

## An Insight on Superfood: Finger millet

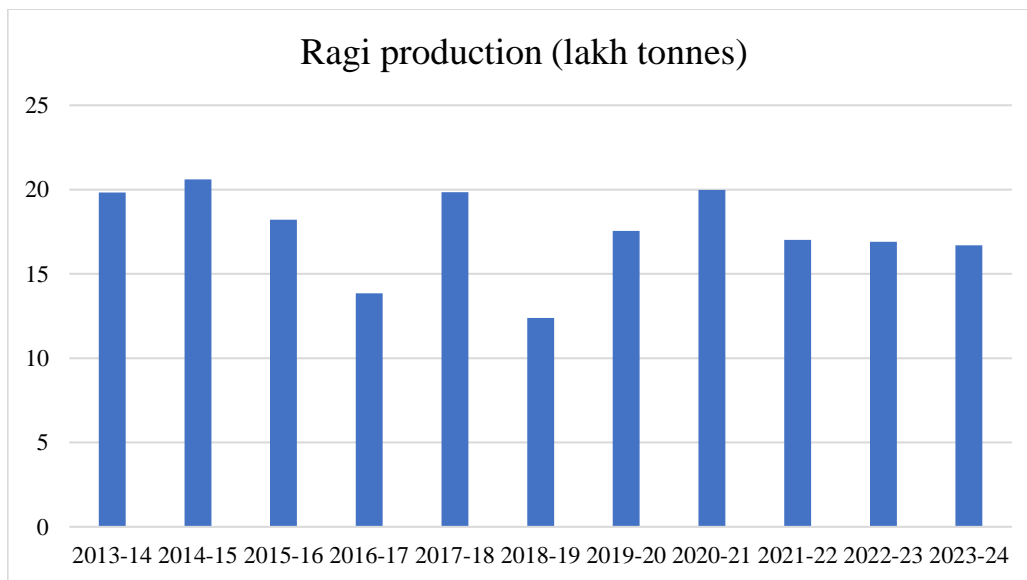
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### Introduction:

Finger Millet also known as Ragi and Madua is an important millet grown widely in various regions of India and Africa. Its botanical name is *Eleusine coracana*. It ranks sixth in production after wheat, rice, maize, sorghum and bajra in India. India produced 1.99 mt of Ragi from an area of 1.15 mha and productivity of 1.7t/ha in the year 2020-21. It is mostly grown and consumed in Karnataka (68 % of total production in the country), and to a limited extent in Andhra Pradesh, Tamil Nadu, Odisha, Maharashtra, Uttarakhand and

Goa. Its origin is considered to be in Uganda and Ethiopia. Its history in India is about 3000 years old. Ragi (Finger millet) is well recognized because it is rich in calcium, protein, magnesium, iron, phosphorous, vitamins, dietary fiber, and zinc. The seed coat is also a rich source of phenolic compounds, minerals and dietary fiber.

Finger millet is an extremely nutritious cereal and is very beneficial for maintaining a good health. Therefore, it has received attention for their potential role as functional



**Ragi production over a decade (2013-14 to 2023-24)**

**Source: Directorate of Economics and Statistics**

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foods. However, its high intake could increase quantity of oxalic acid in the body. Therefore, it is not advised to patients having kidney stones (Urinary Calculi). Finger millet can be enjoyed in different forms and preparations like ragi roti, dosa, porridge, upma, cakes, biscuits are few popular dishes of finger millet.

### Health benefits of Finger Millet:

⇒ **Benefits for the Heart:** The presence of dietary fiber in Finger Millet helps in lowering cholesterol. Lecithin and Methionine remove excess fat from the liver and stabilize cholesterol levels in the blood, thus improving heart health.

⇒ **Gluten-free Millet:** The trend of gluten-free food is increasing. Finger Millet is free from gluten and it is a good replacement for people suffering from celiac disease.

⇒ **Strong Bones and Teeth:** Finger Millet contains the highest Calcium, it's about 364 mg per 100 gm. It has 3 times more calcium than milk. Calcium is essential for maintaining strong bones and teeth. It is good for growing children as well as for elderly people who might be at risk of osteoporosis and fracture.

