NITROGEN LEACHING IN A NON CALCIC BROWN SOIL FOLLOWING UREA APPLICATION

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A lysimeter experiment was conducted in Maha 85/86 and in Yala '86 to evaluate N leaching in a Non Calcic Brown Soil under irrigated paddy cultivation. Lysimeters were constructed using ordinary oil drums filled with undisturbed soil cores. These were installed in the farmers' fields at Aralaganwila and were planted with rice, adopting recommended cultural practices. Leachates were collected within a period of 30 hours subsequent to the first and the second top dressings using urea as the N source. Nitrate, Nitrite, Ammonium and organic Nitrogen contents were determined in these leachates to evaluate the N leaching.

The results showed that the total amounts of N leached during the 30 hour period were almost similar at respective dressings irrespective of the season. However, the amounts of N leached at the first top dressings; ie. about 3 kg ha^{-1}, were about nine times higher than at the second top dressings. This phenomenon eventually indicated a better retention of N in the top soil as a result of the well developed root system at the second top dressings.

The domination of Nitrate Nitrogen form in the leachate indicated a higher degree of nitrification in this soil.

Average percentages of Nitrate-N, Ammonium-N, Nitrite-N and organic N in the leachates were 66, 17, 12 and 5 respectively.

10th Dec. 1987 (Thursday) 01.15 p.m. - 01.30 p.m.