

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.

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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>.

2002 NATIONAL ST. AUGUSTINEGRASS TEST

LOCATIONS SUBMITTING DATA FOR 2003

<u>State</u>	<u>Location</u>	<u>Code</u>
California	Pomona	CA7
Florida	Jay	FL3
Georgia	Savannah	GA2
Louisiana	Calhoun	LA2
Mississippi	Mississippi State	MS1
Oklahoma	Lane	OK2
South Carolina	Florence	SC1
Texas	College Station	TX2

2002 NATIONAL ST. AUGUSTINEGRASS TEST

Entries and Sponsors

Entry No.	Name	Sponsor
1	Raleigh	Standard entry
2	Floritam	Standard entry
3	Delmar	Standard entry
4	Mercedes	Super Sod/Patten Seed
5	MSA 31	Mississippi State Univ.
6	MSA 2-3-98	Mississippi State Univ.

TABLE A.

2002-03 LOCATIONS, SITE DESCRIPTIONS AND MANAGEMENT PRACTICES IN
THE 2002 NATIONAL ST. AUGUSTINEGRASS 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
CA7	SANDY LOAM	7.1-7.5	0-60	376-500	6.1-7.0	LIGHT SHADE	1.1-1.5	TO PREVENT STRESS
FL3	-	-	-	-	-	-	-	-
GA2	SAND	-	-	-	3.1-4.0	DENSE SHADE	2.6-3.0	TO PREVENT DORMANCY
LA2	SANDY LOAM	6.6-7.0	0-60	0-150	-	FULL SUN	2.1-2.5	TO PREVENT STRESS
MS1	SANDY LOAM	6.1-6.5	151-270	241-375	2.1-3.0	FULL SUN	2.6-3.0	TO PREVENT STRESS
OK2	SANDY LOAM	5.6-6.0	151-270	0-150	3.1-4.0	FULL SUN	2.6-3.0	TO PREVENT STRESS
SC1	SANDY LOAM	5.6-6.0	61-150	0-150	1.1-2.0	FULL SUN	2.6-3.0	TO PREVENT STRESS
TX2	SANDY LOAM	8.6+	61-150	151-240	3.1-4.0	FULL SUN	2.6-3.0	TO PREVENT STRESS

TABLE B.

LOCATIONS AND DATA COLLECTED IN 2002-03

LOCATION	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	SEEDLING VIGOR
CA7					X	X	X	X	X	X	X		X	
FL3					X	X	X				X	X		X
GA2	X	X	X	X	X	X	X		X	X				
LA2			X	X	X	X		X	X			X		
MS1		X	X	X	X	X	X	X	X		X	X	X	
OK2					X	X	X	X	X		X	X		
SC1		X	X	X	X	X	X	X	X		X	X	X	
TX2				X	X	X	X	X	X		X		X	X

TABLE B. (CONT'D)

LOCATIONS AND DATA COLLECTED IN 2002-03

LOCATION	SPRING	SUMMER	FALL	PERCENT COVER	PERCENT COVER	PERCENT COVER	FROST TOLERANCE	WINTER COLOR	PERCENT WINTER KILL	BROWN PATCH WARM	GRAY LEAF SPOT	FALL COLOR	FALL COLOR	FALL COLOR	FALL COLOR	SEED HEAD RATINGS
	DENSITY	DENSITY	DENSITY	SPRING	SUMMER	FALL				TEMP.		SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	
CA7												X	X	X	X	
FL3	X	X	X								X	X	X	X		
GA2																
LA2	X	X	X	X	X	X										
MS1				X												X
OK2				X			X		X		X			X		X
SC1				X					X							
TX2				X	X			X		X						

TABLE B. (CONT'D)

