Establishing Cool-Season Grasses Along Intensely Trafficked Sidewalk Areas – 2005 Results

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Objective

To determine the influence that cool-season grass species and seeding rate have on turf establishment along intensely trafficked sidewalk areas.

Materials and methods

This study was conducted on the Iowa State University campus, Ames, IA. Several areas identified as being under heavy sidewalk traffic pressures were tilled to a depth of 3 inches. Kentucky bluegrass (KB) (*Poa pratensis*), perennial ryegrass (PR) (*Lolium perenne*), and tall fescue (TF) (*Festuca arundinacea*) were seeded in 3ft x 3ft plots along sidewalks on April 19, 2005 (day 0) with the use of a calibrated drop spreader. Each species was seeded at 1x, 2x, and 3x, their normal seeding rate. Kentucky bluegrass was seeded at 1.5, 3.0, and 4.5 lbs/1000sq.ft. Perennial ryegrass and TF were seeded at 5, 10, and 15 lb/1000sq.ft. The experimental design was a randomized complete block with a factorial arrangement using 3 turfgrass species and 3 seeding rates, and 8 replications.

Percent turf cover and percent weed cover was visually evaluated every two weeks from 3 May through 2 Nov 2005.

Analysis was performed using Statistical Analysis Software and the analysis of variance procedure.

Results

All species germinated during the first two weeks of the study and differences were present. Germination of all species occurred within the first two weeks after seeding. Perennial ryegrass had more turf cover than KB and TF on all dates up to 23 August. Tall fescue provided more turf cover than KB until 31 May (Table 1). Increasing seeding rate increased turf cover. Turf cover increased when seeding rate increased from 1x to 2x, however increasing seeding rate from 2x to 3x had no increase in turf cover. Turf species and seeding rate had no influence on weed infestation.

 Table 1. Percent turf cover of high-traffic sidewalk areas for Kentucky bluegrass, perennial ryegrass, and tall fescue seeded at 1x, 2x and 3x their normal seeding rate in 2005.

	Days after seeding												
	14	28 17-	42 31-	56 14-	70 28-	84	98	112	126 23-	140	154 20-	168	182
	3-May	May	May	Jun	Jun	12-Jul	26-Jul	9-Aug	Aug	6-Sep	Sep	4-Oct	18-Oct
Species	**	**	**	**	**	**	**	**	**	NS	NS	NS	NS
	% turf cover												
KB	6.2	13.7	30	38.4	36.1	36.1	41.5	43.2	45.4	46.7	48.9	47.1	47
PR	38.3	46.5	65	72.5	70.8	69.2	70.2	65.6	55	48.6	47	51.3	50.5
TF	20.8	25.6	38.3	47.1	44.8	44	47.7	47.6	46.5	47.7	45.3	49.6	47.2
LSD	10.7	10.8	8.7	8.8	9.3	8.3	9	7.3	8.6	N/A	N/A	N/A	N/A
Rate	**	**	**	**	**	**	**	**	*	NS	NS	*	*
1x	11.8	18.6	34.2	44.8	42.3	40.3	45.7	46.6	43.6	44.7	43.9	45.5	44
2x	24.2	31	44.4	53.9	51.6	51.2	54.9	52.4	50.9	47.4	46.1	47.2	45.7
3x	29.4	36.7	54.6	59.4	57.9	57.9	58.8	57.3	52.3	50.5	51	55.2	55
LSD	10.6	10.7	8.6	8.8	9.2	8.2	9	7.3	8.5	N/A	N/A	9.57	10.6
Spec*Rate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Days after seeding