



Seed Connect

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India has been at the forefront of bringing diversity to our staple grain to ensure better nutrition and climate sustainability. The government of India is working towards extending the multifaceted benefits of millets to the rest of the world. India's proposal at United Nations for the year 2023 as the International Year of Millets was supported by 72 nations. Since then, APEDA has held a global conference to stimulate millet exports and establish market linkages. Even a special food stall 'millet hub' was set up for foreign delegates during the G20 meetings.

India is the largest millet producer in the world. Being the pioneer in millets production, any global requirement would benefit Indian farmers. While many countries have shown keen interest in cultivating millets, it will take a considerable time for them to reach a level that would meet their consumption requirement. India witnessed an increase of 12.5 percent in millets export during the period April–December 2023 year–on–year. US, Australia, Japan, Belgium, UAE, and Saudi Arabia are among the major millet–importing countries. India is adding new countries to its list of millets export destinations.

At the domestic front, India is mulling partial replacement of wheat or rice with coarse cereals in the public distribution scheme. This means beneficiaries eligible under the National Food Security Act will be provided millets along with other cereals grains.

Millets are truly the grains of choice for sustainably feeding the growing population. They are rich in carbohydrates, proteins, calcium, vitamins, antioxidants with high nutritional value, and micronutrients, especially iron and zinc. They are also climate–resilient food crops in a true sense as they require 70 percent less water than other crops, grow in half–time of wheat, and require almost no pesticides. Moreover, they need 40 percent less energy in processing. Millets have

emerged as a brilliant solution for our farms marred with water scarcity, drought conditions, and extreme weather conditions in the wake of climate change.



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News from India and Around the World

[Extreme rainfall is taking a toll on China's rice crops, and it could get much worse](#)

Extreme rainfall has cut China's rice yields by 8 per cent over the past two decades, according to a study led by Chinese researchers. The study, published in the peer-reviewed journal Nature Food on May 4, found that the impact of extreme rainfall on rice yields was comparable to that of extreme heat. The researchers predicted that by the end of this century, extreme rainfall could reduce rice yields by another 7.6 per cent in China, in addition to other climate change-induced impacts, such as global warming and rising carbon dioxide emissions.

[Ministry to set up big data system on vegetable supply](#)

The Agriculture and Food Security Ministry is working on setting up a big data system to obtain real-time information on vegetable supply in this country, says its minister Datuk Seri Mohamad Sabu.

[Genome of Australian Round Lime Reveals Key to Citrus Greening Resistance](#)

A comprehensive map of the genome of a native lime species that is resistant to a devastating citrus disease could be the key to preventing that disease entering Australia. Researchers from The

University of Queensland have sequenced the genome of the Australian round lime, also known as the Gympie lime, and are now looking at five other native citrus species including the finger lime.

Cotton Farmers Encouraged to Embrace Bed Plantation for Improved Yield and Sustainability

<https://krishijagran.com/news/cotton-farmers-encouraged-to-embrace-bed-plantation-for-improved-yield-and-sustainability/>

Farmers in Punjab are urged to adopt bed plantations for cotton sowing due to its benefits of reduced water usage, improved germination, and weed control. Punjab Agriculture University endorses this technique, which involves using tractor-pulled bed planters. It is expected that more farmers will embrace this method.

InnerPlant* and Mertec to Develop Crops that Communicate Biological Stresses Weeks Before Problems Become Visible to Farmers -

Earlier plant stress detection and more responsive and precise interventions offer a way to optimize farm productivity and efficiency, but historically farmers lacked early actionable data. InnerPlant's seed technology delivers traits that tap directly into plant physiology and provide farmers and trusted advisors with actionable insight that is both early, scalable, and specific to particular stresses.

Sowing Climate Resilience

<https://www.veetrack.com/showarticles.aspx?UName=496465616C6D65646961&id=3234373835383631>

At The Hiroshima Summit 2023, the G7 nations (the US, the UK, Germany, Italy, Japan, France, and Canada) stressed on achieving a global Green House Gas (GHG) emissions peak by 2025. They also committed to an "Acceleration Agenda" for G7 countries to reach net zero emissions by around 2040 and urged emerging economies to do so by around 2050. China has committed to 'net zero' by 2060 and India by 2070.