LOCATIONS AND DATA COLLECTED IN 2002-03

LOCATION	PERCENT ESTABLISHMENT	AGGRESSIVE SPREAD	PERCENT BROWN PATCH	PERCENT SPRING GREENUP	PERCENT COVER APRIL	PERCENT COVER MAY	PERCENT JUL	PERCENT AUG	ESTABLISHMENT SEP	ESTABLISHMENT OCT	ESTABLISHMENT NOV	DENSITY RATINGS							
		JUNE	OCTOBER									MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	NOVEMBER
CA7							X	X	X	X									
FL3									X	X	X								
GA2				X								X	X	X	X	X	X	X	X
LA2	X																		
MS1							X	X	X	X	X								
OK2		X					X	X		X									
SC1					X														
TX2	X					X			X										

TABLE 1. MEAN TURFGRASS QUALITY RATINGS OF ST. AUGUSTINEGRASS CULTIVARS
GROWN AT SEVEN LOCATIONS IN THE U.S. 1/
2003 DATA

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

NAME	CA7	FL3	LA2	MS1	OK2	SC1	TX2
* DELMAR	6.3	5.7	7.1	5.9	5.9	7.3	4.3
* FLORATAM	6.7	7.2	6.8	4.5	7.1	6.8	5.9
* MERCEDES	6.4	6.9	7.7	6.8	5.1	7.4	5.3
MSA 2-3-98	6.1	5.7	7.4	7.5	7.7	7.7	5.0
MSA 31	6.3	6.7	7.6	6.0	7.4	7.3	4.3
* RALEIGH	6.6	6.7	6.8	6.4	6.3	6.9	4.6
LSD VALUE	1.4	1.8	0.3	0.3	0.9	0.4	0.5
C.V. (%)	13.9	17.1	2.9	3.3	8.1	3.7	6.8

TABLE 2. MEAN TURFGRASS QUALITY RATINGS OF ST. AUGUSTINEGRASS CULTIVARS
GROWN AT THREE LOCATIONS IN THE U.S. 1/
2002 DATA

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

NAME	LA2	MS1	OK2
DELMAR	6.3	6.2	4.5
FLORATAM	6.0	5.4	7.3
MERCEDES	7.7	6.6	5.7
MSA 2-3-98	8.0	6.9	7.5
MSA 31	8.0	6.4	8.0
RALEIGH	7.0	6.3	5.7
LSD VALUE	0.8	0.3	0.5
C.V. (%)	7.4	2.6	4.5

* **COMMERCIALY AVAILABLE IN THE USA IN 2004.**

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 RATINGS OF ST. AUGUSTINEGRASS CULTIVARS FOR EACH MONTH GROWN AT SAVANNAH (SHADE), GA 1/ 2003 DATA

NAME	TURFGRASS QUALITY RATINGS 1-9; 9=IDEAL TURF: MONTHS 2/									MEAN
	MAR	APR	MAY	JUN	JUL	AUG	SEP	NOV	DEC	
MSA 31	5.0	5.7	6.7	7.7	7.0	7.7	8.0	8.7	8.7	7.2
RALEIGH	3.7	5.0	5.3	7.0	7.0	7.3	7.7	7.7	8.3	6.6
MSA 2-3-98	4.3	5.3	5.7	7.0	6.3	6.0	8.0	8.5	8.5	6.3
MERCEDES	3.7	4.3	4.7	6.0	5.0	7.0	7.0	8.0	8.0	6.0
DELMAR	3.0	3.7	4.3	5.7	5.0	7.0	6.0	7.3	7.7	5.5
FLORATAM	2.3	2.7	3.3	4.7	4.0	5.7	6.0	7.0	7.0	4.7
LSD VALUE	1.0	1.3	1.1	1.1	1.5	2.1	1.1	0.8	1.2	0.9
C.V. (%)	17.0	17.6	14.1	11.2	16.5	19.0	9.2	6.1	8.3	9.3

TABLE 4. GENETIC COLOR RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/ 2003 DATA

