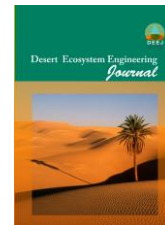




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## Investigating the Effect of Fire on Some Nutrient Availability and Chemical Properties of a Rangeland Soil (Case Study: Morvarid Rangeland, Darab Region)

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### Abstract

Fire can influence the stability of many natural habitats via changes in biological, chemical and physical properties of soil. The aim of the present study was to investigate the effects of fire on some chemical properties and nutrients availability in a rangeland soil. To perform this research, a fired area with a five-month history and a homogenized area close to it without fire were selected. Thirty samples of surface soil were collected by establishment of 15 plots in each area. Soil properties were analyzed using SPSS software via independent t-test. The results revealed that the rate of organic matter (2.15 folds), cation exchange capacity (21.65%) and electrical conductivity (3 folds) of fired soil were increased and the content of calcium carbonate equivalent (27.2%) and pH (4.5%) were decreased significantly. Also, the amount of total nitrogen (2.2 folds), available phosphorous (100%), potassium (66.5%), manganese (17 folds) and zinc (2.92 folds) were significantly increased in fired soil. The magnitude of available copper and iron didn't change as influenced by fire significantly. In general, the results showed that the fertility of soil was promoted as affected by short-term fire; however, long-term effects of fire must be evaluated and compared.

**Keywords:** Soil organic matter, Soil pH, Available phosphorous, Micro nutrients, Cation Exchange Capacity.

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