0	7.3	5.0	6.9
PIRANHA	7.0	7.0	8.3	6.7	6.7	5.0	6.8
PVF-PV-2	7.0	5.7	8.3	8.0	6.7	5.0	6.8
PVF-PV-1	6.3	5.7	8.3	8.0	7.0	5.0	6.7
PSU-CBG3	7.0	6.3	9.0	5.7	7.0	5.0	6.7
SPECTRUM (LNS 19)	6.0	5.7	8.7	7.3	6.0	5.7	6.6
OAKLEY (PPG-AP-MTV1)	5.7	5.0	8.3	8.0	7.0	5.0	6.5
PENN A-1	7.3	7.3	8.7	2.7	8.0	5.0	6.5
S1	5.7	6.0	7.7	7.3	6.0	6.0	6.4
DLFPS-AP-3084	6.0	5.7	8.0	7.0	6.0	5.0	6.3
BARRACUDA	4.7	6.0	8.0	7.0	6.7	5.0	6.2
L-93 XD	6.3	5.7	7.7	5.3	6.7	5.0	6.1
PIPER (PPG-AP-MTV2)	4.7	5.0	8.0	6.7	6.7	5.0	6.0
007XL	5.7	4.7	8.0	7.0	5.3	5.0	5.9
DECLARATION	5.3	5.7	8.0	4.0	5.7	5.0	5.6
CY-4	3.7	3.0	7.7	9.0	5.0	5.0	5.6
PENNCROSS	2.0	5.0	7.3	3.0	5.7	5.0	4.7
LSD VALUE	1.1	1.4	0.7	1.7	1.0	0.9	0.5
C.V. (%)	10.9	14.9	4.9	16.9	9.4	10.2	11.4

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 10. SPRING GREENUP RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

SPRING GREENUP RATINGS 1-9; 9=COMPLETELY GREEN 2/

NAME	IN1
DLFPS-AP-3084	8.7
L-93 XD	8.3
PVF-PV-1	8.3
BARRACUDA	8.0
OAKLEY (PPG-AP-MTV1)	8.0
PIPER (PPG-AP-MTV2)	8.0
S1	8.0
007XL	7.7
DECLARATION	7.7
PVF-PV-2	7.3
SPECTRUM (LNS 19)	7.3
PENN A-1	7.0
PST-0DSF	7.0
CY-4	6.7
PIRANHA	6.7
PENNCROSS	6.3
PST-0HR	6.3
PSU-CBG2	6.0
PSU-CBG3	5.7
PSU-CBG1	5.0
LSD VALUE	1.2
C.V. (%)	10.3

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 11. LEAF TEXTURE RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

LEAF TEXTURE RATINGS 1-9; 9=VERY FINE 2/

NAME	AL1	IN1	NC1	NJ1	MEAN
PST-0HR	7.0	8.0	9.0	9.0	8.3
PSU-CBG2	7.0	7.3	8.7	8.3	7.8
PSU-CBG3	7.3	7.7	8.3	8.0	7.8
PSU-CBG1	5.3	7.7	8.7	8.3	7.5
SPECTRUM (LNS 19)	7.0	6.7	8.7	7.3	7.4
PIPER (PPG-AP-MTV2)	5.7	7.0	8.7	7.3	7.2
PST-0DSF	6.0	8.0	9.0	5.3	7.1
PVF-PV-2	6.0	6.7	8.0	7.3	7.0
OAKLEY (PPG-AP-MTV1)	5.3	6.3	8.3	7.7	6.9
DLFPS-AP-3084	6.0	6.3	8.0	7.0	6.8
L-93 XD	6.7	5.7	8.7	6.3	6.8
007XL	5.0	7.0	8.0	7.0	6.8
PVF-PV-1	4.0	6.7	8.3	7.3	6.6
BARRACUDA	5.3	5.7	8.3	5.7	6.3
S1	5.0	6.0	8.3	5.7	6.3
CY-4	4.7	5.7	8.0	6.0	6.1
PIRANHA	3.7	6.3	7.7	5.3	5.8
PENN A-1	3.3	4.7	8.3	3.7	5.0
DECLARATION	3.7	4.7	7.3	3.7	4.8
PENNCROSS	1.0	3.3	7.3	1.7	3.3
LSD VALUE	1.6	0.9	0.9	2.0	0.7
C.V. (%)	19.2	8.6	6.4	19.1	13.4

