

HEALTH BENEFITS OF MILLETS



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What are millets

- ◉ *Millets are cereals, widely consumed in Africa & Asia*
- ◉ *They look like seeds but nutritional profile is similar to other cereals*
- ◉ *They gained popularity due to high protein, fibre, low GI, antioxidants and is gluten-free*
- ◉ *In April 2018, Indian govt declared sorghum (jowar), Pearl millet (bajra), finger millet (ragi) and other minor millets due to their high nutritive value as “Nutri-Cereals”*
- ◉ *The United Nations declared 2023 as the International Millets Year*



Production of Millets

- ◉ *India produces from 35 to 40% of the world production of millets.*
- ◉ *Mostly millets are grown in Rajasthan, Maharashtra, Uttar Pradesh, Tamil Nadu, Madhya Pradesh among others.*
- ◉ *Price of millets is increasing; yield is increasing but production is falling*
- ◉ *Consumption has gone down over years*
- ◉ *Government is trying to encourage production*



Consumption of Millets

- ◉ *In 1960s, average annual per capita consumption of sorghum & other millets was 32.9 kg*
- ◉ *In 2010 it is 4.2 in urban India*
- ◉ *In 1960s urban Indian consumed 27 kg wheat per year*
- ◉ *In 2010, it was 52 kg*



Importance of Millets

- ◉ *Millets are hardy and grow well in dry zones*
- ◉ *They grow in less fertile soil and need less moisture*
- ◉ *They have short growing season*
- ◉ *Thus they are very important in highly populated country like India for food security*
- ◉ *As they are very versatile, climate resistant crop that could be grown in any place in the country, they are very important especially with possible climate changes*



Table: Nutritive Values of Millets (per 100g)

Cereal	Moisture g	Protein g	Fat g	Mineral g	Dietary fibre g	Carbohydrate g	Energy kcal	Calcium mg	Iron mg
Bajra	12.4	11.6	5	2.3	14.20 [#]	67.5	361	42	8
Foxtail millet	11.2	12.3	4.3	3.3	24.71	60.9	331	31	2.8
Jowar	11.9	10.4	1.9	1.6	12.69	72.6	349	25	4.1
Proso millet	11.9	12.5	1.1	1.9	30.48	70.4	341	14	0.8
Ragi	13.1	7.3	1.3	2.7	19.08	72.0	328	344	3.9
Sawa millet	11.9	6.2	2.2	4.4	38.93	65.5	307	20	5.0
Kodo millet	12.8	8.3	1.4	2.6	37.76	65.9	309	27	0.5

Ref: Nutritional Values of Indian Foods: Gopalan et al. & # from Millet Mela by Univ. Agri. Sci., Dharwad

Millets	Protein	Fat	Total Fibre	Insoluble Fibre	Soluble fibre	Carbo	Caroteno id	Ca mg	Iron mg	Zinc mg
Bajra	11	5.43	11.5	9.1	2.3	61.8	293ug	27.4	6.4	2.76
Jowar	10	1.73	10.2	8.5	1.7	67.7	212	27.6	4	1.96
Ragi	7.2	1.9	11.2	9.5	1.7	66.8	154	364	4.6	2.53
Samai LittleMillet	10.1	3.9	7.7	5.5	2.3	65.6	120	tr	1.3	1.82

Indian Food Composition Tables: Longvah et al. 2017

Problems of Millets

- ◉ They contain phytic acid, & tannins that lower uptake of minerals such as iron and calcium
- ◉ Because of high fibre, if consumed in excess may cause constipation & affect digestibility
- ◉ They have goitrogenic polyphenols that impair thyroid function when consumed in excess
- ◉ There are ways of overcoming most of these problems by sprouting, soaking, fermentation etc.



How millet consumption be managed

- ◉ *Because of some side effects, we cannot completely switch from rice and/or wheat to millets.*
- ◉ *There is need to alternating with the other cereals*
- ◉ *There is also need to use some cooking techniques such as soaking overnight, germination etc. to reduce the anti-nutritional components*

COOKING INSTRUCTIONS FOR MULTI MILLET MIX

Add 1 cup of Aashirvaad Multi Millet



STEP-1

Mix to 2 cups of your regular atta/dosa batter



STEP-2

Make nutritious rotis, dosas, paranthas & more.



STEP-3

INGREDIENTS

Jowar flour (40.0%), Navane flour (20.0%), Bajra flour (16.7%), Ragi flour (16.7%) and Quinoa flour (6.6%).



What are the solutions

- ◉ *Multi-pronged approach needed*
- ◉ *We need encouragement to farmers not just by way of MSP but by technical input*
- ◉ *We need to create awareness about health benefits of millets as well as some caution in consumption*
- ◉ *Industry should develop products that would popularise millets*



How millet consumption be increased

- Millets are expensive. Their products are also expensive. We need to bring the cost down.*
- Millets cost come down when farmers get support for growth, have higher productivity with help in good access to variety, pest control, better markets etc.*
- Industry should help like in other crops which were needed as per industry requirements*
- Industry should popularise millets by making tasty products along with creating awareness*
- Awareness also needed about using millets at home. Precautions are necessary to avoid side-effects*



Future

- India can show how to face the climate change by adopting crops like millets which are drought resistant, needing poorer growing conditions and inputs
- India has ability and infrastructure to create knowledge necessary for greater production and consumption of millets
- It can not only export millets but also provide help to other African and Asian countries trying to do similar things





Thank You