LABORATORIES AND INFRASTRUCTURE


Semen Freezing Laboratory


Animal Physiology Laboratory


Semen Quality Control Lab


Molecular Biology Laboratory (CGB)


Animal Nutrition Laboratory


Tissue culture and Biochemistry Lab


Milk processing cum Incubation Lab


Veterinary Clinical Lab



Vermicompost Unit


Experimental Dairy Farm


Male Germplasm Unit


Fodder Farm


Library


Guest House


Residential Complex

AICRP CENTRES



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ICAR-CIRC
at Glance



FRIESWAL®

"First Synthetic Cattle Breed of India"

MAJOR ACHIEVEMENTS

- **Development of Frieswal® "The First Synthetic Cattle Breed of India"**
- **Exceptional Semen Production and Significant Improvement in milk production**
- **Genetic Improvement of Indigenous Cattle Breeds**
- **Development of Feeding Standards and Herbo-Mineral Supplements**
- **Genetic Evaluation and Cryopreservation of Cattle Genetic Resources**
- **Development of Various Sustainable Practices for Economic Cattle rearing**
- **Focus on Farmer Empowerment and Capacity Building**

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ICAR-CIRC: AN INTRODUCTION

ICAR-Central Institute for Research on Cattle, a premier institute of Indian Council of Agricultural Research is an autonomous organization under Department of Agricultural Research and Education, Ministry of Agriculture and Farmers Welfare, Government of India. The institute formerly known as Project Directorate on Cattle (PDC) was established on 3rd November 1987 at Military Farms School and Research Centre, Meerut by upgrading the status of All-India Coordinated Research Project (AICRP) on Cattle. The Directorate was actively collaborating with the Military Farms, Ministry of Defence to evolve a national milch crossbred cattle "Frieswal" by crossing Holstein Friesian (5/8) with Sahiwal (3/8) cattle. Considering importance of the Indigenous cattle breeds for their adaptability, feed conversion efficiency, disease resistance etc. The Indigenous Breeds Project was started in collaboration with State Agricultural Universities and State Government, Non-Government Organizations and sister ICAR Institutes for conservation and genetic improvement of some of the important indigenous cattle breeds of our country viz., Gir, Sahiwal, Kankrej, Hariana and Ongole. During the 8th Five Year Plan, Field Progeny Testing programme (FPT) was also started to undertake progeny testing of crossbred bulls under field conditions. Considering its sincere research and extension efforts and achievements made in cattle improvement, the PD on Cattle was upgraded as Central Institute for Research on Cattle (CIRC) in 2014. Thereafter, CIRC is acting as a nodal institution to monitor, coordinate and support all research and development projects for cattle improvement. The Institute is also providing good quality male germplasm to stakeholders. So far institute has produced 53.38 lakhs of semen dosages out of which 22.50 lakh doses of genetically superior bulls available are available with institute for stakeholders. On an average, Institute add 1.5 lakhs of semen dosages from the bulls maintained at its farm. Besides these, semen productions also take place at 3 germ plasm units and under AICRP. The increase to tune of 46, 67 and 37.5% have been achieved for Gir, Kankrej and Sahiwal cattle respectively since inception of IBP programme whereas under FPT programme more than 54% increase in milk production has been achieved from Frieswal cattle. The institute has included too more indigenous breeds viz Tharparkar and Rathi and initiating some new breeds such as Ongole and Bijharpuri. The Institute also obtained ISO 9001:2015 certification and has well equipped semen freezing, tissue culture and biochemistry and molecular genetics laboratories besides feed testing facilities in animal nutrition laboratory. Besides institutional research programme on cattle genetics, nutrition, reproduction and management, sponsored research projects from DST, Government of India are also regularly handled by the institute scientists. Institute also have good linkage with other ICAR institutes and SAUs and executing collaborative research programme too.

VISION

"Improvement of cattle for high productivity and profitability"

MISSION

Germplasm improvement and technology development for realizing enhanced productivity and profitability

MANDATE

- Basic and strategic research on productivity and production enhancement of cattle including indigenous cattle.
- Dissemination of scientific information and technology for cattle production management.

OBJECTIVES

1. To undertake research in the field of cattle breeding, feeding, management and reproduction to enhance productivity and profitability.
2. To plan, coordinate and monitor the research projects on cattle.
3. To serve as national data repository and provide consultancy for cattle production and reproduction.

