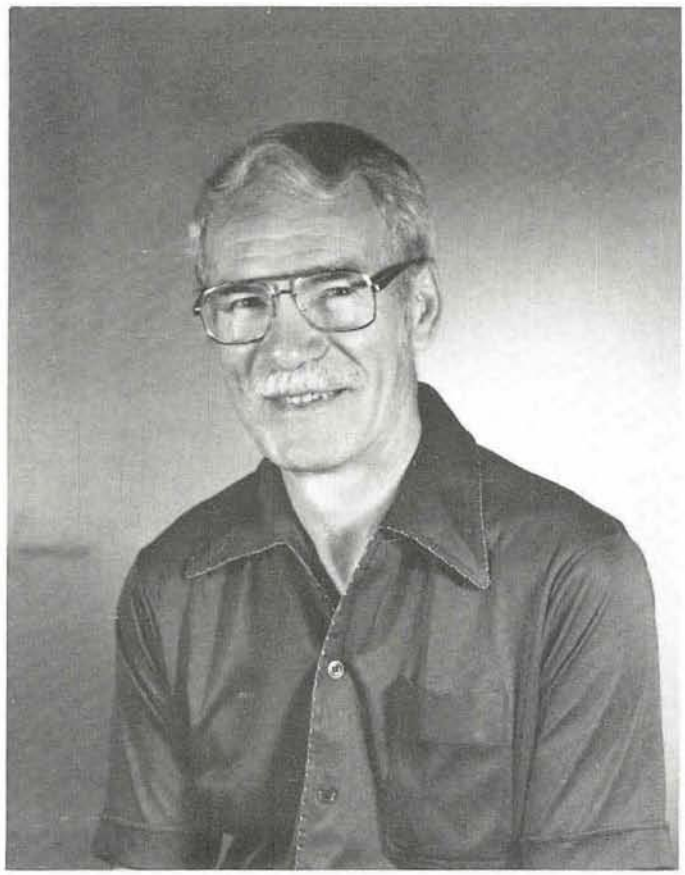
TURFGRASS RESEARCH CONFERENCE AND FIELD DAY

UNIVERSITY OF CALIFORNIA

RIVERSIDE



This program is presented in honor of John Van Dam who is retiring from UC Cooperative Extension. We extend to him our deepest respect and thanks for a job well done.

SEPTEMBER 14, 1989

DEDICATION

This third annual Turfgrass Research Conference and Field Day is dedicated to John Van Dam whose skillful and untiring efforts to upgrade Southern California's turfgrass industry the past two decades has paid off so well for all of us associated with it. This month John formally retires from the University of California after having served 30 years as a Cooperative Extension county farm advisor in Los Angeles and San Bernardino counties. Throughout his career, John has led and set an example for his peers in providing needed research and educational programs to Southern California's turfgrass industry.

During his first years as a turfgrass advisor, he took over the planning and conduct of the annual Turf and Landscape Institute program and built it into one of the premier educational offerings of its kind in the United States. Several other such endeavors, including today's, owe much of their success to past examples set by John.

Concurrent with his exemplary educational programs, John has always worked with U.C. campus researchers, Cooperative Extension specialists and advisors, and industry leaders to ensure that the industry's changing research needs are met. His own field research projects have reflected these needs, ranging from variety selection and cultural practices to weed and insect control to water conservation.

John's expertise and dedication have served the University of California and Southern California's turfgrass industry well. His contributions are many and lasting. We wish John health and every happiness in the years ahead and extend to him our deepest respect and thanks for a job well done.

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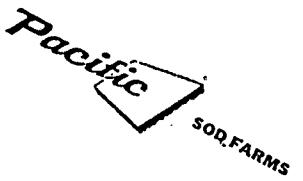
AND CONFERENCE SCHEDULE

THE DEVELOPMENT OF THE UC RIVERSIDE TURF PLOTS IS LARGELY DUE TO THE GENEROSITY OF THE FIRMS AND ORGANIZATIONS SHOWN HERE.



PLAY LOCATIONS ON FOOTBALL FIELDS

S. T. Cockerham[1]

In a study of fourteen professional and major college football bowl games, there was an average of 157.5 plays per game (Table 1). The location of each play on the field was recorded to the nearest 5 yard line. The highest yard-line average of 11.7 plays occurred at one 40-yard line and is the highest Zone of Traffic Concentration.

The Zone of Traffic Concentration (ZOTC) is defined as the area between the hash marks and from the backfoot of the offensive lineman in the three-point stance to the backfoot of the defensive lineman also in the three-point stance. The ZOTC is an area 180.4 sq. ft. (Table 2). Play locations are shown in graph form in Figure 1.

The assumptions made in drawing the conclusions are: 1) each play occurs on a 5-yard line, and 2) each play uses the full 18.5 feet between the hash-marks.

TABLE 1
LOCATION OF FOOTBALL PLAYS
Nearest 5-yd. Line

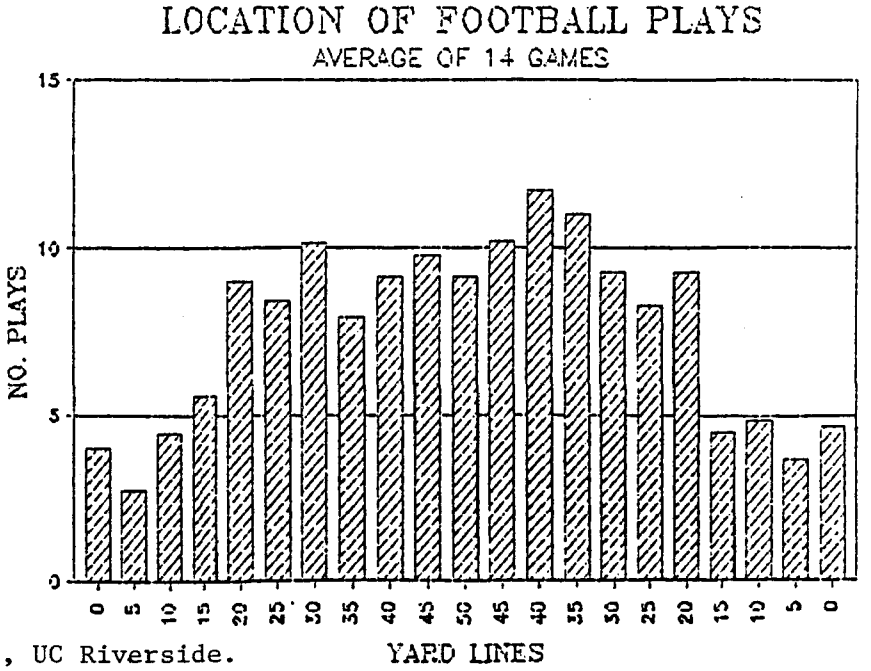
YD. LINE	AVE. NO. PLAYS/GAME*
0	4.0
5	2.7
10	4.4
15	5.6
20	9.0
25	8.4
30	10.1
35	7.9
40	9.1
45	9.8
50	9.1
45	10.2
40	11.7
35	11.0
30	9.3
25	8.3
20	9.3
15	4.5
10	4.9
5	3.6
0	4.6
TOTAL	157.5

* AVERAGE OF 14 GAMES

TABLE 2
ACTIVITY IN ZONE OF TRAFFIC CONCENTRATION

AVE. WIDTH OF ZOTC (Ft.)	9.75
AVE. AREA OF ZOTC (Sq.Ft.)	180.4
AVE. NO. PLAYERS	11.2
AVE. NO. STEPS PER PLAYER	10.9
CLEATS PER SHOE	7
AVE. PLAYS/GAME (high ZOTC)	11.7
AVE. CLEAT-DENTS/Sq.Ft./PLAY (high ZOTC)	4.47
AVE. CLEAT-DENTS/Sq.Ft./GAME (high ZOTC)	55.46

Figure 1



1 Superintendent, Ag. Operations, UC Riverside.

TALL FESCUE THATCH ACCUMULATION

Matthew K. Leonard[1]

Some turfgrass species, such as bermudagrass, bluegrass, and bentgrass, are recognized as thatch-builders while others, notably tall fescue and perennial ryegrass, are perceived as having no thatch accumulation problem. It was surprising, therefore, to find a substantial thatch layer present in plugs taken from a mature sward of turf-type tall fescue at the UC Riverside Turfgrass Research Facility.

This finding prompted a preliminary sampling of the Tall Fescue National Variety Trial, which was then three years old, in order to measure the thatch accumulation characteristics of the 38 varieties. Visual estimates of leaf texture (width) were made at the same time. That ranged from 16.3 to 29.0 mm in thickness. Statistically, the varieties broke down into two significantly different groups based on thatch thickness and four groups based on leaf texture. There was also a positive correlation between improved texture and increased thatch (see Leonard et al., Calif. Turfgrass Culture 37(3,4):9-10). Shearman et al. had previously reported a positive correlation between shoot dry matter and thatch accumulation (HortScience 21:1164, 1986). These results seemed to indicate that the greater biomass production of the turf-type and dwarf-type tall fescue varieties might be contributing to more thatch accumulation than was previously observed with this species.

To test this hypothesis, variety trials located in three distinct climate zones (UCR, inland valley; South Coast Field Station, coastal; and Helendale, high desert) are currently being evaluated. Since the three trials differ in content, a subsample of twenty common varieties was selected for testing. These varieties represent four generations of tall fescue breeding.

Results from the UCR and Helendale sites have so far revealed no differences between the varieties. Mean thatch thickness was 14.3 mm at UCR and 7.8 mm at Helendale. Both trials are approximately the same age (less than two years), so variation between locations was probably due to cultural intensity and/or climate. The South Coast location has not yet been sampled.

These results are considered to be preliminary and more samples will be made in the future. Until more is known, tall fescue turf should be monitored periodically for thatch accumulation.

[1] Staff Research Associate, Botany & Plant Sciences Dept., UC Riverside.

RESPONSE OF ZOYSIAGRASS TO NITROGEN FERTILIZATION FOR WINTER COLOR AND GENERAL PERFORMANCE

J. M. Henry[1]

Zoysiagrass is considered to be a minimum maintenance turfgrass species. Use facilities often select zoysiagrass because of its low cost, minimum input characteristics, including its low fertility requirement. Because zoysiagrass is a warm season genus, its dormancy pattern is important in transitional zones such as southern California, even when considering use of a minimum maintenance turfgrass species. New zoysiagrass lines developed by the University of California were evaluated to determine their response to turfgrass nitrogen (N) fertilizer sources and application rates.

Study 1 looked at N response by fertilizer source during the warm growing months. The zoysias responded to (N) in a linear manner with slow release fertilizers requiring high application rates (4 lbs. actual N/1,000 ft.^{2}) to effect acceptable turf color ratings. Osmocote at the high rate (4 lbs. actual N/1,000 ft.^{2}) gave the most sustained color response.

Study 2 evaluated response to soluble N applied during the cool months to observe color enhancement. Nitrogen enhanced winter color in the mild coastal region of southern California, but also stimulated winter weed activity. An improved green color was obvious in all lines at 1 lb. actual N/1,000 ft.^{2} rate if applied monthly. The lines of zoysia differed in their winter color characterization, however, with line #3 showing significantly higher color ratings in winter. Weed encroachment was directly related to line differences and N rates. Line #1 ('El Toro' zoysia) had the lowest percent weeds, with line #5 intermediate and line #3 had the lowest weed cover. The higher the N rate the greater the weed cover in general.

Table 1. Color ratings of 'El Toro' Zoysiagrass with eight nitrogen sources each applied at three rates for three observation times following treatment. Scale 1-9 with 9 deep green.

Nitrogen† Source	Rate kg/ha	Color Rating* Days After Treatment 25	67	109
U	48.8	6.2 DE	5.0 FGH	4.0 EF
	97.6	6.8 BC	6.0 D	4.8 BC
	195.2	7.5 A	6.8 BC	4.7 BCD
A.S.	48.8	6.0 DEF	5.3 EF	4.3 CDE
	97.6	6.8 BC	6.0 D	4.7 BCD
	195.2	7.7 A	7.2 B	4.7 BCD
A.N.	48.8	6.2 DE	4.8 FGH	4.2 DEF
	97.6	6.8 BC	5.8 DE	4.5 CDE
	195.2	7.7 A	7.0 B	4.8 BC
I.B.D.U	48.8	5.2 HI	5.2 FG	4.3 CDE
	97.6	5.3 GHI	6.3 CD	4.8 BC
	195.2	6.0 DEF	8.0 A	5.2 B
U.F.	48.8	5.3 GHI	4.5 HI	4.0 EF
	97 6	5.5 FGHI	4.8 FGH	4.3 CDE
	195.2	6.2 DE	6.2 D	4.7 BCD
R.C.	48.8	5.0 I	4.2 I	4.2 DEF
	97.6	5.5 FGHI	5.0 FGH	4.8 BC
	195.2	6.2 DE	6.8 BC	6.0 A
M.U.	48.8	5.7 EFGH	4.7 GHI	4.2 DEF
	97.6	6.2 DE	5.3 EF	4.5 CDE
	195.2	7.2 AB	7.0 B	4.8 BC
S.C.U.	48.8	5.8 DEFG	4.7 GHI	4.2 DEF
	97.6	6.3 CD	6.0 D	4.5 CED
	195.2	7.3 AB	7.0 B	4.8 BC
Control	0	5.0 I	4.2 I	3.7 F

Table 2. The winter green color of three zoysia lines in January, 1984. Scale 1-9 with 9 darkest green.

Line No.	Color Score
1	3.0 Z*
3	3.5 Y
5	2.8 Z

Table 3. Winter weed cover, by line, for January, 1984, given as percent cover.

Line No.	Percent Weed Cover
1	19.4 X*
3	43.4 Z
5	28.9 Y

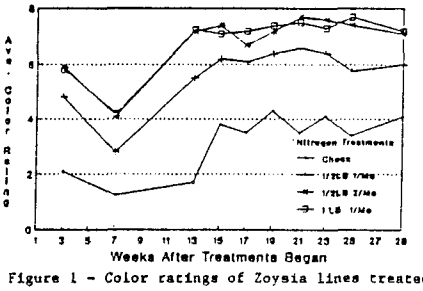


Figure 1 - Color ratings of Zoysia lines treated

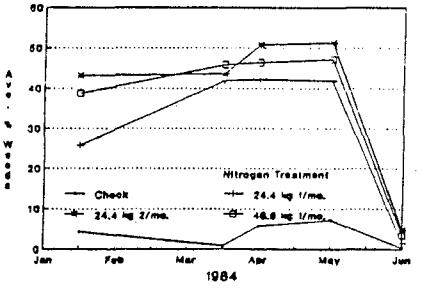


Figure 2 - Average % weeds for 16 weeks on Zoysia lines with four nitrogen treatments.

FOOTNOTES: * Values followed by the same letter are not significantly different at the 5% level of probability.
† U=Urea, A.S.=Ammonium Sulphate, A.N.=Ammonium Nitrate, I.B.D.U.=Isobutylidene-diurea, U.F.=Ureaformaldehyde, R.C.=Resin Coat (Osmocote), M.U.=Methylene urea, S.C.U.=Sulphur-coated urea.

[1] County Dir. & Turf Advisor, Univ. of Calif., Coop. Ext., Orange Co.

SOIL AERIFICATION FOR LANDSCAPE TREES

Dennis R. Pittenger[1]

Adequate soil oxygen is essential for growth and development of trees. In urban areas soil compaction commonly reduces soil air content to deficient levels for trees. This study was conducted to determine the relative effectiveness of four of the most widely used methods for aerifying and reducing compaction in soil around trees.

