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Little Millet: Nutraceutical Crop

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SUMMARY

Another reliable crop in terms of the earliness and tolerant to adverse agro-climatic conditions is little millet. The small seeded crop millet consists of various nutrients content and beneficial for human health than wheat and rice. Similarly, little millet helps to maintain the human health due to presence of various nutrient compositions in good amount and prevent chronic diseases. Different bioactive compounds of this millet have different function. Along with health benefit lilt millet has been found with antinutirent properties which can be decreases through different techniques to enhance the digestibility of little millet. The overview of this article gives an idea why millets are nutraceutical crop.

INTRODUCTION

Little millet also called kutki or saamai which is nutritionally superior small millet in terms of dietary fiber, proteins, minerals and vitamins comparing in respect to rice and wheat. It comes under the list of underutilized or orphan crop. The rich source of Vitamin B and good concentration of calcium, iron, zinc, potassium make different from other millets. All millets considered as functional food. It contains large number of bioactive ingredients. From agronomic point of view abiotic stress tolerance is main feature of little millet.

The health benefit of millet is always a plus point to prepare various traditional and beverages and other food products. Little millet is rich in phytochemicals and micronutrients. The tannin is major poylphenols. It helps to maintain a good immune system. Little millet considered as a nutraceutical just not due to hunger satisfaction, health promotion, and reduction in the chronic diseases like other millets. But due to the starch resistant, phyates, phenolics, sterols, lignans, and gamma aminobutyric acid presence. Hence, kutki can be considered as nutraceutical. Today, the chronic diseases are cancer, obesity, cardiovascular disease and diabetes and to cure these diseases little millet play an important role. Another factor is antioxidant property of this millet that helps to maintain the health.

Table 1: Nutrient composition in little millet comparing whole grain

Cereal and millets → / Parameters ↓	Little millet	Wheat	Rice
Moisture (g)	11.36	11.1	9.93
Protein (g)	10.13	10.57	7.94
Fat (g)	3.89	1.53	0.25
Ash (g)	1.34	1.28	0.56
Carbohydrates (g)	65.55	64.14	78.24
Energy (KJ)	1449	1340	1491
Total dietry fiber (g)	7.72	11.36	2.81
Thiamine (mg)	0.26	0.42	0.05
Riboflavin (mg)	0.05	0.15	0.05
Niacin (mg)	1.29	2.37	1.69
Total Folates (µg)	36.2	29.22	9.32
Magnesium (mg)	91.41	125	19.3
Maganese (mg)	0.23	2.98	0.73
Phosphorous (mg)	130	315	96
Iron (mg)	1.26	4.1	0.65
Zinc (mg)	1.82	2.85	1.21
Sodium (mg)	4.77	2.04	2.34
Calcium (mg)	16.06	30.94	7.49

Bioactive Compounds

- Kaempferol ($C_{15}H_{10}O_6$) compounds lower the risk of chronic diseases.
- Luteolin have antioxidant property along with anti-inflammatory.
- Apigenin compound used for antidiabietic, antirheumatic and anticancerous.

Health Benefits

- High amount of dietary fiber presence reduce the fat deposit in body.
- During hot summer, consumption makes the cooling impact on the body hence little millet called cooling food.
- Have anticancerus and antidiabateic.
- Act as an antioxidant.
- Prevent constipation and stomach related problems.
- Reduce the blood pressure and also lower the chances of heart attack due to magnesium content.
- Protect the cardiovascular health.
- Helps in reduction of colon and breast cancer due to the antinutrient property of tannins.
- Decreases the chances of gastrointestine

Anti-Nutrient Properties

About 332.1 to 336.8 mg CE/100g tannins found in little millet. As tannin prevent the digestion of protein from digestion. The content of anti-nutrient can be degraded through food processing techniques such as germination, malting, decortications, soaking, milling, popping, puffing and fermentation etc. to improve the digestibility.

CONCLUSION

The present article gives brief information on the nutrientional and antinutrient factor in little millet which makes valuable information to consider it as Nutraceutical. The good source of dietary fiber helps in digestion. The consumer can prefer little millet for prebiotic drinks. The different beneficial content of little millet improve a healthy life of human which leads to choose a health conscious food for our large population. To reduce the chronic diseases and satisfy the food requirement little millet is good alternative than whole cereal grain. It's high to create awareness for these types of underutilized crop and its utilization in our country.

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