Factors Influencing Subsurface Migration of Phosphorus in Sandy Soils. (S06-zhang085518-Poster)

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Abstract:

Many factors control phosphorus (P) loss from soils. However, limited information is available on how the factors are linked to downward migration of P in soils. This study was conducted to evaluate factors influencing potential migration of P in the subsurface of sandy soils. Phosphorus migration was dependent on soil properties. High electrical conductivity values retarded colloid stability and transportability of particulate P. Electrical conductivity was negatively correlated with colloid and reactive particulate P (RPP) concentrations, whereas total reactive P (TRP) and dissolved reactive P (DRP) concentrations in the leachate were mainly controlled by the P adsorption capacity and the P levels in the subsoil. The particulate P in the leachates was positively correlated with the colloid concentration. Increasing concentration of colloid in the influent significantly increased the colloid concentration in the leachate. Increasing concentration of P in the influent had little effect on P recovery in the leachates, but obviously absolute P concentration was increased.

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