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 12. SEEDLING VIGOR RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

SEEDLING VIGOR RATINGS 1-9; 9=MAXIMUM VIGOR 2/

NAME	NJ1	WI1	MEAN
DECLARATION	6.3	5.3	5.8
L-93 XD	6.3	5.3	5.8
S1	6.3	5.3	5.8
BARRACUDA	6.0	5.3	5.7
OAKLEY (PPG-AP-MTV1)	6.3	4.7	5.5
SPECTRUM (LNS 19)	6.0	5.0	5.5
PENNCROSS	5.7	4.7	5.2
007XL	6.3	4.0	5.2
PIPER (PPG-AP-MTV2)	5.0	5.0	5.0
PIRANHA	5.7	4.3	5.0
CY-4	5.0	4.7	4.8
PENN A-1	5.0	4.3	4.7
PST-0DSF	4.7	4.0	4.3
PST-0HR	4.7	4.0	4.3
DLFPS-AP-3084	4.3	4.0	4.2
PVF-PV-2	4.3	4.0	4.2
PVF-PV-1	4.3	3.3	3.8
PSU-CBG2	2.7	2.7	2.7
PSU-CBG3	1.7	3.0	2.3
PSU-CBG1	1.7	2.3	2.0
LSD VALUE	1.5	0.7	0.8
C.V. (%)	18.8	10.5	15.8

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 13. SPRING DENSITY RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

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

NAME	NC1	WI1	MEAN
PIPER (PPG-AP-MTV2)	8.7	5.3	7.0
PST-0DSF	9.0	5.0	7.0
SPECTRUM (LNS 19)	9.0	5.0	7.0
007XL	9.0	4.7	6.8
DLFPS-AP-3084	8.7	5.0	6.8
BARRACUDA	8.3	5.0	6.7
CY-4	8.0	5.3	6.7
L-93 XD	8.7	4.7	6.7
OAKLEY (PPG-AP-MTV1)	8.7	4.7	6.7
PST-0HR	9.0	4.3	6.7
PENN A-1	8.7	4.3	6.5
PSU-CBG3	8.7	4.3	6.5
DECLARATION	7.7	5.0	6.3
PVF-PV-1	8.3	4.3	6.3
PVF-PV-2	8.0	4.7	6.3
S1	8.3	4.3	6.3
PSU-CBG2	8.3	4.0	6.2
PSU-CBG1	8.7	3.7	6.2
PENNCROSS	7.0	5.0	6.0
PIRANHA	7.7	4.3	6.0
LSD VALUE	0.7	1.0	0.6
C.V. (%)	5.5	13.0	8.3

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 14. SUMMER DENSITY RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

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

NAME	IN1	MN1	NC1	UT1	MEAN
PST-0HR	8.7	9.0	9.0	8.3	8.8
PSU-CBG1	8.0	8.7	9.0	8.3	8.5
PSU-CBG3	8.3	9.0	9.0	7.3	8.4
PSU-CBG2	8.7	8.0	9.0	7.7	8.3
PIPER (PPG-AP-MTV2)	8.3	8.7	8.3	7.3	8.2
SPECTRUM (LNS 19)	8.0	8.3	8.3	8.0	8.2
PST-0DSF	8.0	8.0	8.7	7.7	8.1
PVF-PV-1	7.7	8.3	8.0	8.0	8.0
PVF-PV-2	7.3	8.7	8.3	7.7	8.0
OAKLEY (PPG-AP-MTV1)	7.0	8.7	8.0	7.3	7.8
007XL	7.3	8.0	8.3	6.7	7.6
S1	6.7	8.0	8.0	7.3	7.5
PIRANHA	7.0	8.0	8.0	6.7	7.4
DLFPS-AP-3084	6.7	8.0	7.7	6.7	7.3
CY-4	6.3	7.7	7.7	7.3	7.3
L-93 XD	6.0	7.7	8.0	7.0	7.2
BARRACUDA	6.0	7.7	8.0	6.3	7.0
PENN A-1	5.3	7.3	8.0	6.3	6.8
DECLARATION	5.0	7.3	7.0	5.3	6.2
PENNCROSS	3.0	6.0	6.0	4.3	4.8
LSD VALUE	1.0	1.1	0.5	1.1	0.5
C.V. (%)	8.9	8.2	4.2	9.3	7.7

