



MILLET: A TINY GRAIN WITH BIG HEALTH BENEFITS

Ved Prajapati^{1*}, Dilkhush Meena² and Vijay Shankar Gurjar¹



¹Department of Agronomy, Rajasthan College of Agriculture, MPUAT, Udaipur, Rajasthan- 313001

²Departement of Soil Science & Agricultural Chemistry, Rajasthan College of Agriculture, MPUAT, Udaipur, Rajasthan- 313001

What are millets?

Millets are tiny cereal grains that are part of the grass family, known for their resilience in harsh environmental conditions. They are widely grown in Asian and African regions. The name "millet" comes from the French word "mille," indicating that a single handful of millet holds thousands of seeds. Example: Sorghum (jowar) and pearl millet (bajra) are considered major millets as they have larger grain sizes. Whereas finger millet (ragi/mandua), foxtail millet (kangni/Italian millet), little millet (kutki), kodo millet, barnyard millet (sawan/jhangora), proso millet (cheena/common millet), and amaranthus have small-sized grain and are categorized under minor millets.

How much millet should we eat daily?

The ICMR-National Institute of Nutrition recommends millet to be 33% of daily cereal intake, about 90-100 grams for a sedentary man. Excessive millet consumption may cause side effects, but a balanced diet helps reduce risks. Soaking, rinsing and cooking millet can also lower its anti nutrient content, making it safer to consume.

How do we include millets in our diet?

Millets can be used in a variety of dishes. You can replace cereals with millets in recipes like roti, dosa, cookies, cakes, upma, biscuits, idli, tikki, salads, laddoo, pulao and breads. Combining millets with legumes (pulses) in a 3:1 ratio enhances protein quality, as their amino acids complement each other.

A. Pearl Millet (Bajra)

It is the sixth major cereal in terms of area and production and has the highest drought tolerance potential of all millets. It contains the highest niacin content amongst all cereals and rich in protein and dietary fiber. Pearl millet is the most widely cultivated cereal in India after rice and wheat.

Health benefit:

- Reduces cholesterol
- Promotes bone health
- Beneficial in treating stomach ulcers
- Promotes heart health
- Aids in weight loss

B. Sorghum (Jowar)

Sorghum is a traditional staple food of the dry land regions of the world, a warm season crop intolerant to low temperatures, resistant to pests and diseases and highly nutritious. It ranks fifth in cereals produced worldwide and fourth in India. The presence of prolamin makes it easily digestible in cooking and helps certain dietary groups. It is rich in β -carotene, folic acid and riboflavin.

Health benefit:

- Helps in enhancing bowel movement
- An-inflammatory and an-carcinogenic properties
- Helps in improving blood circulation
- Aids in cell regeneration
- Aids in weight loss

C. Little Millet (Kutki)

Little millet is grown throughout India and is one of the traditional crops. Little millet matures quickly and withstands both drought and water logging. It is generally consumed as rice and any recipe that demands staple rice can be prepared using little millet. It has high dietary fiber and antioxidant activities along with high iron content.

Health benefit:

- Rich in antioxidants
- Helps in decreasing blood cholesterol levels
- Helps in regulating blood sugar levels
- Improves respiratory ailments

D. Proso Millet (Chena)

Proso millet is a short season crop that grows in low rainfall areas. This millet can be cultivated along with red gram, maize and sorghum. Proso millet is well suited for many soil types and climate conditions. Proso millet is highly drought-resistant, which makes it of interest to regions with low water availability and longer periods without rain.

Health benefit:

- Helps in bone growth and maintenance
- Helps in smooth functioning of nervous system
- Good for skin
- Helps in strengthening bones
- Lowers the risk of heart diseases by reducing cholesterol levels

E. Amaranthus (Rajgira)

Amaranth is one of the ancient groups of plants and has great potential for combating undernutrition and malnutrition. Amaranth is an edible plant adaptable to tropical and subtropical climates; its culture possesses valuable characteristics, such as fast growth and cultivation under water deficit. Amaranth leaves and grains have good nutritional value.

Health benefit:

- Helps in decreasing blood cholesterol levels
- Helps stimulate the immune system
- Helps reduce risk of osteoporosis
- Helps reduce anemia
- Anti allergic and antioxidant properties
- Cancer-preventive and antihypertensive properties

F. Kodo Millet (Kodo)

Kodo millet, domesticated in India about 3,000 years ago, is known for its hardiness and drought resistance, thriving in poor soils. It takes four to six months to mature but shorter-duration varieties are available. This annual grass grows up to 90 cm and has the highest dietary fiber among millets.

Health benefit:

- Prevents constipation
- Strengthens nervous system
- Helps in blood sugar control
- Beneficial for postmenopausal women suffering from any metabolic diseases

G. Finger Millet (Ragi)

Finger millet, or ragi, is a vital food for rural populations in southern India and east & central Africa. It grows well from sea level to the Himalayas but prefers well-drained loamy soil.

Health benefit:

- Reduce blood glucose levels
- Anti-microbial properties
- Promotes bone health
- Revive skin and hair health
- Repair injured muscle tissues

H. Barnyard Millet (Sawan)

Barnyard millet is mainly grown in India, China, Japan, and Korea for both food and fodder. Japanese and Indian varieties adapt well to various soil and moisture conditions, thriving in different seasons and at higher elevations. It matures in three to four months and is cultivated on marginal lands where other crops struggle. The plant grows 60-130 cm tall and is brownish to purple.

Health benefit:

- Rich source of fibre-both soluble and insoluble
- Anti mutagenic, anti-inflammatory and antioxidant properties
- Prevents constipation and high blood pressure
- Helps in controlling blood glucose levels and lipid levels

I. Foxtail Millet (Kakun)

Foxtail millet is one of the oldest cultivated millets and the third most common millet crop. Grown for food in semi-arid Asia and as forage in Europe, North America, Australia, and North Africa. It has a slim, leafy stem and matures in 65-70 days. The grains are similar to rice, have a husk that needs removal to be used. Foxtail millet is twice as rich in protein as rice.

Health benefit:

- Proper functioning of the nervous system
- Helps in maintaining bone and muscle health
- Good for cardiac health
- Good for skin and hair growth
- Improves immunity

“Millets are nutrient-dense and support health with their high fiber and protein content. For small farmers, millets offer resilience and low input requirements, enhancing food security and economic stability. Hence, their cultivation benefits both health and livelihoods.”

***Corresponding E-mail:
amulyarajendla@gmail.com**

