



Biofuel productivity plots

Purpose

Evaluate biofuel crop productivity on various soils and micro climates across Michigan.

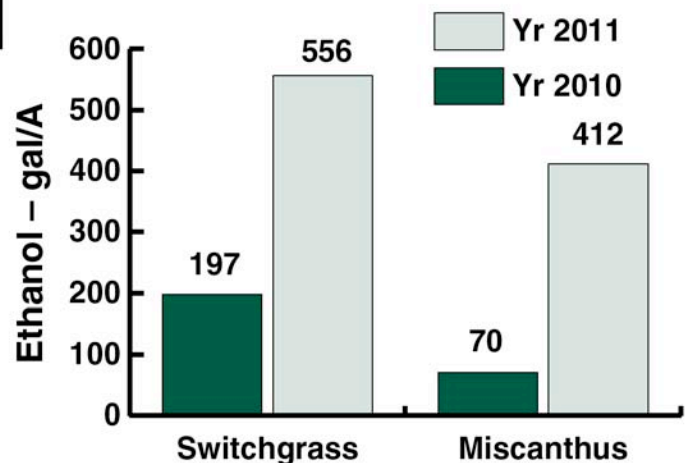
Materials and methods

Switchgrass and miscanthus were established in May 2009. Due to a thin stand, additional miscanthus rhizomes were planted to fill in the stand. The fourth replication of miscanthus did not fill in and was lost. Canola and oriental mustard were also planted. These crops were sprayed with clopyralid for weed control. It was found in Utah in late 2011, that clopyralid caused flowers to abort resulting in 85 percent reduction in yields on camelina and canola. Due to this fact and the low yield collected from canola and oriental mustard, yield data is not being reported.

County	Barry
Cooperator	Barry County Expo Center
Nearest town	Hastings
Soil type	Coloma loamy sand
Weed control	None
Fertilizer	Switchgrass: 152 lbs/A 46-0-0 (70 lbs. actual N) Miscanthus: 207 lbs/A 46-0-0 (95 lbs. actual N)
Exp. design	RCB, four replications

Species	2010		2011	
	Yield ¹	Ethanol ²	Yield ¹	Ethanol ²
Switchgrass	2	162	7	551
Miscanthus	3 ^a	245	9	762

¹tons of dry matter/A.
²tons/A X 85 gal/ton = gal. of ethanol/A.
^aPoor stand, plots were interseeded with new miscanthus plants to invigorate the stand, which by the end of the season had failed due to lack of water to get small plants started.



Results

From the beginning, the miscanthus treatment had a poor stand and was on the borderline of being teared up. At the end of three years, it is our recommendation to replant the entire stand of miscanthus. Use of viable rootstock is necessary to get successful stands. Switchgrass stands and yields have progressed and a mature stand of switchgrass has been reached. This plot was planted on a prairie soil, which helps to explain why switchgrass has done so well.

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