Taksay
Taknique se Vyavsay

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Volume-2
April 2026 - June 2026

1. LAUNCH OF UPJA & ARISE 2026: NURTURING THE NEXT GENERATION OF AGRI-STARTUPS

On 17th April 2026, IARI-Pusa Krishi launched its flagship startup incubation programs - UPJA and ARISE, designed to empower aspiring entrepreneurs with essential resources, mentorship, funding and guidance to transform innovative ideas into viable ventures. Under UPJA, startups can receive funding up to ₹25 lakhs, while ARISE offers up to ₹5 lakhs. Moreover, under the scheme selected entrepreneurship-driven students have been supported with ₹4 lakhs to develop their products. These programs are open to people from diverse educational backgrounds, not limited to agriculture, provided their innovations are relevant to the sector. This year Pusa Krishi received over 1,800 applications, of which 363 applicants presented their proposals before the pre-selection committee. Following the evaluation process, 104 candidates were shortlisted for a one-month online training and mentoring programme to be held in July.

The programme will provide expert guidance on technical validation, product-market fit, financial management, intellectual property, team building, business strategy, industry networking, pilot opportunities and investment facilitation, thereby laying a strong foundation for building sustainable agri-startups.

IARI– PUSA KRISHI

In This Issue
HIGHLIGHTS

To create a more engaging and personalized experience for prospective entrepreneurs, boot camps were organized in Delhi and North India. These sessions aimed to actively involve entrepreneurs by providing in-depth insights into Pusa Krishi's comprehensive incubation programs. These boot camps not only served as a learning platform but also play a crucial role in nurturing and accelerating the growth of the Agri Startup Ecosystem in India. By directly engaging with young innovators, these touchpoints help foster a deeper connection that can inspire a new wave of agri-entrepreneurship across the country.

BOOTCAMPS

SGT University - 24th April

IIT Ropar - 28th April

Central University of Punjab - 28th April

Maharaja Ranjit Singh Punjab Tech. University - 29th April

Punjab University, Chandigarh - 30th April

NIFTEM - 07th May

2. IP MANAGEMENT

Pusa Krishi, ZTM & BPD unit has been playing an active role in Intellectual Property Management of ICAR-IARI. In the last quarter (April to June), the unit filed 1patent and 3 copyrights, the details of which are provided below:

Name of the Innovation	Details	Status
Portable Acoustic System for Non-destructive Detection and Classification of Maturity in Watermelon	The invention relates to a portable acoustic system that can acquire acoustic signals, process the signals to analyze frequency and amplitude characteristics and indicate the maturity stage of watermelon.	Patent Filed
XRD SMARTLAB	It is an easy-to-use software that helps analyse XRD data to understand the crystal structure of a material. It measures important properties such as crystallinity, crystal size, d-spacing and lattice parameters and compares the results with standard reference databases (such as JCPDS) to identify the material's crystalline phase accurately.	Copyright Filed
Sinchai Margdarshi Ver. 1.0	It is a portable smart irrigation device that helps farmers decide when and how much to irrigate their crops. It monitors crop water stress by analysing signals from plant and soil conditions, providing real-time guidance for efficient water management. By supporting precision irrigation, the device helps optimise water use, improve crop health and reduce unnecessary watering.	Copyright Filed
Optimized Standard Protocols for Electrocatalytic remediation of Heavy Metals for Irrigation Water	This document provides optimized protocols for the electrocatalytic removal of cadmium (Cd), cobalt (Co), zinc (Zn) and manganese (Mn) from irrigation water. It includes key process parameters, analytical methods and performance outcomes to support scalable, field-level deployment, bridging laboratory innovation with practical community-based water treatment applications.	Copyright Filed

3. TECHNOLOGY COMMERCIALIZATION

Technology Commercialization

Tech commercialization plays an important role in making the technologies reach to the end users in an effective and faster way. ICAR-IARI develops technologies with substantial commercial potential that are ready to use by businesses. Under the Lab to Land Initiative, from April to June 2026, 22 technologies developed by ICAR-IARI were commercialized to 27 industry partners, resulting in a total revenue generation of ₹ 58.73 lakh.

