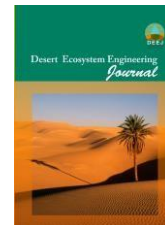




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Effect of Grazing Intensity on the Density and Diversity of Soil Seed Bank (Case Study: Ghoshah Region, Semnan Province)

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Abstract

At this research, the effect of the grazing intensity on the features of the soil seed bank in shrub lands in arid zones in Semnan province was studied. The sampling area (500 hectares) was determined including no-grazing area (un-grazed 15 years), the moderate grazing intensity and the high grazing intensity area near the close of interval each other. In each treatment of soil sampling, systematic sampling was done within the 20 plots of 1×1 m intervals along 4 transect of 50 meters and a length of 200 m. Soil samples from each plot at depths of 0-5 and 5-10 cm and radius 3 cm was done by Auger. In each treatment, a total of 20 samples and finally 60 soil samples were collected and transferred to the greenhouse environment. Soil samples were planted with dimensions of 40 x 40 cm sieve containers. After finishing the greenhouse cultivation, seed density per unit area in terms of number of species per square meter was calculated. Considering the density of seeds per square meter, the ratio of frequency of each species to all species was calculated. One-way ANOVA was used to compare the data. Independent student t -test used to compare characteristics of the seed bank was also studied in tow depths. Results show a significant effect because the intensity and depth of seeding is. Both moderate and heavy grazing treatments were created impact on soil seed bank density per unit area. The highest and lowest seed density fluctuations due to the increased depth of the treatments no-grazing (43.5%) and heavy grazing (21.9%) was estimated. The average grazing intensity not changes significantly in the soil seed bank diversity than Un-grazed areas in different layers. But in the heavy grazing, soil seed bank diversity was significantly decreased in the first depth (39.5%) and the second depth (51%).

Keywords: Grazing intensity, seed variety, Seed density, soil seed bank, Semnan.

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