

Proven expertise in genomic research

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National Dairy Research Institute

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Name of the Department:

Animal Biotechnology Center

Courses: MSc and PhD

courses in animal biotechnology

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National Dairy Research Institute was established in Bangalore; in 1955, it was shifted to Karnal in Haryana. Initiatives for conducting animal biotechnology research at NDRI were taken in mid-1980s under United Nations Development Program, 'Center of Excellence program on biotechnology'. Under this program, infrastructure facilities for research in biotechnology were developed at different divisions of the institute. The Animal Biotechnology Center at NDRI is involved in conducting research on high-end embryo biotechniques, including transgenesis, somatic cell cloning and embryonic stem produced MSc in animal biotechnology.

In the same year, on the basis of the recommendations of the National Task Force of the Department of Biotechnology (DBT), Government of India, a national project on Embryo Transfer Technology (ETT) was initiated at NDRI with the support of Indian Council of Agricultural Research (ICAR) and the United States Agency for International Development (USAID). This formed the basis for the establishment of a state-of-the-art Embryo Biotechnology Center at NDRI having specialized laboratories for conducting projects of embryo biotechnologies.

Very intensive research on embryo biotechnology at NDRI resulted in evolving and fine tuning of several embryo-related technologies aiming at multiplication of superior germplasm. Using the standardized protocol for superovulation and embryo transfer, NDRI has produced more than 10 calves from a single cow in one calendar year and the in vitro fertilization (IVF) technique was successfully used to produce the world's first IVF calf in buffalo. The IVF technique has also been used to produce the goat kids for the

Currently, the Animal Biotechnology Center is involved in conducting research on areas of high-end embryo biotechniques like transgenesis, somatic cell cloning and embryonic stem cell production. Recognizing its strength in genomics research, the center has been included in the 'Buffalo Gene Mapping' initiative of the Department of Biotechnology and Production and Reproduction Genomics by ICAR.

Under animal genomics research, the center is working on characterization, mapping and QTL identification for useful economic traits in buffalo to understand its gene VF event.