Carcass Evaluation

Animal Health Program
Maryland Department of Agriculture

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Thanks to:

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- Michael W. Radebaugh, VMD
- Melissa Foster, AHT
- Dr. Claudia Osorio
  MDA Salisbury Laboratory Director and Poultry Specialist
- Dr. Virginia Pierce
  MDA Frederick Laboratory Director and Mammalian Specialist



Objectives:

- At the conclusion of this training, the participant will be able to:

Objectives:

- ✓ Differentiate between healthy and unhealthy live rabbits or poultry
- ✓ Know to segregate unhealthy rabbits and poultry from the slaughter process
- ✓ Recognize normal and abnormal anatomic features in slaughtered rabbits and poultry
- ✓ Know to segregate unhealthy or unwholesome carcasses from the food supply

Objectives:

- ✓ Know how to refer unhealthy live or slaughtered rabbits or poultry to the Maryland Department of Agriculture Animal Health Diagnostic Laboratory System for evaluation
- ✓ Know that feeding uncooked waste carcass material to livestock or poultry is illegal in Maryland and most other states
- ✓ Know how to safely feed animal carcass material to livestock or poultry or properly dispose of it

For the ultimate purpose of:

- Producing a meat product that is safe
- Producing a meat product that is wholesome
- Producing a meat product that does not endanger the health of your livestock or poultry or that of your neighbors
- Producing a meat product that customers want to purchase again and again
- Producing a meat product that is profitable

HOW DOES ONE ACCOMPLISH THIS?

Producing a Good Product

- Garbage in = Garbage out
- Healthy animals in = Safe and wholesome products out
- Healthy animals result from **Good Husbandry**

Good Husbandry

- Facilities
  - Size, features, sanitation, convenience, shelter
- Nutrition
  - Adequate for species, age, size, purpose
- Biosecurity-
  - The ultimate in primary prevention
- Herd/Flock Health/Disposal Plan
  - Seek expert assistance

Biosecurity

Biosecurity means keeping disease off your farm



Flock/Herd Health Planning

- Managing diseases and mitigating their risk where you are unable to prevent the disease agents from entering your farm
- Nutrition planning
- Facility management
- Vaccination/Antiparasitic treatments
- Surveillance/diagnostics
- Residue avoidance
- Disposal

Residue Avoidance

- Residue: Amount of a drug or other substance remaining in tissue at slaughter
- Violative: Residue exceeds a federal standard determined to be acceptable
- What causes residues in meat?
  - Antibiotics, antiparasitics, certain feed additives and vaccines.
  - Residue may have adverse public health effect

Withholding times

- Time between last use of the product on or in the animal and slaughter
- Based on time needed for body to eliminate the substance
- Varies with the product and species
- Withholding times usually printed on product label
- For meat, usually measured in WEEKS or more

Husbandry Goals

- Prevention first; then manage disease
- Constantly improve your herd or flock
- Produce healthy animals for slaughter
- Segregate animals that are not healthy
- Seek answers to nature of health problems
- Market or slaughter only healthy animals

Safe and Wholesome

- The goal for your meat product is to be both safe and wholesome.
- Safe: Contains nothing in a quantity that will be injurious to human health and safety
  - None or acceptable levels of microbes, adulterants, residues
- Wholesome: The quality of being generally beneficial and good; sound and healthy
  - Product is in good or better condition

Poultry



What is Unhealthy?

- Anything that is not healthy
- Anything not safe
- Anything not wholesome

Ante-mortem: What is Healthy?

- Normal size for age, sex, etc.
- Normal movements, responses, vitality
- Normal social behavior
- Normal coloration
- Normal skin, feathers or fur



- No visible lesions or other abnormalities
- No cough, sneeze, diarrhea or other discharges

Ante-mortem: What is Unhealthy?