S.No	Name of Technologies	Features
1.	Bottle Gourd c.v. Pusa Naveen	It is a high-yielding bottle gourd variety that produces attractive, straight cylindrical green fruits weighing about 500–600 g, free from crook neck, making them ideal for the fresh market. The variety is known for its uniform fruit quality, good yield and excellent consumer acceptance.
2.	Carrot c.v Pusa Rudhira	It is a high-yielding carrot variety developed through selfing and mass selection, producing long red roots with a self-colored core, high carotenoids (β-carotene, lycopene), zinc and iron, maturing in 90–110 days with an average yield of about 300 q/ha.
3.	Cucumber line DC-48 (Gynoecious nature with extended shelf life)	It is a natural cucumber variant with an extended shelf life: the fruits can be stored at room temperature for 10–15 days after harvesting without significant loss of firmness or green colour.
4.	Cucumber line DG 303 (Gynoecious)	It is a gynoecious line developed through marker-assisted back-crossing for the F locus. This line has light-green cylindrical fruits, with a length of 15-17 cm. It is partially parthenocarpic in nature and the fruits possess a white spine.
5.	Dolichus Bean c.v. Pusa Sam-3	It is a high-yielding pole-type dolichus bean variety that produces clusters of green, flat, fleshy, tender and stringless pods about 15 cm long, suitable for fresh consumption. The variety is tolerant to anthracnose, yellow mosaic disease, aphids, jassids and pod borer.
6.	Methi c.v. PEB	It is a high-yielding, early-maturing fenugreek variety, producing 700-800 q/ha of flavorful leaves, ideal for year-round cultivation and valued for culinary and medicinal uses.
7.	Pusa Basmati 1509	It is the first early-maturing Basmati variety with a seed-to-seed maturity of 115–120 days. The variety offers high yield, excellent cooked kernel length (18.2 mm) and desirable aroma.
8.	Pusa Basmati 1692	It is a semi-dwarf Basmati rice variety with a seed-to-seed maturity of 110–115 days, suitable for timely cultivation and gives an average yield of about 52.6 q/ha under recommended agronomic practices.
9.	Pusa Basmati 1882	It is the first drought-tolerant Basmati rice variety released in India. It was developed from Pusa Basmati 1 using marker-assisted selection, matures in about 134 days and yields around 47 q/ha under irrigated conditions.

S.No	Name of Technologies	Features
10.	Pusa Basmati 1885	It is a MAS derived variety of Pusa Basmati 1121. It matures with an average yield of 46.8 q/ha under recommended cultivation practices.
11.	Pusa Basmati 1886	It is a MAS derived variety of Pusa Basmati 6. It is resistant to bacterial blight and blast diseases, reducing crop losses and the need for chemical control. The variety has an average yield of 50–55 q/ ha.
12.	Pusa Basmati 1979	It is one of the first non-GM herbicide-tolerant Basmati rice varieties released in India. It is a MAS derived variety of Pusa Basmati 1121 with a mutated AHAS gene that provides tolerance to the herbicide Imazethapyr, helping in effective weed management. The variety has an average yield of 45.8 q/ ha.
13.	Pusa Basmati 1985	It is also one of the first non-GM herbicide-tolerant Basmati rice varieties in India. Developed from Pusa Basmati 1509 through MAS, it is tolerant to the herbicide Imazethapyr and has an average yield of 52 q/ha.
14.	Mungbean c.v. PMD 10	It is an early maturing, high-yielding variety with an average yield of 11.1 q/ha. It showed resistance to MYMV, Cercospora leaf spot (CLS), Anthracnose, web blight and urdbean leaf crinkles (ULCV). It has been released for the NCT of Delhi.
15.	Pusa Arhar 16	It is an early-maturing, high-yield pigeonpea variety maturing in 120 days, ideal for dense planting & mechanized harvesting with an average grain yield of 20.22 q/ha.
16.	Pusa Biofortified Maize Hybrid 3	It is one of the nutrient-rich maize hybrids enriched with essential amino acids, lysine and tryptophan, which are crucial for human nutrition. Additionally, it exhibits enhanced levels of pro-vitamin A, contributing to improved vitamin A intake.
17.	Pusa Dhan Bakanae Parikshan Kit	It is a rapid diagnostic kit developed for the early detection of Bakanae disease in rice, caused by the fungus Fusarium fujikuroi. The kit enables quick and reliable screening of infected seeds or plant samples before sowing, helping farmers and seed producers prevent disease spread and improve seed health.
18.	Pusa Jawahar Arhar Dwarf 22-01	It has dwarf plant type (84.40 cm) with early (132-138 days) and synchronous maturity suitable for mechanical harvesting. The dwarf stature facilitates spraying of insecticide.

