

“Eat Millets-Stay Healthy”

INTRODUCTION

The earliest evidence for these grains has been found in Indus civilization and was one of the first plants domesticated for food. It is grown in about 131 countries and is the traditional food for around 60 crore people in Asia & Africa. India is the largest producer of millet in the world. It accounts for 20 % of global production and 80% of Asia's production. Millets encompass a diverse group of small-grained, dryland cereals including foxtail, barnyard and fonio, among others. As whole grains, millets are a good source of essential nutrients. Millets are primarily grown in Asia and Africa, with India being the top producer followed by Nigeria, Niger and China. They were among the first plants to be domesticated and still serve as a traditional staple crop in parts of Sub-Saharan Africa and Asia. These crops, rooted in ancient cultures and ancestral traditions, have long survived harsh growing conditions. Their climate resilience and adaptability offer opportunities for strengthening food security and bolstering economic growth. In celebration of the International Year of Millets-2023, FAO is collaborating with partners to unlock the great potential of millets as affordable foods that can contribute to healthy diets and a healthy environment.

INTERNATIONAL YEAR OF MILLETS

India's proposal to observe an International Year of Millets in 2023 was approved by the Food and Agriculture Organisation (FAO) in 2018 and the United Nations General Assembly has declared the year 2023 as the International Year of Millets. This was adopted by a United Nations Resolution for which India took the lead and was supported by over 70 nations. India has shared the vision to make International Year of Millets 2023 a 'People's Movement' alongside positioning India as the 'Global Hub for Millets'. Government of India had proposed to United Nations for declaring 2023 as International Year of Millets (IYoM). The proposal of India was supported by 72 Countries and United Nations General Assembly (UNGA) declared 2023 as International Year of Millets on 5th March, 2021. Now Government of India has decided to celebrate IYoM, 2023 to make it peoples' so that the Indian Millets, recipes, value added products are accepted globally.

INTERNATIONAL YEAR OF MILLETS-2023: PROMOTING MILLETS AS THE NUTRITIOUS CEREALS

**Amit Tomar, A.K. Mishra, S.P. Singh, H.H. Khan,
Prachi Patel & R.P. Singh**
ICAR-Krishi Vigyan Kendra, Gajraula, Amroha, Directorate of
Extension, SVPUAT, Modipuram

OBJECTIVES OF INTERNATIONAL YEAR OF MILLETS-2023:

- ✓ Awareness of the contribution of millet to Food Security and nutrition.
- ✓ Inspire stakeholders to improve sustainable production and quality of millets.
- ✓ Focus on enhanced investment in research and development and extension services to achieve the other two aims.

SEVEN SUTRA'S : THEMES GOVERNMENT OF INDIA LEVEL LAUNCHES.

- ✓ Enhancement of Production & Productivity: DA&FW & DARE,
- ✓ Nutrition & Health Benefits: Health/FSSAI,
- ✓ Value-addition, Processing & Recipe Development: MOFPI & Tourism,
- ✓ Entrepreneurship/Start-up/Collective Development: Commerce & DA & FW,
- ✓ Awareness Creation-Branding, Labelling & Promotion: All,
- ✓ International Outreach: Commerce and MEA and
- ✓ Policy Interventions for Mainstreaming: Dept. of Food and PD and DA & FW.

WHAT ARE MILLETS?

Millet is a collective term referring to a number of small-seeded annual grasses food crops that are cultivated as grain crops, primarily on marginal lands in dry areas in temperate, subtropical and tropical region and cultivated under low fertile soils with low inputs. Millets play a significant role to the Nation's food and nutritional security. The most of the Millet crops are indigenous to India and are referred to as "Nutri-cereals" because they contain all the nutrients which are needed for the body. Some of the common millets available in India are Ragi (Finger millet), Jowar (Sorghum), Sama (Little millet), Bajra (Pearl millet), and Varagu (Proso millet).



TYPES OF MILLETS:

On the basis of Seed size, plant type & growing habits, millets are classified in to three broad groups such as:

- 1. Major Millets:** This group includes mainly Sorghum (Jowar) & Pearl Millet (Bajra).
- 2. Minor millets:** This group mainly includes Finger Millet (Ragi/Mandua), Minor Millets i.e. Foxtail Millet (Kangani/Kakun), Proso Millet (Cheena), Kodo Millet (Kodo), Barnyard Millet (Sanwa/Sawa/Jhangora), Little Millet (Kutki).
- 3. Pseudo Millets:** This group includes mainly Buck-wheat (Kuttu) and Amaranthus (Ramdana/Chaulai) which can be used as special purposes.

GLOBAL DISTRIBUTION:

India, Nigeria and China are the largest producers of millets in the world, accounting for more than 55% of the global production. For many years, India was a major producer of millets. However, in recent years, millet production has increased dramatically in Africa.