The study was conducted in a uniform block of 20 established Chinese Wingnut trees (Pterocarya stenoptera) that were serving as shade trees in a picnic area. The trees appeared to be relatively healthy, but the soil was a highly compacted sandy loam soil. In January of 1986, tree height, trunk circumference 6 inches from the soil, and annual growth from 4 lateral shoots in the upper one-third of the canopy were recorded. Soil penetrometer readings were also obtained during this period using a recording penetrometer. Readings were obtained to a depth of 2 feet or until a force of 2,000 psi was reached. Values greater than 1,500 psi were common at 12 inches and deeper.

All treatments were applied in March of 1986 and replicated 4 times. The treatments evaluated were: 1) two-inch diameter holes, in concentric circles, created with a power auger to a depth of 18 inches; 2) holes prepared as above and backfilled with a 50/50 mix of sand and milled fir bark; 3) holes prepared with a water jet as in treatment #1; 4) two holes, 4 inches in diameter by 18 inches deep, placed 180 degrees apart and approximately 5 feet from the trunk. Holes were lined with perforated PVC pipe and backfilled with gravel; and 5) untreated control.

Two years after the treatments were applied there were no significant differences in tree growth or soil compaction among the treatments. These results cast doubt on whether similar treatments applied to other species growing in other compacted soils would produce a benefit.

The fact that many tree care professionals have empirical evidence that supports the beneficial attributes of similar soil treatments should not be questioned. Rather, closer investigation should be given to the critical on-site conditions present in these cases, particularly the soil textural class and the actual extent of compaction as estimated by common parameters. In many instances, the treatments applied include a significant amount of soluble fertilizer which could account for much of the beneficial results experienced. It is also possible that a water jetting treatment is successful in providing water and nutrients but does nothing to alter the compaction level of the soil.

[1] Extension Urban Horticulturist, Botany & Plant Sciences Dept., UC Riverside.

RECENT DEVELOPMENTS IN NEMATODE IDENTIFICATION AND CONTROL IN TURFGRASS

John D. Radewald, Fujio Shibuya, Becky B. Westerdahl[1]

Recently, a root-knot nematode problem on warm season grasses was called to our attention. Upon identification of the nematode, we found we were dealing with a root-knot species that, to the best of our knowledge, has heretofore not been reported as a pest, or potential pest, of turfgrass.

Because of the implications of spread of this nematode during vegetative propagation, a series of trials were conducted on various methods of control. Dry heat as well as hot water dips were investigated. Chemicals were not considered to be a reasonable approach for controlling this pest on planting material. It was found that the nematode could successfully be controlled with the hot water dips and the grass would survive the treatment.

The implications of nematode dissemination and the problems encountered in control measures such as these will be discussed. Additionally, the heat requirements for control will be presented.

Preliminary distribution of the nematode has been investigated and more work in this area will be completed and reported upon at the time of the oral presentation.

[1] Extension Nematologist, Department of Nematology, UC Riverside; Staff Research Associate, Department of Nematology, UC Riverside; Extension Nematologist, Department of Nematology, UC Davis.

TURF WEED CONTROL

David W. Cudney

Turf weed control is a continual management "frame of mind." To achieve a successful turf weed management program the key is healthy, vigorous, turf. Weeds and turf compete for water, light, and nutrients.

A well managed healthy turf sward will generally win the battle with weeds because it is dense enough to limit weed invasion. It is only when there are holes in the sward due to disease, insects, injury or improper management that weeds can get started.

Some weeds take advantage of certain environmental conditions to gain a competitive edge. Legumes such as sour clover and bur clover have an advantage in poorly fertilized turf low in nitrogen. Spotted spurge may have an advantage in cool season turf swards that are mowed too closely favoring the shorter more prostrate spurge. Kikuyugrass may be favored in cool season swards that receive infrequent irrigation.

Even under good management conditions it is often impossible to maintain an optimum growing environment at all times and some weeds may gain entry into the system. Among the worst weeds to gain entry to turf are oxalis, spotted spurge, crabgrass, annual bluegrass, kikuyugrass and nutsedge.

The process of managing turf with one or more of these weed problems is a systematic process which begins with first altering the environment which leads to the invasion by the weedy species and then utilizing a management scheme which will lead to the most competitive turf. The use of other tools such as herbicides or renovation may also be in order. But once the weed is under control, it is the continual use of optimum turf management that is the key to a weed free turf.

[1] Extension Weed Scientist, Botany & Plant Sciences Dept., UC Riverside.

COOL SEASON TURFGRASS MIXES

Victor A. Gibeault

The cool season turfgrasses commonly used in California for general lawn purposes and certain specialty use facilities include tall fescue (Festuca arundinacea), Kentucky bluegrass (Poa pratensis) and perennial ryegrass (Lolium perenne). Field studies were conducted at the U.C. Riverside Turfgrass Research Project to examine the advantages/disadvantages of mixing tall fescue and Kentucky bluegrass and mixing Kentucky bluegrass and perennial ryegrass.

Tall fescue - Kentucky bluegrass

It was the objective of this study to evaluate the compatibility of three tall fescue varieties singly and each with the varieties of Kentucky bluegrass. The tall fescues were Alta, Mustang and Jaguar. The Kentucky bluegrasses were Kenblue, Columbia and A34. The test was established in 1985 and evaluated for turf quality, color, thatch, and presence of unwanted plant material at specific times. The test area was mowed at 1 1/2 inches, fertilized regularly and irrigated based on CIMIS.

Preliminary results indicate that the turf type tall fescues performed better than Alta tall fescue (quality and color); that they had more thatch accumulated over time; and that they mixed with the Kentucky bluegrasses well, irrespective of variety of bluegrass.

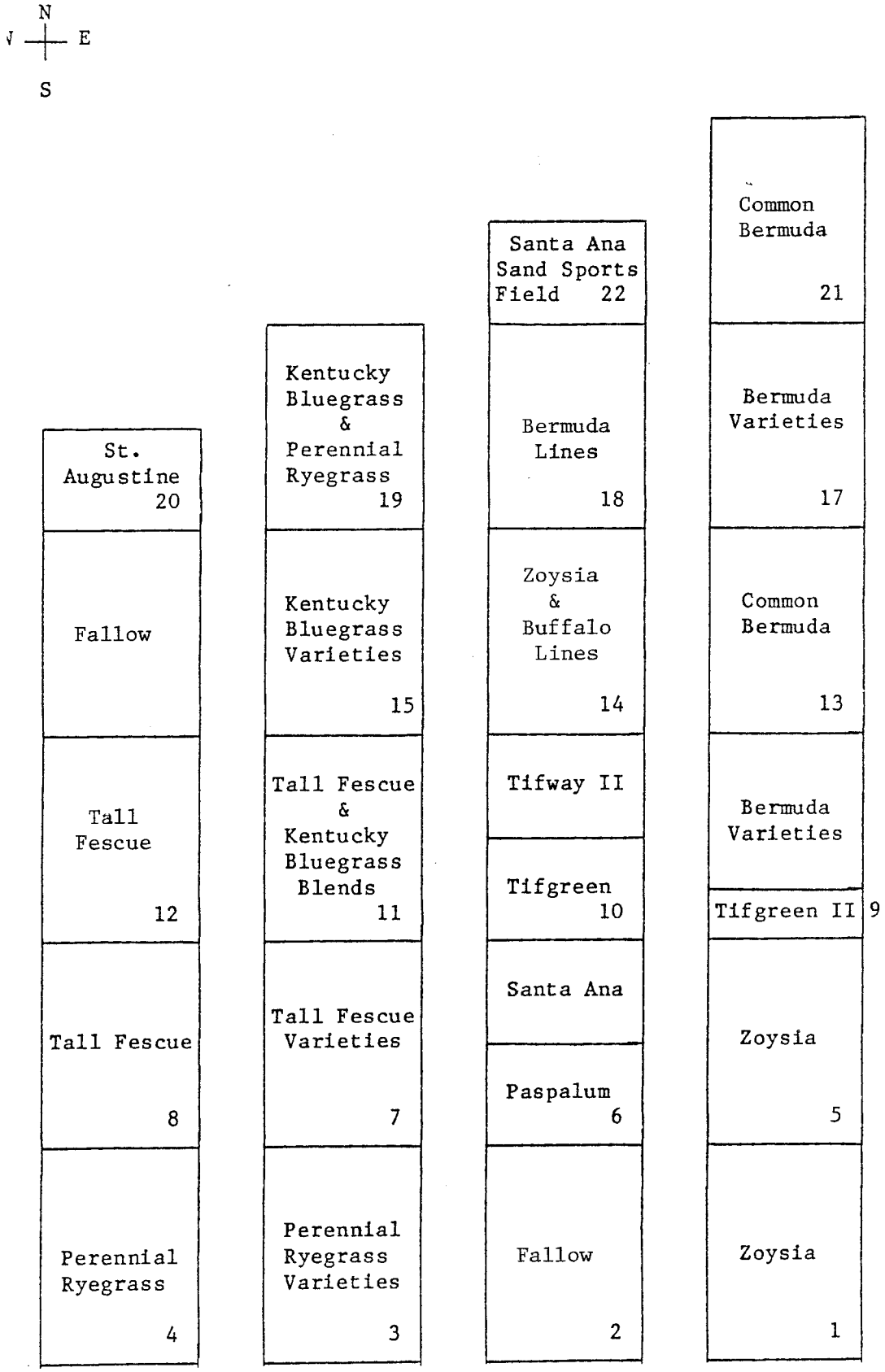
Kentucky bluegrass - perennial ryegrass

It was the objective of this study to evaluate the effects of mixing specifically selected varieties of Kentucky bluegrass with specifically selected varieties of perennial ryegrass. The Kentucky bluegrasses were America, Touchdown, Adelphi and Park; the perennial ryegrasses were Manhattan, Manhattan II, Prelude and Elka. The study was established in 1984 and maintained through 1984 at 1 1/2 inch height, with regular fertilization and irrigation based on CIMIS.

It was observed in preliminary results that Kentucky bluegrasses alone were of much poorer quality than ryegrasses alone or the mixes of the two grasses. There was considerable variation in performance among the varieties studied. There was not as great a difference of quality response with ryegrasses used alone or in mixes with Kentucky bluegrass. It was also found that there were weeds observed only in plots established to Kentucky bluegrass only. Perennial ryegrass alone, or perennial ryegrass mixed with Kentucky bluegrass had essentially no weed problem.

[1] Extension Environmental Horticulturist, Botany & Plant Sciences Dept., UC Riverside.

UCR TURF RESEARCH PLOTS



UCR - TURFGRASS RESEARCH CENTER - PROJECT SUMMARY

Starting Date May 12, 1988 Plot No. 1
Completion Date

Title: El Toro Zoysia Nitrogen Source x Rate Study

Objective: Evaluate response of 'El Toro' to eight different nitrogen sources applied at three rates.

Investigator(s):
Name V. Gibeault Dept. Coop Ext Phone X 3575
Name M. Leonard Dept. Turf Lab Phone X 3898

Species/Cultivars: 'El Toro' Zoysia

Management: Mowing Frequency 1 x/Wk. Height 5/8 in
Fertilizer-Material Rate
Irrigation - / / as needed 60 % ET_o / /Other (Specify Below
Special

Experimental Design: / / CRD /X/ RCB / / SPLT / / Other
No. of Reps 3 Size of Rep. 4' x 4' Total Plot 20' x 60'
Treatments: Eight nitrogen sources (see below) applied at 1.0, 2.0, and 4.0 lb N/1000 ft^2.

Data Collection: 1) Variable Color Frequency bi-weekly
2) Variable Frequency
3) Variable Frequency

Special Instructions/Comments: Treatment reapplied 5/18/89
Nitrogen sources:
Urea (46-0-0)
Ammonium Sulfate (21-0-0)
Ammonium Nitrate (34-0-0)
IBDU (31-0-0)
Ureaformaldehyde (liquid, 38-0-0)
Osmocote (34-0-7)
Methylene Urea (dry, 41-0-0)
Sulfur-coated Urea (37-0-0)

'EL TORO' ZOYSIA NITROGEN SOURCE X RATE STUDY

N

Rep I					Rep II					Rep III				
22	5	3	8	2	13	20	5	24	22	2	22	15	23	4
19	24	16	6	4	14	4	10	19	15	14	13	25	18	5
23	10	17	25	18	8	9	2	18	17	1	11	7	21	6
13	1	12	15	21	25	11	6	1	21	8	12	20	3	17
7	11	9	20	14	16	3	12	7	23	24	16	19	9	10
Rep I					Rep II					Rep III				

Treatment No.	Nitrogen Source	Analysis	#N/1000
1)	UREA (dry)	46-0-0	1
2)			2
3)			4
4)	Ammonium sulfate	21-0-0	1
5)			2
6)			4
7)	Ammonium nitrate	34-0-0	1
8)			2
9)			4
10)	IBDU	31-0-0	1
11)			2
12)			4
13)	UF (Powder Blue)	38-0-0	1
14)			2
15)			4
16)	Osmocote	34-0-7	1
17)			2
18)			4
19)	Methylene urea	41-0-0	1
20)			2
21)			4
22)	SCU (30% DR)	37-0-0	1
23)			2
24)			4
25)	Control	0-0-0	0

UCR - TURFGRASS RESEARCH CENTER - PROJECT SUMMARY

Starting Date October 1988 Plot No. 1
Completion Date

Title: 'El Toro' Zoysia/Tall Fescue Mix Study

Objective: Determine if a mixture of 'El Toro' Zoysia and tall fescue produce an acceptable year-round turf.

Investigator(s):
Name V. Gibeault Dept. Coop Ext Phone X 3575
Name M. Leonard Dept. Turf Lab Phone X 3898

Species/Cultivars: 'El Toro' Zoysia; 'Jaguar' (Turf-type) and 'Monarch (Dwarf-type) Tall Fescue

Management: Mowing Frequency 1 x/Wk. Height 1.5 in.
Fertilizer-Material Ammonium Nitrate Rate 1.0 lb N/1000 ft^2/mo
Irrigation - / / as needed ____% ET_o /X/ Other (Specify Below)
Special 60% ET in summer, 80% ET in winter

Experimental Design: /X/ CRD / / RCB / / SPLT / / Other ____
No. of Reps 4 Size of Rep. 5' x 10' Total Plot 20' x 50'
Treatments: (1) El Toro, (2) Jaguar TF, (3) Monarch TF, (4) Jaguar overseeded into El Toro, (5) Monarch overseeded into El Toro.

Data Collection: 1) Variable Percent cover Frequency Monthly
2) Variable Turf Score Frequency Monthly
3) Variable Uniformity Frequency Monthly

Special Instructions/Comments: El Toro was vertical mowed prior to overseeding.

Tall fescue seeding rate was 15 lb/1000 ft^2.

