

STUDIES ON NITROGEN LOSSES DUE TO VOLATILIZATION IN RICE SOILS

C. S. Weeraratna

(Faculty of Agriculture, Ruhuna University College,
Matara)

Results of a number of greenhouse and field studies indicate that the efficiency with which rice utilizes applied nitrogen is considerably low(1). This is mainly attributed to high losses of applied nitrogen and these losses are due to volatilization, denitrification and leaching.

An experiment was conducted in Maahas clay, and Haplaquoll at the experimental farm of the International Rice Research Institute, Philippines, using ammonium sulphate and urea containing labelled nitrogen. PVC tubes, pushed into a uniformly puddled soil were filled with solutions of one of the two fertilizer materials. The content of the whole PVC tube was analysed for N¹⁵ labelled nitrogen fertilizer after a period of one week.

Results indicate that during the experimental period, approximately 60% and 40% of the N applied were lost from ammonium sulphate and urea respectively. The losses due to volatilization alone were 40% and 32% respectively.

Reference

1. Craswell, E. T. and Vlek, P. L. G. Fate of fertilizer nitrogen applied to wetland rice. In Nitrogen and rice, Los Banos, Philippines: International Rice Research Institute, 1979. pp. 175-192.