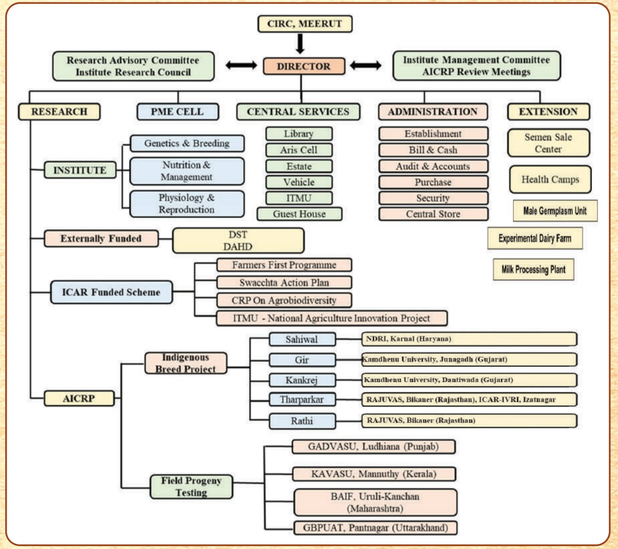
AICRP on Cattle

The All India Coordinated Research Project on Cattle was launched by the Indian Council of Agricultural Research, Department of Agricultural Research & Education, Ministry of Agriculture, Government of India, in year 1968-69 at Indian Veterinary Research Institute (Izatnagar and Haryana Agriculture University (HAU), Hissar. The project was originally called All India Coordinated Research Project for studying behavioural pattern of zebu cross bread cattle, but merged into AICRP on cattle in 1969. The project goal was to develop new dairy breeds in tropical regions through cross breeding. In order to achieve the goal ICAR started the Frieswal project in collaboration with the Ministry of Defence to evolve a national milch breed "Frieswal" by crossing the Holstein Friesian and Sahiwal cattle and established at Project Directorate on Cattle, at Meerut which was upgraded at Central Institute for Research on cattle in 2014. In the beginning the programme was started as Frieswal project. Subsequently, keeping in view the importance of indigenous breeds, known for their adaptability and disease resistance qualities, Indigenous Breeds Project (IBP) was also started in collaboration with the State Veterinary/ Agricultural Universities, State Government, Non-Government Organizations and Gaushalas. Similarly, Field Progeny Testing (FPT) project was also initiated to bring about improvement in crossbred cattle at farmers' herd in collaboration with the SAUs, State Govt. and Non-Government Organizations. The Project is currently operating from 22 centres covering 10 states and 10 agro-climatic zones of India.

Objectives of AICRP on Cattle

1. Conservation and genetic improvement of important indigenous cattle breeds.
2. Production of progeny tested crossbred bulls and genetic improvement of cattle under field conditions.

ORGANOGRAM



Divisions

The Institute has three Divisions namely Cattle Genetics and Breeding (CGB), Cattle Physiology and Reproduction (CPR) and Cattle Nutrition and Management (CNM). In addition, the Male Germplasm Unit of the Institute maintains the Frieswal and Sahiwal bulls for frozen semen production.

Cattle Genetics and Breeding Division

The CG&B division is dedicated to conducting both basic and applied research in various aspects of cattle genetics and breeding. Its research priorities focus on genetic improvement of cattle through conventional and modern breeding techniques, including genomic selection and the application of omics technologies to accelerate genetic progress. The division also offers testing for CMU-designated genetic disorders, karyotyping, A1A2 milk typing, and detection of cow milk/meat adulteration with other species. Additionally, it coordinates the All India Coordinated Research Project (AICRP) on Cattle, evaluating indigenous and crossbred bulls. This program supplies superior male germplasm to meet the breeding demands of the country, aiming to enhance milk production.

Cattle Physiology and Reproduction Division

The CP&R division is focused on enhancing the reproductive efficiency of cattle through the application of assisted reproductive technologies (ARTs) to enable large-scale dissemination of elite and superior cattle germplasm. Key ARTs employed include ovum pickup (OPU), in vitro fertilization (IVF), and embryo transfer technology (ETT), along with the use of sex-sorted semen to achieve the desired sex of calves. In addition to these reproductive advancements, the division is engaged in producing superior male germplasm through its semen freezing laboratory, ensuring the availability of high-quality frozen semen doses. It also places emphasis on controlling production disorders and managing udder health, which are critical for maintaining optimal productivity and animal welfare in cattle.

Cattle Nutrition and Management Division

The CN&M division is committed to enhancing cattle productivity through effective management of available animal feed resources and the implementation of advanced nutritional techniques. This includes the development of area-specific mineral mixtures, feed balancing strategies, and total mixed rations tailored to optimize cattle health and performance. Research is also focused on the impact of herbal, mineral, and vitamin feed supplements in improving semen quality in bulls. A holistic assessment of residual feed intake (RFI) is being conducted to enhance feed efficiency. Additionally, the division works on assessing and mitigating the effects of abiotic stress in cattle to improve resilience. Routine proximate composition analysis of animal feed is also undertaken to ensure proper nutrition, further supporting productivity and health improvements in cattle.

PRESENT THRUST AREAS

1. Genetic improvement of important indigenous breeds of cattle viz. Gir, Kankrej and Sahiwal, Tharparkar, Rathi, etc. using conventional and modern breeding techniques
2. Large scale production of quality cattle germplasm.
3. Development of optimum feeding schedules for Indigenous and crossbread catlle from diverse agroclimatic zone.
4. Development of management practices including designing of shelter to suit the local environment for enhancing cattle productivity.
5. Genomic selection of bulls and production of elite bulls avialbale for semen production
6. Faster multiplications of superior germ plasm using advanced assited reproductive technologies such as ovum pick up, invitro fertilization and embryo transfer use of embryo transfer technology for elite bull production.
7. Comparative economics of productivity of Indian cattle breeds vis-à-vis crossbred cattle

FUTURE THRUST AREAS

1. Application of biotechnological tools viz: genome editing, transgenic for biotic and abiotic stress management, disease control and productivity enhancement in cattle and creation of library for cell and gene clones of indigenous cattle.
2. Studies on draught animal power of important indigenous draught breeds and biomechanical study for improved efficiency.
3. Sexing of male germplasm for production of claves of desired sex.
4. Validation of therapeutic importance of cow produces like milk, Panchgavaya, urine, dung etc.

PRODUCTS AND SERVICES



HOW TO REACH US:

https://maps.app.goo.gl/wwku3r3CqUUE3szv6
https://maps.app.goo.gl/wwku3r3CqUUE3szv6