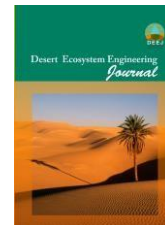




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Soil carbon sequestration potential in desert lands affected two species of *Haloxylon aphyllum* and *Stipagrostis plumosa* (Aran-o-Bidgol, Iran)

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Abstract

Climate change is one of the most important challenges in sustainable development that has negative effects on the ecosystems, land and water. The main cause of this phenomenon is, increasing the concentration of CO₂ in the atmosphere. The main method for reducing at CO₂ atmosphere is increasing global carbon storage in soils, in other hand 75% total carbon stock on land has stored in soils. The soil plays main role in the global carbon cycle balance atmospheric CO₂. The aim of this study was investigation on soil carbon sequestration potential two dominant desert species in Maranjab Desert. After digging out the profiles under canopy and out of canopy depth was defined in both the first and second depth. Then harvest and transport the samples to the laboratory, measure carbon in soil horizons with Walkey and Black. Results obtained from statistical analysis to estimate the rate of carbon sequestration in soils showed that, between *Haloxylon* and *Stipagrostis* species, as well as first and second depth below the canopy and the out of canopy, there are significant differences. The mean depth showed that the first sub-canopy species *Haloxylon* (0-30 cm) has the highest carbon sequestration in the study area, and was in a separate group, and other factors were considered, all were in a group.

Keywords: Carbon Sequestration, Sustainable Development, *Haloxylon*, *stipagrostis*, Maranjab.

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