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Importance of Millets

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Millets also called small millets are cultivated for their small kernels which are the products of small grassy plants belonging to the Poaceae family. The other name minor millets may indicate them to be minor crops yet are important for their nutritional values, medicinal benefits, feed for animals, and saviors during food crisis (Yenagi *et al*., 2010). The term "millet" comes from the French word "Mile" which means "thousand," implying that a handful of millets can contain thousands of grains. Millets are typically farmed in semi-arid areas. Conditions such as little rainfall and degraded fields with poor nutritional content. Millets provide a more consistent harvest than other crops in low rainfall areas, benefiting people in famine-prone areas (Tadele 2016). Millets are C_4 plants with high photosynthetic efficiency, short duration, high dry matter production capability, and resistance to heat and drought. They can easily adapt to degraded saline, acidic, and aluminum-contaminated soils. The modern sedentary lifestyle associated with several health issues has urged people to seek for healthy and nutritious diets.

Small millets satiate these requirements of modern society by being a healthy food choice because millets are a storehouse of nutrient and, in particular, finger millet grains contain remarkably high calcium content (>350 mg/100 g); foxtail millet, barnyard millet, and proso millet are prosperous in protein (>10%); little millet and foxtail millet are well-off in fat (>4.0%); foxtail millet, barnyard millet, and little millet are superior in crude fiber (6.7–13.6%), barnyard millet and little millet contain high amount of iron (9.3–18.6 mg/100 g) in comparison to other major cereals like rice, wheat, barley, maize, and sorghum (Dwivedi *et al*., 2012). The important millets cultivated in African and Asian countries include Sorghum (*Sorghum bicolor*), pearl millet (*Pennisetum glaucum*), finger millet (*Eleusine coracana*), foxtail millet (*Setaria italica*), barnyard millet (*Echinochloa frumentacea*), kodo millet (*Paspalum scrobiculatum*), proso millet (*Panicum miliaceum*), and little millet (*Panicum miliare*). Although millets have a high nutritional content, their hard seed coat, presence of anti-nutritional agents, low digestibility, and limited bioavailability of micronutrients pose significant challenges in their processing and cooking. In light of this, the Indian government proposed making 2023 the "International Year of Millets". It was supported by FAO Governing Bodies and the United Nations General Assembly at its 75th session. The following are the objectives of declaring 2023 the 'International Year of Millets': 1) Elevate awareness of the contribution of millets to food security and nutrition. (2) Inspire stakeholders on improving sustainable production and quality of millets. (3) Draw focus on

enhanced investment in research and development and extension services to achieve the other two aims.

Table: 1 Millets grown in India and their uses

Crop	Scientific name	Common name	Uses
Sorghum	*Sorghum bicolor*	Jowar	Potential source of biofuel; used to brew gluten-free beer Used as a wheat substitute for people on a gluten-free diet Commonly used in agriculture as feed for livestock
Pearl Millet	*Pennisetum glaucum*	Bajra	Rich in protein, fiber, phosphorous, magnesium and iron
Finger Millet	*Eleusine coracana*	Ragi/Mandua	Rich in calcium and polyphenols
Foxtail Millet	*Setaria italic*	Kanngani/kakun	Food for diabetics and poultry food
Barnyard Millet	*Echinochloa frumentacea*	Sawa	High in crude fiber and iron
Little Millet	*Panicum sumatrense*	Kutki	High in iron content and dietary fiber

Climatic conditions for cultivation of millets

Crops of millet are grown in areas with 200–600 mm of annual rainfall. A handful of these adaptable and drought-tolerant crops are important for hill and tribal agriculture, and they are perfect for dryland agricultural settings. Millets have provided residents with food and nutritional security in arduous geographic regions over many years. These food crops are unique in that they are cultivated in low-input conditions, mature earlier, and require less water to develop. Millets are very adaptable to many ecological situations, making them suitable crops for climate change and contingency plantings. These plants are more environmentally friendly due to their high-water usage efficiency and low input demand, but they are also responsive to high input management. The majority of millets are *kharif* season crops (planted in May-June) that mature between September and October. The vast majority of these crops produce well during the rabi season (October-March) and the summer season (January-April).

Different food items made from millets flour

Millets have the potential to be processed and consumed as traditional local dishes such as popping meals, porridges, chapati, dosa, pastas, bread, and cookies (FAO, 2009).

Flatbreads: These are staple foods in Africa. The millet flours undergo a specialized fermentation treatment with yeast and lactic acid bacteria that yields soft leavened textured bread with acidic flavor.

Rotis or chapatis: These are the most well-known unfermented flatbreads made from millets and are popular staple foods of India. Rotis or chapatis resemble a soft pancake with a flexible puffed texture. They are usually served with pickles, vegetables, chutney, meat, or sauce.

Dosa and Idli: These products are popular in southern parts of India, the semi-fermented millet flour is used in making dosas and idlis, that are served with sambar or chutney.

Couscous: It is pasta-like culinary prepared from semolina of millets in North Africa. The semolina is steamed and agglomerated stirred with yogurt and consumed. Usually, the couscous products are categorized based on the size of the particle of semolina used.

Major Initiatives by the Government to Promote Millets

- In April 2018, the government declared millets to be Nutri-cereals due to their nutritional benefits.
- The government is educating farmers about nutria-cereals (millets) such ragi, sorghum, bajra, and small millets through demonstrations and training as part of the National Food Security Mission (NFSM) - Nutri-cereals Sub Mission.
- To promote the shipment of Nutri-cereals, the Ministry of Commerce and Industry has prepared a comprehensive strategy to promote Indian millets exports across the globe starting in December 2022 through its apex agricultural export promotion body, the Agricultural and Processed Food Products Export Development Authority (APEDA).
- During the launch ceremony of the Food and Agriculture Organization of the United Nations (FAO)'s International Year of Nutri-cereals in Rome (Italy), our Prime Minister emphasized the importance of making millets a food choice for the future. He also discussed how climate change affects food supply. The Prime Minister stated, "Millets are good for the consumer, the cultivator, and the climate" (Anonymous, 2022).

Conclusion

Despite having an excellent nutritional profile, only traditional consumers and those from lower socioeconomic backgrounds eat millets as food. It is essential to include less common millets in the diet in order to battle increasing climatic unpredictability, ensure nutritional security, and combat life-threatening diseases. Protein is a highly excellent alternative for the development of various functional and value-added food items due to its gluten-free nature, high concentration of micronutrients, and bioactive components with medicinal capabilities. Given the nutritional profile and phytochemical contribution of millet, dietitians and nutritionists need to work to persuade people to eat more millet, both generally and specifically.

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