OVERSEEDING OF 'EL TORO' ZOYSIAGRASS
WITH TALL FESCUE

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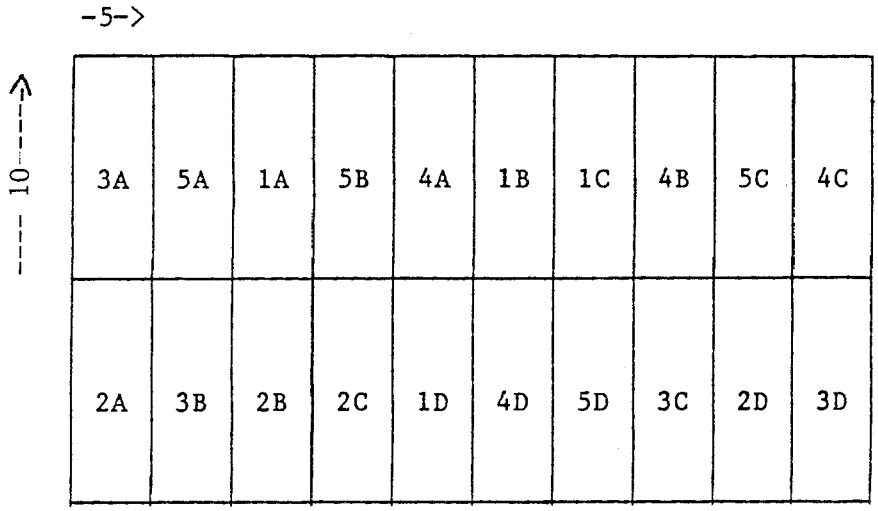


TREATMENTS

1) El Toro Zoysia

2) Turf-type Tall Fescue

3) Dwarf-type Tall Fescue

4) Turf-type TF Overseeded on Zoysia

5) Dwarf-type TF Overseeded on Zoysia

UCR - TURFGRASS RESEARCH CENTER - PROJECT SUMMARY

Starting Date June 14, 1988 Plot No. 5
Completion Date 1991

Title: Zoysia cultivar evaluation

Objective: Examine turf quality and growth characteristics of commercially available and experimental cultivars of zoysiagrass.

Investigator(s):
Name V. Gibeault Dept. Coop Ext Phone X 3575
Name M. Leonard Dept. Turf Lab Phone X 3898

Species/Cultivars: Zoysia japonica and intraspecific hybrids of Z. japonica, Z. matrella and Z. tenuifolia.

Management: Mowing Frequency _____ x/Wk. Height _____ in.
Fertilizer-Material ammonium nitrate Rate 1.0 lb N (1000 ft^2/month)
Irrigation - / / as needed 60 % ET_o / /Other (Specify Below)
Special _____

Experimental Design: / / CRD /X/ RCB / / SPLT / / Other _____
No. of Reps 3 Size of Rep. 10' x 10' Total Plot 60' x 90'
Treatments: Cultivars: El Toro, Meyer, Emerald, Belair plus 14 experimental UC cultivars.

Data Collection: 1) Variable See Below Frequency _____
2) Variable _____ Frequency _____
3) Variable _____ Frequency _____

Special Instructions/Comments: Cultivars will be evaluated for rate of establishment, winter color retention, rooting depth, thatch accumulation, mowability, seedhead production, color, and general turf quality, over a period of several years.

Plots were established from 16 2" plugs planted on 2' centers.

UCR ZOYSIA VARIETY EVALUATION

	11	5	16	15	13	9	
Rep I	14	17	4	1	3	18	Rep I
	12	8	2	7	10	6	
	15	3	9	16	17	4	
Rep II	6	1	12	14	10	7	Rep II
	5	8	11	13	18	2	
	14	12	11	1	13	15	
Rep III	7	2	9	8	6	18	Rep III
	10	5	4	17	16	3	

Zoysia Selection

1) El Toro
2) Meyer
3) Emerald
4) Belair
5) UCR-Z88-1
6) UCR-Z88-2
7) UCR-Z88-3
8) UCR-Z88-4
9) UCR-Z88-5
10) UCR-Z88-6
11) UCR-Z88-7
12) UCR-Z88-8
13) UCR-Z88-9
14) UCR-Z88-10
15) UCR-Z88-11
16) UCR-Z88-12
17) UCR-Z88-13
18) UCR-Z88-14

UCR - TURFGRASS RESEARCH CENTER - PROJECT SUMMARY

Starting Date May 86 Project No. _____
Completion Date _____ Plot No. _____

Title: National Bermudagrass Trial

Objective: To evaluate Bermudagrass in southern California.

Investigator(s):
Name V. A. Gibeault Dept. Coop. Ext. Phone X3575
Name R. Autio Dept. Coop. Ext. Phone X4430

Species/Cultivars: 32 Bermudagrass cultivars

Management: Mowing Frequency 1 x/Wk. Height 3/4"
Fertilizer-Material _____ Rate 1# N/M/6 wk.
Irrigation - /X/ as needed _____% ET_o / /Other (Specify Be
Special _____

Experimental Design: / / CRD /X/ RCB / / SPLT / / Other _____
No. of Reps 3 Size of Rep. _____ x _____ Total Plot _____ x _
Treatments: _____

Data Collection: 1) Variable Turfscore Frequency Monthly
2) Variable _____ Frequency _____
3) Variable _____ Frequency _____

Special Instructions/Comments: _____

NATIONAL BERMUDAGRASS TEST, 1986

Entries and Sponsors

Entry No.	Name	Sponsor
1	CT-23	Cal-Turf, Inc.-Camarillo, CA
2	NM 43	A. Baltensperger - New Mexico State University
3	NM 72	A. Baltensperger
4	NM 375	A. Baltensperger
5	NM 471	A. Baltensperger
6	NM 507	A. Baltensperger
7	Vamont	L. Taylor - Va. Tech
8	E-29	Kansas State University
9	A-29	Kansas State University
10	RS-1	H. Rice, A.J. Powell- University of Kentucky
11	MSB-10	J. Krans - Miss. St. Univ.
12	MSB-20	J. Krans
13	MSB-30	J. Krans
14	A-22	Kansas State University
15	Texturf 10	Texas A & M University
16	Midiron	-
17	Tufcote	-
18	Tifgreen	-
19	Tifway	-
20	Tifway II	-
21	NMS 1 (NuMex-Sahara)	A. Baltensperger & Farmers Marketing Corp.
22	NMS 2	A. Baltensperger
23	NMS 3	A. Baltensperger
24	NMS 4	A. Baltensperger
25	NMS 5	A. Baltensperger
26	Arizona Common	-
27	Guymon	Agriculture Processors - Enid, OK
28	FB-119	A. E. Dudeck - University of Florida

NOTE: Entries 21-27 are seeded bermudagrasses.

LOCATIONS SUBMITTING DATA FOR 1988

State	Location	Code
Arkansas	Fayetteville	AR1
California	Santa Ana	CA2
California	Riverside	CA3
Florida	Gainesville	FL1
Kansas	Manhattan	KS1
Kansas	Wichita	KS2
Louisiana	Baton Rouge (high mowing)	LA1
Louisiana	Baton Rouge (low mowing)	LA2
Maryland	Beltsville	UB1
Maryland	Silver Spring	MD1
Mississippi	Mississippi State (full sun)	MS1
Mississippi	Mississippi State (dense shade)	MS2
New Mexico	Las Cruces (high mowing)	NM1
New Mexico	Las Cruces (low mowing)	NM2
Oklahoma	Stillwater	OK1
Texas	Cleveland	TX1
Virginia	Blacksburg	VA1
Virginia	Blackstone	VA2

N

NATIONAL BERMUDAGRASS TRIAL, UCR
Planted May 29, 1986

Block 17

Plot Size 10' x 10'

	32	31	30	24	3	10
	25	7	6	26	15	21
	1	29	12	5	11	16
I	2	19	9	28	13	8
	4	20	27	18	14	17
	22	23	7	3	16	13
	23	2	12	5	29	11
	25	24	9	19	15	27
II	21	14	17	28	8	22

(Common Bermudagrass)

			31	32	18	6
	20	30	26	1	8	2
	30	22	9	27	11	7
	26	6	18	25	5	1
III	12	16	19	14	29	13
	17	15	21	28	24	23
	32	31				

Entry Number	Name
1	CT-23
2	NM 43
3	NM 72
4	NM 375
5	NM 471
6	NM 507
7	Vamont
8	E-29
9	A-29
10	RS-1
11	MSB-10
12	MSB-20
13	MSB-30
14	A-22
15	Texturf 10
16	Midiron
17	Tufcote
18	Tifgreen
19	Tifway
20	Tifway II
21	NMS 1
22	NMS 2
23	NMS 3
24	NMS 4
25	NMS 14
26	Arizona Common
27	Guymon
28	FB-119
29	C19
30	C84
31	Tifgreen II
32	Santa Ana

Objective:
To evaluate Bermudagrass varieties in southern California.

Methods and Materials:
In May, 1986, 1" plugs were placed on 1" centers in 10' x 10' plots. The plots are mowed at 3/4", fertilized at 1# N/M every 6 weeks and irrigated as needed.

TABLE 1A. MEAN TURFGRASS QUALITY RATINGS OF BERMUDAGRASS CULTIVARS AT EIGHTEEN LOCATIONS IN THE UNITED STATES 1988 DATA

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

NAME	AR1	CA2	CA3	FL1	KS1	KS2	LA1	LA2	MD1	MS1	MS2	NM1	NM2	OK1	TX1	UB1	VA1	VA2	MEAN
MSB-20	7.8	5.5	6.0	5.4	6.9	8.1	7.8	8.5	7.7	7.4	5.2	4.9	8.0	6.4	8.7	7.5	7.7	6.8	7.0
MSB-10	8.3	6.7	5.7	6.1	6.1	8.3	7.8	7.8	6.4	6.9	4.3	6.6	7.7	6.7	8.0	7.1	7.7	7.3	7.0
* TIFWAY II	7.9	6.4	5.8	6.1	5.8	8.3	7.9	7.8	6.4	7.0	3.9	6.8	7.7	6.3	8.0	6.9	7.4	7.1	6.9
* TIFWAY	7.8	6.1	5.5	6.3	5.6	8.2	7.9	7.8	6.3	6.8	3.9	6.0	8.0	6.8	7.7	6.9	7.6	7.4	6.8
* TIFGREEN	7.3	5.4	5.8	5.2	7.1	7.7	7.7	8.3	6.2	7.1	4.7	4.6	7.0	6.7	9.0	7.8	7.2	7.0	6.8
NM 43	7.2	5.4	6.1	5.6	6.2	7.7	8.2	8.5	6.6	7.3	4.3	5.1	7.7	6.4	6.7	7.9	7.2	7.1	6.7
MSB-30	7.5	6.5	5.8	5.6	6.9	7.2	7.3	7.5	6.0	6.3	4.4	6.3	7.0	7.9	8.0	6.9	6.9	6.4	6.7
* TUFCOTE	7.3	5.5	5.9	5.8	7.1	8.0	7.5	7.7	5.8	5.6	3.7	5.3	6.7	6.4	5.7	7.5	6.7	6.6	6.4
E-29	7.0	6.1	6.5	5.3	7.0	8.7	6.7	6.8	6.4	5.4	1.5	7.3	8.0	6.3	5.3	6.7	6.9	6.4	6.3
A-22	6.9	5.7	6.4	5.5	7.2	8.6	7.2	7.1	6.4	5.7	2.2	6.2	6.0	6.8	6.3	6.9	6.4	6.7	6.3
* TEXTURF 10	7.8	5.8	5.5	5.3	6.7	7.6	6.8	7.2	5.3	5.5	3.1	6.7	7.7	6.8	5.7	6.3	7.0	6.6	6.3
A-29	6.9	5.6	5.9	5.3	7.3	8.1	7.0	7.0	6.2	5.4	2.7	5.3	6.7	6.6	6.0	6.8	7.0	6.6	6.2
CT-23	6.8	5.3	5.5	5.5	5.3	7.3	7.4	7.0	6.6	6.2	2.4	5.4	8.0	5.8	6.3	5.5	6.8	6.2	6.1
NM 471	7.2	6.0	5.4	6.2	4.1	6.1	7.5	7.8	4.9	5.2	4.4	6.3	6.0	6.7	7.0	4.9	6.2	6.6	6.0
NM 375	7.0	5.4	5.6	6.4	5.1	7.7	7.0	7.4	4.7	5.1	2.9	6.2	6.3	6.3	6.7	6.3	5.3	6.7	6.0
NM 507	7.2	6.1	5.0	6.2	3.7	6.3	7.5	8.0	4.1	5.2	3.4	6.4	5.7	6.8	7.0	4.5	5.0	6.9	5.8
* MIDIRON	6.2	5.9	6.0	5.6	6.9	8.0	6.7	6.7	5.4	5.0	1.7	5.0	5.0	6.2	5.3	6.3	6.4	6.6	5.8
RS-1	6.1	5.3	5.8	4.9	7.4	6.7	6.2	6.6	6.6	4.8	2.6	4.7	6.0	6.3	6.3	5.7	6.4	6.1	5.8
FB-119	7.1	5.0	5.0	5.9	4.8	6.1	7.1	6.8	6.4	4.9	3.7	5.2	5.0	6.1	6.3	4.6	6.2	6.7	5.7
* VAMONT	5.8	5.1	5.9	4.9	6.7	6.1	6.2	6.1	6.2	4.3	3.1	4.1	4.7	6.8	6.3	5.9	5.9	6.4	5.6
NM 72	6.4	5.0	5.0	5.5	4.1	5.1	6.9	6.7	5.8	4.9	3.6	4.6	6.0	5.9	6.0	4.5	5.6	6.9	5.5
NMS 3	6.4	5.2	4.7	5.3	4.3	5.0	6.8	7.0	5.9	4.9	2.5	5.1	5.0	5.9	6.0	4.5	6.2	6.3	5.4
NMS 4	6.4	5.1	4.7	5.3	4.9	5.3	6.6	6.8	5.6	4.1	2.2	5.6	3.7	5.9	5.3	4.9	6.0	6.4	5.3
* NMS 1 (NUMEX-SAHARA)	5.7	4.9	4.9	5.3	5.0	6.1	5.9	5.8	5.3	3.9	2.1	5.0	4.7	6.3	4.3	4.9	5.7	5.9	5.1
NMS 2	5.5	4.9	5.1	5.0	4.9	5.4	6.2	6.3	6.4	3.9	2.4	4.4	4.7	5.8	5.0	4.1	5.2	6.0	5.1
NMS 14	5.9	5.0	5.1	5.2	5.1	6.6	5.7	6.0	5.8	3.9	2.2	3.6	3.3	5.8	4.3	3.6	5.3	5.7	4.9
* AZ. COMMON	5.5	4.8	5.0	5.0	4.6	6.1	5.6	5.3	5.0	3.8	2.0	3.2	2.7	5.7	4.0	3.8	4.9	5.0	4.6
* GUYMON	5.0	4.5	5.0	5.1	5.7	6.1	5.2	5.2	4.4	3.2	1.3	4.6	1.7	5.8	3.0	4.7	4.6	5.4	4.5
LSD VALUE	0.6	0.5	0.5	0.4	0.6	0.9	0.7	0.5	1.4	0.3	0.7	1.0	1.9	0.7	0.9	0.8	1.0	0.6	0.2

* COMMERCIALLY AVAILABLE VARIETY

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).

UCR - TURFGRASS RESEARCH CENTER - PROJECT SUMMARY

Starting Date July 1989 Project No. _____
Completion Date _____ Plot No. _____

Title: Buffalograss Variety Evaluation

Objective: To observe buffalograss performance in southern California.