Revolutionizing agriculture: How technology is transforming farming practices today and will tomorrow

<https://timesofindia.indiatimes.com/blogs/voices/revolutionizing-agriculture-how-technology-is-transforming-farming-practices-today-and-will-tomorrow/>

Agriculture, being one of the oldest industries, is the backbone of many economies. However, with the world's population projected to reach 9.7 billion by 2050 (according to a UN report), the need

for efficient and sustainable farming practices has never been greater. Additionally, increasing climate change issues such as erratic weather conditions have pushed the need for more sustainable farming practices, including less use of chemicals and maintaining higher standards for farm–animal welfare.

Odisha To Become 1st State In Country To Release Traditional Millet Landraces Conserved By Tribal Custodian Farmers

<https://pragativadi.com/odisha-to-become-1st-state-in-country-to-release-traditional-millet-landraces-conserved-by-tribal-custodian-farmers/>

The Government of Odisha launched Odisha Millets Mission (OMM) in 2017 to revive millets in farms and plates for a period of 5 years. It was further extended till 2026–27 by the Cabinet of Odisha in 2022. Odisha is home to 62 tribal communities. Tribal communities have a rich tradition of conserving local varieties of millets. Tribal farmers of Odisha have been custodians of different millet varieties from time immemorial. These traditional varieties have adapted to local situations. Some of them have better tolerance to pests and climate changes.

Plant Cell Parts Turn into Glass to Soak Up Sun

Chloroplasts' choreography keeps plant cells powered.

Earth is 'really quite sick now' and in danger zone in nearly all ecological ways

https://apnews.com/article/earth-environment-climate-change-nature-sick-2dded06915af4645253f5c29abff4794?utm_source=Nature+Briefing&utm_campaign=4943fc99ad-briefing-dy-20230601&utm_medium=email&utm_term=0_c9dfd39373-4943fc99ad-43919645

The study by the international scientist group Earth Commission published in Wednesday's journal Nature looks at climate, air pollution, phosphorus and nitrogen contamination of water from fertilizer overuse, groundwater supplies, fresh surface water, the unbuilt natural environment and the overall natural and human–built environment. Only air pollution wasn't quite at the danger point globally.

BioLumic and Gro Alliance Scale First UV Light Technology for Corn and Soybeans – News Direct

UV light signaling is the next frontier in plant science, changing the paradigm of crop production gains without solely relying on genetic modification, chemical inputs or time–intensive breeding

programs,” said Steve Sibulkin, CEO of BioLumic. “Based on their longstanding record of rapid adoption of scalable innovation, partnering with Gro Alliance and their network of corn and soybean farmers and seed companies means we can rapidly deploy light-activated seeds that increase farmer profitability and contribute to a more sustainable global food production system.” BioLumic’s UV Light Signal Recipe™ platform combines plant genetic insights, wide-ranging plant response data and a software and hardware platform that can deploy trillions of short duration ‘light recipes.’ BioLumic’s Light Recipes™ are a targeted, programmed sequence of light spectrum exposure which activate positive growth responses in seeds and young plants.

Research News

The EU registers a thousand new varieties of soft wheat

In the difficult times that the producing sector is experiencing due to the drought, not all of it is bad news and the work of the breeders is determined to provide solutions on the most varied fronts. When the cereal harvest is a ruin due to drought, **Anove** data reveals that since the 1990s more than 1,000 new varieties of common wheat have been registered in the European Union, as a result of scientific advances and investment in R&D. D of the breeding sector.

[Groundbreaking Images of Root Chemicals Reveal New Insights on Plant Growth](#)

Researchers from the University of California San Diego and Stanford University have provided insights into a new understanding of essential root chemicals that are responsible for plant growth. Using a mass spectrometer, the researchers produced a “roadmap” that shows the distribution of small molecules along stem cells of maize plant roots and how their placement factors into the plant's maturation.

[KAUST Researchers Clone Wheat Disease Resistance Genes](#)

Researchers from the King Abdullah University of Science and Technology (KAUST) have cloned the wheat rust resistance genes *Lr9* and *Sr43* and identified that they encode unusual kinase fusion proteins, providing new options for addressing disease resistance in bread wheat. Wild relatives of wheat are a reservoir of genetic diversity for crop improvement. The *Lr9* leaf rust resistance gene was originally identified in a wild goatgrass (*Aegilops umbellulata*) while the stem rust resistance gene *Sr43* came from the wild tall wheatgrass (*Thinopyrum elongatum*). Almost 40 percent of the resistance genes found in bread wheat today were crossed into wheat from wild relatives.

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