

## **Low Input Sustainable Turfgrass Trial**

Glenn Hardebeck and Cale Bigelow

### **Objective:**

To identify alternative grass species with minimum input requirements, which are adapted to North Central Indiana and determine minimal mowing practices for each species.

### **Rationale:**

Benefits provided by turfgrass such as erosion control, slope stabilization, land buffering, temperature moderation and green space have led to its widespread use. Many areas where these benefits are desirable receive minimal maintenance. This creates a need for turfgrass species capable of maintaining reasonable density and being persistent over time.

### **How It Was Done:**

Fourteen grasses were seeded on 30 Aug. 2004 at the William H. Daniel Research and Diagnostic Center on a silt loam soil. Seeding rates ranged from 1.0-7.0 lbs/1000 ft<sup>2</sup> depending on species and the seed was spread using a hand shaker jar. After seeding, the experiment was lightly raked and starter fertilizer (0-46-0) was applied at the rate of 2.0 lbs P<sub>2</sub>O<sub>5</sub> /1000 ft<sup>2</sup> as well as (46-0-0) at the rate of 1.0 lbs N/1000 ft<sup>2</sup>. The area was covered with Futerra® erosion control blankets following seeding to prevent washing seed. Trimec Classic will be applied during the first spring following establishment to control broadleaves. No preemergent herbicides will be applied during the course of the study. Plots are maintained under an ultra low maintenance regime consisting of mowing only. No additional fertility will be applied after initial establishment. Mowing treatments include 2 and 4 inches mowed monthly and an unmowed treatment.

Persistence and uniformity will be the two primary criteria to determine quality for each plot. Quality data will be taken monthly during the growing season. Additional data will include density, percent ground cover and percent of other species will be taken during May, July and September. Percent ground cover data was collected weekly during establishment Sep.-Nov. 2004.

### **Results to Date:**

As of 22 Nov., the tall fescue entries, meadow fescue and colonial bentgrass are statistically equal but all achieved higher percent cover than the remaining nine entries (Table 1). Since this is the initial stages of the experiment with mowing treatments and environmental stress playing little role thus far, it will be interesting to observe the progression of the species over the next few years.

### **Acknowledgements:**

This is a joint North Central Region project being conducted at ten locations throughout the Mid-west to evaluate low input sustainable turfgrass systems.

**Table 1.** Percentage ground cover of fourteen grasses seeded 30 Aug. 2004 for low input testing.

Species	Cultivar	#/1000ft <sup>2</sup>	20 Sep	28 Sep	4 Oct	19 Oct	25 Oct	8 Nov	22 Nov
			-----(% turf cover) <sup>a</sup> -----						
Tall Fescue	Kentucky-31	7.0	38.0	47.8	62.2	67.8	84.7	90.3	91.4
Meadow Fescue	LMC-1122	7.0	34.6	49.2	60.2	62.0	83.6	90.1	91.0
Tall Fescue	Grande II	7.0	21.3	27.8	43.3	56.1	75.4	82.6	84.1
Colonial Bentgrass	SR7150	1.0	9.8	17.4	22.9	48.3	63.9	73.3	82.1
Alkaligrass	Fults	1.5	11.8	22.4	27.6	48.9	65.6	75.3	81.2
Tufted Hairgrass	Spike	1.0	5.2	12.0	16.0	31.7	37.8	52.0	54.8
Sheep Fescue	Blacksheep	7.0	11.1	13.6	17.2	25.3	35.4	39.4	44.1
Hard Fescue	Berkshire	6.0	8.4	11.1	12.6	21.0	30.8	35.1	43.9
Blue Grama	Bad river	3.0	23.9	30.0	36.1	34.8	39.2	42.0	40.6
Crested Wheatgrass	RoadCrest	5.0	11.2	9.6	13.7	15.8	18.2	29.1	34.4
Hybrid Bluegrass	HB 342	2.0	3.1	8.2	8.2	15.4	27.1	30.4	33.1
Crested Dogs Tail	ShadeStar	1.0	2.2	4.7	10.8	16.1	20.3	26.6	29.7
Prairie Junegrass	LMC-5000	2.0	5.4	9.4	11.2	17.7	24.6	30.0	28.9
Hybrid Bluegrass	Dura Blue	2.0	3.1	8.3	8.7	14.8	20.2	25.6	25.6
LSD (0.05)			7.7	10.7	10.6	10.8	11.0	12.7	13.5

<sup>a</sup> Percent living ground cover rated on a 0-100% linear scale where 0 = bare ground and 100% = full turf cover.