

Cattle Reproduction

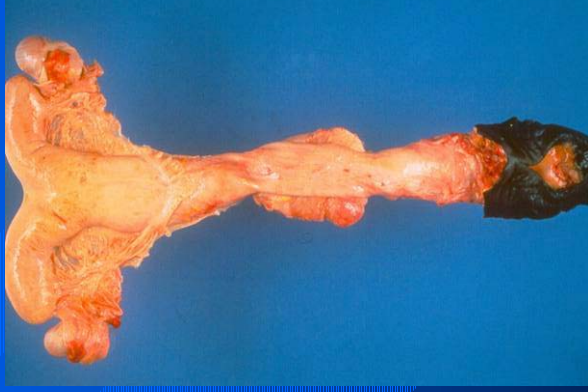
Jason Ahola

PhD Graduate Student

Department of Animal Sciences

Colorado State University

Cow's Reproductive Cycle



Reproductive
Tract



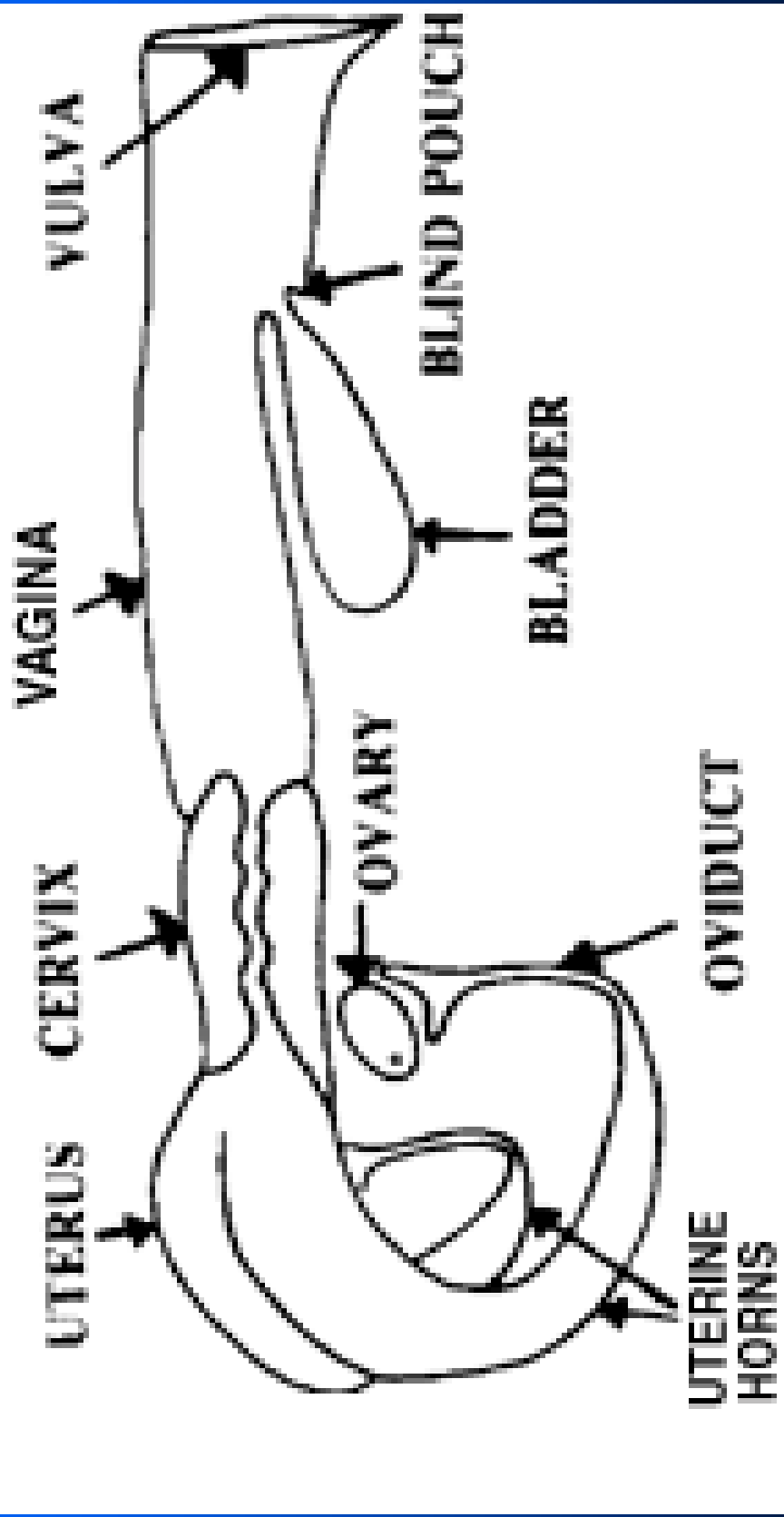
Follicles and
New Corpus
Luteum



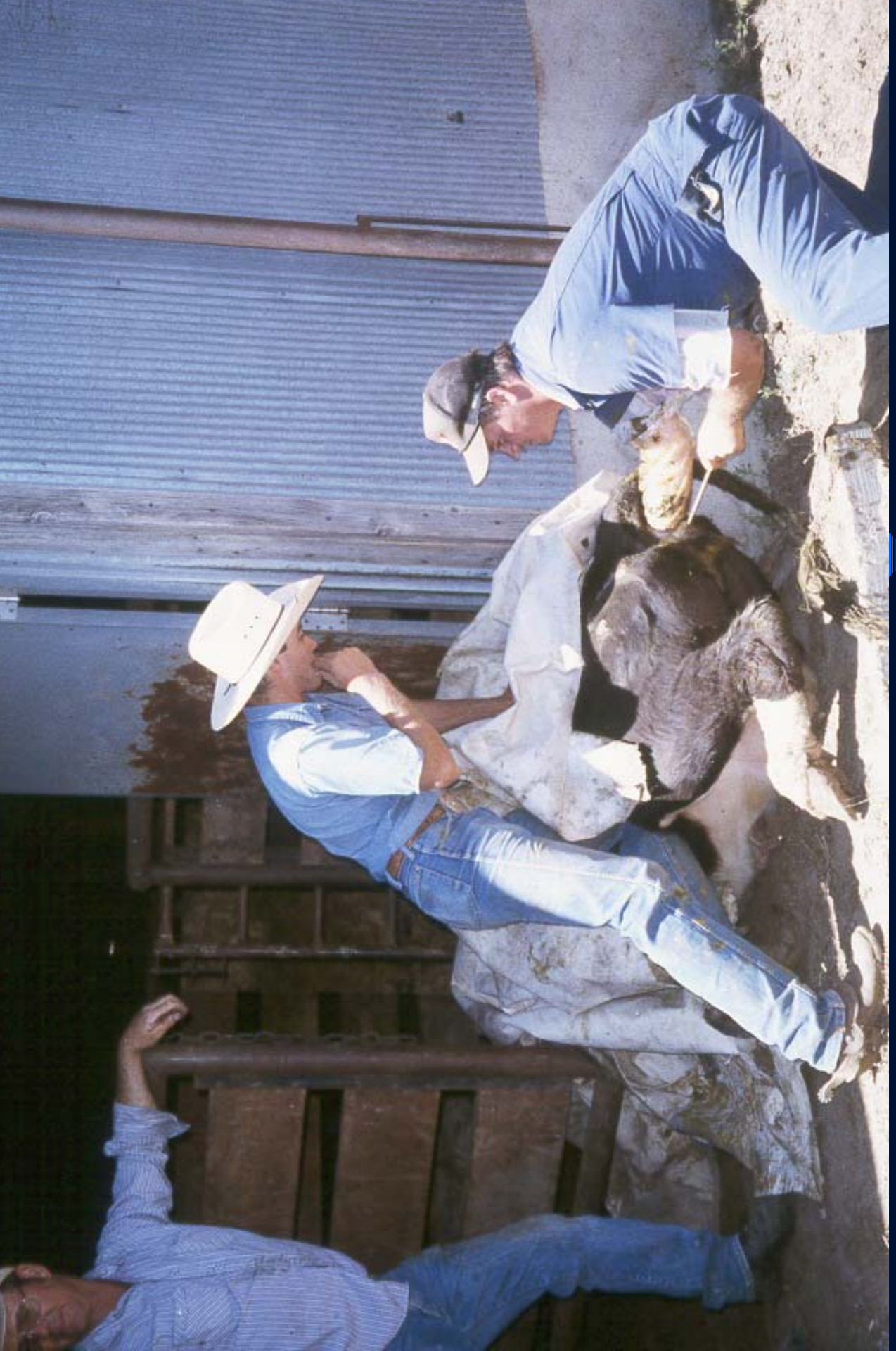