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 15. FALL DENSITY RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

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

NAME	MN1	NC1	NJ1	MEAN
PST-0HR	9.0	9.0	8.3	8.8
PSU-CBG2	8.7	9.0	7.7	8.4
OAKLEY (PPG-AP-MTV1)	8.0	8.7	8.3	8.3
PIPER (PPG-AP-MTV2)	8.3	8.3	8.0	8.2
PSU-CBG1	8.7	9.0	7.0	8.2
SPECTRUM (LNS 19)	9.0	8.7	6.7	8.1
PVF-PV-2	7.7	8.7	7.7	8.0
PSU-CBG3	8.3	9.0	6.3	7.9
PVF-PV-1	8.0	8.7	6.7	7.8
007XL	8.7	8.0	6.3	7.7
CY-4	8.0	7.7	6.7	7.4
DLFPS-AP-3084	7.3	8.0	6.7	7.3
L-93 XD	7.0	8.0	6.3	7.1
PIRANHA	7.0	8.3	5.3	6.9
S1	7.3	8.3	5.0	6.9
PST-0DSF	7.3	9.0	4.3	6.9
BARRACUDA	6.3	8.0	5.0	6.4
PENN A-1	6.0	7.7	3.7	5.8
DECLARATION	5.0	7.7	3.3	5.3
PENNCROSS	4.0	6.0	1.3	3.8
LSD VALUE	1.0	0.7	1.5	0.6
C.V. (%)	8.1	4.9	15.9	9.6

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 16. PERCENT LIVING GROUND COVER (SPRING) RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

PERCENT LIVING GROUND COVER IN SPRING: LOCATIONS 2/

NAME	MO1	NC1	MEAN
BARRACUDA	95.0	96.3	95.7
OAKLEY (PPG-AP-MTV1)	91.7	97.7	94.7
L-93 XD	90.0	96.0	93.0
S1	85.0	99.0	92.0
PIRANHA	88.3	94.7	91.5
PENNCROSS	86.7	93.3	90.0
PST-0HR	86.7	93.3	90.0
PST-0DSF	85.0	93.3	89.2
007XL	80.0	97.7	88.8
DECLARATION	85.0	91.7	88.3
CY-4	81.7	93.3	87.5
DLFPS-AP-3084	83.3	91.7	87.5
PVF-PV-1	80.0	95.0	87.5
PIPER (PPG-AP-MTV2)	80.0	94.7	87.3
PENN A-1	80.0	93.0	86.5
SPECTRUM (LNS 19)	73.3	88.3	80.8
PSU-CBG2	68.3	91.7	80.0
PSU-CBG1	65.0	85.0	75.0
PSU-CBG3	51.7	93.0	72.3
PVF-PV-2	46.7	96.3	71.5
LSD VALUE	18.9	6.3	10.0
C.V. (%)	14.8	4.2	10.1

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).

