

Evaluation of soil fertility and potassium distribution in different soil series of Dewas district

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ABSTRACT : A study was carried out to estimate the different nutrient status in different soil series of Vertisol and amounts of potassium (K) fixed in soil Fractions were measured to evaluate the contributions of different soil size fractions to K fixation. The soils of the area are characterized by neutral to alkaline in pH and low to high in organic carbon content and calcareous in nature. The available macro and secondary nutrients N, P, K, S was low for nitrogen, sulphur and medium for phosphorus and high potassium, respectively. Regarding the micronutrients, Zn found deficient and Cu, Fe and B found to be sufficient. Different forms of potassium were studied in seven representative soils series of Dewas district. The water-soluble and Available potassium ranged from 6.99 to 9.79 and 177.9 to 2235.79 mg/kg. The exchangeable and non-exchangeable potassium ranged from 171 to 226 mg/kg and 314 to 456.1 mg/kg. The lattice and total potassium ranges were found 4998.71 to 7208.14 mg/kg and 5490 to 7900 mg/kg. The distribution of potassium fractions in different soil series were found highest in Sarol series.

Key Words : Fertility, soil series, potassium fractions, potassium, K fixation.