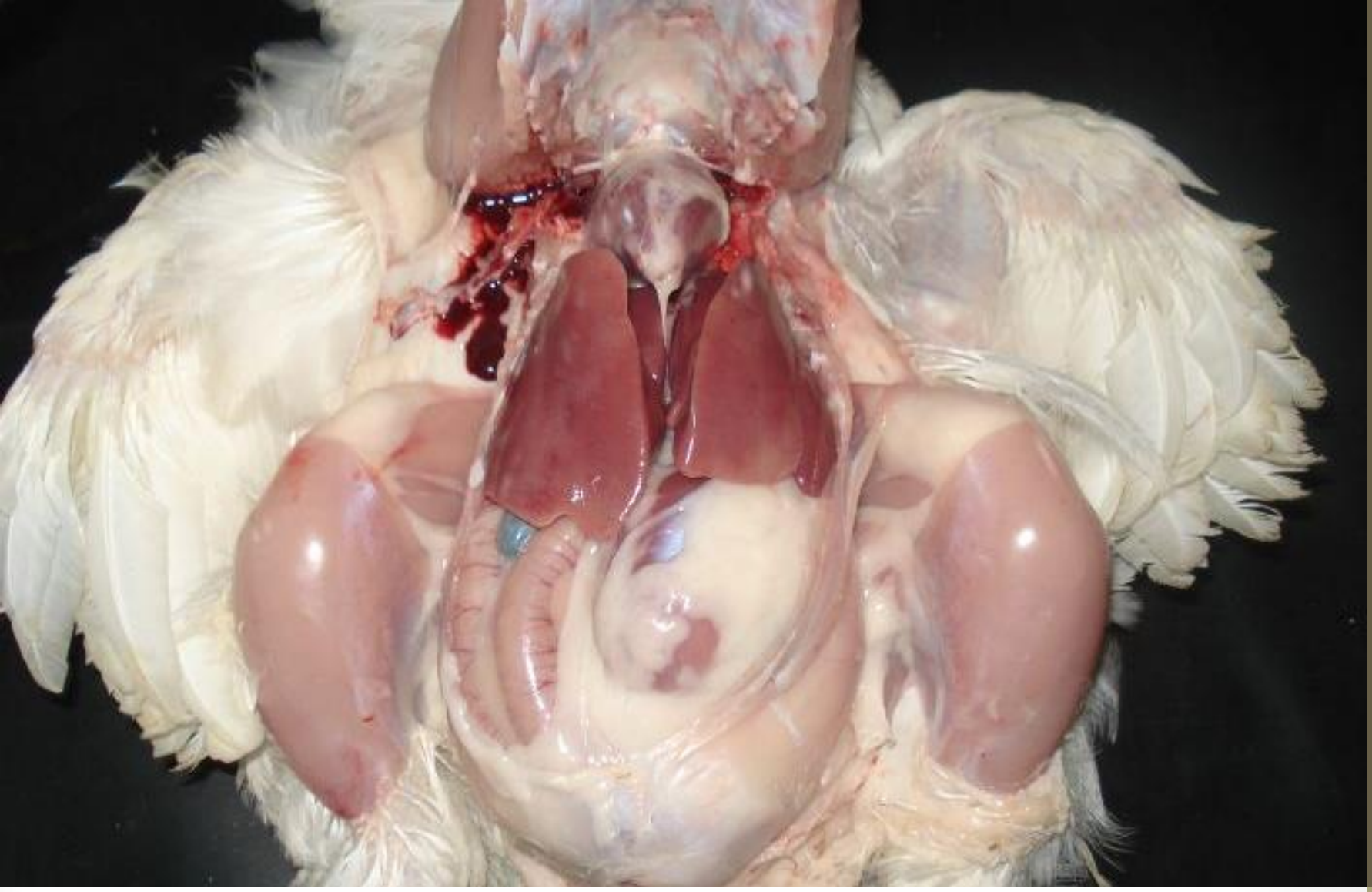




Poultry Anatomy and Pathology



Healthy Bird-Normal Feathers, Muscle Color



Healthy Bird, Normal liver, fat

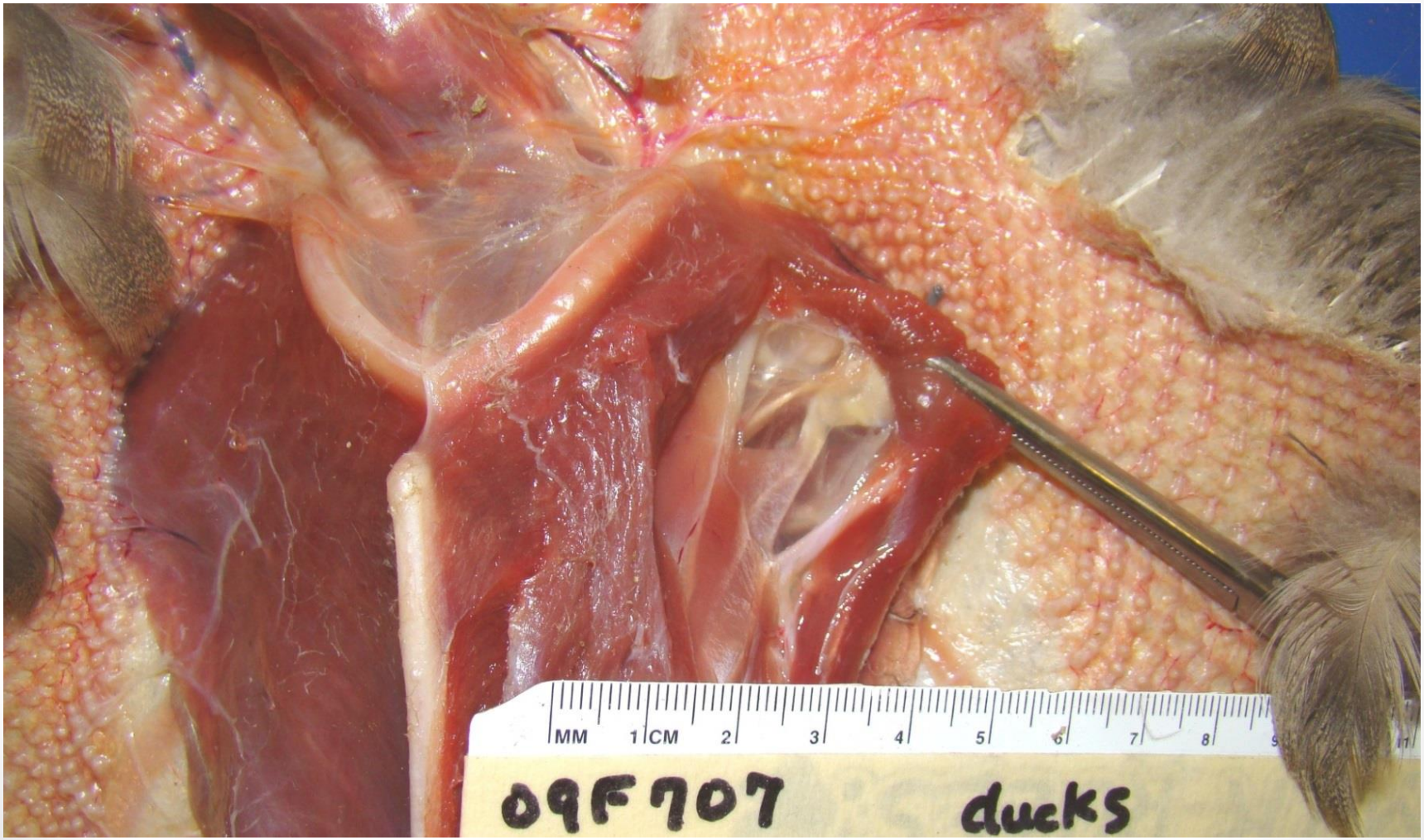


Healthy Bird, Normal spleen size and color, normal lung color

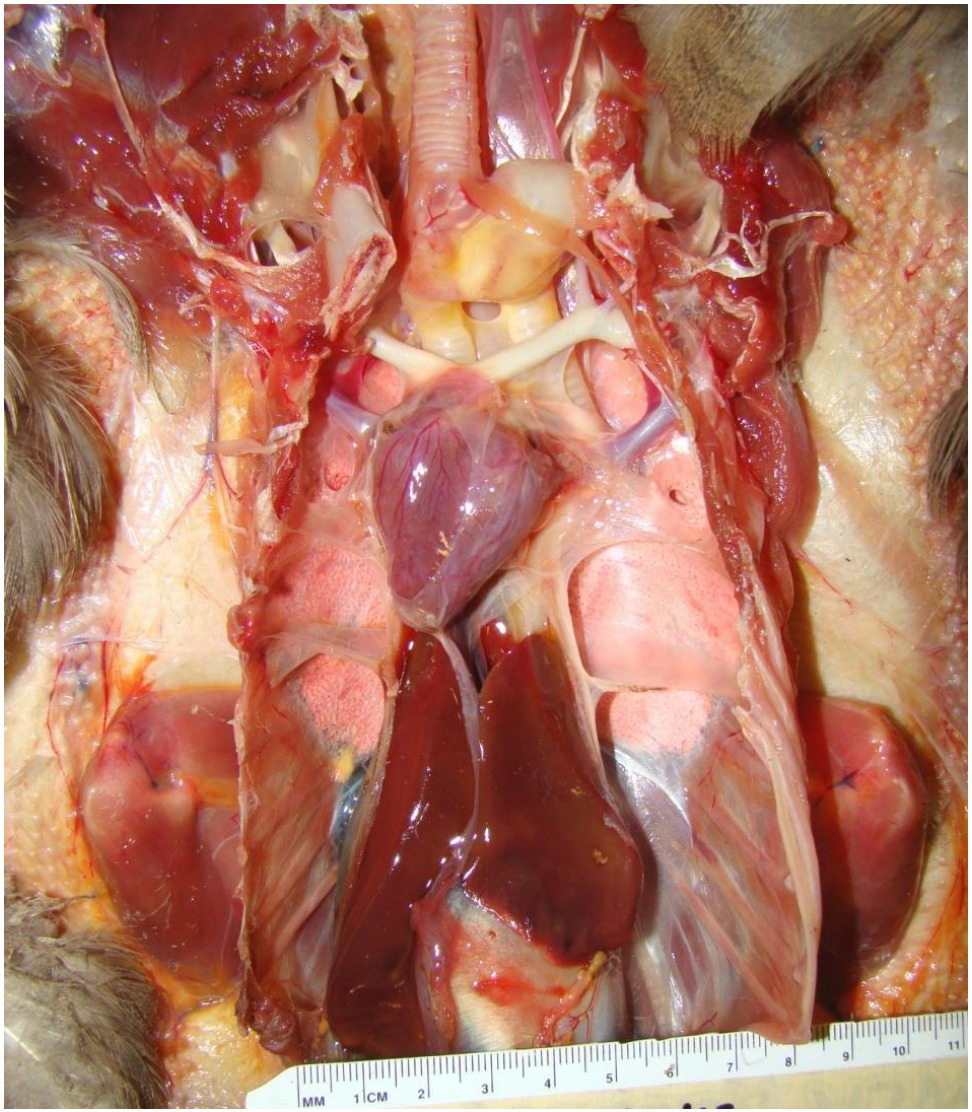
Normal-Very lean



Lean duck-normal air sac



Duck, very lean but normal



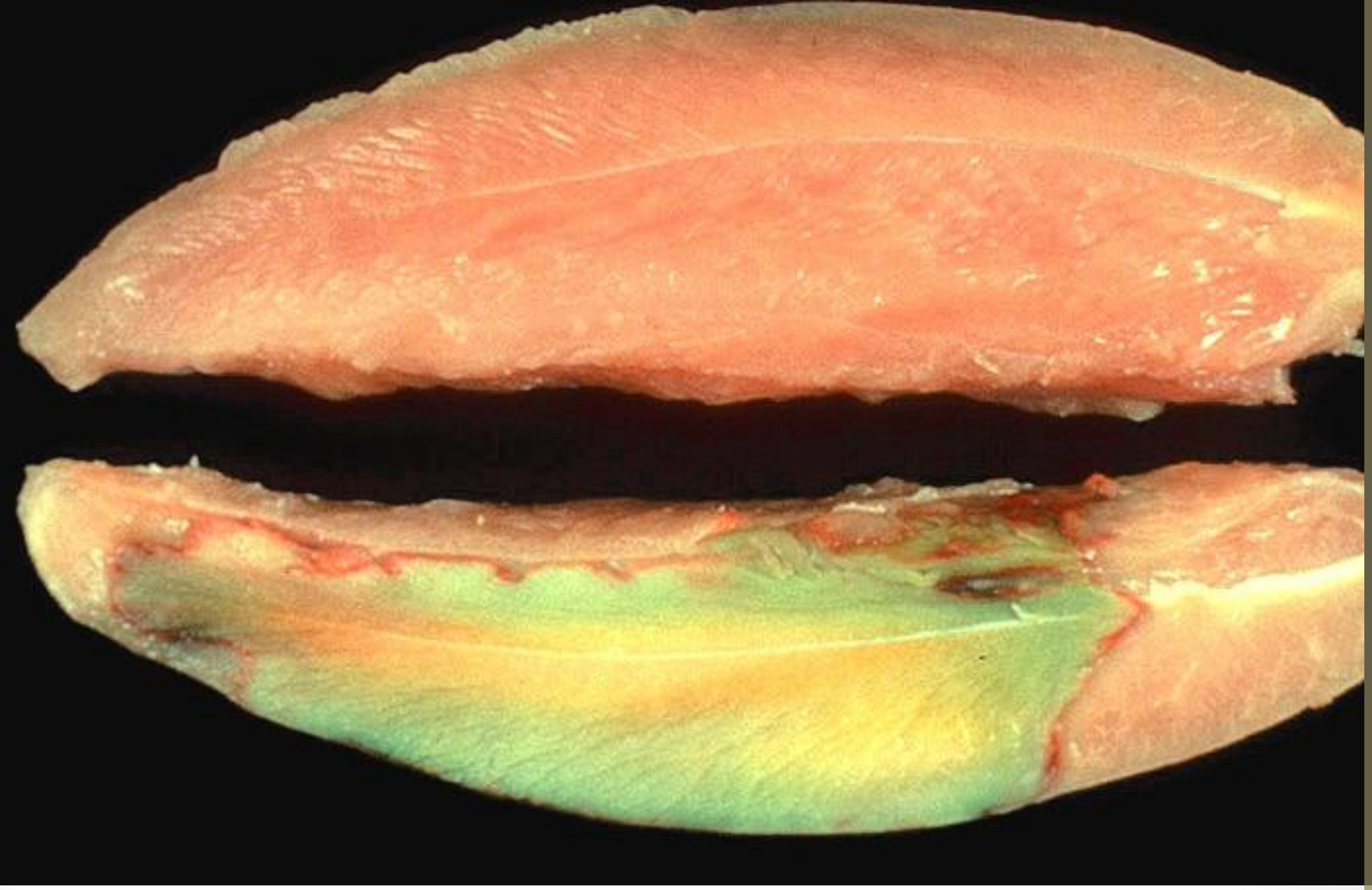
Post-Mortem Abnormal Findings

Hatchet keel-emaciated



Abnormal muscle





Condemn carcasses with Green muscle disease or any significant muscle discoloration

