

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 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:

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Dr. Jeff Nus, USGA Green Section
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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>.

2007 NATIONAL SEASHORE PASPALUM TEST

LOCATIONS SUBMITTING DATA FOR 2007

<u>State</u>	<u>Location</u>	<u>Code</u>
Arkansas	Fayetteville (Cold Tolerance)	AR1
Arizona	Tucson	AZ1
California	Riverside	CA3
Louisiana	Baton Rouge	LA1

2007 NATIONAL SEASHORE PASPALUM TEST

Entries and Sponsors

Entry No.	Name	Type	Sponsor
*1	Salam	vegetative	Standard entry
*2	Sea Isle 1	vegetative	Standard entry
3	SRX 9HSCP	seeded	Seed Research/
4	UGA 7	vegetative	Univ. of Georgia
5	UGA 22	vegetative	Univ. of Georgia
6	UGA 31	vegetative	Univ. of Georgia

* COMMERCIALY AVAILABLE IN THE USA IN 2009.

TABLE A.

2007 LOCATIONS, SITE DESCRIPTIONS AND MANAGEMENT PRACTICES IN
THE 2007 NATIONAL SEASHORE PASPALUM 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
AR1	SILT LOAM AND SILT	6.6-7.0	151-270	151-240	2.1-3.0	FULL SUN	0.0-0.5	TO PREVENT DORMANCY
AZ1	SANDY LOAM	7.6-8.5	0-60	151-240	3.1-4.0	FULL SUN	0.6-1.0	TO PREVENT STRESS
CA3	SANDY LOAM	6.6-7.0	0-60	0-150	3.1-4.0	FULL SUN	1.6-2.0	TO PREVENT STRESS
LA1	SILTY CLAY AND CLAY	6.1-6.5	151-270	241-375	3.1-4.0	FULL SUN	0.0-0.5	TO PREVENT STRESS

TABLE B.

LOCATIONS AND DATA COLLECTED IN 2007

LOCATION	AUGUST QUALITY RATING	SEPTEMBER QUALITY RATING	OCTOBER QUALITY RATING	NOVEMBER QUALITY RATING	DECEMBER QUALITY RATING	GENETIC COLOR	LEAF TEXTURE	SEEDLING VIGOR	FALL DENSITY	WINTER COLOR
AR1			X					X		
AZ1				X		X	X	X	X	X
CA3				X	X			X		X
LA1	X	X	X	X	X	X	X		X	

TABLE B. (CONT'D)

LOCATIONS AND DATA COLLECTED IN 2007

LOCATION	FALL COLOR NOVEMBER	FALL COLOR DECEMBER	SEEDHEAD RATINGS	PERCENT ESTABLISHMENT	WEED RATINGS	PERCENT ESTABLISHMENT				PERCENT ESTABLISHMENT RATINGS			
						JUL	AUG	SEP	OCT	2 WEEKS	4 WEEKS	6 WEEKS	8 WEEKS
AR1						X	X	X	X				
AZ1	X	X		X									
CA3					X								
LA1			X							X	X	X	X

TABLE 1. MEAN TURFGRASS QUALITY RATINGS OF SEASHORE PASPALUM CULTIVARS
GROWN AT THREE LOCATIONS IN THE U.S. 1/
2007 DATA

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

NAME	AZ1	CA3	LA1	MEAN
SRX 9HSCP	5.7	6.3	7.3	6.4
UGA 22	6.7	5.7	6.7	6.3
* SALAM	6.7	5.5	6.8	6.3
* SEA ISLE 1	5.3	5.5	6.5	5.8
UGA 7	5.0	5.2	5.8	5.3
UGA 31	5.0	5.7	5.3	5.3
LSD VALUE	2.1	0.9	0.6	0.8
C.V. (%)	22.9	9.8	6.0	14.4

TABLE 2. MEAN TURFGRASS QUALITY AND OTHER RATINGS OF SEASHORE PASPALUM CULTIVARS
AT FAYETTEVILLE, AR 1/
2007 DATA

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

NAME	SEEDLING VIGOR	PERCENT ESTABLISHMENT RATINGS				QUALITY
		JULY	AUGUST	SEPTEMBER	OCTOBER	
UGA 22	.	9.3	37.7	93.0	98.7	6.3
UGA 7	.	10.3	37.0	96.0	99.0	6.3
SALAM	.	10.7	41.0	93.0	99.0	6.0
SEA ISLE 1	.	6.7	31.0	92.3	98.3	6.0
SRX 9HSCP	4	2.0	25.0	91.3	97.3	5.7
UGA 31	.	9.3	39.3	86.7	96.0	5.7
LSD VALUE	.	2.2	9.3	13.2	5.4	1.8
C.V. (%)	.	16.0	13.6	6.0	2.3	12.2

* COMMERCIALY AVAILABLE IN THE USA IN 2009.

