

**BLENDING UREA WITH ORGANIC MATERIALS POSSESSING ANTIMICROBIAL  
PROPERTY ON NITRIFICATION AND AMMONIA VOLATILIZATION IN A  
TROPICAL SOIL**

Gnanavelrajah, N.

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

**ABSTRACT**

Different organic materials possess antimicrobial properties have the ability to retard nitrification. Nitrification retarders could be successfully used to improve fertilizer efficiency if the retarders do not increase ammonia volatilization as well. The main objective of this study was to find whether any locally available organic materials namely cow dung, seed crush of *Syzygium cumini*, *Lantana camara* leaf powder, tea residue (*Camellia sinensis*), *Azadiracta indica* leaf powder and *Azadiracta indica* seed crush which possess antimicrobial property could be used as nitrification retarder in *Eutruxox* soils of Sri Lanka. The effect of these organic materials on ammonia volatilization losses of applied urea was also studied. The treatments applied were, urea alone (T<sub>1</sub>), urea with cow dung (T<sub>2</sub>), *Syzygium cumini* seed crush (T<sub>3</sub>), *Lantana camara* leaf powder (T<sub>4</sub>), tea residue (T<sub>5</sub>), *Azadiracta indica* leaf powder (T<sub>6</sub>) and *Azadiracta indica* seed crush (T<sub>7</sub>) respectively. Organic materials were mixed with fertilizer at the rate of the N added as urea (200 mg/kg). A Completely Randomized Design with three replicates was adopted. The statistical analysis of results indicate the possibility of using *Lantana camara* leaf, *Azadiracta indica* leaf and *Azadiracta indica* seed as a means of minimizing ammonia volatilization and retarding nitrification in *Eutruxox* soils of Sri Lanka.