

## Ragi (Mandua) as a Boon to Nutritional Security

<sup>1</sup>Praveen Kumar and <sup>2</sup>M. P Mandal

<sup>1</sup>Assistant Professor-cum-Jr. Scientist, Department of Plant- Breeding & Genetics, Bhola Paswan Sashtri Agricultural College, Purnea, Bihar

<sup>2</sup>Assistant Professor-cum-Jr. Scientist, Department of Crop Physiology & Biochemistry, Bhola Paswan Sashtri Agricultural College, Purnea, Bihar

\*Corresponding Author:

Ragi or Mandua (*Eleusine coracana* L.) known in English as “Finger millet” is an important minor millet grown in India. It is a staple food in many hilly regions of the country. According to De Candolle (1886) mandua or Ragi probably originated in India. It is supposed to have spread from India to Abyssinia and rest of Africa (Vavilov,1951), Mehra (1962) considers *Eleusine coracana* to be of African origin. They are small seeded, annual cereal grasses, many of which are adapted to tropical and arid climates and are characterized by their ability to survive in less fertile soil (Hulse, Laing & Pearson,1980)

### Botanical Description

Finger millet or Ragi is an erect, tufted annual, fibrous root system, stem is compressed with round nodes and leaves are arranged alternatively on either side of the compressed culm and is green in colour. Inflorescence or, Panicle is born at the end of the vegetative shoot consists of whorl of finger like spikes (two to eight) in numbers in which spikelet are arranged closely on both sides of a slender rachis. Each spikelet contains three to eight seeds which are very small in size and generally reddish-brown in colour.

### Nutritional Factor

Finger millet contains about 5-8% protein,1-2% ether extract, 65-75% Carbohydrates,15-20% dietary fibre and 2.5-3.5% mineral. (Chethan and Malleshi 2007a). It has the highest calcium content among all cereals (344mg/100g). Though low in fat content, it is high in PUFA (Polyunsaturated fatty acids). The lower fat contents could be one of the contributing factors for the extremely good shelf life of finger millet.

### Uses of Finger millet

In north India, grains are mostly used as flour for making chapati, but in South India it is used in many preparations like cakes, puddings, sweets, etc. Germinating seeds of finger millets are malted and fed to infant also. It is also used for pregnant women.

**Table 1** Ragi Nutritional Value (per 100g)

Nutritional components	Value
Energy	320k cal.
Dietary fibre	11.18gm
Total fat	1.92gm
Protein	7.16gm
VitaminB1(Thiamine)	0.37mg
VitaminB2(Riboflavin)	0.17mg
VitaminB3(Niacin)	1.34mg
VitaminB6(pyridoxine)	0.05mg
Vitamin k	0.9mcg
calcium	364mg
Iron	4.62mg
Phosphorus	210mg
Potassium	443mg
Zinc	2.53mg

**Source:** Indian Food Composition Tables (IFCT) National Institute of Nutrition (2017)

**Health benefits of Finger millet:** There are various benefits of finger millets, which are as follows-

**Weight loss agent:** Finger millet grains have high amount of fibre that check weight gain by lowering apatite since the digestion rate is slow.

**Improve bone strength:** Ragi is loaded with calcium which is essential for healthy bones and dentation in growing children.

**Control diabetes:** Fating food prepared with ragi can help to manage blood sugar level that reduce rate of digestion and absorption of carbohydrates and cause slower gastric emptying. This helps to prevent a spike in blood sugar levels.

**Reduce cholesterol level:** Ragi grains are rich in firer content that lowers the cholesterol level in blood. Ragi also contains amino acid like lecithin and methionine which remove the excess fat from our liver and stabilize cholesterol levels in the blood. This reduces the risk of heart attack.

**Prevent Mal-nutrition:** Ragi has high content of protein for vegetarian and poor families. So when they

consumed ragi flour there is a little chance that they suffering from marasmus disease as which is caused by the deficiency of protein in their diet.

### Conclusions

Ragi is a millet crop that sustain to very adverse climatic condition. It is a very hardy crop. Its

grain possesses high nutritional content, along with its gluten-free nature, makes it particularly beneficial for individuals with dietary restrictions or specific health need. So, that the health benefits of Ragi are excellent as it is a nutritious cereal and is very valuable for maintaining good health.

\* \* \* \* \*