Mature Corpus
Luteum

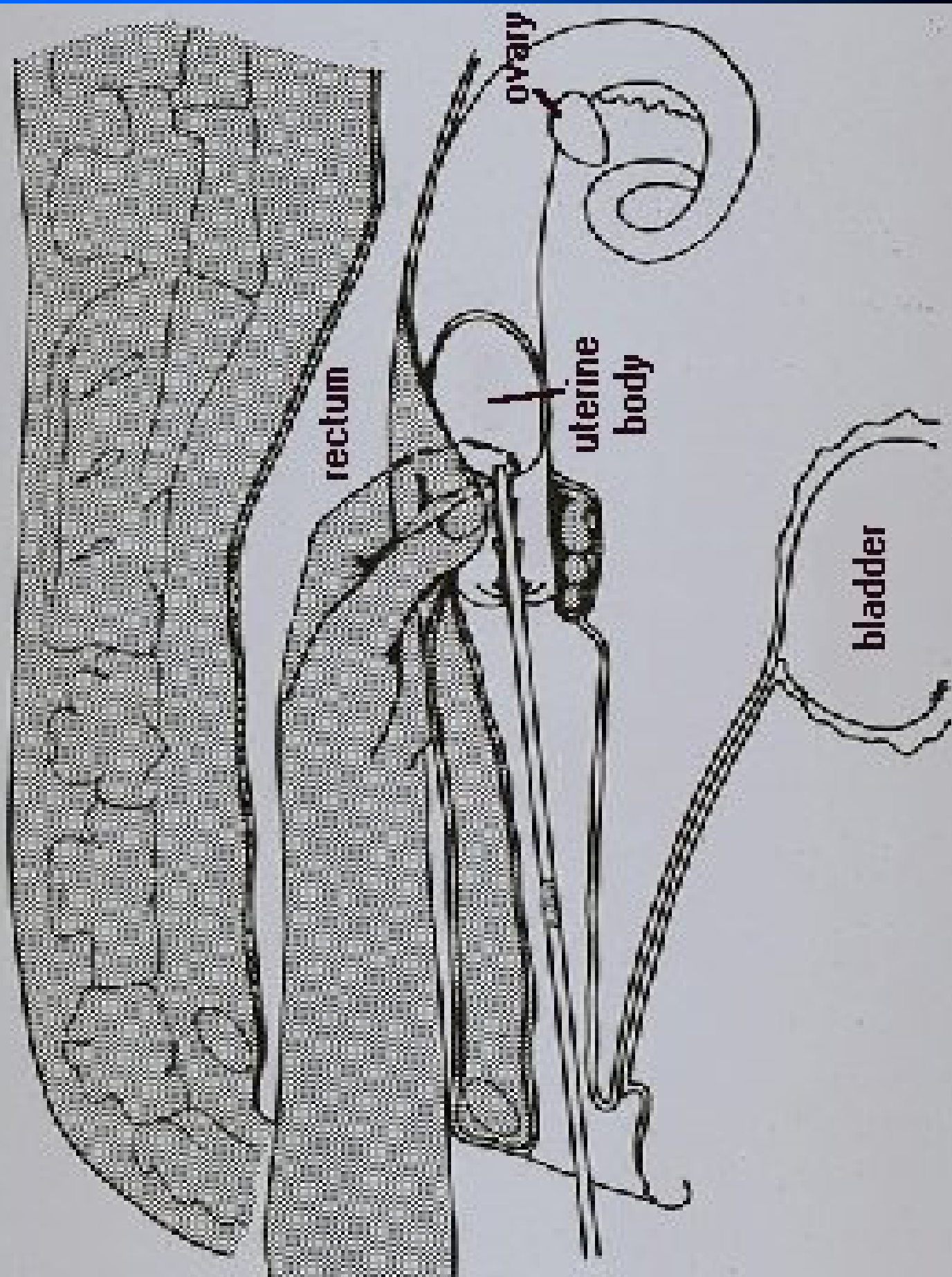


Anatomy







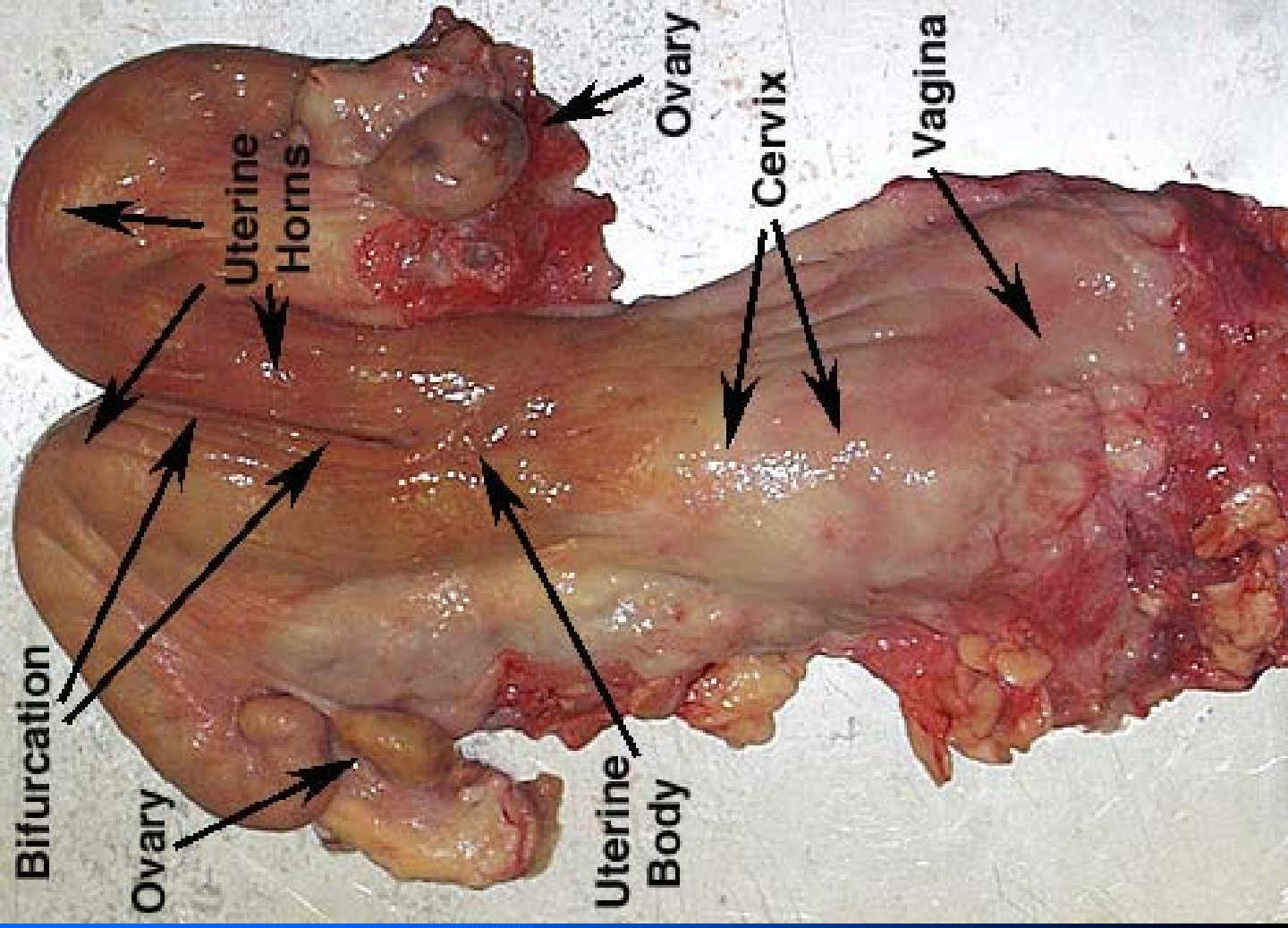


rectum

ovary

uterine
body

bladder



Bifurcation

Ovary

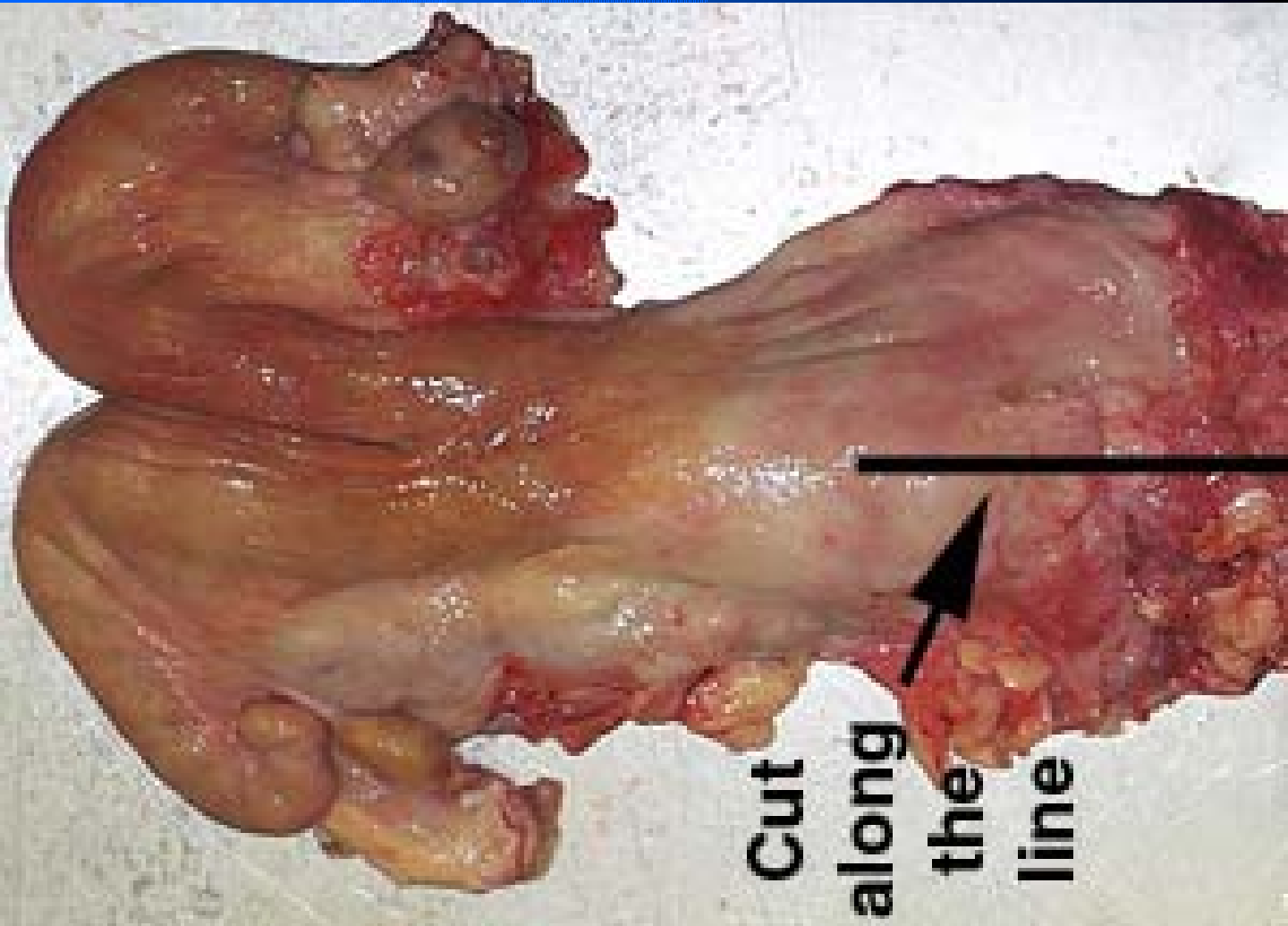
**Uterine
Horns**

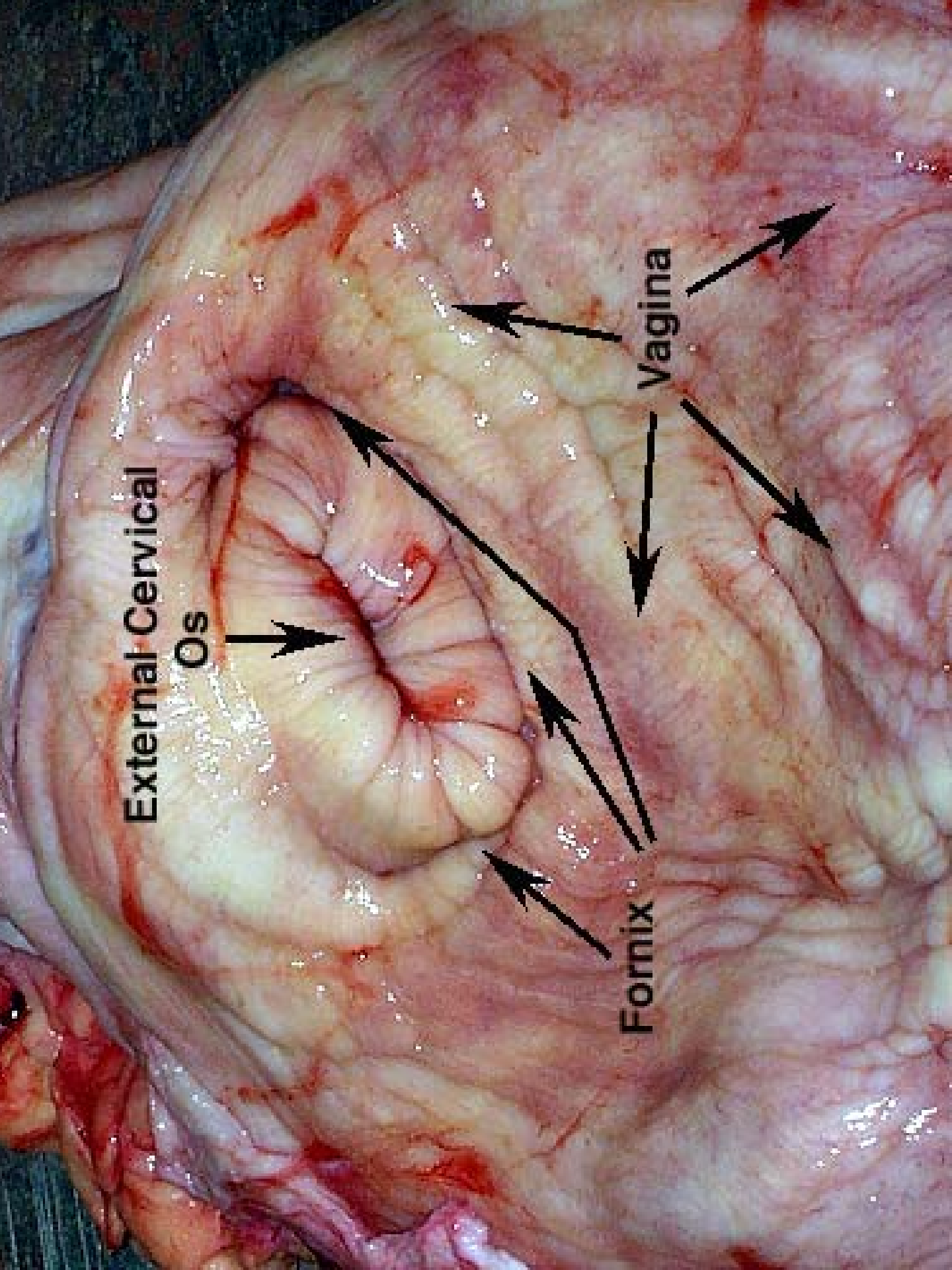
**Uterine
Body**

