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Effect of a long-term cultivation on soil organic carbon content of Mollisols

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Soil organic matter, the organic fraction of the soil, is a complex mixture of plant and animal products in various stages of decomposition, soil microbes, and substances produced by them. The importance of organic carbon to the physical, chemical, and biological aspects of soil quality is well recognized. In this research, we studied effect of 34 years cultivation on soil organic carbon (SOC) content. Soil were classified as Mollisols in 8 soil. Series and samples were collected from 0-30 cm depth. Statistical analysis were performed on the soil organic carbon of the past (34 years ago) and present time. Analysis of variance showed a significant correlation ($p < 0.05$) for SOC. The minimum and maximum SOC decrease were 133400 and 1704733.33 g carbon/ha respectively. The significant loss of SOC has a dramatic impact an environmental quality and sustainable agricultural. In a few cases there was an increase in SOC up to 564375 g carbon/ha which could point to a favorable management, application of manure, and incorporation of the crop residues.