

TURFGRASS SPECIES EVALUATION

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INTRODUCTION

Many acres of roadsides, industrial settings, airports, and little-used park areas receive little maintenance and require turfgrasses suitable for less-than-optimal environmental conditions. Interest in tough, tolerant grasses has increased in light of recent hot, dry weather conditions and turf watering restrictions imposed by several Illinois communities. Budgetary constraints have also contributed to interest in these grasses.

A USDA-sponsored group of turf researchers from Midwestern universities, the NCR-10 research committee, has agreed to evaluate sixteen turfgrasses that are not often grown as turfgrass, or are used primarily as low-maintenance turfs. These turfgrasses will be evaluated throughout the Midwest for turf quality under unirrigated conditions. They are maintained at three heights in an attempt to define appropriate mowing regimes.

MATERIALS AND METHODS

Sixteen turfgrasses (Table 1) were planted into a firm, Flanagan silt loam seed bed 7 September 1988. Planting rates for the 3' x 10' plots, each replicated three times, are listed in Table 1. One pound of N/1000 sq ft was applied following seeding, and irrigation was supplied as needed during germination and establishment. The plots were not mulched. The buffalograss **plugs were spread evenly over the plot areas.**

Since April, 1989, cultural activities, other than mowing and one handweeding, were withheld. A mowing trial was initiated in April; each plot is split into three mowing heights stripped across each replication. Mowing heights are two inches, four inches, and unmowed. Overall turf quality data will be collected monthly (May-Oct.) during the growing season for a minimum of three years. Turf quality is based on a 1-9 scale where 1=tan turf, bare soil, lowest overall quality, 6=minimal turfgrass quality, and 9=darkest green, very dense, highest overall quality.

RESULTS

Ruff crested wheatgrass did not germinate and received quality ratings of 1 throughout the evaluation period. Both buffalograss selections were planted using plugs which resulted in low ratings (2-3) due to limited plot coverage. There were significant quality differences among turfgrass mowing heights during all rating dates except September. Generally, the two send four inch mowing heights received higher evaluations than the unmowed plots. There were also significant quality differences among species on each monthly evaluation (Table 1). Finally, seasonal mean ratings of the four most highly evaluated turfgrasses, Exeter Colonial Bentgrass; Sheep Fescue; Reton Red Top; and Reubens Canada Bluegrass, mowed at two inches and four inches are shown in Figures 1 and 2. Note that none of these alternative species provides turf of consistently high quality.

It is important to note that these results represent only one year's data collection. This study will be continued for a minimum of two more years. When considering one of these species, consult future Turfgrass Research Reports for evaluations based several year's data.

Table 1. The alternative turfgrasses, planting rates, and mean quality ratings for May, July and September, 1989.

Species	Planting Rate ¹	Mean Quality Rating ²		
		5/89	7/89	9/89
Fairway Crested Wheatgrass <i>Agropyron cristatum</i>	4.3	4.2de	4.4bc	3.3cd
Emphraim Crested Wheatgrass <i>Agropyron desertorum</i> 'Emphraim'	4.2	3.4f	3.2d	2.3e
Ruff Crested Wheatgrass <i>Agropyron desertorum</i> 'Ruff'	6.2	1.0h	1.0f	1.0f
Sodar Streambank Wheatgrass <i>Agropyron riparium</i> 'Sodar'	4.2	3.6ef	3.7cd	4.0bc
Reton Red Top <i>Agrostis alba</i> 'Reton'	4.0	5.4ab	5.7a	5.2a
Exeter Colonial Bentgrass <i>Agrostis tenuis</i> 'Exeter'	3.8	5.8a	5.8a	5.0a
NE 84-315 Buffalograss <i>Buchloe dactyloides</i> 'NE 84-315'	1 plug tray	2.2g	2.3e	2.0e
Texoka Buffalograss <i>Buchloe dactyloides</i> 'Texoka'	1 plug tray	2.2g	2.3e	2.0e
Alta Tall Fescue <i>Festuca arundinacea</i> 'Alta'	4.5	4.6cd	4.8b	4.2b
Durar Hard Fescue <i>Festuca ovina</i> var. <i>duriuscula</i> 'Durar'	4.2	3.9ef	4.4bc	4.2b
Sheep Fescue <i>Festuca ovina</i>	4.2	5.1bc	5.9a	5.0a
Covar Sheep Fescue <i>Festuca ovina</i> 'Covar'	4.5	3.8ef	4.3bc	4.6ab
Alpine Bluegrass <i>Poa alpina</i>	4.0	3.8ef	3.2d	2.0e
Bulbous Bluegrass <i>Poa bulbosa</i>	4.2	1.9g	1.0f	1.0f
Reubens Canada Bluegrass <i>Poa compressa</i> 'Reubens'	4.3	5.1bc	5.7a	5.0a
Colt Rough-stalked Bluegrass <i>Poa trivialis</i> 'Colt'	4.0	5.6ab	4.1bc	3.2d
LSD _{0.05}		0.6	0.8	0.7

