



## MILLETS AND HEALTH NUTRIATION

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### ABSTRACT

Millets are grains that have long been used for their nutritional and therapeutic properties. Millets are mostly farmed in Asia and utilised as a food source. Millets are little grains that grow in warm conditions and are members of the grass family. Millets are resilient grains that can withstand a wide range of weather conditions. They supply nutrients necessary for the physiological functioning of the human body. Millets are classified into two types: Major Millets and Minor Millets, based on grain size. Millets contain protein, fat, carbs, and fibre, among other things. Millets are more nutritious than other high-quality grains. Millets were also high in phosphorus and iron. Millets have therapeutic properties due to the presence of tannins, polyphenols, phytosterols, and anthocya-

nins, among other things. Millets are used to cure and prevent metabolic illnesses, and they also have antioxidant properties.

**Keywords:** *Ayurveda*, Millets, Grain, Fiber, Nutrition

## INTRODUCTION

Millets are gluten-free, non-allergenic grains that are high in nutrients. Millet is used to treat cardiovascular disease by lowering lipids and inflammation.

Millets, as a source of dietary fibre, lowers the risk of inflammatory bowel disease and also aids in bodily detoxification. Millets are coarse cereals grown mostly by smallholders and tribal farmers under rainfed circumstances. Millets are found primarily on the Asian and African continents, as well as in some parts of Europe. These are among the oldest cultivated crops in India. Millets are divided into two types: major and minor millets. *Ayurveda* has explained these millets in detail under *Dhanya Varga* (category of cereals) under topic '*Kudhanya*'. In *Charaka Samhita* "*Kudhanya*" has been included under *Shukdhanya Varga* while in *Shushrut Samhita* they are included as *Kudhanya*. *Trin Kshudra Dhanya* (small sized cereals) a *Dhanya* (grass derived cereals). All these are *Kudhanya* are *Ushana*, *Kashaya*, *Madhura* in nature and *Katuvipaka*, *Vata Kapha Vardhak* and *Kaphanashak* in nature. But *Kodo*, *Nivara*, *Shayamak* are *Kashaya Rasatmaka*, *Sheet Veerya* and *Pittanashaka* in nature.

### TYPES OF MILLETS –

1. Foxtail millets (*Setaria italica*)
2. Finger millets (*Eleusine coracana*)
3. Little millets (*Panicum sumatrense*)
4. Barnyard millets (*Echinochloa esculenta*)
5. Proso millets (*Panicum miliaceum*)
6. Kodo millets (*Paspalum scrobiculatum*)
7. Pearl millets (*Cenchrus americanus*)

### MAJORMILLETS      MINOR MILLETS

1. Sorghum (*Jowar*)    1. Foxtail Millets (*Kakum*)
2. Pearl Millets (*Bajra*)    2. Kodo (*Kodon*)
3. Finger Millets (*Ragi*)    3. Barnyard Millets (*Sanwa*)
4. Littles Millets (*kutki*)

### Classical Categorization

*Bhavaprakasha Nighantu - Dhanya varga, Kaiyadeva Nighantu - Dhanya varga, Dhanvantari Nighantu - Suvarnadi varga, Raja Nighantu - Shalyaadi varga, Shodala Nighantu - Trinadhanya varga*

### Millets contain.

1. High in calcium
2. High in Iron
3. High Proteins & Fiber
4. Low Glycemic index
5. Gluten free

Millets have the following advantages over other grains: -

- Millets are highly nutritious and have medical potential value.
- Millets are non-glutinous; gluten-allergic people can consume millets.
- Millets are non-acidic foods.
- Millets are high in fibre.
- Millet's work as a probiotic for our body's microbial flora, improving digestion.
- Millets keep fluids in the colon, preventing constipation.
- Millets are considered as dietary fibre, used as source of protein and phytochemicals.

The Nutritional compositions of millets are described as follows:

Protein: 5-10%, Fat: 3-5%, Carbohydrates: 68-75%, Dietary fibre: 15-20%

**Sorghum (*Jowar*)** - It was a good source of protein, thiamine, riboflavin, fibre, carotene, and folic acid, among other things. It also contains phosphorus and potassium, as well as adequate amounts of iron, sodium, and zinc.

**Pearl Millet (*Bajra*)** - It contains dietary fibre, which helps to avoid inflammatory bowel illness, as well as proteins and fats. Niacin is found in greater quantities than in other cereals. Iron, copper, magnesium, and

zinc are also found in bajra. It was a good source of unsaturated fats.

**Finger Millets (*Ragi*)** - The highest source of calcium is found in finger millet, highest mineral content is seen in Ragi, and however it has lower amounts of fat and protein. Finger millet grains have good malting capabilities and are well-known for their use as weaning foods. The proteins are distinctive in finger millet due to the sulphur rich amino acid levels. Its antioxidant activity is very high.

**Foxtail Millet (*Kakum*)** - It contains twice as much protein as rice. It offers a variety of nutrients, a pleasant nutty flavour, and is one of the most easily digested and non-allergic grains. It contains minerals like copper and iron.