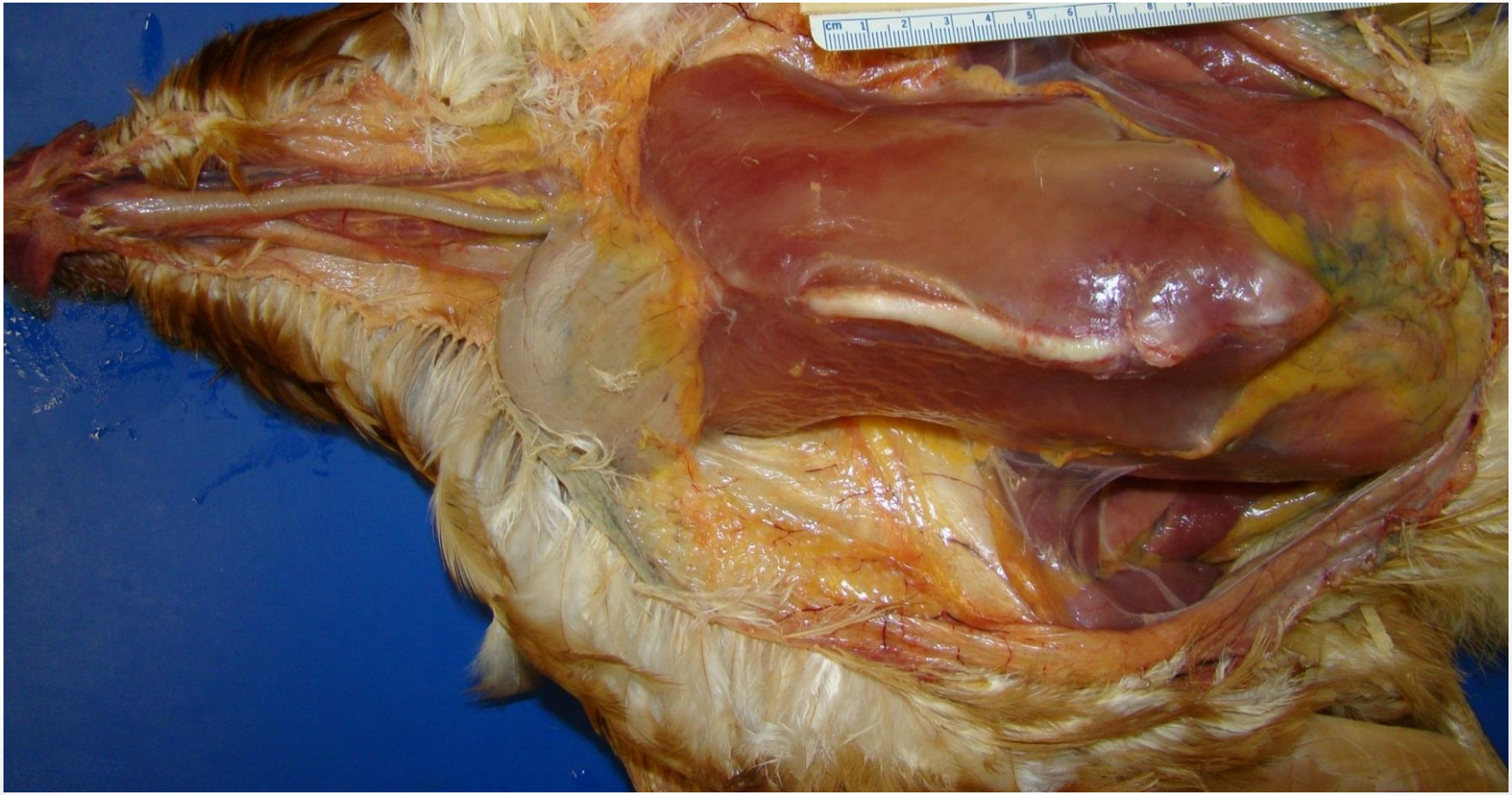


Condemn carcasses with a muscle abscess or other substantial muscle lesion

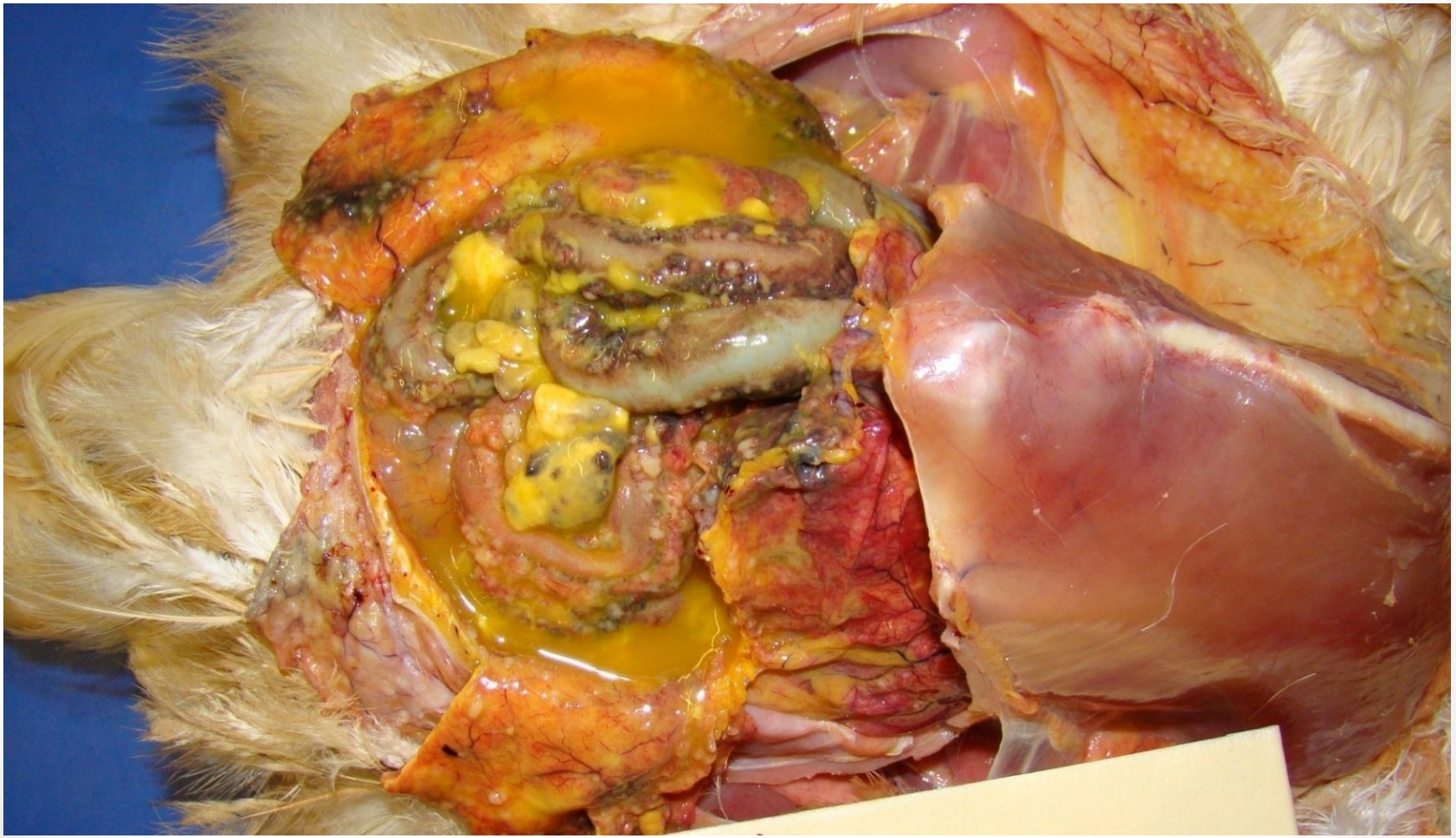
Laryngotracheitis



Malnourished-Calcium deficiency



Yolk rupture, nodules



Inflammation, yolk rupture



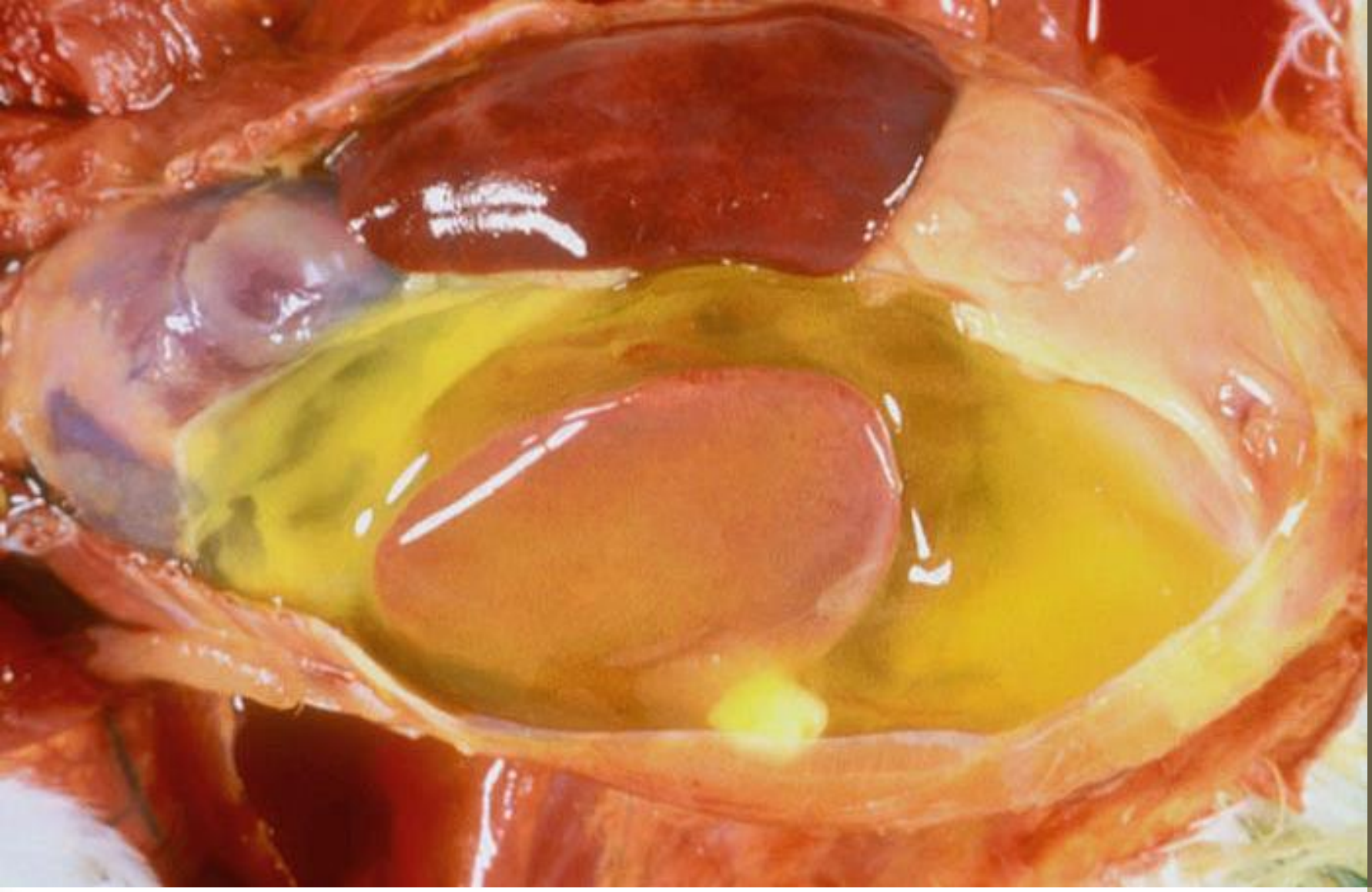
Abdominal inflammation





Condemn carcasses with measurable abdominal fluid—see next slide

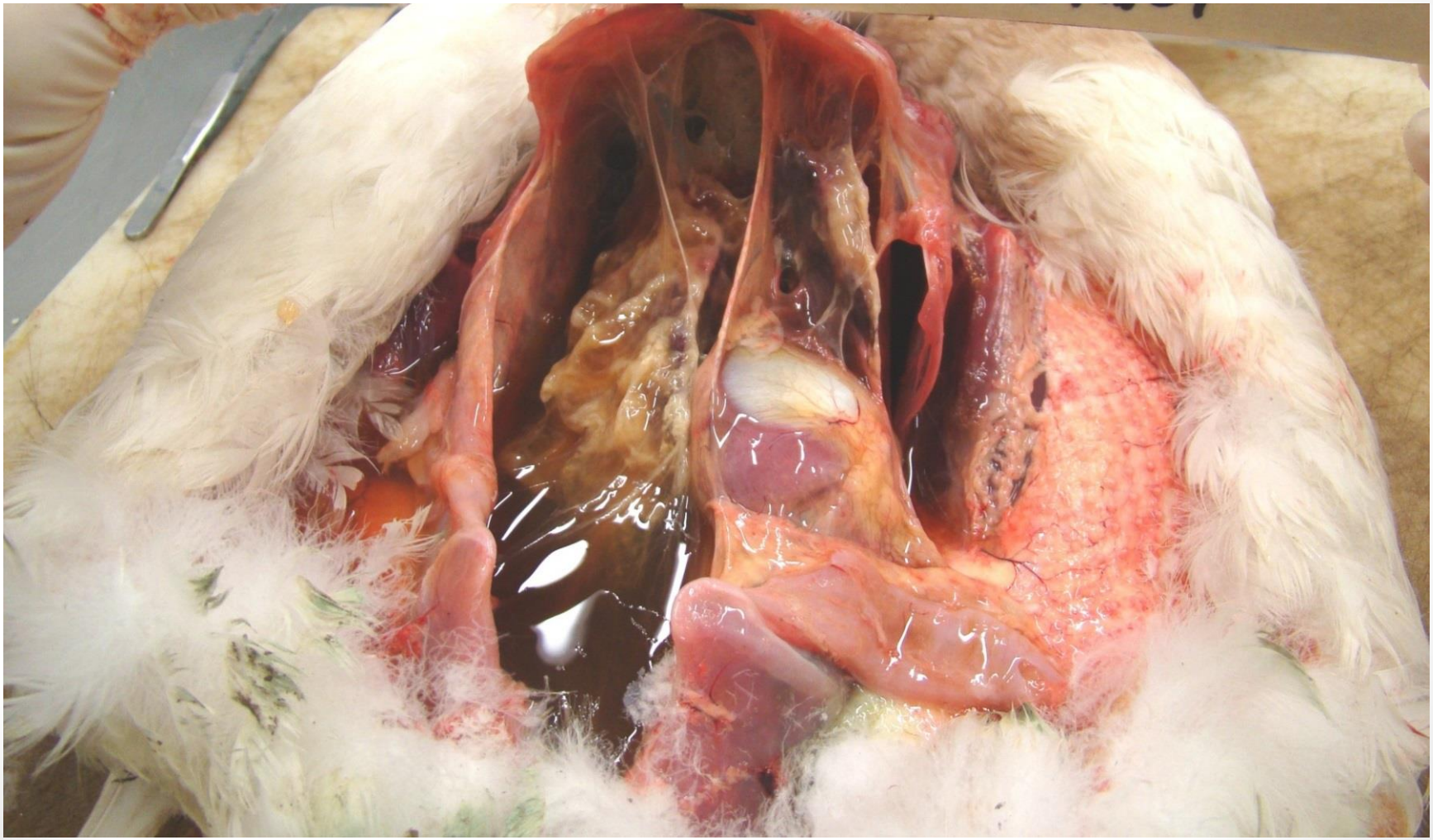
Note fluid in lower abdomen



Condemn carcasses with measurable abdominal fluid or fibrin

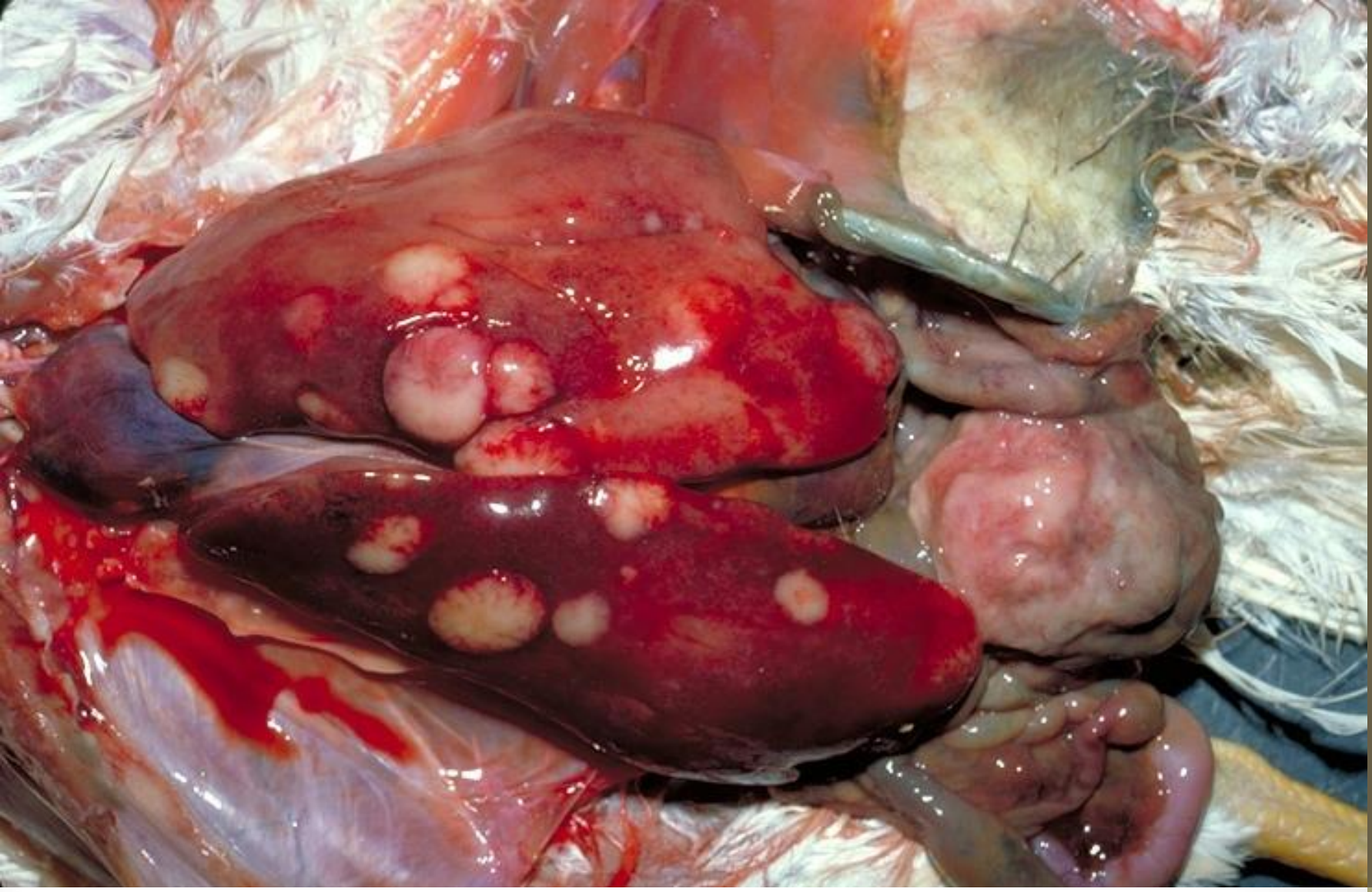
Chicken ascites

