

Nutritional Status and Health Benefits of Millets A Review

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Abstract

Millets are the most significant cereal grains in many nations. These are grown mostly in arid and semi-arid areas. Millets have a strong nutritional content that can help you overcome health issues, as recorded in ancient histories and books. Millet nutrition is comparable to that of the main staple grains (rice, wheat, and maize) since it has a high concentration of carbohydrates, protein, dietary fiber, minerals, vitamins, and phytochemicals, millet meals and beverages offer functional and health-promoting effects, particularly in terms of preventing diabetes, obesity, and cardiovascular disease. These phytochemicals also help to support the body's immune system. Dietary fiber, both soluble and insoluble, is abundant in millet. As a "prebiotic," or a substance that encourages the growth of healthy bacteria in your digestive system, millet's insoluble fiber has this designation. Additionally, this kind of fiber is crucial for giving stool volume, which keeps you regular and lowers your risk of colon cancer.

Keywords; Millets, Nutritional content, Prebiotic, Proteins, Immune system.

Introduction

Millets are the most climate-resilient crops they can withstand a wide range of temperatures and water stress they perform well even in low moisture soil conditions; even small and poor farmers can grow the millets with very negligible input so they are considered "poor man's crop" it is used as food and also as fodder for cattle. They can be stored for a long duration without pest attacks even some millets like pear millets are stored along with pulses like green gram to avoid the storage pest of pulses. knowing the importance of millets worldwide the year 2023 has declared an international year of millets its main aim is to ensure that millets are consumed every corner of the world. During the time of the green revolution, importance was given to other food grains and millet production has declined to a point. Today there is a huge concern about health and the importance of millets has been elevated, more than 1/3 population takes them as food, particularly in Africa and Asia.

Millets are a group of variable small-seeded grasses, extensively cultivated as cereal crops or grains, to serve the purpose of fodder and human food, two major groups of millets, Major millets include sorghum, pearl millet, and finger millet.

Minor millets include little millet, foxtail millet; proso millet, barnyard millet, and kodo millet, Kodo millet had the highest



phenolic content, while proso millet had the lowest, A wide variety of foodstuffs can be prepared with millet like millet biscuits, ragi java, and sweets; flour is used to make rotties, etc. It has traditional importance in some places like India. In India, millets are mostly grown in states like Rajasthan, Maharashtra, UP, Karnataka, Gujarat, MP, Telangana, and AP, among all Rajasthan is the largest producer.

Nutritional benefits of Millets

In the majority of poor nations, millets are almost exclusively used for human food, whereas in wealthy nations, their usage has mostly been relegated to animal feed. Millets are a good source of protein, minerals, and phytochemicals and are nutritionally comparable to other types of cereal. The amount and activity of antioxidants are impacted by processing techniques such as soaking, malting, decortications, and cooking. While sorghum and the majority of millets have 3.5% Lipids and roughly 10% protein, finger 12–16% protein, and 2%–5% fats are both present in millet.

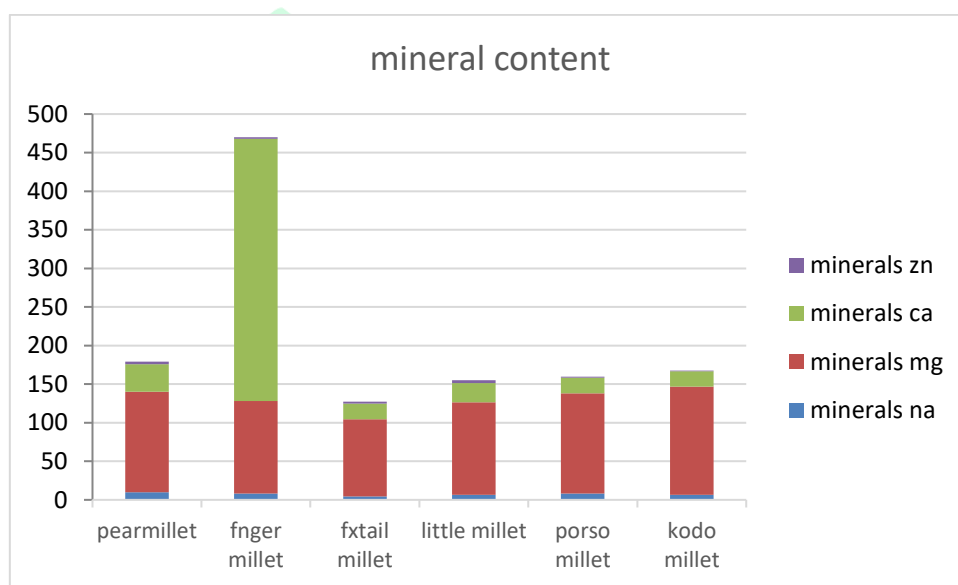
Millets and sorghum are excellent suppliers of micronutrients like vitamins and minerals. The main component of sorghum protein, prolamin (also known as kaffirin), has the peculiar property of decreasing digestibility when cooked, whereas millets have a better amino acid profile. The fact that sorghum proteins are much less digestible after heating than other grain proteins may have health benefits for some dietary groups. However, millets have less cross-linked prolamins than other grains, which may play another role in the millet proteins' improved digestibility.

All other millets have at least twice as much Calcium in comparison to rice as finger millet, which

Has a calcium content that is thirty times higher than rice (Amir Gull et al., 2014). When compared to rice, foxtail and tiny millet have higher nutritional values in terms of iron content.

Compared to rice, little millet has a higher fat, fiber, and iron content. Millets are beneficial for someone with a gluten allergy because they are gluten-free. It will be beneficial as a mainstay diet for those with celiac disease. Millets outperform other cereals in terms of dietary fiber, phenolic content, and minerals (calcium, potassium, and magnesium).

Graph showing mineral content in different millets



➤ **Health benefits of millets**

Millets offer potential health benefits, including reducing heart disease risk, protecting against diabetes, improving digestion, lowering cancer risk, detoxifying the body, increasing respiratory immunity, increasing energy levels, and protecting against degenerative diseases like metabolic syndrome and Parkinson's.



- Millets, rich in magnesium and potassium, reduce blood pressure, heart stroke risk, and cardiovascular risk in atherosclerosis.
- Millets, which are high in magnesium and potassium, lower blood pressure, the risk of heart attacks, and the likelihood of developing atherosclerosis.
- Millets' fiber content aids in the elimination of problems such as constipation, excess gas, bloating, and cramping.
- Millets include a high concentration of phenolic acids, tannins, and phytate (Thompson, 1993). In animals, these nutrients diminish the incidence of colon and breast cancer (Graf and Eaton, 1990). The fiber and phenolic compounds found in sorghum and millet have been linked to a lower risk of esophageal cancer than those who consume wheat or maize.

2023 International Year of Millets



Conclusion

Taking into account the aforementioned information, it has been determined that millets have higher nutritional content and health advantages than other grains. As a result, their cultivation area is growing, and their consumption is also rising. They lower the chance of Conditions Like Cancer, Diabetes, Issues with Constipation, And Other Health Problems.