

JOB ROLE – ANIMAL HEALTH WORKER

Sector – Agriculture

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Class X



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UNIT 4: Implementation of Animal Breeding Services in Dairy Animals

Session 8: Management of Unproductive Animals

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Session Objectives

The student will learn about the concepts of

- Management of unproductive animals
- Repeat Breeding animals and their management
- Anoestrus animals and their management
- Cystic Ovaries
- Infections in female reproductive tract
- Abortions in dairy animals their possible causes and preventive measures.

Introduction

- Infertility in cattle accounts for major losses.
- The reproductive efficiency of the animals may be reduced or lost due to infertility, sub-fertility or sterility.

Management of Unproductive Animals

The following reproductive disorders frequently affect farm animals.

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Repeat Breeding

It is a condition where the animals have a normal oestrous cycle and oestrus duration but do not become pregnant in spite of three artificial inseminations with good quality semen or three matings with a fertile bull. Repeat breeding occurs due to the following causes.

Improper Timing of Insemination: Artificial Insemination or breeding in cattle should be done 12 hours after the onset of oestrus. The AM/PM rule is followed for ensuring optimum fertilisation.

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Inseminating Cattle Based on Secondary Signs of Oestrus: If the animals are bred on basis of secondary signs of oestrus, the possibility of conception is less. For optimum fertility, the animals are bred in standing heat, i.e., when the animal stands still to be mounted by other fellow animals.

Uterine Infection: The conception rate is severely affected by uterine infections. Clinical cases of uterine infection are often easily diagnosed by clinical signs like pus mixed mucus discharge and hence can be treated timely. Since sub-clinical cases are difficult to diagnose, they remain untreated and have an adverse effect on the conception rate.

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Improper Insemination Technique: Deposition of semen at the correct site using the correct technique is of utmost importance for ensuring optimum conception rate. The site of semen deposition in cattle is the uterus whereas in goats, semen is deposited in the external os of the cervix.

Embryonic Mortality: Early embryonic death occurs due to excessive weight loss or poor body condition, heat stress, protein deficiency and obesity in animals. The deficiency or imbalance of calcium, phosphorus, vitamins A, D, E and carotene are critical for reproduction and embryonic survival.

General Guidelines for the Treatment and Management of Repeat Breeding Animals

- (i) As already discussed in AM/PM rule, AI should be done ideally 12 hours after the onset of oestrous. Repeat breeding due to improper timing of AI is often taken care of by inseminating twice at a 12 or 24-hour interval.
- (ii) Energy deficient animals are supplemented with an energy rich diet. Trace minerals are vital for fertility hence, mineral deficiency is corrected by mineral supplementation, 20–30 g twice daily orally.

