The Role of Amorphous and Organically Metals in Phosphorus Sorption of Calcareous Soils. (S11-leytem082141-Oral)

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Abstract:

Understanding P sorption of calcareous soils is important for developing fertilizer and manure management practices for the protection of water quality. This study was conducted to identify those soil chemical properties controlling the sorption of P in semi-arid calcareous soils of the Pacific Northwest. Samples of 19 mainly calcareous soils ranging widely in soil chemical properties were equilibrated for 24 h with solutions between 0 and 900 mg P L-1. Most soils conformed to the two-surface langmuir equation up to a point where the slope of the isotherm changed abruptly (the sorption isotherm inflection point), suggesting precipitation. Phosphorus sorption maxima were correlated with amorphous and organically complexed metals, suggesting their importance in controlling P sorption in these calcareous soils.

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