NAME	GENETIC COLOR RATINGS 1-9; 9=DARK GREEN 2/							MEAN
	CA7	FL3	MS1	OK2	SC1	TX2		
DELMAR	7.3	6.0	6.3	8.3	7.7	5.0	6.8	
FLORATAM	7.0	8.3	6.7	7.0	5.3	6.0	6.7	
MSA 31	6.0	7.3	7.0	8.0	6.3	4.7	6.6	
MSA 2-3-98	5.0	6.0	7.0	8.7	7.7	4.7	6.5	
MERCEDES	6.0	7.7	6.3	7.0	6.7	4.7	6.4	
RALEIGH	6.3	7.0	6.0	7.3	7.0	4.7	6.4	
LSD VALUE	1.9	1.5	0.7	0.7	1.1	0.8	0.5	
C.V. (%)	19.1	12.9	6.2	5.3	9.8	9.5	11.3	

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. SPRING GREENUP RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	FL3	LA2	MS1	OK2	SC1	MEAN
MERCEDES	8.0	6.3	5.0	5.0	3.0	5.5
DELMAR	8.7	5.7	3.0	5.7	3.7	5.3
MSA 2-3-98	7.7	5.3	5.7	4.3	3.3	5.3
RALEIGH	8.7	6.3	4.3	3.7	2.3	5.1
MSA 31	8.7	5.0	2.7	2.0	1.7	4.0
FLORATAM	8.0	7.3	1.0	2.0	1.0	3.9
LSD VALUE	1.0	1.1	0.9	1.1	1.0	0.5
C.V. (%)	7.5	11.1	16.0	18.7	24.9	13.3

TABLE 6. LEAF TEXTURE RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	CA7	MS1	SC1	TX2	MEAN
MERCEDES	5.7	6.0	3	6.0	5.2
MSA 31	5.7	7.0	2	6.0	5.2
MSA 2-3-98	4.7	6.3	2	5.7	4.7
DELMAR	6.0	5.7	1	5.7	4.6
RALEIGH	5.7	5.3	2	5.0	4.5
FLORATAM	3.7	4.0	3	4.0	3.7
LSD VALUE	1.7	0.7	0	0.5	0.5
C.V. (%)	20.2	7.1	0	6.2	12.7

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 7. SEEDLING VIGOR RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	FL3	TX2	MEAN
FLORATAM	6.0	7.3	6.7
MSA 2-3-98	5.7	3.3	4.5
RALEIGH	2.7	5.3	4.0
MERCEDES	2.3	5.0	3.7
DELMAR	2.3	3.3	2.8
MSA 31	2.0	2.7	2.3
LSD VALUE	1.4	1.1	0.9
C.V. (%)	24.3	14.8	19.1

TABLE 8. SPRING DENSITY RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	FL3	LA2	MEAN
FLORATAM	7.7	6.0	6.8
MSA 2-3-98	7.3	6.3	6.8
MSA 31	4.0	5.7	4.8
DELMAR	3.7	6.0	4.8
MERCEDES	3.3	6.0	4.7
RALEIGH	3.7	5.7	4.7
LSD VALUE	2.1	0.9	1.2
C.V. (%)	27.0	9.7	18.9

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 9. SUMMER DENSITY RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	FL3	LA2	MEAN
FLORATAM	8.0	7.0	7.5
MSA 2-3-98	7.7	7.3	7.5
MERCEDES	7.0	7.0	7.0
MSA 31	6.3	6.7	6.5
DELMAR	6.0	6.7	6.3
RALEIGH	5.3	6.3	5.8
LSD VALUE	1.3	0.8	0.8
C.V. (%)	12.1	6.9	9.8

TABLE 10. FALL DENSITY RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	FL3	LA2	MEAN
FLORATAM	8.0	7.0	7.5
MSA 2-3-98	6.7	7.0	6.8
MERCEDES	6.3	6.7	6.5
MSA 31	6.3	6.7	6.5
DELMAR	5.7	6.3	6.0
RALEIGH	5.7	6.3	6.0
LSD VALUE	1.9	0.8	1.0
C.V. (%)	18.6	7.1	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).

