



CHEMICAL INVESTIGATION OF *BAUHINIA PURPUREA* SEEDS

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ABSTRACT

Bauhinia purpurea Linn. commonly called kachnar belongs to family Leguminosae. It is widely grown as ornamental plant. Parts of *Bauhinia purpurea* are highly valued medicinally. A number of compounds have been isolated from various parts of this plant. In the present communication, we have reported proximate and nutritive analysis of seeds of *Bauhinia purpurea*. The aim of present study is to evaluate this plant for potential use in herbal drug system or in nutritional supplement.

Key words: *Bauhinia purpurea*, Seeds, Nutritive analysis.

INTRODUCTION

Bauhinia purpurea Linn leguminosae is a medium sized deciduous tree. The plant is native to India and widely grown in Asia pacific as ornamental plant. It is commonly called Kachnar in Hindi. The plant is well known for its medicinal importance in the indigenous system of treatment^{1,2}.

Phytochemical studies on various parts of *Bauhinia* species³⁻⁵ have been done. Work has also been carried out on medicinal importance of *Bauhinia purpurea* seeds. Though tribals are consuming these seeds, yet their suitability for human diet has been realized less. In order to popularize it for human diet, it is necessary to establish nutritive value by chemical analysis, which we have carried out in the present study.

EXPERIMENTAL

Seeds of *Bauhinia purpurea* were collected from forests of Kota and Chittorgarh divisions by courtesy of Social Forestry Division and were identified with the help of RUBL

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Herbarium, Jaipur. The pods were dried and then broken to release seeds, which were subsequently processed for use in various chemical analysis. Seeds were ground immediately by passing through sieve in Cyclotec Sample Mill. Grounded seeds were used for proximate analysis, which were determined by procedures of AOAC⁶. Ashing was done in Muffle furnace (Tempo make). Calcium was determined titrimetrically using centrifuging machine. Iron and phosphorus were determined spectrophotometrically (μ - 107 Systronics).

Determination of moisture was done by oven method. Ash was determined in Muffle furnace at 550°C. Protein content was determined by estimating nitrogen content of material and multiplying by factor of 6.25. Estimation of nitrogen was done by Kjeldahl method⁷. Fat was determined by extracting the dry material with hexane. Total dietary fibre was determined by using TDF-100 KIT made by Sigma Chemical Company USA. Results of proximate analysis and mineral analysis are tabulated in Tables 1 and 2, respectively.

Table 1: Proximate analysis

S. No.	Proximate analysis	Result %
1	Moisture	6.63
2	Ash	2.28
3	Protein	35.25
4	Fat	19.63
5	Crude fibre	3.47

Table 2: Mineral element analysis

S. No.	Mineral element analysis	Result (mg/100 g)
1	Calcium	498.92
2	Phosphorus	466.67
3	Iron	11.63
4	Sodium	0.60
5	Potassium	7.2

Calcium was estimated as calcium oxalate by precipitating calcium from ash solution with saturated ammonium oxalate solution. Phosphorus was estimated by measuring

colorimetrically the blue colour, formed when ash solution is treated with ammonium molybdate and phosphomolybdate thus, formed is reduced. Iron was determined colorimetrically by making use of the fact that ferric ion gives blood red colour with potassium thiocyanate solution. Sodium and potassium were estimated flame photometrically.

RESULTS AND DISCUSSION

It is evident from results cited in Tables 1 and 2, seeds of *Bauhinia purpurea* are rich in calcium, phosphorus and iron, which exceed the requirements of recommended dietary allowances for adult man.

These seeds are traditionally eaten by tribals, but are less popular among civilized people^{8,9}. Data on nutritive analysis of seeds justifies biological potential of this plant. Thus, our study on seeds of *Bauhinia purpurea* shows that these are ideally suited for human consumption. The product of these seeds will be cheaper and more nutritious than cereals and their production will help to alleviate pollution. It will thus go a long way to improve our environment.

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