University of Idaho Extension
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Parts of Reproductive Systems

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Goal (learning objective)

Youth will learn what the major female and male reproductive structures are and functions in beef, sheep, swine and goat.

Supplies

- Copies of Handout 1 "Beef Reproductive Systems" (make enough copies for group)
- Copies of Handout 2 "Sheep Reproductive Systems" (make enough copies for group)
- Copies of Handout 3 "Swine Reproductive Systems" (make enough copies for group)
- Copies of Handout 4 "Goat Reproductive Systems" (make enough copies for group)
- Paper (enough for group)
- Pens (enough for group)

Pre-lesson preparation

- Make photocopies of Handouts 1, 2, 3 and 4 - assemble into a packet for each member
- Read/Review lesson
- Read/review handouts
- Be familiar with reproductive systems terminology

Lesson directions and outline

Share the following information with the youth:

This is basic anatomy identification with just brief explanation of the functions and their importance in reproduction. Why is reproduction important? Reproduction impacts livestock production and for 4-H members, that means market project selection. Reproduction also impacts food, milk and fiber production.

Female reproductive parts overview:

- The female reproductive parts (major structures) include: ovaries, oviducts, uterus, cervix, vagina, and external parts.
- Eggs are produced by the ovaries. After an egg is fertilized it will pass through the oviduct to the uterus.
- The uterus is the place where the fetus develops. There are several types of uterus and complexity varies by species. For example, swine have a highly developed bicornuate uterus because they are litter bearing while humans have a simplex uterus.
- Certain livestock species have unique cervical shape to match the males' reproductive parts, such as the sow has a cervix with rings that interlock to fit the boar's corkscrew shaped penis.

Male reproductive parts overview:

- The male reproductive parts (major structures) include: spermatic cord, testes, epididymis, accessory sex glands, and the penis.
- The spermatic cord plays a role in temperature regulation (cremaster muscle)
- Temperature affects sperm production and health.
- Again, certain livestock species have unique penis shapes to interlock with the female's cervix.

Conducting the activity (DO)

1. Ask for a volunteer to distribute a packet of Handouts 1,2,3, and 4 to each member.
2. Ask for a volunteer to distribute pens and paper to each member.
3. Have members divide into small groups (ideally one member from each species)
4. Have members discuss the reproductive systems of each species, notate any similarities and differences.
5. Have members as a group reflect on the following questions:
   a. Why is it important to understand reproductive systems?
   b. How does this information help you as a producer?
   c. How is project animal selection impacted by reproduction?
6. After the groups have worked through the activities do a group discussion. Ask groups to share their findings and answers.

What did we learn? (REFLECT)

- Ask: What are the major structures of the female reproductive tract?
- Ask What is fertilization?
- Ask: Is there just one type of uterus?
- Ask: What are the major structures of the male reproductive tract?
- Ask: Why is temperature regulation important for males?

Why is that important? (APPLY)

- Ask: Why is reproduction important and how does it affect you?
- Ask: What would happen without reproduction?

Resources

Ohio State University Extension. (2011). Reproduction and Genetics. *Beef resource handbook* (pages 6-2 through 6-3).

Ohio State University Extension. (2008). Reproduction. *Goat resource handbook* (pages 35-39).

Ohio State University Extension. (2011). Reproduction and Genetics. *Sheep resource handbook for market and breeding projects* (pages 119-123).

Ohio State University Extension. (2000). Selection of Breeding Stock. *Swine resource handbook for market and breeding projects* (pages 15-1 through 15-16 and 18-3).

Senger, P.L., (2003). Pathways to Pregnancy and Parturition. Second revised edition. Chapter 1 (page 1) and Chapter 6 (pages 132-141).

