

NDDB opens up new vista to multiply elite indigenous cows



Two calves one of Gir breed and other of Sahiwal were born at an interval of one week at the state-of-the art facility created by NDDB in Anand for producing calves through in-vitro fertilization technique. This embryo production technique is commonly referred to as test-tube baby in human beings.

In this technique, first an elite cow which has produced a very high quantity of milk is selected. Such selected cows are referred to as donor cows. From the selected donor cows oocytes are aspirated at a regular interval. This process of non-surgical aspiration of oocytes is referred to as Ovum Pick Up. The oocytes thus collected are then fertilized in petri dish using the semen of top elite bulls. After seven days of development in laboratory, the embryos are transferred to cows having low milk



production potential (surrogate mothers) – one embryo per surrogate cow. The surrogate cow after nine months of pregnancy gives birth to a calf. The donor cow is again aspirated after 2-3 weeks, oocytes are collected and embryos are produced in the laboratory and transferred to surrogate cows. This process is repeated several times in a year. Normally, one cow produces one calf in a year, but through this technique as many as 20-25 calves can be produced from an elite cow in a year. This technique thus can be used to multiply limited number of high producing cows of our finest indigenous dairy breeds like Gir, Sahiwal, Red Sindhi and Tharparkar.

Shri Dilip Rath, Chairman, NDDB said that the in-vitro fertilization technique coupled with selection of donors and sires based on genomic breeding values would revolutionize our method of selecting and breeding animals and help us in accelerating genetic progress in our indigenous breeds manyfolds. He further said that this facility of NDDB will be used for training veterinary professionals in in-vitro technique who in turn would take this technique to the farmer's doorstep. It is hoped that the facility would soon become a centre of excellence.

He conveyed that in establishing the facility NDDB took the help of EMBRAPA, a research organization of the government of Brazil, which has expertise in producing IVF calves of cattle breeds of Indian origin. Collaboration with EMBRAPA would also help NDDB get good Gir genetics from Brazil.