



DO-IT-YOURSELF | COVER STORY | GREEN SCHOOLS

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A DOWN TO EARTH SUPPLEMENT FOR THE YOUNG AND CURIOUS



Mingling with Millets

Kick-start this New Year with some food for thought on millets, and become healthier, wealthier, wiser with these nutrient-rich grains.

The Mighty Millets

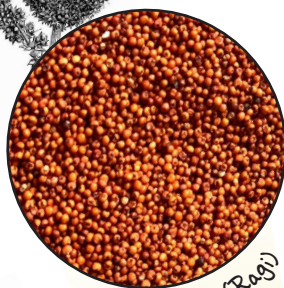
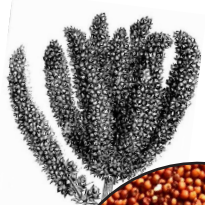
Kick start this new year on a wise and healthy note with a mouthful of millets. Learn more about their varieties, benefits, and environmental importance.



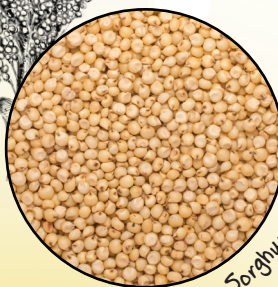
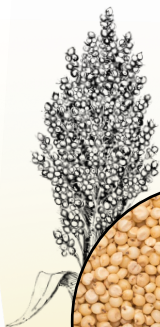
Abhay Kumar Singh



Anamika Yadav



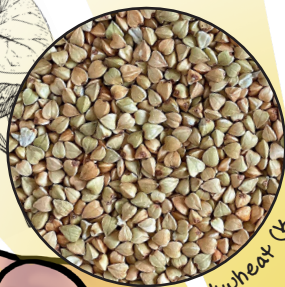
Finger Millet (Ragi)



Sorghum (Jowar)



Pearl Millet (Bajra)



Buckwheat (Kuttu)



Foxtail Millet (Karam)



Hi friends! Have you ever reflected upon the usual grains that we eat every day? Apart from the most popular, wheat and rice, there are a lot of other cereals that we consume like sorghum (*jowar*), pearl millet (*bajra*), finger millet (*ragi*), and buckwheat (*kuttu*). Most of these are local foods and are prepared on special occasions like fasts or festivities.

In fact, there are several grains like these which are very important. Note: little millet (*kutki/shavan*), foxtail millet (*kakum/kangani*), porso millet (*chena*), barnyard millet (*sanwa*), kodo millet (*kodon*), and amaranth (*rajgira*). (Psst! Their local names are exhaustive so just keep a track. Here, we've mentioned what they are called in Hindi). So, today, we're going to talk about these group of grains called 'millets'.

What are Millets?

Well, millets are one of the oldest foods known to humankind. Their charred grains have been found from the Harappan sites and they are also mentioned in the Vedas—one of the oldest archaeological and literary sources of our subcontinent, respectively. An ancient grain, millets have been used both for our consumption and as animal feed.

Scientifically speaking, millets are a group of small-seeded cereal grains that belong to the family of grasses (*Poaceae* family). They are grown in many countries around the world and have a lot of diversity in species, colour, and appearance. Depending upon their size, they are broadly divided into two categories: major millets and minor millets. Major millets include sorghum, pearl millet, and finger millet. Minor millets include little millet, foxtail millet, proso millet, barnyard millet, and kodo millet. Botanists have counted two pseudo millets too namely, buckwheat and amaranth.