Bacterial: Fluid and fibrin

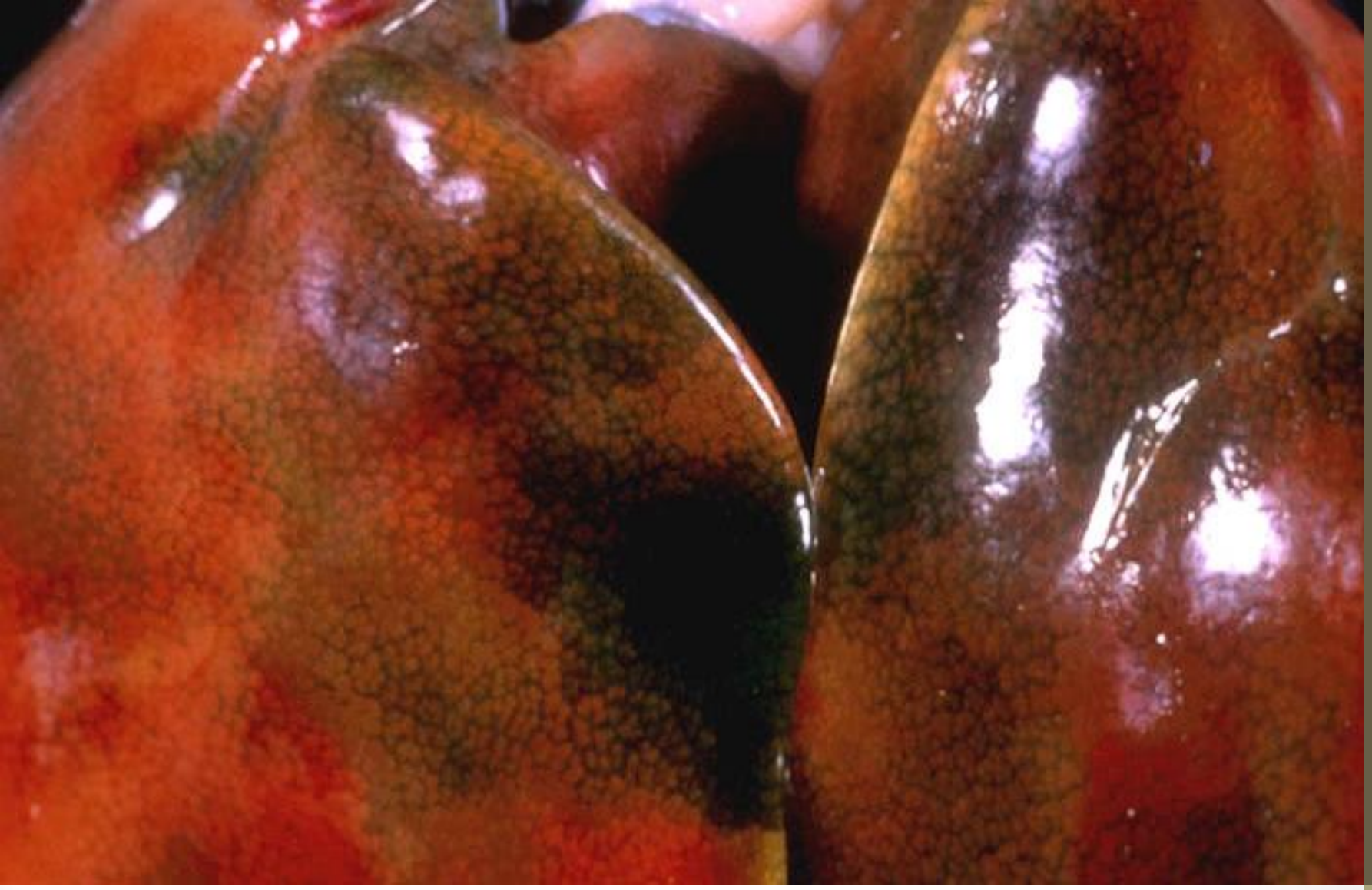


Liver, fatty and hemorrhagic





Condemn sell carcasses with liver lumps



Condemn carcasses with green discoloration of the liver

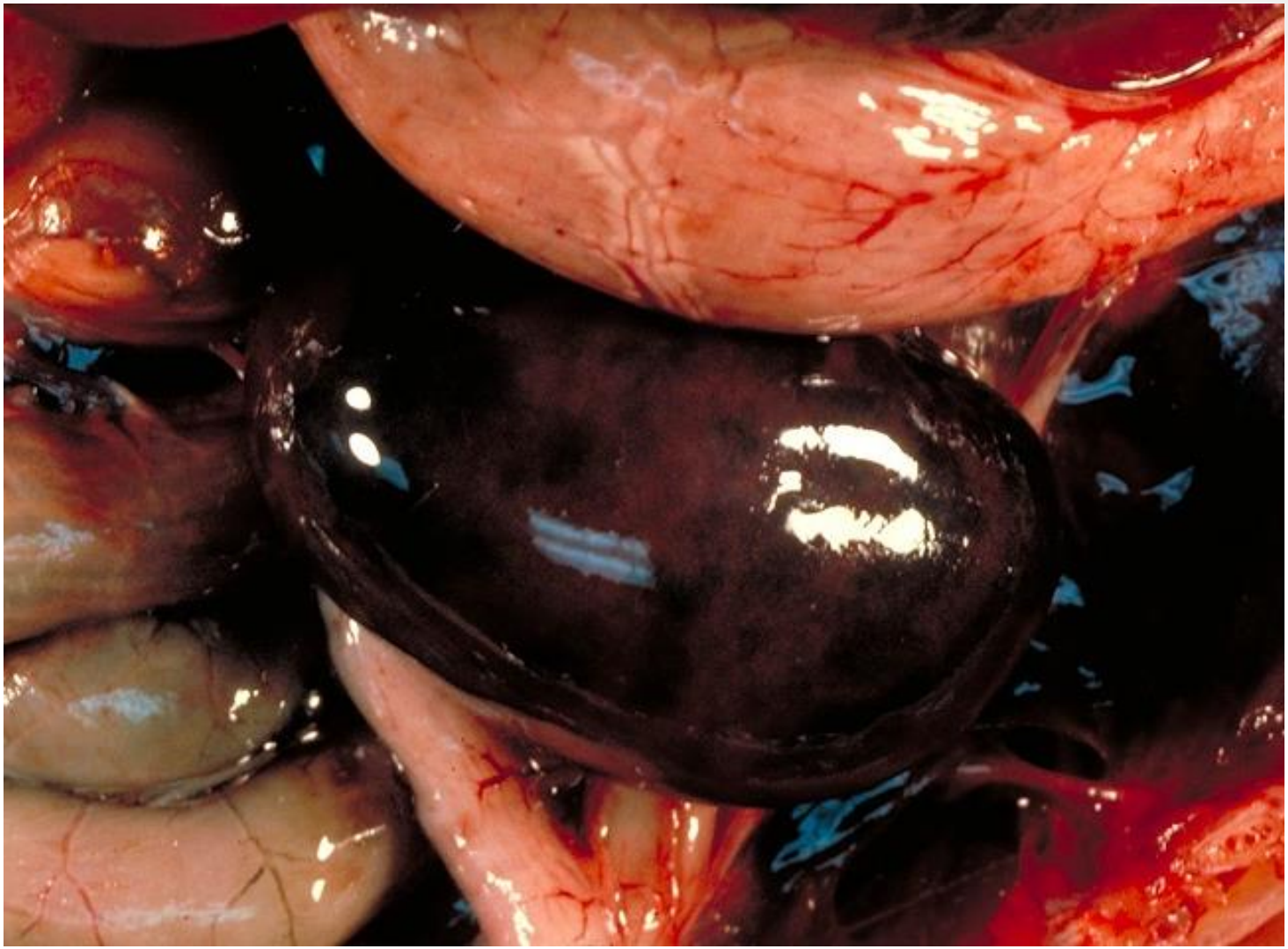


Condemn animals with a liver that is an abnormal color or more than 2X normal size



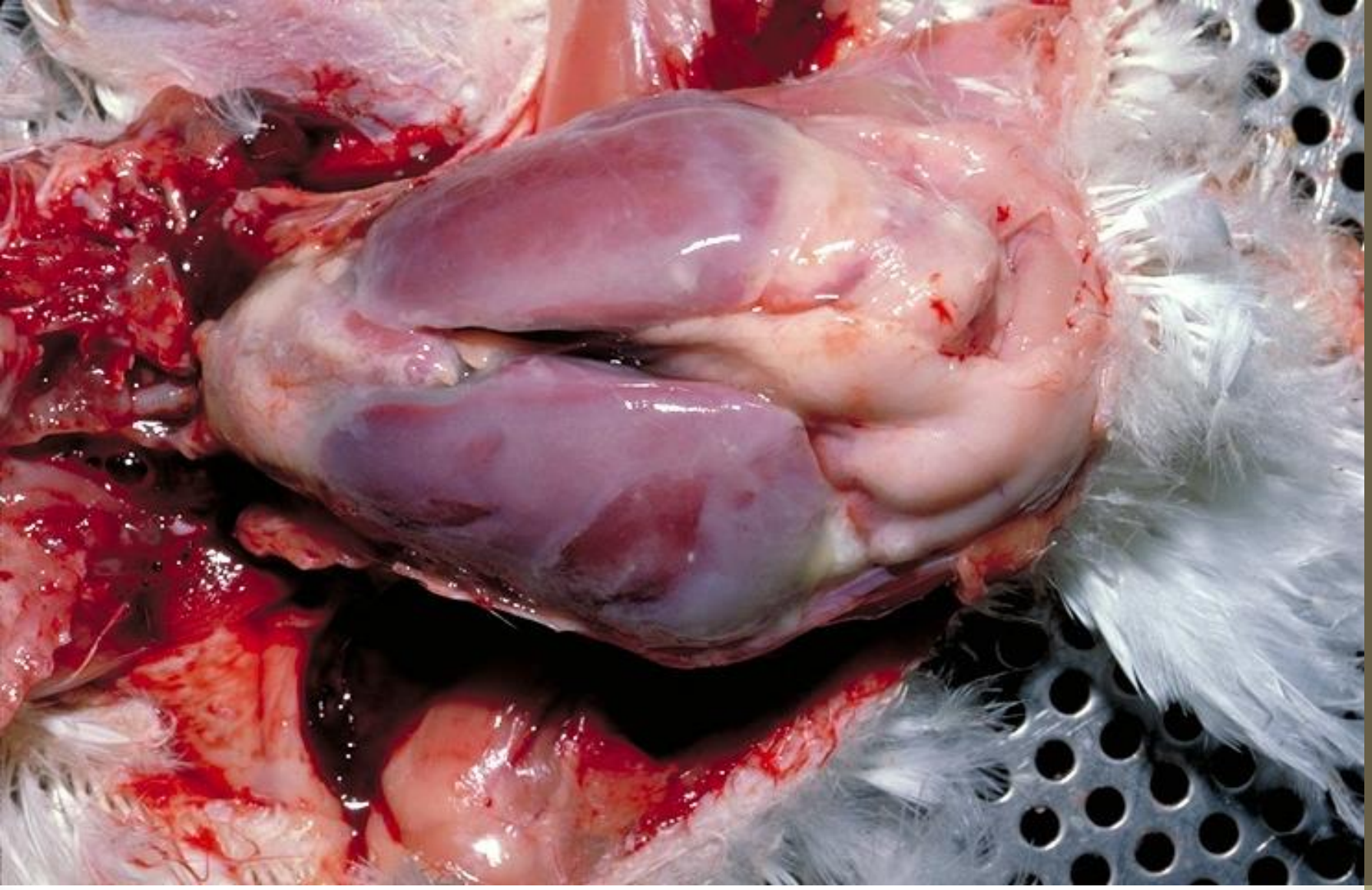
Condemn slaughter birds with discolored liver or measurable abdominal fluid

Suspected salmonellosis



Condemn carcasses that have any internal organs more their 2X their normal size

Greatly enlarged spleen



Condemn carcasses with known or suspected bacterial infection

Note whitish discoloration on surface

Intestinal Parasites

- Animals appearing to be healthy may contain some intestinal parasites upon slaughter inspection
- If the carcass is otherwise normal, parasites contained in the gastrointestinal system do not result in carcass condemnation
- Heavily parasitized animals will not likely pass ante-mortem inspection

Rabbits



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- Anything not safe
- Anything not wholesome

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Ante-mortem: What is Unhealthy?

