Soil carbon sequestration under different management practices. (S11-islam090421-Poster)

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Abstract:

Soil organic C exerts an important role in reducing soil erosion, and in improving water, air and soil quality. Five land use and management systems (continuous corn (CC), cropland to woodland (CW), cropland to pastures (CP), notill (NT), and conservation reserve program (CRP)), were randomly selected to evaluate their longterm impacts on soil C pools. Soil cores from each management system were randomly collected and analyzed for various soil properties. Soil total C content varied significantly in response to management systems. Averaged across time, soils under NT condition had significantly higher total C content than soils under CW, CRP, CP and CC. Oxidizable C varied significantly in response to management systems and time. Humified and nonhumified C content, as well as humic and fulvic acid C content, changed significantly in response to management systems over time. Results suggest that soils under NT, CRP, CRP and CW management systems have sequestered more C over time than soils under CC. This is possibly due to greater returns of plant residues and increasing physical protection.

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