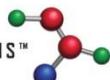




Post Mortem Diagnosis of Poultry



Dr. S. Saravanan
National Technical Manager-Health



Disease diagnosis in Poultry



Four Components

Mortality

History

Symptoms

PM Lesions

Laboratory



Control and Prevention



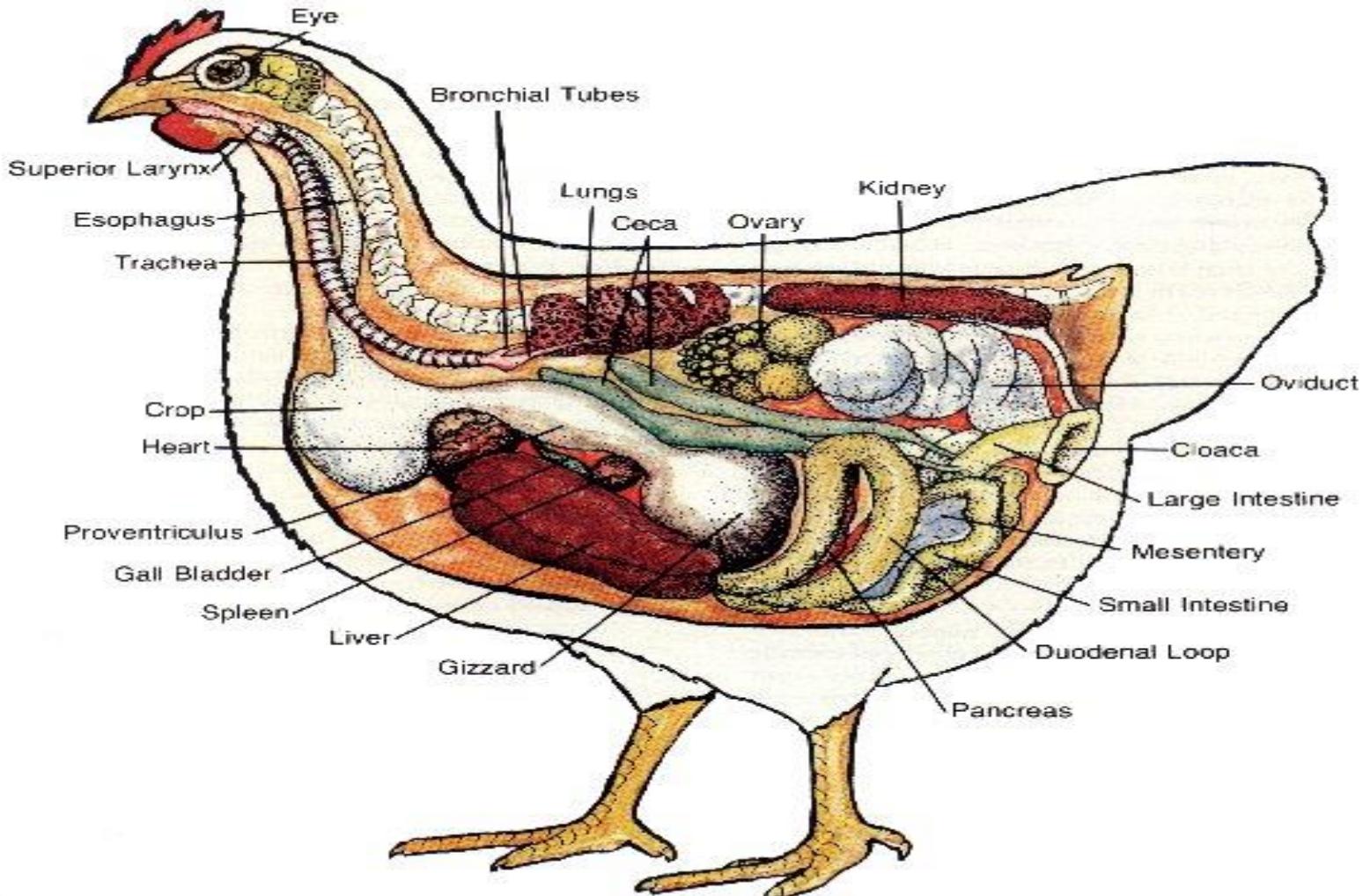
Topic to be discussed...



1. Anatomy of the Chicken
2. Basics of Post Mortem
3. Viral Diseases
4. Bacterial Diseases
5. Fungal Diseases
6. Protozoal Diseases