¹ Planting rate is in pounds of seed per 1,000 square feet except for the two buffalograss selections which were planted at a rate of 278 plugs per 1,000 square feet.

² Mean quality rating is the mean of three replications. Means in the same column with the same letter are not significantly different at the 0.05 level as determined by Fisher's Least Significant Difference test.

Fig. 1. QUALITY RATING FOR FOUR ALTERNATIVE TURFGRASSES-2" MOWING HEIGHT

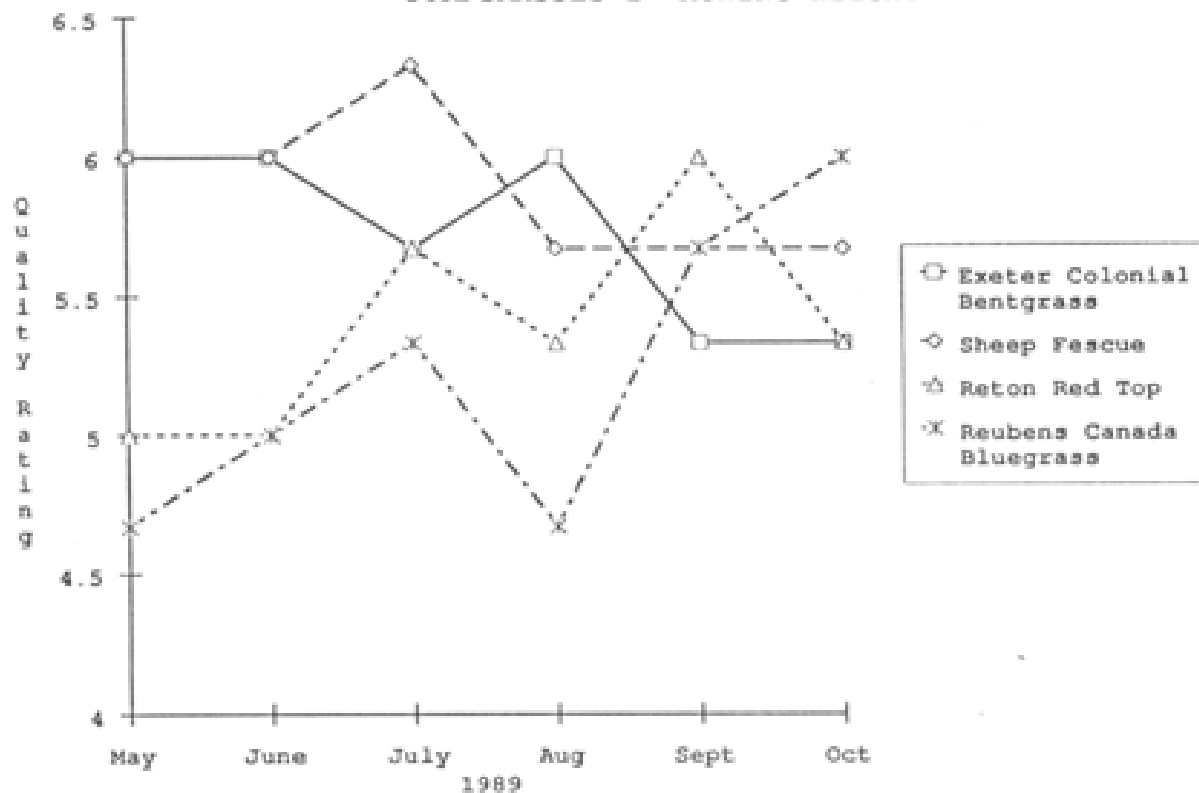


Fig. 2. QUALITY RATING FOR FOUR ALTERNATIVE TURFGRASSES-4" MOWING HEIGHT