- ✓ India produces >170 lakh ton (80 % of Asia's & 20 % of global production).
- ✓ Global average yield : 1229 kg/ha, India (1239 Kg/ha). Area decreased (56%), productivity has increased (228%).
- ✓ High adoption of high yielding varieties / hybrids.
- ✓ Up to 1965-70: Millets-20% of total food grain basket, now only 6% dominated by rice & wheat.

CURRENT SCENARIO:

- ✓ Worldwide, Sorghum grown 65 % among all the Millets.
- ✓ Production of Sorghum during 2020 and 2021 were 60.18 and 58.70, respectively.
- ✓ India is the largest producer of millets in World. In India, 21 States are involved for grown of millets like Rajasthan, Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu, Kerala, Uttarakhand, Jharkhand, Madhya Pradesh, Haryana and Gujarat.
- ✓ Millets are grown on 12.45 million hectare area in India with 15.53 million tonnes yield.
- ✓ Sorghum got 1st position in terms of Area and production (3.84 million ha

- and 4.31 million tonnes). More than 60 % Indian populations is planted with millets.
- ✓ During 2020-21, India exported millets worth USD 26.97 million against USD 28.5 million in 2019-20.
- ✓ The top three importers of millets from India during 2020-21 were Nepal (USD 6.09 million), United America (4.84 million) and Saudi Arabia (USD 3.84 million).
- ✓ During 2020 Food & Agriculture (FAO) estimates that 89.17 million metric tonnes of millets will be produced Worldwide with an area of 74.00 million ha.

Table-1: Scenario of Millets in India & World.

S.No.	Regions	Area (lakh ha)	Production (lakh ha)
1.	Africa	489	423
2.	Americas	53	193
3.	Asia	162	215
4.	Europe	8	20
5.	Australia & New Zealand	6	12
6.	India	138	173
7.	World	718	863

(Source: www.indianstatistics.in, 2021).

NUTRITIONAL IMPORTANCE OF MILLETS IN INDIA AND ABROAD:

Millets are oldest crop also known as “Miracle Grains” or “Crops of The Future” because they shall be grown in adverse environment climate change and drought resistant. These crops are grown for Food and Fodder purposes and also ensuring the food and livelihood security for enhancing profitability of the farmers. Chemical fertilizers are not essential for growing of millets. Millets are the storehouse of nutrition and now they are known as Nutri-Cereals. Millets are unique in terms of nutrients and health benefits. So, millets are miraculous.

- ✓ Pearl Millet contains the highest iron content. It is about 4 to 8 mg per 100 gm of grain and has the ability to tackle anaemia in India.
- ✓ It is also rich in Zinc and Folic acid and is recommended for pregnant women.
- ✓ Pearl Millet contains 2 times more

protein than milk. The recent systematic review and Meta-analysis of millets have given us enough evidence of the potential of millets for managing and reducing diabetes.

- ✓ The low glycaemic index of millets is helping to manage diabetes. Finger Millet known as Ragi has the highest Calcium content of about 364 mg per 100 gm of grains.
- ✓ It is 3 times more Calcium than milk.
- ✓ This Calcium dense grain keeps the bones and teeth strong.
- ✓ Millets are rich in dietary fiber and help in digestion and prevent constipation.
- ✓ Kodo Millet contains high dietary fiber that is 3 times more than wheat and maize and 10 times more than rice.
- ✓ The high fiber content in millets acts as a pre-biotics and thus helps to

maintain a healthy gut microbiome.

- ✓ Millets are absolutely gluten-free and it is good for celiac patients. Millets are rich in antioxidants which protect our cells from free radicals.
- ✓ A recent study showed that millets can reduce the risk of developing cardiovascular diseases.
- ✓ The specific content of millets like dietary fiber, Policosanols, and Tryptophan helps in weight loss.



STEPS TAKEN FOR PROMOTION OF MILLETS SINCE 2018:

- ✓ **National Year for Millets 2018**
- ✓ “**Sub Mission on Millets**” under National Food Security Mission since 2018.
- ✓ Several State launched mission on Millets.
- ✓ Millets included under “**POSHAN MISSION ABHIYAN**” by Ministry of Women & Child Development.
- ✓ ICAR released one variety Quinoa (Him Shakti).
- ✓ **Quinoa- A new crop:** ICAR has been referred to suggest for declaring Nutri-cereals.
- ✓ 200 Start-ups supported: (turnover of > Rs. 320 crore) through IIMR, Hyderabad.
- ✓ Technology backstopping for 400 + Entrepreneurs (turnover of Rs > 900 crore).
- ✓ 67 Value added Technologies developed at Centre of Excellences.
- ✓ Export of Millets increased from 24 million (2017) to 26 million (2020).
- ✓ Release of 13 new high yielding varieties including 4 bio-fortified varieties of millets.

