PHOSPHORUS AVAILABILITY INDICES FOR LOWLAND RICE IN ALKALINE CALCAREOUS SOILS

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ABSTRACT

Pot culture studies were conducted to find a suitable soil test for P nutrition of lowland rice on calcareous alkaline soils. Various soil P test procedures evaluated were: Olsen's, AB-DTPA, $NaHCO_3$-EDTA and Mehlich's-3. Different soil properties viz.: EC, pH and lime related negatively with P determined by these methods. These properties also had a negative effect on the rice dry matter yield and concentration and uptake of P by plants. Phosphorus extracted by Olsen, $NaHCO_3$-EDTA, AB-DTPA and Mehlich-3 had a highly significant correlation with dry matter yield and P uptake in plants. Phosphorus extracted by AB-DTPA both under aerobic and anaerobic conditions significantly correlated with each other.