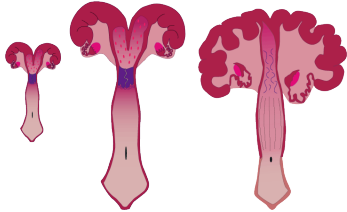
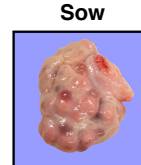
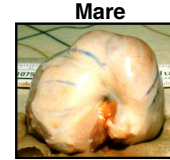
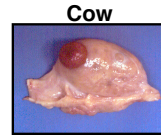


Animal/Dairy Science 434

Female comparative anatomy;
History of Reproductive Physiology

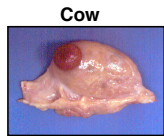


Ovarian Differences



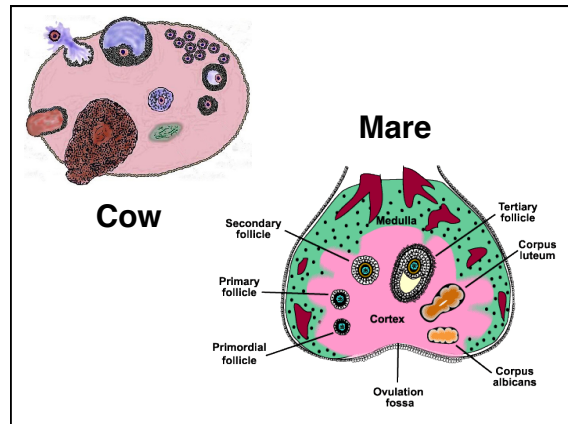
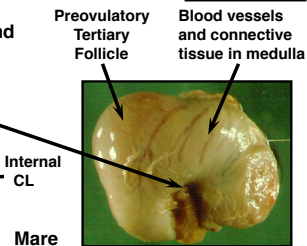
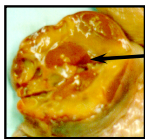
Cow, Sow, Ewe, Human

- Cortex on outside
- Ovulation can occur on any point of the ovary



Mare

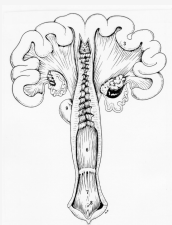
- Inversion of the cortex and medulla.
- Ovulation occurs at the Ovulation Fossa