Investigator(s):
Name V. A. Gibeault Dept. Coop. Ext. Phone 787-3575
Name R. Autio Dept. Coop. Ext. Phone 787-4430

Species/Cultivars: 9 Buffalograss cultivars

Management: Mowing Frequency _____ x/Wk. Height _____ in.
Fertilizer-Material _____ Rate _____
Irrigation - /x/ as needed _____% ET_o / /Other (Specify Below)
Special _____

Experimental Design: / / CRD /x/ RCB / / SPLT / / Other _____
No. of Reps _____ Size of Rep. _____ x _____ Total Plot _____ x _____
Treatments: _____

Data Collection: 1) Variable _____ Frequency _____
2) Variable _____ Frequency _____
3) Variable _____ Frequency _____

Special Instructions/Comments: _____

UCR BUFFALOGRASS VARIETY EVALUATION

N

I			II		III		
					6	3	5
9	2	1	1	8	3	1	8
8	5	4	2	4	5	9	2
3	6	7	9	7	6	4	7

Entry #	Name
1.	Highlight 17
2.	Highlight 24
3.	84-304
4.	84-315
5.	84-409
6.	84-609
7.	85-378
8.	Texoka
9.	BD 8900

Objective: To evaluate buffalograss for turfgrass performance characteristics under southern California conditions.

UCR - TURFGRASS RESEARCH CENTER - PROJECT SUMMARY

Starting Date July 1989 Project No. _____
Completion Date _____ Plot No. _____

Title: Zoysia Variety Evaluation

Objective: To evaluate zoysia cultivars in southern California.

Investigator(s):
Name V. A. Gibeault Dept. Coop. Ext. Phone 787-3575
Name R. Autio Dept. Coop. Ext. Phone 787-4430

Species/Cultivars: 15 Zoysia cultivars

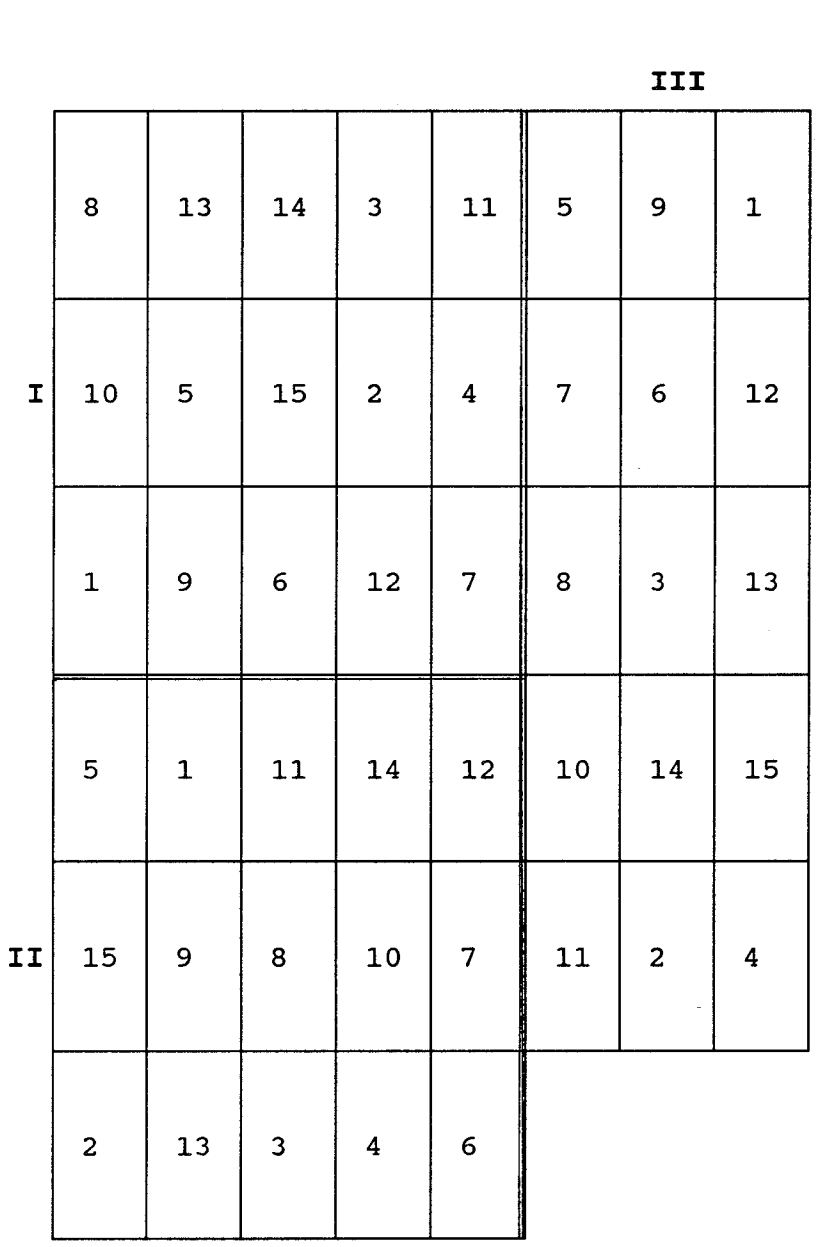
Management: Mowing Frequency _____ x/Wk. Height _____ in.
Fertilizer-Material _____ Rate _____
Irrigation - /x/ as needed _____% ET_o / /Other (Specify Below)
Special _____

Experimental Design: / / CRD /x/ RCB / / SPLT / / Other _____
No. of Reps 3 Size of Rep. _____ x _____ Total Plot _____ x _____
Treatments: _____

Data Collection: 1) Variable _____ Frequency _____
2) Variable _____ Frequency _____
3) Variable _____ Frequency _____

Special Instructions/Comments: _____

UCR ZOYSIA STUDY



Entry #	Name
1.	El Toro
2.	Emerald
3.	Belair
4.	Meyer
5.	DALZ8501
6.	DAlZ8502
7.	DALZ8507
8.	DALZ8512
9.	DALZ8514
10.	DALZ8701
11.	UCR-Z88-1
12	UCR-Z88-5
13.	UCR-Z88-8
14.	UCR-Z88-9
15.	UCR-Z88-14

Objective: To evaluate available and experimental zoysiagrasses for turfgrass quality characteristics and winter color retention.

UCR - TURFGRASS RESEARCH CENTER - PROJECT SUMMARY

Starting Date July 1989 Project No. _____
Completion Date _____ Plot No. _____

Title: New Bermudagrass Lines

Objective: To observe the performance of new bermudagrass cultivars in southern California.

Investigator(s):
Name V. A. Gibeault Dept. Coop. Ext. Phone 787-3575
Name R. Autio Dept. Coop. Ext. Phone 787-4430

Species/Cultivars: 56 Bermudagrass cultivars

Management: Mowing Frequency _____ x/Wk. Height _____ in.
Fertilizer-Material _____ Rate _____
Irrigation - /x/ as needed _____ % ET_o / /Other (Specify Below)
Special _____

Experimental Design: / / CRD / / RCB / / SPLT /x/ Other observation
No. of Reps 1 Size of Rep. _____ x _____ Total Plot _____ x _____
Treatments: _____

Data Collection: 1) Variable _____ Frequency _____
2) Variable _____ Frequency _____
3) Variable _____ Frequency _____

Special Instructions/Comments: _____

UCR BERMUDAGRASS LINES

N

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56

Entry #	Name	Entry #	Name
1.	OK-88-1	29.	OK-88-29
2.	OK-88-2	30.	OK-88-30
3.	OK-88-3	31.	OK-88-31
4.	OK-88-4	32.	OK-88-32
5.	OK-88-5	33.	OK-88-33
6.	OK-88-6	34.	OK-88-34
7.	OK-88-7	35.	OK-88-35
8.	OK-88-8	36.	OK-88-36
9.	OK-88-9	37.	OK-88-37
10.	OK-88-10	38.	OK-88-38
11.	OK-88-11	39.	OK-88-39
12.	OK-88-12	40.	OK-88-40
13.	OK-88-13	41.	OK-88-41
14.	OK-88-14	42.	OK-88-42
15.	OK-88-15	43.	OK-88-43
16.	OK-88-16	44.	CD8901
17.	OK-88-17	45.	Bakersfield
18.	OK-88-18	46.	CD14
19.	OK-88-19	47.	CD23
20.	OK-88-20	48.	CD27
21.	OK-88-21	49.	CD508
22.	OK-88-22	50.	CD32
23.	OK-88-23	51.	CD667
24.	OK-88-24	52.	Ariz. Cmn.
25.	OK-88-25	53.	CD667
26.	OK-88-26	54.	NK-1
27.	OK-88-27	55.	Blueridge
28.	OK-88-28	56.	CT-2

Objective: To evaluate bermudagrass for turfgrass quality characteristics and winter color retention.

UCR - TURFGRASS RESEARCH CENTER - PROJECT SUMMARY

Starting Date 7 August 1989 Project No. _____
Completion Date Spring 1990 Plot No. 22

Title: Traffic x Nutrition Study

Objective: Observe influence of nitrogen and potassium nutrition on traffic tolerance of hybrid Bermudagrass and a mixture of perennial ryegrass and Kentucky bluegrass.

Investigator(s):
Name S. T. Cockerham Dept. Ag. Ops Phone X5906
Name M. K. Leonard Dept. Turf Lab Phone X3898

Species/Cultivars: Perennial ryegrass, Kentucky bluegrass, 'Santa Ana' hybrid bermudagrass

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Management: Mowing Frequency 1 x/Wk. Height 2 in.
Fertilizer-Material _____ Rate _____
Irrigation - /X/ as needed _____ % ET_o / /Other (Specify Below)
Special _____

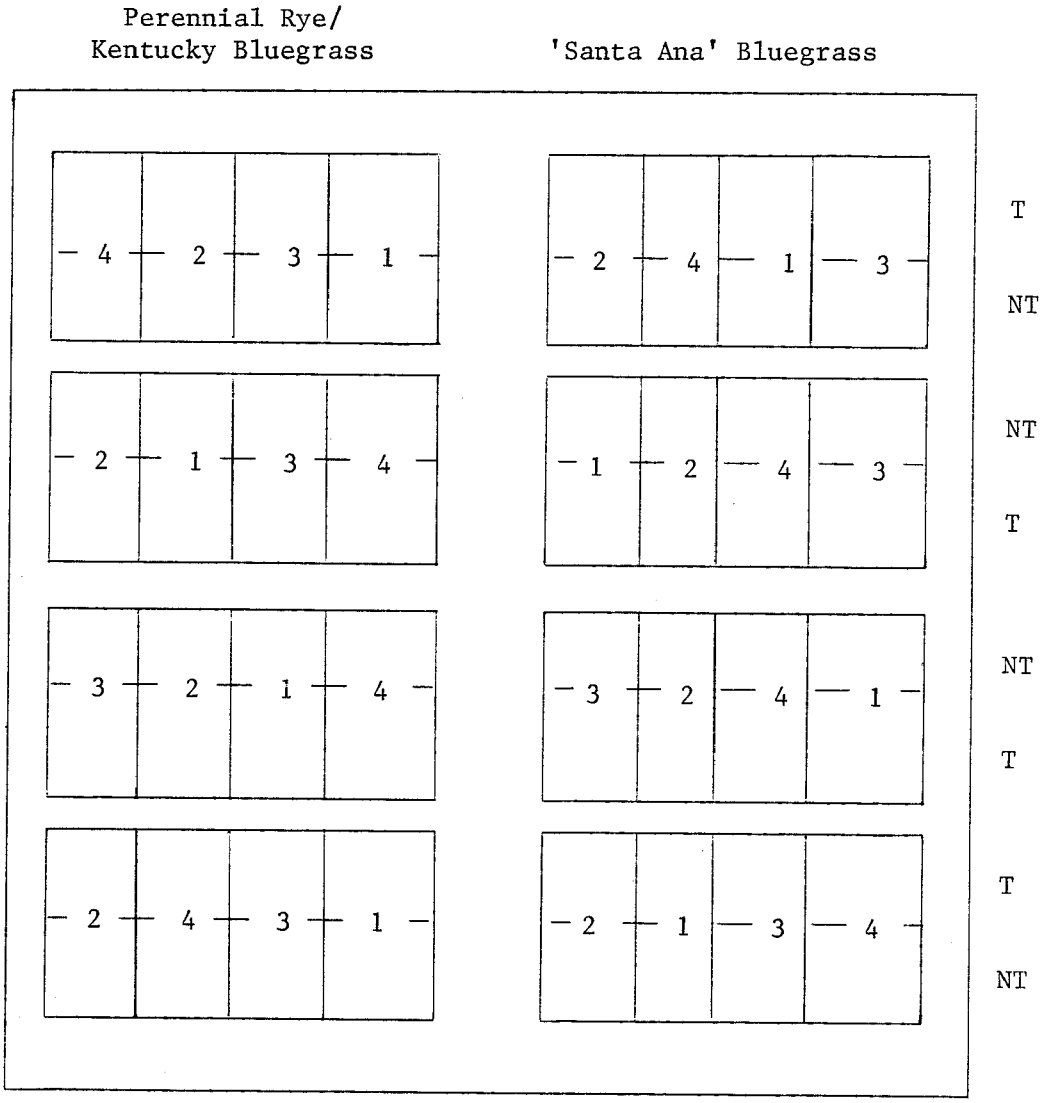
Experimental Design: / / CRD / / RCB /X/ SPLT / / Other _____
No. of Reps 4 Size of Rep. 5' x 10' Total Plot 50' x 50'
Treatments: Main plots: 1) check; 2) 1.0 lb N/1000ft^2/month(urea); 3)1.0 lb K_2O/1000ft^2/month(KCl); 4) 1.0 lb N + 1.0 lb K_2O/1000ft^2/mont
Subplots: Traffic (4 BTS passes/week) and no traffic.

Data Collection: 1) Variable Percent Cover Frequency End of Study
2) Variable _____ Frequency _____
3) Variable _____ Frequency _____

Special Instructions/Comments: _____

N

TRAFFIC X NUTRITION STUDY



TREATMENTS

1) Check
2) 1.0 lb N/1000 ft^2/month (Urea)
3) 1.0 lb K_2O/1000 ft^2/month (KCl)
4) 1.0 lb N + 1.0 lb K_2O/1000 ft^2/month

T = Traffic
NT = No Traffic

UCR - TURFGRASS RESEARCH CENTER - PROJECT SUMMARY

Starting Date 17 Oct 84 Project No. _____
Completion Date _____ Plot No. 3

Title: National Perennial Ryegrass Variety Trial

Objective: To evaluate the suitability of perennial ryegrasses in southern California.

