Using Micromorphology to Elucidate the Genesis of Various Soil Carbon Forms in Riparian Wetlands. (S10-stolt210327-Poster)

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Abstract:

Soil organic carbon has received tremendous interest in recent years. Although numerous studies have discussed and debated the various soil organic carbon forms, very few of these studies have taken a morphologic approach to identify carbon forms, especially in the subsoil. The objectives of our research were to identify and describe the morphology of carbon forms present in the subsoil of riparian zones, and to develop an understanding of the genesis and distribution of the various forms. Thin sections were constructed from riparian zone subsoils ranging in drainage class from somewhat poorly to very poorly drained. We identified and defined 8 separate soil organic carbon classes: roots, root traces, illuvial carbon, enaulic carbon, fragmental organic matter, lenses, infillings, and masses. Depth, drainage class, texture, coarse/fine ratios, porosity, and vegetation were examined in order to assess the relationships between soil properties and the specific carbon forms.

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