



County	Clinton
Cooperator	MSU Bioenergy Farm
Nearest town	St. Johns
Soil type	Capac loam
Fertilizer	Corn: 95 lbs/A (207 lbs/A 46-0-0) + 40 lbs/A N, P, K (207 lbs/A 19-19-19) Canola, oriental mustard, sorghum: 40 lbs/A N, P, K (207 lbs/A 19-19-19)
Planting date	05/26/10
Planting pop.	Corn = 30,000 Soybean = 180,000
Exp. design	RCB, 4 replications

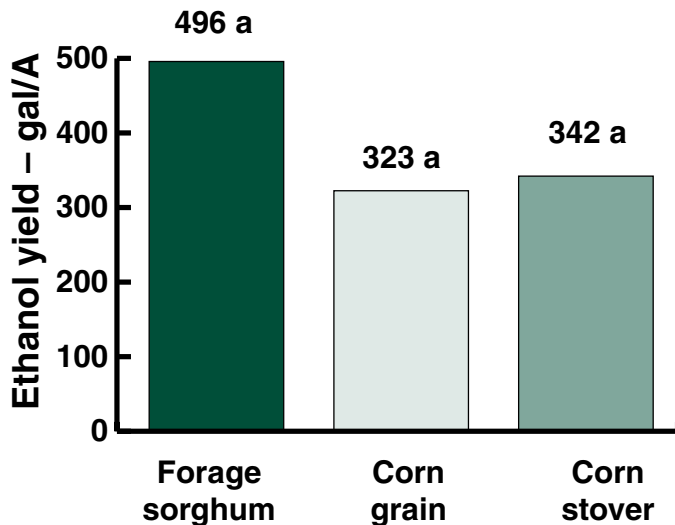
## Purpose

Evaluate biofuel crop productivity on various soils and microclimates across Michigan.

## Materials and methods

This experiment was established as a randomized complete block design with four replications. 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.

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Variety	Biomass yield		Ethanol yield	
Forage sorghum	5.5	tons/A	496 a	gal/A <sup>2</sup>
Corn grain	115.2	bu/A	323 a	gal/A <sup>1</sup>
Corn stover	3.8	tons/A	342 a	gal/A <sup>2</sup>
Canola	NR*			
Oriental mustard	NR*			

<sup>1</sup> bu/A X 2.8 gal/bu = gal of ethanol/A

<sup>2</sup> tons/A X 90 gal/ton = gal. of ethanol/A

\*NR (Not Reported): Yields were not reported for canola or oriental mustard due to poor mechanical harvest. These crops should have been windrowed and then threshed. Canola shattered significantly. Seed could be observed dropping on the ground as the cutter went through the plot. Weed control in oriental mustard was a failure, which also contributed to poor stand.

## Results and discussion

Forage sorghum appeared to have the highest ethanol yield per acre although it was not statistically significant. Foxtail weed pressure at this site was high.

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