

Unlocking the Benefits of Millets: A Path to Better Health and Food Security

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Millets are a diverse group of small-seeded grains that have been cultivated for thousands of years, particularly in Asia and Africa. These ancient cereals are known for their resilience, thriving in harsh climates and poor soil conditions, making them an essential food source in regions prone to drought. They are belonging to the botanical family Poaceae. They constitute an important source of food and fodder for millions of resource-poor farmers and play a vital role in ecological and economic security of India. These millets are also known as coarse cereals or cereals of the poor. Millets are classified into major millets and minor millets based on their grain size. Ministry of agriculture and farmers welfare has recognized the importance of millets and declared millets comprising of Sorghum (Jowar), Pearl Millet (Bajra), Finger Millet (Ragi/Mandua), Minor Millets i.e., Foxtail Millet (Kanngani/kakun), Proso Millet (Cheena), Kodo Millet (Kodo), Barnyard Millet (Sawa/Sanwa/Jhangora), Little Millet (Kutki). Millets are powerhouses, rich in fiber, protein, vitamins and minerals. The millets contain 7-12% protein, 2-5% fat, 65-75% carbohydrates and 15-20% dietary fibre. Millets are more nutritious compared to fine cereals. Small millets are good source of phosphorous and iron. They are gluten-free, making them an excellent option for those with gluten sensitivities. With a low glycemic index, millets help in managing blood sugar levels, supporting overall health.



Types of millets

1. Major Millets					
(a) Sorghum		(b) Pearl Millet		(c) Finger Millet	
					
Plant and Seeds of Sorghum		Plant and Seeds of Pearl Millet		Plant and Seeds of Finger Millet	

2. Minor Millets					
(a) Foxtail Millet		(b) Proso Millet		(c) Kodo Millet	
					
Plant and Seeds of Foxtail Millet		Plant and Seeds of Proso Millet		Plant and Seeds of Kodo Millet	

(d) Barnyard Millet

(e) Little Millet

3. Pseudo Millets			
(a) Buckwheat		(b) Amaranth	
			
Plant and Seeds of Buckwheat		Plant and Seeds of Amaranth	

Benefits of eating millets

- Millets have superior micronutrient profile and bioactive flavonoids as compared to other cereals.
- Millets have a low Glycaemic Index (GI) and also associated with the prevention of diabetes disease.
- They are good source of minerals like iron, zinc and calcium.
- Millets are gluten-free and can be consumed by celiac disease patients.
- Millet has a beneficial effect on the management and prevention of hyperlipidemia and risk of CVD.
- Millets are found to be helpful with the reduction of weight, BMI and high blood pressure.
- In India, Millet is generally consumed with legumes which creates mutual supplementation of protein, increases the amino acid content and enhances the overall digestibility of protein.
- Millet based value added products in ready to cook, ready to eat category are easily accessible and convenient to the urban population.
- Millets are used for dual purposes as food as well as fodder which make it more farming efficient.
- Millet cultivation helps to reduce the carbon footprint.

Benefits to grow millets

We grow millets for several important reasons:

1. **Drought resistance:** Millets are hardy crops that thrive in arid and semi-arid regions, requiring less water than many other grains.
2. **Nutritional value:** They are rich in essential nutrients, making them a valuable food source for communities.

3. **Soil health:** Millets improve soil fertility through crop rotation and require fewer chemical inputs.
4. **Sustainability:** They have a lower environmental impact, promoting sustainable agriculture practices.
5. **Diverse uses:** Millets can be used for food, fodder, and even in brewing, providing economic benefits.
6. **Climate resilience:** As climate change affects traditional crops, millets offer a resilient alternative for food security.
7. **Cultural importance:** Many communities have traditional diets that include millets, preserving cultural heritage.

Importance of millets in health

Millets are gaining recognition as a vital part of a healthy diet due to their impressive nutritional profile and numerous health benefits. Here's an overview of why millets are essential for health:

1. Nutrient-dense food: Millets are rich in essential nutrients, including:

Protein: High-quality plant protein helps in muscle repair and growth.

