

EVALUATION OF MINERAL CONTENTS OF SOME MEDICINAL PLANTS OF HANUMANGARH DISTRICT OF RAJASTHAN

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Three plant species growing in Hanumangarh district of Rajasthan namely *Abutilon indicum*, *Barleria prionitis* and *Solanum nigrum* have been selected for the evaluation of mineral contents. It was found that Potassium (2.24%) was maximum in *Abutilon indicum* while Calcium (3.40%), Phosphorus (0.63%) and Sodium (2.36%) contents were maximum in *Barleria prionitis*.

Keywords : Hanumangarh; Medicinal plants; Mineral contents; Rajasthan.

The scarcity of vegetation in arid zone of Rajasthan restricts the choice of various plant species for their use as food and fodder. The medicinal plants of this region are good and potential source of nutritionally and phytochemically important compounds. The animals and human beings in this region are fully dependent on these trees for food, fodder, fibre and fuel. The plant species growing in Hanumangarh district, besides their medicinal importance may contain sufficient amount of nutrients to be considered as livestock feed. *Albizia lebbek* and *Leucaena leucocephala* have been analysed for their mineral contents¹. Many workers have reported mineral contents from arid zone plants of Rajasthan²⁻⁴.

In the present investigation, attempts have been made to evaluate the mineral contents of roots, shoots and fruits of *Abutilon indicum*, *Barleria prionitis* and *Solanum nigrum*. They were collected from two sites of Hanumangarh district i.e. Peelibanga area and Rawatsar area. The roots, shoots and fruits were separately dried at 100° C for 15 minutes so as to inactivate the enzymes followed by 60°C till a constant weight was achieved. These dried samples were powdered using 20mesh screen in Willey mill and then used for their estimation of minerals i.e. Calcium, Phosphorus, Potassium and Sodium. Minerals like Phosphorus and Calcium were however, estimated, by Purohit and Mathur⁵ procedures while for estimation of Potassium and Sodium contents, method given by Bhargava and Raghupati⁶ was followed.

Mineral contents of roots, shoots and fruits of *Abutilon indicum*, *Barleria prionitis* and *Solanum nigrum* in percentage on dry matter basis are presented in Table 1. Calcium content was found to be maximum (3.40%) in the shoots of *Barleria prionitis* collected from Rawatsar and minimum (0.32%) in the roots of *Solanum nigrum*

collected from Peelibanga.

Concentration of Phosphorus was observed maximum (0.63%) in the roots of *Barleria prionitis* and minimum (0.12%) in the roots of *Solanum nigrum* collected from Rawatsar area.

Concentration of Potassium content was observed maximum (2.24%) in the roots of *Abutilon indicum* and minimum (0.93%) in the shoots of *Solanum nigrum* collected from Rawatsar area.

Sodium content was found to be maximum (2.36%) in the roots of *Barleria prionitis* and minimum (0.76%) in the fruits of same plant collected from Rawatsar area.

The foregoing studies thus indicate that herbal plant species growing in Hanumangarh district have sufficient amount of mineral contents, which may be useful as forage for the livestock.

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Table 1. Mineral contents of roots, shoots and fruits of selected herbal plant species in percentage on dry matter basis. Values are mean \pm SE (Five samples for each plant).

Mineral contents	Sites	<i>Abutilon indicum</i>			<i>Barleria prionitis</i>			<i>Solanum nigrum</i>		
		Root	Shoot	Fruit	Root	Shoot	Fruit	Root	Shoot	Fruit
Calcium	Peelibanga	0.49 \pm 0.06	0.55 \pm 0.18	0.63 \pm 0.21	1.05 \pm 0.04	2.20 \pm 0.08	1.36 \pm 0.09	0.32 \pm 0.08	0.38 \pm 0.20	0.43 \pm 0.19
	Rawatsar	0.53 \pm 0.51	0.76 \pm 0.29	1.02 \pm 0.42	1.20 \pm 0.40	3.40 \pm 0.11	1.01 \pm 0.16	0.63 \pm 0.08	0.63 \pm 0.09	0.53 \pm 0.18
Phosphorus	Peelibanga	0.19 \pm 0.17	0.22 \pm 0.14	0.27 \pm 0.12	0.24 \pm 0.15	0.27 \pm 0.81	0.32 \pm 0.08	0.29 \pm 0.17	0.34 \pm 0.19	0.39 \pm 0.33
	Rawatsar	0.52 \pm 0.18	0.38 \pm 0.08	0.52 \pm 0.40	0.63 \pm 0.51	0.19 \pm 0.21	0.45 \pm 0.38	0.12 \pm 0.43	0.19 \pm 0.17	0.41 \pm 0.76
Potassium	Peelibanga	1.92 \pm 0.78	1.04 \pm 0.69	1.46 \pm 0.41	2.21 \pm 0.34	1.10 \pm 0.91	1.95 \pm 0.10	1.23 \pm 0.21	1.04 \pm 0.70	1.71 \pm 0.38
	Rawatsar	2.24 \pm 0.21	2.01 \pm 0.17	1.59 \pm 0.59	2.01 \pm 0.09	1.02 \pm 0.14	1.29 \pm 0.41	1.46 \pm 0.31	0.93 \pm 0.63	1.01 \pm 0.21
Sodium	Peelibanga	1.25 \pm 0.01	2.01 \pm 0.67	1.09 \pm 0.24	1.82 \pm 0.27	1.46 \pm 0.26	0.84 \pm 0.79	1.09 \pm 0.38	1.09 \pm 0.61	1.50 \pm 0.76
	Rawatsar	1.64 \pm 0.64	1.86 \pm 0.27	1.28 \pm 0.25	2.36 \pm 0.36	1.29 \pm 0.43	0.76 \pm 0.16	0.92 \pm 0.78	1.34 \pm 0.35	1.63 \pm 0.37

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