



beej ki baat

voice of the seed

EDITION FEBRUARY 2024



**Raghavan
Sampathkumar**
Executive Director

Greetings,

Welcome to the latest edition of Beej ki baat, where we delve into the dynamic world of agriculture and its symbiotic relationship with scientific advancements. This month, we're excited to share significant strides in agricultural innovation. Government initiatives are underway to reduce water and fertilizer usage while concurrently enhancing soil quality. Meanwhile, challenges facing coffee cultivation are prompting urgent attention. In the realm of rice breeding, IRRI-Varanasi's SpeedFlower protocol has emerged as a game-changer, promising faster and more robust crop cycles. Additionally, discoveries in plant hormones, genetic modifications, and temperature tolerance genes offer exciting prospects for improving crop productivity and resilience against climate change.

Moreover, the re-evaluation of bio-safety protocols for genetically modified crops by the Supreme Court underscores ongoing regulatory discussions. Breakthroughs in barley, wheat, and Red Sage editing showcase the potential for enhancing desired traits, despite accompanying challenges. Global advocacy for informed policymaking on new genomic techniques, along with the EU's recent approval of gene-edited plants, mark significant steps forward in agricultural innovation.

As collaborations between academia, policymakers, and international organizations intensify, we're witnessing a concerted effort to build climate-resilient agrifood systems. Join us as we navigate these transformative developments and continue sowing the seeds of knowledge and innovation in agriculture.

Stay connected with us on our official social media channels for more updates.

Warm
Raghavan Sampathkumar

regards,

INDIA



IRRI-Varanasi develops first speed breeding protocol for rice

Scientists from the International Rice Research Institute (IRRI) have developed SpeedFlower, a robust, first-ever speed breeding protocol for rice that will achieve 4 to 5 crops of rice in one year, which is almost double of what has been possible in current breeding programs. SpeedFlower focuses on optimizing light spectrum, intensity, photoperiod, temperature, humidity, nutrient levels, and hormonal regulation to expedite growth, flowering, and maturity in rice.

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[Coffee needs help](#)



[Govt working on blueprint to cut use of water and fertilisers, improve soil quality](#)



[Issue of GM crops vital, why is it pending since 2004, asks SC](#)



[NITI, agri ministry, FAO launch investment forum for advancing climate resilient agrifood system](#)



[Centre of artificial intelligence and machine learning in agriculture to come up in SKUAST-Kashmir](#)



[TNAU delivers advantageous alternative to GI-tagged Pusa basmati rice](#)

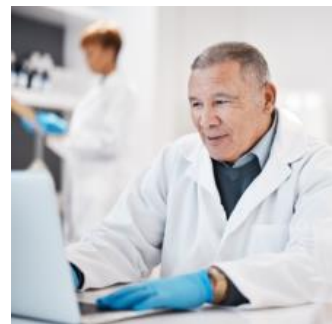
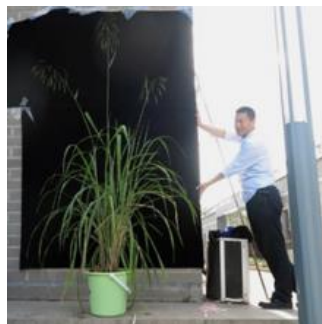
GLOBAL



EU Proposal for Gene-Edited Plants Gets First Green Light from Parliament

On January 24, 2024, the European Parliament's Environment Committee (ENVI) approved the Proposal on New Genomic Techniques (NGTs). With 47 votes in favour to 31 against, and 4 abstentions, this marks a significant advancement in fostering plant breeding innovations in the region.

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[CRISPR-edited crops break new ground in Africa](#)



[Researchers Discover Temperature Tolerance Gene in Wheat](#)

[Turning wild crop species into a domesticated crop](#)



[Multi-Stress Tolerance in Rice](#)

[Nobel Laureates and Scientists Release Open Letter for MEPs on NGTs](#)



[The unusual cabbage mutation that could boost crop yield](#)

RESEARCH



Red sage edited to Enhance its Active Compounds

Red Sage, or *Salvia miltiorrhiza*, is a herb that is used to treat cardiovascular diseases. The plant has bioactive compounds, such as phenolic acids and diterpenoid tanshinones, which promote good health to people. To optimize the potential of Red Sage, researchers have used CRISPR-Cas9 to cause mutagenesis to a gene that regulates the biosynthesis of the bioactive compounds in red sage.

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[Editing to improve in Late Blight Resistance and Early Blight Susceptibility of Potato](#)



[Major Breakthrough in Wheat Regeneration from Single Cells](#)



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Australia's Breakthrough
GM BANANA APPROVAL

Staple Food at Risk
Banana, essential for 400M+ people

Deadly Threat
Fusarium wilt (TR4) endangers 80% of global bananas

Historic Epidemic
TR4, a soil menace lasting 50+ years, devastates crops

Innovation's Answer
World's first GM banana, a beacon against TR4

Regulatory Green Light
Approved by Food Standards Australia New Zealand & Gene Technology Regulator

Economic Shield
Safeguarding the \$20B global banana industry

Future-Proof Farming
A contingency for Australia's banana farms against TR4

A New Era for Bananas
#Beejkibaat #Voiceoftheseed

#KisankiAwaz
Tamil Nadu farmer, Mr. Ravichandran, debunks BT Cotton myths with his research experiment.
 #Beejkibaat #Voiceoftheseed
Mr. Ravichandran
 Farmer

#Science4Society
IMPACT OF UNSEASONAL RAINS ON INDIA'S COFFEE PRODUCTION
 -Source: The Hindu Business Line

LOCATION
India's prime coffee regions- Karnataka & Kerala

EFFECTS
 • Arabica harvest is incomplete, with significant crop losses expected.
 • Robusta crop faces early blossoming, affecting 20-25% of areas.

ISSUE
Delayed harvesting and drying due to unseasonal rains. It's led to quality degradation.

CONSEQUENCES
Up to 40% of robusta crops in Kodagu impacted. Slower Coffee drying will risk bean discoloration.

MARKET IMPACT
Despite robusta prices at near-record levels, growers may not be able to fully capitalize due to yield and quality issues.

2023-24 CROP ESTIMATE
3.74 lakh tonnes, with robusta making up over two-thirds.

#Science4Society
Revolutionizing Agroecology
Gene Editing's Role in Disease-Resistant and Nitrogen-Fixing Crops
 #Beejkibaat #Voiceoftheseed

For more information about Federation of Seed Industry of India visit

www.fsii.in



Federation of Seed Industry of India, 10 A, 10th Floor, Vandhana Building, Tolstoy Marg, Janpath, Connaught Place, New Delhi, Delhi 110001, India

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