

## Distribution of Potassium Fractions in Major Soil Orders of Haryana

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**Abstract**—The potassium (K) status of group of soils representing major soil orders of Haryana was evaluated. The results revealed that the soils contained a large mineral K fraction (95.6%). The amount of total potassium varied from 36.73 to 51.47 cmol (+) kg<sup>-1</sup> with a mean value of 45.23 cmol (+) kg<sup>-1</sup>. The water soluble, exchangeable and non-exchangeable potassium varied from 0.01 to 0.04, 0.18 to 0.42 and 0.56 to 2.55 cmol (+) kg<sup>-1</sup> with a mean value of 0.26, 0.28 and 1.42 cmol (+) kg<sup>-1</sup>, respectively. The Inceptisols and Alfisols of sub humid region had higher amount of water soluble K compared to Aridisols and Entisols of semiarid to arid soils. The total K content varied from 31.02 to 53.85 cmol (+) kg<sup>-1</sup> in sand, from 42.30 to 51.28 cmol (+) kg<sup>-1</sup> in silt and from 51.43 to 62.82 in clay fraction with an average value of 41.27, 45.72 and 59.24 cmol (+) kg<sup>-1</sup>, respectively. As far as contribution of different fractions to total K is concerned, sand contributed 45.13 to 81.02 percent, silt 1.30 to 22.17 percent and clay contributed 8.19 to 34.63 percent to total K in soils. The HNO<sub>3</sub> extractable K content varied from 0.39 to 2.53 cmol (+) kg<sup>-1</sup> in sand, from 1.09 to 3.74 cmol (+) kg<sup>-1</sup> in silt and from 2.02 to 8.61 cmol (+) kg<sup>-1</sup> in clay fraction with an average value of 1.64, 2.17 and 5.20 cmol (+) kg<sup>-1</sup>, respectively. The positive coefficients of correlation amongst the forms of K suggest that K forms are present in dynamic equilibria.

**Keywords:** Potassium, Soil Order, Exchangeable, Correlation, Equilibria.