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NOTE

Evaluation and Study of Minerals from *Leea macrophylla* Roxb (Leeaceae)

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Leea macrophylla Roxb is a wild edible plant. The plant material was collected from Melghat (Maharashtra) for analysis of moisture and minerals content. Minerals are very essential nutrient for human life and whole plant of *Leea macrophylla* is helpful in nutritional point of view. It also fulfill our daily requirements of food. The powder of *L. macrophylla*. root with clarified butter was prescribed in morning as age sustainer. The only sun dried plant materials was used for estimation of minerals like sodium, potassium and calcium was done by flame photometer at 5lb pressure while sulphur, boron and iron was estimated by spectrophotometer. Hence, for fulfillment of minerals requirement of human body the whole plant material is useful.

Key Words: *Leea macrophylla*, Flame photometer, Spectrophotometer, Minerals.

In folk medicine, mucilaginous root of *L. macophylla* is applied as a paste or poultice to wounds and sores and used for guineaworm and ringworm. It also employed externally to allay pain and to stop bleeding from wounds. A small effort is taken here to study the mineral content of ethno-vegetables consume by tribal especially in Melghat region of Vidarbha. Minerals are required constituent of human diet since they are either inadequately synthesized or not synthesized in human body.

Countrywide survey conducted by the National Nutrition Monitoring Bureau showed that Indian diet are qualitatively deficient in micronutrients due to inadequate intake of vegetables, fruits, pulses and millets[1]. The richest source of iron, boron are fruits, vegetables nuts. Trace minerals do not exist by themselves but in relationship to one another. Recent research indicated that minerals play significant role against variety of degenerative diseases and processes also prevent and reduce injury from environmental pollutants and enhance ability to work and learn[2].

Extensive survey of Melghat was done and plant were brought to laboratory. After cleaning 10 g of plant material was allowed for removal of total moisture in hot oven at 100 ºC.

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$$\text{Percentage of moisture} = \frac{\text{Loss weight of sample}}{\text{Weight of sample taken}} \times 100$$

Estimation of minerals each as iron, boron, sodium, potassium and calcium was done according to the method prescribed by Thimmaiah[3]. Plant ash was prepared at 650 ºC and detection of minerals was done flame photometrically at 5lb pressure while the other minerals like iron, boron and sulphur was analyzed by using spectrophotometer.

TABLE-1
PERCENTAGE OF MOISTURE CONTENT

Name of plant	Plant part of taken analysis	Fresh weight (g)	Dry weight (%)	Dry weigh (%)	Moisture content (%)
L. macrophylla	Leaves	10	2.123	21.23	78.77
	Root	10	3.526	35.26	64.74
	Stem	10	3.922	39.22	60.78

TABLE-2
MINERALS CONTENT OF *Leea macrophylla*

Analyzed minerals	Plant part taken for analysis	Weight of plants part (g)	Volume of extract (mL)	Volume of extract taken for analysis (mL)	Absorbance	Amount of minerals content (mg/100 g)
Iron	Leaves	1.0	50	4	0.554	142.50
	Root	1.0	50	4	0.107	28.75
	Stem	1.0	50	4	0.104	27.50
Boron	Leaves	0.5	10	1	0.192	1.80
	Root	0.5	10	1	0.245	4.00
	Stem	0.5	10	1	0.391	9.00
Sodium	Leaves	0.1	10	1	39.000	2050.00
	Root	0.1	10	1	47.000	293.00
	Stem	0.1	10	1	76.000	3950.00
Potassium	Leaves	0.1	10	1	66.000	3550.00
	Root	0.1	10	1	49.000	2700.00
	Stem	0.1	10	1	116.000	6200.00
Calcium	Leaves	0.1	10	1	2.000	150.00
	Root	0.1	10	1	1.000	50.00
	Stem	0.1	10	1	2.000	150.00
Sulphur	Leaves	1.0	10	1	0.856	3375.00
	Root	1.0	10	1	0.660	2574.00
	Stem	1.0	10	1	0.691	2714.00

The values of moisture content was given in terms of percentage, while the values of mineral content obtained were converted in to 100 g dry weight of tissue. The maximum moisture content was observed in the leaves of *L. macrophylla* (78.77 %) given in Table-1. Leaves showed maximum content of potassium (3550 mg/100 g),

sulphur (3375mg/100 g) while lowest content observed is of boron (1.8 mg/100 g). In the root, maximum content is of potassium (2700 mg/100 g), sulphur 2574 mg/100 g where as lowest content observed in potassium (6200 mg/100 g) and boron (9.0 mg/100 g). The overall maximum content observed is of potassium and sulphur where as the lowest content observed is of boron (Table-2).

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