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

TABLE 17. PERCENT LIVING GROUND COVER (SUMMER) RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

PERCENT LIVING GROUND COVER IN SUMMER: LOCATIONS 2/

NAME	NC1
007XL	99.0
BARRACUDA	99.0
CY-4	99.0
DECLARATION	99.0
DLFPS-AP-3084	99.0
L-93 XD	99.0
OAKLEY (PPG-AP-MTV1)	99.0
PENN A-1	99.0
PENNCROSS	99.0
PIPER (PPG-AP-MTV2)	99.0
PIRANHA	99.0
PST-0DSF	99.0
PST-0HR	99.0
PSU-CBG2	99.0
PSU-CBG3	99.0
PVF-PV-1	99.0
PVF-PV-2	99.0
S1	99.0
SPECTRUM (LNS 19)	99.0
PSU-CBG1	98.3
LSD VALUE	0.4
C.V. (%)	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).

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

TABLE 18. PERCENT LIVING GROUND COVER (FALL) RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

PERCENT LIVING GROUND COVER IN FALL: LOCATIONS 2/

NAME	NC1	NJ1	MEAN
007XL	99.0	99.0	99.0
BARRACUDA	99.0	99.0	99.0
CY-4	99.0	99.0	99.0
DECLARATION	99.0	99.0	99.0
DLFPS-AP-3084	99.0	99.0	99.0
L-93 XD	99.0	99.0	99.0
OAKLEY (PPG-AP-MTV1)	99.0	99.0	99.0
PENN A-1	99.0	99.0	99.0
PIPER (PPG-AP-MTV2)	99.0	99.0	99.0
PIRANHA	99.0	99.0	99.0
S1	99.0	99.0	99.0
SPECTRUM (LNS 19)	99.0	99.0	99.0
PVF-PV-1	99.0	97.7	98.3
PVF-PV-2	99.0	97.7	98.3
PST-0DSF	98.3	97.7	98.0
PST-0HR	99.0	96.3	97.7
PENNCROSS	93.7	99.0	96.3
PSU-CBG1	99.0	71.7	85.3
PSU-CBG2	99.0	71.7	85.3
PSU-CBG3	99.0	58.3	78.7
LSD VALUE	2.8	16.0	8.1
C.V. (%)	1.7	10.6	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).

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

TABLE 19. DOLLAR SPOT RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

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

NAME	MO1
BARRACUDA	9.0
CY-4	9.0
OAKLEY (PPG-AP-MTV1)	9.0
PENNCROSS	9.0
PIPER (PPG-AP-MTV2)	9.0
PVF-PV-2	9.0
007XL	8.7
DLFPS-AP-3084	8.7
L-93 XD	8.7
PENN A-1	8.7
PIRANHA	8.7
PST-0DSF	8.7
PSU-CBG1	8.7
PVF-PV-1	8.7
SPECTRUM (LNS 19)	8.7
DECLARATION	8.3
PSU-CBG3	8.3
PSU-CBG2	8.0
S1	8.0
PST-0HR	7.3
LSD VALUE	1.0
C.V. (%)	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).

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

TABLE 20. BROWN PATCH (WARM TEMPERATURE) RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

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

NAME	MN1	NJ1	MEAN
PSU-CBG1	9.0	9.0	9.0
PVF-PV-2	9.0	8.7	8.8
007XL	9.0	8.3	8.7
OAKLEY (PPG-AP-MTV1)	8.0	9.0	8.5
PENNCROSS	9.0	8.0	8.5
S1	9.0	8.0	8.5
SPECTRUM (LNS 19)	9.0	8.0	8.5
BARRACUDA	9.0	7.7	8.3
PSU-CBG2	9.0	7.7	8.3
PSU-CBG3	9.0	7.7	8.3
PST-0HR	8.3	8.0	8.2
DECLARATION	9.0	7.3	8.2
PVF-PV-1	9.0	7.3	8.2
CY-4	9.0	7.0	8.0
DLFPS-AP-3084	8.3	7.7	8.0
PST-0DSF	9.0	7.0	8.0
PIPER (PPG-AP-MTV2)	9.0	6.7	7.8
L-93 XD	8.3	7.0	7.7
PENN A-1	9.0	6.0	7.5
PIRANHA	9.0	5.3	7.2
LSD VALUE	0.8	3.0	1.6
C.V. (%)	5.6	25.0	16.8