Ovary

Cervix

Vagina





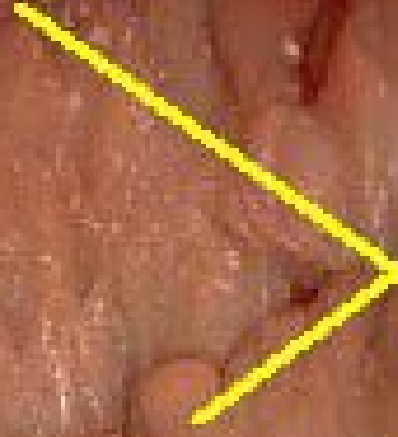
**External Cervical
Os**

Vagina

Fornix

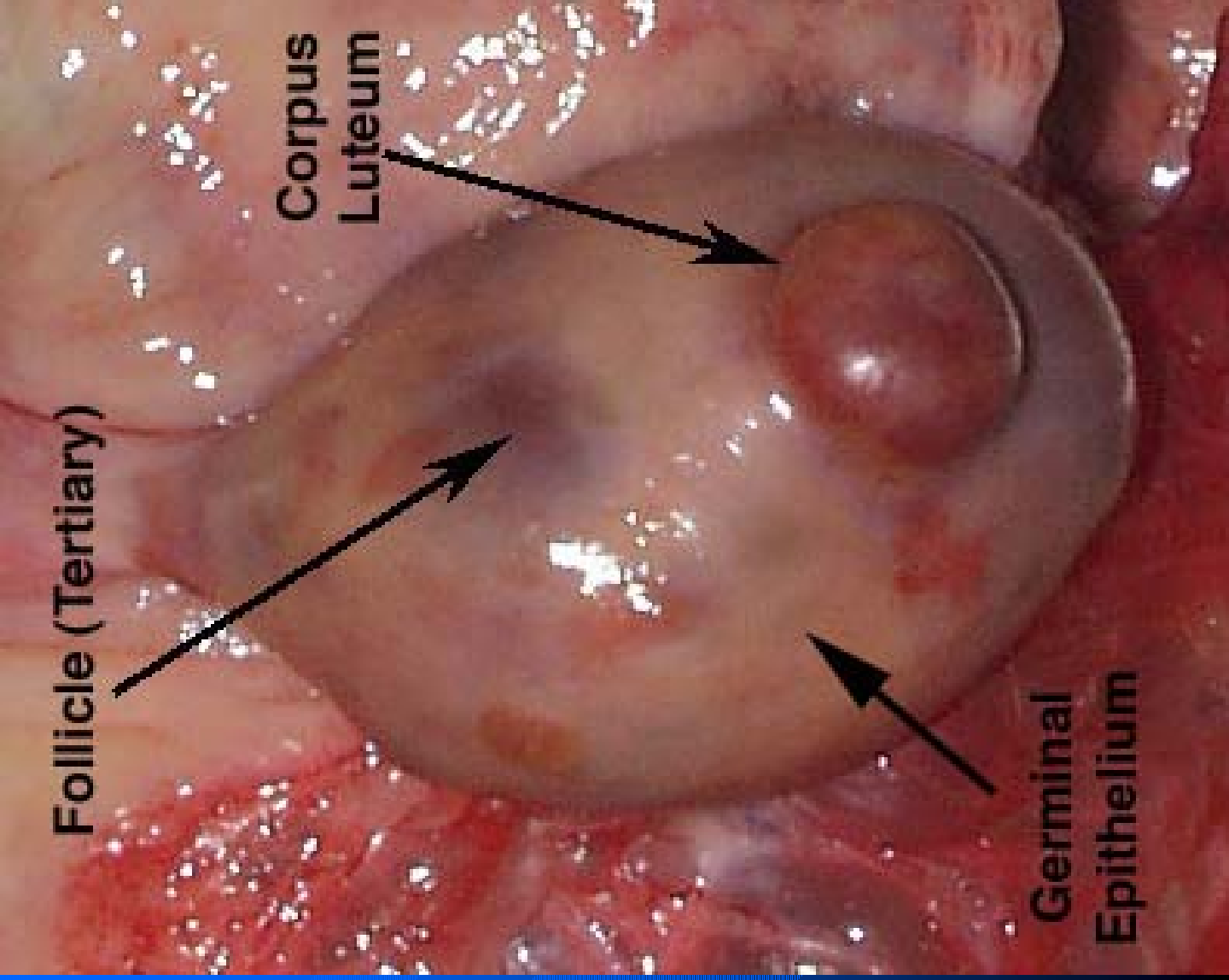
Bovine Cervix

annular folds or rings

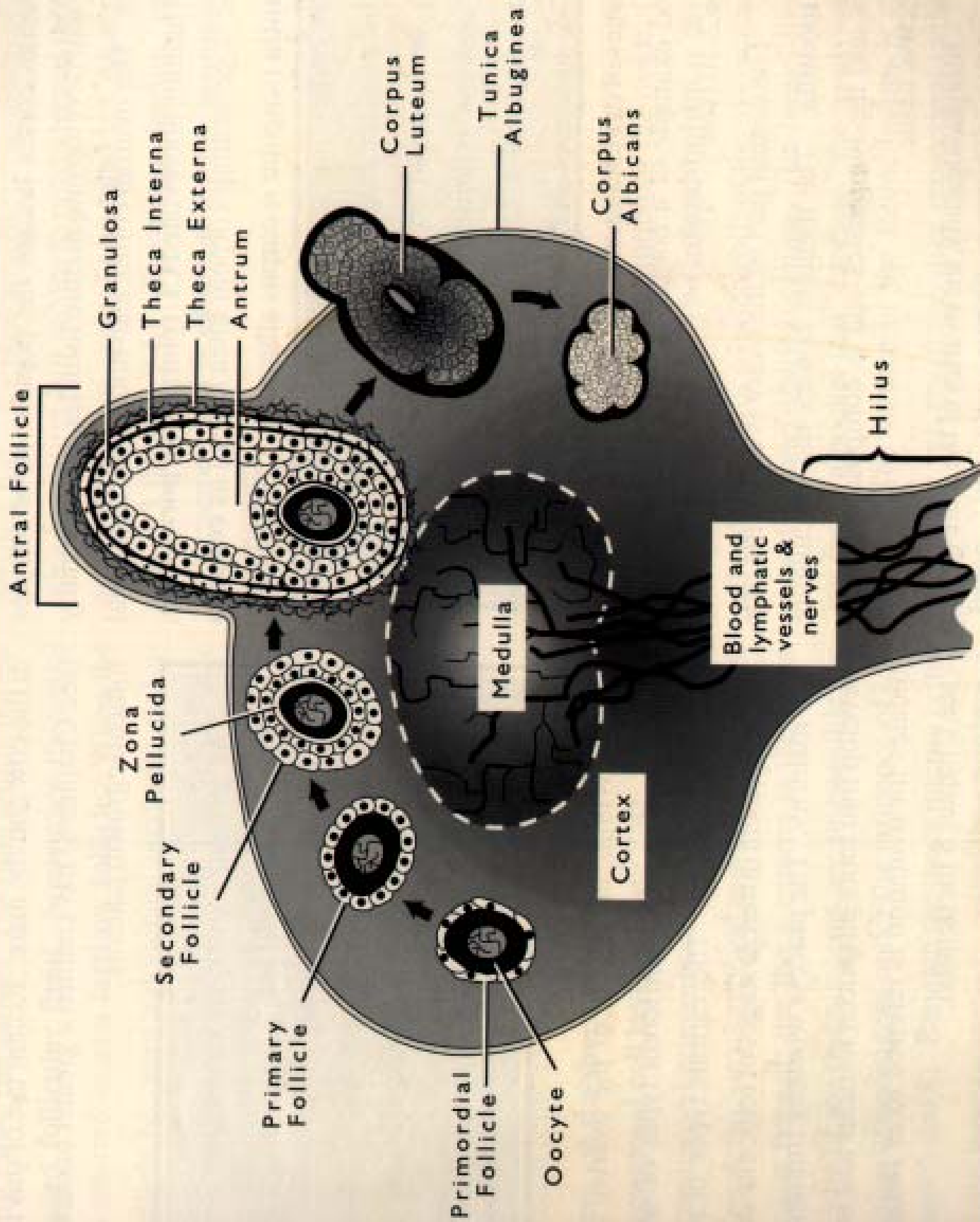


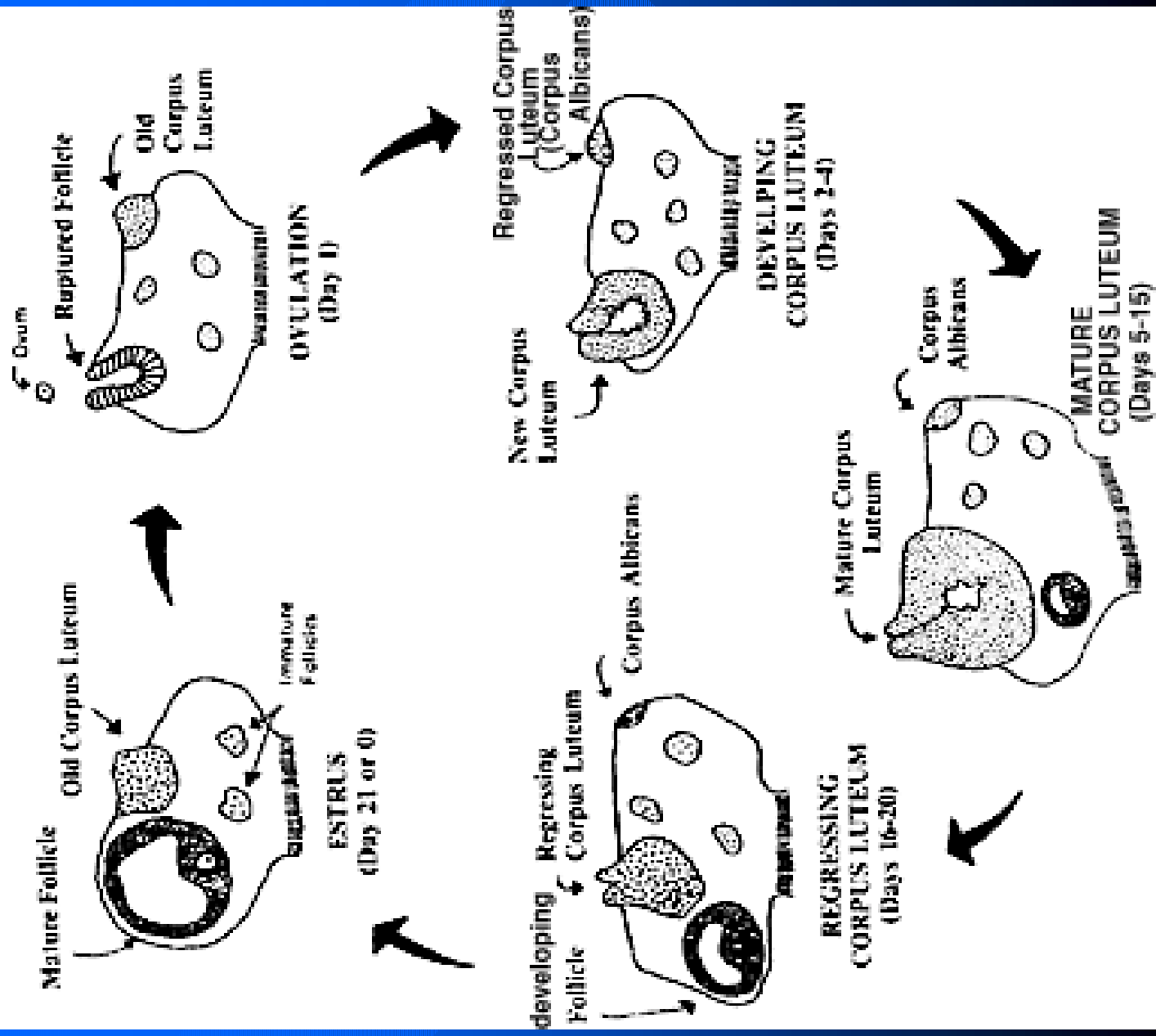


Physiology



Ovary