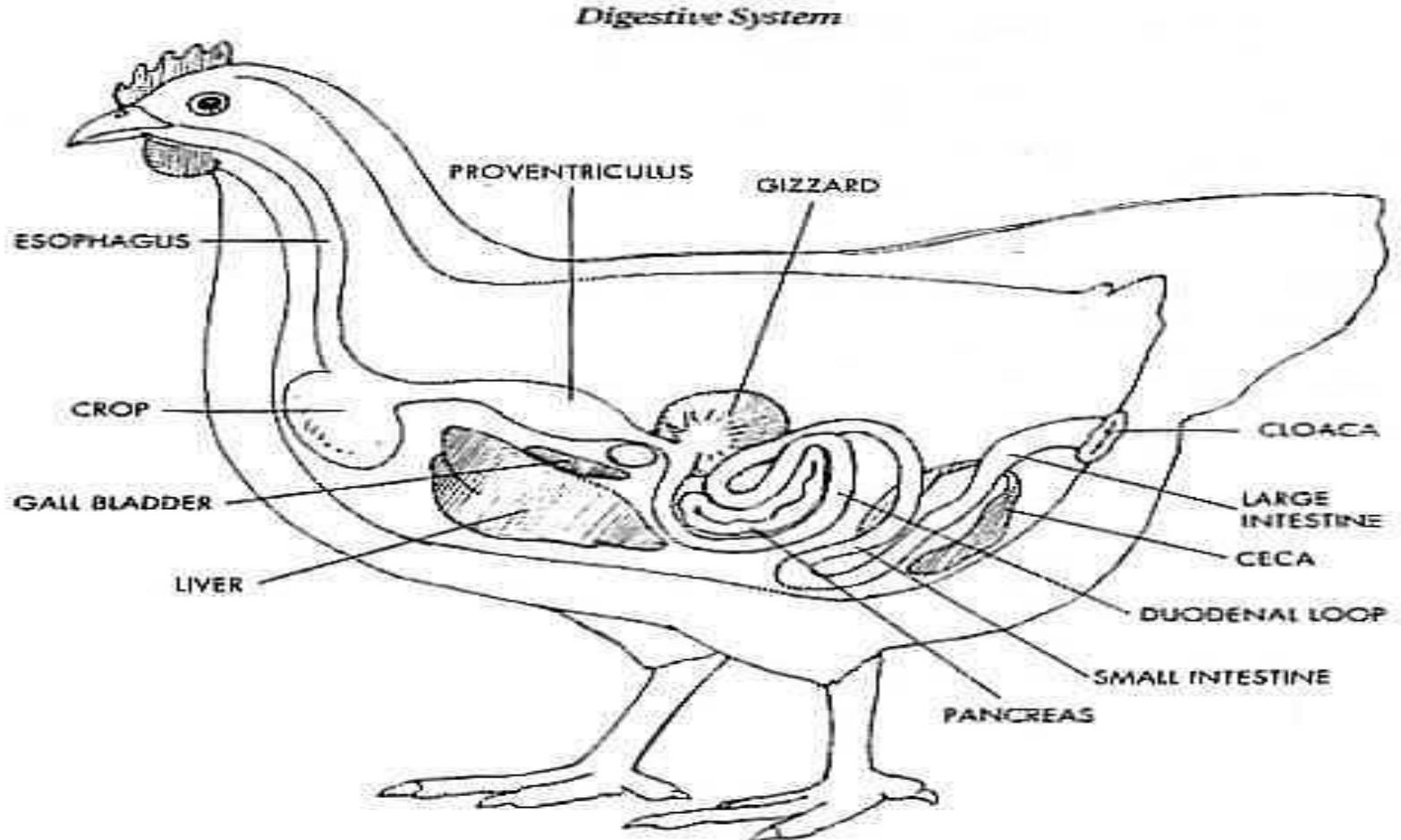
Anatomy of the Chicken



Anatomy of the Chicken



Digestive System

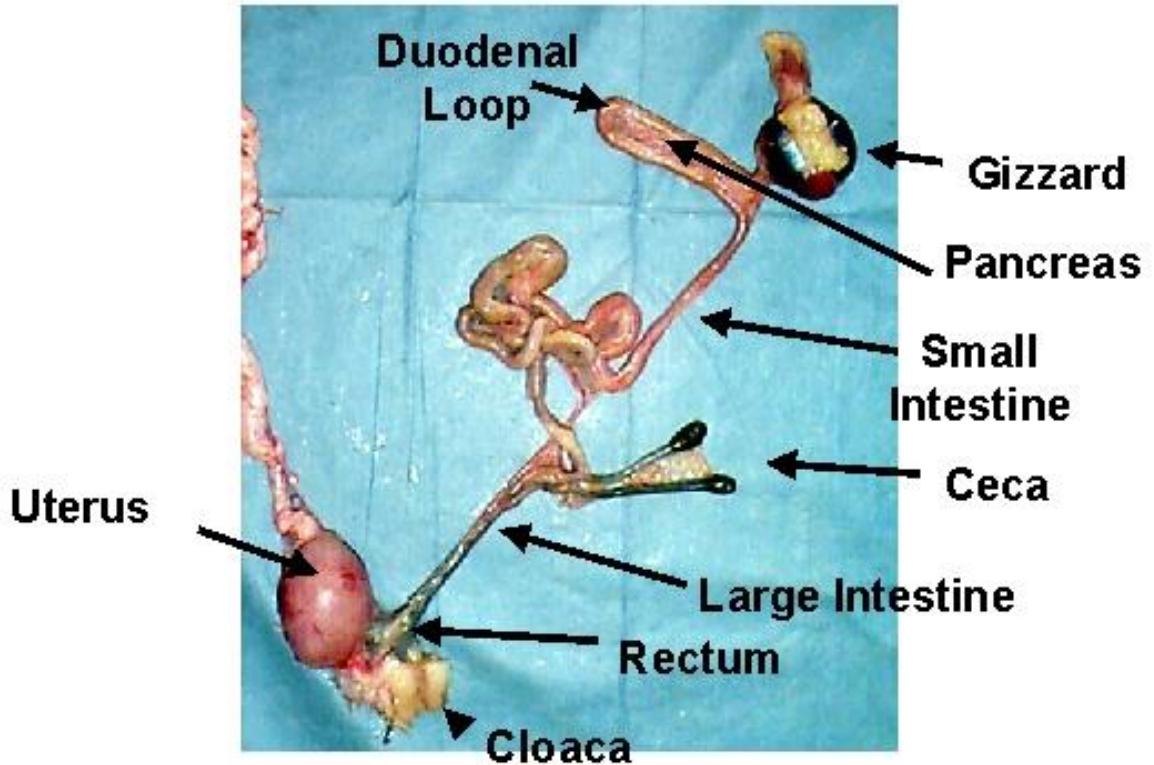


Anatomy of the Chicken



Digestive System

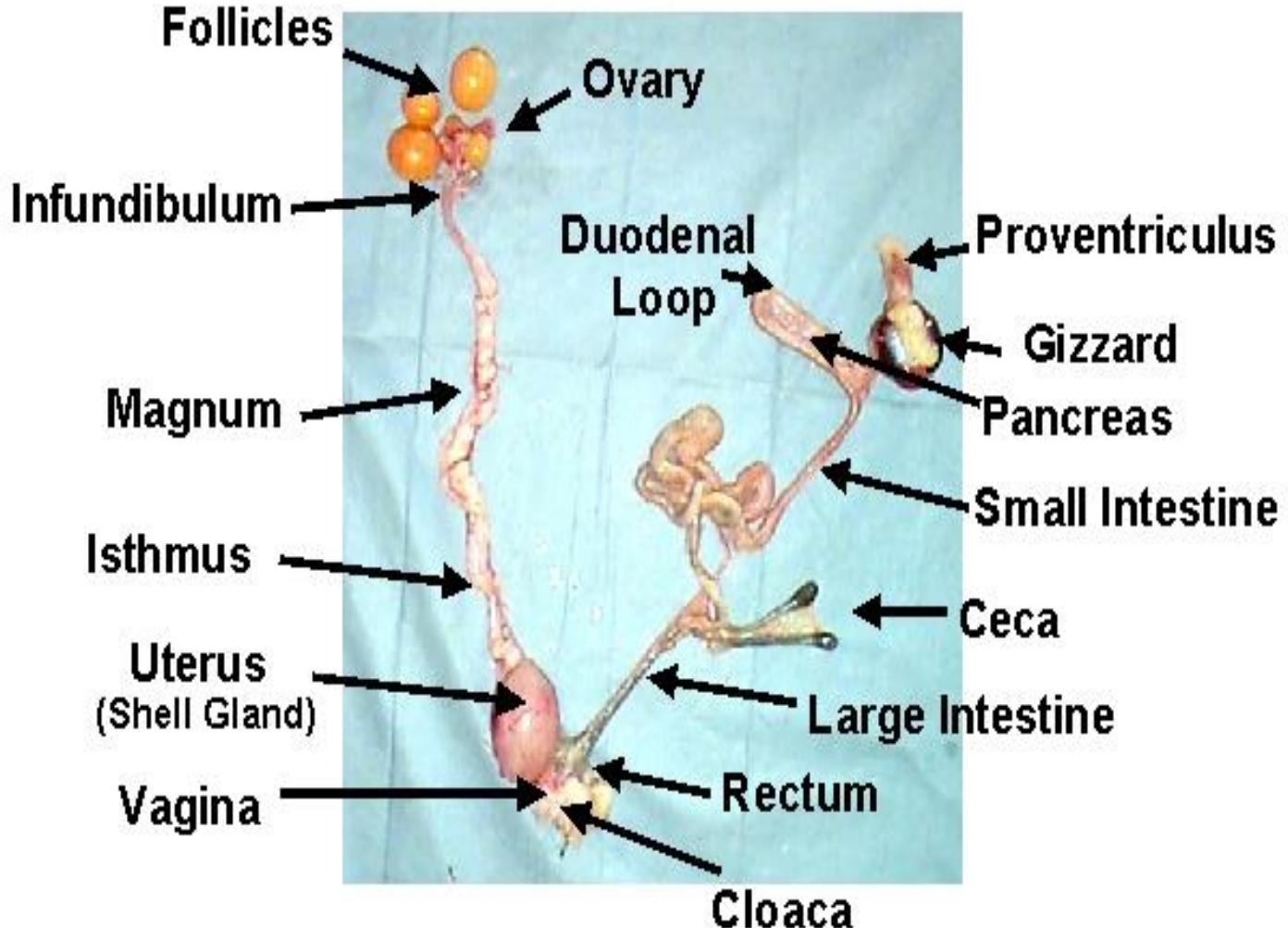
Digestive Tract



Anatomy of the Chicken



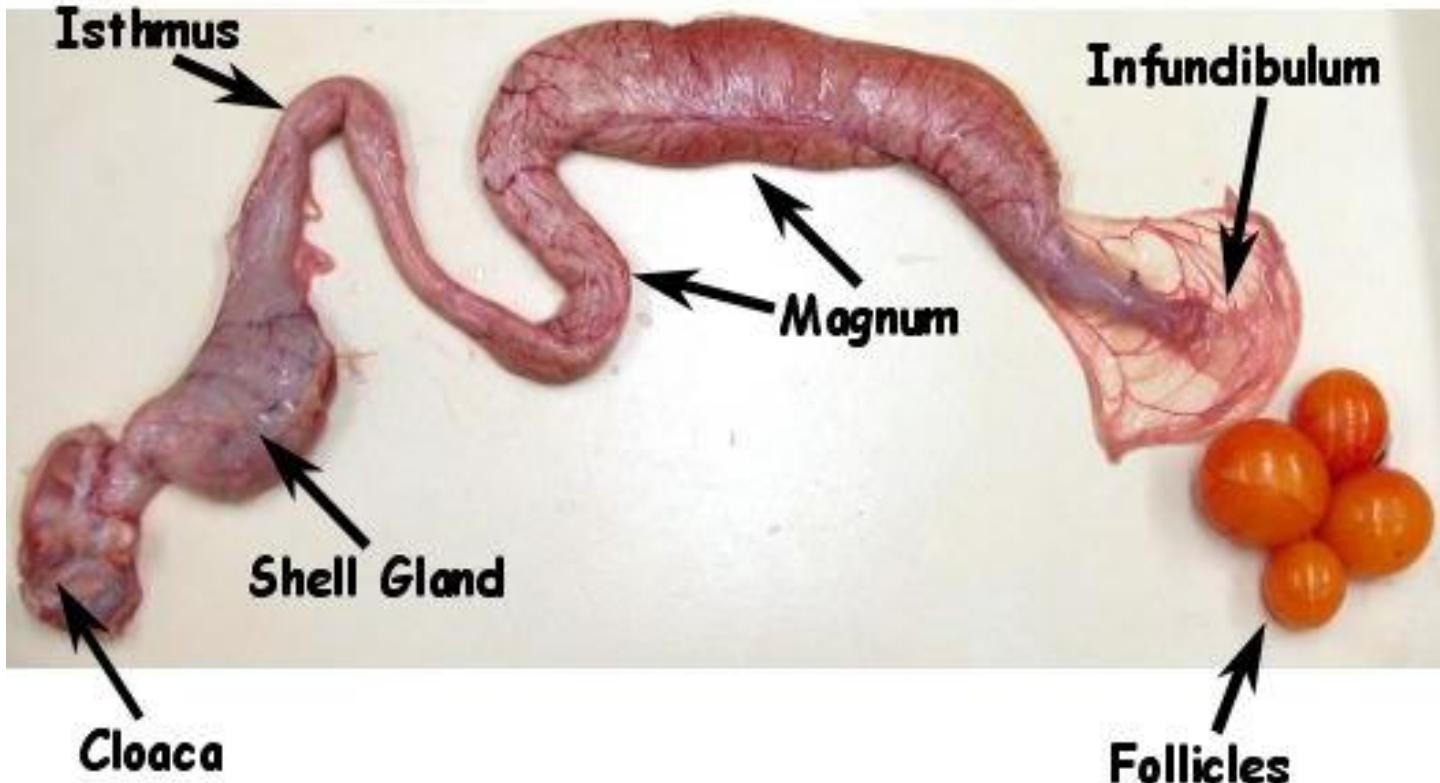
Reproductive System



Anatomy of the Chicken



Reproductive System

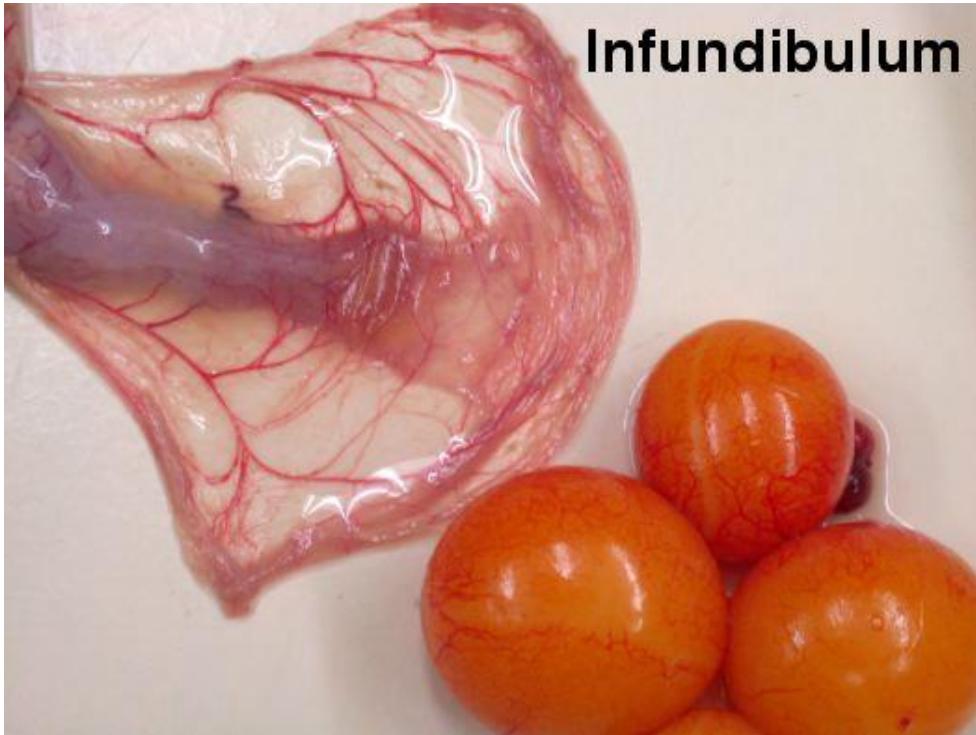


Anatomy of the Chicken



Reproductive System

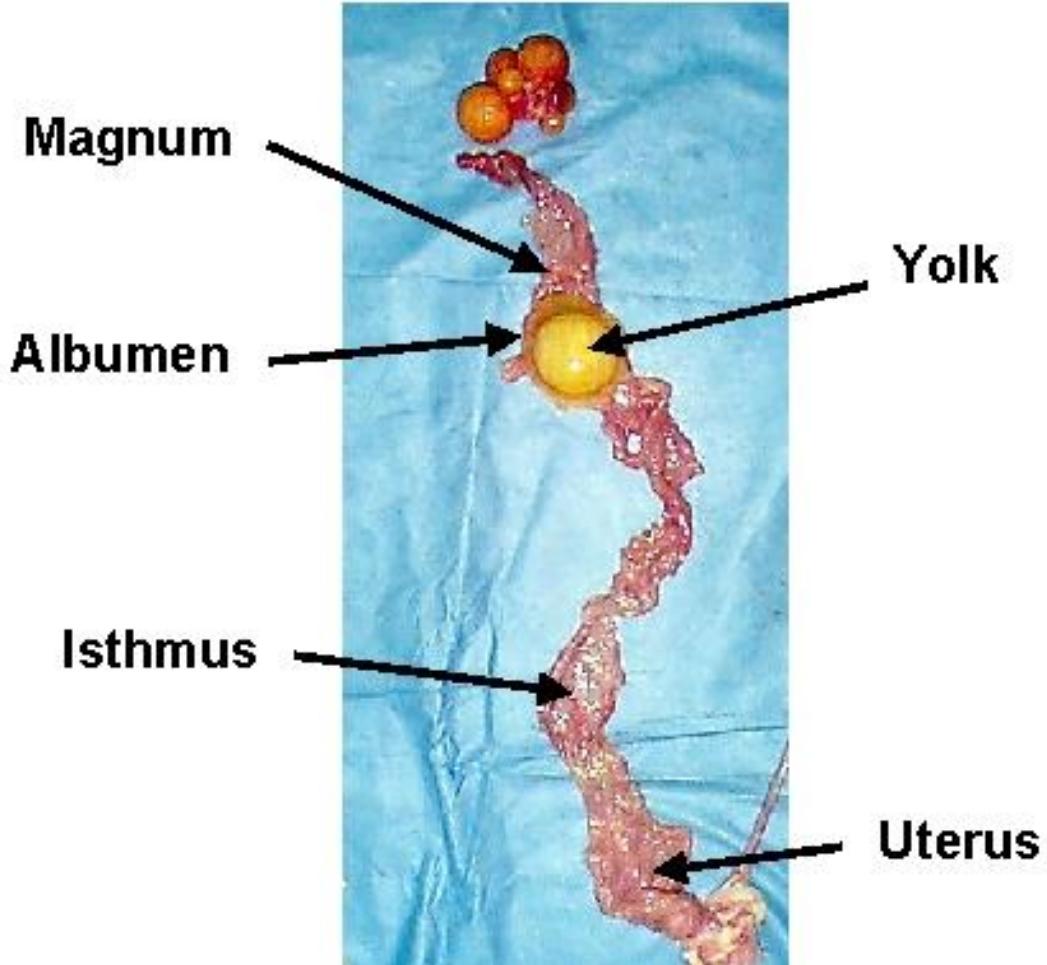
Infundibulum catches the ovum released by
Ovary in abdominal cavity



Anatomy of the Chicken

Reproductive System

Egg in Magnum

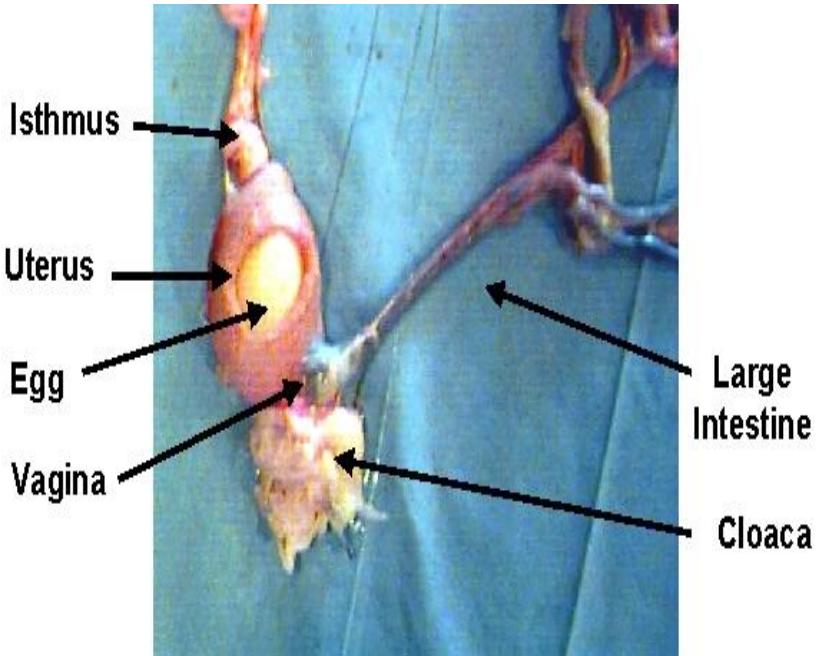
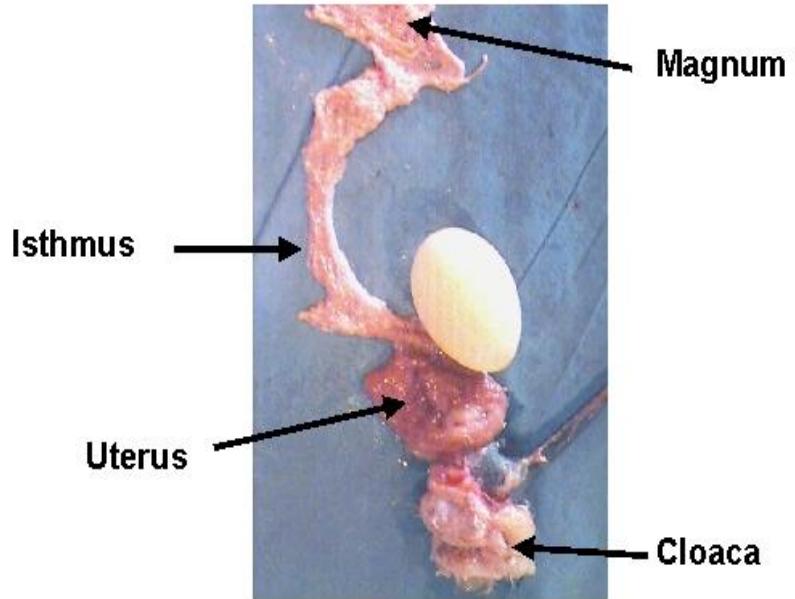


