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. Switchgrass and miscanthus were established in 2008. 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. A walk behind sickle bar mower was used to harvest a 28-inch swath from the center of switchgrass and miscanthus plots.

Results and discussion

Forage sorghum yielded the highest amount of ethanol per acre at 421 gallons. Corn grain and ethanol yield was significantly lower due to late planting and early frost. Grain did not reach physiological maturity, was high in moisture and low in test weight. In this study switchgrass just edged out corn stover in gallons of ethanol per acre, although they were not statistically different.

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