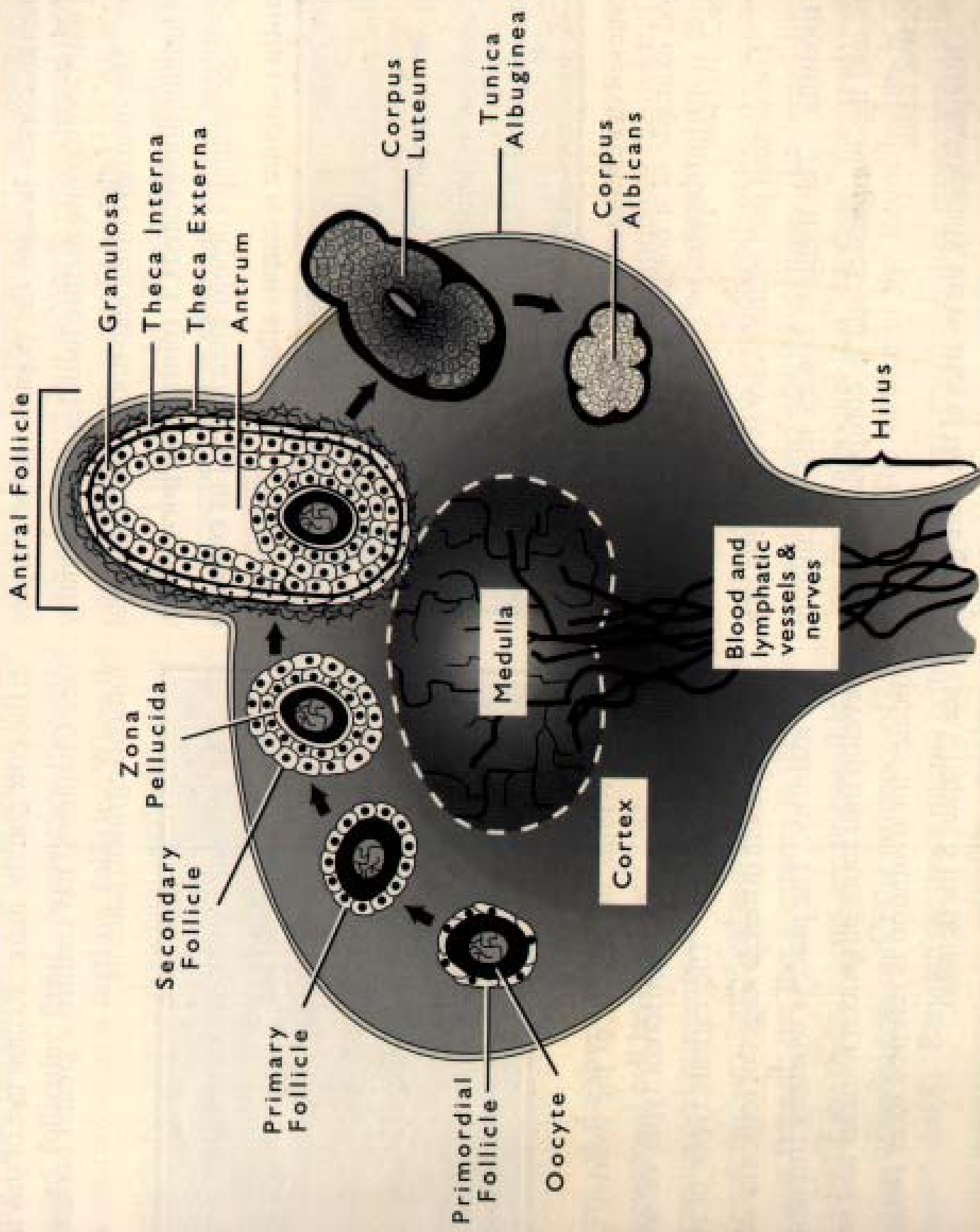






Corpus Luteum





Antral Follicle

Granulosa

Theca Interna

Theca Externa

Antrum

Corpus Luteum

Tunica Albuginea

Corpus Albicans

Hilus

Blood and lymphatic vessels & nerves

Medulla

Cortex

Zona Pellucida

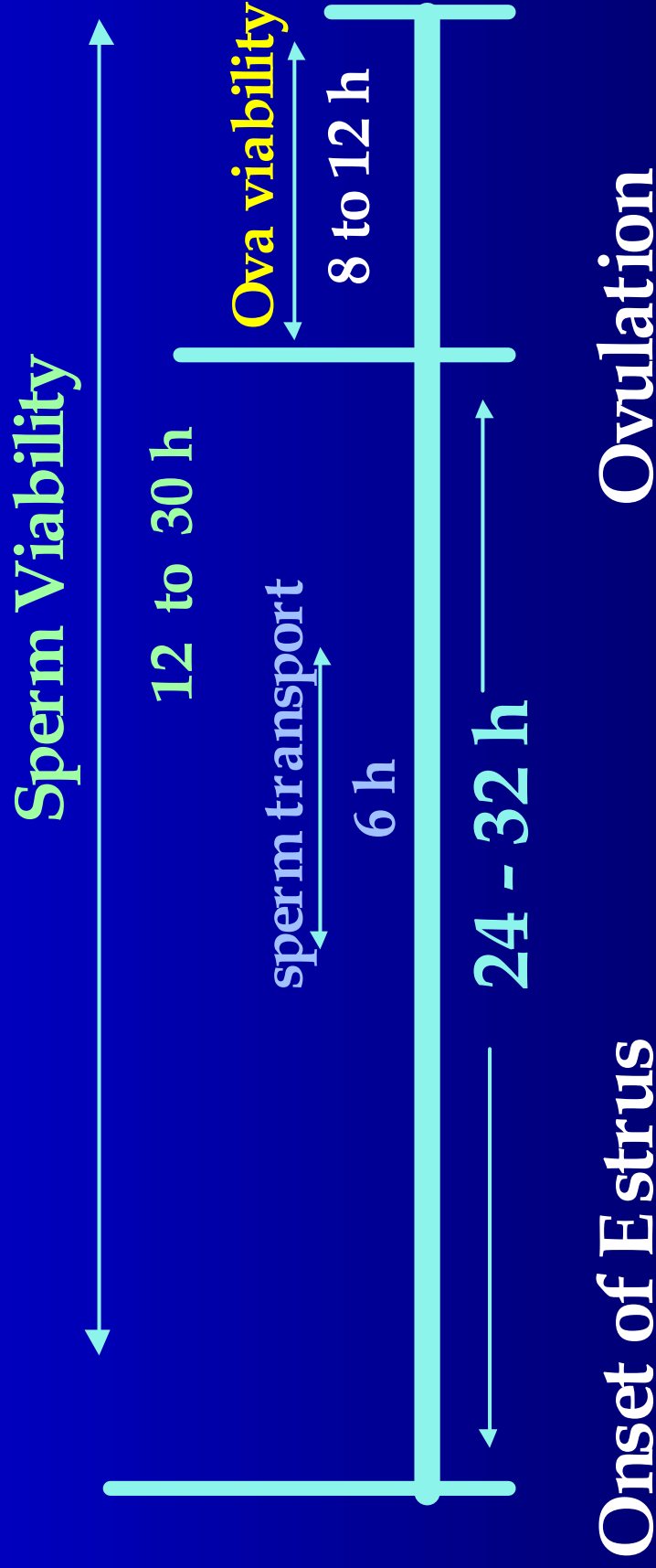
Secondary Follicle