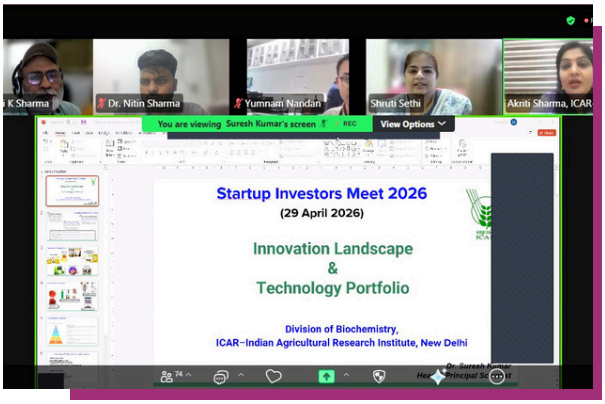
S.No	Name of Technologies	Features
		It is suitable for cultivation in Madhya Pradesh and gives an average yield of 17.9 q/ha.
19.	Pusa Manual Paddy Thresher	It is a manually operated, low-cost paddy threshing machine designed for small & marginal farmers. It efficiently separates paddy grains from harvested panicles with minimal grain loss and reduced labour compared to traditional hand threshing methods. The thresher is easy to operate, portable, and suitable for use in areas with limited access to power.
20.	Pusa Wheel Hand Hoe	It is a manually operated, lightweight weeding and intercultural tool designed to reduce labour and drudgery in row crops and vegetable fields. Equipped with a wheel for easy movement and interchangeable weeding blades, it effectively removes weeds, loosens soil and improves soil aeration between crop rows.
21.	Semi-automatic Pineapple harvester	It is a portable, battery-operated harvesting machine developed to facilitate easy and drudgery-free pineapple harvesting. Powered by a 12V, 7Ah lead-acid battery, it consists of a grabbing unit, cutting unit, handle and linear actuator for safe and efficient fruit harvesting. The machine can harvest 150–180 pineapples per hour with minimal fruit damage.
22.	Sponge Gourd c.v. Pusa Sneha	It produces medium-long, smooth, dark green fruits with blackish-green stripes. The variety is noted for its resistance to high temperatures and harvesting can begin 45–50 days after sowing.

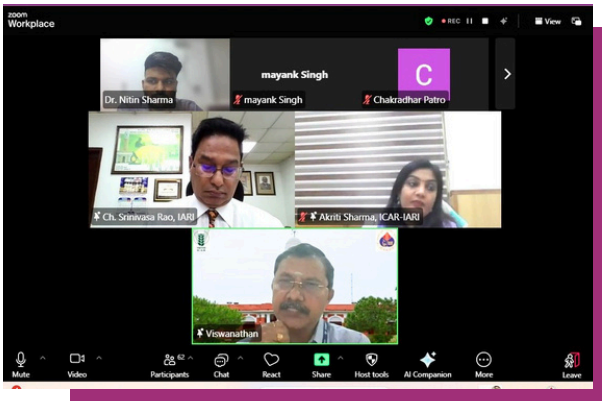
Summer Vegetables Field Day Promotes Innovation and Industry Collaboration

