

## Evaluation of Summer Switchgrass and Selected Prairie Cordgrass

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The evaluation of devoting land to biomass production has been limited in this region. This study was conducted as a preliminary investigation to determine the potential productivity of promising species of grass for biomass production in this area. The study was conducted on two locations at the Carrington Research Extension Center, Carrington, ND. One site was on poor soil that had been disturbed for construction several years ago and the other was an intact site adjacent to existing biomass trials. The study tests potential for cellulosic biomass production of Summer Switchgrass and a selection of Prairie Cordgrass. The trial was planted in 2007 and was harvested a couple weeks after a killing frost in 2008, 2009, and 2010 to determine yield and harvest moisture.

Year as well as location and species had a significant impact on yield (Tables 1 and 2). As one would expect with most crops, yields were improved when grown on better soils. In addition, either species was shown to be an improvement over current CRP fields and current grass hay fields (1-2 ton/ac) in terms of overall yield.

**Table 1. Comparison of Summer Switchgrass to an improved germplasm selection of Prairie Cordgrass.**

Year	Harvest Moisture	Biomass Weight
	%	Dry T/A
2008	21.7	3.6
2009	36.7	6.3
2010	29.2	5.1
Mean	29.0	5.0
C.V. (%)	19.6	17.3
LSD 0.05	5.0	0.7

Location <sup>1</sup>	Harvest Moisture	Biomass Weight
	%	Dry T/A
Good Soil	28.9	6.0
Poor Soil	29.4	4.0
Mean	29.0	5.0
C.V. (%)	19.6	17.3
LSD 0.05	3.9	0.6

<sup>1</sup> Good Soil = typical farmland; Poor Soil = disturbed construction site

**Table 2. Comparison of Summer Switchgrass to an improved germplasm selection of Prairie Cordgrass.**

Species	Harvest Moisture	Biomass Weight
	%	Dry T/A
Prairie Cordgrass (SD Germplasm)	34.4	5.4
Summer Switchgrass	23.9	4.6
Mean	29.0	5.0
C.V. (%)	19.57	17.3
LSD 0.05	3.9	0.6