SHORT SCIENTIFIC NOTES

Phytochemical Studies on *Cassia* Species of Indian Arid Zone

Sennosides are the active principles of senna and are well known for their medicinal importance[3,4]. Although sennoside percentage of Tinnevelly senna (*C. angustifolia*) and Alexandrian senna (*C. acutifolia*) has been estimated earliar, so far no such work has been done on *Cassia* species growing in Indian arid zone[1,2]. During the present investigation an attempt has been made to estimate the sennoside contents in the leaves of various *Cassia* species from Western Rajasthan.

For this study, the leaves samples were first air dried at room temperature. All the measurements were recorded on Spectronic-20 spectrophotometer, and sennoside estimation was done as reported in B.P.C. (British Pharmacopia)[2,5]. Besides the total sennosides content in *Cassia* leaves the rhein carboxylic derivatives, equivalent to sennoside B, have also been estimated. The experimental observations for plant materials (leaves) and their sennoside contents has been presented in Table I.

It appeared from the present studies that *C. angustifolia* contained highest sennoside contents followed by *C. fistula*. It was interesting to note that besides sennosides, the percentage of rhein was also maximum in *C. angustifolia* when compared with other *Cassia* species. The sennoside contents in the leaves and seeds of wild *C. angustifolia* have been reported to be 3·0 to 5·0 and 2·4 to 3·0% respectively[6,7].

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TABLE I

Percentage of sennoside contents in the leaf samples of Cassia *species*

Plant species	Time of collection, stage and place	Ratio E_{515}/E_{440}	Total sennoside %	Rhein carboxylic derivatives	
				Ratio E_{515}/E_{440}	Rhein %
C. angustifolia	Three months old, flowering, botanical garden, Jodhpur University	1·41	4·23	1·40	3.54
C. fistula	Three, flowering April 1974, botanical garden, Jodhpur University	1·26	1·80	1·33	1·23
C. javanica	Tree, flowering April 1974, Mandore garden, Jodhpur	·65	0·20	..	..
C. siamea	do.	0·30	0·07	0·75	0·05
C. tora	Two months old, vegetative, botanical garden, Jodhpur University	0·60	0·14	0·70	0·11
C. sophera	do.	1·25	0·07	0·75	0·05
C. auriculata	Shrub, fruiting, December 1973 Somesar (Pali District, Rajasthan)	0·38	0·15	0·33	0·77

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1. Gupta, R., *Curr. Sci.*, 1974, 43, 89.
2. Pharmaceutical Society and Society for Analytical Chemistry, *The Analyst*, 1965, 90, 582.
3. Caravaggi, A. and Manfredi, A., *Boll. Chim. Farm.*, 1937, 76, 117.
4. Shah, C. S., Shinde and Mrudala, V., *Ind. J. Pharm.*, 1969, 31, 27.
5. Anonymous : *British Pharmaceutical Codex.* Pharmeceutical Press, London, 1968.
6. Stoll, A., Becker, B. and Kussmaul, W., *Helv. Chim. Acta*, 1949, 32, 1892.
7. Pendse, G. S., Dange, P. S. and Surange, S. R., *Proceedings of First Workshop. All India Coordinated Improvement Project on Medicinal and Aromatic Plants*, 1973, p. 67.