Fiber: Aids in digestion, helps maintain healthy cholesterol levels and promotes satiety, which is beneficial for weight management.

Vitamins and minerals: They are excellent sources of B vitamins, iron, magnesium, calcium, and potassium, all of which are crucial for various bodily functions.

2. Blood sugar regulation: Millets have a low glycemic index, making them an ideal choice for individuals with diabetes. Their consumption helps stabilize blood sugar levels, preventing spikes and crashes.

3. Heart health: The fiber, antioxidants, and healthy fats found in millets contribute to improved heart health. Regular consumption can lower cholesterol levels and reduce the risk of cardiovascular diseases.

4. Weight management: High fiber and protein content in millets promote feelings of fullness, making them an effective food for weight control. They help curb overeating and support healthy weight loss.

5. Digestive health: Millets are a great source of dietary fiber, which promotes gut health by preventing constipation and improving overall digestive function.

6. Bone health: Millets are rich in calcium and magnesium, which are vital for maintaining strong bones and preventing conditions like osteoporosis.

7. Antioxidant properties: Millets contain antioxidants that help combat oxidative stress in the body, reducing the risk of chronic diseases and inflammation.

8. Versatile and gluten free: Millets are naturally gluten-free, making them an excellent alternative for individuals with gluten intolerance or celiac disease. They can be used in a variety of dishes, from porridge to baked goods.

9. Supports metabolic health: The nutritional profile of millets can help regulate metabolism, improving energy levels and overall bodily functions.

10. Sustainable nutrition: In addition to their health benefits, millets are environmentally sustainable. They require less water and are resilient to climate variations, promoting food security.

Importance of millets in food security

Millets play a significant role in enhancing food security, particularly in the face of global challenges such as climate change, population growth and nutritional deficiencies. Here's how millets contribute to food security:

- 1. Climate resilience:** Millets are drought resistant crops that thrive in arid and semi-arid regions. Their ability to withstand harsh environmental conditions makes them crucial for food production in areas affected by climate variability.
- 2. Adaptability to diverse conditions:** Millets can grow in poor and marginal soils where other crops may fail. This adaptability allows for cultivation in various climatic conditions, ensuring food production in diverse agricultural landscapes.
- 3. Short growing season:** Millets have a rapid growth cycle, allowing for quick harvests. This enables multiple cropping seasons within a year, increasing overall food production and availability.
- 4. Nutritional benefits:** Rich in essential nutrients like protein, fiber, vitamins, and minerals, millets enhance dietary quality. Their nutritional density is vital for addressing malnutrition and promoting health, especially in vulnerable populations.
- 5. Support for smallholder farmers:** Millets are often grown by smallholder farmers, who play a critical role in local food systems. Promoting millet cultivation can improve their livelihoods and empower communities through food self-sufficiency.
- 6. Dietary diversity:** Incorporating millets into diets enhances food diversity, reducing reliance on staple crops like rice and wheat. This diversification helps mitigate risks associated with food shortages and promotes a balanced diet.
- 7. Lower input requirements:** Millets generally require fewer chemical fertilizers and pesticides, making them more sustainable and cost-effective to grow. This reduces the financial burden on farmers and supports eco-friendly farming practices.
- 8. Economic opportunities:** As consumer demand for health foods rises, millets present economic opportunities for farmers and local markets. This can lead to increased incomes and strengthen local economies.
- 9. Reduced post-harvest losses:** Millets have better storage qualities and are less susceptible to pests compared to other grains. This characteristic helps minimize post-harvest losses, ensuring that more food reaches consumers.
- 10. Sustainability in agriculture:** The cultivation of millets supports sustainable agricultural practices by promoting biodiversity and improving soil health. This sustainability is crucial for ensuring long-term food security.



Food Products of Millets