

Embryo Transfer Technology

Definition

“Embryo transfer is a bio-technique where embryos are collected from the donor females and transferred in to the uterus of recipients which serves as a foster mother for its development throughout the remainder period of pregnancy”

History of Embryo Transfer

- ❖ The first successful embryo transfer was carried out in rabbit (1890) by Heap.
- ❖ First lamb by ETT- 1949 by Berry.
- ❖ First calf by ETT- 1951 by Willet et al.
- ❖ In swine – 1951 by Kvansnickii.
- ❖ In Asian buffalo – 1983 by Drost et al



Role Of ETT In Livestock Development And Breed Improvement.

- ❖ Through ETT, one high quality cow could be made to produce up to 32 embryos per year compared to the conventional method of breeding where the farmer has to wait for twelve months for a calf that could be either male or female.
- ❖ The reproductive potential of a female newborn calf is enormous and is estimated at 150,000 ova per cow. This reproductive potential has largely been underutilized.

- ❖ Naturally, a cow produces about 8 to 10 calves in her lifetime. But with embryo transfer, it is possible to get 32 embryos per cow per year.
- ❖ Embryo transfer is a technique that can greatly increase the number of offspring that a genetically superior cow can produce.
- ❖ Under conventional ways, the generation interval ranges between 6 and 7 years, but with MOET, it can be reduced by almost half. Also useful in progeny testing programs, due to reduction in generation interval.

- ❖ Very Effective for the propagation of superior genes, although factors such as lactation status of recipient animals, time of embryo recovery after insemination, site of embryo placement in recipient's uterus, embryo quality and stage of development all influence overall conception rate.