# **Carbon Sequestration in Two Restored Prairie Chronosequences on Contrasting Soils in Southern Wisconsin. (S05-brye120353-Poster)**

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### Abstract:

In Wisconsin, fewer than 800 ha of the estimated 850 000 ha of pre-settlement native prairie remain. Prairie restoration provides erosion control and wildlife habitat and is gaining popularity in Wisconsin partly because natural prairies are aesthetically pleasing. However, prairie restoration also has the potential to sequester atmospheric C to the soil. Soil C content in the top 1 m and bulk density in the top 10 cm were measured in a chronosequence of tallgrass prairies at a fine-textured site near Arlington, WI (ARL) and a coarse-textured site at the International Crane Foundation (ICF) near Baraboo, WI to evaluate the impact of prairie restoration on C sequestration. Soil C content in the top 25 cm was significantly correlated to time elapsed since last disturbance at the ARL site, but not at the ICF site. Bulk density was inversely related to time elapsed since last disturbance at the ARL site, suggesting that soil structure improved with time, but no relationship was found at the ICF site. Carbon sequestration rates were generally smaller for sandy than silt loam soils. Total C sequestered was positively related, while C sequestration rate was inversely related, to time since last disturbance at the ICF site, but both were inversely related at the ARL site. Prairie restoration increased the potential for C sequestration in coarse- and fine-textured soils compared to nearby agricultural soils.

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