Investigator(s):
Name V.A. Gibeault Dept. Coop Ext Phone X 3575
Name R. Autio Dept. Coop Ext Phone X 4430

Species/Cultivars: 55 perennial rye cultivars

Management: Mowing Frequency 1 x/Wk. Height 1-1/2 in.
Fertilizer-Material _____ Rate 1# N/M/6 wk.
Irrigation - /X/ as needed _____% ET_o / /Other (Specify Below)
Special _____

Experimental Design: / / CRD /X/ RCB / / SPLT / / Other _____
No. of Reps 3 Size of Rep. 45 x 30 Total Plot 45 x 90
Treatments: _____

Data Collection: 1) Variable Turfscores Frequency Monthly
2) Variable _____ Frequency _____
3) Variable _____ Frequency _____

Special Instructions/Comments: Seeding rate 5.3 #/M

NATIONAL PERENNIAL RYEGRASS TEST, 1982

Entries and Sponsors

Entry No.	Name	Sponsor
1	Palmer	Loft's Seed Co.
2	Diplomat	Loft's Seed Co.
3	Prelude	Loft's Seed Co.
4	Barry	Loft's Seed Co.
5	Yorktown II	Loft's Seed Co.
6	Mom Lp 736 (Ovation)	O. M. Scott & Sons
7	Mom Lp 702	Van der have - Oregon
8	Crown	E. F. Burlingham & Sons
9	Mom Lp 210	Van der have - Oregon
10	Acclaim	R. M. Cook & Co.
11	HE 178	Van der have - Oregon
12	HE 168	Van der have - Oregon
13	Ranger	Van der have - Oregon
14	Blazer	Pickseed West, Inc.
15	Fiesta	Pickseed West, Inc.
16	Dasher	Pickseed West, Inc.
17	Mom Lp 792	Willamette Seed & Grain
18	WWE 19	E. F. Burlingham & Sons
19	Cockade	Tib Szego Assoc.
20	Cigil	Tib Szego Assoc.
21	2EE (Cowboy)	Turf-Seed & Loft's Seed
22	Manhattan	-
23	Manhattan II	Turf-Seed & Whitney Dicki
24	282 (Citation II)	Turf-Seed, Inc.
25	Citation	Turf-Seed, Inc.
26	Omega	Turf-Seed & Garfield Will
27	2ED (Birdie II)	Turf-Seed, Inc.
28	NK 80389	Northrup King Co.
29	NK 70939	Northrup King Co.
30	Pennant	Ag. Service Corp.
31	Premier	Ag. Service Corp.
32	SWRC-1	Reed Funk - Rutgers
33	M-382	Reed Funk - Rutgers
34	HR-1	Reed Funk - Rutgers
35	Linn	-
36	Pennfine	-
37	Delray	Northrup King Co.
38	NK 79307	Northrup King Co.
39	Cupido	Landis Seed West
40	Regal	International Seeds
41	Derby	International Seeds
42	IA 728 (All*Star)	Inter. Seeds & J. & L. Ad
43	Elka	International Seeds
44	Gator	International Seeds
45	BT-1 (Tara)	Hubbard Seed & Supply
46	GT-11 (Repell)	Loft's Seed Co.
47	Pippin	Production Service, Inc.

LOCATIONS SUBMITTING DATA FOR 1986

State	Location	Code
British Columbia	Agassiz	BC1
California	Riverside	CA3
Illinois	Urbana	IL1
Iowa	Ames	IA1
Kentucky	Lexington	KY1
Maryland	Beltsville	UB1
Maryland	Silver Spring	MD1
Massachusetts	Amherst	MA1
Missouri	Columbia	MO1
Nebraska	Lincoln	NE1
New Jersey	Adelphia	NJ2
New York	Ithaca	NY1
North Carolina	Raleigh	NC1
Oregon	Hubbard	OR1
Rhode Island	Kingston	RI1
Virginia	Blacksburg	VA1
Washington	Puyallup	WA3

UCR PERENNIAL RYEGRASS VARIETY TRIAL

N

Block #3

48	29	16	45	21	5	20	36	17	
37	54	14	35	6	28	25	53	22	
24	40	4	9	12	42	11	7	13	
50	34	26	1	31	23	55	2	15	I
38	44	51	43	32	52	27	30	33	
49	18	41	10	3	19	47	39	8	
48	35	8	9	34	6	32	10	23	
12	18	15	13	29	52	53	51	25	
47	17	27	40	11	37	20	21	3	II
55	43	28	1	4	50	30	7	31	
2	54	19	49	14	36	22	5	45	
41	38	39	42	33	24	16	44	26	
47	8	13	38	21	42	4	50	32	
49	29	1	45	54	18	6	37	36	
9	39	16	11	19	41	15	23	25	III
52	26	20	27	34	22	48	31	55	
14	33	2	43	35	3	7	12	5	
24	30	51	53	28	40	17	44	10	5'

90'

Entry No.	Name
1	Palmer
2	Diplomat
3	Prelude
4	Barry
5	Yorktown II
6	Ovation
7	LP 702
8	Crown
9	LP 210
10	Acclaim
11	HE178
12	HE168
13	Ranger
14	Blazer
15	Fiesta
16	Dasher
17	LP 792
18	WWE 19
19	Cockade
20	Cigil
21	2EE
22	Manhattan
23	Manhattan II
24	282
25	Citation
26	Omega
27	Birdie II
28	NK 80389
29	NK 79309
30	Pennant
31	Premier
32	SWRC-1
33	M382
34	HR-1
35	Linn
36	Pennfine
37	Delray
38	NK 79307
39	Cupido
40	Regal
41	Derby
42	IA 728
43	Elka
44	Gator
45	BT-I
46	
47	Pippin
48	Repell
49	P2
50	Servo
51	All Star

Objectives:

To evaluate their suitability for turf use in southern California.

Methods and Materials:

On 17 October 1984, 53 cultivars of perennial ryegrass and one of intermediate ryegrass were seeded to 5' x 5' plots at a rate of 5.3 #/M.

The plots are mowed at 1-1/2", fertilized at 1# N/M every 6 weeks, and irrigated as needed.

TABLE 1. MEAN TURFGRASS QUALITY RATINGS OF PERENNIAL RYEGRASS CULTIVARS AT SEVENTEEN LOCATIONS IN THE U.S. 1986 DATA

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

NAME	BC1	CA3	IA1	IL1	KY1	MA1	MD1	MO1	NC1	NE1	NJ2	NY1	OR1	RI1	UB1	VA1	WA3	MEAN
* PALMER	5.7	7.2	7.7	6.7	6.5	5.6	5.8	7.1	7.0	6.1	6.8	4.8	6.7	5.6	7.1	5.1	6.8	6.4
SWRC-1	5.6	6.7	7.9	6.8	6.6	5.7	5.3	7.1	7.7	6.7	6.3	4.1	6.6	5.2	6.6	5.0	6.2	6.2
M-382	5.5	6.8	6.9	6.3	6.9	5.5	4.9	6.6	6.7	7.1	6.5	5.1	7.1	5.6	6.2	4.4	6.6	6.2
* 282 (CITATION II)	5.5	6.9	7.7	6.0	6.6	5.6	5.6	6.7	7.3	5.1	6.8	4.4	7.3	5.8	6.3	5.1	5.7	6.1
* MANHATTAN II	5.9	6.6	7.5	6.2	6.0	5.7	5.1	6.7	6.7	6.9	6.4	4.6	7.3	5.8	6.1	4.4	6.7	6.1
* GATOR	6.3	6.8	7.0	7.0	7.0	5.6	5.0	7.1	6.5	6.7	6.5	4.1	6.6	5.6	5.7	4.9	5.7	6.1
* BLAZER	5.8	6.8	7.5	6.3	6.8	5.7	5.1	7.2	6.3	6.4	6.9	4.4	6.6	5.4	6.8	4.5	5.7	6.1
* PRELUDE	5.6	6.8	7.0	7.0	6.5	5.6	5.4	7.0	6.8	5.9	6.4	3.9	6.6	5.6	6.4	5.3	6.0	6.1
* GT-II (REPELL)	5.8	.	7.5	6.7	6.9	5.6	5.6	6.9	4.2	5.7	6.7	.	.	5.9	6.8	4.9	6.3	6.1
* BT-I (TARA)	5.7	7.0	7.3	6.5	6.9	5.5	4.9	6.7	5.5	6.4	6.4	3.8	6.7	5.7	5.8	5.0	.	6.0
* IA 728 (ALL*STAR)	5.3	6.2	6.9	6.7	6.4	5.5	5.8	6.7	7.0	5.9	5.7	5.2	6.2	5.5	6.8	5.0	5.1	6.0
HR-1	5.6	7.1	6.8	6.3	6.3	5.6	5.4	7.0	6.5	5.9	6.1	4.4	6.6	5.3	6.3	4.8	5.8	6.0
* PENNANT	5.9	6.4	7.4	6.8	6.7	5.6	5.8	6.7	7.5	5.2	5.6	4.5	5.9	5.3	6.2	5.0	4.9	6.0
* RANGER	5.6	6.4	7.5	6.8	6.3	5.8	5.1	7.0	6.0	6.0	6.4	4.2	6.3	5.4	6.1	4.6	5.4	5.9
* PREMIER	5.6	6.3	6.9	6.7	6.5	5.5	5.2	7.0	6.3	6.2	5.9	4.3	6.5	5.3	6.5	4.7	5.3	5.9
MOM LP 702	5.8	6.6	8.0	6.7	6.4	5.4	5.8	6.8	5.3	5.8	5.9	4.8	6.0	5.9	5.2	4.7	4.9	5.9
* DERBY	5.9	6.3	6.4	6.2	6.4	5.5	6.1	6.9	6.0	6.0	6.1	4.8	6.3	4.9	5.7	4.6	5.2	5.8
HE 178	6.0	6.2	7.0	6.3	6.1	5.3	4.8	6.5	7.0	5.1	4.9	5.5	6.2	5.5	6.6	4.8	5.2	5.8
* PENNFINE	5.8	5.6	6.6	6.7	6.3	5.8	5.7	6.2	6.7	5.7	5.3	4.3	5.8	5.6	6.4	4.8	5.4	5.8
* YORKTOWN II	5.6	6.4	7.0	7.0	6.3	5.6	5.3	6.9	5.0	6.0	5.8	4.2	6.4	4.8	5.7	4.7	5.9	5.8
* FIESTA	5.6	6.2	7.0	6.5	6.5	5.6	4.8	7.1	5.5	5.9	5.7	4.5	5.8	5.7	6.2	4.6	5.6	5.8
HE 168	6.2	6.3	7.8	6.5	5.9	5.3	4.9	6.0	6.8	5.9	5.2	4.8	5.9	5.2	6.4	4.5	4.3	5.8
* 2ED (BIRDIE II)	5.3	6.6	6.0	6.0	6.5	5.4	4.9	6.1	6.5	5.8	5.5	4.4	7.0	5.4	6.1	4.7	5.4	5.8
* DASHER	5.4	6.3	6.3	6.2	6.3	5.6	5.7	6.3	6.8	6.3	5.2	4.2	5.6	5.7	6.2	4.3	4.8	5.7
* MOM LP 736 (OVATION)	5.8	6.3	6.5	6.5	6.5	5.7	5.4	6.3	6.2	5.1	4.7	4.6	6.0	5.1	6.2	4.8	5.4	5.7
ACCLAIM	5.3	6.4	6.7	6.3	5.8	5.5	4.3	6.3	7.5	5.7	5.2	4.7	5.8	5.5	6.1	4.7	5.1	5.7
* CROWN	5.6	6.1	6.6	6.8	6.3	5.5	4.9	6.3	5.2	5.9	5.2	5.0	5.5	6.0	6.2	4.5	5.1	5.7
* DIPLOMAT	5.1	6.2	7.2	7.0	6.1	5.6	4.7	6.5	5.8	5.6	5.4	4.2	5.9	4.9	5.6	4.5	6.0	5.7
* 2EE (COWBOY)	5.3	6.1	6.4	6.2	5.6	5.5	4.3	6.1	6.2	5.7	5.1	4.3	6.5	5.9	6.1	4.7	5.3	5.6
* ELKA	5.6	6.0	6.9	6.2	6.3	5.2	4.6	6.1	6.3	6.4	4.8	5.2	5.6	5.2	5.9	4.3	4.3	5.6
MOM LP 792	5.6	6.3	6.6	6.3	6.3	5.4	4.7	6.3	5.7	5.8	5.0	4.0	5.8	5.4	5.9	4.4	4.8	5.5
NK 80389	5.1	6.6	6.5	6.7	6.4	5.5	4.1	6.3	5.8	5.5	5.0	4.3	6.3	4.3	5.7	4.2	5.4	5.5
* REGAL	5.2	5.6	5.8	6.0	6.3	5.5	4.6	5.9	5.7	5.5	5.2	4.2	5.9	4.9	6.5	5.4	5.6	5.5
* BARRY	5.3	6.4	6.6	6.5	6.0	5.5	4.6	6.0	6.5	5.9	5.3	3.6	6.1	4.7	5.2	4.3	4.8	5.5
* MANHATTAN	5.6	6.1	6.7	6.0	5.9	5.5	5.4	6.2	4.8	5.5	4.3	4.2	5.6	5.2	5.3	4.2	5.4	5.4
* OMEGA	5.7	6.2	6.8	6.5	5.9	5.4	4.6	6.6	5.7	3.4	4.9	3.7	5.9	4.8	6.0	4.5	5.3	5.4
MOM LP 210	5.5	5.7	6.2	6.2	6.0	5.3	5.3	6.2	5.5	4.6	4.3	4.6	5.5	5.3	5.8	4.8	4.7	5.4
* DELRAY	5.6	6.0	6.0	6.5	6.1	5.1	5.3	5.5	6.7	3.3	4.3	4.5	5.8	5.7	5.4	4.7	4.2	5.3
NK 79307	4.8	5.5	6.0	5.5	6.6	5.3	5.6	6.0	5.3	5.7	3.9	3.9	5.5	4.6	6.0	5.0	4.6	5.3
WWE 19	5.7	5.2	7.0	6.5	5.8	5.2	4.2	6.2	5.5	4.7	3.9	4.9	4.7	5.3	5.2	4.3	5.1	5.3
CIGIL	5.3	5.5	6.8	6.5	6.4	5.4	4.8	5.9	6.0	5.8	3.4	4.7	2.8	5.5	5.3	4.6	4.4	5.2
* CITATION	5.2	6.0	6.0	5.5	5.5	5.1	4.4	5.8	6.0	5.8	4.5	3.8	5.7	5.1	5.4	5.0	4.3	5.2
COCKADE	5.4	5.9	6.4	6.5	5.9	5.5	5.0	6.3	6.0	5.1	4.0	3.2	4.9	5.2	4.9	4.4	4.2	5.2
NK 79309	4.9	5.3	5.8	5.0	5.8	5.6	5.9	5.5	5.5	4.9	3.6	3.4	5.3	4.7	5.2	5.1	4.3	5.1
CUPIDO	5.4	5.8	6.0	6.3	4.8	5.3	4.8	5.6	4.7	5.5	4.4	3.3	4.8	5.2	4.3	4.3	4.2	5.0
PIPPIN	5.0	4.9	4.7	4.8	4.7	5.0	3.9	4.8	5.2	4.1	3.6	3.7	3.4	4.4	3.6	3.8	4.6	4.4
* LINN	3.4	4.4	3.8	3.2	3.3	4.9	3.4	3.2	3.5	5.5	2.1	3.6	2.5	3.3	2.8	3.3	3.2	3.5
LSD VALUE	0.5	0.5	1.0	0.8	0.6	0.4	0.9	0.5	2.0	1.0	0.7	1.4	0.6	1.0	1.1	0.4	1.0	0.2

* COMMERCIALLY AVAILABLE VARIETY

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).

UCR - TURFGRASS RESEARCH CENTER - PROJECT SUMMARY

Starting Date October 87 Project No. _____
Completion Date _____ Plot No. _____

Title: National Tall Fescue Trial

Objective: To evaluate tall fescue in southern California.

