

Effects of Natural and Inorganic Management Practices On the Soil Properties of Sandy Regosols during Yala Season in Batticaloa District

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ABSTRACT. Quality of soil is critical for plant growth, and hence, important to agriculture. Management practices that are appropriate to improve soil characteristics and climate can enhance soil quality and its fertility. Natural soil management is a sustainable way of managing soil that benefits from recycling of natural resources. A field experiment was conducted at the Crop Farm, Eastern University, Sri Lanka to study the effects of natural and inorganic soil management practices during Yala 2010. Two separate plots having 50 square meter extent were selected for this experiment. One plot was managed naturally (natural soil) with mulching, green manuring and application of soil amendments (Jiwamirta and Amutha karaisal) whereas other plot (inorganic soil) was managed based on the recommendations of Department of Agriculture, Sri Lanka including chemical fertilizers. Five soil samples from each plot were analyzed for soil properties namely moisture content (MC), pH, electrical conductivity (EC), total nitrogen, available potassium and phosphorus and organic matter (OM). Statistical analysis was carried out using SAS. Natural soil consisted significantly ($P < 0.05$) higher MC than the inorganic soil. The natural soil had a neutral pH while the inorganic soil was acidic. OM content, EC, total nitrogen and available potassium were significantly higher ($P < 0.05$) in natural soil. However, available phosphorus was significantly lower in natural soil. Therefore, it could be concluded that natural soil management practices improved soil properties better than inorganic practices which could be environmental friendly and economically beneficial for the farmers.

Key words: Inorganic Management, Mulching, Natural Management, Soil Properties.

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