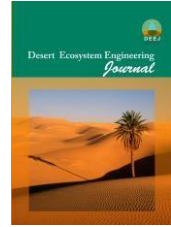




University of Kashan

Desert Ecosystem Engineering Journal

Journal homepage: <http://deej.kashanu.ac.ir>

## Effects of *Atriplex Canescens* On Soil Properties And Organisms' Activities Under Grazing and Exclosure Conditions (Case study: Shahriar Rangelands)

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Received: 24/1/2016

Accepted: 9/10/2016

### Abstract

This study was conducted to evaluate the effects of *Atriplex canescens* on soil properties and organisms' activities under grazing and exclosure conditions at Shahriar rangelands. In each site, four transects were selected by random-systematic method and 10 quadrates of nine m<sup>2</sup> were established along transects with 30m intervals. In each quadrate, the amount of seed per plant, litter and the number of nests under shrubs were recorded. A number of five quadrates were also established randomly along each transect, and soil profiles were dug. Soil samples were taken at two depths to measure soil properties. Data analysis was performed by independent T-test and mean comparisons were done by Duncan's multiple range test. According to the obtained results, under exclosure condition, although the study species could increase the nitrogen and potassium of surface soil, increased sodium and EC negatively affected the soil. In addition, significant differences were found for the amount of seed and litter ( $p < 0.01$ ), and number of nests under shrubs ( $p < 0.05$ ). Our results clearly showed that exclosure could be effective in providing favorable vegetation conditions and increased activity of organisms. Due to the increased number of rodents and soil surface salinization, the negative impact of *Atriplex* planting was proved; therefore, the use of this plant should be limited to the areas in which the restoration of native plants is impossible or at least possible.

**Keywords:** *Atriplex canescens*, exclosure, soil properties, organisms' activities, Shahriar rangelands.

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