Anatomy of the Chicken



Reproductive System

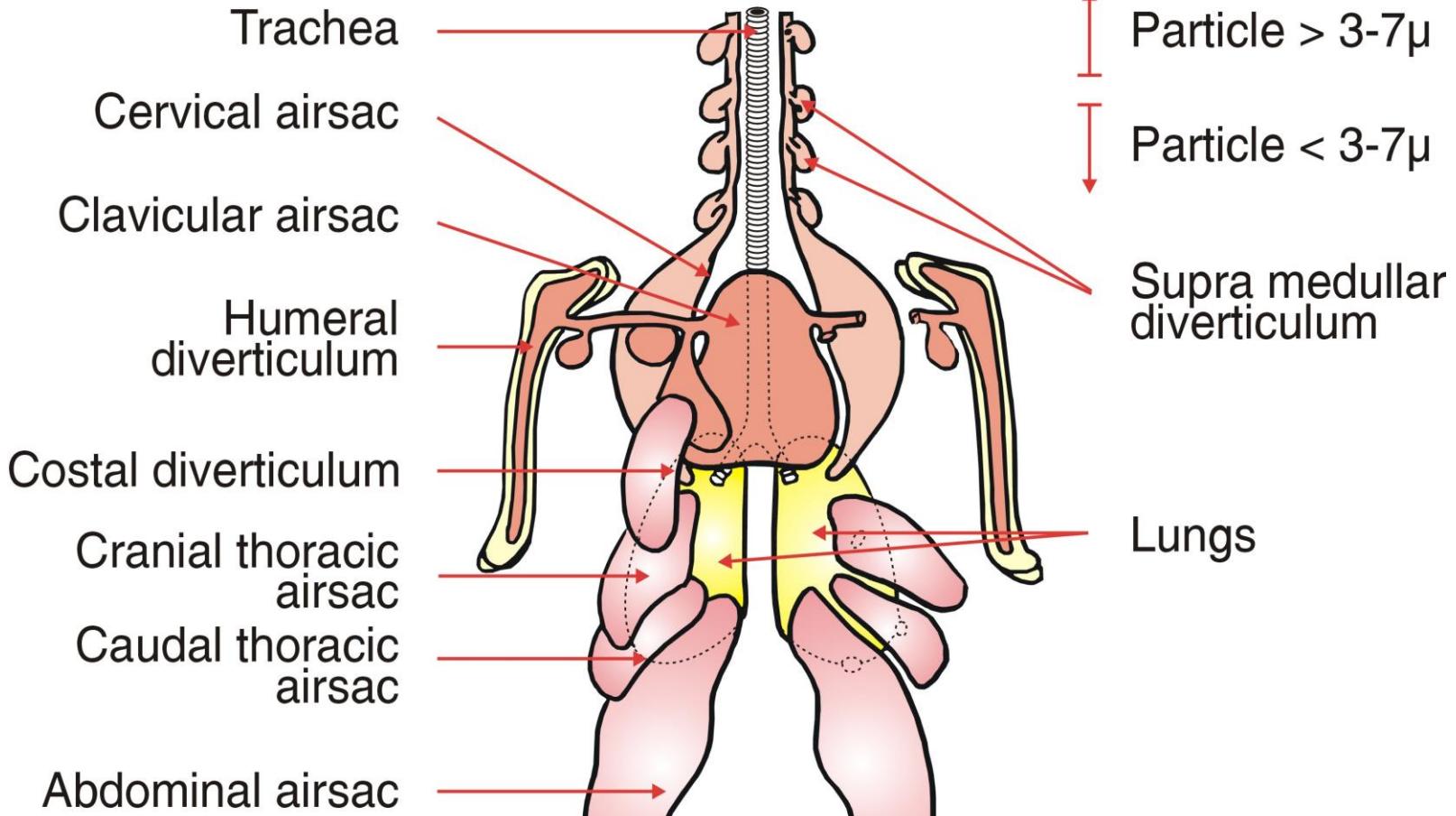
Egg in Uterus



Anatomy of the Chicken

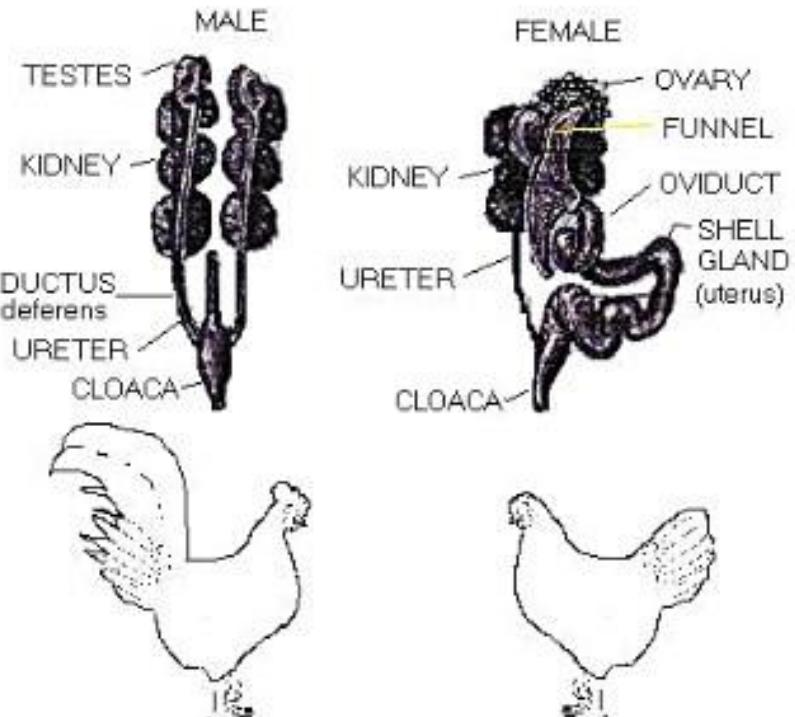
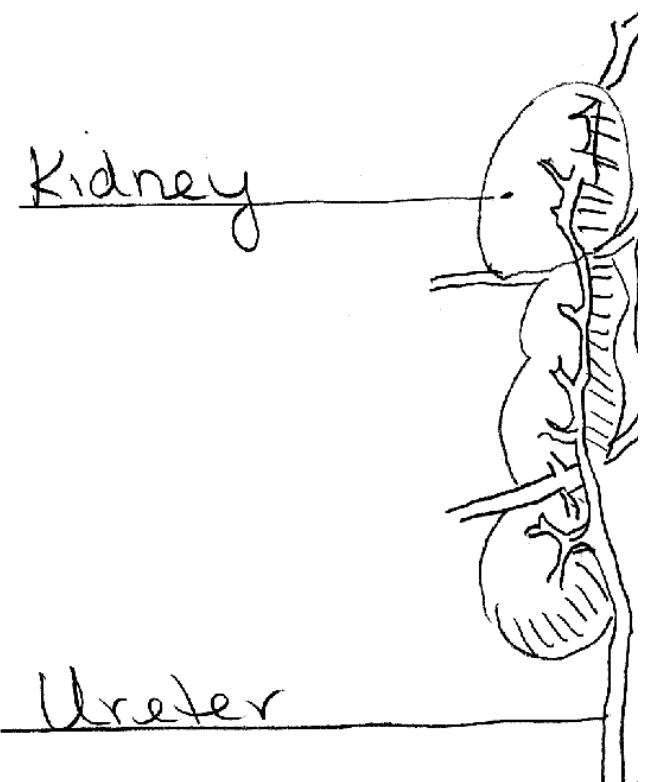


Respiratory system



Anatomy of the Chicken

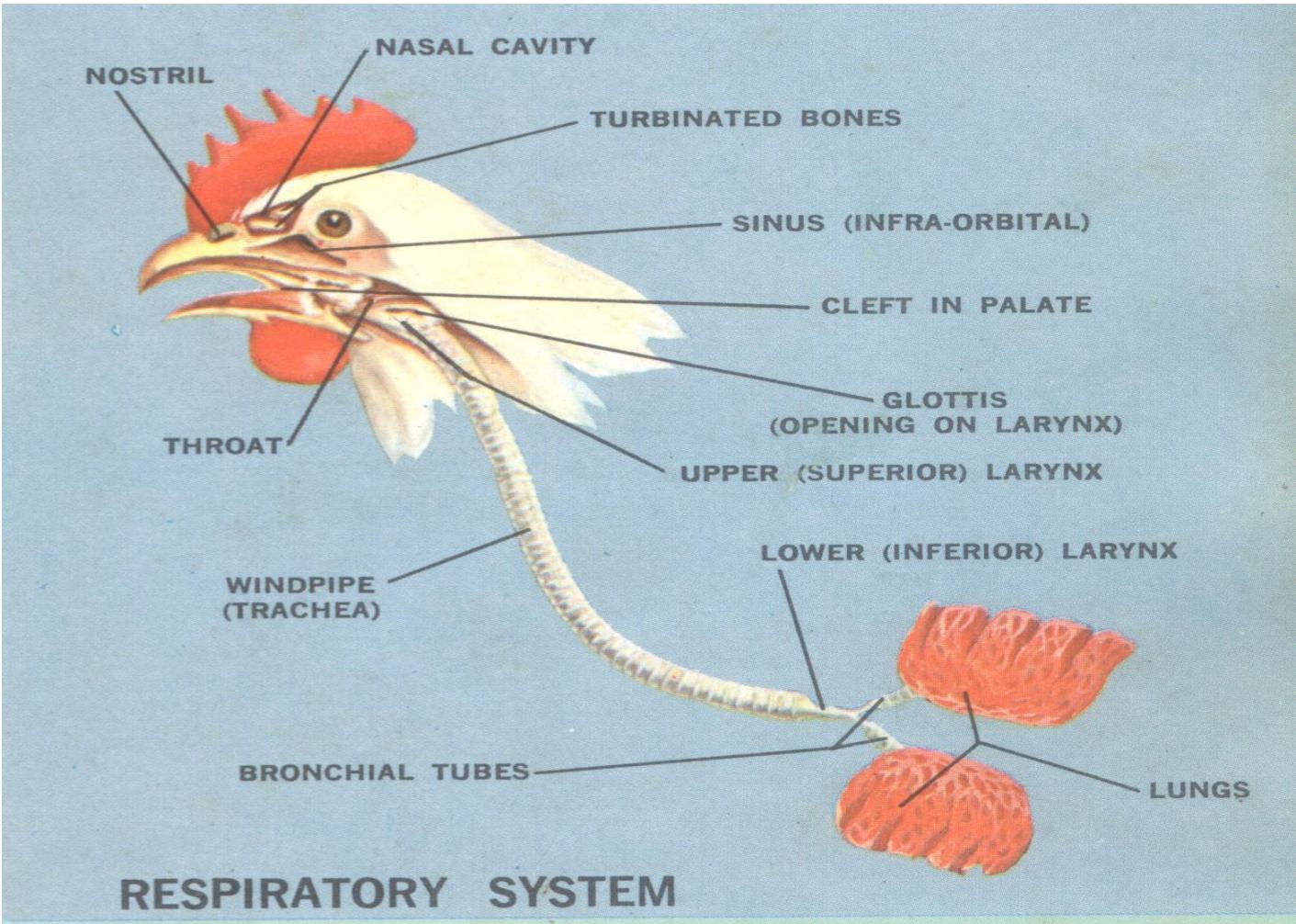
Urinary System



Anatomy of the Chicken



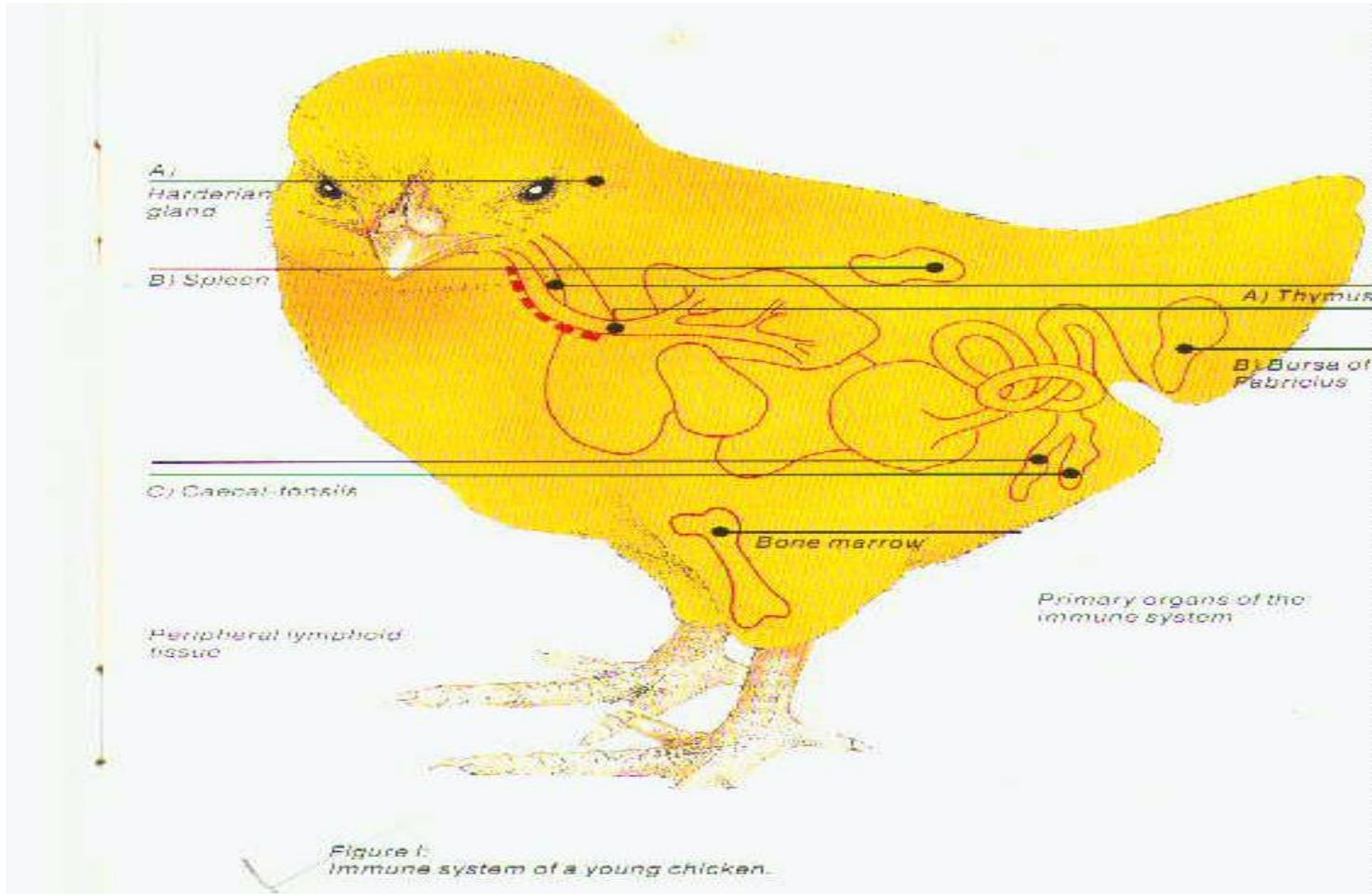
Respiratory system



Anatomy of the Chicken



Immune system



Topic to be discussed...



