



County	Barry
Cooperator	Barry County Expo Center
Nearest town	Hastings
Soil type	Coloma loamy sand
Planting date	04/20/10 canola and camelina; 05/06/10 sweet sorghum; 05/29/10 filled in miscanthus
Weed control	Sprayed: 05/30/09 Canola: 0.5 pts/A Stinger Camelina: 0.25 pts/A Buctril Switchgrass, miscanthus, sweet sorghum, corn: 0.5 lb/A quinclorac + 0.5 lb/A atrazine
Fertilizer	Sweet sorghum: 210 lbs/A, 19-19-19 (40 lbs/A actual N) Corn: 220 lbs/A urea (100 lbs/A actual N); Miscanthus, switchgrass, canola, camelina – none
Exp. design	RCB, 4 replications

Purpose

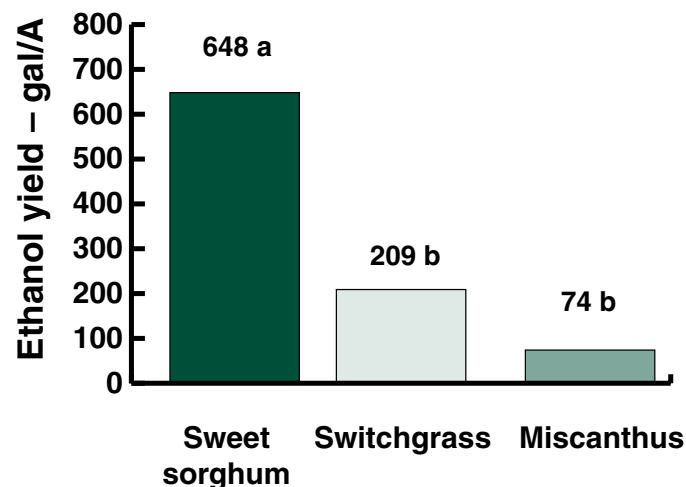
Evaluate biofuel crop productivity on various soils and microclimates across Michigan.

Materials and methods

This experiment was established as a randomized complete block design with four replications. Corn, sweet sorghum, canola, camelina, switchgrass and miscanthus were established in May 2009. Yield measurements were not taken on switchgrass and miscanthus during the establishment year. 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 sweet sorghum were harvested, much like corn.

	Biomass yield		Ethanol yield	
Sweet sorghum	7.2	tons/A	648 a	gal/A ¹
Switchgrass	2.3	tons/A	209 b	gal/A ¹
Miscanthus	0.8	tons/A	74 b	gal/A ¹

¹ tons/A X 72 gal/ton = gal. of ethanol/A



Results and discussion

Means separation test showed that ethanol yield per acre was highest for sweet sorghum. In fact, it yielded almost as much as corn grain and stover combined. Corn stover was significantly lower. Canola and camelina yields were extremely low. This is due in part to harvesting and threshing losses as well as lower yield potential due to late planting. Mean separation tests were not run on canola and camelina because the yields were not realistic.

Sponsored by Project GREEN.

Dennis Pennington
Bioenergy Educator
KBS and Extension Land & Water Unit
3700 E. Gull Lake Dr.
Hickory Corners, MI 49060
Phone: 269-671-2412, Ext. 222
Email: pennin34@msu.edu