MOBILITY OF POTASSIUM RESERVES IN AN ALFISOL UNDER IRRIGATED PADDY AT DIFFERENT POTASSIUM AND NITROGEN LEVELS

N.J. Liyanage, G. Keerthisinghe,
A.N. Jayakody and M.W. Thenabadu
Dept. of Soil Science, University of Peradeniya

Mobility of K reserves in Alfisol under irrigated paddy was studied at different K and N levels, considering 0 - 20, 20 -40 and 40 - 60 cm depths. The design was RCBD with three replicates. K and N levels studied were 0 (k-0), 45 (K-1) and 90 (K-2) Kg/ha and 0 (N-1), 45 (N-2), 90 (N-3), 130 (N-4) and 180 (n-5) Kg/ha, respectively. Soil samples were drawn from each plot at transplanting, one month and two months after transplanting and at harvest. K reserves were determined by HF/HCl digestion.

All treatments showed considerable changes in K reserves. During the first month after transplanting a decreasing tendency of K was observed irrespective of treatments except for N4K2 combination at the third depth. The tendency of change of K reserves during the second month after transplanting up to the harvest was increasing except for N3KO combination at the first depth. Lowest K reserves were observed at the 3rd sampling. This may have been caused by the intensive K uptake. The observed later increase reaching almost the initial reserve levels could be due to low rate of K uptake and supply of K by TDM and irrigation water.

There were no significant differences of K reserves related to different K levels and different sampling stages. This phenomenon was common for first and third depths where as only in the second depth the differences were significant.

This study was supported by CIDA/NARESA.