1. Anatomy of the Chicken
2. Basics of Post Mortem
3. Viral Diseases
4. Bacterial Diseases
5. Fungal Diseases
6. Protozoal Diseases



Basics of Post Mortem

Examination

- Preliminary
 - done while observing birds
- Complete
 - must catch bird
 - systematic examination of anatomic systems
 - checking for variation from normal



Basics of Post Mortem

Systematically check all major anatomic systems for variance from normal

Examination

- 
- A photograph of a veterinarian in a white protective suit and hairnet, holding a dead bird (likely a chicken) in their hands. They are standing in front of a wire-mesh cage containing other birds. The text overlay is positioned to the left and right of the image.
- 1. Discharges
 - 2. Accumulations
 - 3. Use
 - 4. Abnormal sounds, odors, colors
 - 5. Swellings
 - 6. Soiling of feathers
 - 7. Loss
- 1. Skeletal
 - 2. Respiratory
 - 3. Plumage
 - 4. Circulatory
 - 5. Eyes, ears, nostrils
 - 6. Gastrointestinal
 - 7. Feces

Basics of Post Mortem

Learn Symptoms of Disease

- Increased mortality
- No appetite
- Diarrhea
- Coughing
- Lameness
- Depression
- Decreased production
- Unusual behaviors
- Blisters, swellings
- High number of ill animals
- Unthriftiness



Topic to be discussed...



1. Anatomy of the Chicken
2. Basics of Post Mortem
3. Viral Diseases
4. Bacterial Diseases
5. Fungal Diseases
6. Protozoal Diseases



Viral Diseases



- Newcastle Disease
- Avian Influenza
- Infectious Bursal Disease (IBD)
- Infectious Bronchitis (IB)
- Infectious Laryngo Tracheitis
- Diseases caused by REO viruses
- Marek's Disease
- Lymphoid Leukosis
- Inclusion Body hepatitis
- Chicken Infectious Anemia

■ Fowl Pox



Viral Diseases

Newcastle Disease

- Paramyxo virus
- Sick birds excrete the virus faeces, nasal and genital secretions
- Depression, closed eyes, drooping wings, loss of appetite, Greenish diarrhoea
- Twitching of neck, incoordination or paralysis
- Pinpoint haemorrhages are found at the tips of proventriculus, ulcers in intestines and CT
- Treatment: Control 2ndry bacterial infection
- **Prevention: Vaccines**



Viral Diseases

Newcastle Disease- Torticollis



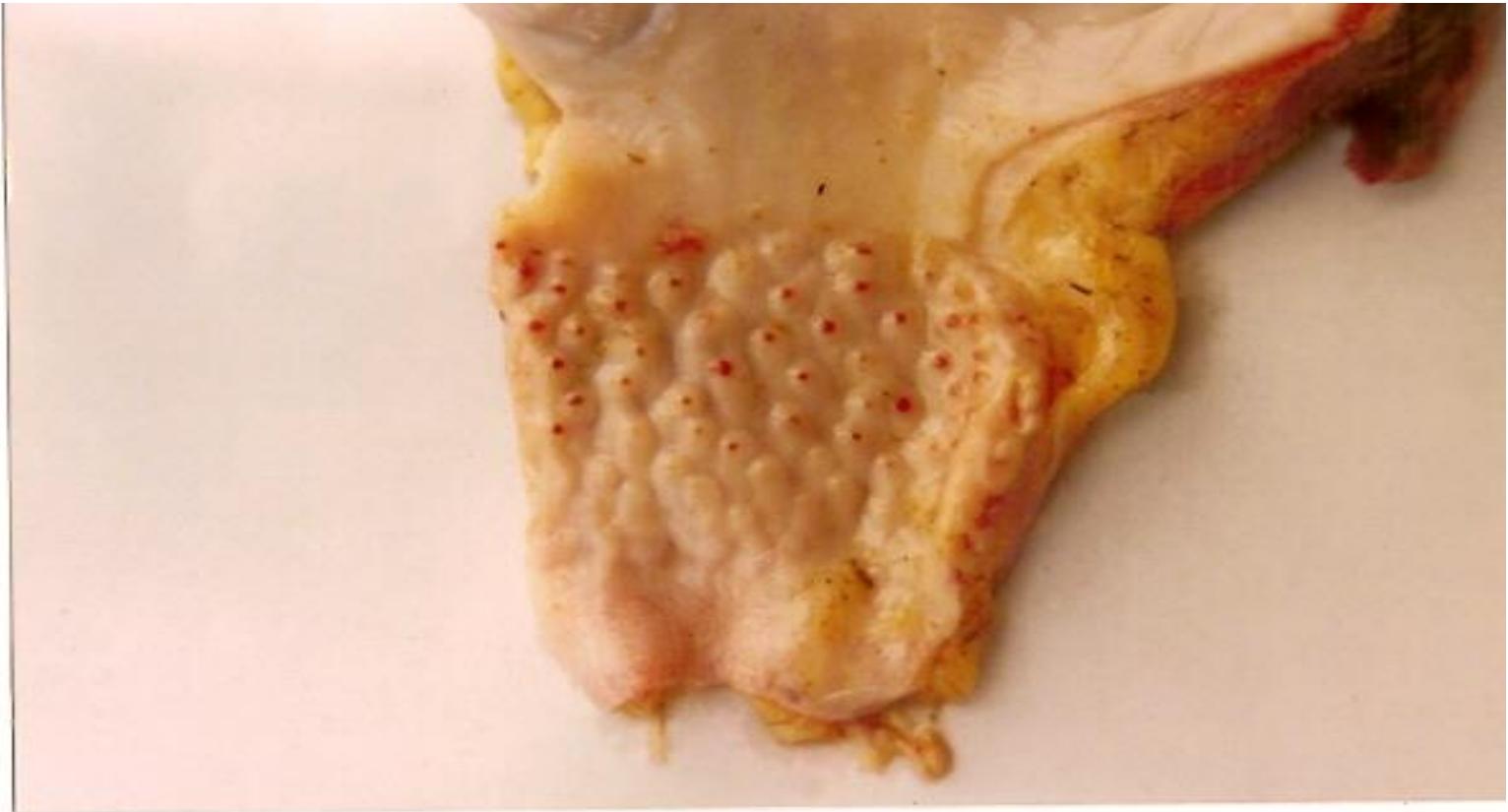
Viral Diseases

Newcastle Disease- Depression



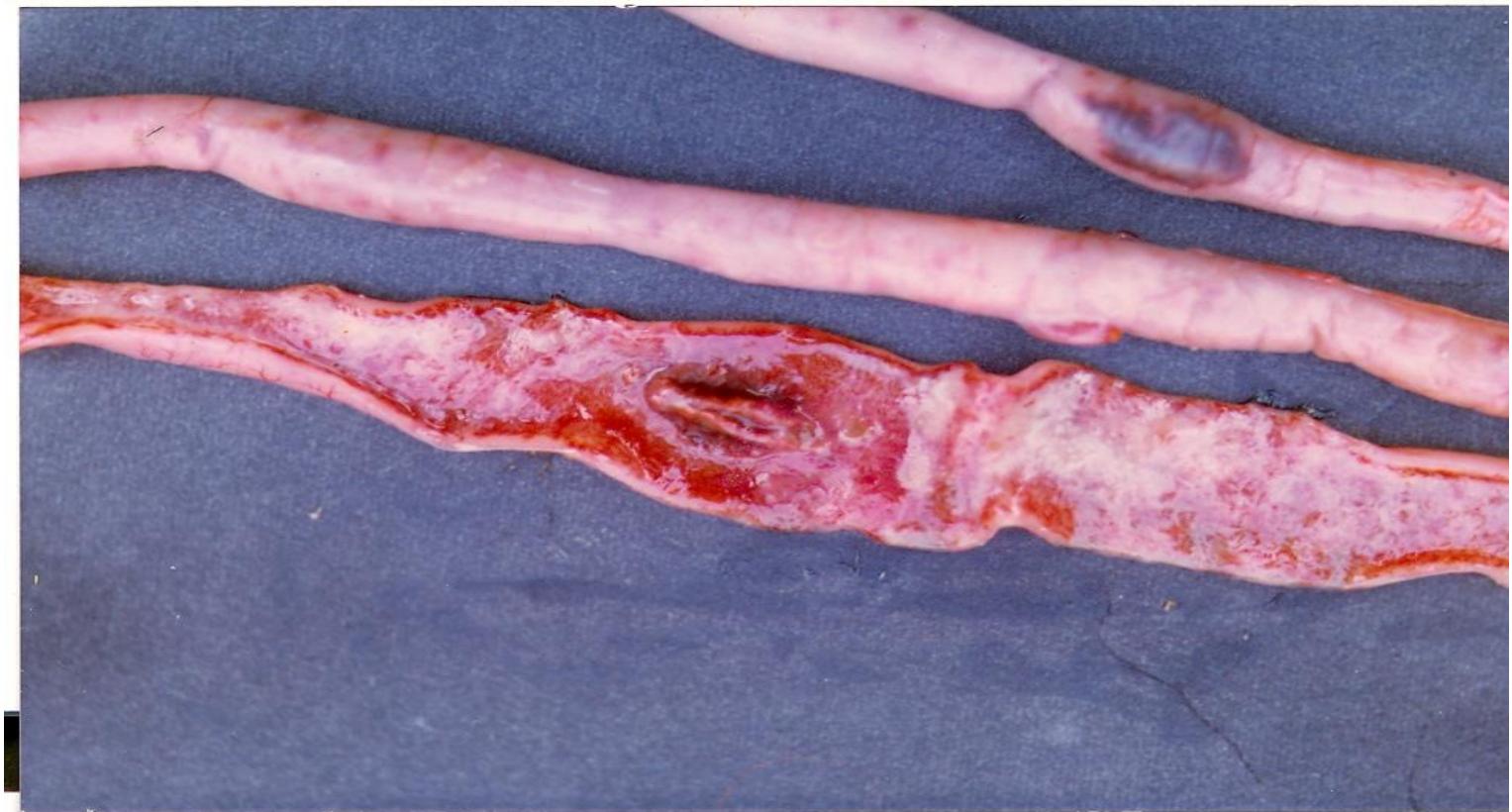
Viral Diseases

Newcastle Disease- Proventricular Hemorrhages



Viral Diseases

Newcastle Disease- Enteritis



Viral Diseases

Avian Influenza



- Orthomyxovirus
- Wild birds, Through air and water
- Die without symptoms
- Cynosis of combs and wattles, Edema of face
- Widespread hemorrhages in all internal organs
- Treatment: Control 2ndry bacterial infection
- **Prevention: Biosecurity**



Viral Diseases

Avian Influenza- Swollen head and discharges



Viral Diseases

Avian Influenza- Respiratory symptoms



Viral Diseases

Avian Influenza- blue cyanotic combs and wattles



Viral Diseases

Avian Influenza- Subcutaneous hemorrhagic shanks



Viral Diseases

Infectious Bursal Disease (IBD)



- Cause: Birna virus
- Contaminated water and feed
- Diarrhoea, sit quiet with closed eyes
- An enlarged haemorrhagic bursa of Fabricius
- Treatment: Control 2ndry bacterial infection
- **Prevention: Vaccines & Biosecurity**



