Field scale evaluation of establishment year stands on switchgrass biomass production in the Northern Plains. (C06-schmer161712-Poster)

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Abstract:

The United States Department of Energy has designated switchgrass (Panicum virgatum L.) as a potential bioenergy crop. Switchgrass biomass yields are negatively impacted by weed competition and low establishment stands. The objectives of this study were to determine if establishment year stands of switchgrass are predictive of post-establishment year stands of switchgrass at the field scale level. Other objectives include how switchgrass and weed density affect biomass yield. Switchgrass density, weed density, and dry matter yield were collected each year on 11 fields in Nebraska, South Dakota, and North Dakota. Preliminary data indicates that higher switchgrass densities positively influence dry matter yield and annual grassy weeds negatively impact dry matter yield during the establishment year. Establishment year switchgrass stands have a positive relationship with second year stands (r=0.52). Control of weeds, especially annual grassy weeds is essential in switchgrass establishment and increasing dry matter yield.

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