ZTM & BPD Unit in collaboration with the Division of Vegetable Science, ICAR-IARI, successfully organized a “Summer Vegetables Field Day” on 5th May 2026, at the Main Vegetable Research Farm, Pusa campus, New Delhi. The event, themed “Strengthening Partnerships in Vegetable Seed Sectors,” saw active participation from seed industry representatives, progressive farmers and Farmer Producer Organizations (FPOs). During the field visit, participants were introduced to a diverse range of improved hybrids and open-pollinated varieties of key summer vegetables such as muskmelon, bitter gourd, cucumber, chilli and tomato, noted for their high yield, quality and adaptability. The field day drew around 50 participants from industry & farming community and served as a dynamic platform for interaction, knowledge exchange and fostering future collaborations.

Startup Inventors Meet 2026 Promotes Technology Commercialization

The Startup Inventors Meet 2026 was organized by ZTM & BPD Unit, ICAR-IARI, on 29th April 2026 in online mode. The event aimed to create a structured platform for interaction between IARI scientists and startups, particularly in the areas of food processing and post-harvest technologies, to promote technology commercialization and startup adoption. Dr. Viswanathan Chinnusamy, Joint Director (Research), ICAR-IARI, delivered the welcome address, highlighting the need to reduce post-harvest losses and strengthen the food processing sector through innovation and entrepreneurship. Dr. Ch. Srinivasa Rao, Director, ICAR-IARI, emphasized the importance of technology commercialization, public-private partnerships and startup engagement in transforming research outputs into market-ready solutions. The event featured presentations by the Divisions of Food Science and Post-Harvest Technology and Biochemistry, showcasing innovations in value-added food products, millet-based technologies, functional foods and processing techniques.





Five inventor-scientists presented 13 technologies with strong commercial potential, including anti-oxidant rich papaya candy, green leafy vegetable processing, Pusa Black Garlic technology, divine dough etc. The session witnessed enthusiastic participation from startups, leading to interactive discussions on technology adoption, scalability, licensing and collaboration opportunities.

4. CORPORATE MEMBERSHIP

Corporate membership is a way through which we associate with industry to provide them member privileges related to single window clearance, early and quick seed lifting without licensing for established varieties and sharing of our regular information related to innovative technologies. In the past quarter, the Unit has enrolled 2 new industry partners and renewed the membership of 11 existing partners, generating a revenue of ₹ 65,500.

5. AGRIPRENEURSHIP DEVELOPMENT PROGRAMS (ADP)

During April to June 2026, two Agripreneurship Development Programmes (ADPs) were organized to strengthen participants' entrepreneurial and technical competencies for establishing sustainable agribusiness ventures in the areas of biofertilizers, microbial solutions and millet-based value-added products.

Entrepreneurship Development in Biofertilizers and Microbial Solutions for Sustainable Agriculture" – 18th to 22nd May 2026

IARI-Pusa Krishi, in collaboration with the Division of Microbiology, ICAR-IARI, organized an Agripreneurship Development Program (ADP) on "Entrepreneurship Development in Biofertilizers and Microbial Solutions for Sustainable Agriculture" from 18th to 22nd May 2026. This five-day training program equipped participants with knowledge of cutting-edge microbial innovations aimed at restoring soil health, reducing dependence on chemical inputs and enhancing sustainable agricultural productivity.

The program covered a wide range of topics, including methods of composting and their economics (cost–benefit analysis), the role of microbial inoculants in rapid composting, recent advancements in microbial inoculant technologies and opportunities and handholding support for agripreneurship development in microbial products.

