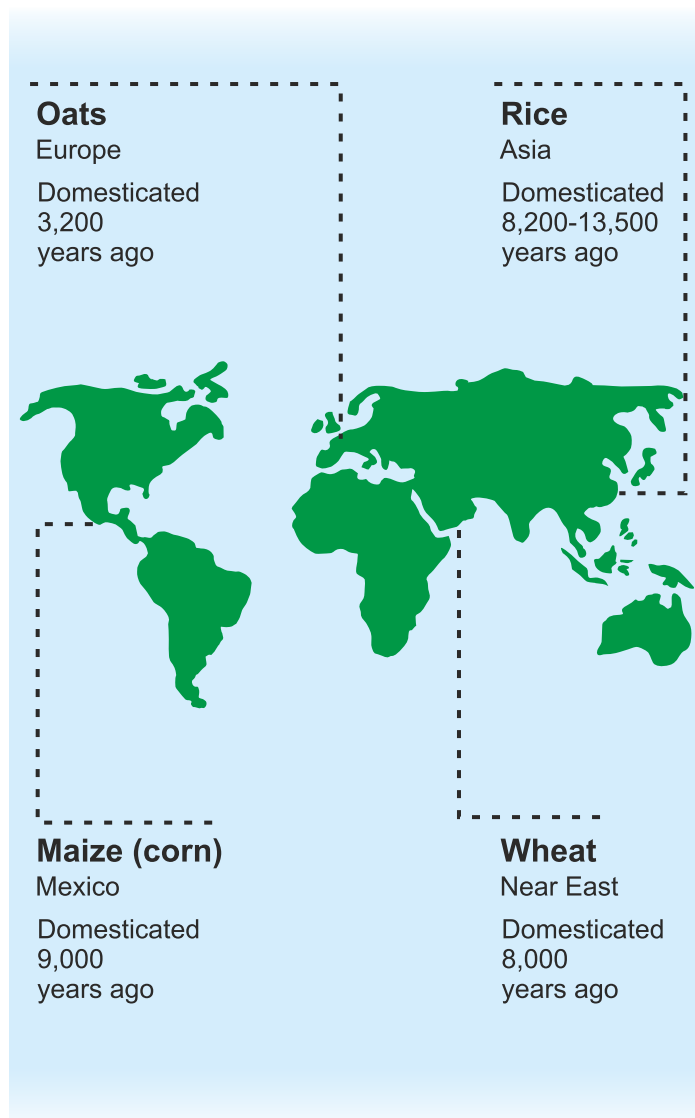


The Goodness of Grains



Ancestry of grains:

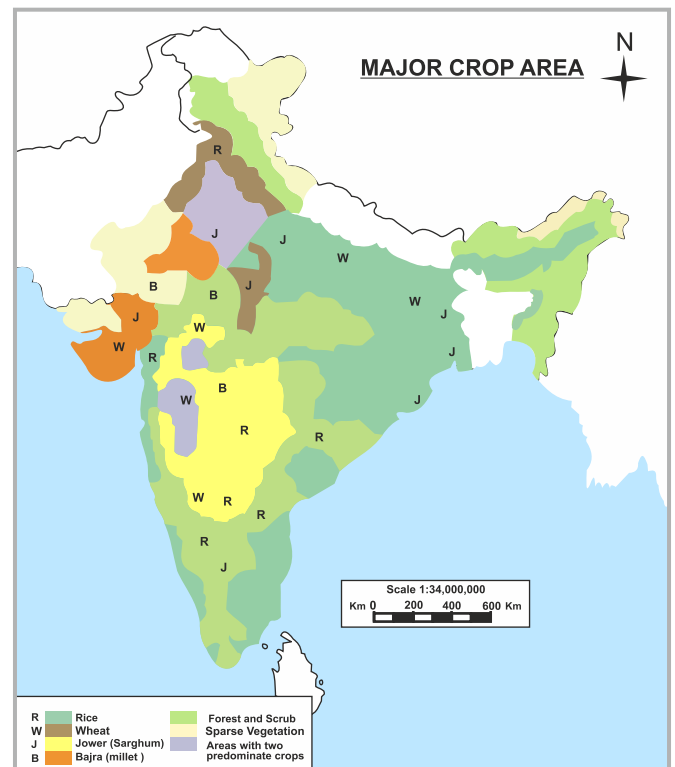
Grains have been at the heart of our diets for at least 10,000 years. From maize in Mexico to rice in Asia to wheat in the near East, people around the world still rely on grains as an essential staple of their diets.¹²



Grains: An integral part of Indian diet:

Cereals, millets and pulses are major sources of many nutrients including protein. They also serve as the main source of energy in Indian diets contributing to about 70-80% of daily energy intake of majority of Indians. The commonly consumed cereals and millets consumed in India are rice, wheat, maize, jowar, bajra and ragi.³

