The Reproductive System

Unit 3 – Anatomy and Physiology

Lesson 10 – The Reproductive System

Reproduction

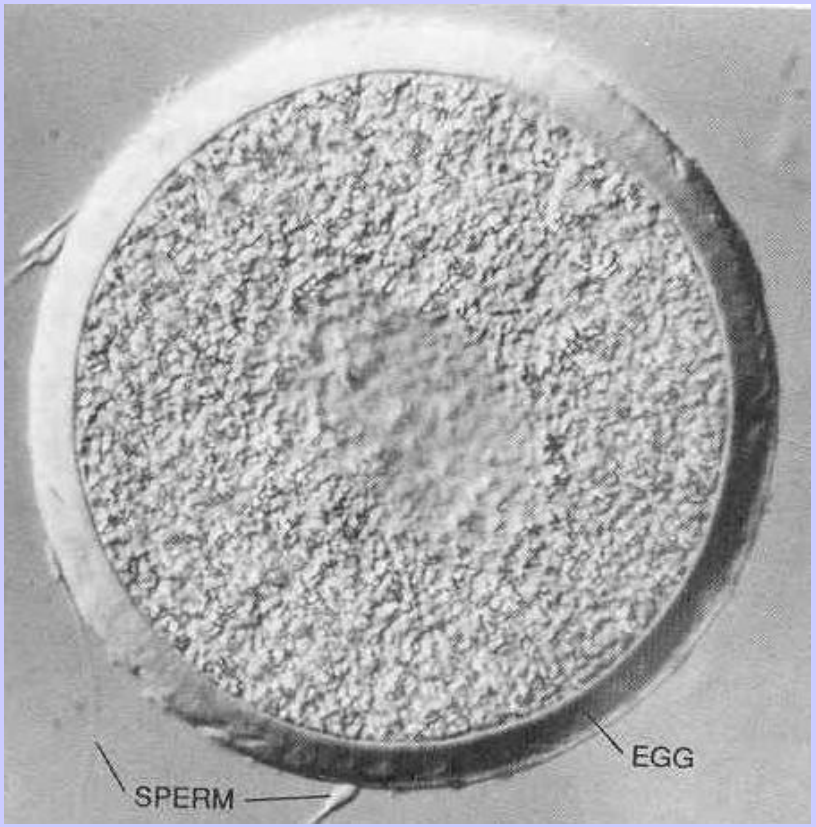
Reproduction is the process by which animals produce offspring.

- Parents are selected and mated to achieve certain goals with offspring
  - Example: Produce offspring with high milk productivity.
- The end result of reproduction is new animals that are raised for the products they produce
  - Example: Milk, eggs, meat, wool.

Reproduction

Sexual reproduction is the union of sperm and egg. Two parents are required. Most animals are produced with sexual reproduction.

- Sperm is the sex cell of male animals, produced in the testes.
- Egg, or ovum, is the sex cell of female animals, produced in the ovaries.



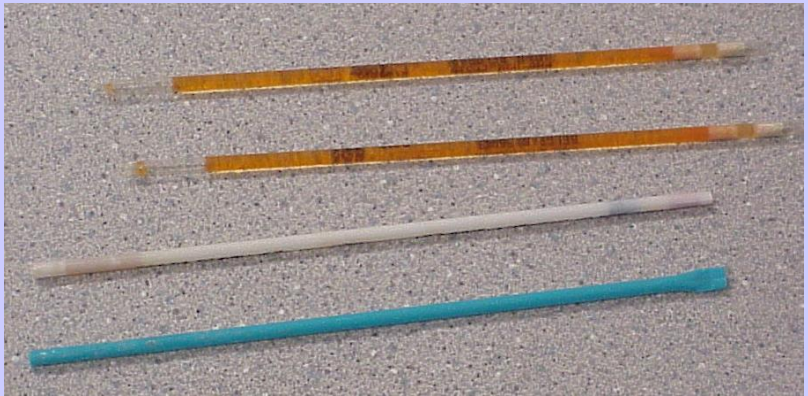
Fertilization

Fertilization is the process by which the union of sperm and egg occurs. It is also known as conception.

- Insemination is the union of sperm and egg; occurs in the female reproductive tract.
- After fertilization, the embryo attaches to the uterus for nourishment, develops as a fetus until it can live outside uterus, then it's born.

Fertilization

- Natural Insemination: When male and female mate, sperm is placed in the female's reproductive tract by copulation, or the mating process. Females are only receptive to males during the time in the estrous cycle known as heat.
- Artificial Insemination: Placing semen collected from a male in the female reproductive tract with special equipment. Must be done when the female is in heat.



P.I.G. Reality Show Trivia

1. What is the term for a castrated male sheep?

   Answer: wether

2. What is the term for a castrated male hog?

   Answer: barrow

3. What is the term for castrated male cattle?

   Answer: steer

4. What is the term for a castrated male goat?

   Answer: wether

5. What is the term for a castrated male horse?

   Answer: gelding

Sexual Classification

The condition of an animal based on its age and sexual condition. Includes animals that are both capable and incapable of reproduction.

- Animals can be made incapable of reproduction by removing the ovaries or testes or altering the condition of the reproductive organs.
- Castration: removal of testes from the male. Management process used on young male animals, promotes growth and development in more desirable ways.
  - Also known as emasculation and gelding.
- Neutering: process of making female incapable of reproduction. Ovaries of the female removed to render female incapable of reproduction.
  - Also known as spaying
  - Neutering also refers to male castration sometimes.
- Terms for sexual classification
  - Vary by species, age and gender

Sexual Classification

Species	Mature		Castrated Male
	Female	Male	
Cattle	cow	bull	steer
Hog	sow	boar	barrow
Sheep	ewe	ram	wether
Goat	doe	buck	wether
Chicken	hen	rooster	capon
Horse male female	mare	stallion	gelding

P.I.G. Reality Show Development Phases Competition

1. Prepuberty
2. Puberty
3. Gestation
4. Parturition
5. Lactation

Reproductive Development

Reproductive development of males and females follows fairly definite stages.

1. Prepuberty: The stage of a young animal before it is capable of reproduction. Sufficient development has not been reached for animal to reproduce.

Reproductive Development

2. Puberty: The stage when an animal reaches a level of sexual development where it is capable of reproduction.
   - Females: Estrous cycle results in release of mature eggs that can support mating, conception and gestation.
   - Males: Can produce viable sperm.
   - Age of puberty varies with species, nutrition and health condition.
     - Cattle (8-12 months)
     - Sheep (5-7 months)
     - Swine (4-7 months)
     - Horses (12-15 months)
   - Mating behavior
     - Males develop libido (desire to mate) and social status
     - Females are receptive to mating during heat

Reproductive Development

3. Gestation: Period when female is pregnant. Length varies with species

4. Parturition: Process of giving birth. Hormones are produced to support process and prepare for lactation.

5. Lactation: The secretion of milk by the mammary glands of females, initiated by hormone activity. Lasts for several months following parturition.