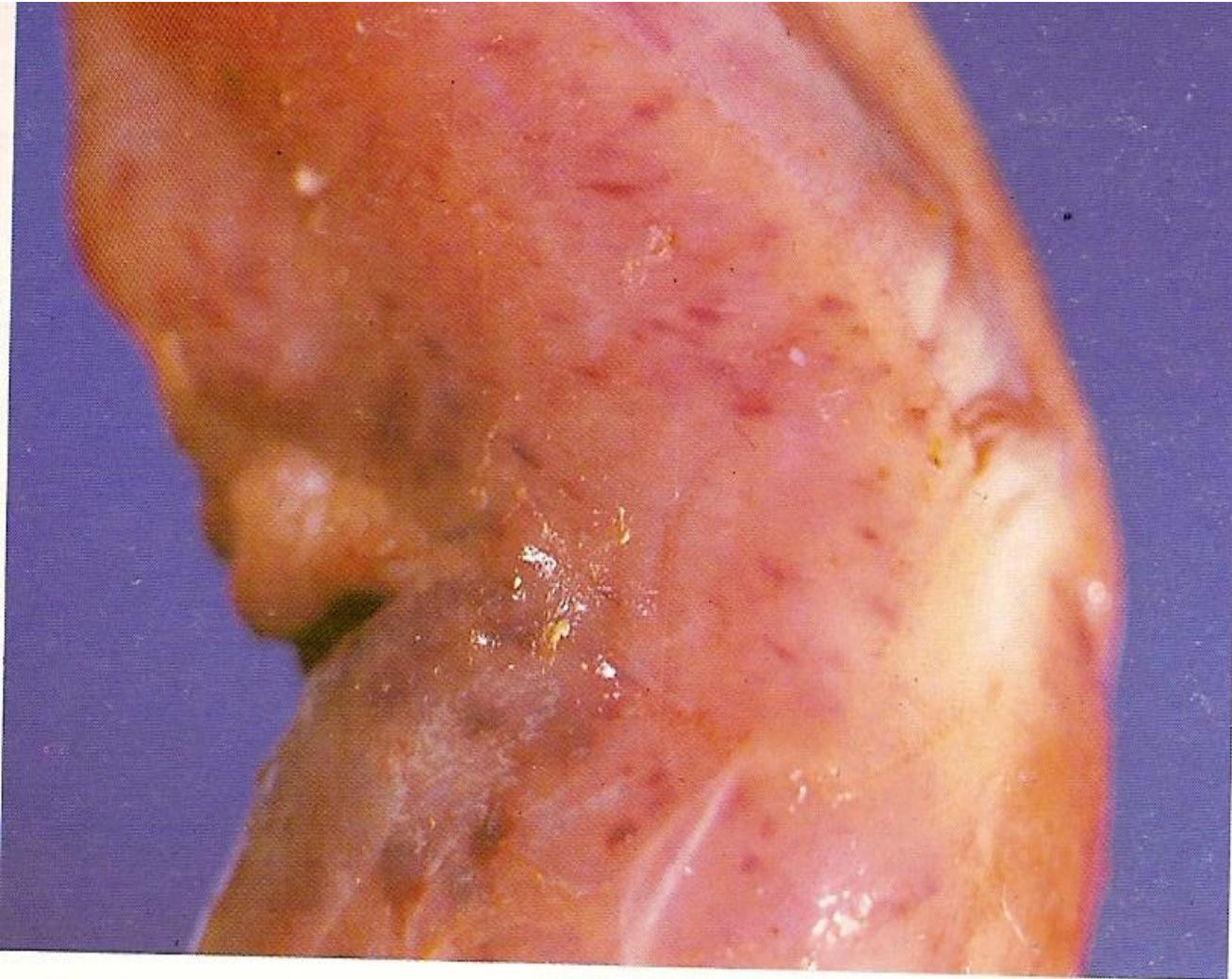
Viral Diseases

IBD- Breast muscle hemorrhage



Viral Diseases

IBD- Hemorrhage in thigh muscle



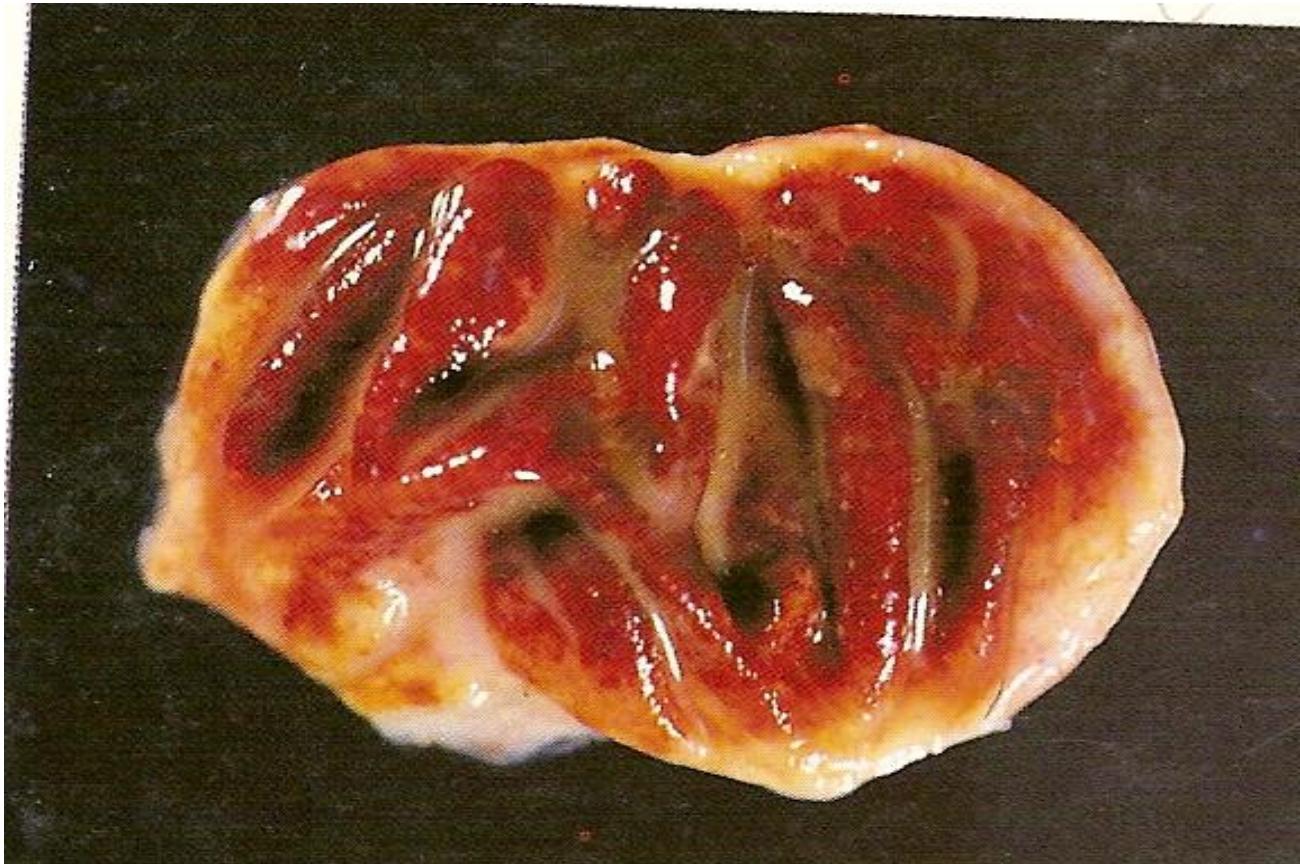
Viral Diseases

IBD- Hemorrhage in proventriculus- gizzard junction



Viral Diseases

IBD- Hemorrhagic bursa



Viral Diseases

Infectious Bronchitis (IB)



- Cause: Corona virus
- Aerosol and secretions
- Chicks- sneezing, coughing, respiratory sound
- Adults- Drop in egg production, thin& wrinkled eggs
- Kidney enlarged, grayish and mottled
- Treatment: Control 2ndry bacterial infection
- **Prevention: Vaccines & Biosecurity**



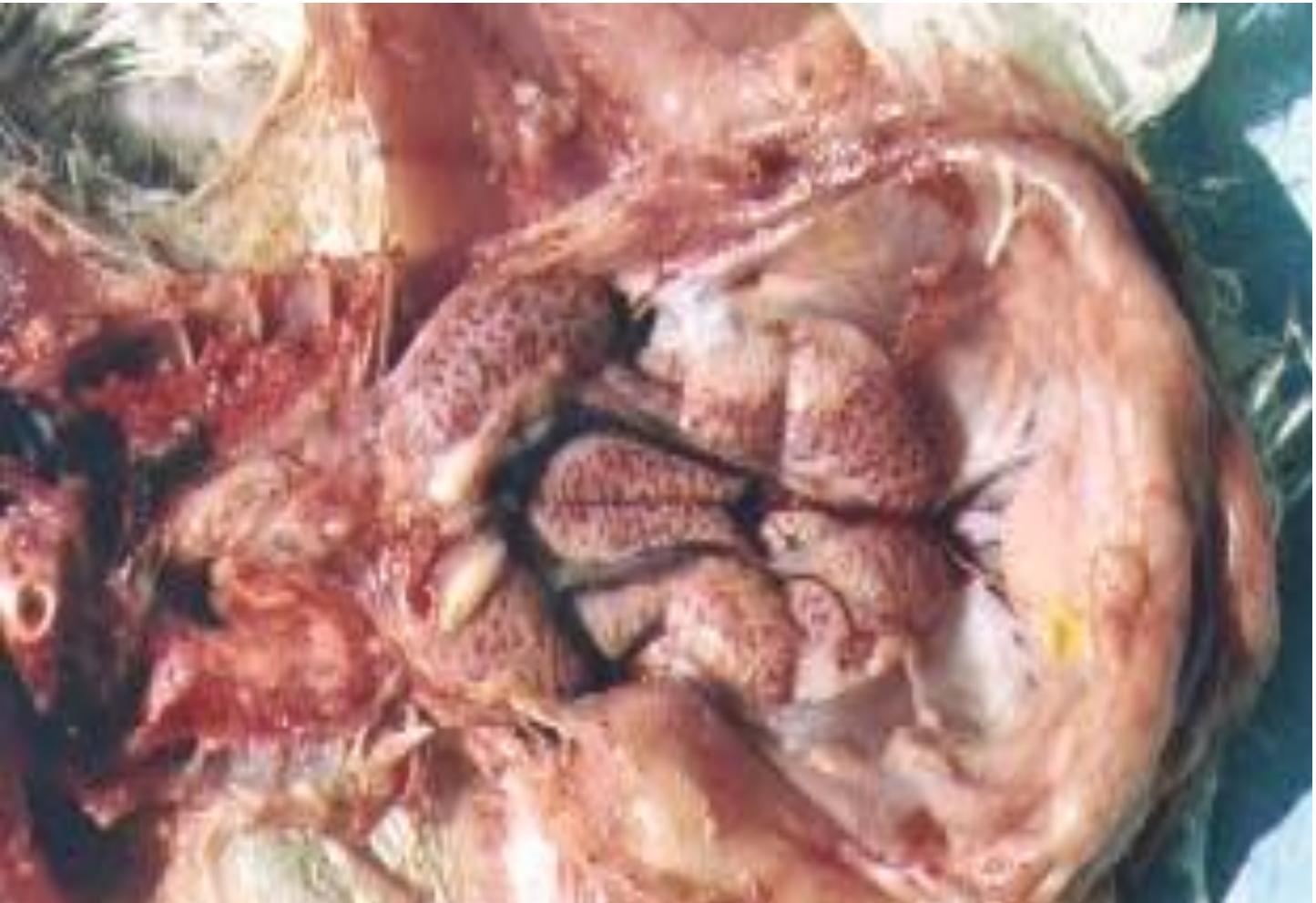
Viral Diseases

IB- Gasp ing



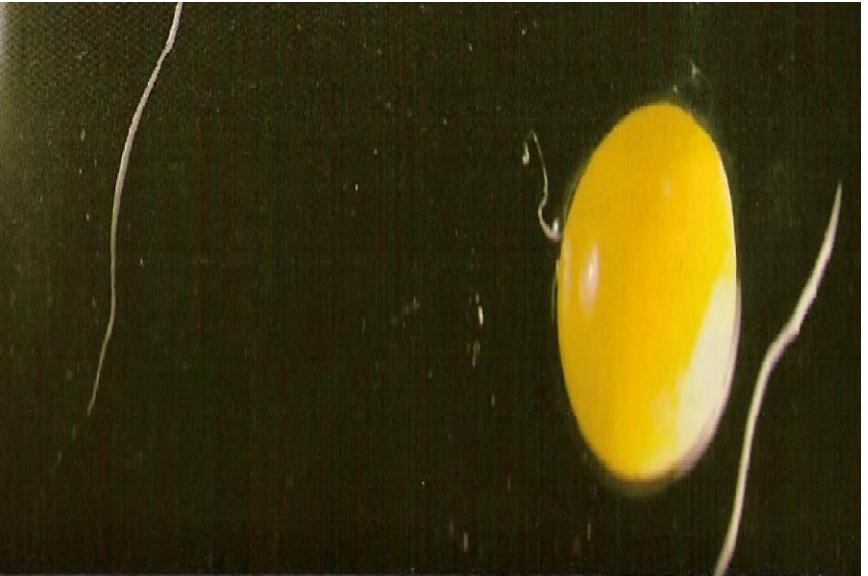
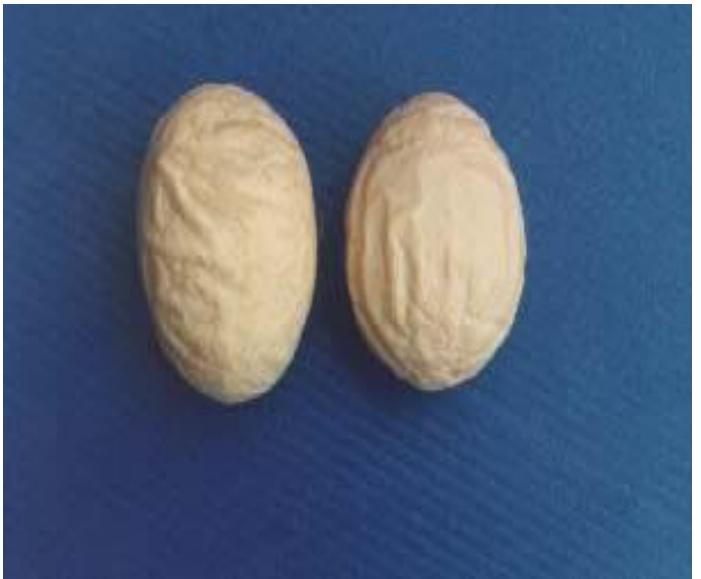
Viral Diseases