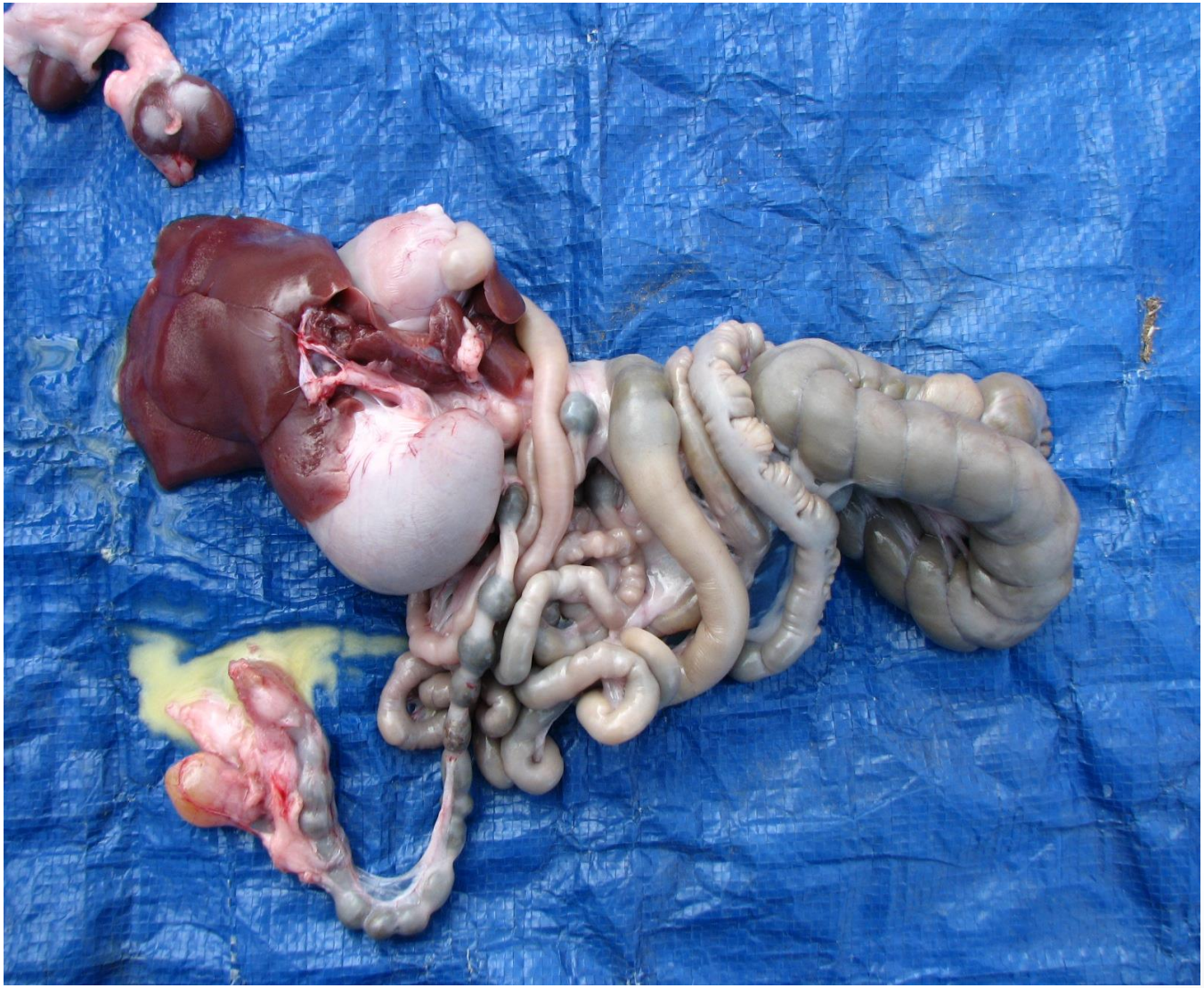


Rabbit Anatomy and Pathology

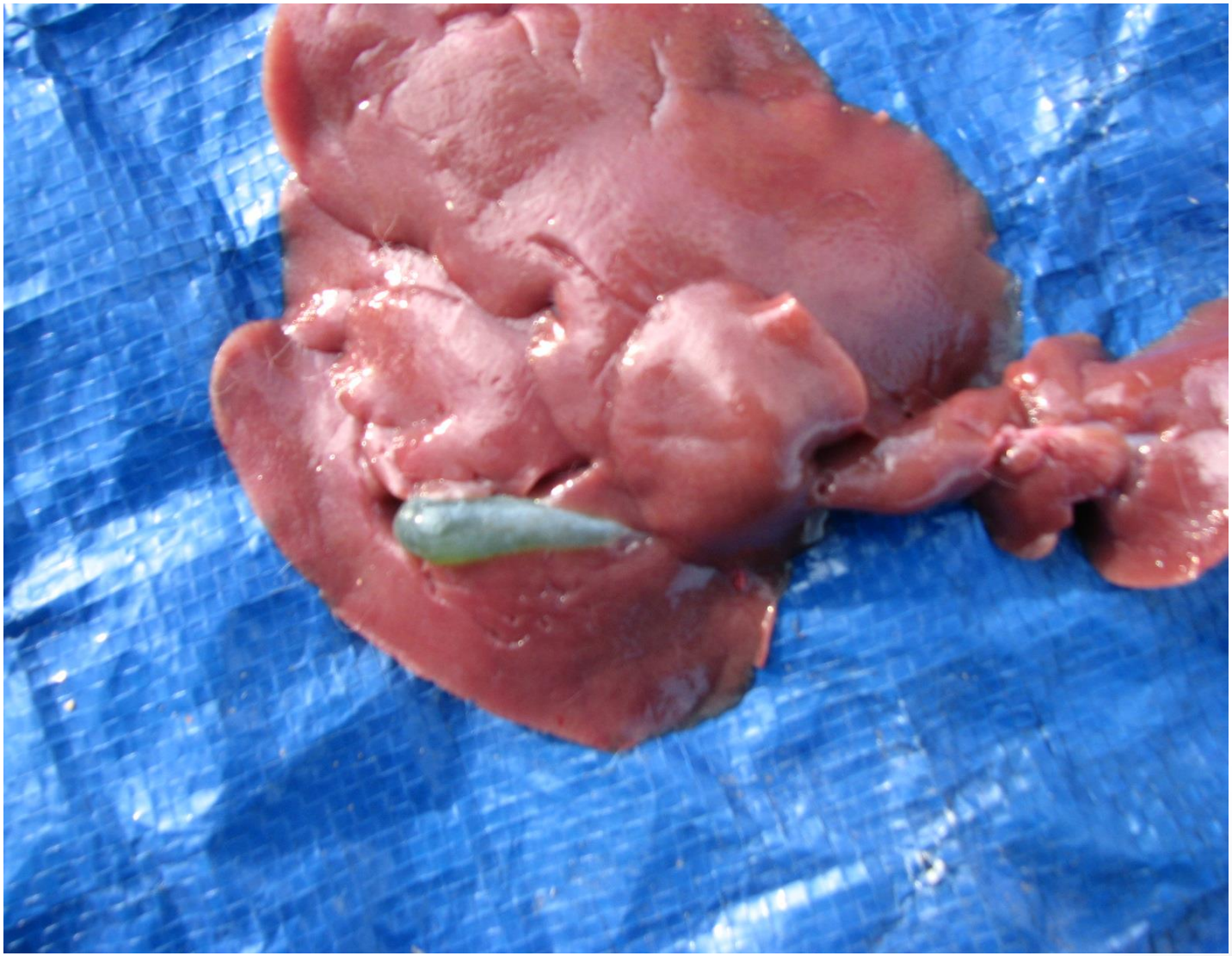
Normal Musculature



Normal GI Tract



Normal Liver



Rabbit Conjunctivitis



Splay Legs



Shope Fibroma Virus



Myxoma Virus



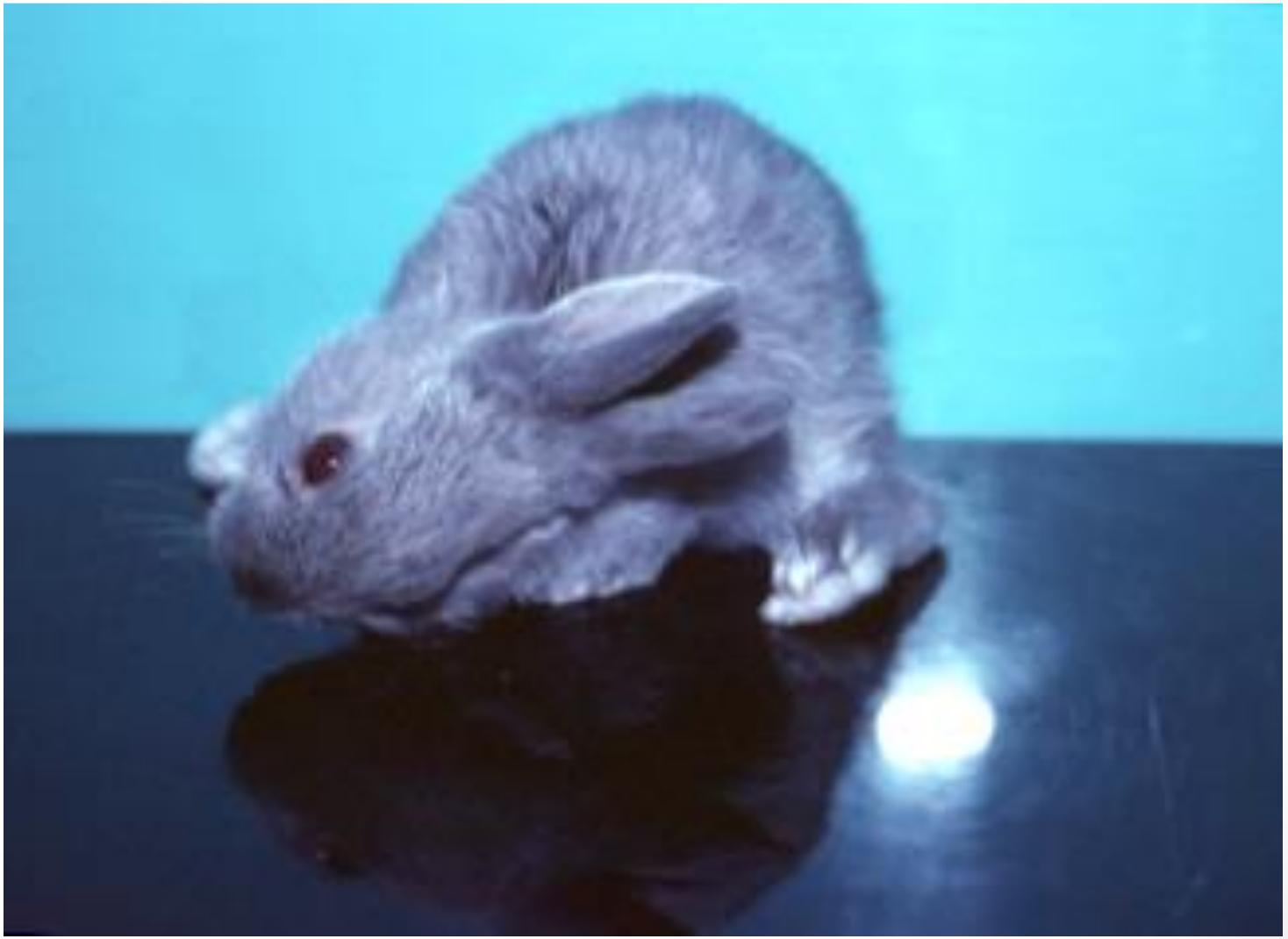
Warbles



Sore Hocks-Rabbits



Wry Neck



Rabbit Snuffles



Colibacillosis

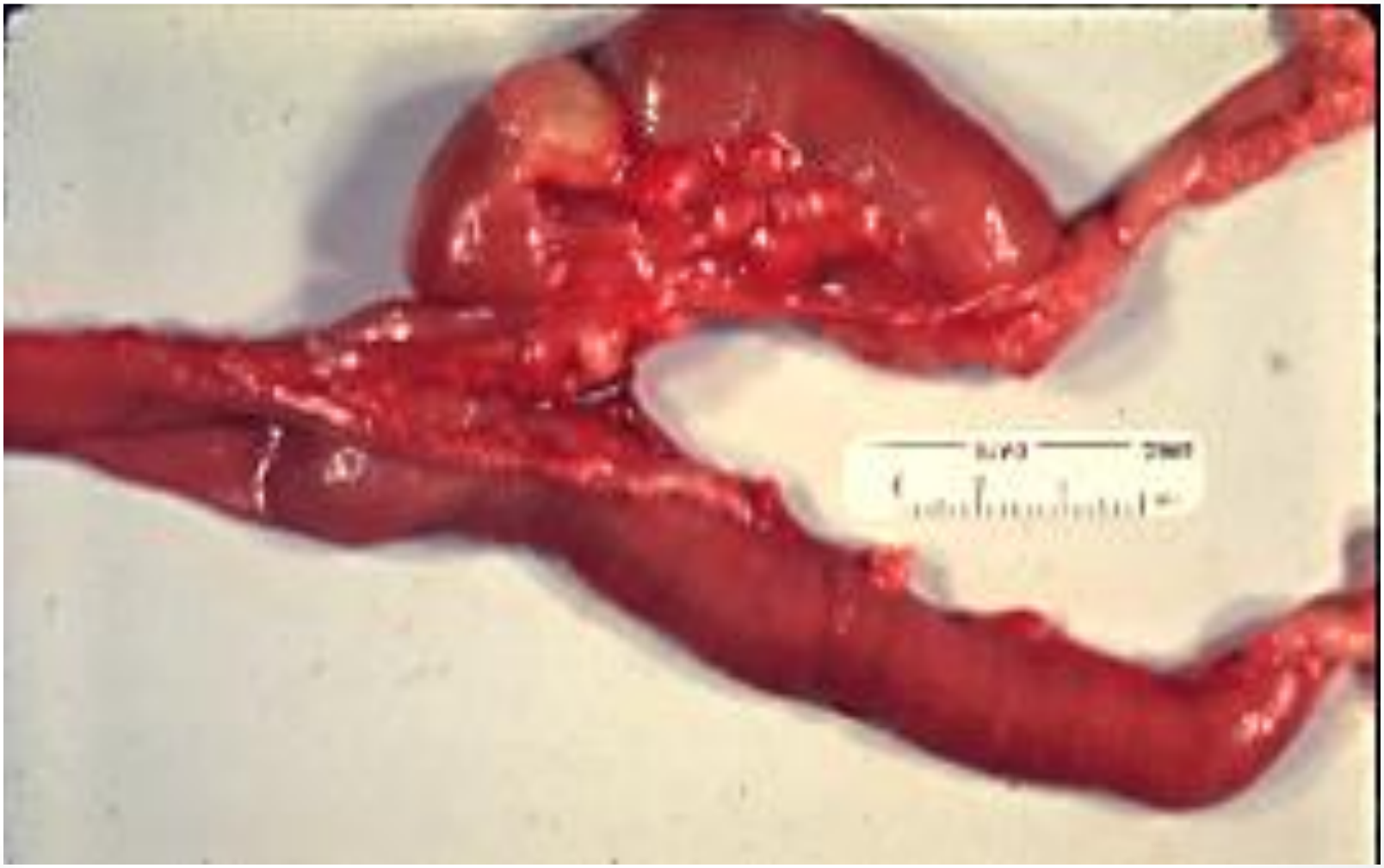


Rabbit Syphilis

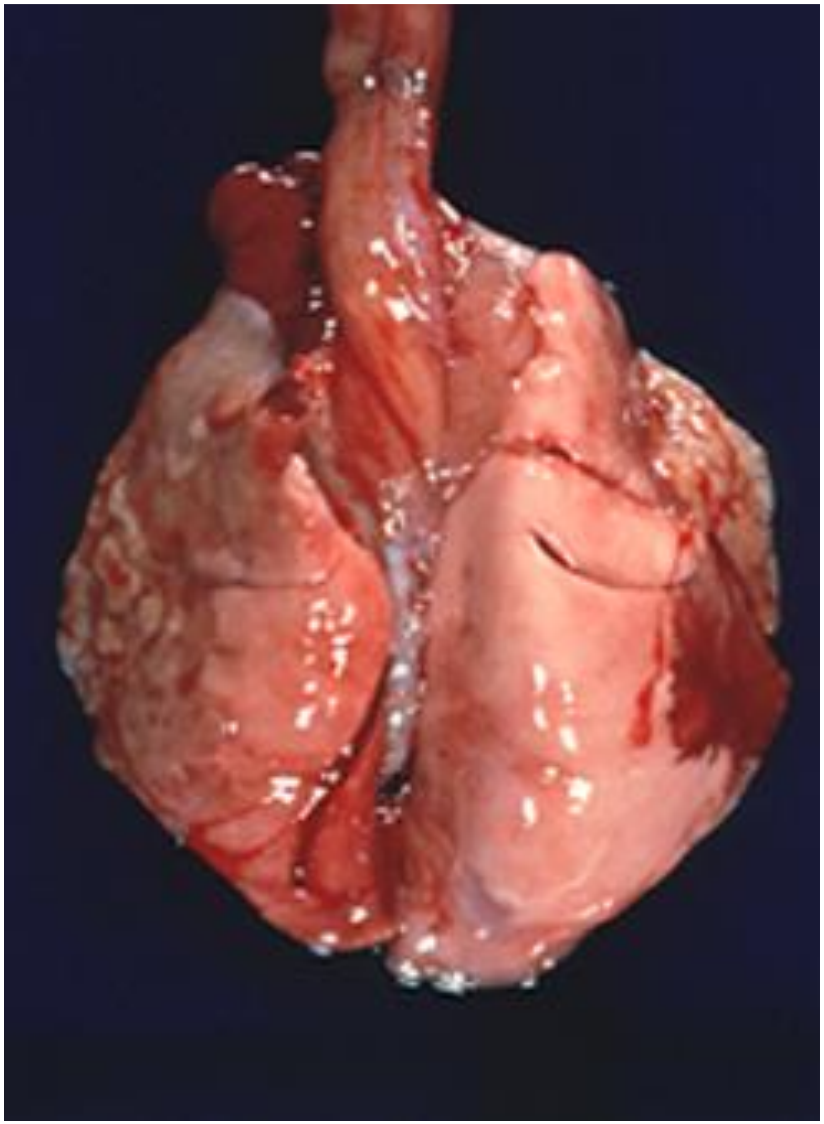


Post-Mortem findings

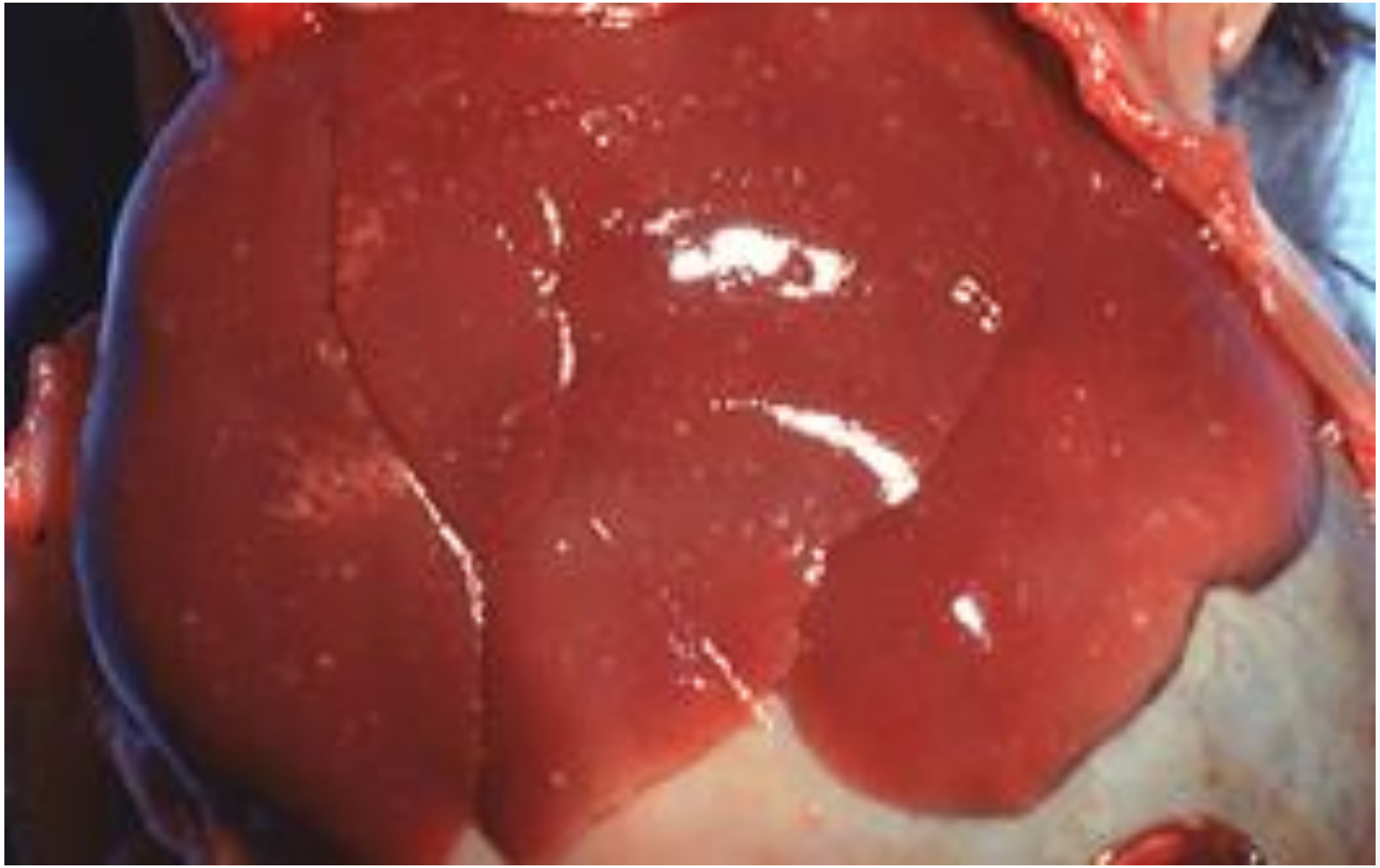
Genital Infections



Rabbit Pneumonia



Congested Organs/White Spots on Liver
Rabbit Tularemia



Enlarged/Discolored Intestines Rabbit Mucoid Enteropathy



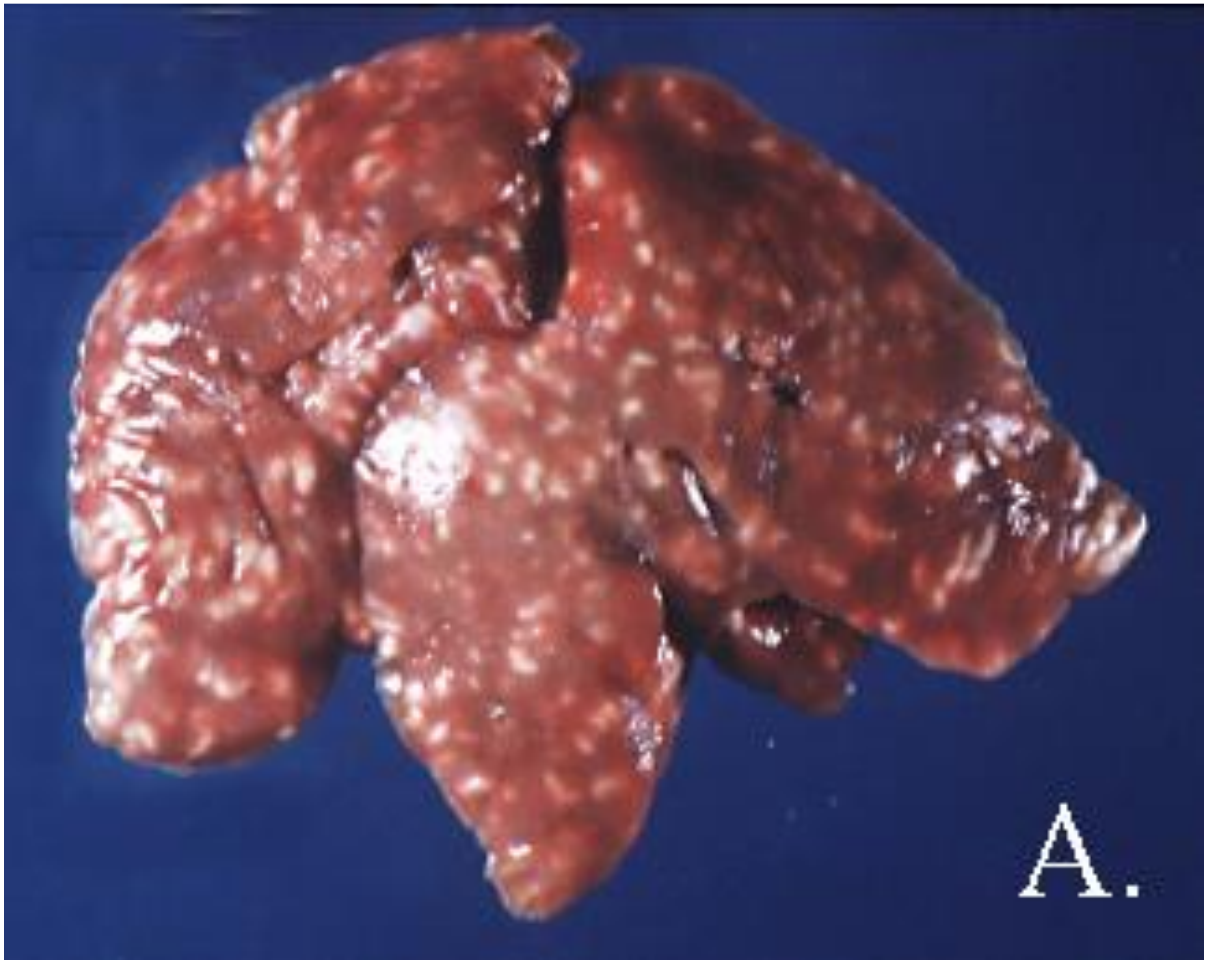
Swollen and Blood Spots in GI Tract Tyzzer's Disease-Rabbits



Bloody GI Tract



Nodular Liver



Enlarged Lymph Node
Rabbit Leukemia (lymphosarcoma)



Enlarged Uterus
Uterine Cancer



Sick animals or abnormal carcasses

- What to do:
  - Segregate the sick. Do not slaughter sick animals
  - Slaughter healthy animals only
  - Segregate unhealthy or abnormal carcasses from food supply
  - Refer sick animals or unhealthy carcasses to the Maryland Department of Agriculture

Referring birds or carcasses

- Please promptly refrigerate all carcasses
- Contact the laboratory by telephone during business hours
- The laboratory may provide additional instructions at that time
- Carcass samples may be delivered or shipped