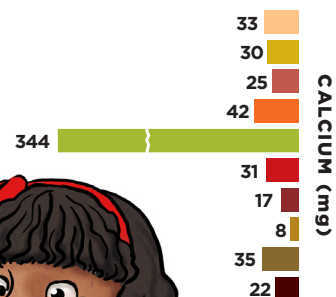
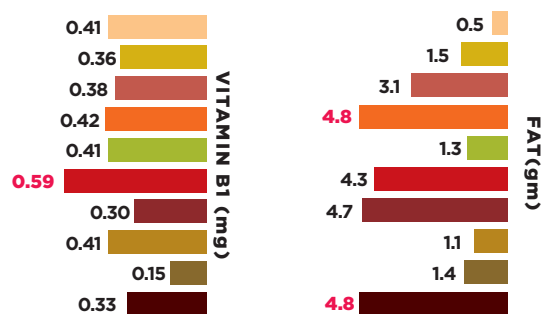
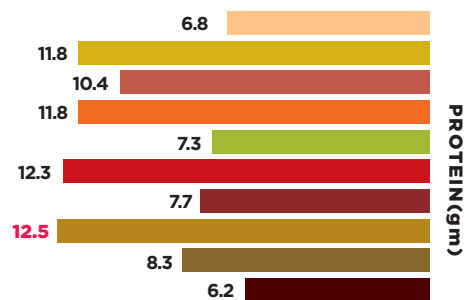
Why Eat Millets?

Millets are superfoods. They outshine wheat and rice in many aspects. They are high in both macro nutrients, like proteins and fats, and micro nutrients, like iron and calcium. They guard us against many vitamin and mineral deficiencies. They are rich in fibre, are gluten-free, and have a low glycaemic index (GI).

Don't worry, GI is just a rating system for foods containing carbohydrates. It tells you how a food item affects your blood sugar level

Nutrient content of various grains

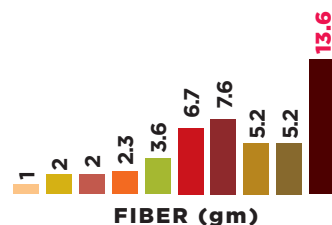
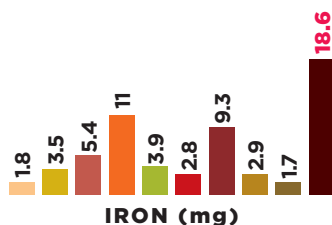
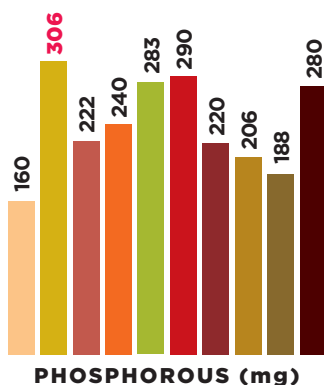
- Rice
- Little Millet (*kutki/shavan*)
- Wheat
- Proso Millet (*chena*)
- Sorghum (*jowar*)
- Kodo Millet (*kodon*)
- Pearl Millet (*bajra*)
- Barnyard (*sanwa*)
- Finger Millet (*ragi*)
- Foxtail Millet (*kakum/kangani*)



Source: National Institute of Nutrition, Telangana

Nutrient content of various grains

● Rice ● Wheat ● Sorghum (*jowar*) ● Pearl Millet (*bajra*) ● Finger Millet (*ragi*) ● Foxtail Millet (*kakum/kangani*) ● Little Millet (*kutki/shavan*) ● Proso Millet (*chena*) ● Kodo Millet (*kodon*) ● Barnyard (*sanwa*)



Source: National Institute of Nutrition, Telangana

when you have it on its own. Low GI means low impact on your blood sugar, which is good. High GI means trouble. Your cold drinks, pizzas, and burgers have high GI, by the way! Therefore, they are bad for your health and millets, on the other hand, are a blessing. With a GI lower than wheat and rice, millets help us in tackling many health issues, like obesity and diabetes.

Further, my dear friends, millets are exceptional in some manner. Do you know that finger millets have over ten times the calcium content of wheat or rice, and barnyard has over five times the iron? Now, that's some info to show off, right? Look at the approx. nutrient content, given per 100 grams of the edible portion of a food crop, displayed in graphs above and on the previous page.

Why Grow Millets?