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 21. BROWN PATCH (COOL TEMPERATURE) RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

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

NAME	MN1
BARRACUDA	9.0
CY-4	9.0
DECLARATION	9.0
DLFPS-AP-3084	9.0
PENN A-1	9.0
PENNCROSS	9.0
PST-0DSF	9.0
L-93 XD	8.7
PSU-CBG1	8.7
PSU-CBG3	8.7
PVF-PV-1	8.7
PVF-PV-2	8.7
PIRANHA	8.3
PSU-CBG2	8.3
007XL	8.0
OAKLEY (PPG-AP-MTV1)	8.0
PST-0HR	8.0
PIPER (PPG-AP-MTV2)	7.7
S1	7.7
SPECTRUM (LNS 19)	7.7
LSD VALUE	1.4
C.V. (%)	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).

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

TABLE 22. PINK SNOW MOLD RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

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

NAME	IN1
BARRACUDA	9.0
PENNCROSS	9.0
PSU-CBG2	9.0
PSU-CBG3	9.0
L-93 XD	8.7
PIRANHA	8.7
PST-0DSF	8.7
PST-0HR	8.7
PSU-CBG1	8.7
DLFPS-AP-3084	8.3
OAKLEY (PPG-AP-MTV1)	8.3
PIPER (PPG-AP-MTV2)	8.3
PVF-PV-2	8.3
007XL	8.0
CY-4	8.0
PENN A-1	8.0
S1	8.0
SPECTRUM (LNS 19)	8.0
DECLARATION	7.0
PVF-PV-1	7.0
LSD VALUE	1.5
C.V. (%)	11.4

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 23. FALL COLOR (NOVEMBER) RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

FALL COLOR RATINGS 1-9; 9=COMPLETE COLOR RETENTION 2/

NAME	UT1
CY-4	8.3
SPECTRUM (LNS 19)	7.7
OAKLEY (PPG-AP-MTV1)	7.0
PVF-PV-1	7.0
PST-0HR	6.7
007XL	6.3
DLFPS-AP-3084	6.3
PIPER (PPG-AP-MTV2)	6.3
PVF-PV-2	6.3
S1	6.0
L-93 XD	5.7
PIRANHA	5.7
BARRACUDA	5.3
DECLARATION	5.3
PSU-CBG1	4.7
PENNCROSS	4.3
PSU-CBG2	4.3
PSU-CBG3	4.3
PENN A-1	3.0
PST-0DSF	2.7
LSD VALUE	1.0
C.V. (%)	11.4

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 24. PERCENT ESTABLISHMENT RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA 2/

NAME	MO1
L-93 XD	86.7
BARRACUDA	85.0
OAKLEY (PPG-AP-MTV1)	83.3
CY-4	78.3
DECLARATION	78.3
PENNCROSS	78.3
S1	76.7
007XL	75.0
DLFPS-AP-3084	75.0
PIPER (PPG-AP-MTV2)	73.3
PIRANHA	73.3
PST-0HR	73.3
PST-0DSF	71.7
PENN A-1	70.0
PVF-PV-1	70.0
SPECTRUM (LNS 19)	58.3
PSU-CBG2	45.0
PVF-PV-2	41.7
PSU-CBG1	40.0
PSU-CBG3	18.3
LSD VALUE	18.7
C.V. (%)	17.2

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 25. TURFGRASS QUALITY (NOVEMBER 2020) RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

