Learning Objectives

- To be able to describe the female reproductive system in cattle.
  - Structure
  - Function

Equine - Horse

- Male  ➔ Stallion
- Female ➔ Mare

Bovine - Cattle

- Male ➔ Bull
- Female ➔ Cow

Ovine - Sheep

- Male ➔ Ram
- Female ➔ Ewe
**Porcine - Swine - Pig**

- Male: Boar
- Female: Sow

**Avian - Chicken**

- Male: Rooster
- Female: Hen

**Broad Ligament**
- Connective tissue sheet which supports and suspends the reproductive tract.
Ovary - Primary Sex Organ

- Functions
  - Hormonal
    - Estrogen
    - Progesterone
  - Female gamete
    - Oocyte
Functions of Oviduct

- Gamete Transport
  - Sperm
  - Oocyte
- Supports early embryo development
- Transport of embryo to uterus

Oviduct

- Uterine Horn
- Isthmus
- Ampullary-Isthmic Junction
- Infundibulum (20 - 30 cm²)

Oviduct Histology

- Ciliated Columnar
- Nonciliated Columnar

Functions of the Uterus

- Muscle contractions
  - Transport sperm
  - Expel fetus and placenta
- Absorption and phagocytosis
- Partially prepares sperm for fertilization
  - Capacitation
- Provides environment for embryo and fetal growth
- Hormone production
  - Prostaglandin F2α production

Uterus (bovine)

- Bicornuate
  - Poorly to moderately developed uterine horns
  - Uterine body
  - One cervix
**Caruncles**

**Uterine Histology**

- **Endometrium**
- **Perimetrium**
- **Myometrium**
- **Endometrial Glands**

**Functions of the Cervix**

- Transport of sperm
- Barrier to sperm (species dependent)
- Reservoir for sperm
- Blocking bacterial invasion during pregnancy
- Birth canal

**Cervix**

- Cervix is composed of thick connective tissue
- Mucus is secreted near the time of breeding and ovulation.

**Cow**

- Cow has 4-5 annular rings

**Ewe**

- External Cervical Os
- Internal Cervical Os
- Cervical Ring
- Fornix
- Anterior Vagina
Functions of the Vagina
- Copulatory organ
- Glands secrete lubrication
- Birth canal
- Glands secrete pheromones

Vagina
- Anterior Vagina
- Posterior Vagina (Vestibule)
- Cervix
- Columnar Epithelium
- Urethra
- Vulva-Vaginal Sphincter
- Stratified Squamous Epithelium
- Mucosa
- Submucosa

Posterior Vaginal Histology
- Stratified Squamous Epithelium
- Mucosa
- Submucosa

Function of External Genitalia
- Labia
  » Closes entrance to vagina
- Clitoris
  » Female sensory organ

External Genitalia of the Cow
- Anus
- Vulva
- Labia
- Clitoris

Phenomena For Fertility
- vagina dentata - a vagina with teeth
- female bedbug - no vagina
- hysterectomy - if woman went to long without becoming pregnant then uterus would wonder in body causing hysteria and other distresses
- hyena - clitoris is very large and looks like the male penis; female also has a false scrotum (labia); female is the dominate sex and produces more testosterone than male