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

TABLE 11. PERCENT LIVING GROUND COVER (SPRING) RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

PERCENT LIVING GROUND COVER IN SPRING: LOCATIONS 2/

NAME	LA2	MS1	OK2	SC1	TX2	MEAN
MSA 2-3-98	78.3	91.7	92.3	16.0	58.3	67.3
RALEIGH	76.7	81.7	87.7	5.0	71.7	64.5
MERCEDES	80.0	88.3	73.3	11.0	68.3	64.2
DELMAR	70.0	63.3	66.7	15.7	43.3	51.8
MSA 31	75.0	50.0	82.3	4.7	45.0	51.4
FLORATAM	75.0	26.7	55.7	1.7	85.0	48.8
LSD VALUE	7.1	9.7	10.7	7.9	32.1	7.3
C.V. (%)	5.8	9.0	8.7	54.2	32.2	17.6

TABLE 12. PERCENT LIVING GROUND COVER (SUMMER) RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

PERCENT LIVING GROUND COVER IN SUMMER: LOCATIONS 2/

NAME	LA2	TX2	MEAN
MSA 2-3-98	93.3	99.0	96.2
MERCEDES	91.7	99.0	95.3
DELMAR	88.3	99.0	93.7
FLORATAM	86.7	99.0	92.8
RALEIGH	86.7	99.0	92.8
MSA 31	88.3	94.3	91.3
LSD VALUE	8.7	5.3	5.1
C.V. (%)	6.1	3.4	4.8

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. PERCENT LIVING GROUND COVER (FALL) RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

PERCENT LIVING GROUND COVER IN FALL: LOCATIONS 2/

NAME	LA2
MSA 2-3-98	93.3
MERCEDES	90.0
MSA 31	90.0
RALEIGH	88.3
DELMAR	85.0
FLORATAM	85.0
LSD VALUE	11.2
C.V. (%)	7.9

TABLE 14. FROST TOLERANCE RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

FROST TOLERANCE RATINGS 1-9; 9=NO INJURY 2/

NAME	OK2
MSA 31	7.5
MSA 2-3-98	7.3
RALEIGH	6.5
MERCEDES	6.2
FLORATAM	6.0
DELMAR	5.7
LSD VALUE	1.7
C.V. (%)	23.1

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 15. WINTER COLOR RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	TX2
MSA 31	4.7
FLORATAM	3.3
MSA 2-3-98	3.3
MERCEDES	3.0
RALEIGH	2.7
DELMAR	2.3
LSD VALUE	1.4
C.V. (%)	27.4

TABLE 16. PERCENT WINTER KILL RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

PERCENT WINTER KILL RATINGS: LOCATIONS 2/

NAME	OK2	SC1	MEAN
FLORATAM	43.3	70.0	56.7
MSA 31	16.7	43.3	30.0
DELMAR	16.7	16.7	16.7
MERCEDES	20.0	6.7	13.3
RALEIGH	8.3	11.7	10.0
MSA 2-3-98	6.7	2.3	4.5
LSD VALUE	7.1	14.9	8.2
C.V. (%)	23.7	36.9	33.2

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 17. BROWN PATCH (WARM TEMPERATURE) RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	TX2
FLORATAM	9.0
MSA 31	8.7
MSA 2-3-98	8.0
MERCEDES	6.3
RALEIGH	6.3
DELMAR	3.7
LSD VALUE	2.9
C.V. (%)	25.6

TABLE 18. GRAY LEAF SPOT RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

GRAY LEAF SPOT RATINGS 1-9; 9=NO DISEASE 2/

NAME	FL3	OK2	MEAN
MSA 31	8.0	7.8	7.9
FLORATAM	6.7	8.2	7.4
MSA 2-3-98	8.0	5.8	6.9
DELMAR	6.7	6.5	6.6
MERCEDES	4.0	6.2	5.1
RALEIGH	4.0	6.0	5.0
LSD VALUE	2.1	0.7	0.8
C.V. (%)	21.4	8.9	13.5