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. GENETIC COLOR RATINGS OF SEASHORE PASPALUM CULTIVARS 1/
2007 DATA

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

NAME	AZ1	LA1	MEAN
UGA 7	7.0	6.7	6.8
SEA ISLE 1	6.3	7.0	6.7
UGA 22	7.3	6.0	6.7
UGA 31	7.3	6.0	6.7
SALAM	6.7	6.0	6.3
SRX 9HSCP	5.3	6.0	5.7
LSD VALUE	1.6	0.4	0.8
C.V. (%)	14.6	3.8	10.9

TABLE 4. LEAF TEXTURE RATINGS OF SEASHORE PASPALUM CULTIVARS 1/
2007 DATA

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

NAME	AZ1	LA1	MEAN
UGA 7	7.0	7.3	7.2
SALAM	7.3	6.7	7.0
UGA 22	7.0	6.3	6.7
UGA 31	6.3	6.7	6.5
SEA ISLE 1	6.7	6.0	6.3
SRX 9HSCP	5.3	7.0	6.2
LSD VALUE	1.0	0.8	0.6
C.V. (%)	9.4	7.1	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 5. SEEDLING VIGOR RATINGS OF SEASHORE PASPALUM CULTIVARS 1/
2007 DATA

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

NAME	AZ1	CA3	MEAN
SRX 9HSCP	8.0	7	7.5
LSD VALUE	1.6	0	0.8
C.V. (%)	12.5	0	9.4

TABLE 6. FALL DENSITY RATINGS OF SEASHORE PASPALUM CULTIVARS 1/
2007 DATA

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

NAME	AZ1	LA1	MEAN
SRX 9HSCP	8.3	7.0	7.7
SALAM	7.7	6.7	7.2
UGA 22	7.7	6.0	6.8
UGA 7	6.3	5.7	6.0
SEA ISLE 1	6.0	5.7	5.8
UGA 31	6.0	5.0	5.5
LSD VALUE	0.8	0.7	0.5
C.V. (%)	6.7	6.8	6.8

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. WINTER COLOR RATINGS OF SEASHORE PASPALUM CULTIVARS 1/
2007 DATA

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

NAME	AZ1	CA3	MEAN
UGA 22	3.3	5.7	4.5
SALAM	3.0	5.3	4.2
SEA ISLE 1	2.0	6.0	4.0
UGA 31	1.7	6.3	4.0
UGA 7	1.7	6.0	3.8
SRX 9HSCP	1.3	5.3	3.3
LSD VALUE	1.2	1.7	1.0
C.V. (%)	34.4	17.8	22.6

TABLE 8. FALL COLOR (NOVEMBER) RATINGS OF SEASHORE PASPALUM CULTIVARS 1/
2007 DATA

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

NAME	AZ1
UGA 22	7.3
UGA 31	7.3
UGA 7	7.0
SALAM	6.7
SEA ISLE 1	6.3
SRX 9HSCP	5.3
LSD VALUE	1.6
C.V. (%)	14.6

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 9. FALL COLOR (DECEMBER) RATINGS OF SEASHORE PASPALUM CULTIVARS 1/
2007 DATA

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

NAME	AZ1
UGA 22	5.7
SALAM	4.7
UGA 7	4.7
SEA ISLE 1	4.3
SRX 9HSCP	4.3
UGA 31	4.0
LSD VALUE	1.6
C.V. (%)	21.1

TABLE 10. SEEDHEAD RATINGS OF SEASHORE PASPALUM CULTIVARS 1/
2007 DATA

SEEDHEAD RATINGS 1-9; 9=NONE 2/

NAME	LA1
SRX 9HSCP	9.0
SALAM	8.0
UGA 7	7.7
SEA ISLE 1	7.3
UGA 22	7.3
UGA 31	7.3
LSD VALUE	0.8
C.V. (%)	6.1

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 11. PERCENT ESTABLISHMENT RATINGS OF SEASHORE PASPALUM CULTIVARS 1/
2007 DATA 2/

NAME	AZ1
UGA 22	93.3
SALAM	93.0
SRX 9HSCP	92.7
SEA ISLE 1	81.7
UGA 7	75.0
UGA 31	63.3
LSD VALUE	21.0
C.V. (%)	15.7

TABLE 12. WEED RATINGS OF SEASHORE PASPALUM CULTIVARS 1/
2007 DATA

WEED RATINGS 1-9; 9=NONE 2/

NAME	CA3
SRX 9HSCP	8.3
SALAM	5.3
UGA 7	5.3
UGA 22	5.0
SEA ISLE 1	4.3
UGA 31	3.3
LSD VALUE	1.7
C.V. (%)	20.0

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 13. PERCENT ESTABLISHMENT RATINGS OF SEASHORE PASPALUM CULTIVARS 1/
 AT BATON ROUGE, LA 2/
 2007 DATA

NAME	2-WEEKS	4-WEEKS	6-WEEKS	8-WEEKS	MEAN
SRX 9HSCP	30.0	58.3	83.3	96.3	67.0
SALAM	15.0	46.7	78.3	91.7	57.9
UGA 22	15.0	41.7	76.7	95.0	57.1
SEA ISLE 1	13.3	41.7	65.0	90.0	52.5
UGA 7	11.7	36.7	68.3	88.3	51.3
UGA 31	15.0	40.0	63.3	85.0	50.8
LSD VALUE	7.2	6.2	13.6	7.9	4.5
C.V. (%)	23.9	8.0	9.5	4.3	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.