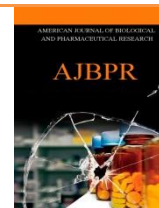




## AMERICAN JOURNAL OF BIOLOGICAL AND PHARMACEUTICAL RESEARCH



Journal homepage: [www.mcmed.us/journal/ajbpr](http://www.mcmed.us/journal/ajbpr)

### EVALUATION OF NUTRITIVE CONTENTS FROM SOME PLANT SPECIES OF SIROHI DISTRICT OF RAJASTHAN

**B B.B.S. Kapoor\*** and Deepak Kumar

Herbal Research laboratory, P.G. Department of Botany, Dungar College, Bikaner- 334001, India.

Article Info	ABSTRACT
<p>Received 28/12/2014 Revised 16/01/2015 Accepted 16/02/2015</p> <p><b>Key words:</b> -Nutritive content, Plant species, Sirohi district, Rajasthan.</p>	<p>Evaluation of mineral contents from three selected plant species of plant species growing in Sirohi district of Rajasthan was carried out. The stems, leaves and fruits of <i>Butea monosperma</i>, <i>Cassia fistula</i> and <i>Madhuka indica</i> collected from three different areas Mount Abu, Pindwara and Shivganj were analysed for mineral contents. It was found that Crude protein (33.83%) was found maximum in fruits and Crude fibre (37.27%) in stems of <i>Cassia fistula</i> While Crude fat (7.12%) in fruits of <i>Madhuka indica</i> and Total carbohydrates (32.56%) in stems of <i>Butea monosperma</i> collected from Mount Abu area.</p>

#### INTRODUCTION

The scarcity of vegetation in South-west Rajasthan region restricts the choice of various plant species for their use as feed and fodder. The plants of this region are potential source of nutritionally important compounds. The animals and human beings in this region are fully dependent on these plants for food, fodder, fibre and fuel. The plant species growing in this region besides their medicinal importance may contain sufficient amount of nutrients to be considered as livestock feed. A number of plants have been analysed for their nutritive contents [1-9].

#### MATERIALS AND METHODS

The present investigation deals with nutritive contents of stems, leaves and fruits of *Butea monosperma*, *Cassia fistula* and *Madhuka indica* growing in the Sirohi district of Rajasthan. These were collected from three different areas Mount Abu, Pindwara and Shivganj. The

stems, leaves 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 subjected to chemical analysis by A.O.A.C. procedure for Crude protein, Crude fat, Crude fibre and Total Carbohydrates [10].

#### RESULTS AND DISCUSSION

Concentration of the nutritive contents in the various plant parts (stems, leaves and fruits) of all the selected plant species collected from three different sites i.e. Mount Abu, Pindwara and Shivganj areas are presented in Table- 1.

Crude protein was found maximum (33.83%) in the fruits of *Cassia fistula* collected from Mount Abu area and minimum (4.98%) in the stems of *Butea monosperma* collected from Shivganj area (Table-1).

Concentration of Crude Fibre was observed maximum (37.27%) in the stems of *Cassia fistula* collected from Mount Abu area and minimum (6.32%) in the fruits of *Butea monosperma* collected from the Shivganj area (Table-1).

Maximum (7.12%) Crude Fat was found in the

Corresponding Author

**B B.B.S. Kapoor**

Email:- [bbskapoor@rediffmail.com](mailto:bbskapoor@rediffmail.com)



fruits of *Madhuka indica* collected from Mount Abu area while minimum (0.55%) in the leaves of *Butea monosperma* collected from Shivganj area (Table-1).

Total Carbohydrates were found maximum

(32.56%) in the stems of *Butea monosperma* collected from Mount Abu area while minimum (5.45%) in fruits of *Cassia fistula* collected from Shivganj area (Table-1).

**Table 1. Nutritive contents of selected tree species in percentage on dry matter basis. Values are mean  $\pm$  SE (Five samples for each plant)**