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 19. FALL COLOR (SEPTEMBER) RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	CA7	FL3	MEAN
FLORATAM	7.3	7.3	7.3
MSA 2-3-98	7.3	5.3	6.3
DELMAR	7.7	4.3	6.0
MERCEDES	6.0	6.0	6.0
MSA 31	6.7	5.3	6.0
RALEIGH	7.0	5.0	6.0
LSD VALUE	1.7	2.2	1.4
C.V. (%)	14.7	24.7	19.3

TABLE 20. FALL COLOR (OCTOBER) RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	CA7	FL3	MEAN
RALEIGH	7.0	6.3	6.7
DELMAR	7.7	5.0	6.3
MSA 31	6.0	6.7	6.3
MERCEDES	5.3	7.3	6.3
FLORATAM	6.0	6.3	6.2
MSA 2-3-98	6.0	6.3	6.2
LSD VALUE	2.4	1.8	1.5
C.V. (%)	23.8	17.8	21.1

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 21. FALL COLOR (NOVEMBER) RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	CA7	FL3	OK2	MEAN
FLORATAM	5.7	7.0	7.0	6.6
MSA 31	6.0	5.0	7.7	6.2
DELMAR	6.3	4.3	6.2	5.6
MERCEDES	5.7	5.3	5.3	5.4
MSA 2-3-98	5.3	4.3	6.7	5.4
RALEIGH	5.3	5.0	5.2	5.2
LSD VALUE	1.1	1.5	0.8	0.6
C.V. (%)	11.7	17.7	10.7	12.8

TABLE 22. FALL COLOR (DECEMBER) RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

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

NAME	CA7	FL3	MEAN
MSA 31	6.0	3.0	4.5
FLORATAM	5.7	3.0	4.3
MERCEDES	5.7	3.0	4.3
DELMAR	6.0	2.3	4.2
MSA 2-3-98	5.3	2.7	4.0
RALEIGH	5.3	2.7	4.0
LSD VALUE	1.2	0.7	0.7
C.V. (%)	13.2	14.7	14.2

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 23. SEEDHEAD RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

SEEDHEAD RATINGS 1-9; 9=NONE 2/

NAME	MS1	OK2	MEAN
FLORATAM	7.7	8.7	8.2
MERCEDES	8.0	6.7	7.3
MSA 31	7.7	6.0	6.8
MSA 2-3-98	7.3	4.3	5.8
DELMAR	6.0	4.3	5.2
RALEIGH	3.3	4.7	4.0
LSD VALUE	1.0	1.1	0.7
C.V. (%)	9.4	11.5	10.4

TABLE 24. PERCENT LIVING GROUND COVER RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
AT COLLEGE STATION, TX 2/
2003 DATA

NAME	MARCH	APRIL	MAY	JUNE	MEAN
FLORATAM	85.0	93.0	97.7	99.0	93.7
RALEIGH	71.7	83.3	94.7	99.0	87.2
MERCEDES	68.3	85.0	91.7	99.0	86.0
MSA 2-3-98	58.3	80.0	94.7	99.0	83.0
DELMAR	43.3	78.3	93.0	99.0	78.4
MSA 31	45.0	60.0	76.7	94.3	69.0
LSD VALUE	39.0	33.4	20.9	7.8	24.3
C.V. (%)	29.6	18.7	10.4	3.4	13.3

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 25. AGGRESSIVE SPREAD RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA

AGGRESSIVE SPREAD RATINGS 1-9; 9=MOST 2/

NAME	OK2
FLORATAM	7.7
MSA 2-3-98	6.0
RALEIGH	5.3
MERCEDES	4.0
DELMAR	3.0
MSA 31	3.0
LSD VALUE	2.0
C.V. (%)	26.3

TABLE 26. PERCENT BROWN PATCH (OCTOBER) RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA 2/