Primary Follicle

Primordial Follicle

Oocyte

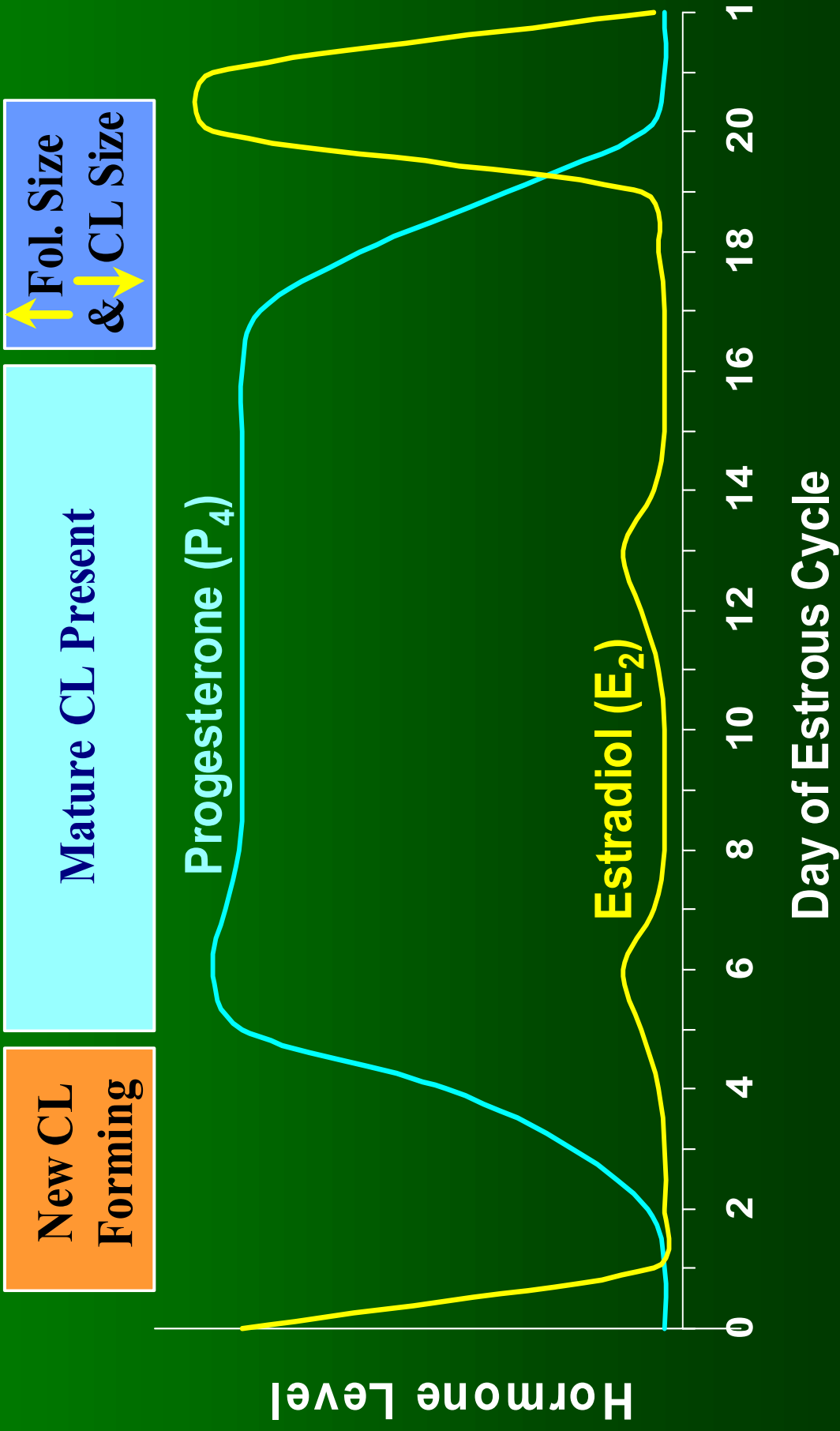
Insemination Timeline



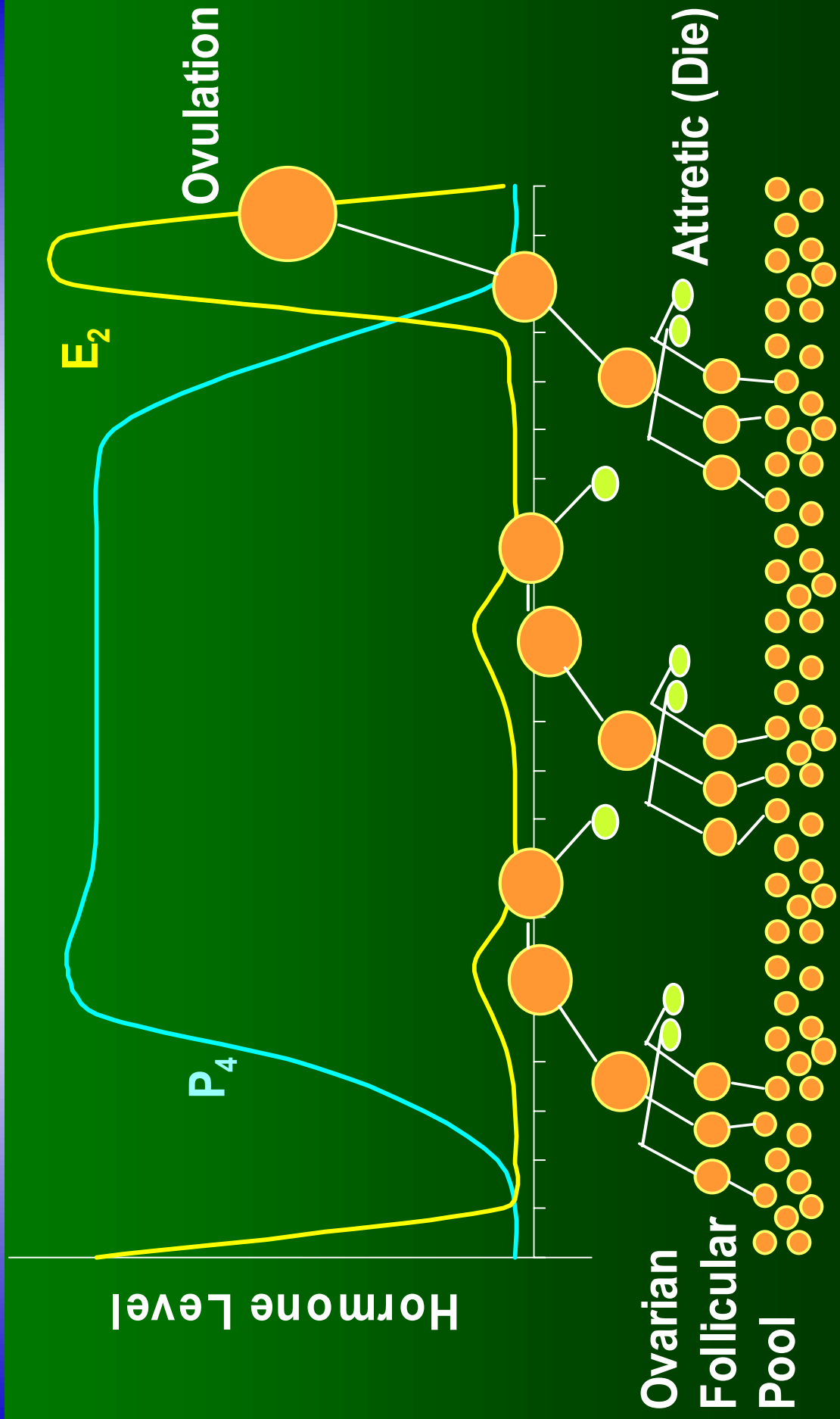


Synchronization

Estrous Cycle



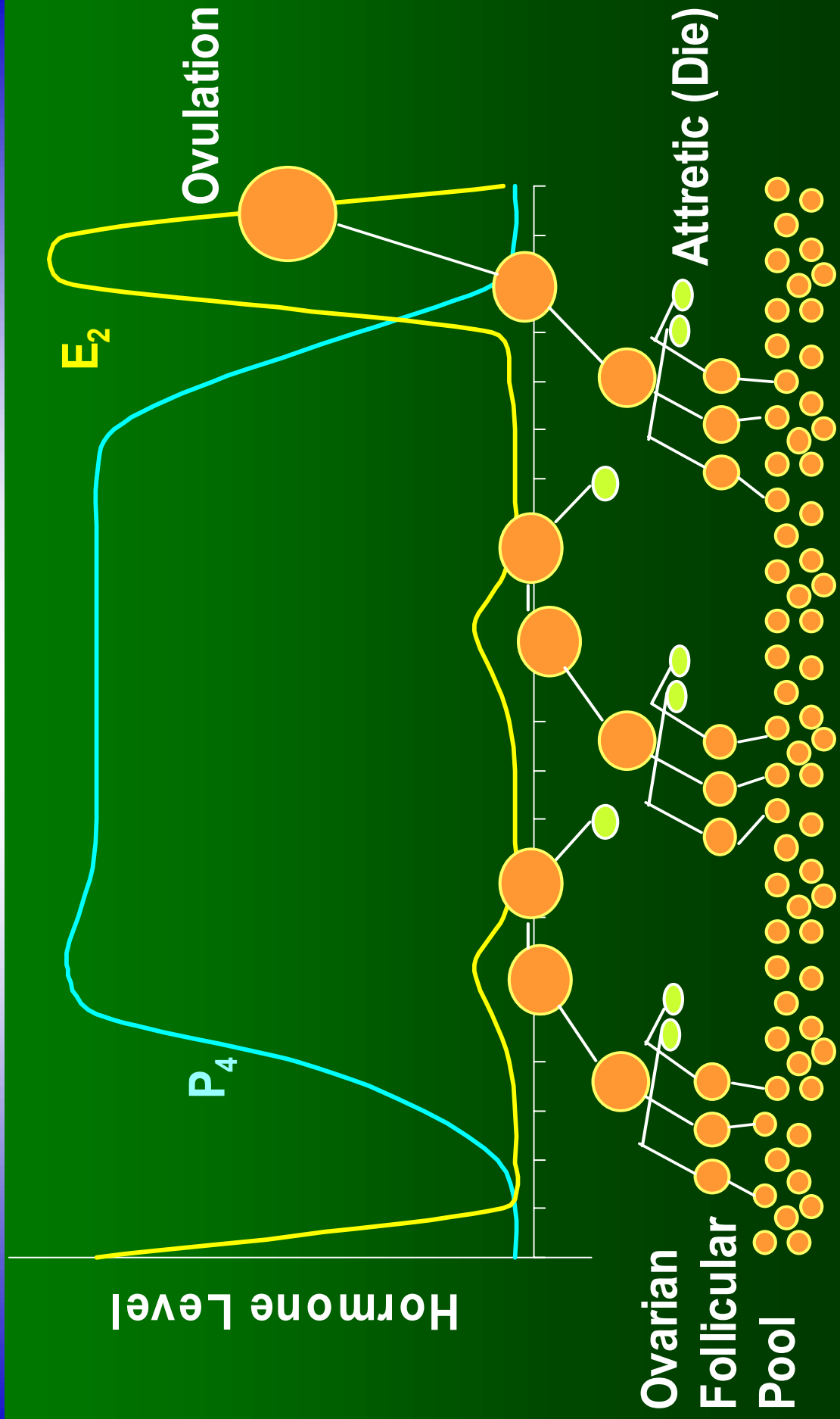
Follicular Waves



Single Injection w/ Post-Breeding



Follicular Waves



