# Phosphorus Transport in a Louisiana Coastal Plain Soil. (S11-bell140719-Poster)

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## Abstract:

Build-up of soil phosphorus (P) due to long-term application of poultry litter may increase P loss in surface and subsurface drainage water, and lead to water eutrophication. Anaerobic conditions in soils may increase P solubility and mobility. This study examined the effects of oxygenated and deoxygenated water, and level of soil organic matter on development of anaerobic conditions, and P sorption and mobility in a Coastal Plain soil (Ruston series; fine-loamy, siliceous, thermic Typic Paleudult). The Eh of pore water (flow velocity approximately 5 cm/hr) at the outlet of 5 cm long columns of Ruston soil indicated rapid development of reducing conditions in the columns. This occurred regardless of whether the input solution was oygenated, however, lower Eh values occurred in the Ruston soil with higher organic matter. Movement of a pulse of P through soil columns showed little retardation, and was generally consistent with predictions based on batch sorption isotherms. The Eh of the soil suspension in the sorption study indicated reducing conditions nearly equal to those in the soil columns.

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