

Sheep Reproductive System Student Notes - Answer Key

Male and Female Reproductive System

- The reproductive process between sheep depends on the right conditions of both a **ram** (male) and **ewe** (female)
- Male factors include:
 - Ability to **mate**
 - The **physical** willingness
 - Ability to produce normal **sperm** in adequate numbers
- The female factors include:
 - The anatomical and physiological workings of the reproductive system must **function properly**

Female Reproduction Parts

- Vulva
- **Vagina**
- Cervix
- **Uterus**
- Ovaries
- **Fallopian Tubes**

Vulva

- **External** genitalia of the female sheep
- 2 parts: **vestibule** and **labia**
- Vestibule: **inner** part
- **Labia**: outer, visible part

Vagina

- Located between **cervix** and vulva
- During breeding, **sperm** is deposited here by the ram
- Provides a protected passage or **birth canal** for fetuses to move from uterus to the outside
- Serves as exit for **urine**
- Moist while in **heat**

Cervix

- Connects the **vagina** and **uterus**
- Made of fibrous **cartilage**
- During fertilization and birth, the cervix is relaxed or **open**
- Helps to protect the **uterine environment**

Uterus

- Is **Y** shaped with the horns longer than the stem
- The uterine body is located at the junction of the two uterine **horns**
- Primary function is **reproduction**

- Houses the **fetus** until ready to be delivered

Ovaries (aka female gonads)

- Source for both **reproductive hormones** and **eggs** (ova)
- Follicles become larger and will release the eggs (ovum) at estrus

Oviduct or Fallopian Tubes

- Eggs are released from follicles and **pass through** the fallopian tubes into the uterus

Estrous Cycle

The estrous cycle is divided into four different stages:

- **Proestrus**
- **Estrus**
- **Metestrus**
- **Diestrus**

First Stage: Proestrus

- First stage is a preparatory period
- Lasts **2-3** days
- Several **follicles** in the ovaries start to grow
- Males show an interest in the female, but she will be **unreceptive** to them

Second Stage: Estrus

- This is the active breeding phase "**heat phase**"
- Lasts from **24-36** hours
- Eggs are released from the **ovary** and travel down the oviduct
- Males will be attracted to and **attempt to mate** with the female
- Female will allow them to **mount** her, resulting in intercourse
- Signs of a ewe in heat: **frequent urination, vocalization**, restlessness, allowing to be mounted, swelling and redness of vulva, **tail wagging**, seeking out ram, **vaginal discharge**

Third Stage: Metestrus

- The **period between heat cycles** characterized by no outward physical or behavioral signs of sexuality

Fourth Stage: Diestrus

- Extends from the time when the female ewe is no longer receptive to the male to the end of **pregnancy**
- In cycles in which a pregnancy did not occur, diestrus will last for a period of up to **10-12** days
- There is no **sexual activity**

Male Reproduction Parts

- **Penis**

- Urethra & accessory sex glands
- **Vas deferens**
- Scrotum
- **Epididymis**
- Testis or testicles

Penis

- Responsible for **transfer of sperm** into the female
- Tough fibroelastic tissue supplied with **blood** and nerves
- Penis is enclosed within the **prepuce**, sheath of skin covering it
- Passage way for **semen** and **urine**

Accessory Sex Glands

- 3 glands: **vesicular**, **prostate**, bulbourethral
- Function: produce **seminal fluid**
- Spermatic fluid and spermatozoa form semen

Urethra

- Common to urinary and reproductive systems for transport of both **semen and urine**
- Responsible for final delivery of **semen** to the doe

Vas Deferens

- Muscular tube that at ejaculation propels the **sperm** from the tail of the **epididymis** on the testes and into the **urethra**
- Moves sperm from the epididymis to the urethra

Scrotum (scrotal sac)

- Where the **testicles** are located
- Pouch that helps to **protect** and **regulate temperature**
- Remains very close to the **body**

Epididymis

- Tightly adhered **tube** outside the testicles
- Highly **coiled** tube
- The sperm is **stored**, **nourished** and **matures** in this tube
- Sperm passes to the **vas deferens** through this

Testicle (testis or male gonads)

- Produce **sperm** and the male sex hormone **testosterone**
- **Testosterone** is required for proper function
- **Main reproductive organs** of a ram
- For sperm production, testes must descend into the scrotum because regular body temperature is **too high** for sperm to develop normally