Select Synch

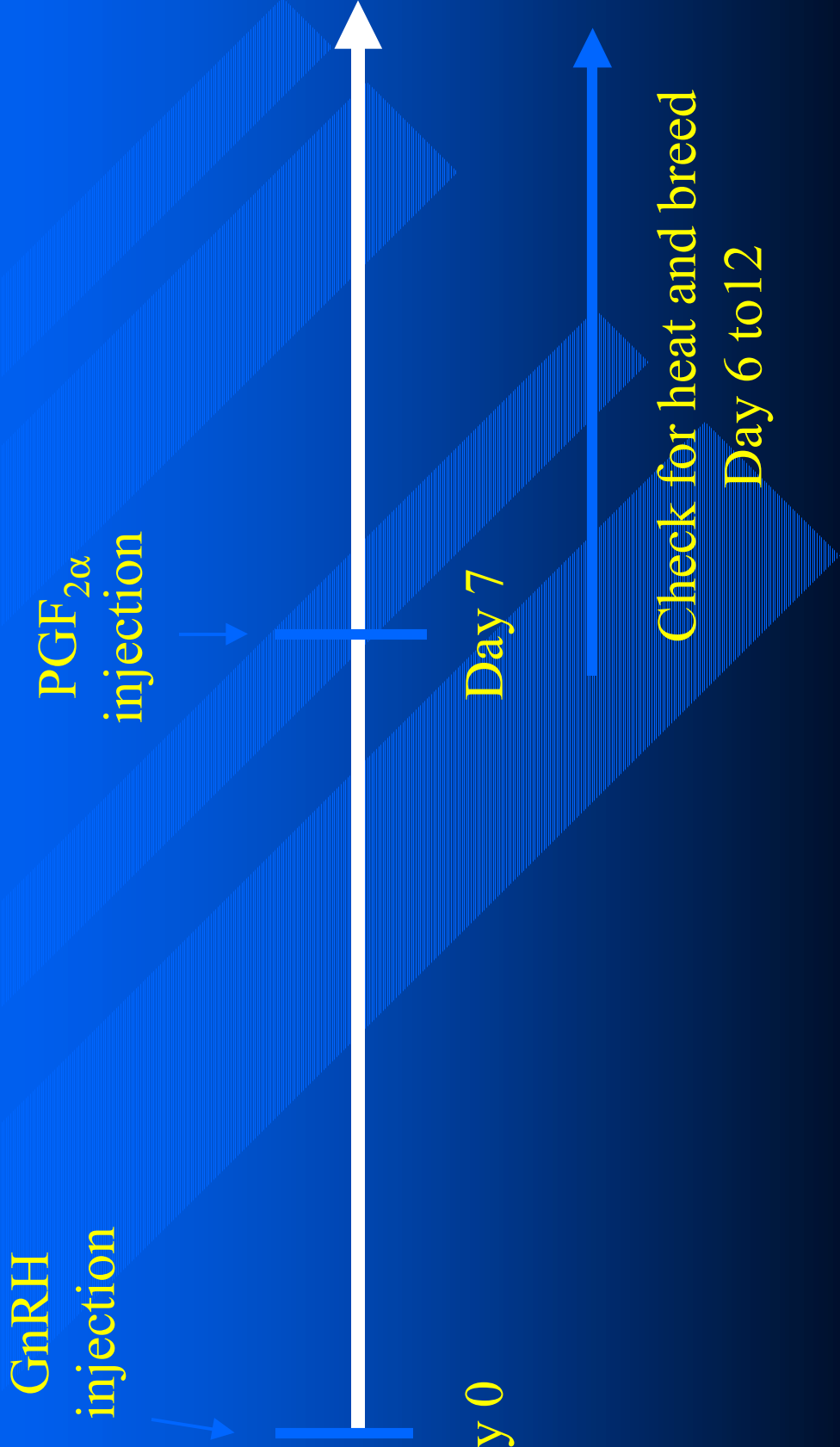
GnRH
injection

PGF_{2α}
injection

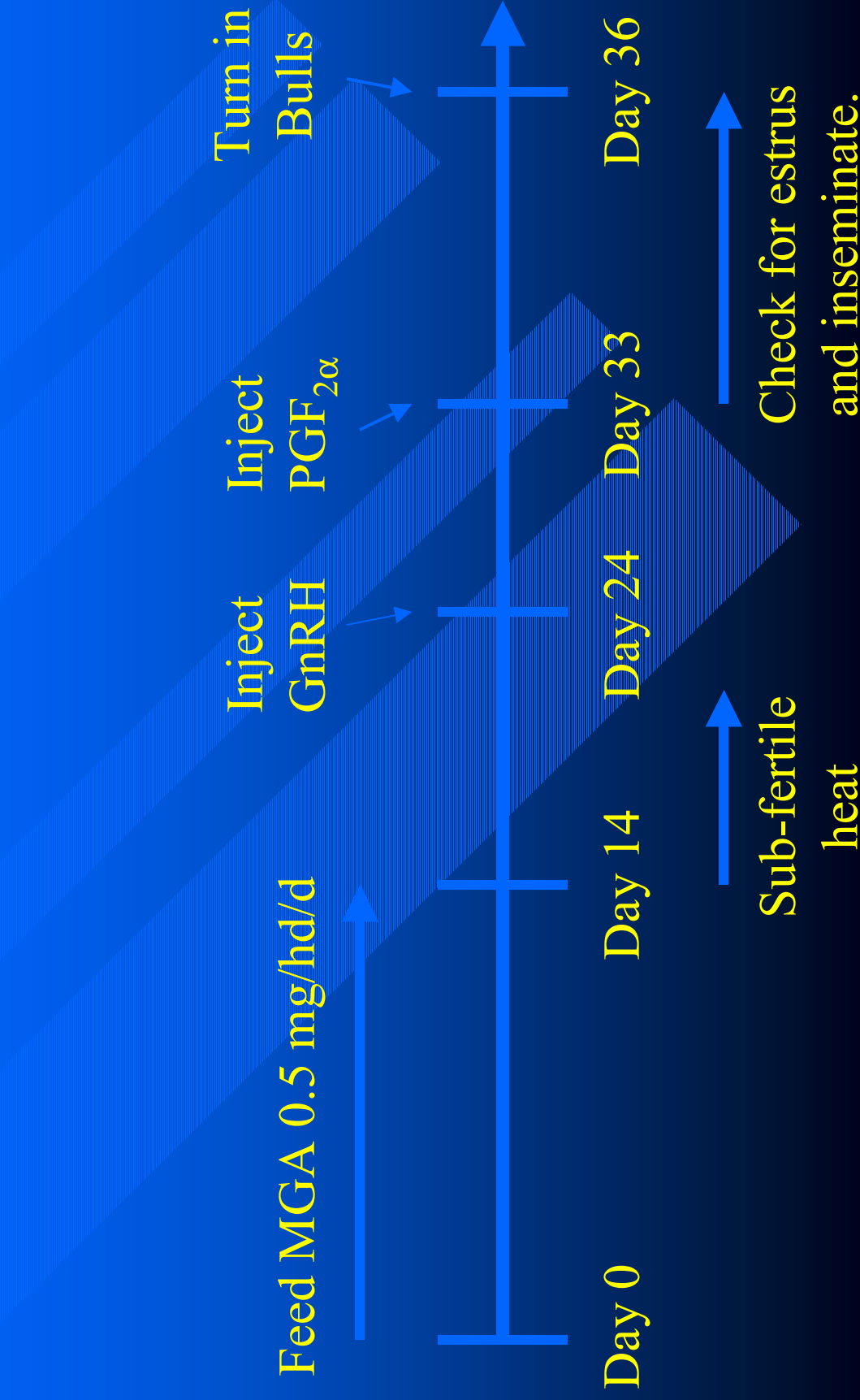
Day 0

Day 7

Check for heat and breed
Day 6 to 12



MGA-GnRH-PG (MGA[®] Select)



Comparing the Options

Treatment Estrus Response Pregnancy Rate

2 Shot PG	57%	35%
