



Comparative study of soil supplemented with chemical fertilizer and compost in terms of its physico-chemical properties and Microbial biomass carbon

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Abstract : *The soil microbial biomass carbon is a sensitive indicator of change resulting from agronomic practices and it is directly related to the amount and quality of carbon and other nutrients available in the soil. A study was conducted to estimate the impact of organic and inorganic fertilizer on the microbial biomass carbon and physico-chemical properties of the soil. The organic fertilizer included farmyard manure and vermicompost while the inorganic fertilizer was the mixture of urea and diammonium phosphate. Replicates were maintained for each treatment. A control was also set up without the addition of any fertilizer. The study was carried on for a period of two months. The results showed that microbial biomass carbon, organic carbon and available*

potassium were higher in organically amended soils as compared to chemical fertilizer and control. Inorganically treated soil showed highest content of available nitrogen and available phosphorous followed by organically treated soils and least in control. This could be explained by the ratio of fertilizer being applied. The application of both organic and inorganic fertilizers increased the organic carbon content of the soil, thereby increasing the microbial biomass carbon. This may be attributed to better nutrient status of the soil.

Key words: *Microbial biomass carbon, organic and inorganic fertilizer.*