IB- Nephritis



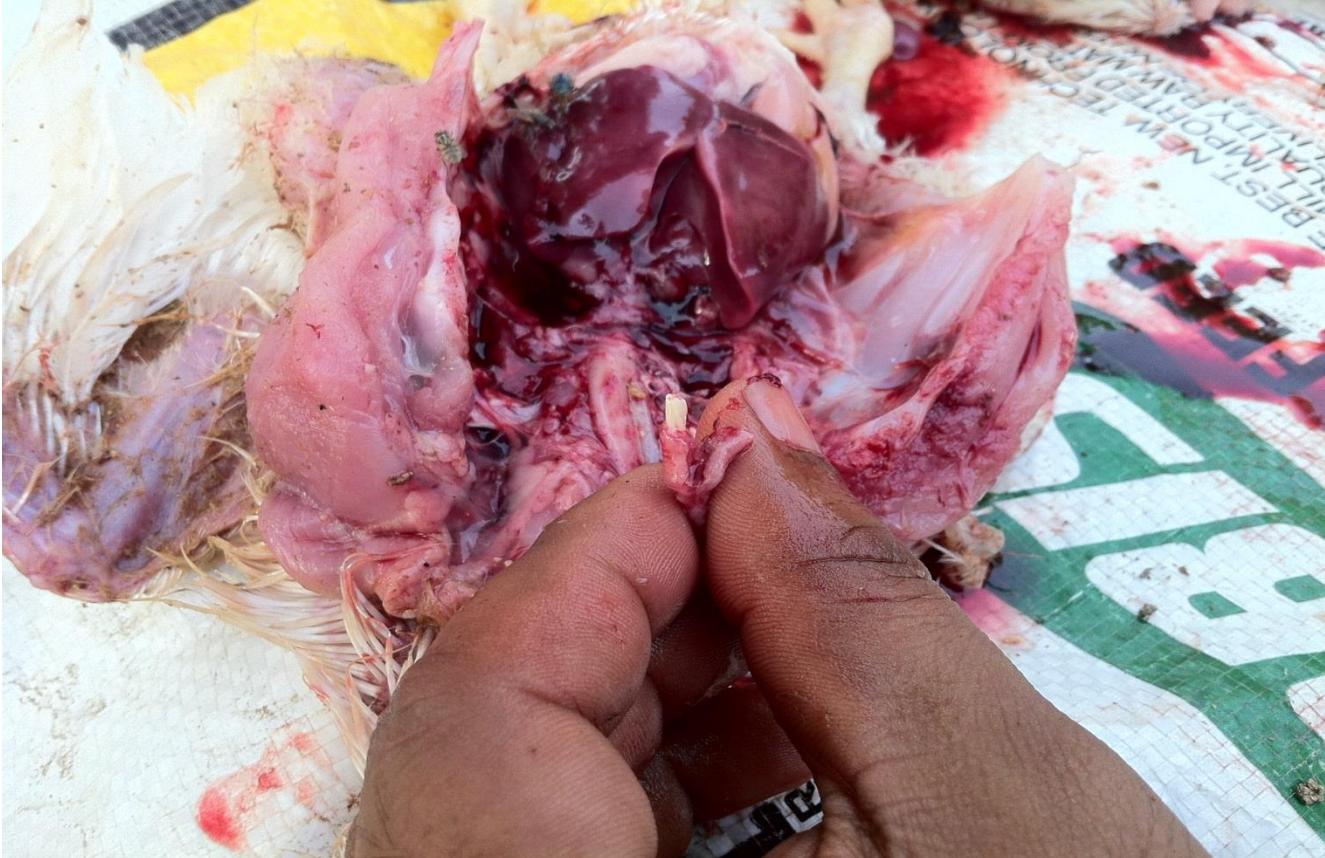
Viral Diseases

IB- Egg abnormalities



Viral Diseases

IB-Bronchial plugs



Viral Diseases

Infectious Laryngo Tracheitis (ILT)

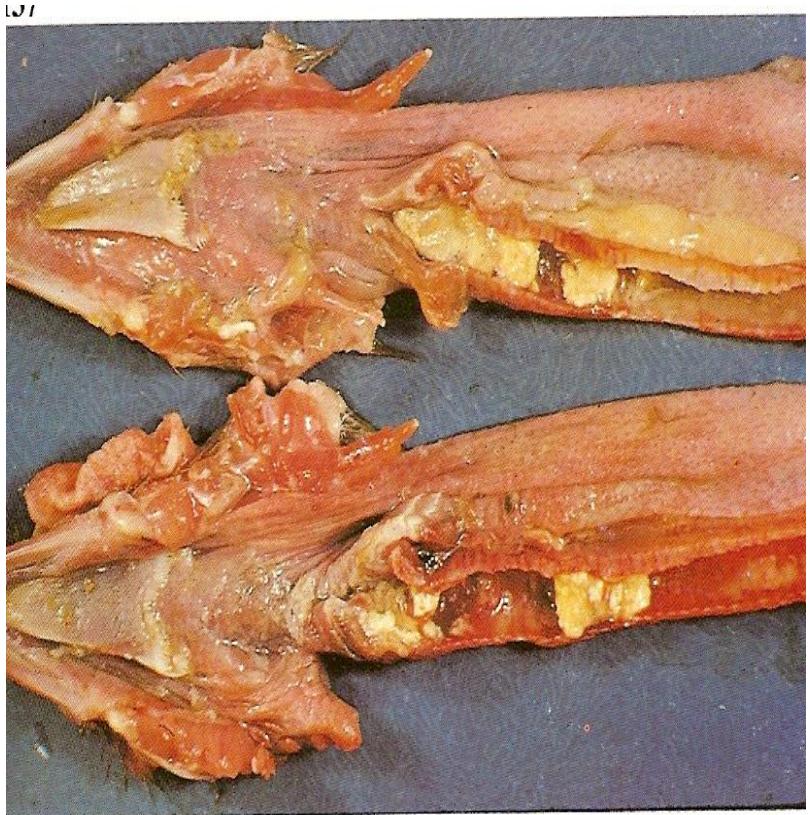


- Cause: Herpes virus
- Aerosol and secretions
- Replication in the tracheal mucosa and latent
- High mortality
- Treatment: Control 2ndry bacterial infection
- **Prevention: Vaccines & Biosecurity**



Viral Diseases

ILT- Exudates in Trachea



Viral Diseases

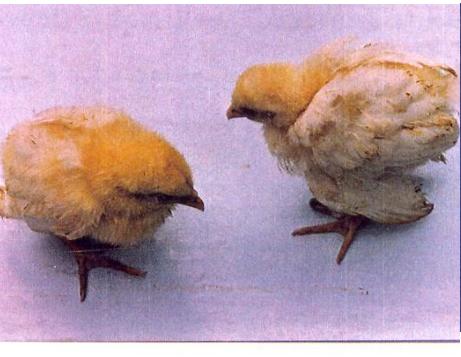
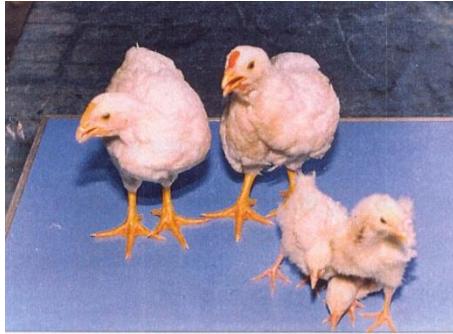
Diseases caused by REO Viruses

- Transovarian
- Viral arthritis: Affects 3-16 wks of age
- Runting syndrome (helicopter disease, brittle bone disease): Affects 1 to 2 wks old birds
- Pasty vent disease: White pasty excreta which may stick around vent feathers
- Respiratory disease
- Treatment: Control 2ndry bacterial infection
- **Prevention: PS Vaccines & Biosecurity**



Viral Diseases

REO-Runting and Stunting syndrome



Viral Diseases

REO-Arthritis



Viral Diseases

Marek's Diseases (MD)



- Herpes virus
- Aerosal
- Virus shed through feather follicles



Viral Diseases

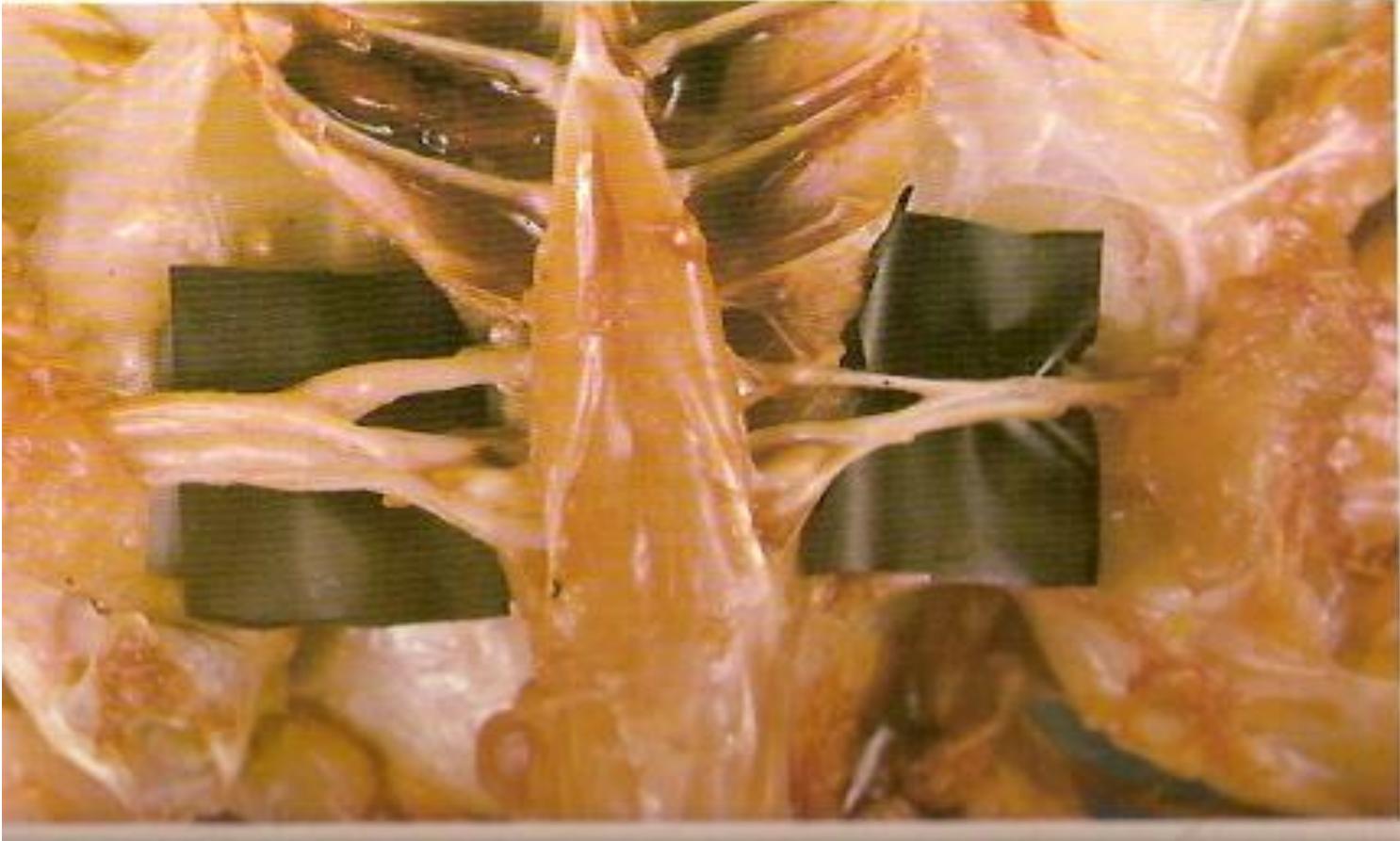
Marek's Diseases (MD)-Nodular tumors in Liver



Viral Diseases

Marek's Diseases (MD)-Sciatic nerve enlargement

73



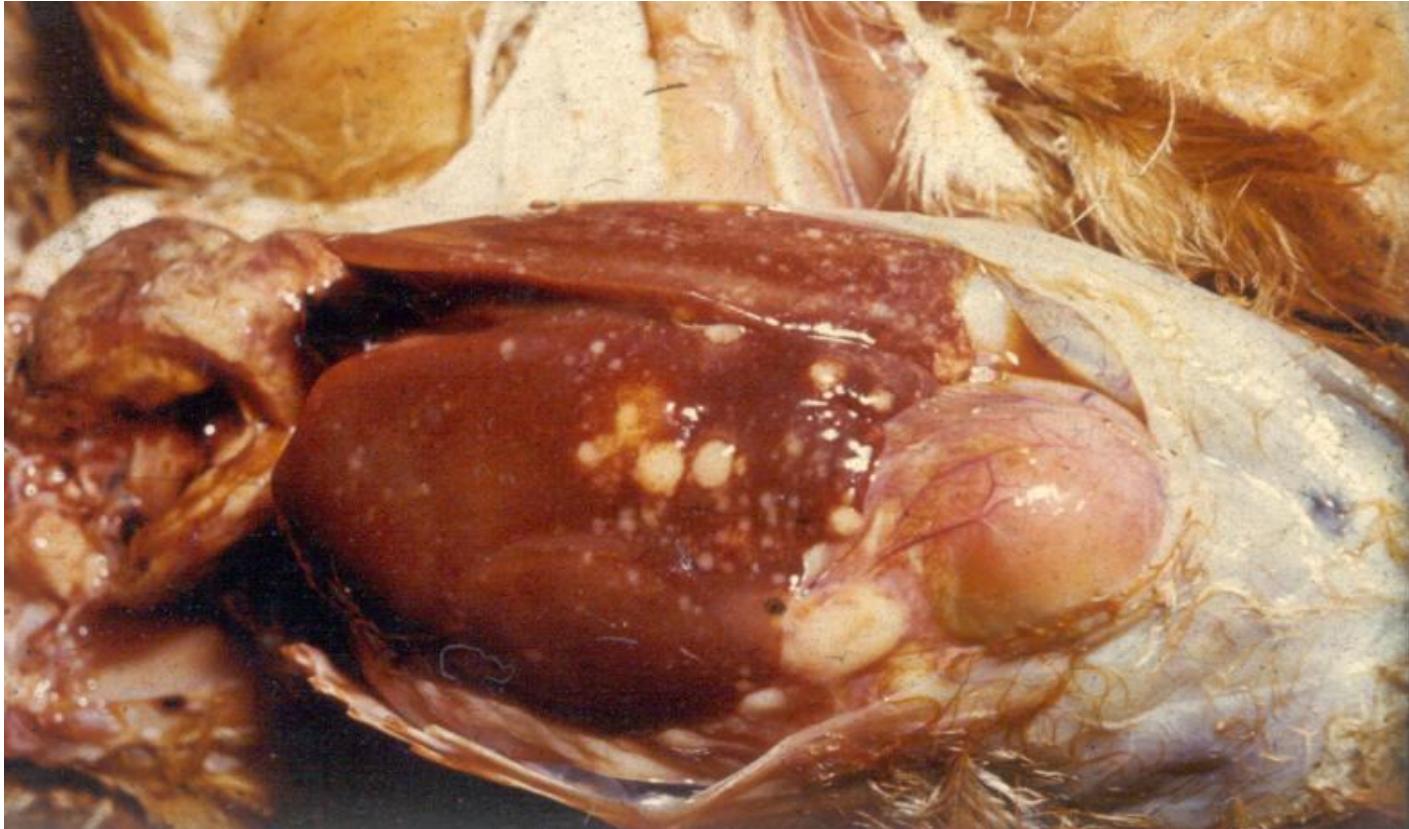
Viral Diseases

Lymphoid Leucosis (LL)



