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**Effect of particle size and soil texture on soil nitrogen mineralization**

B C Walpola\*, W A A Priyangi and P K U Pitigala

*Department of Soil Science, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya, Sri Lanka*

Decline in soil productivity and environmental quality and progressive deterioration of natural resources in the tropics have led to a search for new methods to sustain crop production via more efficient nutrient cycling. In tropical agricultural systems with limited access to fertilizers, plant residues are often used to meet the N requirements of most of the crops. Plant residues, particularly leguminous residues, are an important source of N to crops in low input agricultural systems, and contribute significantly to the N requirements of crops. A study on *Gliricidia* leaves decomposition was conducted under laboratory conditions to elucidate the effect of the particle size ( $S_1 \leq 0.5$  mm,  $S_2 = 4$  mm) and texture of soil ( $T_1 =$  Sandy clay loam,  $T_2 =$  loamy sand) on nitrogen mineralization after incorporation in to the soil.

The early stages of the incubation were found to be significantly influenced by the particle size of the *Gliricidia* leaves. However, in the case of  $\text{NO}_3^-$ -N mineralization, no any treatment was found to be significant. Present results revealed that nitrogen mineralization of *Gliricidia* leaves were affected by the texture of the soil. Sandy clay loam soil (clay 28%) showed higher N mineralization when compared with loamy sand soil (clay 9%). It is important to standardize residue particle size and residue quality determination to relate their intrinsic chemical characteristics with their rate of N mineralization.

\*bcwalpola@soil.ruh.ac.lk

Tel: 041-2292200 Ext. 221