

JOB ROLE – ANIMAL HEALTH WORKER

Sector – Agriculture

(Qualification Pack Code: Ref.Id.AGR/Q4804)

Class X



PSS Central Institute of Vocational Education
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UNIT 4: Implementation of Animal Breeding Services in Dairy Animals

Session 2: Basic Reproductive Anatomy

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Session Objectives

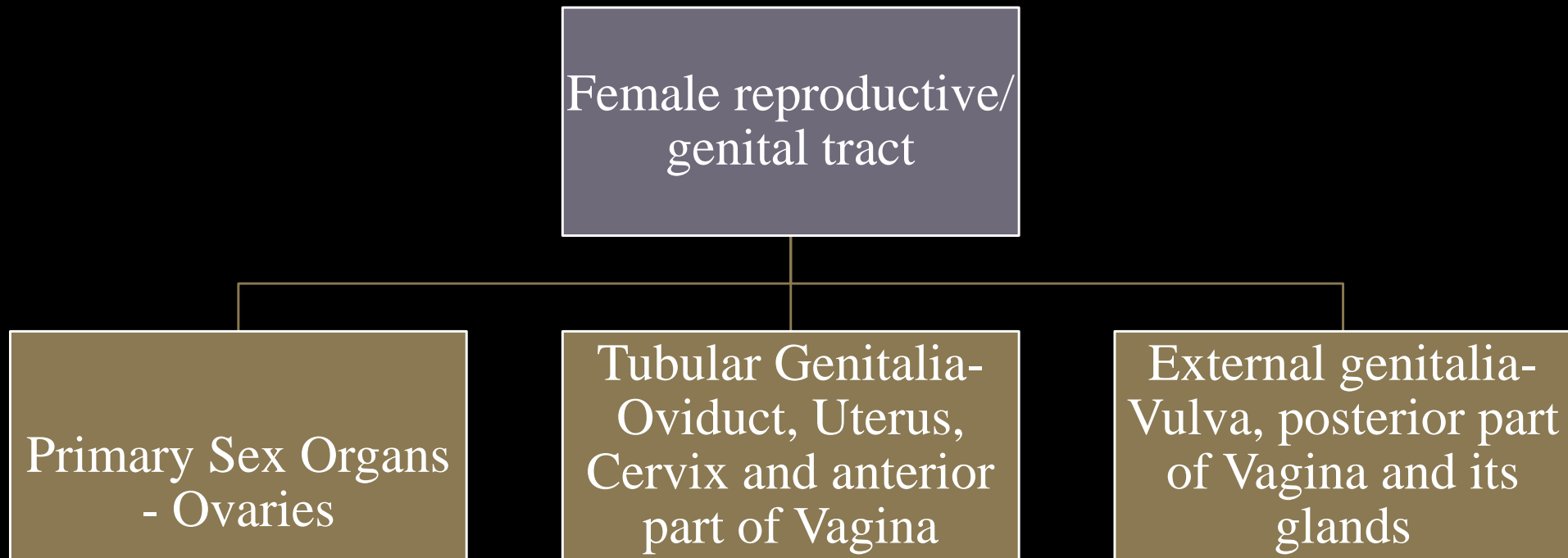
The student will be able to :

- Understand the dairy animal's physiology and reproductive anatomy system
- Reproductive anatomy of cattle and buffalo

Introduction

- The knowledge of the reproductive physiology and anatomy is the basic requirement for good dairy management, because all products from dairy farms such as calves, heifers and milk depend on the reproductive efficiency of the dairy animals.
- Maximum reproductive efficiency is a precondition for economical milk production