MGA-PG 14-19	83%	63%
Select Synch	67%	45%
Ov-Synch	NA	52%
CO-Synch	NA	55%
MGA Select	85%	66%
7-11 Synch	91%	68%



Heat Detection

Chin Ball Markers



KaMar/ Bovine Beacon



Tail Paint

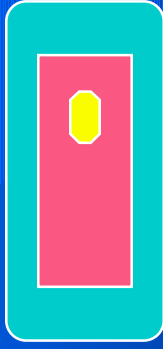


Tail Paint

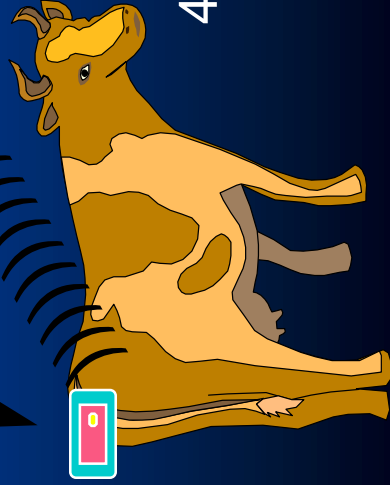


Heat Watch

1. Transmitter with pressure sensitive button on top

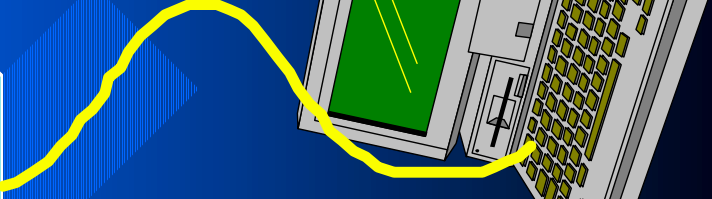


2. Mounted onto cow's rump using a patch and adhesive



~1/2 mile range

3. The receiver accepts the mounting activity signal from the transmitter



4. Information is transferred to computer for processing by HeatWatch software.

