

# **Role of Management in Improving the Reproduction Efficiency in Farm Animals (LPM-601)**



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# Role of Management in improving Reproduction Efficiency

## Objectives:

- To optimise profit from farm in the form of production.
- To maintain replacement stock for herd maintenance and herd improvement.
- To prevent disease spread in the herd.



# Introduction

- It is a measure of capacity to reproduce by adult livestock.
  - Maintenance of optimum reproduction rate is best indicator of overall management of farm.
  - Many physical, physiological, behavioural and disease condition stress lowers the reproductive capacity of animals and ultimately herd.
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## Indicators of optimum fertility in Bovine:

Indicators	Values
1. Age at first calving	< 30 months
2. Interval to first oestrus after calving	< 45 days
3. Interval from calving to first breeding	< 70 days
4. Days open	< 100 days
5. Conception at first service	< 60%
6. Service per conception	< 1.5-1.7
7. Percent repeat breeder	< 10%
8. Calving Interval	12-13 months
9. Abortions	< 3%
10. Post partum problems	< 10%
11. Reproduction culling rate	< 8 %



# Factors affecting Reproduction efficiency:

## Genetic factors:

- Free martin
- Persistent hymen
- Gonadal hypoplasia
- Aberrations in Spermatozoa
- Late maturity



## Physiological factors:

- Hormonal imbalance
  - Irregular oestrus cycle
  - Persistent Corpus luteum
  - Buller
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## Nutritional factors:

- Mineral and Vitamin deficiency leads to late maturity or poor growth and development or hormonal imbalance.
- Protein deficiency leads to poor growth and late maturity



## Environmental and Management factors:

- High temperature and humidity
  - Exposure of Radiation
  - Improper feeding and maltreatment towards animals
  - Faulty A.I. Technique
  - Insemination too early or too late
  - Poor quality semen
  - Faulty pregnancy diagnosis
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## Pathological factors:

- Any specific disease like, Brucellosis, Vibriosis, Trichomoniasis, Listeriosis, etc.
- Non-specific causes like, orchitis, vaginitis, metritis etc

# Determining Reproduction Efficiency

## Number of services per conception:

- The number of services an average cow requires for successful conception.
- Influenced by fertility of female, quality of semen used and technical factors.

## Percentage of Non-returns:

- It means the proportion of animals that, after breeding, have not shown heat signs at the expected normal interval.
- If there is 70 per cent non-returns upto 60 days after breeding or 60 per cent non-returns upto 90 days after breeding than it considered as satisfactory.



## Conception rate:

- Proportion of animals conceived out of animals bred and confirmed through pregnancy verification methods.

## Calving Interval Period:

- It is interval between two successful parturitions. In ideal condition, cow should calve on every 12 month interval.

## Age at puberty:

- It is the age at which the young female shows the first heat. Several factors such as nutrition, body weight, breed, season of birth and growth rate are known to influence the age at puberty.



## Service period:

- It is the period between date of calving and date of successful conception. The optimum service period is 60-90 days.
- Optimum service period helps the animal to recover from the stress of calving and also to get the reproductive organs back to normal.
- Service period will be generally longer in high milk yielders even under adequate management.



# Reproduction management to improve reproductive efficiency

- Maintenance of proper breeding records with dates of heat, details of service and parturition.
- Breeding must be done at appropriate age and weight of animals.
- Animals should be given proper rest for at least 60 days following parturitions.
- Improve heat detection measures: Usually two checks daily one in morning and the other in the evening is good for examination.
- Semen should be of good quality and sufficient quantity.

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- Time and Technique of Insemination: Best conception rate is achieved, when animals are inseminated at mid oestrous.
  - Correct technique of artificial insemination.
  - Site of Insemination: To get optimum conception rate good site for insemination is middle of cervix.
  - Pregnancy diagnosis: All heifers and cows must be examined for pregnancy after 45 to 60 days of insemination.

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- If animals do not conceive even after three services, those animals not needs to treated at the earliest otherwise it will be chronic.
  - Proper care during gestation and parturition must be ensured.
  - Down calvers should be kept in separate before 15 days of parturition, preferably in parturition room and clean up and sterilize the area once parturition is over.

# General Management to augment Reproductive Efficiency

- To get best reproductive efficiency: Need to feed good quality and proper amount of ration having optimum amount of minerals, vitamins, proteins etc.
- Culling of animals with reproductive complications suspected to have hereditary predisposition like repeat breeders, repeated abortions, prolapse, and recurrent retention of foetal membranes.
- Regular vaccination, deworming and screening of diseases to keep herd healthy.

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- Proper housing, social factors and management to minimize stress to the animals.
  - Disinfection of calving pen, segregation of sick animals, proper sanitary measures, isolation and quarantine.
  - Handle the animals with full affection, regular visit of herd, timely important interventions if any.
  - Summer stress management by splashing of water on crossbreds and Buffaloes, managing quality feed, proper timing of feeding, clean and cool drinking water, arrangement of fans to improve the fertility of herd.



**THANKS**