

ABSTRACT

The objective of this study was to determine of nutritive value, chemical composition, dry matter degradability and digestibility of seven species forage plants such as *Aeluropus logopoidies*, *Cynodon dactylon*, *Alopecurus textilis*, *Suaeda vermiculata*, *Salsola griffithii*, *Chenopodium album* and *Cararia draba* in Sistan region. After collecting forage samples and grinding of that according to standard methods, some parameters was determined which, including chemical compounds and dry matter (DM), organic matter (OM), Crude protein (CP), ether extract (EE), water soluble carbohydrates (WSC), Ash, cell wall (NDF) and cell wall without Hemicellulose (ADF). To measure the amount of dry matter degradability and digestibility of plant samples studied, by using nylon bag and gas production techniques on the three Pakistani goats were studied respectively. The results showed that *Chenopodium album* with 14.73% crude protein and *Cynodon dactylon* with 70.96% NDF and *Alopecurus textilis* with 41.46% ADF had the highest percentage respectively. The rank order of *in situ* degradability was as follows: *Salsola griffithii* > *Cardaria draba* > *Suaeda vermiculata* > *Chenopodium album* > *Alopecurus textilis* > *Aeluropus logopoidies* > *Cynodon dactylon*. Also results from the process in laboratory methods were same for all species. The rank order of gas production technique was as follows: *Alopecurus textilis* > *Cynodon dactylon* > *Cararia draba* > *Aeluropus logopoidies* > *Chenopodium album* > *Suaeda vermiculata* > *Salsola griffithii*. Investigation of results showed that between results *in vitro* and *in situ* value experiments was positive correlation with the amount of CP and amount ADF and NDF is negatively correlated. But in gas production method correlation between parameters was inversed, because of this point which can be related antinutritional compounds such as lignin and some secondary compounds in some of these plants considered to be due to the close and smaller environment cultivation of the rumen environment in gas production method. Based on the present study, nutritive value of studied forage plants was appropriate that can be recommended in roughage part of animal nutrition.

Keywords: Forage, Nutritive Value, Digestibility, *in situ*, *in vitro*, Specie, Sistan.



University of Zabol
Graduate school
Faculty of Agriculture
Department of Animal Science

**The Thesis Submitted for the Degree of Master of
Science
(In the Field of Animal Nutrition Science)**

Title:
**Determination of Nutritive Value of
Seven Species of Forage Plants in Sistan
Region**

Supervisor:
Dr. M. Yosef Elahi

Advisors:
Dr. K. Shojaeyan
Dr. H. Fazaeli

By:
Z. Hoseininezhad Sarbanani

November 2009