

EFFECTS OF LAND USE CHANGES ON SOME SOIL QUALITY INDICATORS OF SAMAN REGION (CHAHARMAHAL VA BAKHTIARI PROVINCE- IRAN)

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INTRODUCTION

Soil organic carbon has been the most important soil quality measurement factors and has intense relation with soil physical, chemical and biological characteristics (Carter, 2002). Organic matter and its components are important factors of soil aggregates constitution and soil stability and play significant role in its structure (Lal, 2006);(Stott et al , 1999). So, this research has done for achieving the impact of different land uses on various forms of soil organic carboner.

MATERIALS AND METHODS

The studied area is around saman – one of the chahmahalobakhtiari counties in distance 20-30 km northeast of shahrekord. In this study, from 127 point in 3 land uses of fruit garden, degraded range, and dry farming, soil sampling of surface depth 0-30 cm was done. The samples were analyzed chemically and physically. Also ,soil organic carbon supply, mean weight diameter of aggregates, particulate organic carbon in macro and micro soil aggregates and total particulate organic carbon were determined. For considering lands use effect on soil characteristics and physical distribution of organic carbon in the studied area, variance analysis were done and averages of means were compared by dancon method by SAS software.

RESULTS AND DISCUSSION

comparing soil characteristics in 3 land uses of garden, degraded range and dry farming showed that land uses have changed total soil organic , soil nitrogen, EC, soil organic carbon supply, mean weight diameter, particulate organic carbon in macro and micro aggregates and total particulate organic carbon significantly. However, there were not any significant differences in PH, CaCO₃ content and soil bulk density magnitudes of the soils. In garden land use, the most total organic carbon, total nitrogen content, soil organic carbon supply , mean weight diameter of soil aggregates, particulate organic carbon in macro and micro aggregates and total particulate organic carbon have observed. It is suggested that increasing of the mentioned attributes is due to irrigation and fertilization of the garden land use relative to other land uses that have not any of above management operation.

Keywords: POM , MWD , POM(mic) , POM(mac)

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