Evaluation of Nutritive Value of Some Browse Species under Different Levels of Supplementary Irrigation

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Abstract

The increase in animal production projects led to an increase in demand for forage production in the Kingdom of Saudi Arabia. Forage crops are characterized by their high water consumption. As the present policies of the Government focus on water conservation in the field of agriculture, it became of vital importance to search for alternative forage resources. In addition the presence of a large number of irrigation equipments which are not in use, made it possible to utilize range plants as fodder crops using supplementary irrigation to increase their production. This study aims at evaluating the nutritive value of some range shrubs under different levels of irrigation. Five species of range shrubs (Atriplex Leucocladia, Atriplex halimus, Farsetia aegyptia, Salsola villosa and Artemisia sieberi) were evaluated under for irrigation regimes (480, 240, 120 and 0 mm/year). The nutritive value of these shrubs was evaluated during the different seasons of the year. The results indicated that irrigation increased crude protein (CP%), under the first and second water regimes (480 and 240 mm/year) and gave significantly the higher than the other two treatments (11.4 CP%). There were no significant differences between treatments in crude fiber. Farsetia aegyptia, A. halimus and A. sieberi gave the highest CP (11.57%) and Atriplex leucolada and A. halimus gave the least crude fiber percent (11.9%) as a mean for the two years. The results of the present study suggest that irrigation can efficiently be used to develop alternative fodder resources of acceptable nutritive value.