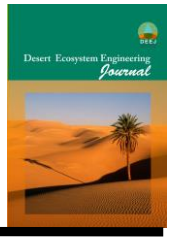
DEEJ (2020) 9 (26) 1-14

University of Kashan

Desert Ecosystem Engineering Journal

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



Determining the preference value of plant species for Baluchi sheep and red Jabalbarez goat using filming method in winter rangelands

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Received: 16/05/2018 Accepted: 22/12/2019

Extended Abstract

Introduction: Plant species as the primary producers of ecosystems and important structural components play a major role in the ecosystems sustainability as well as feeding domestic and wildlife livestock. Determining the preference value of plant species is essential to maintain plant health and the balance of livestock in rangelands. Various plant species with different growth and phonological characteristics have different grazing values in rangelands. In addition to plant characteristics, preference value of plant species could also be affected by livestock and regional conditions. Sheep and goat livestock are physiologically different, displaying different behaviors as a result. While many studies in this field have been carried out on the preference value of species in summer rangeland, few researches have so far taken the winter rangelands into consideration. Therefore, this study set out to investigate the preference value of plant species in winter rangelands for sheep and goats in Jiroft city.

Material and methods: The study region is located in winter rangeland of the Baqer-Abad which is 10 kms off the Jiroft city. The Preference value of the plant species was assessed in autumn and winter for different age classes (one-year old ewe, three-year old ewe, and five-year old ewe) of sheep and goats, using filming method. For each age class, three livestock were selected and their grazing time was measured individually within an hour. Then the relative grazing time of the animal was calculated for each plant species. Two-way ANOVA and LSD test were applied to examine the effect of livestock type and age on the preference value of the species. One-way ANOVA was also used to investigate the effect of seasonal grazing on the preference value of species.

Results and discussion: The results of the study indicated that the preference values of the plant species differed for sheep and goat animals. To be specific, 64% of the species were the same for sheep and goats in

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DOI: 10.22052/deej.2020.9.26.1

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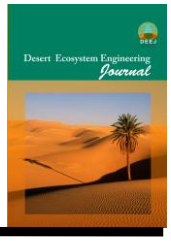

terms of palatability, and 36% of the species were different in this regard. Moreover, it was shown that annual plants and *Jaubertia aucheri* species had the highest preference value for sheep and goats respectively, and that the *Ochradenus ochradeni* had a very low preference value for sheep and goats, making them show a slight tendency to consume it during the grazing season. However, as found by the study, the abundance of thorns in *Lycium shawii*, *Acantholimon scorpius* and *Cornulaca monacantha* led to their considerable preference value reduction in such a way that the sheep did not consume *Lycium shawii* and *Acantholimon scorpius.* Furthermore, the findings suggested that *Cornulaca monacantha* had a lower preference value for goats and sheep, and that *Rhazya stricta,* as a poisonous plant, was not found in the sheep's diet, and the goats had little desire to graze it. According to the results, the type of livestock had no significant effect on the preference value of *Hammada salicornica* which was somehow palatable for both sheep and goat. On the other hand, although *Ziziphus spina-christi* was not grazed by sheep, it had a high preference value for goats. In this regard, the three and five-year old goats spent more time on grazing *Ziziphus spina-christi* compared to one year-old goats. It was also found that Preference value of plant species significantly changed during the grazing season except for *Jaubertia aucheri* and *Ochradenus ochradeni.*

Conclusion: The daily diet of sheep and goat in the winter rangeland in Jiroft was mainly comprised of Annual plants. Producing annual vegetation is highly dependent on climatic conditions, especially rainfall which is sharply reduced in October and November. Therefore, young livestock which are not capable enough to graze shrubs need supplemental diets in October and November. The *Jaubertia aucheri*, which is of high preference value for sheep and goats, has little fluctuations throughout the grazing season, playing a very important role in sustainable production of annual plants in the region. Moreover, as overgrazing may endanger *this plant species* due to the shortage of one-year-old plants, it should be taken into account in conservation management plans, especially in the beginning of grazing season.

Keywords: Palatability, Age Cass, Jiroft, *Jaubertia aucheri*.