



# Postmortem Examination of Game Birds

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The purpose of this fact sheet is to provide general guidance to producers in performing the necropsy procedure and to encourage them to perform regular postmortem examinations of their game bird flocks. It is beyond the scope of this document to focus on detailed pathologic abnormalities or even on detailed normality. The described procedure serves as a guide for systematically observing and screening flock mortality. If practiced over time, the examiner will gain a recognition of “normal” tissues and organs and acquire an appreciation of what constitutes the abnormal. Serious disease threats can thereby be recognized early and appropriate veterinary help sought.

## Necropsy Procedure

(Note: Always put on adequate protective clothing before performing the examination, including gloves and face mask. Change clothes and footwear before re-entering the flock)

1. Examine the outside of birds for parasites, scratches, animal bites, and other signs of injury.
2. Using heavy scissors or tin snips, cut off upper beak and look at sinuses. Gently squeeze sides of beak and check for excess mucus.
3. Using the snips, cut along side of mouth and open the throat to level of where neck enters the body cavity. Observe esophagus for lumps, bumps,

atypically colored or textured areas, ulcers, or severe reddening.

4. Cut open the windpipe (trachea) lengthwise and look for severe reddening, excess bloody content, yellowish cheesy material, or excess mucus.
5. Cut open the crop and look at contents. Is it the normal feed? Is it sour-smelling or dry and impacted? Remove contents and look at the crop lining. Is it thickened? Are there reddened or raised areas present?
6. Peel back the skin and feathers from the breast and check for areas of injury, scant breast musculature (i.e. starvation), uniformly dry and dark muscles (i.e. dehydration), or presence of tumors.
7. Using a knife, cut down the inner side of each leg until the hip joint is reached. Pull the legs away from body and twist sideways to expose the hip joint. Break one of the leg bones to test the bone strength. Is it soft and rubbery? Does it feel brittle and break too easily?
8. Using the snips, cut away skin and muscle along the rear underside of breast bone to expose the internal organs. Continue cutting along each side of the body cavity until the ribs have been cut through between breast and back. Gently raise the breast bone away from the internal organs. Remove the breast by snipping through the bones near the shoulder area, thus exposing the internal organs.

9. Observe the air sacs. They should be transparent. Abnormalities include cloudiness or presence of cheesy material in the body cavity.

10. Examine heart, liver, lungs, and spleen. Is the heart or liver covered with white or yellowish granular or cheesy material? Is the spleen larger than normal? Are the lungs bright orange-red and spongy (normal), or are they dark red-brown, hard, or compacted (abnormal)?

11. Look at the outer surface of the intestines. Are nodules, or areas of hemorrhage present? Slit open the intestines lengthwise and look for worms, bloody content, excess mucus, thickened lining, or other abnormalities.

12. Open up the proventriculus (stomach). The normal proventricular mucosa is cream-colored with raised regularly-shaped bumps (papillae). Look for pinpoint red lesions, excessive thickening, or enlargement..

13. Open the gizzard. Examine contents and lining. Peel away the inner lining and look for reddened or hemorrhagic areas underneath.

14. Examine other areas of the body cavity for abnormalities.

15. Make notes of any abnormalities encountered. If you think your game birds have a problem, contact your area diagnostic laboratory or the Extension Poultry Specialist.



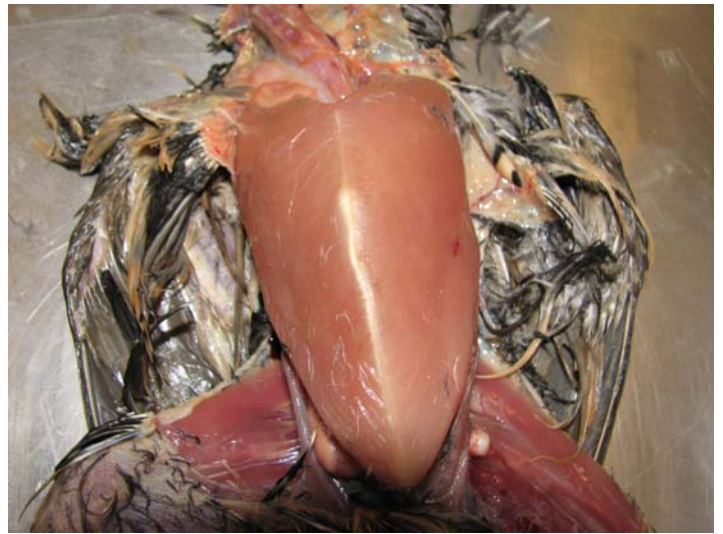
**Figure 1.** External examination of mortality. Examine for parasites, scratches, animal bites, and other signs of injury.