⇒ **Control Diabetes:** There is a rapid rise in diabetes cases in India and globally. Now, diabetes is a Global Emergency. Finger Millet helps in managing blood sugar levels. It has a low glycemic index which

favours slow digestion and thus prevents a spike in blood sugar levels in our body.

⇒ **Weight Loss:** Finger Millet contains a very low natural fat (1.9 g) and this makes it suitable for weight loss, as obesity is increasing in exponential manner in India and around the world. Another specific content is Tryptophan, an amino acid that helps in checking the weight of our body by lowering the appetite. Tryptophan is generally used in the biosynthesis of proteins. Since the digestion rate is slow, it keeps us away from consuming the extra calories in our diet.

⇒ **Benefits of Finger Millet in Pregnant and Lactating Mothers:** The rich content of minerals and nutrients helps to nourish the mother and child during pregnancy. Finger Millet aids healthy pregnancy by adding in milk production, relieving anxiety and stress. It helps to build immunity and gives more strength to remain active. It also helps in the process of milk production as it is rich in calcium, iron, and amino acids. It is also recommended as a weaning food especially in the southern parts of India because of its high nutritional value.

⇒ **Maintain hemoglobin levels:** The incidence of iron deficiency and anemia is found in children and adolescents in India. Finger Millet is a source of natural iron

which can address this issue and can bring a positive impact on hemoglobin levels.

- ⇒ **Helps in Digestion:** Dietary fiber is essential for our digestive health and better bowel movements. Finger millet contains rich dietary fiber which helps in improving digestion and prevents constipation.
- ⇒ **Relaxes the Body:** Finger Millet contains a good amino profile that acts as a relaxant. So, regular consumption of finger millet helps in dealing with depression, insomnia, and anxiety. It is also useful for migraines.
- ⇒ **Maintains good skin:** Finger Millet helps in maintaining skin vitality and prevents wrinkle formation and sagging. The presence of Methionine and Lysine in Finger Millet helps in collagen formation which keeps the skin healthy.
- ⇒ Green Ragi is recommended for conditional of blood pressure, liver disorders, asthma and heart weakness. Green Ragi is also recommended to lactating mothers in condition of lack of milk production.
- ⇒ If consumed regularly, Finger millet could help in keeping malnutrition, degenerative diseases and premature aging at bay.

## Varieties:

ICAR-Vivekananda Hill Agricultural Research Institute, Almora have developed white grain variety of Finger Millet, VL Madua-382 and it has increased the crop

production as well as income of the farmers.

Its other advanced varieties are A-404 ,GPU 45 , Chilika (O.E.B.-10), Shuvra (O.U.A.T.-2), Bhairavi (B.M.9-1), V.L.- 149, H.R.-374. In future, with bio-fortified varieties, the additional expenditure incurred to get high nutrition can be reduced. At present, in the country there are 18 seed production centers and 22 seed hubs for producing nutritious cereals. Along with this, the ICAR-IIMR Hyderabad has developed a complete value chain on nutritious grains from farm to plate. ICAR through IIMR and AICRP project on Millets has succeeded in development of more than 90 varieties for different agro-climatic regions so far. On the occasion of 75<sup>th</sup> Anniversary of UN FAO, the Prime Minister of India dedicated to the nation, three bio-fortified varieties of Millets (Finger millets- CFMN-1,2; Small millet CCLMN) with high iron and zinc which were developed by ICAR.

## Value addition of Finger millet:

The consumption pattern is different globally and hence, finger millet is consumed in various forms like cookies, instant mixes, laddus, flour etc. Zonal Technology Management and Business Planning and Development Unit at ICAR-IARI, New Delhi has commercialized the technologies to entrepreneurs so as to promote millet consumption in the country.



**Ragi milkshake**



**Ragi Ladoo**



**Ragi snacks**



**Ragi Dosa**

## Conclusion:

Finger millet is nutritionally rich, environmentally resilient and culturally significant grain. Its various health benefits from managing diabetes and aiding weight loss to boosting bone strength make it a valuable addition to modern diets. As a drought-tolerant crop, it supports sustainable agriculture and food security, especially in regions facing climate challenges. With its versatility in cooking and growing popularity as a gluten-free superfood, finger millet is not just a traditional staple but it's a smart choice for a healthier future.

