Soils with Relic Redoximorphic Features in the Eastern Lowlands of Arkansas. (S05-rutledge155947-Poster)

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Abstract:

Land use patterns especially the distribution of septic systems in northeastern Arkansas raised questions about soil wetness. Our research was designed to test the hypothesis that drainage and lowering of groundwater resulted in relic redoximorphic features in the soils of the area. Depth to free-water was primarily measured weekly in piezometers which were in both the soil zone and in the top of the regional groundwater. These data were collected approximately weekly for four of five years. They indicate the maximum rise of free-water is normally a meter or more below the top of the redox features. These data, along with data of other researchers, indicate the soils were endosaturated essentially to the surface during and likely after the earthquake of 1811 and 1812. However, groundwater decline, primarily due to agricultural use, has changed the soils from endosaturated to episaturation, thus leaving many relic redoximorphic features. The present episaturated soils have considerably less restrictions for land use.

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