- Live birds may be submitted with laboratory approval

Carcass submissions

- The laboratories are busy; they will schedule your work as quickly as possible. You will be provided with a result(s) as soon as they become available
- There may be a charge for poultry diagnostics in Maryland
- Rabbit processors enrolled in this program are eligible for no cost SLAUGHTER DIAGNOSTICS
- Please have your program certification number available

MDA Laboratories

- Frederick Animal Health Diagnostic Laboratory
- 1840 Rosemount Avenue
- Frederick, MD 21703
- 301.600.1548
- AHFrederick.mda@maryland.gov

- Salisbury Animal Health Diagnostic Laboratory
- 27722 Nanticoke Road
- Salisbury, MD 21801
- 410.543.6610
- AHSalisbury.mda@maryland.gov

Reports

- Laboratory will report back to:
  - The Customer
    - Always, with the diagnostic finding
  - The State Veterinarian
    - In cases of suspected reportable animal diseases
    - In cases of suspected diseases of public health importance
  - The MDA Food Quality Assurance Program
    - In cases of suspected diseases of public health importance

Animal Health Rules

- Poultry Premise Registration
  - Mandatory in Maryland
  - Most are already registered
  - No cost
  - Participants in the MDA poultry slaughter program will be automatically registered
- Garbage Feeding restrictions

Garbage Feeding

- Garbage ➔ Any product containing any part of a carcass, meat or tissue from a livestock or poultry species (including feathers, hides etc) OR any product comingled with livestock or poultry carcasses, products or tissue.
- Bottom line: Can't feed waste from any slaughter process to livestock or poultry without a permit from MDA
- Call 410-841-5810 if you have any questions or for a permit

Waste Disposal

- Composting
- Rendering
- Landfill
- Incineration
- Permitted feeding
- Other lawful methods

Review

- Goal is to produce a safe and wholesome product so your business will thrive.
- We accomplish that by using good husbandry to raise healthy animals and by only slaughtering healthy animals (Ante-mortem inspection)
- While the slaughter process is taking place we use post-mortem inspection processes to identify any abnormalities in the carcass that would prohibit its entry into the food supply

Review-continued

- We can recognize abnormal carcasses because we “know normal”. Generally abnormal carcasses can be considered unhealthy and thus not safe or wholesome
- Residues, adulterants and disease agents may make a carcass unsafe.
- Disease processes and certain contaminations may make the carcass unwholesome

Review-continued

- Unhealthy animals and condemned carcasses should be submitted to an MDA Animal Health laboratory for evaluation
- Garbage feeding (meat waste or slaughter products)to livestock and poultry is carefully regulated. Call MDA if you have any questions.

Questions??

- Thank you for your attention and best wishes in your business endeavors