

Bring Millets Back in Meals for Nutritional Security

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Introduction

In India, millets have been a staple diet and a main source of income for farmers especially in the semi-arid regions. Millets add diversity to diet which is increasingly dominated by just two cereals – rice and wheat. Millets are a group of nutritious cereals and slowly digestible grains. They contain high amounts of dietary fiber, B-complex vitamins, essential amino, fatty acids and vitamin E. They are particularly high in minerals like iron, calcium, magnesium, phosphorous, and potassium. The seeds are also rich in phytochemicals, which Lower cholesterol; reduce the risk of cancer and other diseases. Therefore the time has come to conserve rich bio diversity for sustainable agriculture and urgent need to return to our traditional food for nutritional security.

Sorghum

Sorghum is the traditional staple food of the dry land regions of the world. It is a warm, seasonal crop intolerant to low temperatures, but resistant to pests and diseases, highly nutritious and a climate-resilient crop. Owing to its richness in minerals such as potassium, phosphorus, calcium, iron, zinc and sodium. It has come under the lime light as a potential solution to the malnutrition problem of our planet. Sorghum contains photochemicals and phenolic acid that helps to prevent cancer and various other diseases. Adding sorghum regularly in the meals of pregnant woman has found to help them in attaining the essential minerals and vitamins required for the betterment of the fetus. Sorghum also helps to control heart problems, body weight and arthritis.

Foxtail Millet

Foxtail millet is one of the oldest cultivated millets. Three to four decades ago, foxtail millet was consumed as the staple food in many parts of India. It has double the quantity of protein content as compared to rice. It regulates blood sugar and cholesterol levels. It optimizes immune system and is considered as an ideal food for people suffering from diabetes and gastric problems. Foxtail millet contains a lot of dietary fiber, proteins, vitamins

and minerals such as copper and iron that keeps one's body strong and immune. It is also a nutritive food for children and pregnant women. It is good for stomach related ailments, obesity, constipation, arthritis, fever, burning sensation while urinating, lack of appetite and diarrhea.

Finger Millet

Farmers of India and Africa have been cultivating finger millet as a major crop and it has earned the nickname, 'gold of the poor'. The ancient poet Purandara Daasa praises this food grain and Kanaka Daasa has written on this millet in his famous work, 'The Ramadhanya Charita'. It is rich in calcium, about ten times that of rice or wheat. It also contains high amounts of protein with well-balanced essential amino acids, along with vitamin A, vitamin B and phosphorous. Its high fiber content prevents constipation, high blood pressure and intestinal cancer. It is an important ingredient in the food of babies, as it contains plenty of iron and polyphenols. It is an ideal food for diabetics as it has demonstrated ability of controlling blood glucose levels and hyperglycemia.

Barnyard Millet

Evidences show the antiquity of this millet, which was consumed as the main food grain in many ancient civilizations. The Barnyard millet is a good source of protein, is highly digestible and is an excellent source of dietary fiber with good amount of soluble and insoluble fractions. The carbohydrate content of barnyard millet is lower and slowly digestible. This makes it nature's gift for the modern man/woman who is engaged in sedentary activities from dawn to dusk. It also controls diabetes and heart diseases. During the Navaratri festival, many delicious dishes are prepared with this grain.

Brown Top Millet

The roti made from these are locally called 'ghass ki roti' or 'Roti made from grass'. In every soil type, how much ever the rain, brown top millet grows very well. It always gives a good assurance of yield even with minimum rain. No other crops could grow under the shade of huge trees, but brown top millet would easily grow. Farmers believe that, if brown top millet grows in a field continuously for two years, the place will be free from weeds. This crop has more resistance to pests and diseases and can be harvested in three months. Brown top millet is grown and consumed in reasonable quantity in dry land tracts of deccan plateau and north central India (Bundelkhand).

