

Mineral content in some species of Leguminosae in Bandar Torkaman plain rangelands, Iran

Mohammadreza Tatian^A, Maedeh Yousefian^B, Reza Tamartash^A, Fatemeh Montazeri^C, Mehdi Jafari^D and Morteza Shaabani^E

^A Faculty of Agriculture Sciences and Natural Resources, University of Sari, Iran

^B PhD Student of Range Science, Islamic Azad University of Tehran, Iran

^C B.Sc. Student of Range Management, Agriculture Sciences and Natural Resources, University of Sari, Iran

^D Experts of Environmental Science, Natural Resources Organization, Sari, Iran

^E Department of Watershed Management, Sari Agricultural Sciences and Natural Resources University, Iran

Contact email: mr_t979@yahoo.com

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Introduction

Improving the forage quality and balance of their minerals in rangeland ecosystems is important for rangeland managers to improve livestock productivity (Mohamed *et al.* 2003; Epstein and Bloom 2005). This research investigated the amount of several minerals; Calcium (Ca), Phosphorus (P), Potassium (K) and Magnesium (Mg), in some important species of Leguminosae including *Medicago sativa*, *Trifolium repens*, *Trifolium pratense* and *Lathyrus pratensis*, that are grazed by livestock in the Bandar Torkaman plain rangelands in north of Iran.

Methods

The Bandar Torkaman site is one part of the eastern Miankaleh rangelands that is located south of the Caspian Sea and east of Mazandaran province (36°30' to 38°30' northern latitude and 53°5' to 56°15' eastern longitude). The elevation ranges from 20 m below to 500 m above sea level in high areas. The plant sampling was done from 40 plots randomly and one species in each plot were cut above the soil surface. The Ca, P, K and Mg composition of each species was determined in the laboratory using the Induced Coupled Plasma (ICP) methods.

Results

The result showed that the *Leguminosae* family had ability to absorb and store Ca, Mg, K and P. Among the species including *M. sativa*, *T. repens*, *T. pratense* and *L. pratensis*, the *T. repens* species had the greatest ability to absorb and store Mg, P, Ca and K. *M. sativa* was second in its ability to absorb Ca and K while *L. pratensis* was second in its ability to absorb Mg and P (Fig. 1).

Conclusion

Each species has a potential to absorb these elements from soil (Bengtsson *et al.* 2003). This potential for each element is different even in each species. Among different species of *Legumineae* family, *Trifolium repens* had the most ability to absorb and store Mg, P, Ca and K.

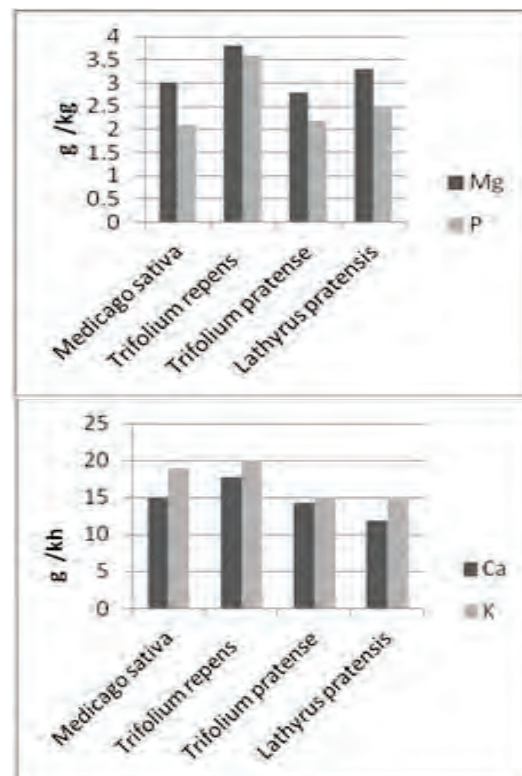


Figure 1. Mineral content of several legume species grown in the rangelands of Bandar Torkaman

So in the plain rangelands of Bandar Torkaman we suggested using this species for rehabilitated and reclaimed plains.

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