Owing to their small size and hardiness, millets are very climate-resilient. They can grow with less water and in harsh temperatures. For example, pearl millet can grow well in Rajasthan's heat. Minor millets provide enough yield even when

the monsoons fail. Furthermore, millet farming does not need much chemical fertilizers and their crops hardly attract any pests! So, cultivating them is not only inexpensive but is also good for our environment. You

Cold drinks, pizzas, and burgers have high Glycaemic Index. Therefore, they are bad for your health and millets, on the other hand, are a blessing.

see, when we use chemicals, we not only kill harmful pests but also kill friendly insects, like earthworms. Thus, millets are chemical-free and nutritious. Safe to grow, safe to eat. A perfect win-win food, right?

Now, you must be wondering that if millets are so healthy then why do we not find much of them around like wheat and rice. Well, that wasn't the

case always. Millets were quite common until a few decades ago, and in the tribal parts of our country, they still are. Post-Independence, our agricultural policy focused mainly on commercial crops, like wheat and rice, and neglected millets. You'll be surprised to know that before the Green Revolution, millet production was about 40 percent of all cultivated grains, contributing much more than wheat and rice. However, since the Revolution, the production of rice has doubled and wheat has tripled. Over the time, as millets became less attractive for the urban and young consumers, they ended up becoming the 'poor man's food.'

Today, millets are returning to our plates. They are available as cookies, bars, and snacks. But try avoiding these packaged foods as they have a lot of refined flour and sugar, which is not good for you. People lack awareness about the benefits of millets. Processing minor millets is also a bit complex and requires specific equipment. Many people have also forgotten how to cook them, though it is not all that difficult. You can



soak them overnight and after rinsing and drying, use them as a substitute for rice in almost any rice-based dish. You can also make a porridge, roti, *khichdi*, or *upma* using them. When we visited Odisha last summer to understand our government's millet programme, we tried many millet dishes like dosa and *kheer*, and they were yummy! If you have a sweet craving, then we guys can also tell you a recipe of millet laddus! (*Hold yourself! Don't scroll down right now!!! Hehe...*)

Celebrating Millets

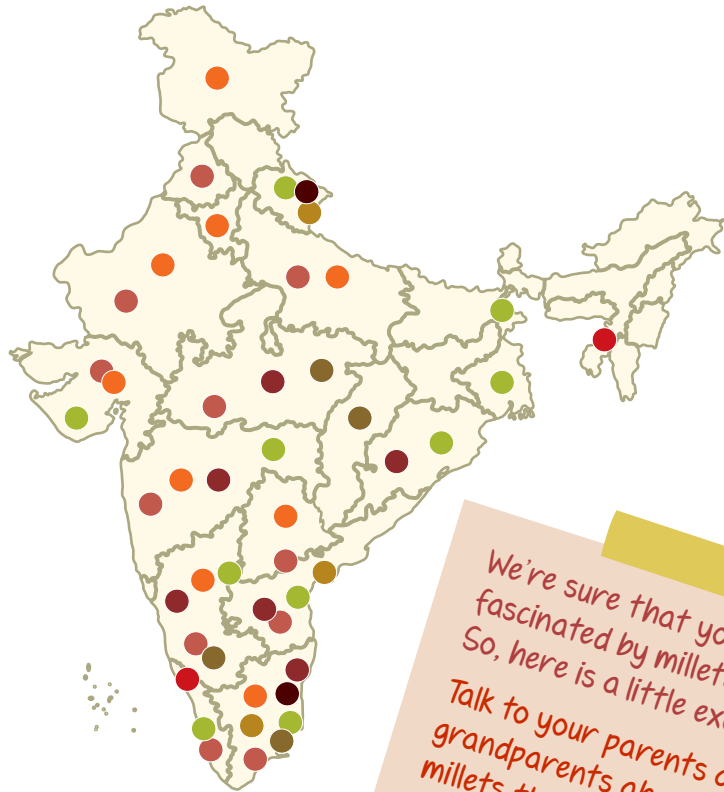
You'll be proud to know that the year 2023 will be observed as the International Year of Millets following India's proposal to the Food and Agriculture Organization of the United Nations. While our government is promoting millets as nutria-cereals, many of our states have already begun promoting them.