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REPRODUCTION: PARTS OF REPRODUCTIVE SYSTEMS – HANDOUT 1

BEEF REPRODUCTIVE SYSTEMS

REPRODUCTIVE TRACT OF THE BULL

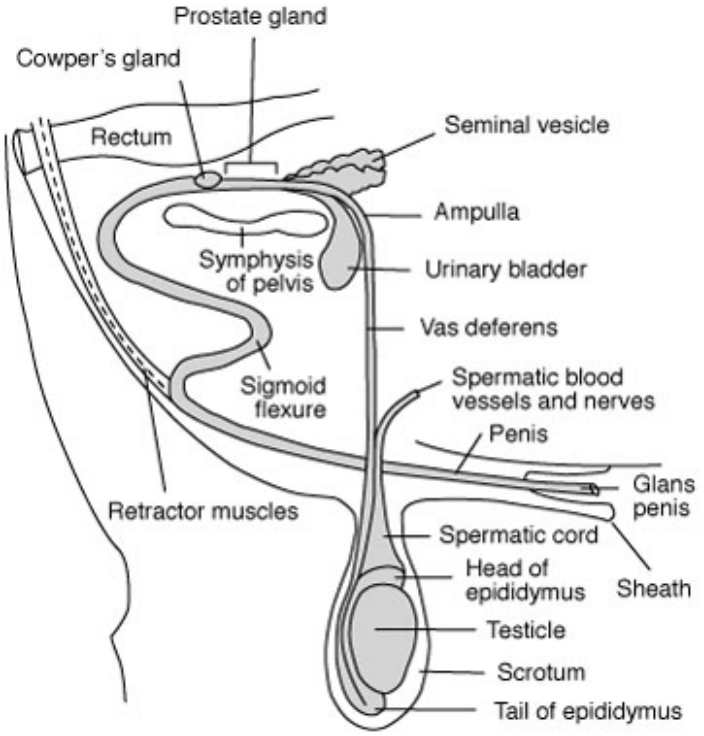


Image from: http://extension.missouri.edu/p/G2016

REPRODUCTIVE TRACT OF THE COW

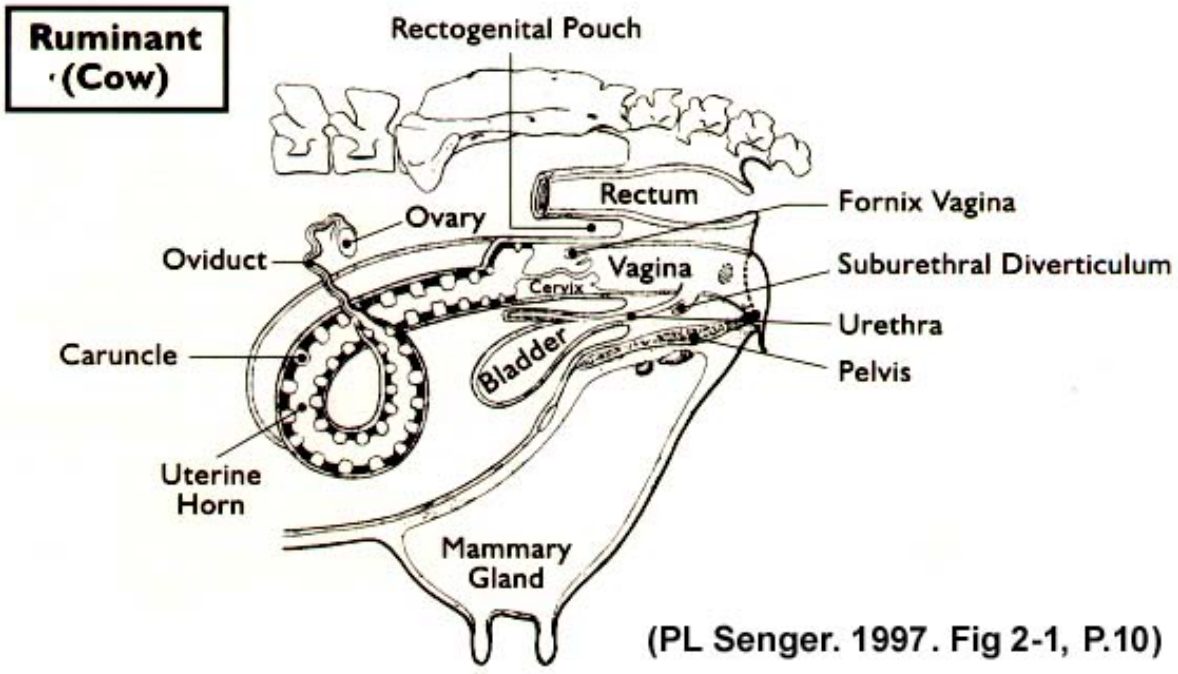
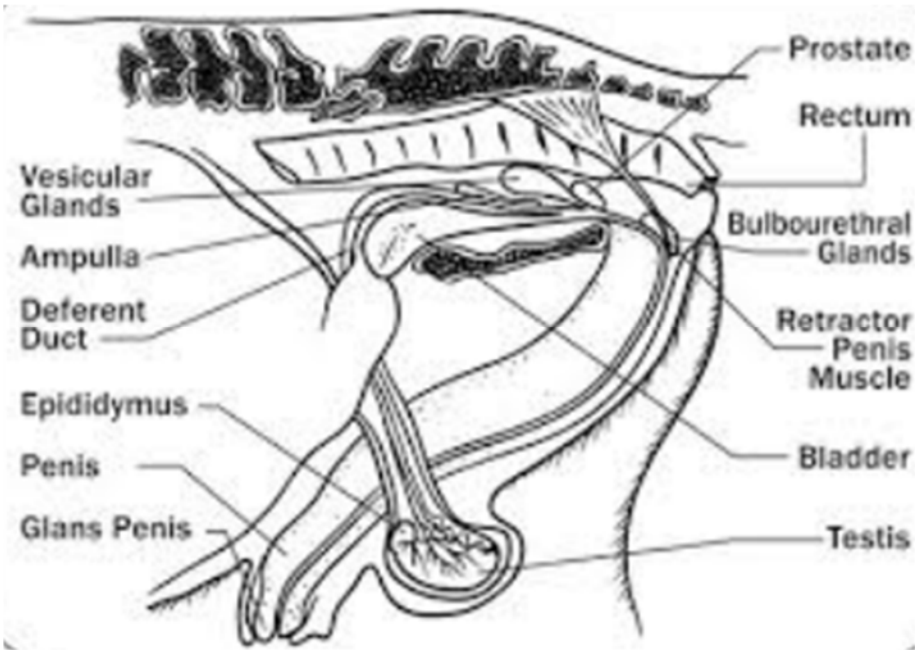


