Pak. J. Agri. Sci.
26(3) 290, 1989

POTASSIUM REMOVAL FROM THREE ALLUVIAL SOILS BY GREENHOUSE AND LABORATORY PROCEDURES

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A pot experiment was conducted on the Shahdara, Nabipur and LyaUpur soil series to study the relationship between potassium uptake by wheat cv. LU26S and the amount extracted by various extractants, like ~20,lN N~40Ac, 0.5N MgOAc, 0.025N $CaCl_2$ and IN HNO)':1 Nitrogen at the rate of 0, 150 and 200 kg N ha^{-1} and pj1osphorus at the rate of 0, 44 and 66 kg P ha were applied. The highest correlation (r = 0.984) between IN $NH_4$0Ac extractable potassium and plant uptake was obtained when no NP fertilizers were applied while 0.025 N $CaCl_2$ gave the highest correlations of r = 0.936 and r = 0',815 for $N_{150}P_{44}$ and $N_{200}P_{66}$ treatments, respectively.

INTRODUCTION

There have been many attempts to characterize the nutrient supplying power of soils by simulating the feeding action of plant roots and through determining the available fraction of nutrients during the vegetative growth (Soltanpour and Schwab, 1977). There is a general consensus that most of the cultivated soils in Pakistan have sufficient supply of available potassium for plant growth because of the dominance of Elite clay mineral (Ranjha, 1988). However, under intensive cropping, many soils are likely to be exhausted with respect to their potassium reserves and thus are becoming responsive to potassium fertilization (Malik et al., 1987).

In Pakistan, soils are designated as low, medium or high on the basis of $NH_4$0Ac test but without correlating the test

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