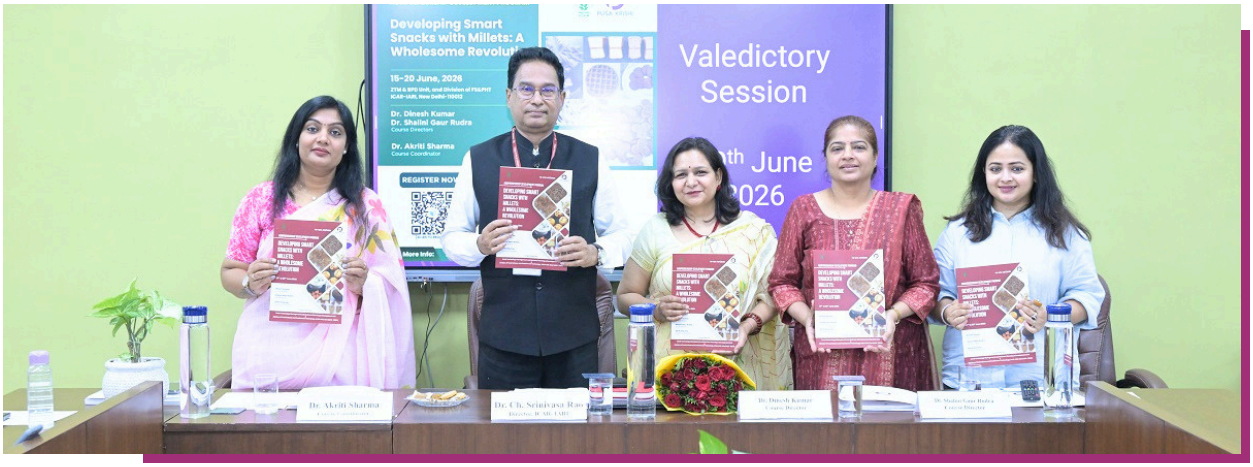
In addition to the theoretical sessions, participants gained valuable hands-on experience through practical demonstrations and interactive training sessions.

The program concluded with a valedictory session held on 22nd May 2026, during which certificates were awarded to the participants by Dr. Ch. Srinivasa Rao, Director, ICAR-IARI.

Developing Smart Snacks with Millets: A Wholesome Revolution" - 15th to 20th June 2026

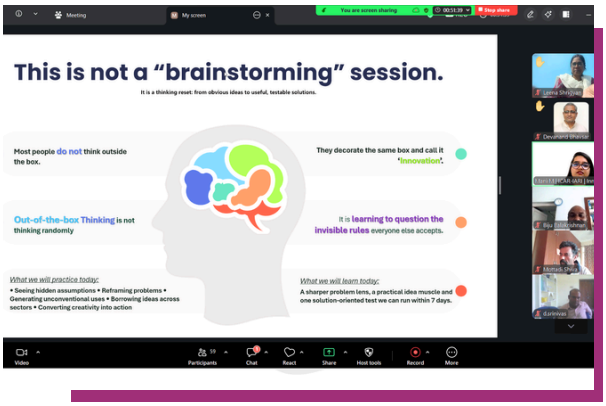
IARI-Pusa Krishi in collaboration with the Division of FS&PHT, ICAR-IARI organized an Agripreneurship Development Program on "Developing Smart Snacks with Millets: A Wholesome Revolution" from 15th to 20th June 2026. This training programme was designed to equip participants with knowledge of the nutritional and technological aspects of alternative grains, with a special focus on major and minor millets. It highlighted laboratory-scale innovations in the processing of pearl millet, finger millet and sorghum, while addressing the challenges associated with their adoption in the small-scale processing sector. Participants were introduced to minor millets such as Kodo millet, Little millet, Proso millet and Barnyard millet, along with legume-based products. Through hands-on training sessions, they gained practical experience in developing value-added products using these grains. The programme also covered key topics, including labelling, packaging and certification requirements as per Food Safety and Standards Authority of India guidelines, business development and marketing strategies and information on funding opportunities for entrepreneurial ventures.

The programme ended with a valedictory session on 20 June 2026, during which Dr. Ch. Srinivasa Rao, Director, ICAR-IARI, sensitized participants on the importance of millet-based entrepreneurship and distributed certificates.