Image from: http://www.ag.auburn.edu/~bartoff/anatbov1.htm

REPRODUCTION: PARTS OF REPRODUCTIVE SYSTEMS – HANDOUT 2

SHEEP REPRODUCTIVE SYSTEMS

REPRODUCTIVE TRACT OF THE RAM



REPRODUCTIVE TRACT OF THE EWE

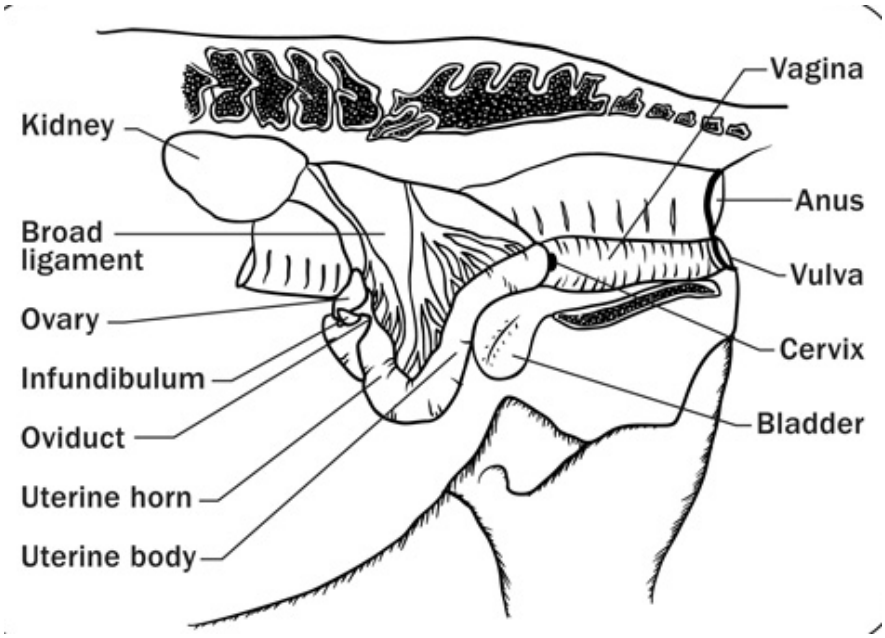
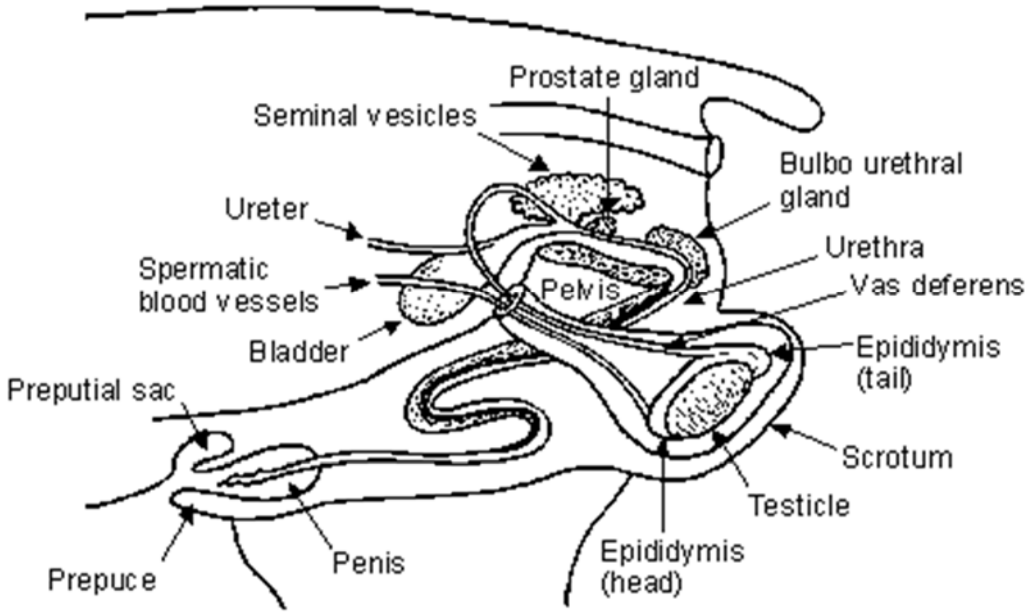


Image from: http://brookekruse416animalmanagement.weebly.com/sheep-and-goats.html

