# POTASSIUM RELEASE CHARACTERISTICS OF SAND AND SILT IN RELATION TO SOIL PARENT MATERIAL AND WEATHERING STAGE

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**ABSTRACT**

***Sand (2-0.05 mm) and silt (50-2μm) from 24 soils representing the parent materials: less, moderately and highly weathered alluvium; shale and limestone; sandstone; granite and granodiorite and less and moderately weathered loess were fractionated. The mineralogical composition and boiling $HNO_3$ extractable-K of the fractions were determined. Mineralogical composition of the sand and silt varied with the source of parent material. The sand fraction of the alluvial soils was mainly composed of quartz, feldspar and biotite mica. The granite and granodiorite derived soils had lesser mica and greater Ca-feldspar and chlorite in the sand. The silt fraction was mainly composed of quartz, mica, and chlorite. The moderately weathered silt had lower biotite than muscovite. The less weathered alluvial soils contained the highest extractable-K both in sand and silt fractions. It varied from 1040 to 6160 mg $kg^{-1}$ in the sand and 828 to 3030 mg $kg^{-1}$ in the silt. Extractable K in the moderately weathered alluvial soils varied from 110 to 900 mg $kg^{-1}$ in the sand and 920 to 3220 mg $kg^{-1}$ in the silt. The soils derived from shale, sandstone and limestone had the lowest extractable K ranging from 94 to 1360 mg $kg^{-1}$ in sand and 170 to 2700 mg $kg^{-1}$ in the silt fraction. The granite and granodiorite derived soils contained an intermediate amount of extractable K that ranged from 1170 to 2900 mg $kg^{-1}$ in the sand and 1280 to 2350 mg $kg^{-1}$ in the silt. The extractable K thus had strong relation with the parent material and weathering stage. Extractable-K was positively correlated with total Fe + Mg and mica content in the sand and silt fraction. Correlation was in the order Fe > Mg > mica > K- feldspar.***