Investigator(s):
Name V. A. Gibeault Dept. Coop. Ext. Phone X3575
Name R. Autio Dept. Coop. Ext. Phone X4430

Species/Cultivars: 72 tall fescue cultivars

Management: Mowing Frequency 1 x/Wk. Height 1½ in.
Fertilizer-Material _____ Rate 1# N/6/6 wk.
Irrigation - /X/ as needed _____% ET_o / /Other (Specify Below)
Special _____

Experimental Design: / / CRD /X/ RCB / / SPLT / / Other _____
No. of Reps 3 Size of Rep. 60 x 30 Total Plot 60 x 90
Treatments: _____

Data Collection: 1) Variable Turfscores Frequency Monthly
2) Variable _____ Frequency _____
3) Variable _____ Frequency _____

Special Instructions/Comments: _____

1987 NATIONAL TALL FESCUE TEST

Entries and Sponsors

Entry No.	Name	Sponsor
1	Adventure	Warren's Turf Nursery
2	BAR Fa 7851 (Barnone)	Barenbrug Holland
3	Trident	Seed Research of Oregon
4	Titan	Seed Research of Oregon
5	Pick DDF	Pickseed West, Inc.
6	Pick 127	Pickseed West, Inc.
7	Pick 845PN	Pickseed West, Inc.
8	Pick SLD (Emperor)	Zajac Performance Seeds
9	PE-7	Reed Funk - Rutgers
10	PE-7E	Reed Funk - Rutgers
11	Hubbard 87	Reed Funk - Rutgers
12	Syn 6a	O. M. Scott & Sons
13	Legend	Agway
14	Taurus	Turf Merchants, Inc.
15	Aztec	Turf Merchants, Inc.
16	Sundance	Seaboard Seed Co.
17	Fatima	Van der Have Oregon, Inc.
18	Normarc 25	Reed Funk - Rutgers
19	Normarc 77	Reed Funk - Rutgers
20	KWS-DUR	KWS-Einbeck
21	KWS-BG-6	KWS-Einbeck
22	Willamette	Willamette Seed & Grain
23	Chieftain	Roberts Seed Co.
24	Pick GH6	Pickseed West, Inc.
25	Thoroughbred	Pickseed West, Inc.
26	Pick TF9	Pickseed West, Inc.
27	PST-5OL	Turf-Seed, Inc.
28	PST-5D7 (Murietta)	Pure-Seed Testing, Inc.
29	Cimmaron	LESCO, Inc.
30	Bonanza	Cenex Seed Plant
31	PST-5AG	Pure-Seed Testing, Inc.
32	PST-5BL (Silverado)	Pure-Seed Testing, Inc.
33	PST-5MW	Pure-Seed Testing, Inc.
34	Trailblazer	LESCO, Inc.
35	PST-5D1 (Eldorado)	Pure-Seed Testing, Inc.
36	PST-5AP	Turf-Seed, Inc.
37	PST-5HF (Amigo)	Northrup King Co.
38	Jaguar	Zajac Performance Seeds
39	PST-DBC	Pure-Seed Testing, Inc.
40	Olympic	Turf-Seed, Inc.
41	Jaguar II	Zajac Performance Seeds
42	Monarch	Turf-Seed, Inc.
43	Apache	Turf-Seed, Inc.
44	PST-5DM	Pure-Seed Testing, Inc.
45	Pick DM	Pickseed West, Inc.
46	Normarc 99	Normarc, Inc.
47	Pacer	International Seeds, Inc.
48	Carefree	International Seeds, Inc.
49	Richmond	Jonathan Green, Inc.
50	Tip	NPI Seed, Inc.
51	Ky-31	-
52	Bel 86-1	Jack Murray - USDA, ARS
53	Bel 86-2	Jack Murray - USDA, ARS
54	PST-5EN	Pure-Seed Testing, Inc.
55	PST-5F2 (Winchester)	E. F. Burlingham
56	Finelawn 5GL	Finelawn Research Corp.
57	Finelawn I	Finelawn Research Corp.
58	Rebel	Loft's Seed, Inc.
59	Rebel II	Loft's Seed, Inc.
60	Tribute	Loft's Seed, Inc.
61	Arid	Jacklin Seed Co.
62	Wrangler	Jacklin Seed/LESCO, Inc.
63	Mesa	Jonathan Green, Inc.
64	JB-2	Jacklin Seed Co.
65	Falcon	E. F. Burlingham

LOCATIONS SUBMITTING DATA FOR 1988

State	Location	Code
Arkansas	Fayetteville	AR1
Arizona	Tucson	AZ1
California	Santa Clara	CA1
California	Santa Ana	CA2
California	Riverside	CA3
District of Columbia	National Mall	DC2
Idaho	Post Falls	ID2
Illinois	Urbana	IL1
Indiana	West Lafayette	IN1
Kansas	Manhattan	KS1
Kansas	Wichita	KS2
Maryland	Beltsville (medium maintenance)	UB1
Maryland	Beltsville (low maintenance)	UB2
Maryland	Silver Spring	MD1
Michigan	East Lansing	MI1
Missouri	St. Louis	MO3
New Jersey	North Brunswick	NJ1
New Jersey	Adelphia	NJ2
New Jersey	Martinsville	NJ3
New York	Ithaca	NY1
New York	Riverhead, Long Island	NY2
Ohio	Marysville	OH2
Oklahoma	Stillwater	OK1
Oregon	Hubbard	OR1
Oregon	Corvallis	OR2
Rhode Island	Kingston	RI1
Texas	Dallas (high mowing)	TX1
Texas	Dallas (low mowing)	TX2
Virginia	Blacksburg	VA1
Virginia	Blackstone	VA2
Virginia	Richmond	VA3
Washington	Ritzville	WA4
Washington	Mukilteo	WA5
Washington	Yakima	WA6

BLOCK #7

NATIONAL TALL FESCUE TRIAL

CA3 Riverside

N

64	30	47	06	01	12	54	63	57	33	38	36
52	72	56	27	59	32	58	60	69	13	35	14
10	17	62	40	68	41	45	05	42	09	08	39
37	18	34	67	24	03	26	46	55	31	66	04
22	20	44	50	29	53	71	15	43	70	02	48
19	28	65	61	23	16	25	07	21	49	11	51
42	08	49	43	19	56	52	47	32	25	53	60
04	48	70	66	61	44	30	50	46	05	24	15
09	69	57	33	10	40	20	37	59	68	58	45
51	55	21	14	62	34	67	72	54	07	23	29
02	39	31	36	17	22	18	06	63	26	03	12
13	35	11	38	64	28	27	65	71	41	01	16
53	03	41	01	49	31	70	09	52	61	10	44
23	60	58	45	02	33	35	21	18	47	20	37
05	46	54	63	43	08	04	48	56	19	27	34
07	68	26	15	42	57	39	38	72	64	30	22
59	32	29	16	11	36	14	66	50	65	28	40
51	24	25	67	71	13	69	55	06	62	17	12

Entry Name	Entry Name
1 Adventure	37 PST-5HF
2 BAR Fa 7851	38 Jaguar
3 Trident	39 PST-DBC
4 Titan	40 Olympic
5 Pick DDF	41 Jaguar II
6 Pick 127	42 Monarch
7 Pick 845PN	43 Apache
8 Pick SLD	44 PST-5DM
9 PE-7	45 Pick DM
10 PE-7E	46 Normarc 99
11 Hubbard 87	47 Pacer
12 Syn Ga	48 Carefree
13 Legend	49 Richmond
14 Taurus	50 Tip
15 Aztec	51 Ky-31
16 Sundance	52 Bel 86-1
17 Fatima	53 Bel 86-2
18 Normarc 25	54 PST-5EN
19 Normarc 77	55 PST-5F2
20 KWS-DUR	56 Finelawn 5GL
21 KWS-BG-6	57 Finelawn I
22 Willamette	58 Rebel
23 Chieftan	59 Rebel II
24 Pick GH6	60 Tribute
25 Thoroughbred	61 Arid
26 Pick TF9	62 Wrangler
27 PST-50L	63 Mesa
28 PST-5D7	64 JB-2
29 Cimmaron	65 Falcon
30 Bonanza	66 5MI + Endophyte
31 PST-5AG	67 5MI
32 PST-5BL	68 517
33 PST-5MW	69 5D6
34 Trailblazer	70 Pick 151
35 PST-5D1	71 DDF MD
36 PST-5AP	72 DDF GP87

Objectives:
To evaluate the suitability of turf-type tall fescue for southern California.

Methods and Materials:
In october, 1987, 72 cultivars of tall fescue were seeded to 5' x 5' plots at a rate of 4.4 #/M. The plots are mowed at 1-1/2", fertilized at 1# N/M every 6 weeks and irrigated as needed.

TABLE 1. MEAN TURFGRASS QUALITY RATINGS OF TALL FESCUE CULTIVARS AT THIRTY-THREE LOCATIONS IN THE UNITED STATES 1988 DATA

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

NAME	AR1	AZ1	CA1	CA2	CA3	DC2	ID2	IL1	IN1	KS1	KS2	MD1	MI1	MO3	NJ1	NJ2	NJ3
HUBBARD 87	5.0	5.9	7.3	6.1	6.4	4.7	5.9	7.5	7.3	7.5	8.1	5.3	6.9	6.3	6.4	6.9	5.5
PE-7E	5.0	6.3	7.0	6.2	6.4	4.1	6.4	7.5	7.0	7.5	8.0	5.3	.	5.7	5.9	6.7	5.6
PST-5MW	4.1	6.8	7.0	5.8	6.0	4.4	4.9	7.0	6.0	7.5	7.8	5.0	6.4	6.0	6.3	6.9	6.2
NORMARC 25	4.5	6.5	6.8	6.1	6.3	5.7	6.0	7.8	7.2	7.0	7.9	4.7	.	5.8	5.8	5.7	4.9
PE-7	5.2	6.1	6.9	5.9	6.4	3.9	5.8	7.3	6.9	7.4	7.9	5.3	5.7	6.4	5.8	7.0	5.9
* PST-5HF (AMIGO)	4.9	6.3	6.9	6.0	6.4	4.1	6.0	7.5	6.4	7.2	7.7	5.0	6.9	5.5	5.5	6.6	5.7
* AZTEC	5.0	5.8	7.1	6.2	6.1	3.4	5.5	7.3	5.2	7.5	7.8	5.7	6.1	6.0	6.0	7.2	6.2
PICK DM	4.7	6.4	7.1	6.4	6.3	4.0	6.1	7.1	5.7	7.8	7.7	5.0	6.8	6.2	6.1	6.7	5.7
* MONARCH	5.2	5.6	6.8	6.0	6.1	3.9	5.9	7.3	6.7	7.2	7.8	5.0	6.7	5.4	6.3	6.7	5.5
* BONANZA	5.0	5.6	7.0	5.8	6.5	5.6	5.9	7.8	6.9	6.9	7.7	5.3	6.4	5.6	5.5	6.4	5.1
PICK TF9	5.7	5.4	7.0	6.2	6.1	4.4	5.6	7.2	6.4	7.5	8.0	5.7	6.2	5.8	6.1	6.7	5.5
PICK 127	4.9	6.3	6.5	5.9	6.0	5.0	5.4	7.4	6.6	7.7	7.8	4.3	6.6	6.1	6.2	6.5	5.8
PICK 845PM	5.0	6.6	7.3	5.7	6.0	3.1	5.6	7.3	6.5	7.4	7.7	5.0	5.9	5.6	5.8	7.0	5.6
* OLYMPIC	5.5	6.4	6.4	5.8	6.4	5.2	5.4	7.6	7.1	6.9	7.5	4.3	6.0	5.6	4.9	5.4	4.7
NORMARC 77	4.7	6.3	6.9	5.7	6.2	5.3	5.4	7.7	7.2	7.0	7.7	5.7	5.9	6.0	5.4	5.9	4.9
KWS-BG-6	5.1	6.7	6.6	5.6	6.1	3.2	6.0	6.3	6.5	8.5	7.7	5.0	.	5.6	5.3	7.1	5.7
* CHIEFTAIN	4.6	6.3	6.4	6.0	6.2	4.0	5.8	7.1	6.8	7.1	7.4	5.7	6.1	5.5	5.0	5.9	5.8
* THOROUGHBRED	4.8	6.6	6.4	5.7	6.4	6.1	5.9	7.1	7.2	6.8	7.5	4.7	6.3	5.1	4.9	6.0	5.3
PST-5AP	4.9	6.2	6.3	5.9	6.2	4.2	5.5	7.1	6.2	7.0	7.5	5.0	6.2	5.4	5.1	5.9	5.4
PST-5OL	5.3	6.3	6.8	5.9	6.4	4.1	4.6	7.1	6.6	7.0	7.8	4.7	6.3	5.2	5.2	5.7	5.1
* REBEL II	5.3	5.7	6.4	5.9	6.4	5.9	5.6	7.2	6.8	6.8	7.1	5.7	6.6	5.7	5.2	5.3	5.1
* TRIBUTE	4.9	6.5	6.5	6.0	6.5	4.4	5.9	6.9	5.9	6.9	7.9	5.0	6.7	5.8	5.5	5.5	5.0
* TRAILBLAZER	4.1	5.3	6.8	5.9	6.4	4.2	5.3	7.2	6.4	7.4	7.4	4.0	6.3	5.8	5.7	6.4	5.8
PICK GH6	5.2	5.5	6.8	6.1	6.1	4.0	5.1	7.2	6.3	7.5	7.8	4.3	6.4	5.5	5.8	6.5	5.4
* MESA	5.1	6.5	6.6	6.0	6.2	5.9	5.4	7.4	6.3	6.8	7.1	6.0	6.3	5.2	5.0	5.4	4.6
NORMARC 99	4.8	5.4	6.6	5.9	6.1	4.0	4.9	7.1	5.5	7.5	7.8	5.0	6.0	5.8	6.5	6.9	5.4
* CIMMARON	4.9	5.9	6.7	5.7	6.6	4.3	5.9	7.3	6.5	6.9	7.5	5.3	6.2	5.4	4.4	6.0	5.0
PST-5EN	5.0	6.3	.	5.7	6.4	4.9	5.7	7.3	6.3	7.0	7.6	6.0	5.8	5.6	5.0	5.3	5.0
PST-5AG	4.5	5.8	6.9	6.4	6.3	4.3	5.3	7.3	6.4	6.9	7.6	5.0	6.4	5.7	4.6	5.4	5.3
* WRANGLER	4.8	5.8	6.7	5.6	6.2	5.4	5.8	7.2	6.7	6.9	7.6	5.7	6.2	5.0	5.0	5.4	5.2
PICK DDF	4.6	5.8	7.0	6.4	6.0	3.2	5.4	6.9	6.1	7.5	7.8	5.3	6.3	5.3	5.5	6.6	5.7
* PST-5D1 (ELDORADO)	4.5	5.9	6.6	5.9	6.3	5.3	5.7	7.1	5.9	7.4	7.7	4.7	6.3	5.3	5.9	6.5	5.4
* PST-5F2 (WINCHESTER)	4.4	6.3	6.3	5.5	6.2	4.4	5.8	6.9	6.4	7.0	7.5	5.0	5.9	6.0	5.3	5.5	4.9
* TITAN	4.5	6.1	5.9	5.7	6.5	5.4	6.0	7.4	6.8	6.5	7.5	5.7	6.0	6.0	4.4	5.1	4.8
* APACHE	5.1	5.8	6.3	5.6	6.4	4.2	5.7	7.7	6.7	7.2	7.6	4.7	6.7	5.3	4.8	5.3	5.2
* FINELAWN 5GL	4.7	5.0	6.4	5.8	6.5	6.0	5.8	7.0	6.8	6.5	7.5	4.7	5.8	5.5	4.3	5.0	4.7
PST-5DM	4.5	4.9	7.0	6.0	6.1	3.2	5.6	7.2	5.8	7.1	7.7	5.3	5.7	5.2	5.8	6.2	5.3
* JAGUAR II	4.6	5.9	6.5	5.7	6.7	4.2	6.2	7.3	6.3	6.7	7.6	5.3	7.4	5.1	4.3	5.5	4.6
PST-DBC	4.5	5.7	6.2	5.7	6.5	4.4	6.0	7.2	6.6	6.7	7.4	5.3	6.2	5.1	4.7	5.8	5.0
JB-2	4.7	5.4	6.5	5.6	6.4	5.0	6.2	6.6	6.3	6.9	7.1	5.0	6.1	5.0	4.6	5.1	4.6

