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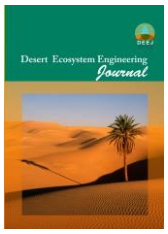

Comparing soil carbon reservation in *Stipa barbata* and *Salsola rigida* types in Akhtar Abad of Shahr-e- Yar

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Abstract

Climate changing and increase of global warming are two of the most important challenges in sustainable development, which is due to increase of concentration of greenhouse gasses and CO2 in atmosphere. Rangelands have approximately half of the worlds land area and also have a large potential to sequester carbon. Regarding this, the current research was conducted to compare carbon accumulation in two vegetation types (*Stipa barbata* and *Salsola rigida*) in Akhtar Abad of Shahr-e-Yar in Tehran province. Content and distribution of aboveground, underground biomass, litter and soil carbon was determined. Sampling of plant and soil performed using Random-systematic method and samples transported to laboratory. Soil samples were taken from depth of 0-30 in 15 profiles. Results showed that all of soil properties except to lime and P were significantly different in *Stipa barbata* and *Salsola rigida* types. Organic carbon content in *S.rigida* soil (33.25 t/ha) was higher compared to *S. barbata* soil (30.48 t/ha). Control soil organic carbon was smaller than both types (25.52 t/ha). Despite the mentioned amounts of soil carbon, there was no significant difference between S.barbata and *S. rigida* soils carbon storage. Also no significant difference was observed between control area soil and *S. barbata* soil carbon accumulation while carbon storage of control and *S. salsola* soils was significantly different.

Keywords: Carbon accumulation, Greenhouse gasses, *Stipa barbata*, *Salsola rigida*, Akhtar Abad Shar-e-Yar.

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