**Kodo Millets (*Kodon*)** - It has a very high fibre content, low fat and high protein content. The vitamins B found in Kodo millet, including niacin, folic acid and pyridoxin, as well as iron, calcium, potassium, zinc and magnesium, etc. These all constituents make it a food for boosting the Neurological system.

**Barnyard Millets (*Sanwa*)** - The most abundant source of crude fibre and iron is barnyard millet; its grains also include beta-glucan and gamma amino butyric acid, which are antioxidants and helps to lower blood lipid levels.

**Kutki (*Shavan*)** - *Kutki/Shavan* is a type of tiny millet; it has a lower grain size than other millets, higher iron content and significant antioxidant activity. It also contains remarkable amount of dietary fibre.

**Chenna/Barri:** - The most protein is found in proso millet, it contains fatty acids and carbohydrates. It also includes substantial levels of calcium, which help bone building. It served as source of manganese than other traditional sources like spices and nuts. It lowers cholesterol levels and risk of heart disease.

**Amaranth pseudo-millet (*Ramdana/Rajgira*)** - It has more oil than most other cereals, as well as a high protein level and an amino acid that is lacking in many other grains. Amaranth oil has a lot of fibre, magnesium, phosphate, iron, potassium, and calcium. It also contains a peptide, which has anti-cancer and anti-hypertensive characteristics. Unsaturated fatty acids and linoleic acids are found in amaranth oil.

**Buckwheat (*Kuttu*)**- It is high in the amino acid lysine and also contains protein and carbohydrates. It is a good source of vitamins B1, C, and E. It has higher levels of zinc, manganese, and copper, among other things. These elements are also generally bioavailable, and it contains polyunsaturated essential fatty acids.

**Millets have medicinal value -**

since they help with bone and muscular building., Millets help to strengthen the nerve system. Prevent oxidative damage to biomolecules. Prevent the possibility of heart issues., Diabetes can be controlled by regulating metabolic processes. Controls cholesterol levels and lowers occurrences of fatty liver. Promotes digestion, which helps to avoid the complications of constipation and other digestive issues. Because of its nutritive qualities, it boosts immunity and nourishes the body. It is useful for conditions like *Nadivrana*, *Raktapitta* and *Asthibhagna* etc.

**Merits of Millets –**

Drought resistant: Millets require very less amount of water compared to other cereals for their cultivation, thus they were mainly grown in water scarce areas, and they could even sustain during droughts. Resistant to pests and diseases: Millets show a great resistance to pests and diseases which minimises the burden of farmers along with added benefit to health. Short growing season: Maturity of millets occurs within 60-100 days. Remarkable nutritive values: They are highly rich in phytochemicals, and micronutrients. Alkaline forming grain: Helps to maintain the PH balance in the body.

Gluten free: Gluten intolerance is one of the major Gastro-intestinal issues seen nowadays. Millets being gluten free becomes a choice for those.

## CONCLUSION

Millets are staple food source that is not only providing major nutrients like protein, carbohydrate, fat etc. but also provide ample of vitamins and minerals. Millets is gluten free and nourishing fibre. They are rich in micronutrients like, iron, phosphorus and calcium, etc. Millets as dietary fibre induce bulk in body and absorb water. It lowers the risk of bowel disease and

helps to clean body. On the basis of analysis, the general qualities and effects of millets we can say that millets are best advised in *Kaphaja Roga*, *Pittaja Roga* and *Raktadushti* (vitiation of blood). Based on this understanding, the gross indications for use of millets are, *Sthoulya* (Obesity), *Kushta* (Skin diseases), *Prameha* (Diabetes), *Atisaara* (Diarrhea), *Medoroga* (Diseases due to excessive lipids), *Vrana* (wounds and ulcers) and other *Santarpanajanya Vyadhi* (diseases due to over nourishment of single or multiple tissues) which are usually lifestyle disorders.

## REFERENCES

1. Shushrutsamhita, Edited by Vaidya Yadavji Trikamji Acharya, Choukhamba Sanskrit Sansthan, Varanasi. Page No 216.
2. Roshan Kumar singh, Manoj Prasad, Foxtail millet- an introduction, 2017; 978-3-319- 65616-8: page 1/9.
3. Bhavamishra. Dhanya varga. In: Srikantha Murthy, K.R (ed.) Bhavaprakasha. Varanasi: Chowkhamba Krishna Das Academy; 2011. p. 374.
4. Acharya kaiyadeva. Dhanya varga. In: Prof Priya Vrat sharma, Dr guru prasada sharma (eds.) Kaiyadeva Nighantu (Pathyapathya Vibhodaka). Varanasi: Choukhamba Orientalia; 2009. p. 318.
5. B. Dadyakar Rao, K Bhaskarachary, G. Darien Christina, G. Sahadevi, Nutritional and health benefits of millets, Indian Institute of Millets Research(Iimr),June 2017.

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