

New Technologies in Animal Husbandry and Dairy

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The Department of Animal Husbandry and Dairying is promoting the following technologies under Rashtriya Gokul Mission: (i) Sex sorted semen technology: Sex sorted semen production facility has been created at 5 government semen stations and so far 125 lakh sex sorted semen doses have been produced in the country including semen doses produced from private semen stations. In order to promote technology among farmers incentive upto 50% of the cost of sex sorted semen is made available under the scheme; (ii) Bovine IVF Technology: Under the scheme 23 IVF labs has been made operational for promoting IVF technology across the country. As on date 26987 viable embryos have been produced out of this 14993 embryos transferred and 2361 calves born. Accelerated Breed Improvement programme using IVF technology is being implemented to deliver technology at farmers' doorstep. Incentive at the rate of Rs. 5000 per assured pregnancy is made available to farmers.

The details of technologies recently launched and promoted by the Government in the Animal Husbandry and dairy sector along with details of the bodies or institutions spearheading them and their target benefits in terms of productivity, health and income augmentation:

1. Sex sorted Semen Production Technology: In line with the Hon'ble Prime Minister's vision of 'Make in India' and 'Atmanirbhar Bharat', the Department of Animal Husbandry and Dairying (DAHD), under the Rashtriya Gokul Mission, developed an indigenous, affordable sex sorted semen production technology through the National Dairy Development Board (NDDB). Indigenously developed sex sorted semen production technology has been launched by Hon'ble PM on 5.10.2024. The technology has made cost of sex sorted semen affordable to farmers and playing important role in producing female calves with 85-90% accuracy thereby enhancing farmers income. The benefit of sex sorted semen technology will accrue to more than 8 crore small and marginal farmers engaged in dairying across the country.

2. Genomic Selection: The Department of Animal Husbandry and Dairying, under the Rashtriya Gokul Mission through National Dairy Development Board (NDDB) and ICAR-National Bureau of Animal Genetic Resources (ICAR-NBAGR) developed the unified genomic chip: GAUCHIP for indigenous cattle and MAHISHCHIP for buffaloes to enable identification of elite animals across the country. The unified genomic chip has been launched by Hon'ble PM on 5.10.2024. Implementing genomic selection will allow for early identification of young bulls, enhancing milk production and overall productivity. Farmers will no longer need to wait 3-4 years to assess the potential of heifers; instead, they can make informed decisions regarding the sale and purchase of animals at an earlier age. The availability of genomic selection services has empowered farmers to make timely decisions, thereby expediting the genetic progress of their herds.

3. Indigenously developed bovine IVF media: For the first time in the country, bovine IVF technology is initiated under Rashtriya Gokul Mission. The IVF technology is crucial for enhancing productivity of bovines as work which requires 7 generations can be done in single generation through IVF technology. The Department of Animal Husbandry and Dairying through National Dairy Development Board has launched indigenous bovine IVF media on 23rd September 2024. The indigenous media, offers a cost-effective alternative to expensive imported media, this will make cost of bovine IVF technology reasonable to our farmers engaged in dairying.

Further, the Department of Animal Husbandry and Dairying is promoting deployment of new technologies under Animal Husbandry Infrastructure Development Fund (AHIDF), including automation in dairy and meat processing units, sensor-based feed and water management

systems, environmentally controlled poultry bird shelters, vaccine production technology, and bio-digestion and composting technologies for animal waste management.

In order to scout for innovative and commercially viable solutions to address the problems faced by the Animal Husbandry and dairy sector, the Department of Animal Husbandry and Dairying had organised Animal Husbandry Startup Grand Challenge 1.0 during 2020-21 and Animal Husbandry Startup Grand Challenge 2.0 during 2021-22. The winners of startup grand challenge were supported for incubation and virtual master classes.

To promote the existing and emerging startups in the livestock, dairy and animal husbandry sectors the Department of Animal Husbandry and Dairying had organized a Startup Conclave at Hyderabad Andhra Pradesh during February 2023 in close collaboration with the National Dairy Development Board, Startup India, Confederation of Indian Industry (CII) and the State Animal Husbandry Departments.

Further, as per Indian Council of Agriculture Research, at institute level incubatees are registered for training/ technical guidance/ support through Agri-Business Incubation Centers (ABIC).

The Department of Animal Husbandry and Dairying has signed following agreements with advanced dairy/animal husbandry countries for cooperation in the field of Animal Husbandry and Dairy Sector: (i) Memorandum of Understanding with Denmark and United Kingdom and (ii) Joint Declaration of Intent with Brazil and Denmark.

As per Indian Council of Agriculture Research, following projects are under implementation with foreign collaboration:

- i. Project on Characterization of antimicrobial resistance in chicken and its production environment interface for identification of optimal approaches for sustainable surveillance and amelioration, funded by International Atomic Energy Agency (IAEA), Vienna.
- ii. A Research Project entitled 'Indian dromedary camel genome diversity analysis and development of customized low density SNP chip for camel is operational in collaboration with International Atomic Energy Agency (IAEA), Vienna.
- iii. ASEAN-India Collaborative research Project titled "The anti-haemoprotozoan activity of isolated bioactive molecules from selected medicinal plant extracts against Theileria species and Trypanosoma evansi and elucidation of their mechanisms of action" in collaboration with Thailand and Philippines Governments.

Further, the Centre of Excellence for Animal Husbandry (CEAH) has been setup under the Department of Animal Husbandry & Dairying as a consortium of 5 organizations at Hessarghatta, Karnataka to scale up skill development, technology-driven initiatives, research and knowledge exchange. The institute is collaborating with Government and private institutions of the State of Karnataka and other States in organising skill development programmes. This information was given by Union Minister of State, Ministry of Fisheries, Animal Husbandry and Dairying, Prof. S.P. Singh Baghel, in a written reply in Lok Sabha on 29th July, 2025.

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