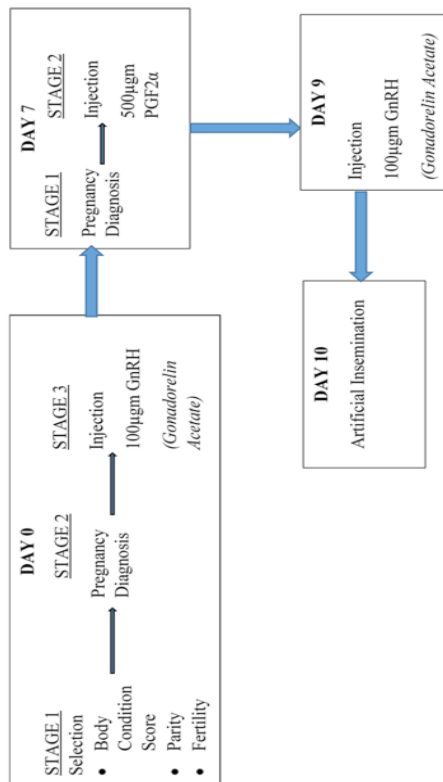




Calves born as a result of Fixed Time Artificial Insemination technology

A schematic presentation of Fixed Time Artificial Insemination 10-day hormonal (OvSynch) protocol



Compiled by: Waineina R.W., Nyambati E.M., Kanageni N.N. and Changwany D.K.

Editors: Nyabundi K.W., Mukundi K.T., Omondi S.P., Maina P., Wanyama H.N., Mugata R.K. and Kibunyi N.

For further information, contact:

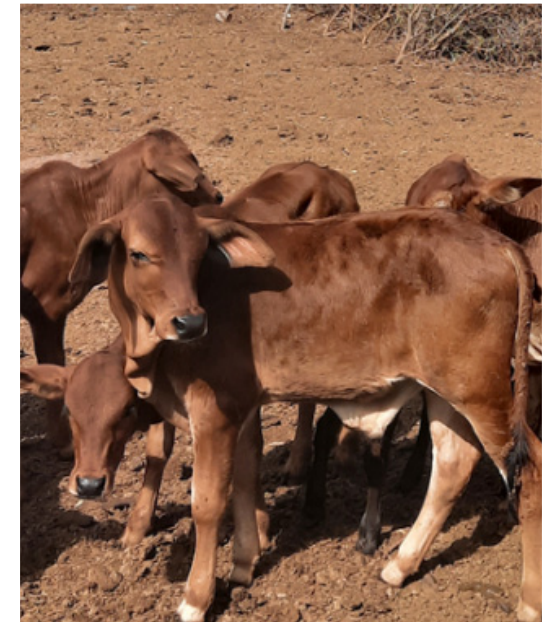
The Institute Director,
Dairy Research Institute,
P.O. Box 25-20117 Naivasha

Design and layout by Emma. Nyaola

**KALRO/NAVCDP/DAIRY/
BROCHURE No.055/2024**



ASSISTED REPRODUCTIVE TECHNIQUE - FIXED TIME ARTIFICIAL INSEMINATION ON SAHIWAL CATTLE





Selected cows for Fixed Time Artificial Insemination

Introduction

Fixed-time artificial insemination (FTAI) is a reproductive management strategy used in livestock breeding, primarily in cattle. This involves selecting cows/heifers that are made to come on heat at the same time by injecting hormones and then artificially inseminating them.

Purpose of FTAI

Fixed-time artificial insemination's major goal is to enhance the timing of insemination to improve the productivity and success of the breeding program rather than relying on natural mating or detecting individual heat signs.

Advantages of FTAI

- Improved reproduction efficiency e.g improved conception rate and quicker return cycle.

- Reduced labour requirements for heat detection.
- Ability to use superior genetics through artificial insemination.
- Possible to increase the adoption of AI in some areas.
- Helps establish predictable calving seasons by controlling the timing of insemination and calving.
- Allows farmers to plan and optimize resource use, resulting in potential cost savings in terms of labour, feed, and facilities.
- Contributes to faster genetic progress within the herd.

Requirements for successful implementation of FTAI

- Keen management especially feed availability and keeping bulls away from the synchronized group.
- Precise timing during insemination.
- Observance of best practices in reproductive management.

Fixed Time Artificial Insemination process

1 Estrous Cycles Synchronization: Synchronize the heat cycle of a group of selected cows/heifers by use of hormonal treatments.



Hormonal injection so that all selected cows come on heat at the same time

2. Heat detection: A period of heat detection to identify females that show natural signs of heat.

3. Insemination timing: The fixed-time feature of FTAI means that all synchronized females are artificially inseminated at the same time.

4. Artificial Insemination: Trained technicians or veterinarians undertake the artificial insemination operation, which introduces semen into the reproductive tract of the females.



Artificial insemination operation for the selected cows/heifers by a qualified technician