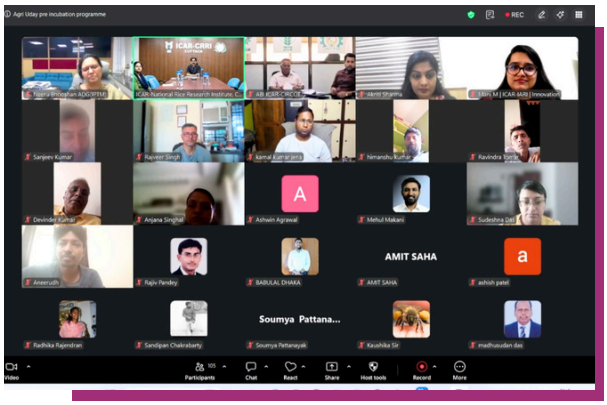
6. INCUBATION/PRE-INCUBATION ACTIVITIES

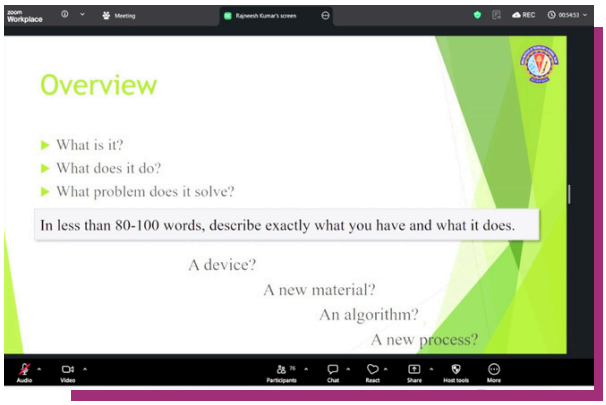
ICAR Agri Uday Pre-Incubation Programme Empowers Early-Stage Innovators



A four-week Pre-Incubation Program was jointly organized by ICAR-IARI, Pusa Krishi, New Delhi, in collaboration with ICAR-CRRI, Cuttack and ICAR-CIRCOT, Mumbai, from 4th to 29th May 2026. The program is designed to support early-stage innovators in systematically transforming their ideas into incubation-ready startup ventures through a structured, mentor-driven approach. The program covered a wide range of topics, including Problem Discovery and Technology Framing; Market Assessment, Financial Planning and Go-to-Market Strategy; Field Validation and Pilot Design; Legal, Intellectual Property (IP) and Regulatory Readiness; and Business Model Development through hands-on Business Model Canvas (BMC) sessions. Following a build-validate-refine

framework, participants were guided through the process of developing and strengthening their entrepreneurial concepts. The program guided participants through the process of developing and refining their ideas, ending with a startup pitch evaluation for potential incubation support.

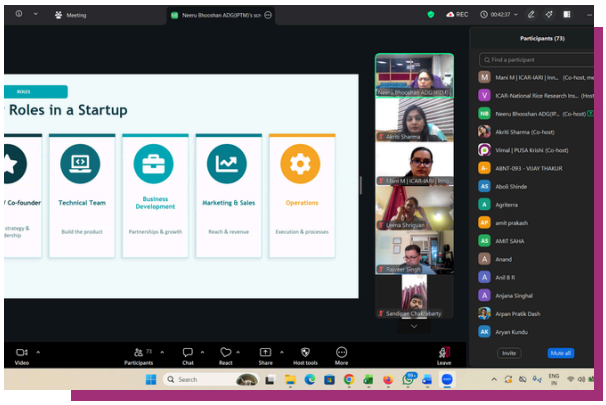


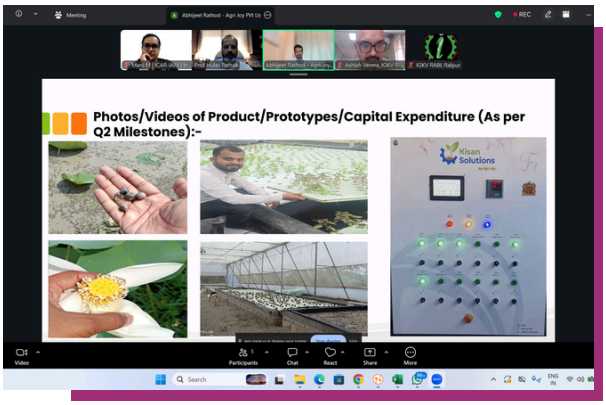


Pusa Krishi Master Class Series 2026: A Ten-Day Learning Intensive for RABI's Startups