NAME	SC1
RALEIGH	19.7
MSA 2-3-98	11.0
DELMAR	6.0
MSA 31	5.7
MERCEDES	2.7
FLORATAM	2.0
LSD VALUE	20.0
C.V. (%)	158.4

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 27. PERCENT SPRING GREENUP RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA 2/

NAME	GA2
MSA 31	71.7
MSA 2-3-98	68.3
DELMAR	65.0
RALEIGH	63.3
MERCEDES	61.7
FLORATAM	51.7
LSD VALUE	10.7
C.V. (%)	10.5

TABLE 28. PERCENT ESTABLISHMENT RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
2003 DATA 2/

NAME	LA2	TX2	MEAN
FLORATAM	83.3	78.3	80.8
RALEIGH	63.3	60.0	61.7
MERCEDES	73.3	48.3	60.8
MSA 2-3-98	71.7	36.7	54.2
MSA 31	70.0	28.3	49.2
DELMAR	46.7	36.7	41.7
LSD VALUE	16.6	21.4	13.6
C.V. (%)	15.2	27.7	20.6

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 29. PERCENT ESTABLISHMENT RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
 AT POMONA, CA 2/
 2003 DATA

NAME	JULY	AUGUST	SEPTEMBER	OCTOBER	MEAN
FLORATAM	80.0	92.3	99.0	99.0	92.6
RALEIGH	66.7	88.3	98.7	98.7	88.1
MERCEDES	58.3	71.7	96.7	97.3	81.0
DELMAR	50.0	73.3	97.7	97.3	79.6
MSA 31	48.3	70.0	96.7	97.3	78.1
MSA 2-3-98	46.7	56.7	97.7	97.7	74.7
LSD VALUE	21.9	41.8	6.1	5.0	17.0
C.V. (%)	19.0	24.6	2.5	2.0	9.6

TABLE 30. PERCENT ESTABLISHMENT RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
 AT JAY, FL 2/
 2002 DATA

NAME	SEPTEMBER	OCTOBER	NOVEMBER	MEAN
FLORATAM	18.3	46.7	60.0	41.7
MSA 2-3-98	16.7	48.3	60.0	41.7
RALEIGH	8.3	20.0	23.3	17.2
MERCEDES	5.0	18.3	21.7	15.0
MSA 31	5.7	13.3	20.0	13.0
DELMAR	5.0	15.0	18.3	12.8
LSD VALUE	3.3	9.7	9.6	5.8
C.V. (%)	19.9	21.1	16.8	14.7

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 31. PERCENT ESTABLISHMENT RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
 AT MISS. ST., MS 2/
 2002 DATA

NAME	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	MEAN
RALEIGH	51.7	70.0	90.0	99.0	99.0	81.9
FLORATAM	50.0	71.7	88.3	99.0	99.0	81.6
MERCEDES	40.0	61.7	86.7	97.7	97.7	76.7
MSA 31	41.7	51.7	85.0	93.3	95.0	73.3
MSA 2-3-98	31.7	51.7	86.7	97.7	97.7	73.1
DELMAR	36.7	53.3	83.3	84.7	88.0	69.2
LSD VALUE	10.6	12.0	8.4	10.5	8.3	7.9
C.V. (%)	13.4	10.7	4.2	5.5	4.2	5.3

TABLE 32. PERCENT ESTABLISHMENT RATINGS OF ST. AUGUSTINEGRASS CULTIVARS 1/
 AT LANE, OK 1/
 2002 DATA

NAME	JULY	AUGUST	OCTOBER	MEAN
FLORATAM	80.0	97.7	99.0	92.2
MSA 2-3-98	61.7	95.0	99.0	85.2
MSA 31	61.7	93.3	99.0	84.7
RALEIGH	46.7	90.0	96.0	77.6
MERCEDES	43.3	85.0	93.3	73.9
DELMAR	31.7	75.0	83.3	63.3
LSD VALUE	16.2	3.6	5.3	6.5
C.V. (%)	16.8	2.4	3.1	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 33.

