

Importance of Millets in Relation to Nutritional & Health Benefits

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Introduction:

Millets are rich in vitamins, minerals, and nutrition, and they are one of the most farmer-friendly crops. It is impossible to overstate the importance of excellent nutrition and healthy food, especially in the wake of the recent pandemic. Whole grains, including wheat, rice, lentils, and pulses, are commonly eaten and advised by nutritionists and other health experts. Another ancient superfood that has recently attracted attention is millet. Millet has been grown on the Indian subcontinent for at least 5,000 years and is common throughout Africa and Southeast Asia. In reality, millet's adaptability and ease of cultivation are reviving interest in it. You may find different types of millet throughout India, including pearl millet and sorghum millet. The health advantages of millet can be found in all of these varieties, notwithstanding their appearance.



Benefits to Health:

- ❖ Niacin, found in millet, aids the body in more than 400 enzymatic processes. Niacin is necessary for a healthy immune system and healthy skin and organs. Because it's such a vital component, it's typically added to processed foods as a supplement.



- ❖ Beta-carotene is abundant in millet, particularly the darker kinds. This natural pigment functions as an antioxidant and a precursor to vitamin A to protect your eyes and your body from free radicals.
- ❖ Millet is a low-glycemic index (GI) as well as a non-acid forming food because it is low in simple carbohydrates and high in complex carbohydrates. Therefore, millet flour requires more time in the digestive process. People with diabetes can better control their blood sugar levels by eating meals with a low glycemic index (GI).
- ❖ Insoluble and soluble fibre can be found in millet. As a prebiotic, millet's insoluble fibre promotes the healthy microorganisms in your intestines. In addition to helping keep you regular and decreasing your chance of colon cancer, this particular form of fibre helps bulk up stools.
- ❖ Millet's soluble fibre may help lower bad cholesterol levels, which is a risk factor for the development of atherosclerosis. In the stomach, soluble fibre forms a gel that absorbs cholesterol, allowing it to exit the body safely.
- ❖ According to some research, Millet may also raise your "good" cholesterol levels and lower your triglycerides. Eating millet regularly may assist in keeping your heart healthy because it lowers cholesterol levels.

Nutrition:

Potassium, found in abundance in millet, aids kidney and heart health. Nerve signal transmission, which is how your mind and muscles communicate, also relies on potassium. Potassium, Phosphorus and Niacin are also found in abundance in this food, as well as Vitamins A and B. Millets are also rich sources of minerals.

Wide Capacity for Adoption:

- ❖ Millet is a resilient small-seeded grass that grows well as a rain-fed crop under marginal soil fertility and moisture conditions in dry regions.
- ❖ The earliest domestically farmed cereal grain millets are Sorghum, Finger Millet, Foxtail Millet, Proso Millet, and Barnyard Millet.
- ❖ While rice and wheat require a lot of water and fertiliser, millets can thrive in dry areas since they are rain-fed crops.
- ❖ They are low in fat, low in glycemic index, and high in dietary fibre.



- ❖ According to agronomics, the resurgence of millet production in the southern states of Karnataka, Andhra Pradesh, and Telangana is a step toward more environmentally friendly farming methods that preserve the region's rich biodiversity.
- ❖ Millets have several advantages over other crops in terms of sustainability.
- ❖ When comparing the amount of water required to cultivate rice and millets, it is clear that rice requires more water.
- ❖ An ICRISAT study has found that a single rice plant requires approximately 2.5 times the amount of water as a single millet plant of most kinds. This global research organisation is striving to popularise millets.
- ❖ During the Kharif (April-October) season, it was a staple food in the northern and southern Karnataka regions during the Kharif (April-October) season. It was grown alongside groundnuts and other crops by farmers in Dharwad, Bagalkot and the surrounding areas. When rice and wheat arrived in the region three to four decades ago, millet was supplanted as the primary source of food for farmers in the Mandya and Tumakuru regions.

Government Measures to Increase Millets Production:

- Despite its multiple advantages, Millet use is confined to traditional consumers, i.e., tribal communities. There aren't many ready-to-eat millet-based goods available to consumers.
- Millets have recently received attention, and attempts are being made to obtain easy and value-added processed products from them. Millets, such as jowar, bajra, ragi, and other varieties, are important food sources for many households in dry and hilly regions. As a result, it has been advocated that the Public Distribution System add millets to its food supply.
- Millets have been acknowledged as an important part of the food chain by the government. The NFSM's first projections for increasing food grain production by 25 million tonnes include a 2 million-ton share for millets or 8 percent of the increased food grain output.