Pusa Krishi Master Class Series 2026 for RABI Startups, organized under the RKVY-RAFTAAR scheme of the Ministry of Agriculture & Farmers' Welfare, was conducted virtually from 5th to 15th June 2026. This intensive 10-day workshop was designed for CIC-recommended pre-seed and seed-stage startups incubated under the RAFTAAR Agri Business Incubators (RABIs). The Masterclass aimed to equip early-stage agri-startups with strategic knowledge, practical insights and expert mentorship required to build scalable and sustainable enterprises.

A total of 55 startups from nine RABIs, mentored by PUSA Krishi, ICAR-IARI, actively participated in the programme and engaged with experienced professionals from academia, industry, government and the startup ecosystem. The sessions covered a wide range of topics, including innovations in agriculture and allied sectors, AI-driven solutions for agriculture, technology commercialization and adoption, effective business communication, FSSAI regulatory requirements, intellectual property management, digital marketing strategies, pitch deck preparation, financial management and other key aspects of startup growth and sustainability.





7. OTHER ACTIVITIES

Viksit Krishi Sankalp Abhiyan Promotes Sustainable Farming Practices in UP

A team of scientists from ICAR-IARI, including Dr. Akriti Sharma, CEO of Pusa Krishi, visited Raffan, Uttar Pradesh, on 14th May 2026 to interact with local farmers and promote sustainable agricultural practices under government's Viksit Krishi Sankalp Abhiyan. During the visit, the scientists conducted awareness sessions on balanced fertilizer application, soil health management and efficient nutrient use for improving crop productivity. Farmers were informed about the importance of maintaining soil fertility through the judicious use of fertilizers, organic inputs and regular soil testing. The team also encouraged farmers to adopt scientific farming practices for achieving higher yields while protecting long-term soil health.

Strengthening Collaboration: Visit of BIRAC Managing Director to ICAR-IARI

Dr. Jitendra Kumar, Managing Director, Biotechnology Industry Research Assistance Council (BIRAC), visited IARI-Pusa Krishi on 20th May 2026 to explore its ongoing research, innovation and agri-startup development initiatives. During the visit, discussions focused on opportunities for strengthening collaboration in technology commercialisation, startup incubation and innovation-led agricultural development. The interaction also underscored the importance of creating an enabling ecosystem to accelerate the translation of agricultural research and scientific innovations into scalable enterprises, impactful technologies and sustainable solutions for the farming sector.

8. STARTUP NEWS & AWARDS

Ekosight Technology Pvt. Ltd. received the Best Startup Award at the 122nd Foundation Day of ICAR-IARI, New Delhi, in recognition of its outstanding contribution to innovation and entrepreneurship in the agricultural sector, particularly for its impactful work in advancing soil health management & promoting sustainable farming practices.

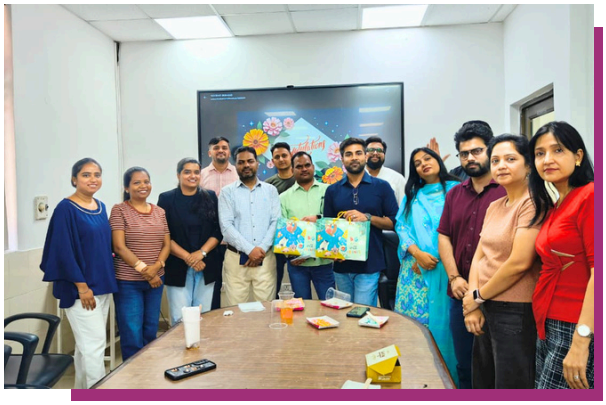
- **Ghode & Jadhav Agritech Equipments Industries Pvt. Ltd.** received the Best Start-Up Award 2026 from ICAR – Directorate of Onion and Garlic Research (DOGR), Pune. This recognition further strengthens their mission to develop innovative agricultural machinery that reduces labour dependency and enhances the profitability of onion farmers across India.

