

Millets Impact on Nutritional Security

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ARTICLE ID: 35

Abstract

The following Research Paper demonstrates the Importance of Millets in Nutritional Security. Millets are extremely beneficial and are medically recommended to help us meet our daily nutritional needs. In comparison to rice and wheat, millets are generally higher in carbohydrates, vitamins, and proteins. Millets are gluten-free and easy to digest. It fulfils dietary requirements.

Introduction

Millets are gluten-free, high in nutrients, and high in fibre. They're high in micronutrients like calcium, iron, and phosphorus. They have a low Glycemic Index (GI) and thus do not cause a significant increase in blood sugar. Millets should ideally be a staple in our diet.

Indian-born millet plants are commonly referred to as "nutri-cereals" since they contain the majority of the nutrients needed for the body to operate normally. The Ministry of Agriculture and Farmers Welfare has acknowledged the significance of millets and designated them as "Nutri-Cereals" for production, including Sorghum (Jowar), Pearl Millet (Bajra), Finger Millet (Ragi/Mandua), Minor Millets such as Foxtail Millet (Kanngani/kakun), Proso Millet (Cheena), Kodo Millet (Kodo), Barnyard Millet (Sawa/Sanwa/Jhangora), From a production, consumption, and trade perspective, "Nutri-Cereals" include Little Millet (Kutki), Brown Top Millet, and two pseudo millets, Buck-Wheat (Kuttu), and Amaranth (Chaulai).

Millets are non-allergenic and gluten-free. By lowering triglycerides and C- reactive protein, millet eating helps to avoid cardiovascular disease. All millets have a lot of nutritional fibre. Dietary fiber has the ability to bulk up and absorb water. It lengthens the time that food spends in the digestive tract, which lowers the risk of inflammatory bowel disease and serves as a cleansing agent for the body. They are high in protein, micronutrients,

and photochemical. Millets have a protein content of 7-12%, a fat content of 2-5%, a carbohydrate content of 65-75%, and a dietary fibre content of 15-20%.

Similar to cereal proteins, the millet proteins are poor sources of lysine, but they complement well with lysine – rich vegetables (leguminous) and animal proteins which form nutritionally balanced composites of high biological value. Millets, which contain phytates, polyphenols, tannins, anthocyanins, phytosterols, and pinacosanols, contribute to antioxidant activity and play an important role in ageing and metabolic diseases.



Millet consumption lowers triglycerides and C- reactive protein, thereby reducing the risk of cardiovascular disease. They are easy to digest and high in nutrients, making them ideal for consumption by people of all ages. Millets are anti-acidic, gluten-free, and help to prevent type 2 diabetes. They are also effective at lowering blood pressure and lowering the risk of gastrointestinal conditions such as gastric ulcers and colon cancer. Get rid of constipation, excess gas, bloating, and cramping

Major Millets

1. Sorghum

- It contains a lot of protein, fiber, thiamine, riboflavin, folic acid, and carotenoids.
- It includes Prolamin, which is easily digestible.

2. Pearl Millet (Bajra)

- It contains 11.5% dietary fiber, 12-16% protein, and 4-6% lipids.
- Pearl millet has a higher NIACIN content than other grains.

3. Finger Millet (Ragi)

- Ragi contains the most minerals.
- Finger millet is the richest source of calcium (300-350 mg/100g). Finger millet proteins are distinct due to their high sulphur content.

Minor Millets

1. Foxtail Millet

- It is high in nutrients, has a sweet nutty flavor, and is one of the most digestible and non-allergenic grains.
- When compared to rice, it has twice the protein content.

2. KODO Millet

- It is high in protein (11%), low in fat (4.2%), and high in fiber (14.3%).
- High in lecithin, rich in B vitamins, particularly niacin, pyridoxine, and folic acid

3. Barnyard Millet

- It has 1.5g of protein and is 68% carbohydrate. Its grains also include beta-glucan and gamma amino butyric acid (GABA), which are antioxidants and help lower blood lipid levels.

4. Proso Millet

- It has significant calcium content, which is necessary for maintaining and growing bones.
- It lowers cholesterol levels and the risk of developing heart problems.

5. Little Millet

- It exhibits strong antioxidant properties.
- It has a 38% dietary fiber content.



Pseudo Millet

1. Amaranth

- High protein content (13–14% of total calories) and a source of lysine, an amino acid that is either absent or insignificant in many other grains.
- Contains a peptide that resembles Lunasin as well as other bioactive peptides that are known to have antihypertensive and cancer-preventive activities.
- Has more oil than the majority of other cereals, between 6 and 9%. Amaranth oil is rich in linoleic acid and comprises about 77% unsaturated fatty acids.

2. Buckwheat

- It is high in the amino acid lysine and contains 13–15% protein.
- Polyunsaturated essential fatty acids, like linoleic acid, are abundant in carbohydrates.
- Contains rutin, a bioflavonoid with anti-inflammatory and anti-carcinogenic effects that may help regulate blood pressure.

Conclusion:

The research report leads us to the conclusion that millets are essential for daily dietary requirements and play a key role in ensuring nutritional security. Millets are incredibly healthy, gluten-free, and packed with protein and fiber. It has anti-inflammatory and anti-carcinogenic effects.