

**ORGANIC NITROGEN SOURCES AND NITRIFICATION INHIBITORS ON
LEACHING AND
PHYTO-ACCUMULATION OF NITRATE AND YIELD OF *AMARANTHUS
POLYGAMOUS***

K. Sivasakthy and N. Gnanavelrajah

Department of Agricultural Chemistry, Faculty of Agriculture, University of Jaffna, Sri Lanka

ABSTRACT

Nitrate pollution of ground water and nitrate accumulation in edible tissues are main issues due to heavy doses of nitrogen fertilizer application. A pot experiment with *Amaranthus polygamous* was carried out in *Calcic red yellow latosols (Eutruxox)* of Sri Lanka fertilized with urea, compost and poultry manure with and without locally available nitrification inhibitors *Azadirachta indica* leaf powder or *Lantana camera* leaf powder to quantify NO⁻-leaching loss and NO⁻-accumulation in edible tissues and yield. Treatments were T(urea) ,T(compost), T(poultry manure), T(urea +*Azadirachta indica* leaf powder), T(compost +*Azadirachta indica* leaf powder), T(poultry manure +*Azadirachta indica* leaf powder) and T (urea + *Lantana camera* leaf powder). Completely randomized design was used with three replicates. Analysis of variance and Least Significant Difference test was performed at 5% significant level. Results indicated that poultry manure and compost have potential in terms of reducing nitrate leaching loss and reduce nitrate accumulation risk in edible tissues, compared to urea. Further, reduction in nitrate leaching losses is also possible through incorporation of tested nitrification inhibitors with urea, poultry manure and compost. However, yield was not significantly different in any treatment.