Importance of Millets in the Indian Agriculture Sector:

1. Apart from health benefits, millets are resilient to climate change as they are adapted to a wide range of temperatures, and moisture regimes, and demand less input to



grow. They are hardy crops that have low carbon & water footprints. It can sustain drought and even 350-400 mm of rainfall is sufficient for millets. Millets grow faster, putting less stress on the environment.

2. The United Nations General Assembly adopted a resolution declaring 2023 as the International Year of Millets, as proposed by India to the Food and Agriculture Organization and the primary aim of this initiative is to increase the awareness of millets' health benefits among the people and their suitability for cultivation under tough conditions marked by climate change.
3. Importance of millets in the context of Climate Change:
4. In rice production, temperature increases are predicted to reduce rice yields. So, there is a need to consider adaptive measures to cope with changing agricultural patterns. Due to climate change, there is a decline in yield leading to food insecurity, more attacks of pests and diseases, soil degradation, change in crop schedules, and desertification. Considering, millets as an alternative crop is a better choice and we can say it is the future crop.

Economic Importance of Millets:

1. India is the highest producer of millets in the globe and the 5th largest exporter of millets. Its exports are increasing exponentially as the demand for millets is increasing at a fast rate. Millets are addressing the need for fuel and feeds. It has the potential to produce biofuel.
2. As the demand for millets is increasing, it is creating more business opportunities for entrepreneurs. Millet Market size was over USD 9 billion in 2018 and will witness more than 4.5% CAGR during the forecast timespan (2018-2025) and the value projected is more than USD 12 billion.

Nutritional Importance of Millets in India and Abroad:

Millets are the storehouse of nutrition and now they are known as Nutri-Cereals. Millets are unique in terms of nutrients and health benefits. So, millets are miraculous. Pearl Millet contains the highest iron content. It is about 4 to 8 mg per 100 gm of grain and has the ability to tackle anemia in India. It is also rich in Zinc and Folic acid and is recommended for pregnant women. Pearl Millet contains 2 times more protein than milk. The recent systematic review and Meta-analysis of millets have given us enough evidence of the potential of millets



for managing and reducing diabetes. The low glycemic index of millets is helping to manage diabetes. Finger Millet known as Ragi has the highest Calcium content of about 364 mg per 100 gm of grains. It is 3 times more Calcium than milk. This Calcium dense grain keeps the bones and teeth strong. Millets are rich in dietary fiber and help in digestion and prevent constipation. Kodo Millet contains high dietary fiber that is 3 times more than wheat and maize and 10 times more than rice. The high fiber content in millets acts as a pre-biotics and thus helps to maintain a healthy gut microbiome. Millets are absolutely gluten-free and it is good for celiac patients. Millets are rich in antioxidants which protect our cells from free radicals. A recent study showed that millets can reduce the risk of developing cardiovascular diseases. Millets help in weight loss. The specific content of millets like dietary fiber, Policosnols, and Tryptophan helps in weight loss.

Conclusion:

It has several advantages, including low-maintenance, disease resistance, nutritional value, market demand, fodder value, and ecological benefits. Millets, often known as C4 crops, are extremely effective at absorbing and utilising CO₂. Most millet are well-known for their toughness and ability to produce grains and fodder, even when subjected to protracted periods of drought and high heat. Millets were a major crop consumed in India and numerous other nations about five decades ago. According to a 2014 National Council of Applied Economic Research (NCAER) report, the plate share of millets has declined significantly in favour of wheat, rice, and processed foods. As a result of increased land being used for wheat and rice production, the cultivation area for millets has decreased by 58% for small millets, 64% for sorghum, 49% for finger millet, and 23% for pearl millet since 1956. Millets are considered to be the sole crop that will handle critical challenges in the future such as food, fuel, malnutrition, health, and climate change. With India's growing malnutrition problem, both under-nutrition (vitamin, mineral, and protein deficiencies) and over-nutrition (obesity, metabolic syndrome, and lifestyle diseases), there is a growing awareness of the need to move to healthier, more accessible, and inexpensive diets that include millets.