Viral Diseases

Lymphoid Leucosis (LL)



Viral Diseases

Inclusion Body Hepatitis (IBH)

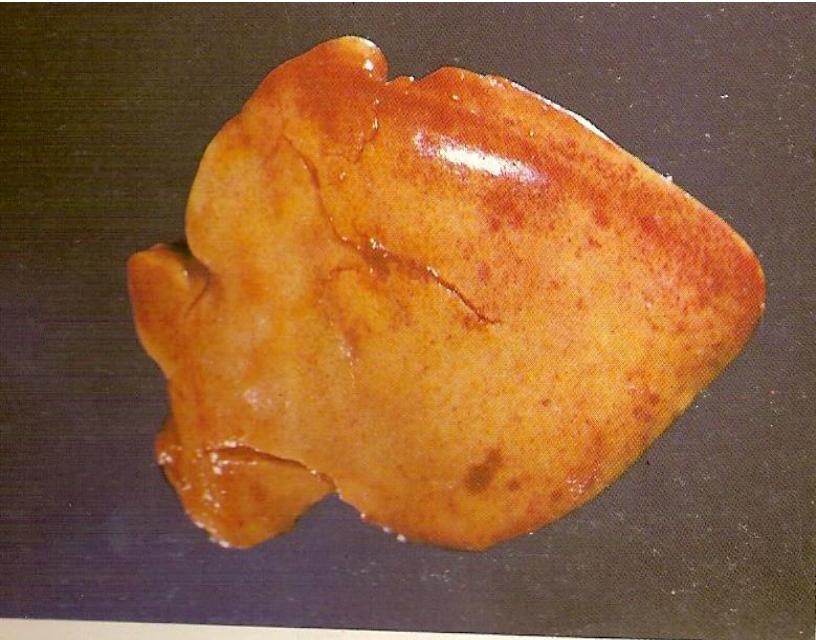
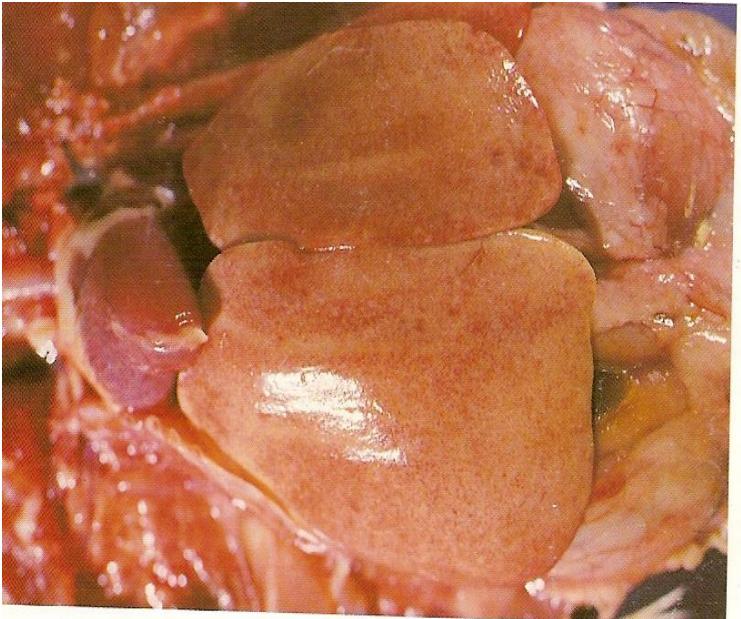


- Adeno virus type 1
- Vertical transmission
- Oro nasal route also
- In the presence of IBD virus, severe mortality
- Incubation period 1 to 2 days
- Vaccination and bio security



Viral Diseases

Inclusion Body Hepatitis (IBH)



Viral Diseases

Inclusion Body Hepatitis (IBH)- Hydro pericardium



Viral Diseases

Chicken Infectious Anemia (CAV)



- Circa virus
- Vertical and horizontal transmission
- Oro nasal route also
- Vaccination and bio security



Viral Diseases

Chicken Infectious Anemia (CAV)- Pale bone marrow

150



Viral Diseases

Fowl pox



Bacterial Diseases



- Infectious Coryza
- Chronic Respiratory Disease (CRD)
- Pullorum Disease
- Fowl Typhoid
- Diseases caused by E.coli
- Fowl Cholera
- Necrotic Enteritis



Bacterial Diseases

Infectious Coryza



- Bacteria *Haemophilus paragallinarum*
- Occurs any age, mostly adults
- **Transmission: Water, air, feed**
- Foul swelling discharges from nostrils and eyes
- Face and Wattles may be swollen
- **Treatment: antibiotics**
- **Prevention: Hygiene**



Bacterial Diseases

Infectious Coryza



Facial edema (due to bilateral occlusion)



Bacterial Diseases



Chronic Respiratory Disease (CRD)

- Cause: *Mycoplasma gallisepticum* and *Mycoplasma synoviae*
- 4 to 10 weeks old birds, especially broilers
- **Transmission: Transovarian, horizontal**
- Sneezing, coughing, gargling sounds during respiration
- Cloudy appearance to cheesy material in airsacs
- In *E.coli* complication fibrinous covering in heart and liver
- **Treatment: antibiotics**
- **Prevention: Mycoplasma control program in PS, Hygiene**



Bacterial Diseases

Chronic Respiratory Disease (CRD)



Bacterial Diseases

Chronic Respiratory Disease (CRD)- A airsacculitis



Bacterial Diseases

Chronic Respiratory Disease (CRD)- A airsacculitis



Bacterial Diseases

Pullorum Disease

- Bacteria *Salmonella pullorum* or *gallinarum*
- Disease of newly hatched chicks
- Transmission: Transovarian
- **Huddling, loss of appetite and white diarrhoeal**
- Greyish necrotic spots in liver
- Large abscesses in the lungs
- **White spots on heart and spleen**
- **Treatment: antibiotics**
- **Prevention: Salmonella control program in PS, Hygiene**



Bacterial Diseases

Fowl Paratyhoid

- Bacteria *Salmonella enteritidis*
- Similar to Pullorum disease
- Transmission: Transovarian
- Greyish necrotic spots in liver
- Large abscesses in the lungs
- **White spots on heart and spleen**
- **Treatment: antibiotics**
- **Prevention: Salmonella control program in PS,**
Hygiene



Bacterial Diseases

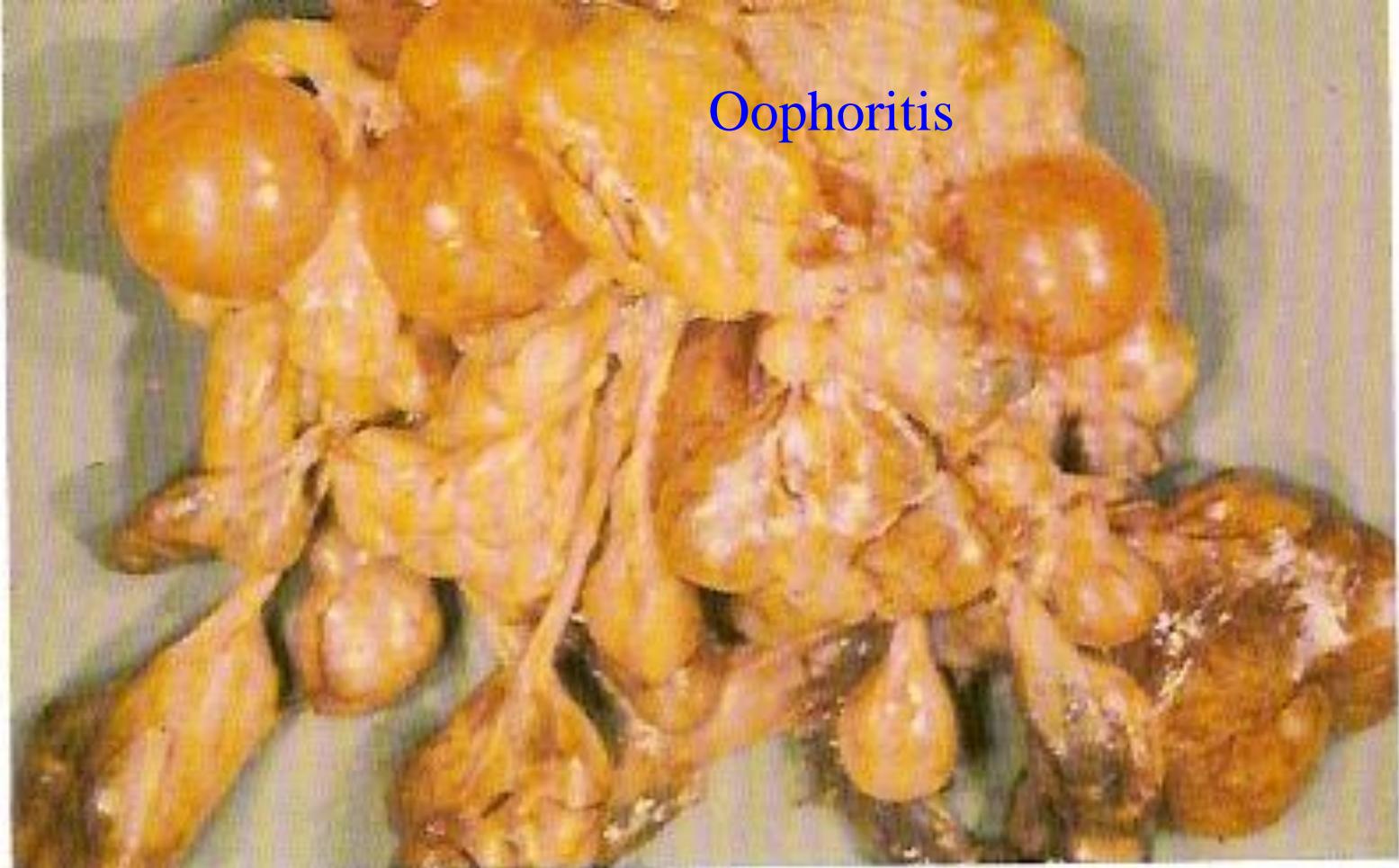
Pullorum Disease

Greyish-white
necrotic nodules
in lungs



Bacterial Diseases

Pullorum Disease



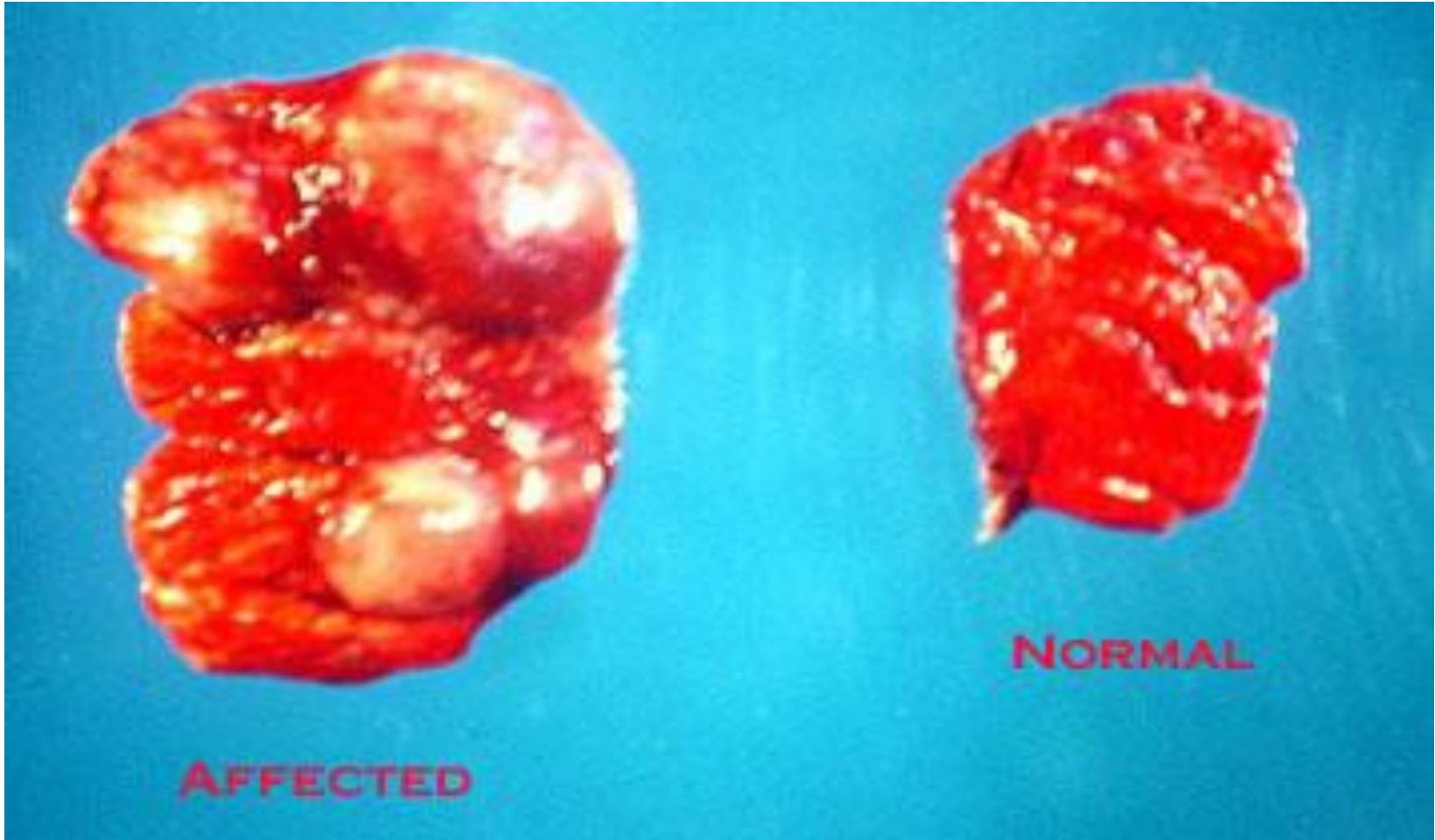
Bacterial Diseases

Pullorum Disease- heart nodules



Bacterial Diseases

Pullorum Disease- Lung Abscess



Bacterial Diseases

Pullorum Disease- Liver



Bacterial Diseases

Diseases caused by E.coli



- **Colisepticaemia and Airsacculitis** - Milky fluid in the pericardium, cloudy airsacs, thin covering of fibrinous exudates on liver
- **Omphalitis:** Yolk sac infection
- **Treatment:** antibiotics
- **Prevention:** Hygiene