Basic Reproductive Anatomy

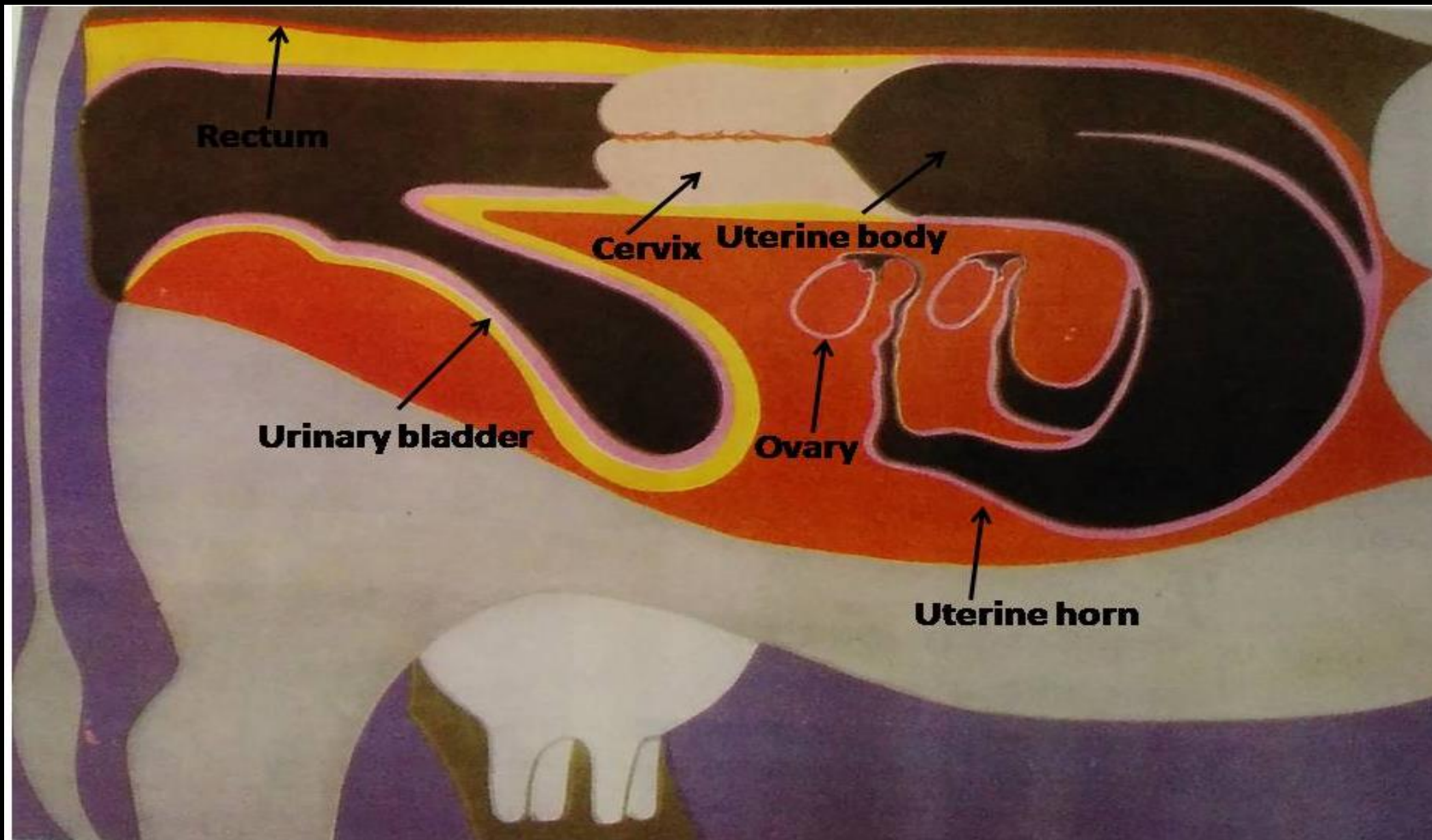


The Reproductive Anatomy of Cattle and Buffalo

The animal health workers should be well-versed with the anatomy and physiology of female reproductive organs.

The reproductive tract of farm animals can be discussed under the following heads.

- Primary sex organs (ovaries)
- Tubular genitalia



A sketch of the female reproductive tract in cattle

Primary Sex Organs (Ovaries)

- Ovaries are the primary sex organs in a female.
- They are paired organs and contain follicles, produce ova and secrete hormones like estrogen, progesterone, etc.
- The ovum is fertilized by spermatozoa forming embryo, which subsequently develops into an offspring.

Tubular Genitalia

Oviduct/Fallopian tube consists of three parts namely, infundibulum (funnel shaped), ampulla and isthmus. The oviduct performs the unique function of simultaneously conveying eggs and spermatozoa in opposite directions.