Uterine and Cervical Differences



Cow



Sow

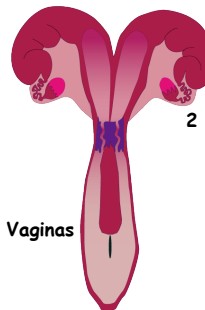


Mare

Duplex

Oposum

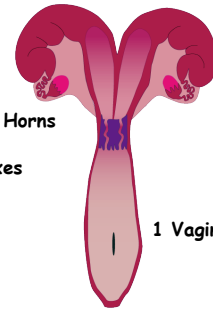
Rabbit, Mouse



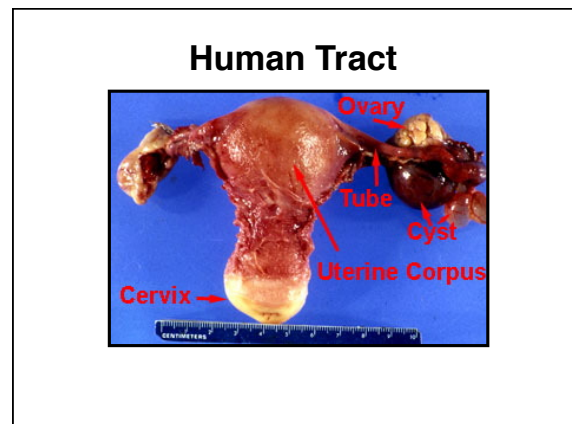
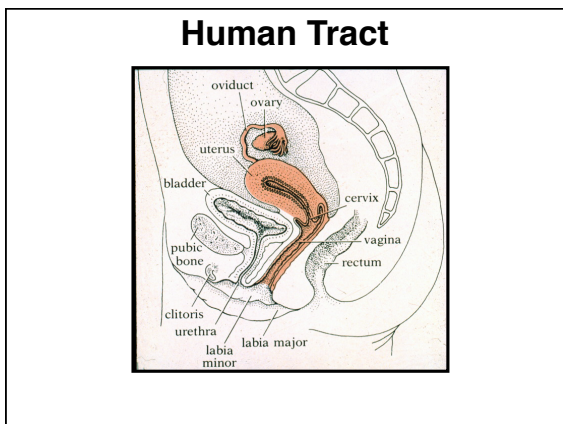
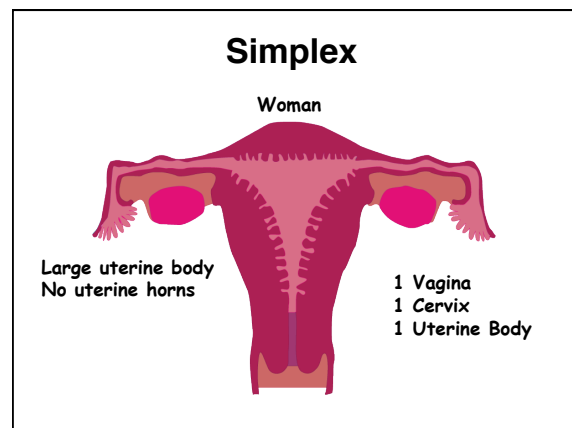
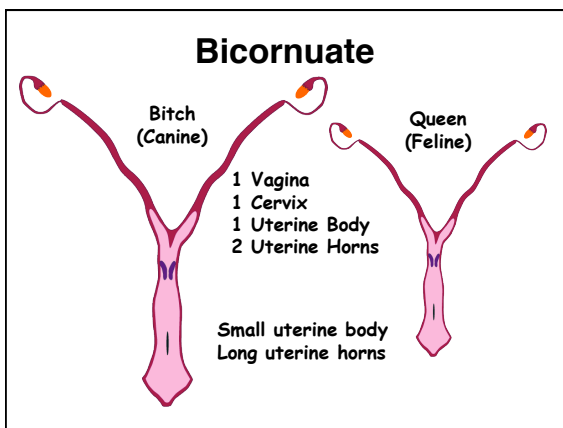
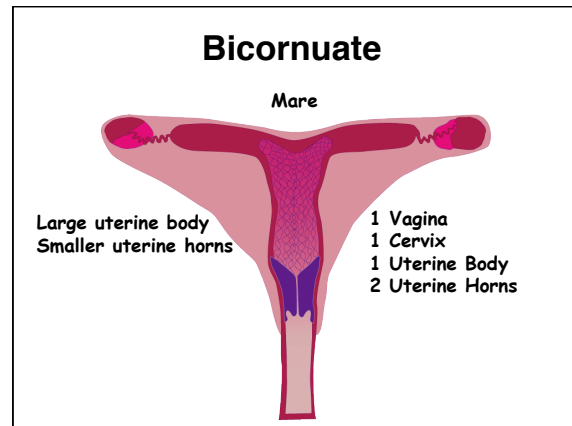
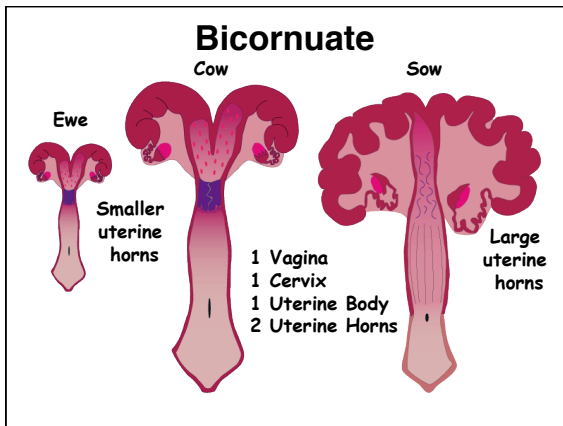
2 Vaginas

