Abstract

Soil is comprised of minerals, SOM, water, and air. Soil development is caused by climate and living matter acting upon parent material (weathered mineral or organic matter from which the soil develops), as conditioned by topography, over time. SOM is a dynamic component of the soils system. Plant productivity is effected by the SOM. SOM provide nutrients and habitat to the organisms living in the soil, including plants, roots and SOM also binds soil particles into aggregates and improves the water holding capacity of soil. SOM is a product of biological decomposition that affects the chemical and physical properties of the soil and its overall fertility. Humus is only partly metabolized by soil organisms but improves the physical and chemical properties of soil. It consists of different humic substances: fulvic acid, humic acid, and humin. Soil is a solid material that results from the interaction of weathering and biological activity on the parent material or underlying hard rock. The fundamental pedogenic processes, used also as a criterion for classifying soils, is associated with SOM accumulation. We discuss the nature and interrelations of the SOM humification and accumulation processes during pedogenesis and the environmental factors on pedogenic processes influencing the rate of SOM accumulation such as climate, organisms, parent material, topography, and time.

Keywords: soil organic matter, humus, soil, pedogenesis, humification, and SOM accumulation