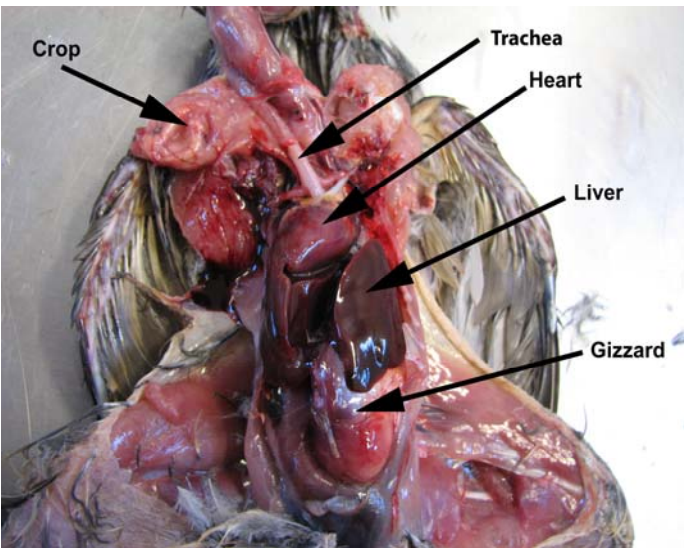
**Figure 2.** External examination of mortality. Examine eyes, beak, nostrils for unusual growths (i.e. nodules or crusty material) or excess mucus.



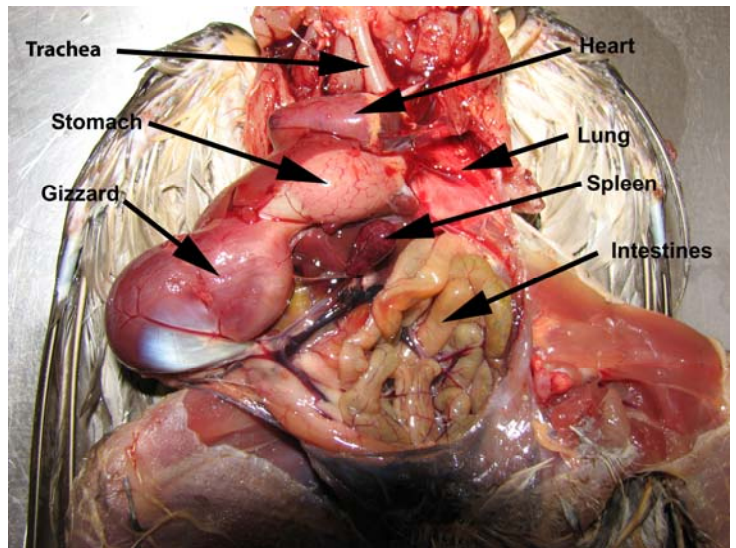
**Figure 3.** External examination of mortality. The application of soapy water helps mat the feathers, keeping them from interfering with the subsequent postmortem examination. Wetting the feathers in this manner also reduces the likelihood of aerosolizing disease-causing agents



**Figure 4.** Breast exposed after pulling away skin and feathers. Notice that cuts have been made on the inside of the thighs and the left hip joint has been dislocated by slightly twisting the leg in order to expose the femoral head.



**Figure 5.** Internal organs in situ. (After removal of the breast.)



**Figure 6.** Internal organs in situ. (After lifting away the gizzard and liver.)

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