

Dr M L Jat addresses the Curtain Raiser press conference for ESTIC 2026 ;Dr Jat Outlines ICAR's Role in ESTIC 2026

Plenary talks, technical and parallel sessions, international collaboration forums, exhibitions and startup will be showcases in ESTIC 2026

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The Indian Council of Agricultural Research (ICAR) highlighted its research priorities, technological innovations and contributions to sustainable agriculture during a curtain-raiser and media interaction for the Emerging Science, Technology and Innovation Conclave (ESTIC) 2026 at ICAR-Central Soil Salinity Research Institute (CSSRI), Karnal, Haryana, today. Dr. M. L. Jat, Secretary, Department of Agricultural Research and Education (DARE) and Director General, ICAR, outlined the Council's role in the thematic area of "Agri-Tech, Food Systems and Nutrition" at the national conclave, scheduled to be held from 27th to 29th October 2026 at Bharat Mandapam, New Delhi.



ESTIC 2026 will bring together science-related ministries and departments, research institutions, startups and other stakeholders to showcase advances across 12 thematic areas. The thematic exhibition will feature 13 departmental stalls, 50 deep-tech startups

and 10 departmental technologies. The conclave will provide a platform for presenting research outcomes, fostering scientific collaboration and connecting discoveries with practical applications.'



Highlighting ICAR's research priorities, Dr. Jat emphasised a whole-of-government approach and coordination across various ministries. He outlined key areas including genome editing, bio-fortified crop varieties, climate-resilient agriculture, integrated pest management, horticultural diversification, livestock health, fisheries, natural resource management and agricultural mechanisation. He noted that scientific innovations must move beyond research laboratories and reach farmers through effective seed systems, technology dissemination and field-level adoption.

Among the featured scientific achievements are the world's first two genome-edited rice varieties and India's first telomere-to-telomere (T2T) reference genome of pigeonpea. These advances in crop genetics and precision breeding can support further research into improved crop traits and agricultural productivity.

Animal health and food security will be another focus, with the exhibition highlighting indigenous vaccine research, including an African swine fever (ASF) vaccine. The presentation describes a cell-adapted Indian ASF virus developed using MA-104 cells and reports protective effects in a target animal population. The precise technical description and protection claim should be confirmed against the official ICAR presentation before publication. ICAR's wider animal-health research also includes vaccine development against lumpy skin disease, livestock genomics and the conservation of indigenous breeds.

The exhibition will also feature "Soil Intelligence: AI and Pedological Science," highlighting the application of artificial intelligence and soil science to digital agriculture and soil-resource assessment. Such approaches can support data-driven soil management and inform planning for agricultural production and wider infrastructure development. ICAR's research in this area emphasises the importance of understanding soil properties, improving resource-use efficiency and developing resilient farming systems.



On crop science and horticulture, Dr. Jat highlighted improved crop varieties, climate resilience, nutritional quality and advanced breeding technologies. He stated that ICAR had developed 117 horticultural crop varieties during the previous year. Research on biofortified crops and diversified farming systems is also aimed at supporting better nutrition and sustainable agricultural production.

In natural resource management, ICAR is working on soil health, water management, climate resilience and sustainable farming practices. Research on green ammonia explores the use of hydrogen produced with solar energy to manufacture ammonia as a potential alternative pathway for fertiliser production. Demonstrations covering 10,000 acres across six states were highlighted during the interaction, with collaboration involving ICAR, the Ministry of New and Renewable Energy and other stakeholders.

ICAR's research portfolio also includes fisheries and aquaculture, livestock health, integrated pest management and agricultural mechanisation. Work on shrimp farming in saline areas seeks to expand productive use of underutilised land and water resources, while agricultural engineering initiatives, including cotton-harvesting machinery, aim to improve farm-operation efficiency and address labour constraints.

The SEHAT initiative—Science Excellence for Health through Agricultural Transformation, developed jointly by ICAR and the Indian Council of Medical Research (ICMR) was also highlighted. The initiative connects agriculture, food and human health through approaches including biofortified crops and integrated farming systems. ICAR–National Dairy Research Institute (NDRI) has also developed a rapid on-site milk adulteration detection kit for identifying potential adulteration.

The technical session on “Agri-Tech, Food Systems and Nutrition” will bring together experts for discussions on agricultural innovation, food systems and nutritional security. The programme lists Dr. Ismahane Elouafi as keynote speaker, Dr. Ashwani Pareek and Prof. Peeyush Soni among the session speakers. The panel discussion will feature Dr. T. R. Sharma, Ms. Niima, Dr. Rabi N. Sahu, Dr. Firoz Hossain, Dr. Bhagirath Chaudhary and Dr. Kutubuddin Molla.

Earlier, welcoming the participants, the Director of ICAR-CSSRI highlighted the institute's work on the characterisation and reclamation of salt-affected soils, management of poor-quality water and development of salt-tolerant varieties. The curtain-raiser and media interaction sought to build awareness of ESTIC 2026 and demonstrate the role of agricultural science and technology in advancing food and nutritional security, farmer prosperity and sustainable agricultural development.

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