- **BANC Bio-Polymers Pvt. Ltd.** secured 2nd Place in the Sustainable Agriculture Category at the Future Tycoons 2026 competition, formally awarded by the Deputy Commissioner of Ludhiana. This recognition highlights the startup's commercial potential and strengthens its position as a leading climate innovation enterprise transforming agricultural residues into high-value industrial solutions.

9. Inside IARI-PUSA Krishi

Farewell Moments

Two of our dedicated colleagues, Dr. M. S. Raman and Mr. Vipul Shah, concluded their tenure with Pusa Krishi on 31st May 2026. Dr. Raman served the incubation center for 2.5 years, while Mr. Shah contributed three years of dedicated service. Both have been integral members of the incubation center, known not only for their hard work and professionalism but also for their positive spirit and commitment. Their valuable contributions have left a lasting impact on the organization and their presence will be greatly missed. We sincerely thank Dr. Raman and Mr. Shah for their dedication and contributions over the years. We wish them both continued success, happiness and fulfilment in all their future endeavors.



From the Editor's Desk

Dr. Akriti Sharma
CEO, PUSA Krishi, ICAR-IARI

The April-June 2026 quarter has been a period of remarkable progress for IARI-Pusa Krishi, reflecting our continued commitment to transforming agricultural research into scalable innovations, impactful enterprises and sustainable solutions for Indian agriculture. This edition of *TAKSAY* captures the collective efforts of our scientists, entrepreneurs, industry partners and stakeholders who are working together to strengthen the country's agri-innovation ecosystem.

Innovation and technology commercialization remained central to our mission this quarter, with 23 technologies successfully licensed to 27 industry partners, generating ₹58.73 lakh in revenue. This achievement underscores growing industry confidence in ICAR-IARI innovations and reinforces our "Lab to Land" approach in delivering research outcomes to farmers and markets.

Moreover, the Summer Vegetables Field Day and the Online Startup Inventors Meet provided valuable platforms for researchers, startups, industry representatives and farmers to interact, exchange ideas and explore commercialization opportunities. Such engagements continue to bridge the gap between scientific innovation and entrepreneurial application while creating new avenues for collaborative growth.

Entrepreneurship development remained a major focus throughout the quarter. Specialized Agripreneurship Development Programs on microbial solutions for sustainable agriculture and millet-based smart snacks equipped aspiring entrepreneurs with practical knowledge, technical skills and business insights. These initiatives reflect our commitment to nurturing enterprises that combine scientific excellence with market relevance while contributing to sustainable agriculture and nutrition security.

Our incubation ecosystem also witnessed significant momentum. The launch of the flagship UPJA and ARISE incubation programmes attracted an overwhelming response from innovators across the country, reaffirming the growing enthusiasm for agri-entrepreneurship. Complementing these initiatives were the ICAR Agri Uday Pre-Incubation Programme and the Masterclass Series for RABI startups, all designed to equip early-stage entrepreneurs with the mentorship, technical guidance and business capabilities required to build resilient and scalable ventures.

This quarter also celebrates the achievements of our incubated startups, whose recognitions and partnerships reflect the growing impact of innovations nurtured at Pusa Krishi.

As we present this edition of *TAKSAY*, we extend our sincere appreciation to our scientists, innovators, startups, industry partners, mentors and every member of the Pusa Krishi family whose dedication has made these accomplishments possible.

भाकृअनुप
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