B-51: Decomposition of organic amendments in soils with different amounts of organic C

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The effect of 3 types of organic matter amendments (OMA) on nitrogen mineralization in 3 soils having widely different % C was studied.

The OMA used were *Gliricidia sepium* leaves (GS), rice straw (RS) and coir dust (CD). The soil were Anuradhapura soil (Reddish Brown Earth - Alfisol), Kandy soil (Reddish Brown Latasolic - Ultisol) and Matara soil (Red Yellow Padzolic - Ultisol), having % C of 0.16, 3.34 and 10.55 respectively.

The N mineralization from soil organic matter (SOM) was determined using the method of Stanford and Smith (1972) while the C and N release from the killed microbial biomass (MB) was evaluated using the Fumigation-Incubation method of Jenkinson and Powlson (1976).

Highest C and N mineralization rates were observed in Matara soil which had high contents of total C and N, and it was followed by Kandy and Anuradhapura soils respectively. The soil amended with RS gave the highest C mineralization while the soil amended with GS gave the highest rate of N release. RS and CD immobilized soil N. Microbial biomass in the 3 soils did not contribute substantially to the total soil C and N pools.

It was observed that the N-mineralization varied with the soil, as well as the type of OMA.