

Short Communication

Evaluation of some Wild Arid Zone Plants for Fodder Use

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The arid climatic conditions of Thar desert impose severe restrictions on plants and make their survival difficult. The climate is characterized by low, irregular rainfall, extremes of temperatures and high wind velocity, especially during summer season. The desert faces famine conditions quite often due to drought conditions. Feeding of livestock is always a problem. Identification and cataloguing of the indigenous sources of scarcity and famine feed may help to overcome these problems.

Weeds have been with us from the beginning of the agriculture, but emphasis has been laid mostly on crop production. The ecophysiology of weeds, particularly nutritive value is yet to be fully appreciated. The estimation of nutritive contents is essential for the efficient utilization of available plant as a whole or in parts for livestock population of this region. Very little is known about the nutritive value of the wild plants. The present study was undertaken to study the nutritive value of *Medicago polymorpha* Linn. and *Trigonella polycerata* Linn.

For the present study, fresh and healthy plants were collected from different localities of Sri Ganganagar district during the middle of March, 2000. To overcome the effect of plant variability, enough individual plants

were collected and were transported as early as possible to the laboratory for further processing. The soil particles were removed by washing with water. The fresh aerial parts were dried in oven at 60°C till a constant weight was attained. After proper drying, the samples were ground to fine powder with the help of a grinder and stored in suitable bottles labelled clearly, and tightly corked for nutritive content estimation.

For estimation of nutrients, i.e., crude protein, crude fat, crude fibre, total ash, nitrogen-free extract (NFE) and total organic matter, methods of AOAC (1990) were followed. Each sample was repeated thrice. NFE was determined by the subtraction method of Crompton and Harris (1969).

The nutritive value, on percentage dry matter basis, in aerial parts of *Medicago polymorpha* and *Trigonella polycerata* are given in Table 1. The protein content was $2.5 \pm 0.34\%$ and $27.5 \pm 0.28\%$ in *M. polymorpha* and *T. polycerata*, respectively. *T. polycerata* contains slightly higher crude fat and crude fiber than *M. polymorpha*. The value of NFE, organic matter and total carbohydrate were higher in *M. polymorpha* than in *T. polycerata*. However, ash content (inorganic matter) was more in *T. polycerata* ($14.26 \pm 0.71\%$) than in *M. polymorpha* (Mathur and Karwasra, 1967; Mathur and

Table 1. Chemical composition in aerial parts of *M. polymorpha* and *T. polycerata*

Nutrient composition %	<i>M. polymorpha</i>	<i>T. polycerata</i>
Crude protein	2.5±0.34	27.5±0.28
Ether extract	2.15±0.05	3.35±0.07
Crude fibre	26.51±0.15	27.95±0.12
NFE	34.32±0.45	26.94±0.95
Ash	12.02±0.07	14.26±0.71
Organic matter	87.98±1.25	85.74±1.20
Total carbohydrate	60.83±1.20	54.89±0.95

± = SD, NFE = - Nitrogen-free extract.

Purohit, 1979; Bohra, 1980). Mohammed and Sen (1990) estimated 27.49% and 28.85% crude protein from *Trianthema portulacastrum*, collected during the summer season from arid region of Rajasthan. Kapoor (1992) analyzed the nutritive content quantitatively from different parts of *Fagonia cretica* and *Aerva tomentosa* and observed that leaves possess higher quantity of protein than other parts.

Both plants are a good source of protein and can be considered better fodder for cattle. Nutritive values of these plants are comparable to highly esteemed cultivated fodder plants. The wild plants are not only good sources of primary metabolites but also have pharmaceutical value.

From the above discussion it can be inferred that the plants of arid region are good sources of protein and may be considered as better fodder for animals. The weeds can be used as supplement fodder during drought periods and can help in feeding the livestock. The estimation of the chemical composition of weeds is essential for evaluating efficient utilization of available plants by cattle.

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