The Karnataka government is promoting millets as the future food. Maharashtra is valuing them for their resilient crops. A Farmer Producer Organisation in Telangana is exclusively pushing millets. Chhattisgarh's Millet Mission aims to make the state as the millet hub of our country in the coming years. Odisha is addressing its malnutrition through millets and has introduced a mascot called

Where can you find millets?

In 2021-22, India was the largest producer of millets in the world. Rajasthan, Karnataka, Maharashtra, Uttar Pradesh, and Haryana were the top five millet producing states in our country.

- Sorghum (*jowar*) ● Pearl Millet (*bajra*) ● Finger Millet (*ragi*)
- Foxtail Millet (*kakum/kangani*) ● Little Millet (*kutki/shavan*)
- Proso Millet (*chena*) ● Kodo Millet (*kodon*) ● Barnyard (*sanwa*)



'Millet Girl, Milli' to stir interest among children like you. Milli is sharp and fast because she loves millet-based dishes. Aren't you now tempted to have a mouthful of millets too?

Well, our country has a huge burden of child malnutrition, and food diversity and millets can really help us in addressing this issue. At present, most of you kids survive on wheat and rice at home, and maize and soy among outside foods. So, it's important that you introduce some variety to your diet and eat a lot of fruits, vegetables,

pulses, and multiple grains, especially millets. As our seniors say, 'A colourful plate is a healthy plate!'

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We're sure that you are fascinated by millets now. So, here is a little exercise: Talk to your parents and grandparents about the millets they ate as kids. Make a list of all those delectable dishes and include them in your food menu at home.

Scrumptious Ragi Laddus

A nutritious and mouth-watering delicacy of finger millets, especially for those with a sweet tooth.

Abhay Kumar Singh and Anamika Yadav

We guys love laddus and we're sure most of you do too! So, let's make some delicious laddus with ragi, i.e. finger millets. These millets are rich in protein, iron, and calcium, and making their laddus is as simple as playing dough. So, here's a perfect winter treat awaiting you right below. Follow the instructions and get-set-go!

Preparation time: 40 minutes

Sufficient for: 1 person

Ingredients:

- | | |
|--|----------|
| ① Roasted ragi flour: | 1½ cups |
| ② Cleaned and pitted dates: | 1½ cups |
| ③ Flaxseeds (<i>Alsi</i>): | 2 Tbsp |
| ④ Sesame seeds (<i>Til</i>): | 2 Tbsp |
| ⑤ Cashew, raisins, pistachios, and other nuts: | 2 Tbsp |
| ⑥ Cardamom (<i>Elaichi</i>) powder: | 1 Tsp |
| ⑦ Jaggery powder: | 1-2 Tbsp |
| ⑧ Ghee: | 2 Tbsp |
| ⑨ Salt: | ¼ Tsp |

Procedure:

- ① Get a big bowl—not too big, just medium-sized—and put the roasted ragi flour in it. 'Roasted,' because it gives flavour and texture to our laddus.
- ② Put the pitted dates. These are alternatives to refined sugar, which is not good for our health.
- ③ Then, add some flaxseed and sesame seeds.
- ④ Now comes the turn of a good serving of your favourite nuts. (*Psst: Here's a secret—feel free with the nuts because they not only enhance the laddus' flavour but also ooze out a lot of oil which reduces our dependence on ghee.*)
- ⑤ Put a pinch of cardamom powder now. You see, who doesn't love a little aroma in their food?
- ⑥ Next, add a dash of salt.
- ⑦ Put a little jaggery powder to satiate your sweet craving.
- ⑧ Finally, pour a little ghee and mix all these ingredients well in your bowl. (*Don't worry, we're almost there! Very close to our laddus now.*)
- ⑨ Grease your palms simply with slight ghee.
- ⑩ Take a little mixture in the bowl and roll it into a laddu in your palm. Set it aside on a serving plate. You'll be able to prepare 3-4 tasty laddus or even more in this way.

Your incredible ragi laddus are now ready! Showcase your amazing culinary skills with these flavourful sweets to your friends and family.



Ek Ped Mere School Ke Naam

A report on the state-wide and successful plantation drive organised by the Himachal Pradesh Council for Science, Technology and Environment.

