

MOBILITY OF K RESERVES IN A SOIL UNDER
IRRIGATED PADDY AT DIFFERENT K LEVELS

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Mobility of K reserves in a Reddish Brown Earth under irrigated paddy was studied at different K levels considering three different depths. The field design was a RCBD with three replicates. The K levels studied were 0, 45 and 90 kg ha⁻¹ and the depth considered were 0-20, 20-40 and 40-60 cm. Composite soil samples were drawn from each plot at transplanting, 30 and 60 days after transplanting as well as at harvest. K reserves were determined in the fresh samples using HF/HCl method.

Irrespective of K levels and depths significant changes of K reserves were observed throughout the vegetation period. Upto the second month the K reserves indicated a decreasing tendency whereas during the rest of the period an increasing tendency was observed. Such changes may have been caused by plant uptake and K gains over fertilizers and irrigation water. At K-0 level, the rate of decreasing and increasing tendencies of K reserves were much lower compared to K-45 and K-90 levels. Highest K reserves were observed at K-90 level throughout the vegetation except for the 0-20 cm depth of the 3rd sampling.

Significant changes of K reserves were observed in different depths considered, irrespective of K levels and stages. Rate of changes in K reserves was highest in the 20-40 cm depth and lowest in 40-60 cm depth. Apparently there was a simultaneous supply of K to the top-soil and to the crop from the 20-40 cm depth until 60 days.

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