Little Millet

Little millet is grown throughout India and is one of the traditional crops. It is grown as a mixed crop with other millets, pulses and oilseeds in many states. It is generally consumed like rice and therefore, any recipe that demands staple rice can be prepared using little millet. Little millet seeds are smaller than other millets, but high in Iron content and dietary fibers. It is a complete food ingredient suitable for large scale utilization in processed products, snacks, baby foods etc. Little millet also has medicinal properties and is useful for curing liver diseases, heart burn, indigestion, menstrual problems and for an increase in sperm count. For heart problems, obesity and arthritis the consumption of little millet can be highly beneficial.

Kodo Millet

Kodo millet entered Indian kitchens 3,000 years ago!. It is cultivated in Asia, mainly in India. This crop is extensively grown in the dry land tracts of Tamil Nadu and in the Jabalpur area of Madhya Pradesh. Described as 'the friend of drought', the kodo millet gives assured yield in low rains too. It can also grow in hard or rocky soil. Kodo millet contains a lot of fiber. Hence it is useful for diabetic people, helps in weight reduction and is very easy to digest. It contains a high amount of lecithin and is excellent for strengthening the nervous system. It controls high blood pressure and keeps a check on cholesterol levels. Like all other millets, it is also gluten free and is a healthy food for people of all ages.

Pearl Millet

Pearl millet has traditionally been an important grain and forage, grown primarily in the arid and subtropical regions of many developing countries. Pearl millet is well adapted to growing areas characterized by drought, low soil fertility, and high temperatures. Pearl millet contains carotene in abundance and hence it is good for eye sight. It is useful for people with obesity, diabetes, piles, blood pressure and shortness of breath. It is also useful for heart problems and acidity. Pearl millet has high energy content compared to other millets. It is rich in calcium, iron and unsaturated fats which are good for health.

Proso Millet

Proso millet could grow in mist conditions, with minimal quantity of rain, it can still grow very well, as the moisture content in the soil is more than enough for this crop. Health benefits of Proso millet comes from its unique properties. It is completely gluten free and has

significant amounts of carbohydrate and fatty acids. It contains high amounts of calcium which is essential for bone growth and maintenance of the body. It has been shown to reduce cholesterol levels and also reduce the risk of heart diseases. It also prevents breast cancer among other diseases. Proso millet prevents wrinkles on the skin and naturally slows the aging process. It also prevents stones in the liver and cures intestinal problems.



Nutrient composition of millets compared to fine cereals (per 100 g)

Food gain	Carbo- hydrates (g)	Protein (g)	Fat (g)	Energy (KCal)	Crude fibre (g)	Mineral matter (g)	Ca (mg)	P (mg)	Fe (mg)
Finger millet	72.0	7.3	1.3	328	3.6	2.7	344	283	3.9
Kodo millet	65.9	8.3	1.4	309	9.0	2.6	27	188	0.5
Proso millet	70.4	12.5	1.1	341	2.2	1.9	14	206	0.8
Foxtail millet	60.9	12.3	4.3	331	8.0	3.3	31	290	2.8
Little millet	67.0	7.7	4.7	341	7.6	1.5	17	220	9.3
Barnyard millet	65.5	6.2	2.2	307	9.8	4.4	20	280	5.0
Sorghum	72.6	10.4	1.9	349	1.6	1.6	25	222	4.1
Pearl millet	67.5	11.6	5.0	361	1.2	2.3	42	296	8.0
Wheat (whole)	71.2	11.8	1.5	346	1.2	1.5	41	306	5.3
Rice (raw, milled)	78.2	6.8	0.5	345	0.2	0.6	10	160	0.7

(Source: Nutritive value of Indian foods, NIN, 2007)

Conclusion:

Millets are storehouses of nutrition which contain both micro and macro nutrients. It can prevent India from being Diabetic hub of world. The crop residue can be used as fodder for animal feed and poultry feed. Instead of using exotic crops it's time to change our food habits to include safe and nutritious food which are minimally processed to retain nature's goodness.