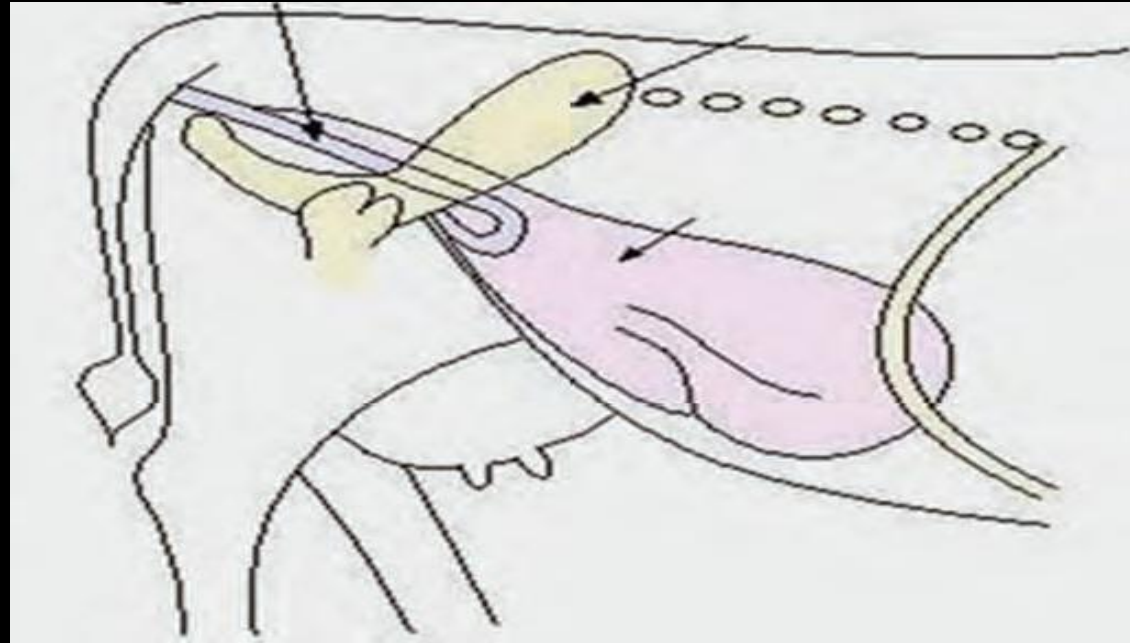


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Uterus: It is a hollow muscular organ consisting of body and two horns. The uterus can enlarge and extend itself to accommodate the foetus during pregnancy and again reduce following parturition to its original size and form



