POTASSIUM LEACHING AND CHANGES OF EXCHANGEABLE AND RESERVE K IN TWO SRI LANKAN SOILS.

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A leaching column experiment was conducted using disturbed top soil (0-20 cm) and undisturbed sub soil (20-50 cm) of a Reddish Brown Earth (RBE) and Non Calcic Brown soil (NCB). The treatments were bare soil, Soil+K, Soil+crop(rice) without K and Soil + crop(rice) + K. Duration of the experiment was one month. The amount of K applied was comparable to k- recommendation for rice. The columns were daily irrigated with 340ml of distilled water per column and K was determined in daily collected leachate. At the end of the experiment, soil columns were separated into 10cm segments and these were analysed for Reserve K and Exchangeable K.

Potassium leaching was almost double in the NCB compared to RBE in all treatments which may have been caused by the lower CEC and sandy nature of NCB. Leaching reduced by presence of the crop however increased in both soils by K application. There was a gradual decrease of exchangeable K in all depths of both soils but the levels were higher in RBE than in NCB. K. application has compensated this decrease partly. The depletion of K reserve was much prominant in NCB. This depletion was in the order Soil > Soil + Crop > Soil + K > Soil + crop.

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