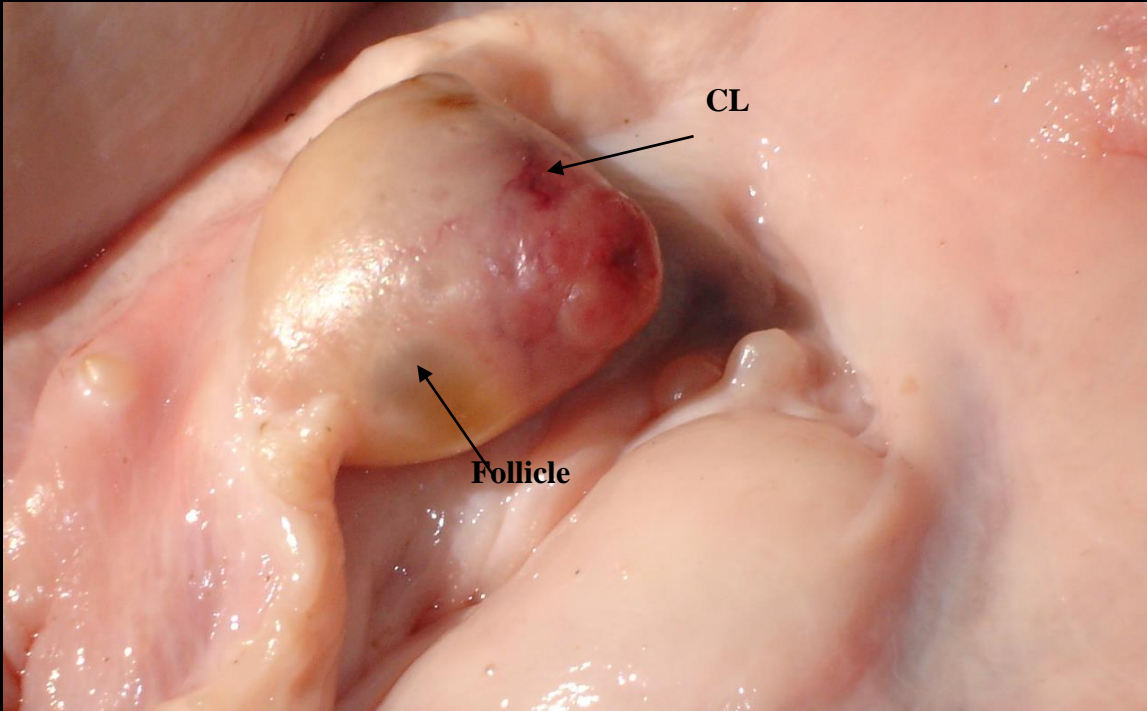
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- (iii) Gross overfeeding of grains is avoided. If possible, the cows are provided with adequate amounts of fresh forage.
- (iv) Uterine diseases should be diagnosed by testing of blood samples and uterine swabs for presence of microorganisms. Sexual rest of one oestrus cycle helps in the elimination of mild infection.
- (v) Semen quality is usually taken for granted. A system should be made for periodic checking of semen quality.

Anoestrus

This is a condition wherein the animal does not exhibit signs of oestrus in the stipulated time. Based on ovarian activity, anoestrus is also classified as true or functional anoestrus.

In true anoestrus, the ovaries are smooth and inactive and no palpable structure (corpus luteum or follicles) is present in either of the ovaries on repeated per-rectal palpation at 11 days interval. In functional anoestrus, a corpus luteum will be present on at least one instance when palpation is performed at an 11-day interval.



Ovary showing corpus luteum and follicle



Smooth ovaries showing no palpable structure

General guidelines for the management and treatment of anoestrus

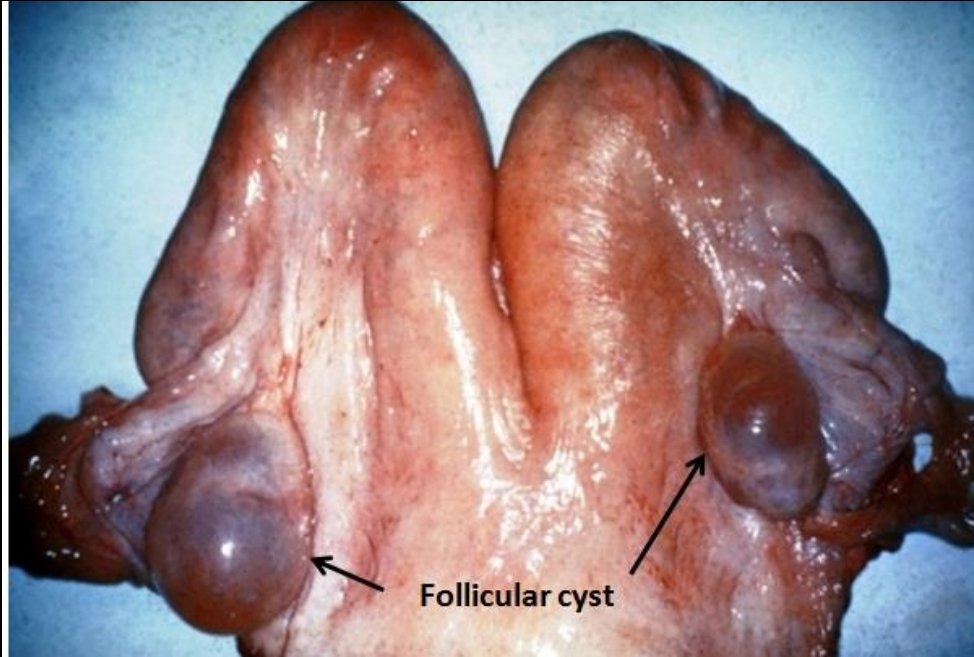
- (i) Systematic recording of oestrus and other reproductive events is carried out so that all the oestrus animals are detected timely.
- (ii) Closely observe cows for heat twice or thrice in a day for at least 20 minutes each time. Oestrus detection is done preferably during cooler parts of the day as heat signs will be more prominent in the evening and early morning than at midday.
- (iii) If the cows are in confinement or stanchions, they are turned out in the paddock, at least twice daily.