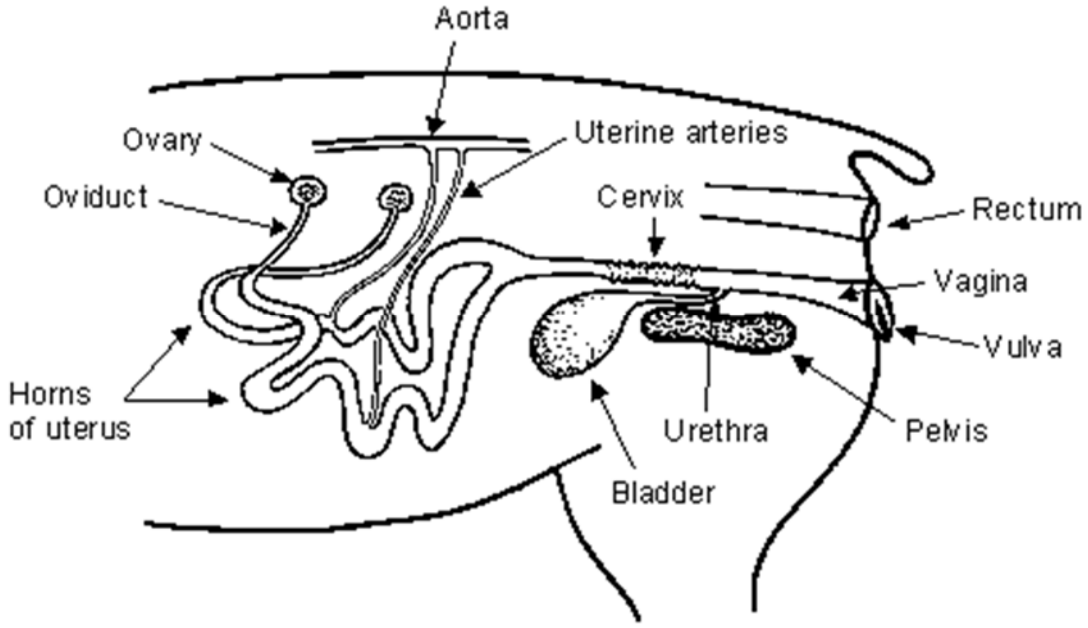
REPRODUCTION: PARTS OF REPRODUCTIVE SYSTEMS – HANDOUT 3

SWINE REPRODUCTIVE SYSTEMS

REPRODUCTIVE TRACT OF THE BOAR



REPRODUCTIVE TRACT OF THE SOW

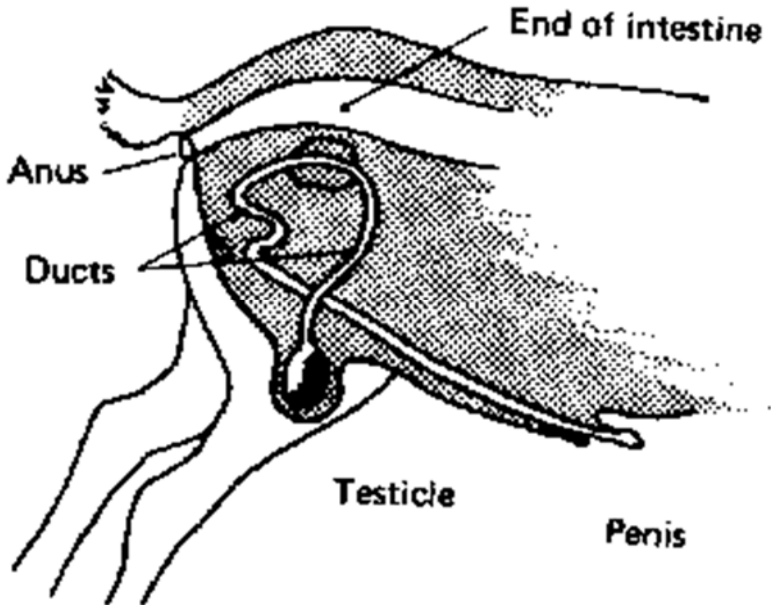


Images from: http://www.thepigsite.com/pighealth/article/8/reproductive-system/

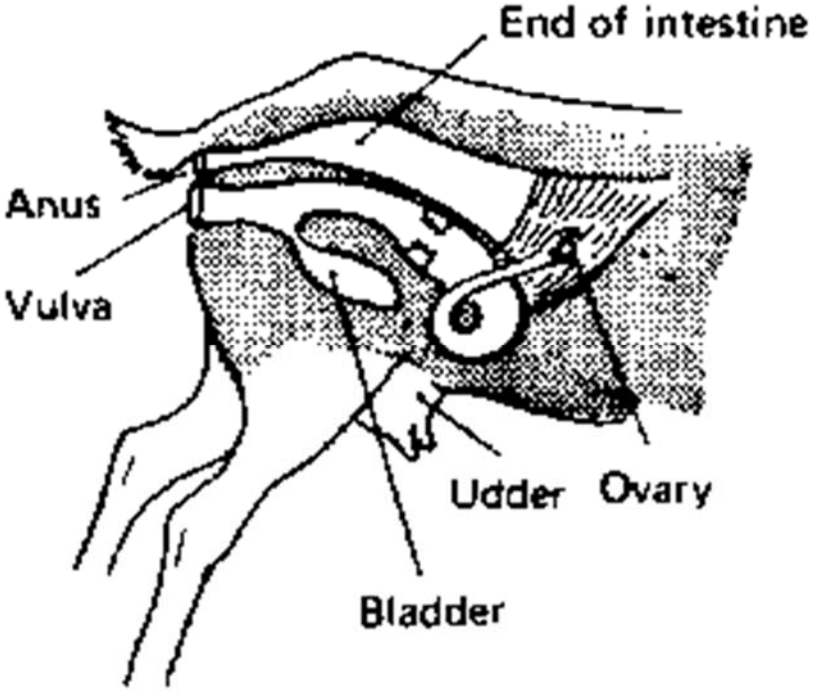
REPRODUCTION: PARTS OF REPRODUCTIVE SYSTEMS – HANDOUT 4

GOAT REPRODUCTIVE SYSTEMS

REPRODUCTIVE TRACT OF THE BUCK



REPRODUCTIVE TRACT OF THE DOE



Images from: http://www.appropedia.org/Original:Better_Farming_Series_12_Sheep_and_Goat_Breeding_10