

PHOSPHORUS MINERALIZATION IN SOME SOIL SERIES OF PESHAWAR VALLEY

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ABSTRACT

In this research work investigations related to some aspects of phosphorus (P) cycling in six soil series of Peshawar Valley, NWFP were carried out. Phosphorus mineralization was studied and correlated with physico-chemical properties. Soil samples containing 19 to 22% (w/w) moisture were incubated at 25°C for 0-6 weeks and AB-DTPA extractable P was determined at expiration of 0, 1, 3 and 6 weeks for mineralization study. Extractable P ranged from 0.4 to 6.08 mg P kg⁻¹ soil. During incubation, the AB-DTPA extractable P increased by 11.2 to 60% in all the soils showing increases of 0.14 to 0.68 mg P kg⁻¹ soil/week. These increases may be due to chemical or biological processes. These soils contain CaCO₃, which might sorb organic P, or form insoluble Ca phosphates and thus decreased the rate of mineralization. This contention is supported by the significant correlation between CaCO₃ and mineralized P.