

South Dakota - Cool Season Grass Adaptation and Persistence in Eastern South Dakota

by Vance Owens and Kevin Kephart, South Dakota State University

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Orchardgrass, timothy, tall fescue, and meadow brome grass are varieties that are not widely grown in eastern South Dakota due to fear of winter injury and susceptibility to drought. An experiment was conducted at Brookings, South Dakota. Seeding began in August 1998 and compared multiple varieties of these grasses to intermediate wheatgrass, a commonly grown grass well adapted to the region. Selected years' yield data are shown (Table 1). Plots were cut twice in 1999 and once per year from 2000 through 2004.

The results of the experiment suggested that orchardgrass, timothy, tall fescue, and meadow brome grass may be under-utilized in the region. The six year average yield of Oahe intermediate wheatgrass exceeded yields of 12 of the 13 orchardgrass varieties, one of the two timothy varieties, one of the four tall fescue varieties, and two of the three meadow brome grass varieties.

Production of all species was satisfactory for the Eastern South Dakota region. Considering the potential quality and marketing advantages of orchardgrass and timothy, producers in the eastern region of the Northern Great Plains should consider these species.

Table 1. Annual and 6-year average yield of cool-season grasses at Brookings, SD

Species	Variety	Selected Year			6 Year Avg.
		1999	2002	2004	
		-----Ton DM/ac-----			
Orchardgrass	Benchmark	3.9	1.6	1.8	1.8
	Chinook	2.7	1.6	1.8	1.5
	Condor	3.8	1.6	1.5	1.7
	Haymate	4.0	1.9	2.3	1.9
	Kay	3.8	1.7	2.1	1.8
	Latar	4.3	1.7	1.8	1.9
	OF193M	3.8	1.7	2.3	1.8
	Orion	3.2	1.9	2.0	1.8
	Paiute	3.9	1.6	1.8	1.8
	Potomac	3.7	1.6	1.5	1.7
	Saum	3.9	1.8	2.0	1.8
	Sterling	3.7	1.7	1.5	1.7
	Warrior	3.8	1.6	1.7	1.7
Timothy	Climax	3.5	1.7	1.7	1.8
	Colt	3.7	1.8	2.5	2.0
Tall Fescue	Ky31	4.1	1.9	2.4	2.1
	Montebello	4.7	2.0	2.0	2.1
	OF1B1	3.4	1.8	2.0	1.8
	Stargrazer	4.5	2.0	2.0	2.0
Meadow Bromegrass	Fleet	3.8	1.5	2.0	1.9
	Paddock	3.8	1.6	2.0	1.8
	Regar	3.4	1.5	2.6	1.8
Intermediate Wheatgrass	Oahe	3.6	1.9	2.8	2.2
LSD (0.05)		0.7	0.4	0.5	0.2