TURFGRASS QUALITY RATINGS 1-9; 9=IDEAL TURF 2/

NAME	MO1	WI1	MEAN
L-93 XD	7.3	3.0	5.2
PENNCROSS	6.3	3.7	5.0
PIPER (PPG-AP-MTV2)	6.3	3.7	5.0
BARRACUDA	6.7	3.0	4.8
PIRANHA	6.3	3.3	4.8
007XL	6.3	3.0	4.7
DECLARATION	6.3	3.0	4.7
OAKLEY (PPG-AP-MTV1)	6.3	3.0	4.7
CY-4	6.0	3.0	4.5
DLFPS-AP-3084	6.0	3.0	4.5
PENN A-1	5.7	3.0	4.3
PST-0HR	5.7	3.0	4.3
PVF-PV-1	5.7	3.0	4.3
S1	5.7	3.0	4.3
PST-0DSF	5.7	2.7	4.2
SPECTRUM (LNS 19)	5.3	3.0	4.2
PVF-PV-2	3.3	3.0	3.2
PSU-CBG2	4.3	2.0	3.2
PSU-CBG1	3.3	2.3	2.8
PSU-CBG3	2.3	2.3	2.3
LSD VALUE	1.6	0.5	0.9
C.V. (%)	18.5	10.7	17.8

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 26. MEAN TURFGRASS QUALITY RATINGS OF BENTGRASS CULTIVARS GROWN ON A GREEN AT BLACKSBURG, VA 1/
2020 DATA

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

NAME	3 WEEKS AFTER ESTABLISHMENT	6 WEEKS AFTER ESTABLISHMENT	MEAN
L-93 XD	6.7	7.3	7.0
S1	6.7	7.3	7.0
PIRANHA	6.0	6.3	6.2
PENNCROSS	6.0	7.3	6.7
PENN A-1	5.3	5.7	5.5
DECLARATION	5.3	6.0	5.7
LNS 19	5.3	6.0	5.7
CY-4	5.3	6.7	6.0
BARRACUDA	4.7	5.0	4.8
DLFPS-AP-3084	4.7	6.0	5.3
007XL	4.7	6.7	5.7
PVF-PV-1	4.3	5.7	5.0
PVF-PV-2	4.3	6.0	5.2
OAKLEY (PPG-AP-MTV1)	4.0	4.3	4.2
PIPER (PPG-AP-MTV2)	4.0	5.0	4.5
PST-0DSF	3.7	4.0	3.8
PST-0HR	3.7	5.0	4.3
PSU-CBG2	2.7	2.7	2.7
PSU-CBG1	2.3	3.0	2.7
PSU-CBG3	2.0	2.3	2.2
LSD VALUE	1.7	2.4	1.8
C.V. (%)	22.5	25.0	21.3

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 27. ALGAE RATINGS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

NAME	ALGAE RATINGS 1-9; 9=BEST 2/ NC1
007XL	9.0
CY-4	9.0
DECLARATION	9.0
DLFPS-AP-3084	9.0
L-93 XD	9.0
OAKLEY (PPG-AP-MTV1)	9.0
PIPER (PPG-AP-MTV2)	9.0
PIRANHA	9.0
PST-0HR	9.0
PSU-CBG1	9.0
PSU-CBG2	9.0
PSU-CBG3	9.0
PVF-PV-1	9.0
PVF-PV-2	9.0
S1	9.0
SPECTRUM (LNS 19)	9.0
BARRACUDA	8.7
PENN A-1	8.7
PST-0DSF	8.3
PENNCROSS	6.0
LSD VALUE	0.6
C.V. (%)	4.4

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 28. PERCENT BENTGRASS DEAD SPOT OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

	BENTGRASS DEAD SPOT PERCENT
NAME	MO1
DLFPS-AP-3084	11.3
PENN A-1	7.3
PIRANHA	6.7
S1	5.7
CY-4	5.0
L-93 XD	5.0
PST-0HR	5.0
PST-0DSF	4.7
DECLARATION	3.3
OAKLEY (PPG-AP-MTV1)	3.3
PVF-PV-2	2.7
007XL	2.3
BARRACUDA	2.0
PVF-PV-1	1.7
SPECTRUM (LNS 19)	1.7
PENNCROSS	1.3
PSU-CBG1	1.0
PIPER (PPG-AP-MTV2)	0.3
PSU-CBG2	0.0
PSU-CBG3	0.0
LSD VALUE	3.8
C.V. (%)	66.5