ENHANCEMENT OF PRODUCTION & PRODUCTIVITY OF MILLETS:

- ✿ Strengthening quality seed chain:
 - ✓ Fully Supported to Breeder Seed Procurement,
 - ✓ Support Foundation and Certified Seeds,
 - ✓ Encourage PPP mode,
 - ✓ Seed Hubs.
- ✿ Frontline Technology Demonstrations (FLD)/ Cluster Frontline Demonstrations (CFLD).
- ✿ Demand creation through awareness and increase in consumption.
- ✿ Crop Diversification focus in favour of millets.
- ✿ States to take steps for procurement.

VALUE ADDITION, PROCESSING & RECIPE DEVELOPMENT:

Value Addition:

- ✿ Strengthening of 3 Centres of Excellence with advanced infrastructure.
- ✿ Helping Start-ups with technical backstopping.

Processing:

- ✿ Development of primary processing clusters at Farm Gate.
- ✿ MoFPI included Production Linked Incentive (PLI) Scheme for millets products.
- ✿ Task force for bringing all processors, stakeholders under one umbrella (Corporate Ltd.).

Recipe Development:

- ✿ R & D on traditional / contemporary millets recipe by

IIMR, CFTRI & National Institute of Food Technology, Entrepreneurship and Management (NIFTEM) with higher shelf life with proper packaging & branding & ready to use products.

- ✿ Development of recipe, books & online modules through chef's & hotel management schools.
- ✿ Partnership of Hospitality Industry in popularizing recipes.



IMPACTS OF STEPS TAKEN SINCE 2018:

- ✿ Production has increased from 164 lakh ton in 2017-18 to 176 lakh tons in 2020-21.
- ✿ Productivity increased from 1163 kg/ha in 2017-18 to 1239 kg/ha in 2020-21.
- ✿ Export of Millets increased from 21.98 million US in 2017 to 24.73 million US in 2020.
- ✿ Release of 154 high yielding varieties, diseases resistant, including 10 Nutri-cereals crops and 9 Bio-fortified varieties.
- ✿ Increased availability of quality of new high yielding varieties and hybrids 5087 qtls produced in 2020-21.
- ✿ 10 traditional varieties branded for quality and organoleptic qualities.
- ✿ Start-ups Supported: 175 with turnover of Rs 250 crore.
- ✿ 4000+ Entrepreneurs; handheld : with an total estimated turnover of Rs 1000 crore.
- ✿ Indian Institute of Millet Research (IIMR) provides technical support to 14 States on State Millets Mission.
- ✿ 67 Value added Technologies Developed.



STEPS TAKEN FOR PROMOTION OF MILLETS SINCE 2018:

- ✓ **National Year for Millets 2018:** As Nutri Cereals Sorghum (Jowar), Pearl Millet (Bajra), Finger Millet (Ragi/Mandua), Minor Millets i.e. Foxtail Millet (Kangani/Kakun), Proso Millet (Cheena), Kodo Millet (Kodo), Barnyard Millet (Sanwa/Sawa/Jhangora), Little Millet (Kutki) and two Pseudo Millets i.e. Buck-wheat (Kuttu) and Ameranthus (Ramdana/Chaulai).
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Table-4: Millets Estimates 2021 of Major Countries.

Country	Estimates (Lakh Ton)	Africa Country	Estimates (Lakh Ton)	Africa Country	Estimates (Lakh Ton)
Russia (Europe)	3.60	Niger	38	Kenya	0.9
Ukraine (Europe)	1.80	Nigeria	20	Zimbabwe	1.04
Australia (Europe)	0.37	Mali	18	Gambia	0.60
Peru (America)	0.15	Sudan	15	Angola	0.50
India (Asia)	115	Ethiopia	11	Congo	0.50
China (Asia)	27	Burkina Faso	10	Zambia	0.35
Pakistan (Asia)	3.15	Senegal	9	Togo	0.30
Nepal (Asia)	3.14	Chad	6.89	Benin	0.25
Burma (Asia)	2.40	Tanzania	3.25	Eritrea	0.25
Yemen (Asia)	0.30	Uganda	2.4	Mozambique	0.20
Bangladesh (Asia)	0.07	Guinea	2.20	Central Africa	0.10

(Source: Food & Agriculture Organization, 2021).



CONCLUSION

Although we are facing challenges in the quality, supply chain, and processing of millets but the efforts from all the stakeholders in India will end up all the problems. Finally, the Millets are the future of food and farming. So, Enjoy millets. Let's time of Millets. It has several advantages, including low-maintenance, disease resistance, nutritional value, market demand, fodder value, and ecological benefits. Millets, often known as C4 crops, are extremely effective at absorbing and utilising CO2. Most millets are well-known for their toughness and ability to produce grains and fodder, even when subjected to protracted periods of drought and high heat.