Trees are indispensable for our survival. We rely on them for fuel, fodder, medicine, and innumerable other necessities. They make our planet conducive for life. According to a research published by *Nature Climate Change*, the world's forests sequestered about twice as much carbon dioxide as they emitted between 2001 and 2019, thus playing a critical role in mitigating climate change. Therefore, keeping in mind the saying, *van se vayu, vayu se aayu* (air from forests, life from air), planting saplings is very important for conserving our environment.

The government has started many plantation schemes such as Compensatory Afforestation Fund Management and Planning Account (CAMPA) to conduct massive tree plantation



Lalit Jain



Ravi Sharma

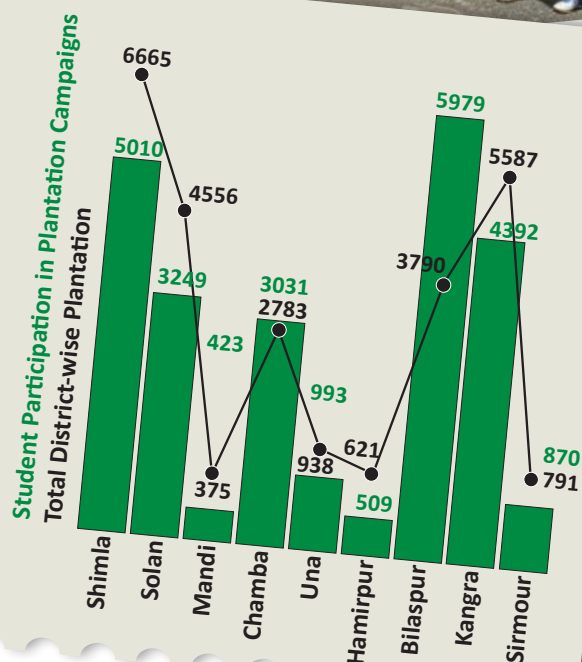
campaigns in both urban and rural areas.

The Himachal Pradesh Council for Science, Technology and Environment (HIMCOSTE) acts as the state nodal agency for the National Green Corps (NGC) programme. HIMCOSTE has been successfully implementing the NGC by establishing 3,100 eco-clubs in schools and colleges across Himachal Pradesh. These clubs are involved in plantation campaigns, cleanliness drives, awareness programmes, water and energy conservation activities, and the beautification of school campuses, among other things.

In August 2022, HIMCOSTE organised, *Ek ped mere school ke naam* (A tree for my school)—a plantation campaign in eco-club schools of Himachal Pradesh. The campaign was started with the objective of planting 50 saplings in and around the campus of every eco-club school. The campaign involved teachers, the State Municipal Corporation (SMC), the Panchayat, the local community, etc., and saw massive participation. This resulted in the planting of approximately 26,106 plants of different species, such as peach, aloe vera, akarkara, arjun, neem, bel, balm, bamboo, jacaranda, bougainvillea, bottle brush, lemon grass, orange, geranium, deodar, persimmon, loquat, lehsunia, amaltas, hibiscus and others.

Keeping in mind the importance of practical knowledge along with the theoretical, schools and colleges collaborated with the SMC and the state forest department for the plantation campaigns. During the sessions, the eco-club incharges made students aware of the significance of trees in maintaining wildlife, biodiversity, soil quality and water bodies, in addition to providing oxygen and reducing the pollution in our atmosphere.

Lalit Jain, IAS, is the
Member Secretary
and
Ravi Sharma
is the
Sr. Scientific
Assistant
of HIMCOSTE.



Green School

Millet

Best Diet for
HEALTH
GROOMING.



Millet benefits consumers, farmers, and the environment. They are a powerhouse of nutrients, including iron, folate, zinc, magnesium, copper, vitamins, and antioxidants. They are crucial for children's healthy growth and development. They benefit the cultivators and the climate as they are drought-resistant, are good for the soil, require less intense labour, and have short cultivation cycles. Therefore, the government is promoting millets and is providing price incentives for farming them.