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 29. BENTGRASS DEAD SPOT CENTER COUNTS OF BENTGRASS CULTIVARS 1/
GROWN ON A GREEN
2021 DATA

BENTGRASS DEAD SPOT CENTER COUNTS PER PLOT 2/

NAME	MO1
DLFPS-AP-3084	10.0
PENN A-1	7.0
PIRANHA	6.7
S1	6.3
CY-4	5.3
PST-0DSF	4.0
L-93 XD	3.3
PST-0HR	3.3
007XL	3.0
DECLARATION	2.7
OAKLEY (PPG-AP-MTV1)	2.7
PVF-PV-1	2.7
PVF-PV-2	2.7
SPECTRUM (LNS 19)	2.7
BARRACUDA	2.3
PENNCROSS	1.7
PSU-CBG1	1.3
PIPER (PPG-AP-MTV2)	0.3
PSU-CBG2	0.0
PSU-CBG3	0.0
LSD VALUE	4.4
C.V. (%)	80.2

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 30. PERCENT ESTABLISHMENT RATINGS OF BENTGRASS CULTIVARS GROWN ON A GREEN AT AUBURN, AL 1/ 2021 DATA 2/

NAME	MARCH	APRIL	MAY	MEAN
DECLARATION	66.7	80.0	99.0	81.9
PIRANHA	60.0	80.0	99.0	79.7
SPECTRUM (LNS 19)	60.0	80.0	99.0	79.7
OAKLEY (PPG-AP-MTV1)	63.3	76.7	96.0	78.7
PVF-PV-1	56.7	76.7	93.0	75.4
007XL	53.3	70.0	93.0	72.1
PENN A-1	56.7	66.7	93.0	72.1
L-93 XD	56.7	66.7	90.0	71.1
PST-0HR	53.3	70.0	89.7	71.0
PENNCROSS	53.3	66.7	90.0	70.0
S1	56.7	63.3	89.7	69.9
BARRACUDA	56.7	66.3	86.3	69.8
PVF-PV-2	46.7	66.7	93.0	68.8
PSU-CBG1	53.3	66.3	86.3	68.7
CY-4	50.0	63.3	83.3	65.6
DLFPS-AP-3084	50.0	60.0	83.3	64.4
PST-0DSF	46.7	56.7	86.3	63.2
PSU-CBG2	40.0	56.7	92.7	63.1
PSU-CBG3	43.3	56.7	86.3	62.1
PIPER (PPG-AP-MTV2)	43.3	53.3	83.3	60.0
LSD VALUE	31.4	37.2	12.0	25.4
C.V. (%)	21.0	19.8	6.5	13.6

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 31. PERCENT ESTABLISHMENT RATINGS OF BENTGRASS CULTIVARS GROWN ON A GREEN AT LOGAN, UT 1/ 2021 DATA 2/

NAME	SEPTEMBER	OCTOBER	MEAN
PENNCROSS	36.7	73.3	55.0
L-93 XD	36.7	70.0	53.3
DECLARATION	33.3	63.3	48.3
OAKLEY (PPG-AP-MTV1)	30.0	66.7	48.3
S1	33.3	63.3	48.3
BARRACUDA	26.7	66.7	46.7
DLFPS-AP-3084	26.7	66.7	46.7
PIRANHA	30.0	63.3	46.7
007XL	36.7	53.3	45.0
PVF-PV-1	26.7	63.3	45.0
PST-0DSF	26.7	60.0	43.3
SPECTRUM (LNS 19)	30.0	56.7	43.3
PIPER (PPG-AP-MTV2)	23.3	60.0	41.7
CY-4	30.0	50.0	40.0
PENN A-1	26.7	53.3	40.0
PVF-PV-2	20.0	60.0	40.0
PST-0HR	20.0	56.7	38.3
PSU-CBG2	10.0	36.7	23.3
PSU-CBG1	10.0	33.3	21.7
PSU-CBG3	10.0	33.3	21.7
LSD VALUE	8.5	13.6	9.5
C.V. (%)	20.4	14.5	14.3