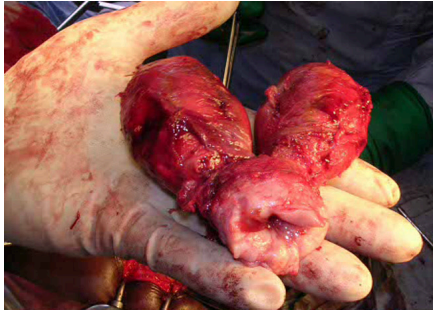
2 Uterine Horns

2 Cervixes

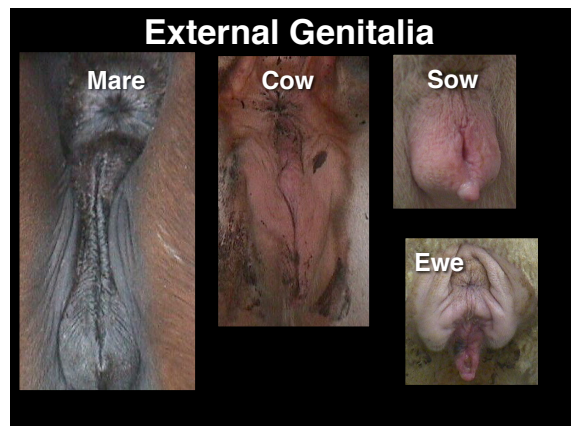
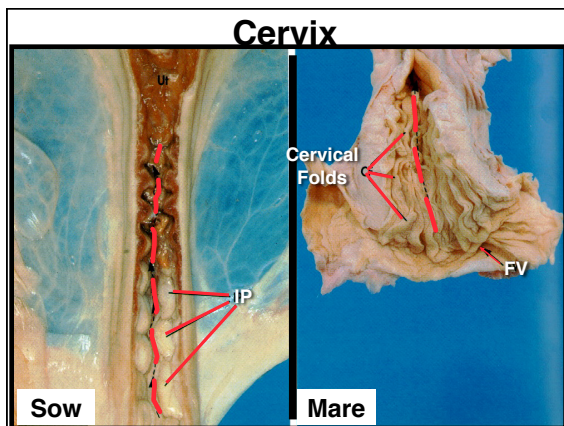
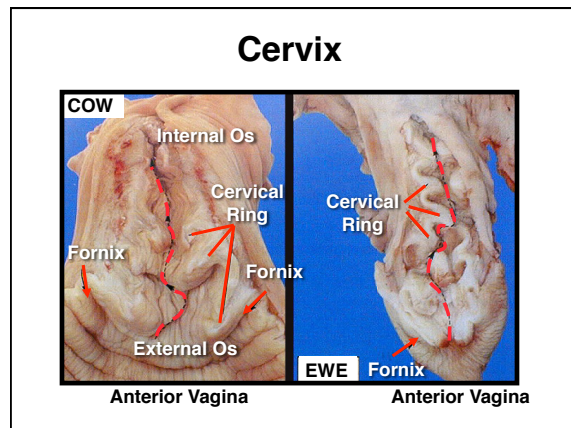
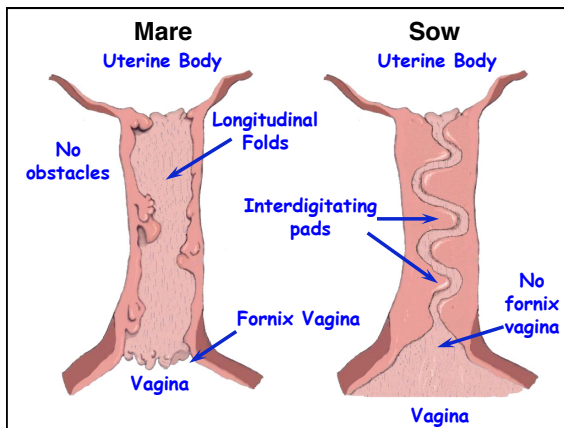
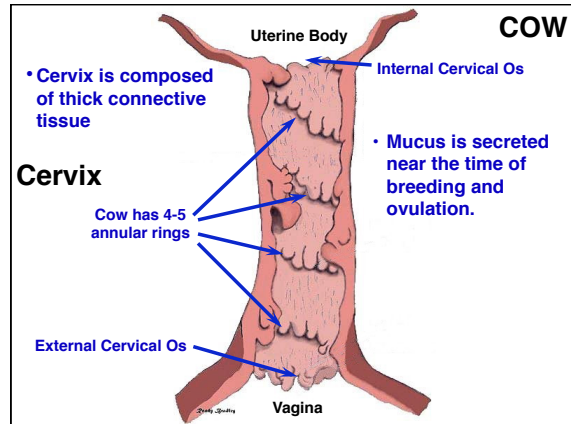