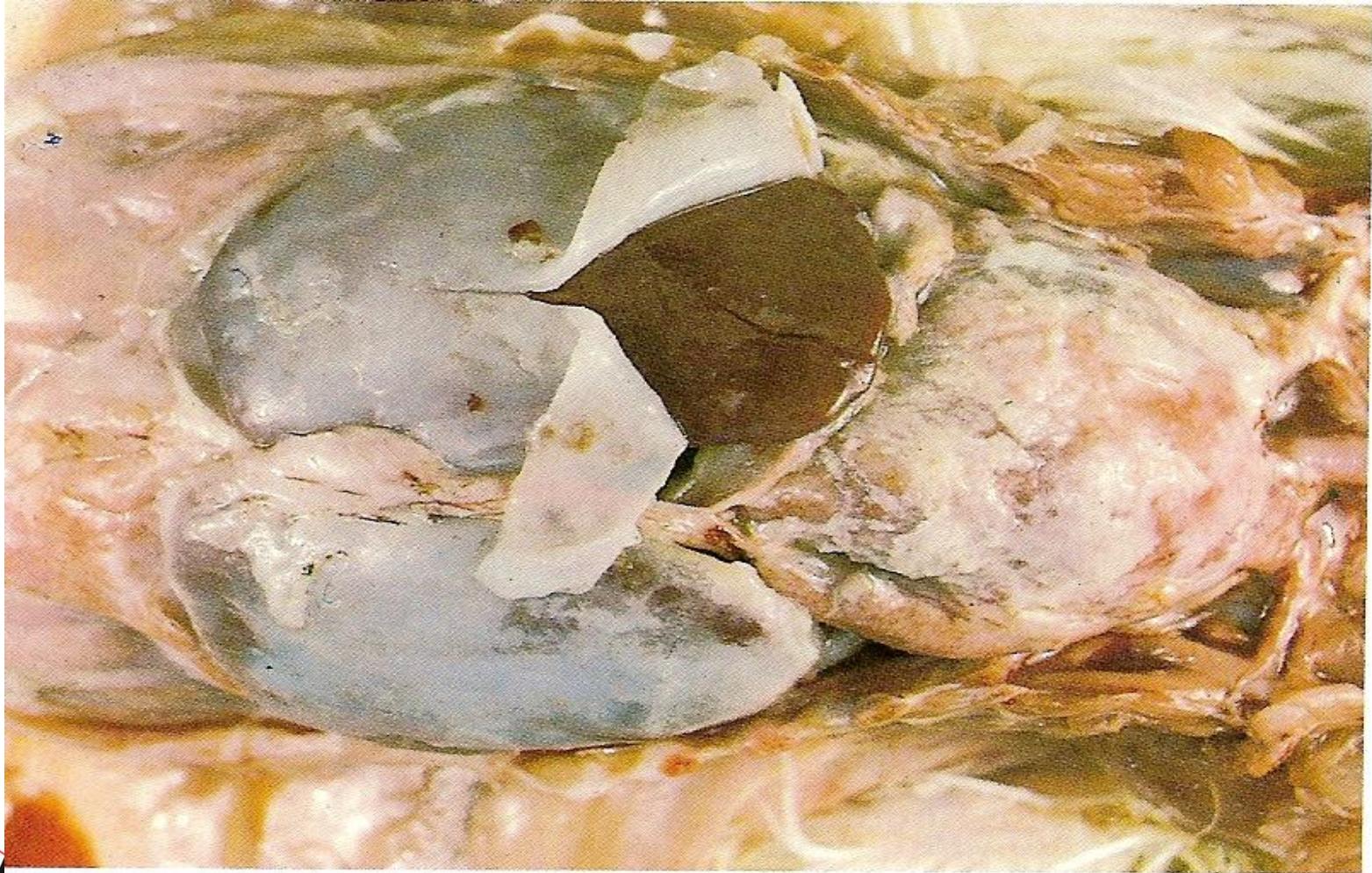
Bacterial Diseases

Diseases caused by E.coli - Omphalitis



Bacterial Diseases

Diseases caused by E.coli – Pericarditis and Perihepatitis



Bacterial Diseases

Diseases caused by E.coli – Coli septicemia -Salpingitis



Bacterial Diseases

Diseases caused by E.coli – Coli septicemia



Bacterial Diseases

Diseases caused by E.coli – Coli septicemia



- Coli grnuloma (Hjarre's disease)



Bacterial Diseases

Fowl Cholera

- Bacteria *Pastuerella multocida*
- Acute and chronic form
- Transmission: Horizontal, feed and Rodents
- **Treatment: antibiotics**
- **Prevention: Bio security and Hygiene**



Bacterial Diseases

Fowl Cholera- Facial edema



Bacterial Diseases

Fowl Cholera- Infraorbital swelling



Bacterial Diseases

Fowl Cholera- wattle swelling



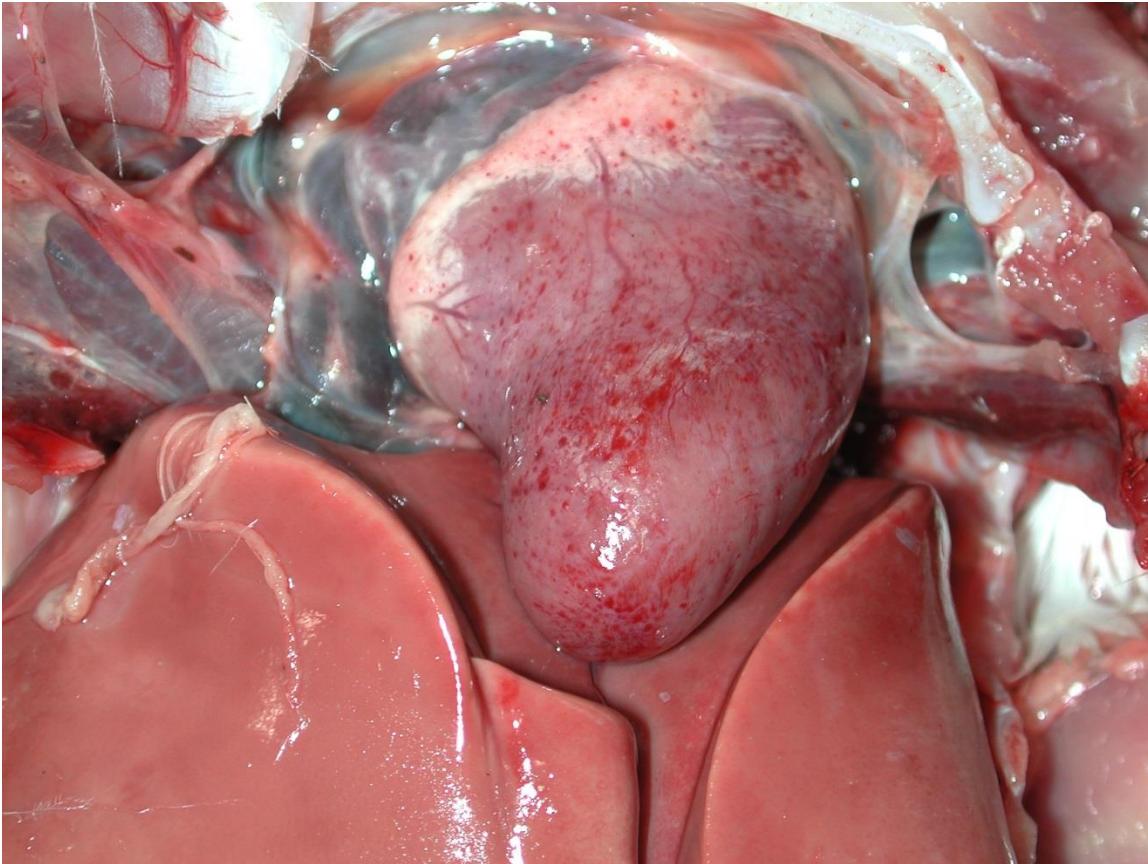
Bacterial Diseases

Fowl Cholera- Liver petechial and necrotic foci



Bacterial Diseases

Fowl Cholera- Heart lesion- petechial hemorrhage



Fungal Diseases

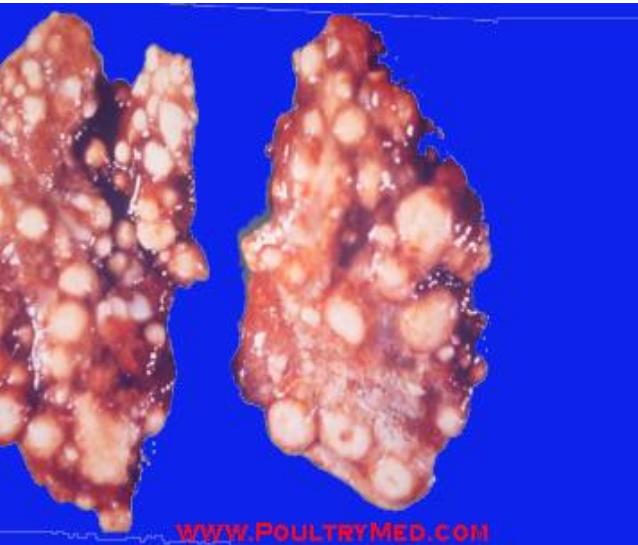


- Brooder pneumonia- Aspergillosis
- Aspergillus fumigatus
- Lungs show almost raised pinhead sized yellowish nodules
- Mycotoxicosis
- Eating of Toxins produced by the fungus feed
- Toxins: Aflatoxin, Ochratoxin, T2 toxin



Fungal Diseases

Brooder Pneumonia





Impact of Aflatoxin in liver health

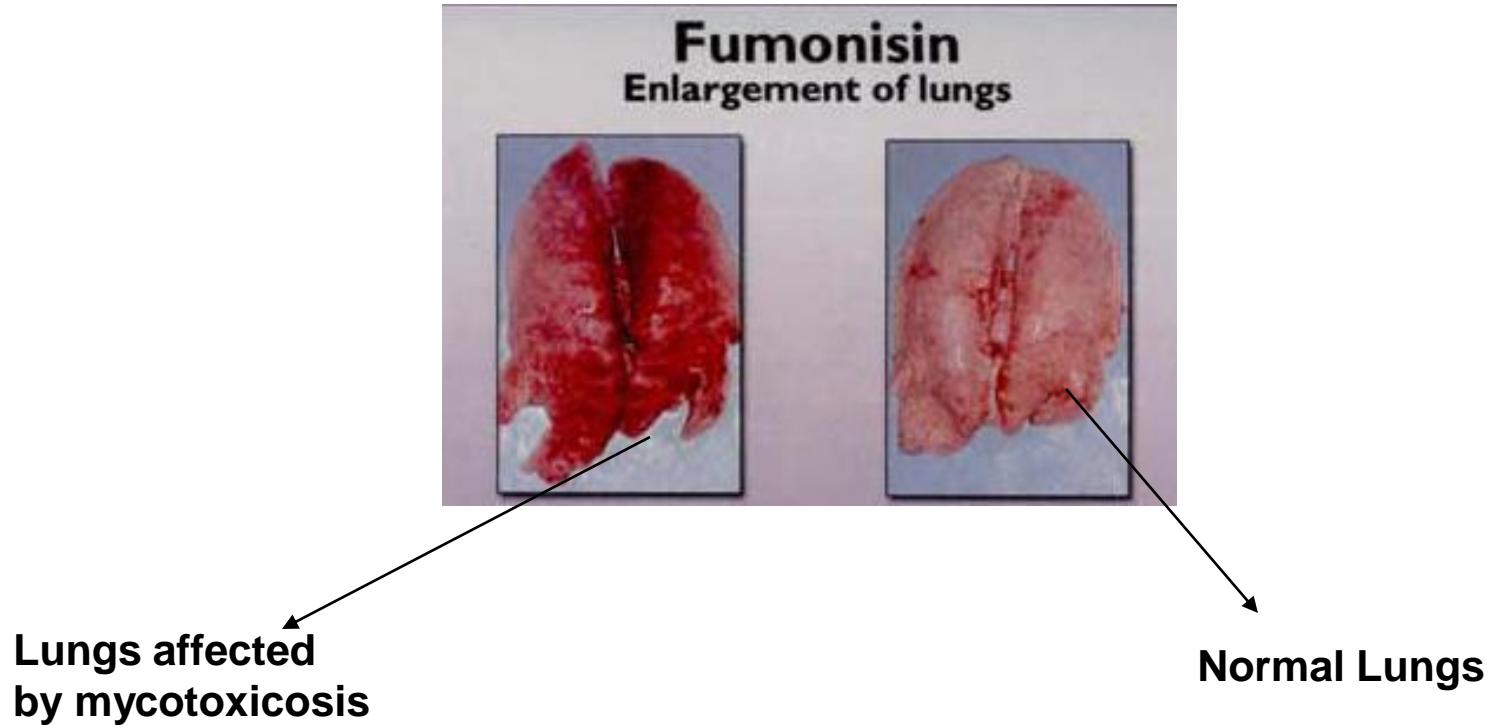


Impact of Aflatoxin in liver health



Capillary fragility caused by Aflatoxin

Impact of Fumonisin in lung health



Impact of Trichothecene toxins in Oral and Gizzard health



**Oral ulcers in a hen
caused by T-2 Toxin.**



**Gizzard erosion caused by T-2 Toxin,
DAS or MAS (Trichothecenes)**



Impact of T2 toxin and Ochratoxin in intestinal and kidney health



Enteritis caused by T-2 Toxin



Hemorrhagic and swollen kidneys caused by Ochratoxin



THANK YOU FOR KIND ATTENTION





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