

## **Nutritive analysis of seeds of Pithecellobium Dulce**

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### **Abstract:**

*Life cannot be sustained without adequate nourishment. There has been over exploitation of population nowadays. In order to meet and supplement our present day requirements, we need to explore alternate sources of food. Pithecellobium dulce has been used since ages as a food supplement and in the traditional system of medicine. In the present communication, we have under taken nutritive analysis of seeds of Pithecellobium dulce.*

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### **I. Introduction:**

Pithecellobium dulce belongs to family leguminosae (1). It is a small medium sized evergreen spiny legume tree. It is widely distributed in India and is also found in south east asia. The plant is nicknamed as Jungle jalebi, Manila tamarind. The name is derived from characteristic spirally twisted pods resembling a monkey's earrings (Greek pithokos meaning monkey, ellobium meaning earrings). The name dulce means sweet. It refers to sweet fleshy aril surrounding seeds. The fruits of the plant resembles a coiled bean with flat seeds. These seeds are eaten locally as they are sweet. Seeds are rich in protein and peptides. Decoction of seeds is given in the treatment of anaemia. Seeds are rich in sterols, saponin, glycoside, glycolipids and polysaccharides. (2-5) The fruit of the plant is rich in thiamine, riboflavin and essential amino acids like lysine, phenyl alanine, tryptophan and valine. Studies on the bark of the tree showed it to be rich in catechol (37%). Leaf extract of the tree is rich in quercetin, afezilin, kaempferol, and dulcitol (6,7). Bark of the tree showed it to be rich in catechol (37%) (8). The plant is used as cattle feed. The present nutritive analysis is carried out with a view to evaluate and justify nutritional status of seeds of pithecellobium dulce.

### **II. Experimental:**

The parts of the plant were collected from forests of Kota and Chittorgarh divisions of Rajasthan. These were washed with water and dried for 4 to 5 days. The pods were broken to release seeds. Identification of these seeds was done with the help of R. U.B.L. herbarium, Jaipur. Seeds were grounded in cyclotech (Tecator) sample mill. Ashing was done in muffle furnace (tempo make). These were subjected to preliminary analysis with respect to ash, moisture, protein, crude fibre, fat and minerals. Procedures of A.O. A.C (9) were used for determining proximate principles.

Determination of moisture was done by oven method. Ash was determined in muffle furnace at 550 degree C. Estimation of nitrogen (10) was done by Kjeldahl method. Protein content was determined by estimating nitrogen content of the material and multiplying nitrogen value by factor of 6.25. Fat was estimated by extracting dry metal with hexane. For estimating calcium, phosphorus, iron, first ash solution was prepared. Calcium was estimated as calcium oxalate by precipitating calcium from solution with saturated ammonium oxalate solution (10). Phosphorus was estimated by measuring colorimetrically, the blue colour formed when ash solution is treated with ammonium molybdate and phospho molybdate thus formed is reduced. Iron was determined colorimetrically making use of the fact that ferric ion gives blood red colour with potassium thiocyanate solution. Estimation of sodium and potassium was done by flame photometer. The results of proximate and mineral analysis are shown in the table

### **Table.**

Proximate and mineral analysis

Moisture 7.08%

Ash 2.85%

Protein 28.8%

Fat 19.72%

Crude fibre. 6.22%

Calcium 309.18 mg / 100gm

Phosphorus 500.81 mg / 100 gram

Iron 97.43 mg/ 100 gram

Sodium 105 ppm

Potassium 3.7 ppm

### **III. Results and Discussion**

It is evident from results cited in table that seeds of *Pithecellobium dulce* are rich in protein, fat and phosphorus. Data pertaining to mineral element and chemical analysis are in good agreement with values reported by earlier workers .

### **IV. Conclusion**

Our study on nutritive analysis of seeds of *Pithecellobium dulce* is fully justified .The cultivation of this plant should be encouraged so that it can be a valuable food to meet human and animal requirement .

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