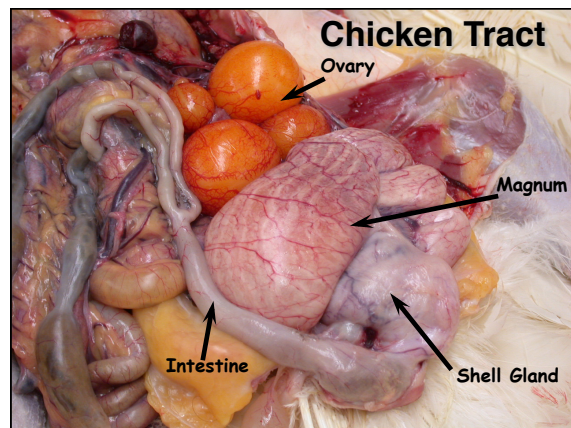
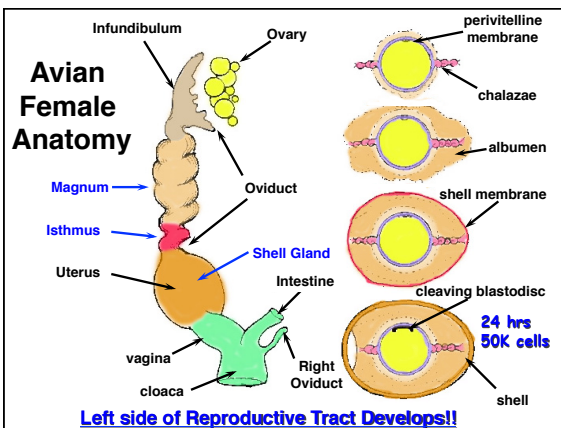
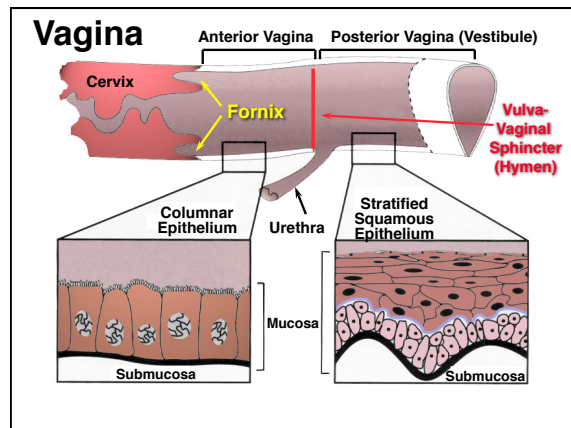
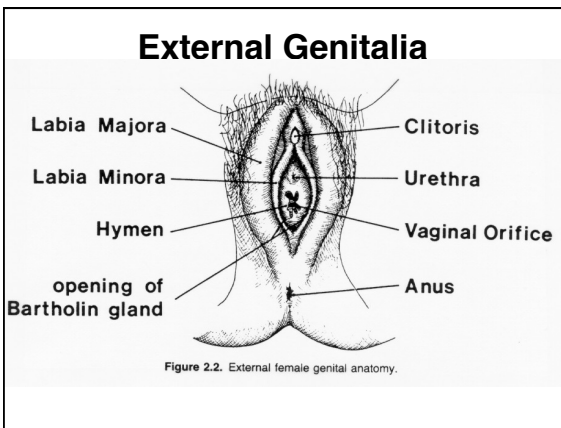
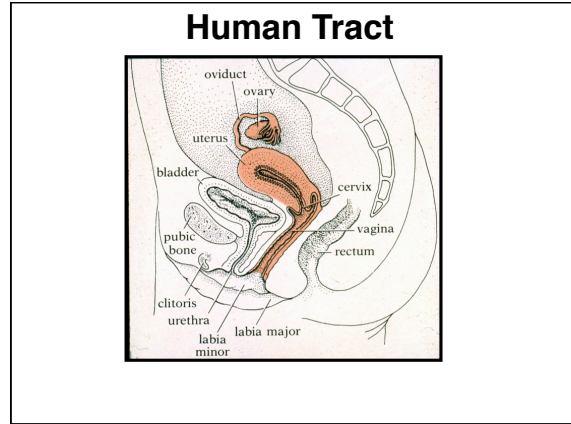
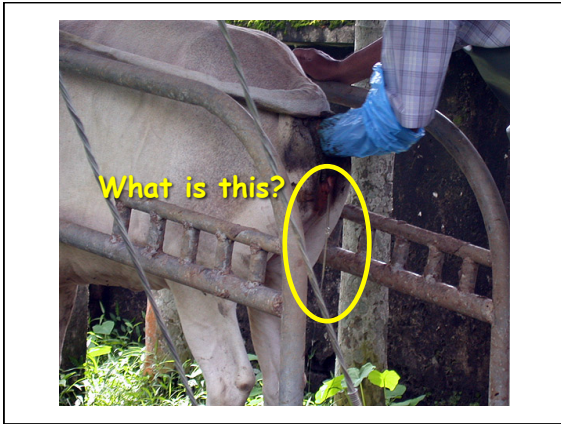
1 Vagina