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 32. PERCENT ESTABLISHMENT RATINGS OF BENTGRASS CULTIVARS GROWN ON A GREEN AT BLACKSBURG, VA 1/
2021 DATA 2/

NAME	MAY 10	JUNE 8	JULY 6	JULY 30	AUGUST 26	SEPT 24	MEAN
PVF-PV-2	40.0	65.0	63.3	89.7	90.0	96.0	74.0
007XL	36.7	56.7	63.3	88.0	91.3	93.3	71.6
PENNCROSS	41.7	50.0	63.3	81.7	93.3	99.0	71.5
PVF-PV-1	36.7	53.3	60.0	86.7	93.0	96.3	71.0
L-93 XD	33.3	56.7	58.3	85.0	93.0	96.0	70.4
S1	40.0	55.0	58.3	85.0	90.0	92.7	70.2
DECLARATION	38.3	50.0	60.0	86.7	89.7	94.7	69.9
PENN A-1	41.7	51.7	55.0	86.7	91.7	91.7	69.7
DLFPS-AP-3084	33.3	53.3	58.3	85.0	90.0	94.7	69.1
PIRANHA	35.0	53.3	60.0	83.3	86.7	96.0	69.1
CY-4	35.0	51.7	61.7	83.3	86.7	91.3	68.3
BARRACUDA	35.0	53.3	56.7	83.3	83.3	94.7	67.7
LNS 19	35.0	51.7	56.7	83.3	88.0	91.0	67.6
PST-0HR	33.3	48.3	56.7	81.7	88.3	93.0	66.9
PSU-CBG1	26.7	45.0	56.7	76.7	85.0	93.3	63.9
PST-0DSF	35.0	48.3	51.7	73.3	83.3	88.3	63.3
PIPER (PPG-AP-MTV2)	31.7	46.7	53.3	75.0	81.7	88.0	62.7
OAKLEY (PPG-AP-MTV1)	25.0	46.7	51.7	76.7	83.0	86.3	61.6
PSU-CBG3	31.7	41.7	46.7	70.0	80.0	86.7	59.4
PSU-CBG2	26.7	43.3	46.7	68.3	80.0	86.7	58.6
LSD VALUE	22.3	16.6	18.3	17.6	22.0	21.4	14.1
C.V. (%)	22.5	13.8	12.6	9.5	8.5	7.4	8.7

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.

APPENDIX TABLE. SUMMARY OF TURFGRASS QUALITY RATINGS FOR BENTGRASS CULTIVARS GROWN ON A GREEN 2021 DATA

TURFGRASS QUALITY RATINGS 1-9; 9=IDEAL TURF

NAME	QUALITY MEAN 1/	MAXIMUM IN TOP 25% 2/
007XL	6.4	44.4
BARRACUDA	5.6	11.1
CY-4	5.9	11.1
DECLARATION	5.0	0.0
DLFPS-AP-3084	6.2	44.4
L-93 XD	6.0	11.1
OAKLEY (PPG-AP-MTV1)	6.6	66.7
PENN A-1	5.1	0.0
PENNCROSS	4.2	0.0
PIPER (PPG-AP-MTV2)	6.3	22.2
PIRANHA	6.0	22.2
PST-0DSF	5.8	22.2
PST-0HR	6.6	66.7
PSU-CBG1	5.4	11.1
PSU-CBG2	5.7	22.2
PSU-CBG3	5.3	0.0
PVF-PV-1	6.4	33.3
PVF-PV-2	6.4	66.7
S1	5.9	11.1
SPECTRUM (LNS 19)	6.3	22.2
LSD VALUE	0.3	
C.V. (%)	9.3	

*/ 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).

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

1/ MEAN AN AVERAGE OF ALL THE TURFGRASS QUALITY RATINGS FROM ALL LOCATIONS.

2/ MAXIMUM IN TOP 25%: THE PERCENTAGE OF LOCATIONS WHERE THAT ENTRY FINISHED IN THE TOP 25% OF ALL ENTRIES.