The uterus of a cow

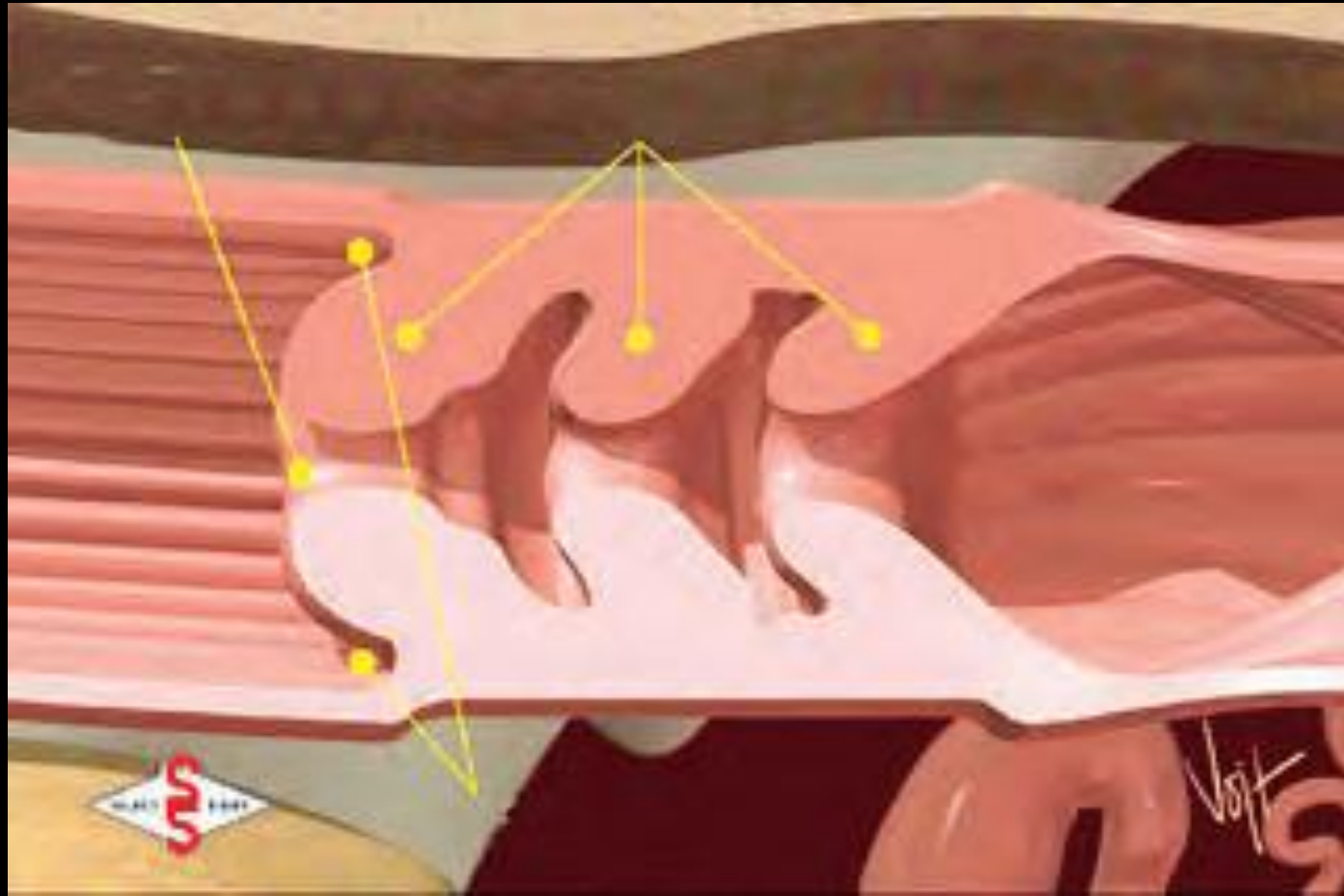


comparative growth of a uterus in non-pregnant and pregnant animals

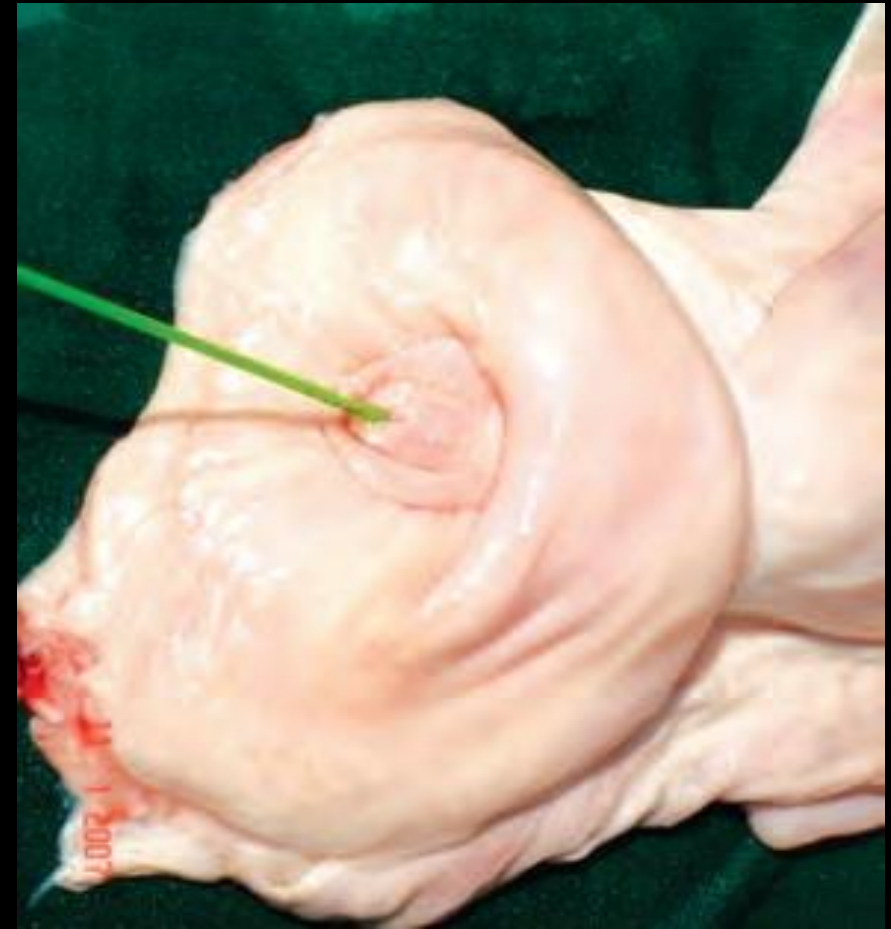
Cervix: It is a cylindrical part of the female reproductive tract. The cervix performs the following functions.

1. Acts as a barrier to prevent the entry of infection in uterus.
2. Acts as a reservoir for sperms.
3. Forms a pregnancy seal by secreting thick mucus during pregnancy i.e., 'cervical plug'.
4. Is responsible for expulsion of foetus during parturition.

Vagina: It is a hollow tubular structure. It is the organ of copulation in female animals.



cervical folds



external os of cervix
marked with a green straw

External Genitalia

- Vulva is the external part of the female genital tract. It has closed vulvar lips.
- The vulva lies just below the anus. When the vulvar lips are separated, a round rudimentary structure, known as clitoris lies on the floor.
- Clitoris is homologous to the penis in male animals. The vulva of a cow has tuft of hair on its lower aspect.



Tufts of hair on the vulva of cow



Tufts of hair absent on buffalo's vulva

Summary

In this session students have learnt about

- The dairy animal's physiology and reproductive anatomy system
- Reproductive anatomy of cattle and buffalo

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