* COMMERCIALLY AVAILABLE VARIETY

TABLE 1. (continued) MEAN TURFGRASS QUALITY RATINGS OF TALL FESCUE CULTIVARS AT THIRTY-THREE LOCATIONS IN THE UNITED STATES 1988 DATA

TURFGRASS QUALITY RATINGS 1-9; 9=IDEAL TURF

NAME	AR1	AZ1	CA1	CA2	CA3	DC2	ID2	IL1	IN1	KS1	KS2	MD1	MI1	MO3	NJ1	NJ2	NJ3
* TAURUS	4.8	6.0	6.5	5.9	6.3	3.8	5.5	7.3	6.0	6.9	7.2	5.7	6.2	5.2	5.0	5.0	5.3
* BAR FA 7851 (BARNONE)	4.6	5.2	6.5	5.7	6.3	5.7	5.5	7.0	6.6	7.0	7.3	4.7	.	5.9	4.7	5.8	5.1
KWS-DUR	4.4	5.7	6.8	5.8	6.2	3.6	6.4	7.4	6.1	7.2	7.3	4.3	6.0	5.6	5.7	6.5	5.7
* SUNDANCE	4.8	5.9	6.1	6.0	6.3	4.4	5.3	7.3	6.0	7.1	7.5	4.7	6.2	5.5	5.3	5.4	5.3
BEL 86-2	4.5	5.7	6.9	5.8	6.0	3.1	5.6	6.6	6.4	6.9	7.6	5.3	5.7	5.3	5.3	5.5	5.1
* ARID	5.6	5.4	6.1	5.9	6.3	4.8	6.0	6.7	6.6	6.6	7.3	4.7	6.1	5.4	4.5	4.7	4.8
* CAREFREE	4.1	6.5	6.4	5.7	6.6	4.8	6.0	6.8	6.4	7.1	7.7	4.3	6.1	5.5	4.3	4.8	4.5
* ADVENTURE	4.3	6.0	6.2	5.6	6.6	5.3	5.7	7.3	6.8	6.8	7.2	4.7	6.1	5.4	4.0	4.8	4.8
* JAGUAR	4.5	5.4	6.3	5.9	6.3	4.8	5.5	7.7	6.9	6.8	7.1	5.0	5.7	5.2	4.2	5.0	4.3
BEL 86-1	4.4	6.0	6.5	5.7	6.1	4.7	5.6	7.3	6.1	6.9	7.6	5.0	5.7	5.2	5.1	5.9	5.4
* PST-58L (SILVERADO)	4.7	5.1	6.7	5.8	6.1	3.7	5.6	6.6	5.4	7.3	7.1	4.3	6.1	5.5	6.0	6.8	4.7
* LEGEND	5.2	5.2	6.3	5.7	5.9	3.9	5.6	6.8	6.7	7.0	7.5	5.0	6.2	5.0	4.8	5.7	4.5
* TRIDENT	4.4	6.0	6.4	5.5	6.4	4.9	5.4	7.2	6.5	6.8	7.2	5.0	6.1	5.3	4.6	5.7	3.6
* REBEL	5.2	5.6	6.4	5.8	6.5	5.9	5.6	6.9	6.3	6.6	6.9	5.0	6.3	5.2	4.3	4.4	3.9
* PST-507 (MURIETTA)	3.8	5.1	7.1	6.3	6.1	4.1	5.2	6.8	6.2	7.1	7.5	5.0	5.6	5.2	4.9	6.0	5.0
* FALCON	4.6	5.4	5.8	5.4	6.2	4.3	4.8	6.9	5.9	6.4	7.1	5.0	6.6	5.3	3.8	4.4	4.1
* PACER	4.9	5.2	5.6	5.3	6.0	5.2	5.8	6.7	5.9	6.7	7.1	5.0	5.9	5.6	4.0	3.9	4.1
* FINELAWN I	4.9	5.4	6.4	5.2	6.1	5.7	5.8	6.9	6.6	6.2	7.0	5.3	5.9	4.8	3.5	4.5	3.8
* PICK SLD (EMPEROR)	4.3	5.4	6.8	6.2	6.1	2.6	4.4	6.5	5.8	7.1	7.7	5.0	6.0	5.2	5.3	6.0	4.6
* WILLAMETTE	5.0	5.8	5.5	5.4	6.1	4.8	5.7	6.5	6.7	6.2	7.5	5.0	5.7	5.0	3.5	4.2	3.3
* RICHMOND	4.3	5.5	6.1	5.6	6.2	4.4	5.6	6.9	6.2	6.3	7.0	4.7	6.1	5.2	4.0	4.0	4.3
* TIP	4.6	5.7	5.5	5.5	6.1	4.3	5.5	6.4	5.7	6.3	6.6	4.7	5.9	5.2	3.3	3.5	4.0
SYN GA	4.5	5.8	5.3	5.6	5.9	4.7	5.4	6.1	6.1	6.1	7.1	4.0	5.4	5.0	3.4	3.7	3.9
FATIMA	4.6	5.4	5.4	5.2	5.7	4.9	5.7	7.0	5.4	6.1	6.7	5.0	5.4	4.8	3.3	3.9	3.9
* KY-31	5.0	4.7	4.8	4.7	5.9	6.0	5.1	6.2	6.0	5.2	6.5	5.0	5.0	4.8	2.6	3.0	3.6
LSD VALUE	0.7	1.0	0.5	0.5	0.4	1.7	0.9	0.7	0.7	0.4	0.4	1.4	0.8	0.5	0.7	0.8	0.8

* COMMERCIALLY AVAILABLE VARIETY

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).

UCR - TURFGRASS RESEARCH CENTER - PROJECT SUMMARY

Starting Date: May 86 — Project No.:
Completion Date: — Plot No.: 15

Title: National Kentucky Bluegrass Trial

Objective: To evaluate Kentucky bluegrass in southern California.

Investigator(s):
Name: V.A. Gibeault — Dept.: Coop Ext — Phone: X 3575
Name: R. Autio — Dept.: Coop Ext — Phone: X 4430

Species/Cultivars: 72 Kentucky bluegrass cultivars

Management: Mowing Frequency 1 x/Wk. Height 1-1/2 in.
Fertilizer-Material — Rate 1# N/M/6 wk.
Irrigation - /X/ as needed ____ % ET_o / /Other (Specify Below)
Special

Experimental Design: / / CRD /X/ RCB / / SPLT / / Other
No. of Reps 3 Size of Rep. 60 x 30 Total Plot 60 x 90
Treatments:

Data Collection: 1) Variable Turfscores Frequency Monthly
2) Variable — Frequency
3) Variable — Frequency

Special Instructions/Comments:

Entries and Sponsors

Entry No.	Name	Sponsor
1	Classic	Peterson Seed Company
2	Monopoly	Peterson Seed Company
3	Barzan	Mount Emily Seeds, Inc.
4	Gnome	Turf Merchants, Inc.
5	Tendos	Turf Merchants, Inc.
6	P-104 (Princeton 104)	Loft's Seed, Inc.
7	Ram-1	Jacklin & Loft's Seed, Inc.
8	Compact	Tib Szego Associates
9	Joy	Green Seed Company
10	Sydsport	E. F. Burlingham & Sons
11	Haga	E. F. Burlingham & Sons
12	Georgetown	Loft's Seed, Inc.
13	Somerset	Loft's Seed, Inc.
14	Mystic	Loft's Seed, Inc.
15	Baron	Loft's Seed, Inc.
16	Able I	Warren's Turf Nursery, Inc.
17	A-34	Warren's Turf Nursery, Inc.
18	Merit	Full Circle, Inc.
19	BAR VB 577	Barenbrug Holland
20	Annika	Production Services
21	Conni	Production Services
22	Kenblue	-
23	Bristol	O. M. Scott & Sons
24	Victa	O. M. Scott & Sons
25	Ba 70-139 (Coventry)	O. M. Scott & Sons
26	Ba 70-242	O. M. Scott & Sons
27	Ba 72-441 (Abbey)	O. M. Scott & Sons
28	Ba 72-492 (Estate)	O. M. Scott & Sons
29	Ba 72-500 (Chateau)	Finelawn Research Corp.
30	Ba 73-626 (Kelly)	Northrup King Co.
31	BAR VB 534	Barenbrug Holland
32	Cynthia	Van der Have - Oregon, Inc.
33	NE 80-88	Univ. of Nebraska - T. Riordan
34	America	Pickseed West, Inc.
35	Ba 69-82	O. M. Scott & Sons
36	Ba 73-540	O. M. Scott & Sons
37	Parade	Van der Have - Oregon, Inc.
38	Asset	Van der Have - Oregon, Inc.
39	HV 97	Pure-Seed Testing, Inc.
40	Lofts 1757	Loft's Seed, Inc.
41	Cheri	Jacklin Seed Co.
42	Eclipse	Turf Cultivar Assoc.
43	Liberty	Zajac Performance Seeds
44	Destiny	Jonanthan Green & Son
45	Dawn	LESCO, Inc.
46	Merion	-
47	Nassau	Jacklin & Loft's Seed, Inc.
48	Amazon	Jacklin Seed Co.
49	239 (Suffolk)	Loft's Seed, Inc.
50	Wabash	Loft's Seed, Inc.
51	Julia	LESCO & Jacklin Seed Co.
52	Ikone	Jacklin Seed Co.
53	Glade	Jacklin Seed Co.
54	Huntsville	Jacklin Seed Co.
55	F-1872 (Freedom)	Jacklin Seed Co.
56	Aquila	Northrup King Co.
57	K1-152	Northrup King Co.
58	Harmony	Rothwell Seeds
59	Welcome	Rothwell Seeds
60	Aspen	Northrup King Co.
61	Rugby	Northrup King Co.
62	Trenton	Northrup King Co.
63	K3-178	Northrup King Co.
64	Midnight	Turf-Seed, Inc.
65	Challenger	Turf-Seed, Inc.
66	Blacksburg	Turf-Seed, Inc.
67	PST-CB1	Pure-Seed Testing, Inc.
68	S. D. Certified	-
69	WW Ag 468	E. F. Burlingham & Sons
70	WW Ag 491	E. F. Burlingham & Sons
71	WW Ag 495	E. F. Burlingham & Sons
72	WW Ag 496	E. F. Burlingham & Sons

LOCATIONS SUBMITTING DATA FOR 1988

State	Location	Code
British Columbia	Agassiz	BC1
California	Ventura	CA4
District of Columbia	Wash. Monument Grounds	DC1
Idaho	Post Falls	ID2
Indiana	West Lafayette	IN1
Iowa	Ames	IA1
Kansas	Manhattan	KS1
Kansas	Wichita	KS2
Kentucky	Lexington	KY1
Manitoba	Winnipeg	MB1
Maryland	Beltsville	UB1
Maryland	Silver Spring	MD1
Michigan	East Lansing	MI1
Missouri	Columbia	MO1
Nebraska	Lincoln (low mowing)	NE1
Nebraska	Lincoln (high mowing)	NE2
New Jersey	Adelphia (low nitrogen)	NJ1
New Jersey	Adelphia (high nitrogen)	NJ2
Ohio	Columbus	OH1
Oklahoma	Stillwater	OK1
Oregon	Hubbard	OR1
Rhode Island	Kingston	RI1
Virginia	Blacksburg	VA1
Virginia	Blackstone	VA2
Washington	Pullman	WA1
Washington	Puyallup	WA3
Washington	Ritzville (dense shade)	WA4

UCR NATIONAL KENTUCKY BLUEGRASS TRIAL

N

64	30	47	06	01	12	54	63	57	33	38	36
52	72	56	27	59	32	58	60	69	13	35	14
10	17	62	40	68	41	45	05	42	09	08	39
37	18	22	67	24	03	26	46	55	31	66	04
34	20	44	50	29	53	71	15	43	70	02	48
19	28	65	61	23	16	25	07	21	49	11	51
42	08	49	43	19	56	52	47	32	25	53	60
04	48	51	66	61	44	30	50	46	05	24	15
09	69	57	33	10	40	20	37	59	68	58	45
70	55	21	14	62	34	67	72	54	07	23	29
02	39	31	36	17	22	18	06	63	26	03	71
13	35	11	38	64	28	27	65	12	41	01	16
53	03	41	01	49	31	70	09	52	61	10	44
23	60	58	45	02	33	35	21	18	47	20	37
05	46	54	63	43	08	04	48	56	19	27	34
07	68	26	15	42	57	39	38	72	64	30	65
59	32	29	16	11	36	14	66	50	22	28	40
71	24	25	12	51	13	69	55	06	62	17	67

Entry	Name	Entry	Name
1	Classic	37	Parade
2	Monopoly	38	Asset
3	Barzan	39	HV 97
4	Gnome	40	Lofts 1757
5	Tendos	41	Cheri
6	P-104	42	Eclipse
7	Ram-1	43	Liberty
8	Compact	44	Destiny
9	Joy	45	Dawn
10	Sydsport	46	Merion
11	Haga	47	Nassau
12	Georgetown	48	Amazon
13	Somerset	49	239
14	Mystic	50	Wabash
15	Baron	51	Julia
16	Able I	52	Ikone
17	A-34	53	Glade
18	Merit	54	Huntsville
19	BAR VB 577	55	F-1872
20	Annika	56	Aquila
21	Conni	57	K1-152
22	Kenblue	58	Harmony
23	Bristol	59	Welcome
24	Victa	60	Aspen
25	Ba 70-139	61	Rugby
26	Ba 70-242	62	Trenton
27	Ba 72-441	63	K3-178
28	Ba 72-492	64	Midnight
29	Ba 72-500	65	Challenger
30	Ba 73-626	66	Blacksburg
31	BAR VB 534	67	PST-CB1
32	Cynthia	68	South Dakota Cert.
33	NE 80-88		
34	America	69	WW Ag 468
35	Ba 69-82	70	WW Ag 491
36	Ba 73-540	71	WW Ag 495
		72	WW Ag 496

TABLE 1. MEAN TURFGRASS QUALITY RATINGS OF KENTUCKY BLUEGRASS CULTIVARS AT TWENTY-SEVEN LOCATIONS IN THE UNITED STATES AND CANADA 1988 DATA

