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Effect of Different Land Use Systems on Soil Carbon Storage and Structural Indices in Abakaliki, Nigeria

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***Abstract*:** Land use systems were studied to determine their relative capacities for soil carbon storage) and its effect on structural indices in 2015 and 2016. Soil samples collected from three depths in each LUS were analyzed for SCS, bulk density, total porosity, aggregate stability and dispersion ratio. Most of the parameters showed moderate (CV%>20) to high (CV%>50) coefficients of variation and non limiting values for soil productivity and stabilization in some seasons and depths. Sewage sludge dumped soil use consistently maintained higher SCS and soil stabilization more than other land uses in some seasons and depths. Carbon iv oxide emission and high soil structural stabilization could be achieved by practice of good land use system.

Keywords: Carbon storage, Capture, Indices, Land use system, Soil