LEACHING OF POTASSIUM FROM TWO DRY ZONE SOILS, TWO GREEN MANURES AND TWO AGRICULTURAL WASTES.

Jegatheswary Navaratnam and Mervyn W. Thenabadu,
Faculty of Agriculture, University of Peradeniya.

A laboratory experiment was conducted to study potassium leaching from surface soils of a Non-Calcic Brown and a Reddish Brown Earth. Surface soil samples (0-20 cm) were used in 90 cm long P.V.C. pipes of 8.5cm diameter. Rice-straw was incorporated with soil at 5 tons per ha rate. Potassium as KCl was added in the same amounts found in straw to soil columns. Columns without treatments served as controls. Distilled water, 250 ml was added daily to each soil column, and leachates were collected daily for 20 days and analysed for K. The addition of rice-straw into the soil, led to more K in solution, than that from KCl added soils. Non-Calcic Brown soil was found to be more prone to K leaching than the Reddish Brown Earth.

Chopped leaves of Gliricidia maculata, Tithonia diversifolia, rice straw and coir dust were treated with distilled water and filtered continuously for 20 days to monitor the K released. In this way it was found that fresh leaves of Gliricidia and Tithonia lost approximately 57 and 36 percent of the total K respectively, and dried leaves of these plants lost 85 and 59 percent of the total K in 20 days. Coir dust lost 54 and rice straw lost 75 percent of the total K during this time.

Results indicates the potential of these materials in supplying K to plants if used as a much or if incorporated into soil.