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- (iv) If possible, oestrus detection aids like teaser bulls, heat mount device, CCTV camera, etc., are used.
- (v) The suspect cows are examined per-rectally at least twice at an 11-day interval to determine the presence or absence of any palpable structure on the ovary and ascertain the cause of anoestrus.
- (vi) The animals should be fed a balanced diet. Mineral deficiency should be corrected by supplementation with commercial mineral preparation at the dose rate of 20–30 g twice daily.
- (vii) Problem animals should be examined for uterine abnormalities and infections, as the animals may go anoestrus in such conditions.

Cystic Ovaries

- Ovarian cysts are characterised as follicles greater than 2.5 cm (approximately 1 inch) in diameter remaining on an ovary for more than 10 days. It is one of the major reproductive disorders affecting the fertility of animals.
- Cystic ovaries are associated with clinical signs like frequent, prolonged and irregular oestrus signs, abnormally raised tail head and masculine (male like) appearance. Animals suffering from cystic ovaries remain infertile till properly treated and have a negative impact on fertility.



Cystic ovaries in cattle



Raised tail head in cow with cystic ovaries

Infections of Female Reproductive Tract

Female genital tract infections are associated with conception failure.

Hence, attention should be paid to their early diagnosis and treatment. They are manifested by foul smelling pus mixed with genital discharge.

The microorganism present on the animal's body and surroundings may gain entry into its reproductive tract during heat period, at the time of mating with an infected bull or insemination with an unhygienic instrument.

Abortions

The term abortion refers to expulsion of the foetus before completion of normal duration of pregnancy.

The aborted foetuses are usually dead or they die within 24 hours of expulsion from the uterus. If the abortion tends to occur within the initial two months of pregnancy, the embryo is usually reabsorbed by the uterus and the animals do not show any clinical sign. Such cases are often called early embryonic deaths.

If abortion occurs after two months, a foetus of recognisable size and placenta is expelled.



Aborted buffalo calf with placenta

Possible Causes of Early Abortions

- Early abortion is mainly caused by diseases called trichomoniasis and vibriosis.
- In later stages, abortions are mainly caused by Brucella organisms and IBR viruses.
- Abortion can also occur due to injury during fighting, mounting, sudden fall, etc. Chronic diseases like parasitic infection, malnutrition, tuberculosis, etc. are also responsible for abortion in animals.

Measures for Preventing Abortions

- (i) Regular testing of animals for abortion-causing microorganisms.
- (ii) All newly purchased animals should be tested before entry into the existing herd. Ideally, newly purchased animals should be kept in a separate place, away from the main herd, for at least 60 days before their induction into the main herd. During this period, they should be screened for infectious diseases.
- (iii) Pregnant animals should not be kept in the same paddock along with non-pregnant animals, as fighting and mounting activity may lead to abortion.

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- (iv) The aborted material especially stomach content and tissue of foetus and placenta should immediately be sent to the laboratory for diagnosis.
- (v) The aborted foetus should immediately be disposed off by burying in the ground along with lime and salt.
- (vi) The cattle shed should immediately be disinfected.
- (vii) The cow, which has aborted, should immediately be segregated from the herd till it is confirmed negative for infectious organisms responsible for abortion.

Summary

- In this session you have learnt about
- Management of unproductive animals
- Repeat Breeding animals and their management
- Anoestrus animals and their management
- Cystic Ovaries
- Infections in female reproductive tract
- Abortions in dairy animals their possible causes and preventive measures.

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