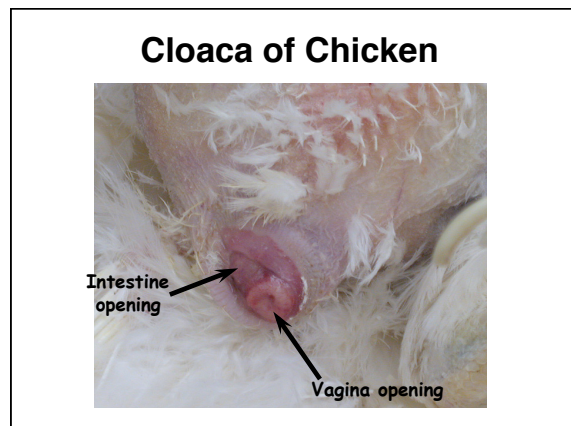
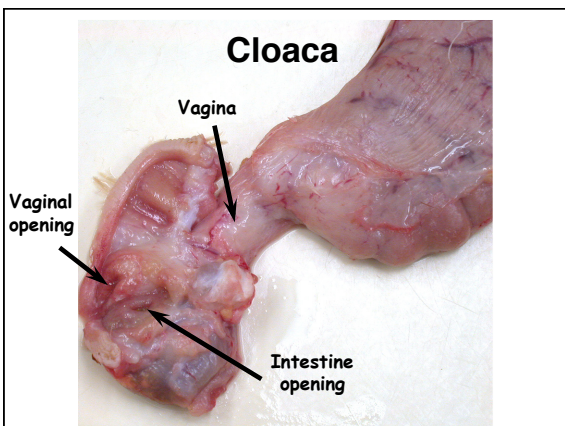
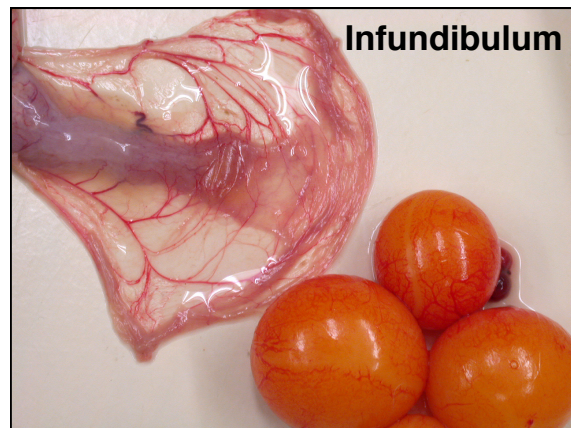
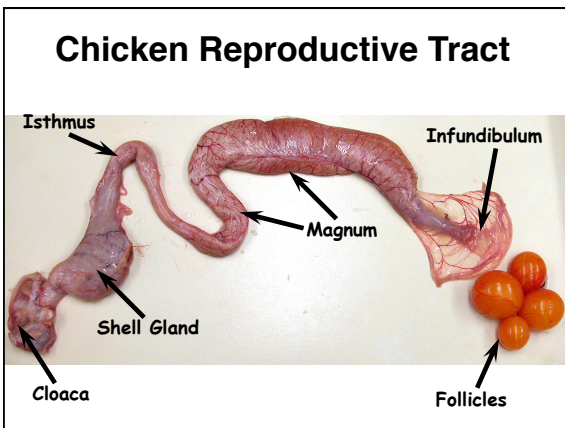
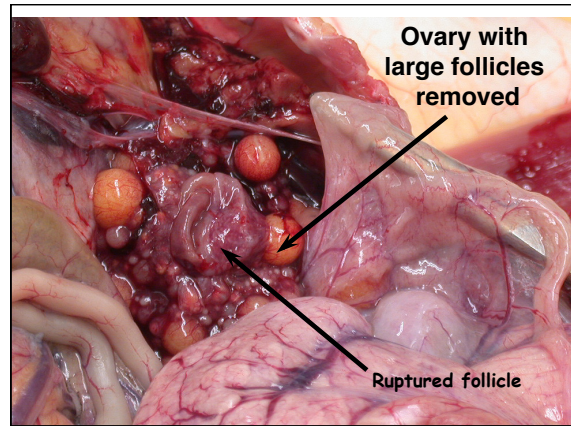
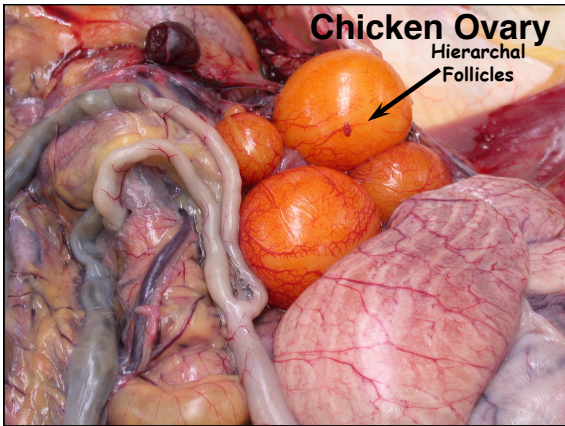