Mineral contents	Sites	<i>Butea monosperma</i>			<i>Cassia fistula</i>			<i>Madhuka indica</i>		
		Stems	Leaves	Fruits	Stems	Leaves	Fruits	Stems	Leaves	Fruits
Crude Protein	Mount Abu	5.73 $\pm 0.06$	13.32 $\pm 0.18$	20.50 $\pm 0.21$	6.78 $\pm 0.04$	16.00 $\pm 0.08$	33.83 $\pm 0.09$	12.80 $\pm 0.08$	5.05 $\pm 0.20$	14.28 $\pm 0.19$
	Pindwara	5.54 $\pm 0.20$	13.12 $\pm 0.10$	19.98 $\pm 0.02$	5.82 $\pm 0.15$	15.78 $\pm 0.12$	32.80 $\pm 0.46$	15.42 $\pm 0.22$	8.23 $\pm 0.15$	11.27 $\pm 0.48$
	Shivganj	4.98 $\pm 0.06$	12.44 $\pm 0.20$	20.18 $\pm 0.44$	5.62 $\pm 0.20$	15.44 $\pm 0.11$	32.56 $\pm 0.11$	14.15 $\pm 0.08$	9.14 $\pm 0.09$	8.03 $\pm 0.18$
Crude Fibre	Mount Abu	33.33 $\pm 0.17$	9.61 $\pm 0.14$	6.95 $\pm 0.12$	37.27 $\pm 0.15$	11.29 $\pm 0.81$	7.88 $\pm 0.08$	24.23 $\pm 0.17$	22.50 $\pm 0.19$	17.23 $\pm 0.33$
	Pindwara	32.48 $\pm 0.18$	9.54 $\pm 0.20$	6.57 $\pm 0.42$	36.88 $\pm 0.12$	11.18 $\pm 0.15$	7.52 $\pm 0.24$	22.31 $\pm 0.18$	21.21 $\pm 0.44$	18.58 $\pm 0.15$
	Shivganj	32.00 $\pm 0.18$	9.04 $\pm 0.08$	6.32 $\pm 0.28$	36.54 $\pm 0.51$	11.00 $\pm 0.21$	6.88 $\pm 0.38$	20.27 $\pm 0.43$	25.72 $\pm 0.17$	15.16 $\pm 0.26$
Crude Fat	Mount Abu	1.17 $\pm 0.78$	0.61 $\pm 0.69$	3.84 $\pm 0.41$	1.33 $\pm 0.34$	3.20 $\pm 0.54$	3.75 $\pm 0.10$	3.28 $\pm 0.21$	1.20 $\pm 0.70$	7.12 $\pm 0.38$
	Pindwara	1.05 $\pm 0.12$	0.60 $\pm 0.22$	3.58 $\pm 0.32$	1.21 $\pm 0.26$	3.27 $\pm 0.18$	3.64 $\pm 0.15$	4.59 $\pm 0.44$	1.80 $\pm 0.15$	6.20 $\pm 0.28$
	Shivganj	1.10 $\pm 0.21$	0.55 $\pm 0.17$	3.24 $\pm 0.59$	1.00 $\pm 0.09$	3.00 $\pm 0.14$	3.42 $\pm 0.41$	5.46 $\pm 0.31$	1.07 $\pm 0.52$	5.51 $\pm 0.21$
Total Carbohydrate	Mount Abu	15.60 $\pm 0.08$	32.56 $\pm 0.67$	21.40 $\pm 0.24$	8.65 $\pm 0.27$	9.38 $\pm 0.29$	5.73 $\pm 0.79$	15.00 $\pm 0.38$	6.10 $\pm 0.65$	7.20 $\pm 0.44$
	Pindwara	15.34 $\pm 0.34$	32.00 $\pm 0.26$	21.00 $\pm 0.17$	8.24 $\pm 0.12$	9.48 $\pm 0.19$	5.79 $\pm 0.18$	19.20 $\pm 0.14$	6.20 $\pm 0.24$	8.40 $\pm 0.15$
	Shivganj	15.00 $\pm 0.26$	31.76 $\pm 0.27$	20.44 $\pm 0.32$	8.54 $\pm 0.26$	8.92 $\pm 0.49$	5.45 $\pm 0.24$	17.67 $\pm 0.28$	5.69 $\pm 0.32$	6.34 $\pm 0.39$

## CONCLUSION

The present study indicates that these plant species growing in the Sirohi region of Rajasthan have sufficient amount of mineral contents, which may be useful as feed and fodder for the livestock.

## ACKNOWLEDGEMENT

The authors wish to acknowledge the UGC, Bhopal for providing the financial assistance for the project.

## REFERENCES

1. Singh N, Sharma K, Ojha J L. (1989). Chemical composition and nutritive value of Siris( *Albizia lebbek*)and Subabul (*Leucaena leucocephala*) pods in goats. *Indian J. Anim. Nutr.* 6,259-261.
2. Kapoor BBS, Mathur S K, Nag TN. (1988). Nutritive status of *Aerva tomentosa* growing in arid zone of Rajasthan, *Oikoassay*, 5(1), 1-2
3. Mathur SK, Kapoor BBS, Nag TN. (1989). Proximate composition of some arid zone plants. *Indian J Anim Nutr*, 5(2), 170-172.
4. Sharma TP, Sen DN, (1993). Nutritive status of *Tamarix* sps. In Indian arid zone, *Proceedings the 3<sup>rd</sup> conference of association of plant physiologists of SAARC countries (APPSC) and annual convention of PGRSJ on the plant physiology and biotechnology in relation to improving plant productivity (Abstracts)*, Ahmedabad. 22.
5. Kapoor BBS, Ritu. (2001). Nutritive value of some trees of western Rajasthan. *I J of Env Sciences*, 5(1), 37-39.
6. Kapoor BBS, Sarika. (2002). Nutritive value of some arid zone forage legumes. *Journal of Phytological Research*. 15(1),



103-105.

7. Kapoor BBS, Ranga P, Harsh G. (2004). Evaluation of nutritive status of some arid zone Asteraceous plants. *Range Management and Agro-forestry*, 25, 86-87.
8. Kapoor BBS, Bhumika, Khatri JS, Ranga P. (2004). Nutritive Status of Some Arid Zone Tree Species. *J of Phyt Res*, 17(1), 105-106.
9. Gaur R, Kapoor BBS. (2008). Nutritive value of Some Herbaceous Plants of Churu district of Shekhawati Region. *Indian Journal of Environmental Sciences*, 12(1), 29-30.
10. A.O.A.C. (1995). *Official method of analysis of Association of Official Agricultural Chemists*, International Washington D.C, U.S.A, 16<sup>th</sup> ed., Vol I, & II, Cunnifit, PA (Ed.).

