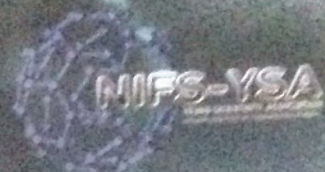




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Microbial Biomass Carbon status of paddy growing soils in dry zone, Sri Lanka

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Soil microbial biomass can be considered as a one of the key ecological indicators that plays crucial role to sink available nutrients for plant growth. It is an integral part of decomposer subsystem. Soil microorganisms contributed to valuable ecosystem functions such as organic matter decomposition, nutrient cycling, transformation and mineralization. A very small alteration in the soil microbial biomass is directly influences on ecosystem health and soil fertility. Therefore, microbiological status is considered as valuable indicator of soil health in restoration of disturbed ecosystems. The current study shows the Microbial Biomass Carbon (MBC) status of paddy growing soils in the dry zone of Sri Lanka in related to some soil parameters. 123 locations from Northern and North Central provinces including Jaffna, Kilinochchi, Vavuniya and Anuradhapura districts were sampled for soil using conditional Latin hypercube sampling (cLHS) design to study the MBC status in dry zone. Accordingly, soil MBC was determined from each location using chloroform fumigation and extraction method. Soil pH, Electrical Conductivity (EC) and Moisture Content (MC) were also examined. The results revealed that, the soil MBC ranged between 0.0002 to 0.219% where most of the soil pH values are within near neutral range in the considered area. Anuradhapura and Vavuniya districts soils showed the higher MBC content relative to other districts. Retaining crop residues may affect to the soil microbial community in these two districts as shown by the high values of MBC. These

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