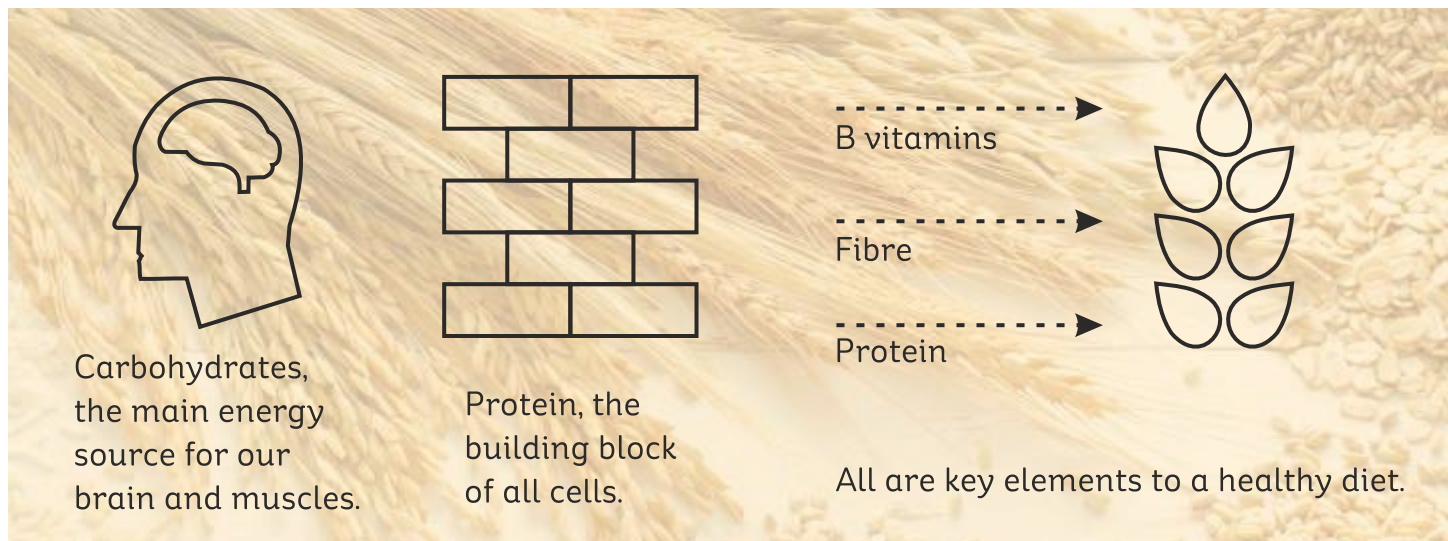
India ranks second in the world in the production of rice and wheat followed by maize. Bajra / pearl millet is the oldest known millet to mankind. Currently, India is the largest producer of this staple.⁴



Adapted from: Major crop areas in India.
Available at: <http://www.indmaps.com/thematic-map/major-crop-area-of-india.html>

Grains Nourish!

Grains contain:



Combining cereals, millets and pulses provides most of the amino acids, which complement each other to provide better quality proteins.

Nutritional profile of commonly consumed grains:

I. Wheat



- Whole wheat is a source of complex carbohydrates. Typically contains 11-12% protein, 12% dietary fibre³
- Wheat bran is a good source of insoluble dietary fibre, B-vitamins and minerals⁵
- Numerous scientific studies have shown that wheat bran is the gold standard for promoting bowel regularity⁶

cholesterol lowering effects and therefore considered heart healthy⁹

- Lipid content of oats (5-9%) is higher than any other cereal crops and are rich in unsaturated fats, including the essential fatty acid linoleic acid⁹
- Oats contain unique antioxidants, called avenanthramides, as well as the vitamin E-like compounds, tocotrienols and tocopherols⁹

II. Corn/Maize



- Protein content varies from 8 to 11%. Most of it is concentrated in the kernel. The nutritional quality of maize as a food is determined by the amino acid make-up of its protein⁷
- Yellow maize is the only grain with significant amounts of carotenes. These act as antioxidants and are converted to vitamin A in the body⁸

V. Barley



- Contains the highest amount of dietary fibre (15.6 %) among the cereals³
- β -glucans content of barley ranges from 2.5% to 11.3% and oats is from 2.2- 7.8%¹⁰
- Good source of B-complex vitamins (especially B1, B3, B6, biotin)¹⁰
- Mineral content (2-4%) mainly phosphorus, magnesium, copper¹⁰

III. Rice



- Starch is the major constituent of milled rice at about 90 % of the dry matter⁸
- Lipid/fat content of rice is mainly in the bran fraction (20 percent, dry basis). Rice bran oil has been shown to have a cholesterol lowering effect and its main component is oryzanol⁸

VI. Ragi



- Highest amount of calcium (344 mg/100 g) among all other cereals³
- Ragi also has appreciable amounts of dietary fibre content (11.5 g/100 g) and has a protein content of (7.3 g/100 g)⁹
- Among other millets, finger millet has a relatively balanced essential amino acid profile because it contains more lysine, threonine and valine¹¹

IV. Oats



- Is a good source of β - glucan, a soluble fibre which has

Is there a “best” grain?

Grains provide many different nutrients at slightly different levels. Choosing a variety of grain foods is recommended to reap the nutritional benefits that each provides.

Breakfast cereals:

Breakfast cereals are also made from the popular grains mentioned above. Incorporation of breakfast cereals as part of a balanced breakfast provides a great opportunity to include important benefits of grains in the diet. Cereal provides complex carbohydrates including dietary fibre and proteins. They are typically low in fat, nutrient dense and in most cases fortified with many essential vitamins and minerals. They are not only convenient but also provide the much needed nourishment.

Why cereal?

Breakfast cereals represent a nourishing breakfast choice which is widely accepted.

Regular breakfast cereal consumers¹²:

- Have higher daily milk intakes as they are most often consumed together
- Have better intakes of dietary fiber • Have lower intake of fat and cholesterol
- Have enhanced micronutrient intakes in particular, B vitamins, folate, calcium, iron, magnesium, and zinc
- Are more likely to meet their recommended nutrient needs

Ready-to-eat breakfast cereal eaters also tend have healthier body weights and have reduced risk of developing lifestyle related disorders like CVD, type 2 diabetes, hypertension etc.¹²

Therefore, ready to eat breakfast cereals can be recommended as part of a healthy balanced diet and an active lifestyle.



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