A 47-year old woman underwent a hysterectomy for excessively heavy menses. She had previously had four normal deliveries. This structure was removed, what is wrong?







Historical Development of Reproductive Physiology

Aristotle 384-322 BC

Generation
of Animals

- Fetus arises from menstrual blood
- Seminal plasma initiates the conversion of menstrual blood
- Semen from all parts of body

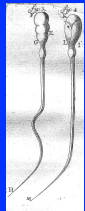
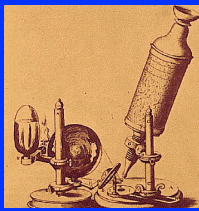
The Age of Gross Anatomy

- Fallopius (1562)
 - Describes the oviduct
- Coiter (1573)
 - Describes the corpus luteum
- Regnier de Graff (1672)
 - Describes the antral follicle (Graafian Follicle)

Development of the Microscope



- van Leeuwenhoek (1677)
 - Describes spermatozoa in semen



What is the role of spermatozoa?

- Spallanzani (1780)
 - Sperm were the fertilizing agent in semen
 - Successful artificial insemination of a dog
- Dumas (1825)
 - Proves sperm the fertilizing agent

Modern Reprod. Physiology

- Gonads produce steroid hormones
- Regulation of estrous cycles in females
- Radioimmunoassay (RIA)
- Artificial Insemination
- Cryopreservation
- Prostaglandin used to control estrous cycles
- Biotechnology

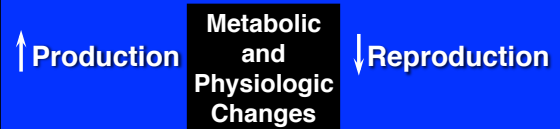
Approach to Applications

- Develop basic knowledge of how system works
- Investigate methods that can perturb the system
- Manipulate the system to improve reproduction
 - Estrus Synchronization

Enhancing Reproduction

- Small improvements have profound effects on production
 - 3% improvement in birth rate results in an additional:
 - 1 million beef calves/year
 - 3.2 million pigs/year
 - 3.7 million gallons of milk/year

Current Trends



- Continuing need to:
 - improve reproductive performance
 - understand how to apply new technology
- Ovsynch
- Clonning

Limiting Reproduction