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

NAME	BC1	CA4	DC1	IA1	ID2	IN1	KS1	KS2	KY1	MB1	MD1	MI1	MO1	NE1
* MIDNIGHT	5.4	6.7	4.4	3.6	8.1	7.1	7.1	8.3	5.1	7.6	6.9	7.5	7.2	6.3
* BLACKSBURG	5.8	6.3	2.2	3.9	7.7	7.1	7.3	8.4	4.8	8.3	6.9	7.2	7.2	5.4
* P-104 (PRINCETON 104)	5.8	5.8	2.4	3.6	7.5	6.9	6.5	8.3	5.0	7.2	7.1	7.8	7.2	5.9
* ASSET	5.8	6.1	5.2	3.4	7.3	6.9	6.5	7.4	5.0	7.9	6.8	6.8	7.0	5.2
* ECLIPSE	5.9	5.9	3.9	4.0	7.8	6.9	6.9	7.8	5.3	7.6	6.2	6.9	6.8	6.4
* AMERICA	4.8	5.7	4.5	3.9	7.0	6.8	7.1	7.8	5.8	7.5	6.3	6.7	6.7	6.1
* LOFTS 1757	5.4	6.8	3.7	4.8	6.7	6.6	6.8	7.7	5.1	7.2	6.5	7.2	7.2	5.1
* GLADE	5.4	6.3	5.2	4.1	8.3	7.0	6.4	7.8	5.0	7.8	6.5	6.9	7.0	6.3
* BRISTOL	5.0	6.5	3.3	4.0	7.2	6.6	6.5	7.5	5.2	7.0	6.2	7.4	7.1	6.1
* CHERI	5.6	5.9	3.9	3.4	7.4	6.6	6.7	7.8	4.8	7.7	6.5	6.5	6.7	6.2
BA 69-82	5.5	5.9	4.4	4.0	6.9	6.1	6.6	7.7	4.9	7.3	5.8	6.8	6.7	5.5
WW AG 496	5.2	5.6	5.1	4.9	6.6	6.7	.	7.6	5.2	8.2	6.9	6.2	6.9	7.0
* F-1872 (FREEDOM)	.	.	.	5.3	7.2	6.6	.	6.9	4.8	7.0	6.1	6.6	7.1	6.6
* CHALLENGER	4.8	6.4	3.3	4.3	7.0	6.9	7.3	7.8	5.3	7.5	5.1	7.3	6.8	5.8
BA 73-540	6.0	6.0	3.6	4.1	7.5	6.3	6.1	7.6	4.3	7.5	6.9	6.9	7.0	5.7
* ABLE I	4.7	6.8	3.1	5.1	7.1	6.8	7.3	7.3	5.2	7.7	6.1	6.9	7.0	5.2
* ASPEN	5.0	5.9	3.9	4.8	6.6	6.8	7.2	7.4	5.7	7.5	6.6	7.1	7.2	5.4
* A-34	5.5	6.1	5.2	3.9	7.7	6.8	6.5	7.4	4.9	7.5	6.8	5.8	6.8	6.2
* BA 72-500 (CHATEAU)	5.5	6.1	3.3	3.8	6.8	6.1	6.5	7.6	4.5	7.3	5.9	6.9	7.0	5.6
* SYDSPORT	5.9	6.3	3.9	4.0	7.5	6.2	7.0	7.7	5.2	7.5	5.7	6.7	6.6	4.4
* CLASSIC	5.2	6.3	3.5	4.2	7.2	6.6	6.9	7.1	5.7	7.5	6.6	6.8	7.1	5.7
PST-CB1	.	6.5	3.6	4.0	7.5	6.6	6.7	7.4	5.9	6.9	6.4	6.8	6.9	5.4
* BA 70-139 (COVENTRY)	5.7	5.9	3.8	3.8	6.7	6.5	6.6	7.5	4.8	7.1	6.8	6.6	6.7	5.5
* SOMERSET	4.6	5.6	4.0	4.8	7.5	6.8	6.3	6.8	5.9	7.4	5.7	6.4	6.7	5.6
* BA 72-492 (ESTATE)	5.8	6.5	3.9	3.9	7.0	6.5	6.5	7.5	4.8	7.2	6.5	6.3	6.8	5.0
* MERIT	5.4	5.5	4.3	4.0	7.5	7.0	6.6	7.5	5.0	7.1	6.5	6.3	6.8	6.5
* CYNTHIA	5.3	5.4	3.4	4.3	7.3	7.1	7.0	7.3	5.0	8.7	5.6	5.8	6.8	5.1
* DAWN	.	6.0	3.8	4.3	7.0	5.2	6.5	7.5	5.5	6.5	6.6	6.8	7.0	5.3
* AQUILA	5.0	5.7	3.4	5.3	7.5	6.7	.	7.0	5.5	8.0	6.4	6.4	6.8	6.2
CONNI	.	.	2.4	3.3	7.9	6.6	6.4	7.3	4.6	8.3	6.3	5.9	6.3	5.3
BAR VB 534	5.3	4.9	3.5	4.4	6.9	7.0	.	7.2	5.0	8.2	6.8	5.8	6.5	6.7
* JULIA	5.4	6.1	5.6	4.3	6.5	5.5	.	7.0	5.4	7.3	4.8	6.4	7.0	4.2
* RAM-1	5.1	6.0	2.9	3.8	8.0	5.8	6.9	7.3	4.6	7.9	6.3	6.9	7.1	6.3
* PARADE	4.9	6.2	4.1	4.5	6.3	6.2	6.6	7.3	5.4	7.7	6.0	6.3	7.0	6.8
* RUGBY	5.3	6.5	3.2	5.0	7.2	6.4	6.7	7.3	5.4	6.7	6.1	6.5	7.0	6.7
* BA 72-441 (ABBEY)	5.2	5.5	4.4	4.1	7.3	6.8	6.4	7.3	5.0	7.5	6.5	6.6	7.1	5.6
* MONOPOLY	5.1	5.2	5.7	5.0	6.7	6.9	6.1	6.8	5.3	6.3	6.3	6.2	6.8	5.3
* BA 73-626 (KELLY)	5.1	5.6	4.3	4.2	6.9	6.9	6.1	7.7	5.5	7.2	6.7	5.9	7.0	6.2
* BARON	5.2	6.0	3.6	4.3	6.9	6.8	6.5	7.6	4.7	7.2	6.9	6.0	6.8	6.8
* LIBERTY	.	.	3.8	4.1	7.4	6.4	6.6	7.2	5.4	6.9	6.5	6.9	6.7	6.0

* COMMERCIALLY AVAILABLE VARIETY

TABLE 1. (continued) MEAN TURFGRASS QUALITY RATINGS OF KENTUCKY BLUEGRASS CULTIVARS AT TWENTY-SEVEN LOCATIONS IN THE UNITED STATES AND CANADA 1988 DATA

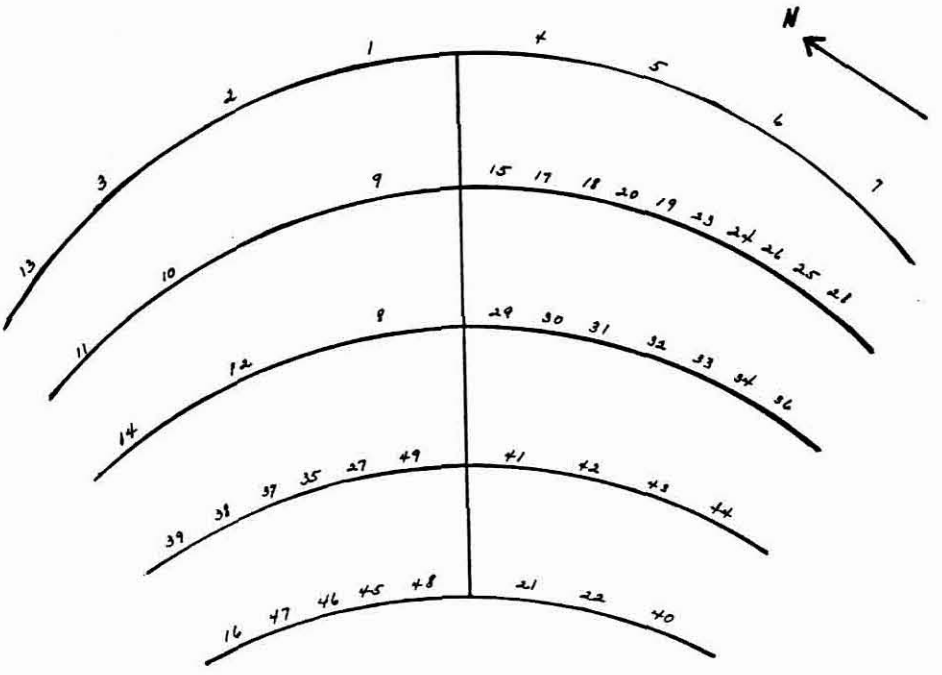
TURFGRASS QUALITY RATINGS 1-9; 9=IDEAL TURF

NAME	BC1	CA4	DC1	IA1	ID2	IN1	KS1	KS2	KY1	MB1	MD1	MI1	MO1	NE1
* MYSTIC	3.9	4.3	4.3	4.8	7.3	7.2	6.6	6.3	4.7	8.3	6.8	7.2	6.8	5.8
WW AG 495	4.6	5.7	5.4	4.8	7.9	6.0	.	7.3	5.3	7.9	6.5	5.9	6.7	5.3
K1-152	5.0	6.0	4.0	4.1	6.8	6.7	6.8	6.7	5.5	6.9	6.3	6.4	7.0	6.4
* TRENTON	5.1	6.6	4.0	4.1	7.1	6.6	6.7	7.1	5.7	6.7	6.6	6.6	6.8	5.1
* HAGA	4.8	6.1	4.0	4.3	7.1	6.6	6.7	7.1	5.3	7.4	6.1	6.8	6.9	5.8
* TENDOS	5.9	6.0	2.6	4.8	7.6	6.7	6.9	7.6	4.2	6.7	6.2	6.7	6.8	6.1
* 239 (SUFFOLK)	4.4	5.7	4.0	4.3	7.0	6.6	6.8	6.8	5.7	7.3	6.0	6.4	6.8	5.4
* NASSAU	5.2	6.3	2.8	4.0	6.9	6.1	6.8	7.8	5.5	6.8	5.9	6.7	7.0	5.1
* WABASH	4.3	5.4	6.7	5.0	6.5	6.8	6.7	6.4	6.5	7.7	6.3	5.9	6.7	5.1
* VICTA	5.4	5.8	4.8	4.7	6.5	6.8	6.5	7.9	5.0	6.8	7.0	6.3	6.9	4.3
* GEORGETOWN	4.8	6.4	3.6	4.4	6.7	6.4	6.7	7.3	5.3	6.6	6.2	6.8	7.1	5.3
HV 97	5.3	5.2	2.7	4.0	8.1	5.1	6.5	7.3	5.3	8.3	6.9	5.9	6.2	5.8
K3-178	5.1	6.0	3.5	4.6	7.1	6.5	6.3	6.8	5.9	6.9	6.2	6.6	7.0	5.1
NE 80-88	.	.	.	3.9	6.4	6.6	.	7.3	5.5	7.3	5.8	6.4	7.3	6.0
* DESTINY	.	.	2.4	4.3	6.8	5.9	.	7.8	5.6	6.4	5.5	6.9	6.8	5.5
* MERION	4.9	5.0	3.4	3.8	6.3	6.6	6.6	7.7	5.7	6.7	5.1	6.5	6.4	6.1
BAR VB 577	4.8	5.8	2.9	3.8	7.0	6.8	6.0	7.0	4.6	6.7	5.4	6.6	6.8	5.9
* WELCOME	6.1	.	2.5	4.5	7.7	6.9	6.6	7.4	5.3	8.3	6.6	6.0	6.6	4.9
BA 70-242	5.1	6.0	3.3	4.6	6.5	6.8	6.4	7.3	5.3	6.4	6.8	6.3	6.5	4.5
* HARMONY	5.7	.	3.3	4.4	6.9	7.0	6.9	7.2	5.1	7.2	6.8	5.9	6.6	6.0
WW AG 491	4.9	5.4	3.9	4.4	7.1	6.8	.	6.8	5.0	7.5	6.8	6.6	6.7	4.4
* IKONE	5.2	5.8	4.2	4.0	6.3	5.0	6.5	7.6	4.7	7.0	5.8	6.1	7.0	4.6
COMPACT	.	.	2.6	3.3	7.1	6.0	6.3	6.9	5.1	7.9	6.7	5.9	6.3	6.3
* GNOME	4.8	6.0	4.1	3.9	6.8	6.5	6.8	7.4	4.8	7.4	5.3	6.4	6.5	4.8
WW AG 468	4.9	5.3	2.1	4.1	6.0	7.0	.	7.5	4.9	7.1	4.6	6.1	6.1	6.8
* AMAZON	5.2	5.0	2.3	3.8	8.2	5.0	.	7.3	5.0	8.7	6.3	5.7	6.5	4.8
ANNIKA	.	.	2.4	3.9	6.9	6.0	7.0	7.3	4.5	7.9	6.2	4.9	6.5	5.9
BARZAN	5.5	5.0	3.2	4.0	7.5	7.0	6.1	7.1	5.1	7.7	5.8	6.1	6.5	4.8
* HUNTSVILLE	.	5.9	4.7	4.9	6.4	6.7	.	7.2	5.6	6.8	5.7	5.9	6.7	5.3
* JOY	4.1	4.7	5.9	4.7	6.1	6.0	6.3	6.6	5.3	5.7	5.8	5.2	6.5	4.3
* KENBLUE	4.1	4.9	4.3	5.4	5.8	6.0	6.0	5.5	4.8	6.5	6.3	5.2	6.3	6.2
* S.D. CERTIFIED	4.2	4.5	3.5	5.1	5.7	6.1	6.0	5.8	4.8	5.7	5.8	4.7	6.1	5.3
LSD VALUE	0.6	0.7	1.4	1.1	1.2	0.7	0.6	0.6	0.7	0.7	1.2	0.7	0.5	1.0

* COMMERCIALLY AVAILABLE VARIETY

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).

UCR LANDSCAPE PLANT MATERIAL EVALUATION STUDY



TREES

	Species	Common Name		Species	Common Name
1)	Acacia abyssinica		8)	Cercidium floridum	Blue Palo Verde
2)	Acacia aneura	Mulga	9)	Prosopis alba	Argentine Mesquite
3)	Acacia minuta	Sweet Acacia	10)	Prosopis chilensis	Mesquite
4)	Acacia pennatula		11)	Prosopis glandulosa	Texas or Honey Mesquite
5)	Acacia shaffneri	Twisted Acacia	12)	Vauquelinia californica	Arizona Rosewood
6)	Acacia stenophylla	Shoestring Acacia	13)	Yucca angustissima	
7)	Acacia willardiana	Palo Blanco	14)	Yucca elata	Soap Tree

SHRUBS

	Species	Common Name		Species	Common Name
15)	Acacia notabilis		33)	Leucophyllum frutescens	'Green Cloud'
16)	Acacia redolens		34)	Leucophyllum frutescens	Texas Sage or Ranger
17)	Ambrosia deltoidea	Triangle leaf bursage	35)	Leucophyllum frutescens	'Compacta'
18)	Antigonon leptopus	Queen's Wreath	36)	Leucophyllum frutescens	'White Cloud'
19)	Baccharis	'Centennial'	37)	Leucophyllum laevigatum	Chihuahuan Sage
20)	Caesalpinia mexicana		38)	Muhlenbergia dumosa	Bamboo Muhly
21)	Caesalpinia gilliesii	Yellow Bird of Paradise	39)	Muhlenbergia rigens	Deer Grass
22)	Caesalpinia pulcherrima	Red Bird of Paradise	40)	Oenothera berlandieri	Mexican Evening Primrose
23)	Calliandra eriophylla	Fairy Duster	41)	Oenothera spubbii	Evening Primrose
24)	Dalea bicolor	Silver Dalea	42)	Pennisetum setaceum	'Cupreum'; Red Fountain Grass
25)	Dalea pulchra	Indigo Bush	43)	Pennisetum setaceum	Green Fountain Grass
26)	Dalea greggii	Trailing Indigo Bush	44)		Red Three Awn
27)	Dasylirion atrotriche	Green Desert Spoon	45)	Ruellia peninsularis	
28)	Dasylirion wheeleri	Desert Spoon	46)	Saliva coccinea	
29)	Encelia farinosa	Brittle Bush	47)	Sophora secundiflora	Texas Mountain Laurel
30)	Justicia candicans		48)	Verbena goodingii	
31)	Justicia spicigera	Firecracker Plant	49)	Yucca glauca	Soap Weed
32)	Leucophyllum candidum	Violet Silver Leaf 'Silver Cloud'			