Effect of Rice Plant and Urea on Soil Organic Matter Content in Lowland Paddy Field at Bayawa Minor Irrigation System in Kurunagala District

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ABSTRACT: *Soil organic matter (SOM) plays an important role in determining the land productivity. Biomass accumulation and decomposition in a low land paddy field under submerged condition may be affected by weather conditions and agronomic practices. The effect of rice plant and fertilizer on the SOM content with time and soil depth was investigated. Two factors (fertilizer: with urea, without urea, and plant: with rice plant, without rice plant) with four treatment combinations were designed in a randomized complete block design with three blocks. This study was conducted in Bayawa minor irrigation system in Kurunagala district during the 2013/2014 Maha season. The soil samples at 0 - 8, 8 - 16, 16 - 24 and 24 - 32 cm depths at 27, 43, 65 and 98 days after sowing (DAS) were collected and SOM was measured using the standard method. Data were analyzed as a factorial design. The interaction between fertilizer and depth found to be significant (p=0.0303). At the depth of 24 - 32 cm, the SOM content was significantly higher without urea than with urea. Fertilizer also showed a significant (p=0.0235) interaction with DAS. The SOM content at 43 DAS is higher with urea than without urea while it is reverse at 65 DAS. Therefore, urea application has an influence on SOM content at different depths and time.*

Keywords*: Fertilizer, paddy field, plant, soil depth, soil organic matter*

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