TURFGRASS DENSITY RATINGS OF ST. AUGUSTINEGRASS CULTIVARS
AT SAVANNAH (SHADE), GA 1/
2003 DATA

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

NAME	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	NOVEMBER	DECEMBER	MEAN
MSA 31	6.7	6.7	7.7	8.0	7.0	7.7	8.0	8.7	9.0	7.7
RALEIGH	5.0	5.3	6.7	7.3	6.7	7.0	8.0	9.0	9.0	7.1
MSA 2-3-98	4.3	6.0	7.0	7.7	6.3	6.3	6.7	8.5	9.0	6.7
MERCEDES	3.7	5.3	6.0	6.7	5.3	6.3	6.3	8.3	8.7	6.3
DELMAR	3.7	4.3	5.0	6.0	5.3	6.3	6.0	7.7	8.7	5.9
FLORATAM	3.3	3.3	4.0	5.0	4.3	5.0	5.0	6.7	7.3	4.9
LSD VALUE	1.4	1.2	1.6	1.5	1.3	2.6	2.6	1.1	0.8	1.2
C.V. (%)	17.3	12.7	14.0	11.9	12.1	18.1	18.4	6.9	4.7	10.2

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.

APPENDIX TABLE A. SUMMARY OF TURFGRASS QUALITY RATINGS FOR ST. AUGUSTINEGRASS CULTIVARS
IN THE 2002 NATIONAL ST. AUGUSTINEGRASS TEST 1/
2003 DATA

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

NAME	STATISTICS FOR ALL LOCATIONS						
	ALL LOCATIONS		SUM OF	HIGHEST	LOWEST	MAXIMUM	IN TOP 25% 7/
	MEAN 1/	RANK 2/	RANKS 3/	RANK 4/	RANK 5/	RANK 6/	
DELMAR	6.1	6	33	6	3	6	0.0
FLORATAM	6.4	4	23	3	1	6	42.9
MERCEDES	6.5	2	18	1	1	6	14.3
MSA 2-3-98	6.7	1	21	2	1	6	42.9
MSA 31	6.5	3	27	4	2	6	0.0
RALEIGH	6.3	5	28	5	2	6	0.0
LSD VALUE	0.4						
C.V. (%)	9.4						

APPENDIX TABLE B. SUMMARY OF TURFGRASS QUALITY RATINGS FOR ST. AUGUSTINEGRASS CULTIVARS
IN THE 2002 NATIONAL ST. AUGUSTINEGRASS TEST 1/
2002 DATA

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

NAME	STATISTICS FOR ALL LOCATIONS						
	ALL LOCATIONS		SUM OF	HIGHEST	LOWEST	MAXIMUM	IN TOP 25% 7/
	MEAN 1/	RANK 2/	RANKS 3/	RANK 4/	RANK 5/	RANK 6/	
DELMAR	5.7	6	16	6	5	6	0.0
FLORATAM	6.3	5	15	5	3	6	0.0
MERCEDES	6.6	3	10	3	2	5	0.0
MSA 2-3-98	7.5	2	5	1	1	2	66.7
MSA 31	7.5	2	6	2	1	3	66.7
RALEIGH	6.3	4	13	4	4	5	0.0
LSD VALUE	0.3						
C.V. (%)	5.4						

*/ 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/ RANK - RANKING OF THE MEAN OF ALL QUALITY RATINGS.

3/ SUM OF RANKS - A SUM OF ALL THE RANKINGS FROM THE VARIOUS LOCATIONS.

4/ RANK - THE RANKING OF THE SUM OF RANKS.

5/ HIGHEST RANK - THE HIGHEST RANKING ACHIEVED BY THAT ENTRY AT ANY ONE LOCATION.

6/ LOWEST RANK - THE LOWEST RANKING ACHIEVED BY THAT ENTRY AT ANY ONE LOCATION.

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