



Cropping system Other

Clinton County

County	Clinton
Cooperator	MSU Bioenergy Farm
Nearest town	St. Johns
Soil type	Capac loam
Fertilizer	Corn: 207 lbs/A 46-0-0 (95 lbs. actual N) + 207 lbs/A 19-19-19 (40 lbs. actual N-P-K) Switchgrass: 152 lbs/A 46-0-0 (70 lbs. actual N) Sorghum, canola, oriental mustard: 207 lbs/A 46-0-0 (95 lbs. actual N)
Exp. design	RCB, four replications

Biofuel productivity plots

Purpose

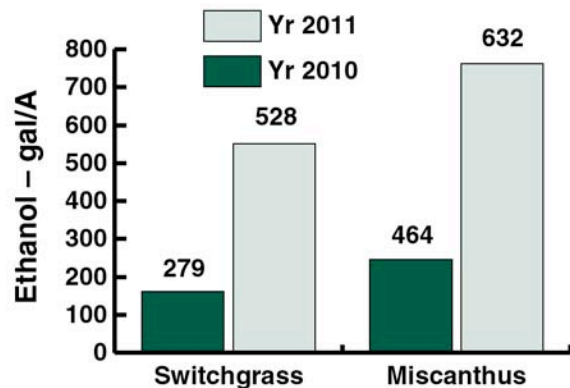
Evaluate biofuel crop productivity on various soils and micro climates across Michigan.

Materials and methods

All plots were established in May 2010. Whole corn plants were clipped off at 3-4 inches above ground and weighed for total biomass. Ears were separated from the stalk, shelled and grain weight and moisture recorded. Total biomass removed would be comparable to corn silage harvest. Whole plants of forage sorghum were harvested, much like corn. Canola and oriental mustard were direct cut with walk behind sickle bar mower and threshed using a stationary thresher. Due to excess rain in May, sorghum, corn, canola and camelina were planted late (June) but not harvested. These crops didn't reach maturity and would have skewed the data.

Species	2010		2011	
	Yield ¹	Ethanol ²	Yield ¹	Ethanol ²
Big bluestem	–	–	1	106
Indiangrass	–	–	1	112
Switchgrass	–	–	2	179
Reed canarygrass	–	–	1	113
Forage sorghum	6	468	–	–
Corn stover	4	323	–	–
Canola (lbs/A)	733	–	–	–
Camelina (lbs/A)	115	–	–	–


¹tons of dry matter/A (corn grain = bu/A).
²tons/A X 85 gal/ton = gal. of ethanol/A (corn grain = bu/A X 2.8 gal/bu = gal. of ethanol/A)



Results

This plot is still being established. Perennial grasses were planted in 2010 and the first harvest taken in 2011. It is expected that after three years, these plots will develop into mature stands that produce at expected levels.

Special thanks to Todd Martin for his assistance with this plot.



Dennis Pennington
 Extension Educator
 3700 E. Gull Lake Dr.
 Hickory Corners, MI 49060
 Phone: 269-838-8265
 Email: pennin34@msue.edu